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SCIENCE AND
TECHNOLOGY

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DICTIONARY OF
SCIENCE AND
TECHNOLOGY

Simon Collin

second edition

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Preface

This dictionary provides a wide range of vocabulary drawn from across the fields of science and technology, including chemistry, physics and biology, earth sciences, engineering, astronomy, electronics, medicine and telecommunications.

This fully up-to-date second edition gives clear and concise definitions for hundreds of new terms, from fast-moving fields such as biotechnology, computing and environmental science. It's an ideal reference for students, or anyone dealing with scientific or technical language.

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SUBJECT LABELS USED IN THE DICTIONARY OF SCIENCE AND TECHNOLOGY

ACOUSTICS	Acoustics	INSECTS	Insects
AEROSP	Aerospace	LOGIC	Logic
AGRIC	Agriculture	MANUF	Manufacturing
ANAT	Anatomy	MARINE BIOL	Marine biology
ANTHROP	Anthropology	MATHS	Mathematics
ARCHAEOL	Archaeology	MEASURE	Measurements
ASTRON	Astronomy	MECH ENG	Mechanical engineering
AUTOMOT	Automotive	MED	Medicine
AVIAT	Aviation	MEDIA	Media
BIOCHEM	Biochemistry	METALL	Metallurgy
BIOL	Biology	METEOROL	Meteorology
BIOTECH	Biotechnology	MICROBIOL	Microbiology
BIRDS	Birds	MINERALS	Minerals
BOT	Botany	NAUT	Nautical
CHEM	Chemistry	NAVIG	Navigation
CHEM ELEM	Chemical elements	OCEANOGRAPHY	Oceanography
COMPUT	Computing	ONLINE	Online
CONSTR	Construction	OPHTHALMOL	Ophthalmology
CRYSTALS	Crystals	OPTICS	Optics
DENT	Dentistry	PALAEONT	Palaeontology
EARTH SCI	Earth science	PHARM	Pharmacology
ECOL	Ecology	PHOTOGRAPHY	Photography
ELEC	Electricity	PHYS	Physics
ELEC ENG	Electrical engineering	PHYSIOL	Physiology
ELECTRONICS	Electronics	PLANTS	Plants
ENG	Engineering	PRINTING	Printing
ENVIRON	Environment	PSYCHIAT	Psychiatry
FISH	Fish	PSYCHOL	Psychology
FISHERIES	Fisheries	SCI	Science
FOOD	Food	SOC SCI	Social sciences
FOOD INDUST	Food industry	STATS	Statistics
FORESTRY	Forestry	TECH	Technology
FUNGI	Fungi	TELECOM	Telecommunications
GENETICS	Genetics	TEXTILES	Textiles
GEOG	Geography	TIME	Time
GEOL	Geology	TRANSP	Transport
HEALTH	Health	TREES	Trees
IMMUNOL	Immunology	VET	Veterinary medicine
INDUST	Industry	ZOOL	Zoology

A

A¹ *symbol* **1.** MATHS the hexadecimal equivalent of the decimal number 10 **2.** MEASURE, ELEC ampere

A² *noun* ASTRON a class of stars with a surface temperature of 7500–10000°C, and strong spectral lines due to hydrogen. Examples include Sirius, Deneb, Vega and other bright stars. (NOTE: A stars tend to be white or bluish in colour. Apparent in the spectra of A stars are ionised metals like magnesium and calcium.)

A: *noun* COMPUT (*in some operating systems*) the first disk drive on the system ○ *To see what is stored on your floppy disk, use the DOS command 'DIR A':.*

ab- *prefix* away from

abandon *verb* COMPUT to clear a document, file or work from the computer's memory without saving it to disk or tape ○ *Once you have abandoned your spreadsheet, you cannot retrieve it again.*

abate *verb* to become less strong or intense ○ *The wind has abated.*

abatement *noun* a reduction in strength or intensity ○ *water pollution abatement*

abbreviate *verb* to shorten a word or a text

abbreviated address *noun* COMPUT a username that has fewer characters than the full name, making it easier to remember or type in

abbreviation *noun* the short form of a word

abdomen *noun* ANAT **1.** (*in a vertebrate*) a space in the body situated below or behind the diaphragm and above or in front of the pelvis, containing the stomach, intestines, liver and other vital organs **2.** (*in an arthropod*) the rear section of the body

abdominal aorta *noun* ANAT the part of the aorta between the diaphragm and the point where it divides into the iliac arteries

abducent nerve *noun* ANAT the sixth cranial nerve which controls the muscle which makes the eyeball turn

abduct *verb* PHYSIOL to pull away from the centre line of the body. Opposite **adduct**

abductor *noun* ANAT a muscle that pulls the body or a limb away from a midpoint or midline

abend *noun* COMPUT an unexpected stoppage of a program that is being run, due to a fault, error or power failure ○ *An interrupt from a faulty printer caused an abend.* Full form **abnormal end**

aberrant *adjective* not usual or typical

aberration *noun* **1.** something which is not usual or typical **2.** a distortion of a television picture caused by a corrupt signal or incorrect adjustment **3.** ASTRON the difference between the observed and the calculated position of an astronomical body, caused by the time taken for light or other radiation to travel from it to the observer **4.** OPTICS the imperfect formation of an image by a telescope or other optical instrument

COMMENT: Varieties of optical aberration include chromatic aberration, the differential focusing of light of different wavelengths, and spherical aberration, the imperfect focusing of light because of the use of a spherical rather than a parabolic lens or mirror surface.

abiogenesis *noun* BIOL the theory that life can arise from nonliving materials

abiotic *adjective* BIOL not relating to a living organism ○ *abiotic factors*

abiotic factor *noun* something which influences the environment but which is not produced by living organisms, e.g. wind, temperature or rainfall. Compare **biotic factor**

abiotic stress *noun* stress caused by environmental factors such as drought or

extreme heat or cold, not by biological factors

abiotic stress resistance *noun* resistance in organisms to stress arising from non-biological causes such as drought or salinity

ablation *noun* **1.** the removal of the top layer of something **2.** MED the removal of a layer of tissue by surgery **3.** COMPUT a method of writing data to an optical storage device, by which a laser burns a hole or pit representing digital bits of data into the surface of the device **4.** GEOL the removal of snow or ice from the surface of a glacier by melting or by the action of the wind

ablation zone *noun* GEOL a section of a glacier from which it loses snow or ice by ablation

abnormal *adjective* not usual or typical ○ *abnormal error* ○ *It's abnormal for two consecutive disk drives to break down.*

abnormal end *noun* COMPUT full form of **abend**

abnormality *noun* a form or action which is not usual or typical

abnormally *adverb* not as usual ○ *The signal is abnormally weak.* ○ *The error rate is abnormally high.*

abnormal weather conditions *plural noun* METEOROL unusual or unfavourable weather conditions

abort *verb* **1.** to stop a process or the development of something before it is finished, or to stop developing ○ *Weather conditions forced them to abort the test flight.*

2. MED to end a pregnancy in a woman or animal and prevent the birth of a child or young **3.** BIOL to give birth before the usual end of a pregnancy (*technical*) Also called **miscarry** **4.** COMPUT to end a process when a malfunction occurs by switching the computer off manually or by an internal feature ○ *The program was aborted by pressing the red button.*

abortion *noun* MED a situation where an unborn baby leaves the uterus before the end of pregnancy, especially during the first 28 weeks of pregnancy when it is not likely to survive birth (*technical*) □ **to have an abortion** BIOL to have an operation to end a pregnancy in order not to have a child

abort sequence *noun* COMPUT a unique sequence of bits that indicates that the transmission will be abnormally terminated. ◊ **reset**

ABO system *noun* MED a system of classifying blood groups

above *preposition, adverb* higher or more than ○ *2000 metres above sea level* ○ *The temperature was above 40°C for several weeks.* ○ *The occurrence of matching pairs was 70% or above.* ○ *All the results are above average.*

ABR *abbreviation* COMPUT available bit rate

abrasion *noun* **1.** MED a condition where the surface of the skin has been rubbed off by a rough surface and bleeds **2.** EARTH SCI the wearing away by friction of a material, especially the erosion of rock by the action of particles suspended in water, ice or wind

ABS *noun* COMPUT a programming instruction that returns the magnitude of a number without the number's sign ○ *The command ABS(-13) will return the answer 13.* Full form **absolute function**

abscess *noun* MED a painful swollen area where pus forms

abscisic acid *noun* BIOCHEM a plant hormone which is involved in seed formation and in the closure of leaf pores during drought (NOTE: It was originally thought to promote leaf fall, but its importance in this is now doubtful.)

abscission *noun* BOT the shedding of a leaf or fruit due to the formation of a layer of cells between the leaf or fruit and the rest of the plant (NOTE: It occurs naturally in autumn, e.g. leaf fall, or at any time of the year in response to stress.)

absence *noun* the fact of not being present □ **in the absence of** because something is not present ○ *in the absence of any other symptoms*

absent *adjective* not present ○ *Normal symptoms of malaria are absent in this form of the disease.*

absolute *adjective* **1.** complete or total ○ *No absolute correlation with climate change has yet been established.* **2.** measured relative to a standard ■ *noun* an unchanging principle

absolute address *noun* COMPUT **1.** a computer storage address that directly, without any modification, accesses a location or device ○ *Program execution is slightly faster if you code only with absolute addresses.* Compare **indexed address**. Also called **actual address, machine address** **2.** a computer storage address that can only access one location

absolute alcohol *noun* CHEM alcohol which contains no water

absolute assembler *noun* COMPUT a type of assembly language program designed to produce code which uses only absolute addresses and values

absolute code *noun* COMPUT a binary code which directly operates the central processing unit, using only absolute addresses and values. \diamond **object code** (NOTE: This is the final form of a program after a compiler or assembler pass.)

absolute coordinate *noun* MATHS one of the coordinates that describe the distance of a point from the intersection of axes. Compare **relative coordinate**

absolute function *noun* COMPUT full form of **ABS**

absolute humidity *noun* PHYS the mass of water vapour in a given quantity of air

absolute loader *noun* COMPUT a program that loads a section of code into the main memory. Compare **bootstrap loader**

absolute magnitude *noun* ASTRON the magnitude of a star or other astronomical object, seen from a distance of 10 **parsec**s

COMMENT: The apparent magnitude of astronomical objects seen from the Earth depends upon their intrinsic brightness and also upon how far away they are, so that the Moon can outshine everything else in the night sky by being the nearest astronomical object. Comparing astronomical objects as they would appear from a uniform distance removes this effect.

absolute pressure *noun* PHYS (of a gas) a unit of force per unit of area without comparison to other pressure \circ *Aircraft show absolute pressure in inches of mercury on the inlet manifold pressure gauge.*

absolute temperature *noun* PHYS the temperature derived from the laws of thermodynamics rather than based on the properties of substances. Also called **thermodynamic temperature** (NOTE: Its unit is the kelvin.)

absolute time *noun* COMPUT the length of time that an audio disc has been playing

absolute value *noun* MATHS a size or value of a number regardless of its sign, e.g. the absolute value of -64.32 is 64.32

absolute zero *noun* PHYS the lowest temperature possible, 0K or -273.15°C (NOTE: Absolute zero is the condition of having no thermal energy at all and is theoretically impossible, although scientists

have managed to cool some materials to very near it.)

absorb *verb* **1.** to take something in \circ *The atmosphere absorbs radio waves.* \circ *Warm air absorbs moisture more easily than cold air.* \circ *Our bodies absorb oxygen.* \circ *Salt absorbs moisture from the air.* **2.** \square **to absorb information** to take in and understand information \circ *There wasn't enough time to absorb the details of the report before the meeting.*

absorbance *noun* PHYS same as **absortance**

absorbent *adjective* able to absorb \blacksquare *noun* a substance or part of an organism such as a root tip which can take up something such as moisture or nutrients

absortance *noun* PHYS a measure of how completely an object or substance absorbs radiant energy (NOTE: It equals the ratio of the energy absorbed to the total energy falling on the object.)

absorption *noun* **1.** the process of taking in water, dissolved minerals and other nutrients across cell membranes \circ *There is absorption of energy by the tyre when the aircraft lands.* **2.** PHYSIOL the taking into the body of substances such as proteins or fats which have been digested from food and enter the bloodstream from the stomach and intestines **3.** CHEM the taking up of one type of substance by another, e.g. of a liquid by a solid or of a gas by a liquid **4.** COMPUT the power loss of a signal when travelling through a medium, due to its absorbance

absorption filter *noun* PHYS a filter that blocks specific colours of light

absorption line *noun* ASTRON a dark line seen in a stellar spectrum, caused by radiation passing through a cool medium on its journey to the observer (NOTE: Absorption lines give information about cool matter such as interstellar gas clouds, planetary atmospheres and stellar atmospheres.)

absorption plant *noun* INDUST a part of a petroleum processing plant, where oil is extracted from natural gas

absorption rate *noun* PHYS the rate at which a liquid is absorbed by a solid

absorption spectrum *noun* PHYS the pattern of dark bands seen when electromagnetic radiation passes through an absorbing medium and is observed with a spectroscope (NOTE: It results from some

frequencies of the radiation being absorbed more completely than others. Different substances absorb at different frequencies and hence produce characteristic absorption spectra that can be used to identify them.)

absorptive capacity *noun* BIOL the ability of a substance or part of an organism to take up something such as moisture or nutrients

absorptivity *noun* PHYS same as **absorbance**

abstract *noun* a short summary of a document ○ *It's quicker to search through the abstracts than the full text.* ■ **verb** 1. ENVIRON to remove water from a river so that it can be used by industry, farmers or gardeners 2. EARTH SCI to take something such as gas, oil, mineral resources or gravel from the ground

abstract data type *noun* COMPUT a general data type that can store any kind of information ○ *The stack is a structure of abstract data types which can store any type of data from an integer to an address.*

abstraction *noun* 1. ENVIRON the removal of water from a river or other source for use by industry, farmers or gardeners 2. EARTH SCI the removal of something such as gas, oil, mineral resources or gravel from the ground

abundance *noun* 1. a large amount or number of something ○ *The area supports an abundance of wildlife.* 2. a measure of quantity applied to plants or animals, often based on density or frequency 3. ASTRON the relative amount of a particular type of star, galaxy, atom or other item in an overall population

abundant *adjective* occurring or available in large quantities ○ *a region of abundant rainfall* ○ *The ocean has an abundant supply of krill.*

abyss *noun* EARTH SCI a very deep part of the sea

abysal *adjective* EARTH SCI referring to the deepest part of the sea

abysal plain *noun* EARTH SCI a flat part of the seabed at the deepest level, approximately 4000m below sea level

abysal zone *noun* EARTH SCI a deep and dark part of the sea below the euphotic zone, at its deepest about 6000m deep, where light cannot reach and plant and animal life is rare (NOTE: The deepest part of the sea is the **hadal zone**)

abyssobenthic *adjective* MARINE BIOL referring to an organism living on the floor of the deepest part of a sea or lake

abyssopelagic *adjective* MARINE BIOL referring to an organism living in the deepest part of a sea or lake, at depths greater than 3000m

Ac *symbol* CHEM ELEM actinium

AC¹ *abbreviation* ELEC alternating current

AC² *abbreviation* METEOROL altocumulus

acaricide *noun* BIOL a substance used to kill mites and ticks

acarid *noun* BIOL a small animal which feeds on plants or other animals by piercing the outer skin and sucking juices, e.g. a mite or tick

Acarida *noun* ZOOLOG the order of animals including mites and ticks

acaridicide *noun* BIOL same as **acaricide**

Acarina *noun* ZOOLOG same as **Acarida**

ACC *noun* COMPUT the most important internal CPU storage register, containing the result of an operation or the data word which is to be processed. Full form **accumulator**

accelerate *verb* to increase in speed ○ *After start-up, the engine accelerates up to idling speed.* ○ *The aircraft accelerated down the runway and took off.* Opposite **decelerate**

accelerated graphics port *noun* COMPUT an interface in a computer between a graphics controller and the motherboard that transfers data very quickly, providing high-performance three-dimensional graphics and video processing capabilities. Abbr **AGP** (NOTE: This port does not replace a PCI bus but works with it.)

acceleration *noun* 1. the act of accelerating ○ *Acceleration can be felt as the aircraft begins its take-off run.* □ **acceleration due to gravity** acceleration of an object due to the gravitational attraction of the Earth, with a standard value of 9.80665ms^{-2} . Symbol **g** 2. PHYS the rate of change of velocity. Opposite **deceleration** 3. an outward force caused by change in direction without changing speed ○ *Acceleration forces can be felt during aerobatic manoeuvres.*

COMMENT: The SI units of acceleration are ms^{-2} metres per second per second. The formula to calculate acceleration is $a = (v - u)/t$ where a = acceleration, v = final

velocity, *u* = starting velocity and *t* = time taken.

acceleration time *noun* COMPUT 1. the time taken for a disk drive to spin a disk at the correct speed, from rest ○ *Allow for acceleration time in the access time.* 2. the total time between an access instruction being issued to a peripheral and the data being transferred

accelerator *noun* 1. ENG a machine which changes the velocity of an object and so increases its kinetic energy 2. CHEM a substance which changes the speed at which a chemical reaction takes place

accelerator board, accelerator card *noun* COMPUT a circuit board which carries a faster or more advanced version of the same processor that runs a computer, enabling the computer to run faster

accelerator key *noun* COMPUT a combination of keys which, when pressed together, carry out a function that would otherwise have to be selected from a menu using a mouse. For example, instead of selecting the File menu then the Save option, using the accelerator keys Alt and S does the same thing.

accentuate *verb* to make something stronger ○ *Moving accentuated the pain.*

accept *verb* 1. to take or receive something which is offered 2. to be able to take or receive something ○ *Some units accept electrical inputs from the autopilot.* 3. □ **to accept responsibility** to be willing to be answerable for something ○ *The department accepted responsibility for the incident.* 4. COMPUT to establish a session or connection with another device

acceptable *adjective* allowable or approved of, although it may not be perfect ○ *The error rate was very low and is acceptable.* ○ *There must be a continuous flow of clean oil at an acceptable temperature.* □ **acceptable limits** generally agreed standards or restrictions within a range of maximum and minimum figures

acceptable daily intake *noun* BIOL the quantity of a substance such as a nutrient, vitamin, additive or pollutant which a person or animal can safely consume daily over their lifetime. Abbr **ADI**

acceptable use policy *noun* COMPUT a set of rules which describe what a user can write or do on the Internet without offending other users. Abbr **AUP**

acceptance *noun* 1. a willingness to believe something ○ *There is a growing*

acceptance that safety is the main priority.

2. a willingness to do or use something ○ *acceptance of new technology*

acceptance angle *noun* OPTICS the angle of total field of view of a lens or fibre optic

acceptance sampling *noun* INDUST the testing of a small random part of a batch to see if the whole batch is up to standard

access arm *noun* COMPUT a mechanical device in a disk drive, used to position the read/write head over the correct track on a disk ○ *The access arm moves to the parking region during transport.*

access code *noun* COMPUT a series of characters or symbols which must be entered to identify a user before access to a computer is permitted. ◇ **password**

access control *noun* COMPUT a security device such as a password which only allows selected users to use a computer system or read files

access control list *noun* COMPUT a security system which has usernames and passwords checked by the operating system to find out if a specific user is allowed access to a resource or feature of a network or shared computer. Abbr **ACL**

access head *noun* COMPUT a part of a disk drive which moves to the correct part of the disk's surface and reads information stored on the disk

accessibility *noun* the ease with which something can be reached or found ○ *Accessibility of components and equipment during servicing enables work to be done more quickly.*

accessible *adjective* easy to reach or find ○ *Instruments which need resetting in flight must be accessible to the crew.* ○ *Details of customers are easily accessible from the main computer files.*

accession number *noun* COMPUT a number in a record that shows in which order each record was entered

access level *noun* COMPUT a predefined access category for users of a computer or system. The lowest access level might allow the user to only view data, while the highest access level allows a user to do anything.

access line *noun* COMPUT a permanently connected communications line between a terminal and a computer

access log *noun* COMPUT a file on a website server computer that contains a record of every visitor to the website, showing when a person visited and which pages were viewed ○ *The access log is invaluable – we produce graphs of the pages that are most popular using an access log analyser program.* ○ *He analysed the access log to see if their competitor had visited their website.*

access method *noun* COMPUT **1.** the means used for the internal transfer of data between a computer's memory and display or peripheral devices (NOTE: Differences in the methods used are often the cause of compatibility problems.) **2.** a set of rules that allows a device to send data onto a network (NOTE: Token passing and CSMA/CD are two methods commonly used in a local area network.)

access name *noun* COMPUT a unique name that identifies an object in a database

accessor *noun* COMPUT a person who accesses data

accessory *noun* a system or piece of equipment of secondary importance ○ *a camera with several accessories* ○ *The special offer includes a range of accessories including a mouse and modem.* ■ *adjective* of secondary importance ○ *There are many accessory systems which need engine power to operate them, e.g. pumps, generators and magnetos.*

accessory nerve *noun* ANAT the eleventh cranial nerve, which supplies the muscles in the neck and shoulders

access path *noun* COMPUT a description of the location of a stored file within a directory structure of a disk

access period *noun* COMPUT a period of time during which a user can access data

access permission *noun* COMPUT a description of all the access rights for a particular user

access point *noun* COMPUT a test point on a circuit board or in software, allowing an engineer to check signals or data

access provider *noun* COMPUT, Internet **service provider**

access rights *plural noun* COMPUT permission for a specific user to access a particular file or data object

access time *noun* COMPUT **1.** the total time which a storage device takes between the data being requested and returned ○ *The access time of this dynamic RAM chip*

is around 200nS – we have faster versions if your system clock is running faster. **2.** the length of time required to find a file or program, either in the main memory or a secondary memory source **3.** the time taken to find and retrieve a particular piece of data from memory or a hard disk

accident *noun* an unfortunate or harmful event ○ *Accidents must be reported.* ○ *The lab assistant was injured in the accident.* □ **by accident** without being planned

accidental *adjective* **1.** not deliberate or intentional ○ *Always keep backup copies in case of accidental damage to the master file.* **2.** referring to an accident ○ *We were told of his accidental death.*

accident prevention *noun* the establishing of procedures to stop accidents happening

acclimatisation, acclimatization, acclimation *noun* BIOL the process of adapting to a different environment (NOTE: This process is known as **acclimatisation** if the changes occur naturally and **acclimation** if they are produced in laboratory conditions.)

acclimatise, acclimatize *verb* BIOL **1.** to make an organism become used to a different environment, usually a change in climate **2.** to become used to a different sort of environment

COMMENT: When an organism such as a plant or animal is acclimatising, it is adapting physically to different environmental conditions, such as changes in food supply, temperature or altitude.

accommodation *noun* PHYSIOL the ability of the lens of the eye to focus on objects at different distances, using the ciliary muscle

accommodation reflex *noun* PHYSIOL a reaction of the pupil when the eye focuses on an object which is close

accomplishment *noun* PHYS work done ○ *Power is measured by units of accomplishment correlated with time.*

accordance *noun* □ **in accordance with** following something such as rules, instructions or laws ○ *Fuels must be used in accordance with instructions.*

accordingly *adverb* as needed ○ *Check for increasing manifold pressure and reduce power accordingly.*

according to preposition **1.** in relation to ○ *The force exerted will vary according to a number of factors.* **2.** as written or said by somebody else ○ *According to the*

co-pilot, engine vibration was detected in engine number one. □ **according to instructions** exactly as said in the instructions □ **according to requirements** as required

account *noun* **1.** a spoken or written report about something ○ *We gave a brief account of our experimental procedures.* **2.** COMPUT a record of a user's name, password and rights to access a network or online system ○ *If you are a new user, you will have to ask the supervisor to create an account for you.* □ **to take something into account** COMPUT to consider something carefully ○ *When planning a flight, wind speed and direction must be taken into account.*

account for *verb* **1.** to constitute something ○ *Kevlar and carbon fibre account for a large percentage of the materials used in modern aircraft.* **2.** to provide the main reason for something ○ *High humidity accounted for the difference between the two results.*

account name *noun* COMPUT the unique name of a user on a network or online system ○ *John Smith's account name is JSMITH.*

accrete *verb* to increase in amount by slow external addition ○ *Ice accretes on the rotor.*

accretion *noun* **1.** EARTH SCI the growth of inorganic objects by the attachment of material to their surface **2.** BIOL the growth of a substance around an object ○ *an accretion of calcium round the joint* **3.** EARTH SCI an accumulation of sediments **4.** ASTRON the accumulation of a number of objects to form a single larger one (NOTE: It is thought that the planets, including the Earth, were built up by the accretion of **planetesimals** which formed a cloud around the Sun almost five billion years ago.)

accumulate *verb* **1.** to collect and increase ○ *Cold air flows downwards and accumulates over low ground.* ○ *Large quantities of fat accumulated in the arteries.* ○ *Sediment and debris accumulate at the bottom of a lake.* **2.** to gather several things together over a period of time ○ *We have gradually accumulated a large collection of plant specimens.*

accumulated temperature *noun* AGRIC the number of hours during which the temperature is above a particular point, taken as the minimum temperature neces-

sary for growing a specific crop (NOTE: In the UK, this is usually taken to be the number of hours above 6°C.)

accumulation *noun* **1.** the process of becoming greater in size or quantity over a period of time ○ *the risk of accumulation of toxins in the food chain* **2.** something that has accumulated

accumulation zone *noun* GEOL a section of a glacier's movement downstream during which it increases in mass

accumulator *noun* INDUST a device for storing energy (NOTE: A rechargeable electric cell is an accumulator.)

accuracy *noun* **1.** the state of being correct □ **to check for accuracy** to make certain that information or results are correct **2.** precision ○ *The accuracy of modern navigational equipment is much greater than older systems.* **3.** COMPUT the total number of bits used to define a number in a computer (NOTE: The more bits that are allocated the more accurate the definition of the number is.)

accurate *adjective* **1.** correct ○ *Skill in accurate flying can only be achieved by practice.* ○ *The printed bar code has to be accurate to within a thousandth of a micron.* ○ *The results of the lab tests should help the consultant make an accurate diagnosis.* **2.** precise ○ *This watch is very accurate.*

accurately *adverb* with no errors ○ *The OCR had difficulty in reading the new font accurately.* ○ *The mistake occurred because the data had not been accurately keyed.*

acellular *adjective* referring to an organism that is not made up of separate cells

acentric *adjective* GENETICS referring to a chromosome that lacks the structure at which the two arms of a chromosome join (**centromere**)

acer *noun* TREES a maple or sycamore tree. Genus: *Acer*.

acetaldehyde *noun* CHEM a colourless volatile liquid with an unpleasant smell. Formula: CH₃CHO.

acetamide *noun* CHEM a white crystalline solid with moisture-absorbing properties, used in the manufacture of organic chemicals. Formula: CH₃CONH₂.

acetate *noun* CHEM a salt or ester of acetic acid

acetic *adjective* CHEM containing a product of vinegar or acetic acid

acetic acid *noun* CHEM a colourless hygroscopic acid with a sharp smell that is the main component of vinegar. Formula: CH_3COOH .

acetone *noun* CHEM a colourless liquid that has a sweetish smell and is flammable, used as a solvent and in the manufacture of organic chemicals. It is formed in the body after vomiting or as a result of diabetes. Formula: CH_3COCH_3 .

acetylcholine *noun* BIOCHEM a substance that is released from the ends of some nerve fibres to transmit impulses to other nerve cells or to muscles. Formula: $\text{C}_7\text{H}_{17}\text{NO}_3$.

acetyl chloride *noun* CHEM a colourless liquid with a strong unpleasant smell, used to introduce the organic group CH_3 - into compounds

acetylene *noun* CHEM a colourless hydrocarbon gas that is highly flammable, used in welding and the manufacture of organic chemicals. Formula: C_2H_2 .

acetylde *noun* CHEM a potentially explosive compound of acetylene containing a metal ion

acetylsalicylic acid *noun* PHARM the chemical name for the drug aspirin

achene *noun* BOT a dry single-seeded fruit that does not split open (NOTE: Achenes are produced by plants such as dandelions and sunflowers.)

achieve *verb* to succeed in doing or having something ○ *In order to achieve an acceptable result the experiment must be replicated.*

achievement *noun* the successful completion of something demanding ○ *For trainee pilots, the first solo flight is a great achievement.*

achromatic *adjective* OPTICS referring to an optical device that has been corrected for chromatic aberration

achromatic colour *noun* OPTICS colour within the range between black and white displayed by a graphics adapter, or a shade of grey

achromatic lens *noun* OPTICS a lens in which two or more lenses with different properties are combined to prevent distortion

ACIA *noun* COMPUT a circuit that allows a computer to transmit and receive serial data using asynchronous access. Full form **asynchronous communications interface adapter**

acid *noun* CHEM **1.** a chemical compound containing hydrogen which dissolves in water and forms hydrogen ions, or reacts with an alkali to form a salt and water, and turns litmus paper red **2.** any bitter juice

acid deposition *noun* ENVIRON same as **acid rain**

acid fallout *noun* an acid which forms in the atmosphere and falls as particles, without any water

acid grassland *noun* ECOL a type of vegetation that typically grows on soils that drain freely and are low in mineral nutrients, and may also occur on post-industrial sites. The range of plant species found is small. ◊ **calcareous grassland**

acidic *adjective* CHEM containing or having the properties of an acid

acidic rock *noun* EARTH SCI a rock which contains a high percentage of silica

acidic solution *noun* CHEM a solution with a pH of less than 7 (NOTE: It is usually a solution which has water as the solvent.)

acidic water *noun* CHEM water which contains acid

acidification *noun* CHEM the process of becoming acid or of making a substance more acid ○ *Acidification of the soil leads to the destruction of some living organisms.*

acidify *verb* CHEM to make a substance more acid, or to become more acid ○ *Acid rain acidifies the soils and waters where it falls.* ○ *The sulfur released from wetlands as sulfate causes lakes to acidify.*

acidifying compound *noun* a compound that contributes to acidification, e.g. sulfur oxides, sulfates, nitrogen oxides, nitrates and ammonium compounds

acidity *noun* **1.** CHEM the proportion of acid in a substance ○ *The alkaline solution may help to reduce acidity.* **2.** MED a form of indigestion where the patient has a burning feeling in the stomach caused by too much acid forming there

COMMENT: Acidity and alkalinity are measured according to the pH scale. pH7 is neutral. Numbers above pH7 show alkalinity, while those below show acidity.

acid-neutralising capacity *noun* CHEM the ability of water to neutralise acids, measured by the amount of bicarbonate it contains. Abbr **ANC**

acidosis *noun* MED an unusually high proportion of acid waste products such as

urea in the blood, sometimes caused by a metabolic dysfunction (NOTE: As acidity increases the rumen wall becomes inflamed. The animal dehydrates progressively, the blood turns more acidic and in extreme cases the animal may die.)

acid precipitation *noun* ENVIRON same as **acid rain**

acid-proof *adjective* CHEM able to resist the harmful effects of an acid

acid pulse *noun* a sudden increase in acidity in rainwater or river water

acid rain *noun* ENVIRON precipitation such as rain or snow which contains a higher level of acid than normal

COMMENT: Acid rain is mainly caused by sulfur dioxide, nitrogen oxide and other pollutants being released into the atmosphere when fossil fuels such as oil or coal containing sulfur are burnt. Carbon combines with sulfur trioxide from sulfur-rich fuel to form particles of an acid substance. The effects of acid rain are primarily felt by wildlife. The water in lakes becomes very clear as fish and microscopic animal life are killed. It is believed acid rain kills trees, especially conifers, making them gradually lose their leaves and die. Acid rain can also damage surfaces such as the stone surfaces of buildings when it falls on them.

acid soot *noun* ENVIRON acid carbon particles which fall from smoke from chimneys

ACK *noun* COMPUT a signal that is sent from a receiver to indicate that a transmitted message has been received and that it is ready for the next one ○ *The printer generates an ACK signal when it has received data.* Full form **acknowledge**

Ackerman's function *noun* COMPUT a recursive function used to test the ability of a compiler to cope with recursion

acknowledge *COMPUT noun* a signal that is sent from a receiver to indicate that a transmitted message has been received and that it is ready for the next one ■ *verb* **1.** to tell the person who sent something that it has been received **2.** to send a signal from a receiver to show that a transmitted message has been received

acknowledge character *noun* COMPUT a special code sent by a receiver to indicate to the transmitter that a message has been correctly received

ACL *abbreviation* COMPUT access control list

acorn *noun* BOT the fruit of an oak tree

acoustic *adjective* referring to sound
acoustic feedback *adjective* ACOUSTICS ↗ **feedback**

acoustician *noun* ACOUSTICS a person who specialises in the study of sound

acoustic nerve *noun* ANAT the eighth cranial nerve, which governs hearing and balance

acoustics *noun* ACOUSTICS the study of sound, especially noise levels in buildings

ACPI *noun* COMPUT a part of the Microsoft Windows 98 software system that allows the operating system to automatically configure compatible hardware. Full form **advanced configuration and power interface**

acqua regia *noun* CHEM a solution that can dissolve metals, made up of one part nitric acid and three parts hydrochloric acid

acquired *adjective* BIOL not inherited but developed in response to the environment

acquired character *noun* BIOL a characteristic that develops in response to the environment

acquired immunity *noun* MED immunity which is not inherited but has developed in response to infection or inoculation

ACR *abbreviation* audio cassette recorder

acre *noun* AGRIC, MEASURE a unit of measurement of land area, equal to 4840 square yards or 0.4047 hectares

ACRE *abbreviation* Advisory Committee on Releases to the Environment

acreage *noun* AGRIC, MEASURE the area of a piece of land measured in acres

acrid *adjective* having a strong bitter smell or taste ○ *acrid fumes*

acro- *prefix* BIOL referring to a point or tip

acrocentric *adjective* GENETICS referring to a chromosome that has arms of unequal length, because the structure at which the two arms join (**centromere**) is located near one end

acrolein *noun* CHEM a poisonous strong-smelling liquid used in the production of resins and medicines

acronym *noun* a word which is made up of the initial letters of several words and is pronounced as a word ○ *NASA is the acronym for National Aeronautics and Space Administration.*

acrosome *noun* BIOL a sac or cap at the front of a sperm cell that releases enzymes

to digest the egg coats enabling the sperm to penetrate the egg

acrylic acid *noun* CHEM a colourless acid with corrosive properties, used in the manufacture of acrylate resin. Formula: $\text{CH}_2\text{CHCO}_2\text{H}$.

acrylic fibre *noun* CHEM a synthetic textile fibre made from acrylonitrile

acrylonitrile *noun* CHEM a colourless toxic liquid which is moderately volatile, used in the manufacture of acrylic fibre, resin, rubber and thermoplastics. Formula: CH_2CHCN .

ACS *noun* COMPUT a server that sends data in one direction, one character at a time. Full form **asynchronous communication server**

act *verb* **1.** to behave in a particular way \circ *The crew must act with authority.* **2.** to take on a role \circ *Mountain ranges act as a barrier.* \circ *The governor spill valve also acts as a safety relief valve.* **3.** to produce an effect \circ *Gravity acts vertically downwards.*

ACTH *noun* BIOCHEM a hormone which stimulates the adrenal glands to produce steroid hormones. Full form **adrenocorticotrophic hormone**

actin *noun* BIOCHEM a protein which, with myosin, forms the contractile tissue of muscle

actinic radiation *noun* PHYS a type of radiation which can cause a chemical reaction

actinide *noun* CHEM ELEM one of the radioactive elements which are in the same category as uranium in the periodic table and have atomic numbers from 89 to 104

COMMENT: Actinides are waste products from nuclear fission. They pose problems for disposal as some of them have very long half-lives. They can be reduced to more disposable forms by burning in fast reactors.

actinium *noun* CHEM ELEM a natural radioactive element, produced by the decay of uranium-235 (NOTE: The chemical symbol is **Ac**; the atomic number is **89** and the atomic weight is **226.**)

actinomycete *noun* MICROBIOL a bacterium shaped like a rod or filament. Order: Actinomycetales. (NOTE: Some actinomycetes cause diseases while others are sources of antibiotics.)

action *noun* **1.** something done or to be done \circ *Appropriate action should be taken to avoid contamination.* **2.** the effect that something has \circ *worn away by the action*

of rain \circ *the action of the drug on the nervous system* **3.** COMPUT something that happens when the user does something, e.g. presses a special key that moves the cursor to the action bar at the top of the screen

action bar *noun* COMPUT the top line of the screen that displays the menu names

action code *noun* COMPUT a single letter associated with a specific menu option to speed up selection so that when the letter is pressed the menu option is selected

action-object *noun* COMPUT an object to which a user specifies that an action should be applied

action plan *noun* a detailed statement of how something that needs to be done will be carried out \circ *an action plan for conserving species*

action potential *noun* PHYSIOL a transitory alteration in electrical potential occurring between the inside and the outside of a nerve or muscle fibre, caused by transmission of a nerve impulse

activate *verb* **1.** to start a process or to make something start working \circ *Pressing CR activates the printer.* **2.** COMPUT (*in an authoring tool or programming language*) to make a button or menu option or field on a screen layout available to a user \circ *If the button or field is not activated, it is normally displayed greyed out and does not respond if a user selects it.*

activated carbon, activated charcoal *noun* CHEM a form of carbon to which gases can stick, used in filters or added to water as it is being treated before domestic consumption

activated sludge *noun* ENVIRON solid sewage containing active microorganisms and air, mixed with untreated sewage to speed up the purification process

activation *noun* the act of making something start to work

activation energy *noun* CHEM the amount of energy required to start a chemical reaction by breaking a chemical bond

activator *noun* CHEM a substance which activates a process \circ *a compost activator*

active *adjective* **1.** doing something, usually energetically, or being alert \circ *Kiwis are only active after dark.* \circ *Mental exercises keep the mind active and alert.* **2.** in action or in use \square **the system is active** the system is on and working **3.** not passive \square **in a secondary radar system, the target is active** in a secondary radar system the

target transmits a signal **4.** COMPUT busy, working or being used **5.** MED (*of disease*) not dormant ○ *after two years of active rheumatoid disease* **6.** EARTH SCI (*of a volcano*) likely to erupt from time to time

active application *noun* COMPUT an application currently being used by a user

active Cb cloud *noun* METEOROL a cumulonimbus cloud that is developing

active file *noun* COMPUT a computer file which is being worked on

active galactic nucleus *noun* ASTRON a zone in the central region of some galaxies where a mass of up to 100 million times that of the Sun is concentrated, emitting large and variable amounts of radiation. Abbr **AGN**

active high *noun* ELECTRONICS an electronic signal which is valid when it is high or logical one

active immunity *noun* the production of antibodies by an animal or person as a result of experiencing the disease organisms that cause the disease in question, or being vaccinated against it

active ingredient *noun* CHEM, PHARM the main effective ingredient of something such as an ointment or agrochemical, as opposed to the base substance. Abbr **AI**

active line *noun* COMPUT a line in a communications link or port which is being used to transfer data or carry control signals

active link *noun* COMPUT the link currently being used to transfer information

active low *noun* ELECTRONICS an electronic signal which is valid when it is low or logical zero

active margin *noun* EARTH SCI an area at the edge of a continental mass where volcanic activity is frequent

active mass *noun* CHEM a concentration of a substance which is part of a chemical reaction

active matrix display *noun* COMPUT a type of colour display used in laptop computers (NOTE: normally called TFT display)

active organic matter *noun* BIOCHEM organic matter in the process of being broken down by bacteria. Abbr **AOM**

active packaging *noun* ENVIRON food packaging that interacts chemically or biologically with its contents so that shelf-life is longer or the product is modified during storage

active principle *noun* PHARM the main medicinal ingredient of a drug which makes it have the required effect on a patient

Active Server Page *noun* COMPUT a webpage that is created only when accessed by a visitor, allowing the website to display up-to-date information or information from a database ○ *The database search results page is implemented as an Active Server Page.* Abbr **ASP**

active site *noun* BIOCHEM the region of an enzyme molecule where a substance (**substrate**) is bound and acted upon by the enzyme

active star *noun* COMPUT a network consisting of a central point with nodes branching out, in which one central computer controls and routes all messages between devices

active storage *noun* COMPUT a fast-access RAM whose locations can be directly and immediately addressed by the central processing unit, used as main storage

Active Streaming Format *noun* COMPUT a multimedia delivery format developed by Microsoft for delivery over the Internet and used in its NetShow product. Abbr **ASF**

active transport *noun* BIOCHEM a transfer of substances across a cell membrane for which energy is required

active volcano *noun* EARTH SCI a volcano which is erupting, or likely to erupt

active window *noun* COMPUT **1.** an area of display screen in which a user is currently working. ◇ **window 2.** the window that is currently the focus of cursor movements and screen displays

ActiveX *noun* COMPUT a programming language and program definition used to create small applications designed to enhance the functionality of a webpage

COMMENT: ActiveX applications, called applets, are often used to add database or multimedia effects to a website that cannot be supported with basic HTML commands. When a user visits the webpage that uses the ActiveX applet, the program is automatically downloaded by the user's browser and run on the user's computer.

activity *noun* **1.** the actions that humans and other living things undertake ○ *research activities* ○ *The hillside showed signs of human activity.* ○ *We saw no activity around the nest in several hours.* **2.** the

effect that something has ○ *Biopesticides are being evaluated for their biological activity in a range of environments.* **3.** an action or movement ○ *volcanic activity* **4.** COMPUT being active or busy

activity loading *noun* COMPUT a method of organising disk contents so that the most frequently accessed files or programs can be loaded quickly

activity ratio *noun* COMPUT the number of files currently in use compared to the total number stored

act on, act upon *verb* **1.** (of force) to produce an effect on something ○ *Bending and twisting forces act on a propeller.* ○ *The antibiotic acted quickly on the infection.* **2. act upon** to do something as the result of something which has been said ○ *He acted upon your suggestion.*

actual *adjective* real rather than expected or guessed ○ *What are the actual figures for the number of students this year?*

actual address *noun* COMPUT same as **absolute address**

actual code *noun* COMPUT a binary code which directly operates the central processing unit, using only absolute addresses and values (NOTE: This is the final form of a program after a compiler or assembler pass.)

actual instruction *noun* COMPUT the instruction executed as a result of the modification of an original instruction

actually *adverb* in fact ○ *The design is such that, although the aircraft loses altitude rapidly, it does not actually stall.*

actuate *verb* **1.** to switch on or put into operation a system or a piece of equipment ○ *A lever actuates the fire deluge system.* ○ *The fore and aft movement of the control column actuates the elevators.* **2.** to put a procedure into action ○ *Receipt of the distress signal will actuate the emergency procedures.*

actuation *noun* the act of causing a device or part to move

actuator *noun* **1.** ENG a device which changes electrical or hydraulic energy into mechanical motion (NOTE: The actuator is sensitive to engine rpm. Actuators are classified as either linear or rotary.) **2.** COMPUT a mechanical device which can be controlled by an external signal, e.g. the read/write head in a disk drive

ACU *noun* COMPUT a device which allows a computer to call stations or dial tele-

phone numbers automatically. Full form **automatic calling unit**

acuity *noun* **1.** PHYSIOL the ability of the eye to define shades and shapes of an object **2.** BIOL the ability of the ear to detect frequency or volume changes

acute *adjective* **1.** BIOL referring to a disease which comes on rapidly and can be dangerous ○ *She had an acute attack of shingles.* Compare **chronic** **2.** BIOL referring to a pain which is sharp and intense ○ *acute chest pains* Compare **chronic** **3.** MATHS describes an angle that is less than 90° **4.** MATHS describes a triangle that has three internal angles each of less than 90°

acute exposure *noun* exposure to a pollutant or radioactive substance for a short period

acute health effect *noun* a health problem which lasts a short time, following exposure to a pollutant or radioactive substance

acute toxicity *noun* MED the concentration of a toxic substance which is high enough to make people seriously ill or can cause death

acyclic *adjective* BOT referring to flowers whose parts are arranged in a spiral, not a whorl

acyl group *noun* CHEM a group of compounds with the basic chemical structure RCO-

A/D *abbreviation* COMPUT analog to digital

ADA *noun* COMPUT a high-level programming language that is used mainly in military, industrial and scientific fields

adapt *verb* **1.** to change to suit new conditions ○ *People adapt to the reduced amounts of oxygen available at high altitudes.* **2.** to change or modify something for special use ○ *The engine has been adapted to use the new fuel.* **3.** to experience a heritable change in structure or function that makes an organism better able to survive and reproduce, as part of the process of evolution

adaptability *noun* BIOL the ability of an organism to change to fit a new situation

adaptation *noun* **1.** the act of changing, or of modifying something for special use ○ *Doppler VOR is an adaptation of VOR to reduce errors caused by location.* **2.** the adjustment to new conditions ○ *Adaptation to time changes when travelling west to east needs time.* Also called **adaption** **3.** BIOL a heritable change in an organism so

that it is better able to survive and reproduce in an environment, as part of the process of evolution

adapter, adaptor *noun* COMPUT a device that allows two or more incompatible devices to be connected together ◦ *The cable adapter allows attachment of the scanner to the SCSI interface.* ◦ *The cable to connect the scanner to the adapter is included in the package.*

adapter plug *noun* COMPUT a plug which allows devices with different types of plug to be fitted into the same socket

adaption *noun* same as **adaptation**

adaptive channel allocation *noun* COMPUT the provision of communications channels according to demand rather than as a fixed allocation

adaptive compression *noun* COMPUT a data compression system that continuously monitors the data it is compressing and adjusts its own algorithm to provide the most efficient compression

adaptive differential pulse code modulation *noun* COMPUT a CCITT standard that defines a method of converting a voice or analog signal into a compressed digital signal. Abbr **ADPCM**

adaptive optics *noun* ASTRON an optical system capable of adjusting to compensate for atmospheric distortion (NOTE: Adaptive optics was advanced during the 1980s and 1990s because of spending by the US on the Strategic Defense Initiative, which called for methods of firing laser beams accurately through the atmosphere. The method is now entering wider use with big ground-based telescopes such as the Keck telescope in Hawaii, from which images matching in quality those from the Hubble Space Telescope have been obtained.)

adaptive packet assembly *noun* COMPUT a method used by the MNP error-correcting protocol to adjust the size of data packets according to the quality of the telephone line. The better the line is, the bigger the packet size can be.

adaptive radiation *noun* BIOL the development of different species from a single ancestor in such a way that the different forms have adapted to suit different environmental conditions

adaptive routing *noun* COMPUT the ability of a system to change its communications routes according to various events

or situations such as line failure (NOTE: The messages are normally sent along the most cost-effective path unless there is a problem with that route, in which case they are automatically rerouted.)

adaptor *noun* COMPUT another spelling of **adapter**

ADC *noun* COMPUT an electronic device that converts an analog input signal to a digital form that can be processed by a computer. Full form **analog to digital converter**

add *verb* MATHS **1.** to make a total from something ◦ *Add the two numbers together to find the sum.* ◦ *In the spreadsheet each column should be added to make a subtotal.* **2.** to put together two or more things to make a larger group or a group with different properties ◦ *A substance is added to the fuel to clean fuel injectors.* ◦ *The software house has added a new management package to its range of products.* ◦ *Adding or deleting material from the text is easy using function keys.*

addend *noun* MATHS a number added to the augend in an addition

adder *noun* COMPUT a device or routine that provides the sum of two or more digital or analog inputs ◻ **full adder, three input adder** a binary addition circuit which can produce the sum of two inputs, and can also accept a carry input, producing a carry output if necessary ◻ **half adder** a binary addition circuit which can produce the sum of two inputs and a carry output if necessary, but will not accept a carry input

COMMENT: A parallel adder takes one clock cycle to add two words, while a serial adder takes a time equal to the number of bits in a word to add.

adder-subtractor *noun* COMPUT a device that can either add or subtract

add file *noun* COMPUT a special file in which new records are stored prior to updating the main database

addict *noun* MED a person who is addicted to a harmful drug

addicted *adjective* BIOL physiologically or psychologically dependent on a harmful drug

addictive *adjective* BIOL referring to a drug which people can become addicted to ◦ *Heroin is addictive.*

add-in COMPUT *adjective* added to a computer program or piece of equipment ◦ *an add-in processor card.* ◦ *Processing is*

much faster with add-in cards. ■ **noun** a computer program or piece of equipment which is added to another

addition **noun** **1.** MATHS a mathematical operation which combines numbers ○ *The addition sign is +.* ○ *Addition is normally taught before subtraction, multiplication and division.* **2.** CHEM ♦ **addition reaction** ○ *With the addition of methanol, the turbine inlet temperature is restored.* **3.** MATHS □ **in addition** also □ **in addition to** as well as

additional **adjective** COMPUT extra ○ *Can we link three additional workstations to the network?*

addition reaction **noun** CHEM a chemical reaction in which two substances combine to form a third substance with no by-products or other substances being formed. Compare **substitution reaction** (NOTE: usually refers to reactions in organic chemistry)

addition record **noun** COMPUT a record with changes used to update a master record or file

addition sign **noun** MATHS a sign (+) used to show that numbers are added. Also called **plus sign**

addition time **noun** COMPUT the time an adder takes to carry out an add operation

addition without carry **noun** COMPUT an addition operation without any carry bits or words

additive **noun** **1.** FOOD INDUST a chemical which is added to food to improve its appearance or to keep it fresh ○ *The tin of beans contains a number of additives.* ○ *These animal foodstuffs are free from all additives.* **2.** CHEM a chemical which is added to something to improve it ○ *A new fuel additive made from plants could help reduce energy costs.*

COMMENT: Colour additives are added to food to improve its appearance. Some are natural organic substances like saffron, carrot juice or caramel, but others are synthetic. Other substances added to food to prevent decay or to keep the food in the right form are emulsifiers, which bind different foods together as mixtures, and stabilisers, which can keep a sauce semi-liquid and prevent it from separating into solids and liquids. The European Union allows some additives to be added to food and these are given E numbers.

add-on COMPUT **noun** a piece of software or hardware that is added to a computer system to improve its performance ○ *The*

add-on will boost the computer's storage capabilities. ○ *The new add-on board allows colour graphics to be displayed.* ■ **adjective** added to a computer system to improve its performance ► opposite (all senses) **built-in**

add register **noun** COMPUT a register which is an adder

address COMPUT **noun** **1.** a number allowing a central processing unit in a computer system to reference a physical location in a storage medium ○ *Each separate memory word has its own unique address.* **2.** a unique number that identifies a device on a network ○ *This is the address at which the data starts.* ■ **verb** to put the location data onto an address bus to identify which word in memory or storage device is to be accessed ○ *A larger address word increases the amount of memory a computer can address.*

addressable **adjective** COMPUT able to be addressed ○ *With the new operating system, all of the 5MB of installed RAM is addressable.*

addressable cursor **noun** COMPUT a cursor which can be programmed to be placed in a specific position

addressable point **noun** COMPUT in a graphics system, any point or pixel that can be directly addressed

address base **noun** COMPUT a part of an address that defines the origin to which the logical address is added

address book **noun** COMPUT **1.** a list of node addresses **2.** a list of the network addresses of other users to which electronic mail can be sent

address bus **noun** COMPUT a physical connection that carries the address data in parallel form from the central processing unit to external devices

address code **noun** COMPUT a special code that identifies the part of a document that is an address

address format **noun** COMPUT a set of rules defining the way the operands, data and addresses are arranged in an instruction

addressing **noun** COMPUT the process of accessing a location in memory

addressing mode **noun** COMPUT the way in which a location is addressed, e.g. sequential, indexed or direct

address mapping *noun* COMPUT a virtual address translated to an absolute address

address mask *noun* COMPUT a pattern of binary data bits that is used to block out parts of an address data word. It is usually used to separate the network and subnet parts of an address within a long Internet or IP address. ◦ *The address mask '111000' will block off the last three bits of any address data.*

address modification *noun* COMPUT the changing of the address field, so that it can refer to a different location

address register *noun* COMPUT a register in a computer that is able to store all the bits that make up an address which can then be processed as a single unit (NOTE: In small micros, the address register is usually made up of two data bytes.)

address resolution *noun* COMPUT the conversion of an Internet address into the correct physical network address that corresponds to the distant computer or resource

address resolution protocol *noun* COMPUT a protocol used within the TCP/IP standard that is used to determine whether the source and destination address in a packet are in the data-link control (DLC) or Internet protocol (IP) format. Once the format of the address is known, the packet can be correctly routed over a network. Abbr **ARP**

address space *noun* COMPUT the total number of possible locations that can be directly addressed by the program or CPU

address track *noun* COMPUT a track on a magnetic disk containing the addresses of files, etc., stored on other tracks

address word *noun* COMPUT a computer word, usually made up, in a small micro, of two data words that contain the address data

add time *noun* MATHS a period of time taken to perform one addition operation either of a central processing unit or adder

adduct *verb* PHYSIOL to pull towards the centre line of the body ■ *noun* CHEM a chemical compound formed in an addition reaction between at least two different compounds or elements

adductor *noun* ANAT a muscle that pulls a leg or arm towards the central line of the body or a toe or finger towards the axis of a leg or arm

adenine *noun* BIOCHEM one of the four basic components of DNA

adenosine *noun* BIOCHEM a compound, consisting of the base adenine and the sugar ribose, found in DNA, RNA and energy-carrying molecules such as ATP

adenosine diphosphate *noun* BIOCHEM full form of **ADP**

adenosine monophosphate *noun* BIOCHEM full form of **AMP**

adenosine triphosphate¹ *noun* BIOCHEM full form of **ATP**

adenosine triphosphate² *noun* BIOCHEM full form of **ATP**

adenovirus *noun* MICROBIOL a virus that causes infections of the nose and throat in humans

adequate *adjective* sufficient ◦ *The compressor must provide an adequate airflow through the engine.* ◦ *The brain must have an adequate supply of blood.* ◦ *Does the children's diet provide them with an adequate quantity of iron?*

ADH *abbreviation* BIOCHEM antidiuretic hormone

adhere *verb* to attach firmly ◦ *Clear ice adheres strongly to airframes.*

adhesion *noun* PHYS an intermolecular attraction between dissimilar materials that are touching each other, causing them to stick together

adhesive *noun* a glue ◦ *A 'superglue' is an all-purpose adhesive.* ■ *adjective* having the sticking quality of glue ◦ *adhesive tape* ◦ *Adhesive bonding of aluminium parts is widely employed.*

ADI *abbreviation* BIOL acceptable daily intake

adiabatic *adjective* PHYS referring to a change in temperature in a mass of air as a result of compression or expansion caused by an increase or decrease in atmospheric pressure without loss or gain of heat to or from its surroundings

COMMENT: A parcel of rising air expands, because the surrounding pressure falls. Also its temperature falls because no heat can enter or leave it. If a parcel of air descends, the opposite happens and the air temperature rises.

adiabatically *adverb* PHYS without losing or gaining heat ◦ *The air mass rises adiabatically through the atmosphere.*

adiabatic heating *noun* PHYS the heating of descending air caused by an increase

in atmospheric pressure without heat transfer, as when a bicycle pump is used

adiabatic lapse rate *noun* METEOROL the rate at which air temperature decreases as it rises above the Earth's surface. ◊ **lapse rate**

adipic acid *noun* CHEM a crystalline white solid used in nylon manufacture. Formula: $C_6H_{10}O_4$.

adipo- *prefix* BIOCHEM fat

adipose *adjective* BIOCHEM containing or made of fat

adipose tissue *noun* ANAT a type of tissue where the fibrous parts of cells are replaced by fat when too much food is eaten

aditus *noun* ANAT an opening or entrance to a passage

adjacent *adjective* next to or near to ◊ *They work in adjacent laboratories.*

adjacent angle *noun* MATHS either of the two angles that are formed by the intersection of two straight lines and lie on the same side of one line

adjunct register *noun* COMPUT a 32-bit register in which the top 16 bits are used for control information and only the bottom 16 bits are available for use by a program

adjust *verb* to change something to be more suitable or so that it works better ◊ *We will have to adjust the next trial to take account of recent results.* ◊ *This control adjusts the brightness and contrast of the screen.*

adjustable *adjective* designed to be adjusted ◊ *An adjustable stop on the throttle control ensures a positive idling speed.*

adjustment *noun* **1.** a change to improve the setting or position of something ◊ *Maximum system pressure is often controlled by adjustment of the main engine-driven pump.* ◊ *The brightness needs adjustment.* ◊ *The joystick needs adjustment as it sometimes gets stuck.* **2.** BIOL a process of physical change in response to external environmental changes

adjuvant *noun* **1.** something added to improve the effectiveness of something else, e.g. a substance added to a pesticide to make it stick to waxy leaves **2.** PHARM an agent added to a drug to improve its effectiveness

administrator *noun* COMPUT **1.** a person who manages an organisation, institution or business **2.** a person who is responsible

for looking after a network including installing, configuring and maintaining it

admit *verb* to allow someone or something to enter ◊ *Cold air can be admitted through adjustable louvres or shutters.*

admittance *noun* PHYS a measure of how easily an electrical current can flow through a medium (NOTE: It is the reciprocal of impedance.)

adnexa *plural noun* ANAT structures attached to an organ

adobe *noun* EARTH SCI **1.** a fine clay from which bricks can be made **2.** bricks made from fine clay, dried in the sun

adopt *verb* to choose to use or have something as standard equipment or as a procedure ◊ *We need to adopt a new strategy.* ◊ *The organisation has adopted strict energy-saving measures.*

adoption *noun* the act or an instance of using something as standard equipment or as a procedure ◊ *In spite of the adoption of the axial flow type compressor, some engines retain the centrifugal type.*

ADP *noun* **1.** COMPUT data processing done by a computer. Full form **automatic data processing** **2.** BIOCHEM a compound involved in chemical reactions that release large amounts of energy in the tissues of living organisms. Full form **adenosine diphosphate**

ADPCM *abbreviation* COMPUT adaptive differential pulse code modulation

adrenal *adjective* ANAT situated near a kidney

adrenal gland *noun* ANAT one of two endocrine glands at the top of the kidneys which produce adrenaline and other hormones

adrenaline *noun* BIOCHEM a hormone secreted by the medulla of the adrenal glands which has an effect similar to stimulation of the sympathetic nervous system (NOTE: The US term is **epinephrine**.)

COMMENT: Adrenaline is produced when a person experiences surprise, shock, fear or excitement. It speeds up the heartbeat and raises blood pressure. It is administered as an emergency treatment for acute anaphylaxis and in cardiopulmonary resuscitation.

adrenergic *adjective* BIOL referring to neurons or receptors stimulated by adrenaline

COMMENT: Three types of adrenergic receptor act in different ways when stimulated by adrenaline. Alpha receptors constrict the bronchi, beta 1 receptors

speed up the heartbeat and beta 2 receptors dilate the bronchi.

adrenoceptor *noun* ANAT a cell or neuron which is stimulated by adrenaline

adrenocorticotrophic hormone *noun* BIOCHEM full form of **ACTH**

adrenoreceptor *noun* ANAT same as **adrenoceptor**

ADSL *noun* COMPUT a high-speed transmission standard that uses the same wires as a normal telephone service, but is much faster and provides a user with an always-on connection to the Internet so there is no need to dial an access number and no delay. Full form **asymmetric digital subscriber line** (NOTE: Data is usually transferred from the Internet to the user's computer at 2Mbps but transferred from the user's computer to the Internet at a slower rate of 256Kbps.)

adsorb *verb* CHEM (*of a solid*) to bond with a gas or vapour which touches its surface

adsorbable *adjective* CHEM referring to a gas or vapour which is able to bond with a solid when it touches its surface

adsorbate *noun* CHEM a substance that is adsorbed

adsorbent CHEM *adjective* able to adsorb something such as a gas or vapour ■ *noun* a solid which is able to bond with a gas or vapour which touches its surface

adsorber *noun* a device which removes volatile organic compounds from gas by adsorbing them to a carbon filter

adsorption *noun* CHEM the bonding of a solid with a gas or vapour which touches its surface

adult BIOL *adjective* having reached maturity ○ *takes two years to reach the adult stage* ■ *noun* an organism that has reached maturity

advance *noun* 1. an instance of new development and progress ○ *advances in gene therapy* 2. □ **in advance of** before ■ *verb* to move or be moved forwards □ **to advance the ignition** to adjust the timing of the ignition in an engine so that the spark occurs earlier

advanced *adjective* 1. modern and sophisticated ○ *advanced techniques* 2. more complicated or more difficult to learn ○ *advanced mathematics* 3. having developed further ○ *the advanced stages of a disease* 4. moved forwards □ **the throttle**

lever is advanced the throttle lever is physically moved forwards

advanced gas-cooled reactor *noun* INDUST a type of nuclear reactor, in which carbon dioxide is used as the coolant and is passed into water tanks to create the steam which will drive the turbines. Abbr **AGR**

advanced program to program communication *noun* COMPUT a set of protocols developed by IBM that allows peer-to-peer communication between workstations connected to an SNA network. Abbr **APPC**

Advanced Research Projects Agency Network *noun* COMPUT an original network of interconnected computers, linked by leased lines, that formed the first prototype for the current Internet and was developed by the US Department of Defense (Defense Advanced Research Projects Agency). Abbr **ARPANET**

advanced run-length limited *noun* COMPUT a method of storing data onto a hard disk that is faster and more efficient than RLL. Abbr **ARLL**

advanced technology attachment packet interface *noun* COMPUT a standard interface that is used for CD-ROMs. Abbr **ATAPI**

advantage *noun* a good or beneficial factor ○ *The multi-wheel combination has the advantage of smaller and lighter undercarriage structures.* □ **to take advantage of** to get the most benefit from a situation. Opposite **disadvantage**

advantageous *adjective* providing an advantage

advect *verb* METEOROL (*of air*) to move in a horizontal direction due to convection ○ *Dispersal of hill fog takes place when surface heating lifts the cloud base or drier air is advected.*

advection *noun* METEOROL a movement of air in a horizontal direction. Compare **convection**

advection fog *noun* a fog which forms when warmer moist air moves over a colder surface, either land or sea

advent *noun* the arrival of something new ○ *With the advent of satellite navigation systems, pilots of light aircraft have a more accurate means of knowing their position.*

adventitious *adjective* 1. BIOL on the outside or in an unusual place 2. BOT referring to a root which develops from a node on a plant stem and not from another root

adverse *adjective* **1.** bad or poor ○ *Adverse weather conditions delayed planting.* **2.** harmful or unfavourable ○ *The treatment had an adverse effect on his dermatitis.* ○ *She had an adverse reaction to penicillin.* **3.** moving in the opposite direction ○ *adverse winds*

adverse health effect *noun* a harmful effect on a person's health as a result of coming into contact with pollutants or allergens

adverse yaw *noun* AEROSP a sideways turn caused by aileron drag, in the opposite direction to the direction of the intended turn

advice *noun* a suggestion about what should be done ○ *The doctor's advice was to stay in bed.* ○ *He took my advice and went home.* (NOTE: no plural: **some advice** or **a piece of advice**)

advisability *noun* the degree to which a particular action is a good idea or not

advisable *adjective* to be recommended ○ *Where possible, it is advisable to closely check the condition of the tyres.*

advise *verb* **1.** to inform someone **2.** to recommend something □ **to advise against something** to recommend that something should not be done

advisory *adjective* giving advice and information

advisory board, advisory committee *noun* a group of specialists who can give advice

Advisory Committee on Releases to the Environment *noun* an independent advisory committee giving statutory advice to UK Government Ministers on the risks to human health and the environment from the release and marketing of genetically modified organisms (GMOs). It also advises on the release of some non-GM species of plants and animals that are not native to Great Britain. Abbr **ACRE**

advisory lock *noun* COMPUT a lock placed on a region of a file by one process to prevent any other process accessing the same data

advisory system *noun* COMPUT an expert system that provides advice to a user

AE *abbreviation* assimilation efficiency

AEA *noun* PHYS ↓ **UKAEA**

AEBC *abbreviation* Agriculture, Environment and Biotechnology Commission

AEC *abbreviation* PHYS Atomic Energy Commission

aeolian deposits *plural noun* EARTH SCI sediments which are blown by the wind. ↓ **loess**

aeon *noun* GEOL ↓ **geological aeon**

aer- *prefix* CHEM air

aerate *verb* **1.** to put a gas, especially carbon dioxide or air, into a liquid so that bubbles are formed ○ *aerated water* ↓

de-aerate **2.** to allow air to enter a substance, especially soil or water ○ *Worms play a useful role in aerating the soil.*

aeration *noun* CHEM **1.** the process of putting a gas, especially carbon dioxide or air, into a liquid ○ *The purpose of the booster pump is to prevent fuel aeration.* **2.** the process of putting air into a substance ○ *aeration of the soil*

COMMENT: The process of aeration of soil is mainly brought about by the movement of water into and out of the soil. Rainwater drives out the air and then, as the water drains away or is used by plants, fresh air is drawn into the soil to fill the spaces. The aeration process is also assisted by changes in temperature, good drainage, cultivation and open soil structure. Sandy soils are usually well aerated. Clay soils are poorly aerated.

aerator *noun* CHEM a device to put a gas, especially carbon dioxide or air, into a liquid. ↓ **de-aerator**

aerial *adjective* **1.** referring to the air ○ *Some orchids have aerial roots.* **2.** AEROSP referring to an aircraft in the air ■ *noun* a device to send or receive radio or TV signals (NOTE: The US term for this meaning is **antenna**.)

aerial perspective *noun* COMPUT a view of a three-dimensional landscape as if the viewer is above the scene

aerial photography *noun* AEROSP photography done from an aircraft in the air

aerial root *noun* BOT a root of some plants, which hangs above the ground or clings to other plants so that it can take up moisture from the air

aero- *prefix* AEROSP **1.** air ○ *aerodynamic* **2.** aircraft ○ *aero-engine*

aerobe *noun* MICROBIOL a living thing, particularly a microorganism, that needs oxygen for metabolism. Compare **anaerobe**

aerobic *adjective* BIOCHEM needing oxygen for its existence or for a biochemical reaction to occur. Compare **anaerobic**

aerobic decomposition *noun* BIO-CHEM the breakdown of organic material by microorganisms without the presence of oxygen

aerobic digester *noun* BIOCHEM a digester which operates in the presence of oxygen

aerobic digestion *noun* BIOCHEM the processing of waste, especially organic waste such as manure, in the presence of oxygen

aerobic respiration *noun* BIOCHEM a process where the oxygen which is breathed in is used to conserve energy as ATP

aerobiosis *noun* BIOCHEM a biological activity which occurs in the presence of oxygen

aerodynamic *adjective* **1.** referring to the way in which objects are affected when they move through the atmosphere **2.** referring to a smooth rounded shape which moves easily through the air

aerodynamic braking *noun* AEROSP the braking effect of drag

aerodynamic design *noun* ENG a design of an aircraft or vehicle which moves easily through the air because of its shape

aerodynamic forces *plural noun* PHYS forces of the air which act on aircraft in flight

aerodynamics *noun* the science of dynamics and interaction of moving objects with the atmosphere (NOTE: takes a singular verb)

aero-engine *noun* AEROSP an engine used in aircraft ○ *Most piston aero-engines are cooled by air.*

aerofoil *noun* AEROSP a surface which is shaped to produce more lift than drag when moved through the air ○ *Wings, ailerons, elevators, fins and propellers are all examples of aerofoils.* (NOTE: The US term is **airfoil**.)

aerogel *noun* CHEM a highly porous, extremely lightweight solid formed by replacing the particles in a gel with a gas

aerogenerator *noun* INDUST a windmill with fast-moving sails used to generate mechanical power or electricity

aerolisation, aerolization *noun* ENVIRON the transmission of a substance in the form of a vapour or fine particles in the air

aeronautical *adjective* AEROSP referring to aeronautics

aeronautical engineering *noun* AEROSP the science or study of the design of aircraft

aeronautics *noun* **1.** AEROSP the science of aircraft design, construction, operation or navigation **2.** NAVIG the theory and practice of aircraft navigation (NOTE: takes a singular verb)

aeroplane *noun* a power-driven, heavier-than-air craft with fixed wings (NOTE: Many people use the words **aeroplane** and **aircraft** synonymously. However, aeroplanes, hot-air balloons, helicopters, airships and gliders are all **aircraft**. The US term is **airplane**.)

aeroplane performance *noun* AEROSP a description in figures regarding the speed of the aircraft, rate of climb, length of take-off run, etc.

aeroshell *noun* AEROSP the outer casing of a planetary landing spacecraft, designed to protect it from frictional heat generated when it passes through an atmosphere

aerosol *noun* **1.** a quantity of tiny particles of liquid suspended in a gas under pressure, sprayed from a container **2.** a can of liquid with a propellant gas under pressure, which is used to spray the liquid in the form of tiny drops **3.** a quantity of tiny particles of liquid or powder which stay suspended in the atmosphere

COMMENT: Aerosols in the atmosphere may be formed of liquid, as in the case of mist, or of solid particles, as in the case of dust storms. Aerosols in the atmosphere are the form in which pollutants such as smoke are dispersed. Commercial aerosols use CFCs as propellants, but these are believed to be responsible for the destruction of ozone in the upper atmosphere and are gradually being replaced by less destructive propellants.

aerosol propellant *noun* a gas used in an aerosol can to make the spray of liquid come out

aerospace *noun* **1.** METEOROL the Earth's atmosphere and outer space **2.** AEROSP relating to the design, manufacture, and flight of vehicles or missiles that fly in and beyond the Earth's atmosphere

aesthetic injury level *noun* the level at which the amenity benefits of pest control become acceptable. Abbr **AIL**

aestivation *noun* **1.** ZOOL dormancy in some animals such as lungfish during the summer or periods of drought. Compare

hibernation **2.** BOT the arrangement of sepals and petals in a flower bud

aetiological agent *noun* BIOL an agent which causes a disease

aetiology *noun* BIOL the causes of a disease, or the study of those causes

affect *verb* to have an influence on or to change something ○ *Humidity and air density are factors which affect the output of the engine.* ○ *Wind direction and speed only affect the movement of the aircraft over the ground.* Compare **effect**

afferent *adjective* BIOL conducting liquid or electrical impulses towards the inside

afferent nerve *noun* ANAT same as **sensory nerve**

affinity *noun* CHEM an attraction between two substances

affirmative acknowledgment *noun* TELECOM a signal from a receiver indicating that it has accepted a message and is ready for the next one

affluent *adjective* **1.** wealthy **2.** EARTH SCI referring to water which is flowing freely ■ *noun* EARTH SCI a stream which flows into a river

afforest *verb* AGRIC to plant an area with trees

afforestation *noun* **1.** AGRIC the planting of trees in an area or as a crop ○ *There is likely to be an increase in afforestation of upland areas if the scheme is introduced.* **2.** EARTH SCI the planting of trees on land previously used for other purposes

aflatoxin *noun* FOOD INDUST a toxin produced by species of the fungus *Aspergillus*, especially *Aspergillus flavus*, which grows on seeds and nuts and affects stored grain

AFLP *abbreviation* BIOTECH amplified fragment length polymorphism

AFM *abbreviation* PHYS atomic force microscope

AFP *noun* COMPUT a protocol used to communicate between workstations and servers in a network of Apple Macintosh computers. Full form **Appletalk filing protocol**

afrormosia *noun* TREES a hardwood tree from West Africa, now becoming scarce. Latin name: *Pericopsis elata*.

after- *prefix* coming later

afterburner *noun* a device which reduces pollution by burning out organic gases

aftercare *noun* ENVIRON arrangements for preventing future pollution from an environmentally sensitive activity that has ceased

aftereffects *plural noun* BIOL changes which appear only some time after the cause ○ *The operation had some unpleasant aftereffects.*

afterglow COMPUT ▶ **persistence**

aftershock *noun* EARTH SCI a weaker shock which follows the main shock of an earthquake. Compare **foreshock**

Ag *symbol* CHEM ELEM silver

agamosperry *noun* BOT same as **apomixis**

agar, agar agar *noun* BIOL a culture medium based on an extract of seaweed used for growing microorganisms in laboratories

agbiotech *noun* BIOTECH biotechnology applied to agriculture or an agricultural industry

AGC *noun* ELECTRONICS an electronic circuit that adjusts the level of an incoming signal so that it is suitable for the next part of the circuit. Full form **automatic gain control**

age *noun* the number of years during which a person or thing has existed ○ *The size varies according to age.* ■ *verb* to grow old

age group *noun* all people of a particular age

agency *noun* **1.** an organisation or company that acts as a representative for a person or business **2.** a government organisation with a specific role **3.** BIOL the act of causing something to happen ○ *The disease develops through the agency of bacteria present in the bloodstream.*

Agenda 21 *noun* ENVIRON a global environmental programme and statement of principles concerning sustainable development for the 21st century, agreed in 1992 at the Earth Summit in Rio de Janeiro, Brazil

agent *noun* **1.** CHEM a chemical substance which causes a change ○ *an anti-icing agent* **2.** COMPUT a program or piece of software that runs on a workstation in a network, sending performance and statistical information about the workstation to a central network management console **3.** COMPUT a series of commands or actions that are carried out automatically on a particular file or data **4.** BIOL a substance or

organism which causes a disease or condition ○ *They identified the disease agent.*

Agent Orange *noun* CHEM an extremely poisonous herbicide used as a defoliant (NOTE: It was used by US forces in the Vietnam War.)

age-related macular degeneration *noun* MED an eye condition associated with ageing in which the yellowish spot (**macula**) in the middle of the retina breaks down or becomes damaged as a result of leaking blood vessels. Symptoms include blurry central vision and diminished colour perception.

age-specific rate *noun* MED the number of live births per 1000 women of a particular age group per year

agglomerate *noun* EARTH SCI a rock made up of fragments of lava fused together by heat

agglutinate *verb* BIOL to form into groups or clusters

agglutination *noun* BIOL a process in which cells come together to form clumps. For example, agglutination takes place when bacterial cells are in the presence of serum or affects blood cells when blood of different types is mixed.

agglutination test *noun* **1.** MICROBIOL a test used to identify bacteria **2.** MED a test used to identify if a woman is pregnant

agglutination tests *plural noun* tests to identify bacteria

agglutinin *noun* BIOCHEM a factor in a serum which makes cells group together

agglutininogen *noun* BIOCHEM a factor in red blood cells which reacts with a specific agglutinin in serum

aggravate *verb* to make something worse ○ *The effects of acid rain on the soil have been aggravated by chemical runoff.*

aggregate *noun* **1.** the total obtained by adding ○ *The aggregate of the capacity of all the fuel tanks is 50 gallons.* **2.** COMPUT a collection of data objects **3.** INDUST crushed stones used to make concrete or road surfaces **4.** EARTH SCI a mass of soil and rock particles stuck together ■ *verb* to make up a whole or total ○ *Ice crystals aggregate to form snowflakes.* ■ to come together to form a mass

aggregate bandwidth *noun* the total bandwidth of a channel carrying a multiplexed data stream

aggregate function *noun* COMPUT a mathematical database function performed

on a selected field in every record in a selected database

aggregate line speed *noun* COMPUT the maximum speed at which data can be transmitted through a particular channel

aggregate operator *noun* COMPUT a command in a database management program that starts an aggregate function

aggregation *noun* ECOL a dispersal pattern of plants or animals, where the individuals remain quite close together

AGN *abbreviation* ASTRON active galactic nucleus

agnathan *noun* MARINE BIOL a sea vertebrate that has no jaw nor the two pairs of fins or legs that are characteristic of vertebrates such as lampreys and hagfish. Sub-phylum: Agnatha. (NOTE: Modern examples have eel-shaped bodies and slimy scaleless skin, but many extinct agnathans were covered with bony plates and scales.)

agonist *noun* BIOCHEM a substance such as a hormone, neurotransmitter or drug that binds to a cell's receptors to trigger a response

AGP *abbreviation* COMPUT accelerated graphics port (NOTE: This port does not replace a PCI bus but works with it.)

AGR *abbreviation* INDUST advanced gas-cooled reactor

agree *verb* **1.** to have the same idea or opinion about something **2.** to come to an understanding

agreed *adjective* generally accepted ○ *The millibar is an agreed unit of pressure.*

agreement *noun* the act or fact of having the same idea or opinion as somebody

agri- *prefix* AGRIC referring to agriculture or to the cultivation or management of land. ♦ **agro-**

agri-biotechnology *noun* biotechnology as applied to agriculture

agribusiness *noun* AGRIC a large-scale farming business run along the lines of a conventional company, often involving the processing, packaging and sale of farm products

agricultural *adjective* AGRIC referring to farming

Agricultural and Food Research Council *noun* formerly, a council established to organise and provide funds for agricultural and food research. It was replaced by the Biotechnology and Biolog-

ical Sciences Research Council in 1993. Abbr **AFRC**

agricultural engineer *noun* AGRIC a person trained in applying the principles of science to farming

agricultural engineering *noun* AGRIC the applying of the principles of science to farming

agriculturalist *noun* AGRIC a person trained in applying the principles of science to farming

agricultural waste *noun* AGRIC waste matter produced on a farm, e.g. plastic containers for pesticides

agriculture *noun* AGRIC the cultivation of land, including horticulture, fruit growing, crop and seed growing, dairy farming and livestock breeding

Agriculture, Environment and Biotechnology Commission *noun* the UK government advisory body on biotechnology issues affecting agriculture and the environment

agri-environmental indicator *noun* an indicator designed to provide information on the various ways in which agriculture affects the environment

agro- *prefix* AGRIC referring to agriculture or to the cultivation or management of land. ♦ **agri-**

agrobiodiversity *noun* the aspects of biodiversity that affect agriculture and food production, including within-species, species and ecosystem diversity

agrochemical industry *noun* AGRIC the branch of industry which produces pesticides and fertilisers used on farms

agrochemicals *plural noun* AGRIC pesticides and fertilisers developed for agricultural use

agroclimatology *noun* AGRIC the study of climate and its effect on agriculture

agroecology *noun* AGRIC, ECOL the ecology of a crop-producing area

agroecosystem *noun* AGRIC a community of organisms in a crop-producing area

agroforestry *noun* AGRIC the growing of farm crops and trees together as a farming unit

agroindustry *noun* AGRIC an industry dealing with the supply, processing and distribution of farm products

agronomist *noun* AGRIC a person who studies the cultivation of crops and provides advice to farmers

agronomy *noun* AGRIC the scientific study of the cultivation of crops

COMMENT: The use of land to raise crops for food first started about 10,000 years ago. All plants grown for food have been developed over many centuries from wild plants, which have been progressively bred to give the best yields in different types of environment. Wild plants tend to be more hardy and resistant to disease and are used in breeding new cultivated varieties.

AH *abbreviation* MEASURE ampere-hour

ahead *adverb* in front

ahead of *preposition* **1.** in front of ○ *Air ahead of a cold front is warmer than air behind a cold front.* **2.** at an earlier time than ○ *Paris is one hour ahead of London* ○ *The report was published ahead of schedule.* **3.** before ○ *We need to have the data ahead of next week's meeting.*

AI¹ *noun* COMPUT the design and development of computer programs that attempt to imitate human intelligence and decision-making functions, providing basic reasoning and other human characteristics. Full form **artificial intelligence**

AI² *abbreviation* **1.** BIOL active ingredient **2.** AEROSP attitude indicator **3.** AGRIC artificial insemination

aid *noun* **1.** help given to someone **2.** something which helps someone do something ○ *The computer is a great aid to rapid processing of large amounts of information.* ○ *Crop sprayers are useful aids in combating insect-borne disease.* **3.** help such as food, medicines, equipment or people offered to somewhere that has experienced difficult conditions or a disaster ○ *sent food aid to the famine zone* ○ *The country spends 7% of its gross national product on aid to Third World countries.* **4.** a machine, tool or drug which helps someone do something ■ *verb* to help or give support to someone or something ○ *They were aided in their research by the detailed records kept by observers.* ○ *Changing to lead-free petrol has aided the fight against air pollution.*

AIDS *noun* MED a disease of the immune system caused by the HIV virus, characterised by increased susceptibility to infections and cancers. Full form **Acquired Immune Deficiency Syndrome** (NOTE: It is transmitted through blood or bodily secretions such as semen.)

AIL *abbreviation* aesthetic injury level

aileron *noun* AEROSP a horizontal control surface hinged to an aircraft wing which

provides movement such as banking or turning around the longitudinal axis of the aeroplane ○ *By rotating the yoke the ailerons are moved and the aircraft rolls into a turn.* (NOTE: The word comes from the French 'aile', meaning 'wing'.)

ailment *noun* MED an illness, though not generally a very serious one ○ *Chickenpox is one of the common childhood ailments.*

aim *noun* a goal or objective ■ *verb* **1.** to point something such as a weapon or a remark at someone or something **2.** to intend or to try to do something

aiming symbol, aiming field *noun* COMPUT a symbol displayed on screen which defines the area in which a light pen can be detected

air *noun* METEOROL a mixture of gases forming the Earth's atmosphere, which cannot be seen

COMMENT: The composition of air in the lower atmosphere is: nitrogen (78%), oxygen (21%), argon (less than 1%) and trace quantities of carbon dioxide, helium, hydrogen, krypton, neon, ozone and xenon. Air pollution can be caused by human action such as industrial processes or smoking tobacco, but also by natural disasters such as volcanic eruptions and forest fires.

air bladder *noun* MARINE BIOL an air-filled sac that helps the fronds of a seaweed to float in the water

airborne *adjective* **1.** (of aircraft) lifted and kept in the air by aerodynamic forces ○ *Shortly after the aircraft becomes airborne, the undercarriage is retracted.* **2.** METEOROL carried in the air ○ *airborne particles* ○ *airborne spores*

airborne combustion product *noun* INDUST a gas, vapour or solid produced by burning and transported through the air

airborne lead *noun* ENVIRON particles of lead carried in the air, causing pollution

airbrush *noun* COMPUT a painting tool that creates a diffuse pattern of dots ○ *We used the airbrush tool to create the cloud effects in this image.*

air cleaner *noun* ENG a filter which removes unwanted substances from the air

air conditioner *noun* ENG a device which controls the temperature, ventilation and humidity in a building or vehicle

air conditioning *noun* ENG a system which controls the temperature, ventilation and humidity in a building or vehicle

air conduction *noun* PHYSIOL the conduction of sounds through the channel from the outside to the inner ear

air-cooled *adjective* ENG cooled by means of a flow of air, not water

air-cooling *noun* ENG the cooling of something by means of a current of air

aircraft *noun* AEROSP a vehicle that flies ○ *Aeroplanes, gliders, balloons, airships and helicopters are all aircraft.* ◇ **aeroplane** (NOTE: The plural is **aircraft**.)

air current *noun* PHYS a flow of air

air density *noun* PHYS the density of the atmosphere

air filter *noun* a device to remove solid particles from the air in engine and ventilation systems

airflow *noun* **1.** AEROSP a movement of air over an aircraft caused by the movement of the aircraft through the air **2.** ENG a current of air flowing through or past an object or body ○ *The compressor must provide an adequate airflow through the engine.*

airfoil *noun* US AEROSP US spelling of **aerofoil**

airframe *noun* AEROSP an aircraft body without engines, instruments, etc ○ *The airframe has to be built to very specific requirements.*

air frost *noun* METEOROL the condition where the air temperature above ground level is below 0°C

air gap *noun* COMPUT a narrow gap between a recording or playback head and the magnetic medium

air gap type spark plug *noun* AUTOMOT a spark plug with a gap between the electrodes across which the spark jumps

air gas *noun* INDUST a mixture of carbon monoxide and nitrogen made by passing air over hot coke and used as a fuel

airglow *noun* ASTRON a faint glow in the night sky caused by fluorescence of air molecules in the upper atmosphere

COMMENT: The airglow can exist at 600 km or more above the Earth's surface. The air at this height glows as the result of interaction with solar radiation, especially when ultraviolet radiation from the Sun forms nitrogen oxides with the emission of visible light. Although interesting in its own right, the airglow can hamper other astronomical observations.

air intake *noun* AEROSP the front part of a jet engine where air enters

air mass *noun* METEOROL a very large mass of air in the atmosphere in which the temperature is almost constant, divided from another mass by a weather front

air passage *noun* ANAT a set of tubes, formed of the nose, pharynx, larynx, trachea and bronchi, which takes air to the lungs

airplane *noun* US AEROSP US spelling of **aeroplane**

air pollutant *noun* ENVIRON a substance such as gas or smoke that contaminates the air in a specific place or the Earth's atmosphere

air pollution *noun* the contamination of the air by substances such as gas or smoke

air pressure *noun* METEOROL the normal pressure of the air on the surface of the Earth

air purification *noun* ENG the removal of unwanted substances from the air

air quality *noun* ENVIRON the state of the air in a specific place in terms of the degree of pollution measured

air quality index *noun* ENVIRON a numerical scale that indicates how polluted the air is in a specific place

air quality standards *plural noun* ENVIRON legal limits on specific pollutants in the air

air sac *noun* ANAT same as **alveolus**

airship *noun* AEROSP a powered, gas-filled balloon which can be steered

airspace *noun* AEROSP a part of the atmosphere in which aircraft fly which is subject to the laws of a particular country or controlling authority ○ *Civilian airspace over Europe has become very crowded.*

airspeed *noun* AEROSP the speed of an aircraft relative to the air around it ○ *Maintain a constant airspeed on final approach.*

airspeed indicator *noun* AEROSP the primary cockpit or flight deck instrument which shows the pilot the speed of the aircraft in relation to the air around it ○ *Air-speed is shown in knots on the airspeed indicator.* Abbr **ASI**

airstream *noun* AEROSP a flow of air in a particular direction

COMMENT: Unlike airflow, airstream does not refer to the movement of air around an airframe and its aerodynamic effect.

air stripping *noun* ENVIRON a technique for removing pollutants from water in which water is split into minute particles

airtight *adjective* ENG not leaking air

air-to-ground visibility *noun* AEROSP the degree to which an object can be seen easily on the ground from the air ○ *Glare caused by reflection of sunlight from the top of a layer of fog or haze can seriously reduce air-to-ground visibility.*

airway *noun* ANAT a passage in the body through which air passes, especially the trachea

Airy disc *noun* PHYS a small disc of light produced by a lens or mirror forming an image of a point source of light such as a star. It is caused by diffraction spreading the light out.

akinetetic *adjective* BIOL without movement

Al *symbol* CHEM ELEM aluminium

alabaster *noun* MINERALS a hard white semitranslucent variety of calcite

alanine *noun* BIOCHEM an amino acid in protein

albedo *noun* PHYS, ASTRON a measurement of the ability of a surface to reflect light, shown as the proportion of solar energy which strikes the Earth and is reflected back by a particular surface

COMMENT: Albedo is highest on light shiny surfaces such as snow. It is lowest on dark uneven surfaces, e.g. masses of leaves, which absorb solar energy. Among the Earth's near neighbours, albedos range from Mercury's 6% to Venus's 76%, while the Earth's is 36%. Earth and Venus have high albedos because of their cloud-filled atmospheres.

albinism *noun* BIOL an inherited lack of pigmentation in an organism (NOTE: A person or animal with albinism has unusually white skin and hair.)

albino *noun* BIOL an organism that is unusually white, having little or no pigmentation in its skin, hair or eyes because it is deficient in the colouring pigment melanin

albumen *noun* BIOL the white of an egg, containing albumin

albumin *noun* BIOL a common protein, soluble in water and found in plant and animal tissue and digested in the intestine

albumose *noun* BIOL an intermediate product in the digestion of protein

alcohol *noun* 1. FOOD INDUST, CHEM a colourless liquid which is formed by the action of yeast on sugar solutions. It is a component of drinks such as wine and whisky and is also an ingredient of organic chemicals and medicines. Formula:

C_2H_5OH . **2.** CHEM an organic compound containing the -OH group

alcohol dehydrogenase *noun* BIO-CHEM an enzyme found in the liver and stomach that promotes the conversion of alcohols to aldehydes

aldehyde CHEM *noun* one of the main groups of organic compound hydrocarbons with the general formula $RCHO$, where R is an alkyl group ■ *adjective* relating to the chemical group composed of a carbon atom connected to an oxygen atom by a double bond and to a hydrogen atom

aldol *noun* CHEM a thick oily liquid used in the vulcanisation of rubber, solvent and perfumes

aldose *noun* BIOCHEM a sugar (monosaccharide) containing an aldehyde group

aldosterone *noun* BIOCHEM a hormone secreted by the adrenal gland which regulates the balance of sodium and potassium in the body and the amount of body fluid

aldrin *noun* AGRIC an organochlorine insecticide that is banned in the European Union

alert *noun* COMPUT a warning message sent from software to warn a person or application that an error or problem has occurred

alert box *noun* COMPUT a warning panel displayed on screen to warn a user about something ○ *The alert box warned me that I was about to delete all my files.*

aleurone *noun* BOT a protein found in the outer skin of seeds

alfalfa *noun* PLANTS same as lucerne

Alfvén wave *noun* PHYS a magnetic disturbance that travels along magnetic field lines in a plasma

alga *noun* BIOL a tiny single-celled or multicellular organism living in water or in moist conditions, which contains chlorophyll but has no stems, roots or leaves (NOTE: The plural is **algae**.)

COMMENT: Algae were formerly regarded as plants because they contain chlorophyll, but are now classified separately. Seaweeds are forms of algae. Algae grow rapidly in water which is rich in phosphates and/or nitrates. When these levels increase, for example when fertiliser runoff enters the water, the algae multiply to form huge floating mats called blooms, blocking out the light and inhibiting the growth of other organisms. When the algae die, they combine with all the oxygen in the water so that other organisms suffocate.

algaeicide *noun* same as **algicide**

algal *adjective* BIOL referring to algae ○ *Algal populations increase rapidly when phosphates are present.*

algal bloom *noun* BIOL a mass of algae which develops rapidly in a lake as a result of eutrophication

algal control *noun* ENVIRON the prevention of the growth of algae

algebra *noun* MATHS the use of letters in mathematical operations to represent unknown numbers or a range of possible numbers

algebraic language *noun* COMPUT a context-free language

-algia *suffix* BIOL pain

algicide *noun* ENVIRON a substance used to kill algae

algoculture *noun* BIOTECH the growing of algae commercially or for scientific purposes

ALGOL *noun* COMPUT a high-level programming language using algorithmic methods for mathematical and technical applications. Full form **algorithmic language**

algorithm *noun* MATHS a set of rules used to define or perform a specific task or to solve a specific problem

algorithmic *adjective* MATHS expressed using algorithms

algorithmic language *noun* COMPUT a computer language designed to process and express algorithms, e.g. ALGOL

alias *noun* COMPUT a representative name given to a file, port, device, spreadsheet cell or range of cells ○ *The operating system uses the alias COM1 to represent the serial port address 3FCh.*

alicyclic *adjective* CHEM referring to organic compounds with carbon atoms joined in a string or ring

alien *adjective* **1.** COMPUT different or not fitting the usual system **2.** ECOL same as **exotic** ○ *A fifth of the area of the national park is under alien conifers.* ○ *Alien species, introduced by settlers as domestic animals, have brought about the extinction of some endemic species.* ■ *noun* ECOL same as **exotic**

alight *adjective* burning ○ *The forest fire was still alight after two days.*

align *verb* **1.** to position something along an axis or line **2.** to add spaces between words in a line to make sure that the line of text fills the whole line and that the column

or page has straight sides **3.** to set something in a correct position in relation to something else ○ *Aligned white marks on the wheel and tyre indicate that there is no creep.*

aligner *noun* COMPUT a device used to make sure that the paper is straight in a printer

alignment *noun* **1.** the positioning of something along an axis or line **2.** the setting of something in a correct position in relation to something else □ **to check the alignment of something** to make sure something is in the correct position □ **in alignment** correctly aligned

alignment pin *noun* ENG a peg that fits in a hole to ensure that two devices are correctly positioned in relation to each other

alimentary canal *noun* ANAT a tube in the body going from the mouth to the anus, including the throat, stomach and intestines, through which food passes and is digested

alimention *noun* BIOL feeding

aliphatic *adjective* CHEM referring to organic compounds that have carbon atoms joined in a string (**open chain**)

aliphatic hydrocarbon *noun* CHEM a hydrocarbon compound that does not contain benzene. Compare **aromatic compound**

alive *adjective* not dead ○ *The patient was still alive but in a coma.*

alkali *noun* CHEM a substance which reacts with an acid to form a salt and water. It may be either a soluble base or a solution of a base that has a pH value of more than 7. (NOTE: The plural is **alkalis**; an alternative US plural is **alkalies**.)

alkali metal *noun* CHEM ELEM an element in group 1 of the periodic table, all of which are silver-coloured, soft and react with water (NOTE: The metals are lithium, sodium, potassium, rubidium, caesium and francium.)

alkaline *adjective* CHEM containing more alkali than acid and having a pH value of more than 7

alkaline-earth metal *noun* CHEM ELEM a metallic element in group 2 of the periodic table, with a valency of two (NOTE: The metals are beryllium, magnesium, calcium, strontium, barium and radium.)

alkalinity *noun* CHEM the amount of alkali in something such as soil, water or a body ○ *Hyperventilation causes fluctuat-*

ing carbon dioxide levels in the blood, resulting in an increase of blood alkalinity.

COMMENT: Alkalinity and acidity are measured according to the pH scale. pH7 is neutral, and pH8 and upwards are alkaline. Alkaline solutions are used to counteract the effects of acid poisoning and also of bee stings.

alkaloid *adjective* BIOL similar to an alkali ■ *noun* BIOCHEM one of many poisonous substances found in plants, which use them as a defence against herbivores (NOTE: Many alkaloids such as atropine, morphine or quinine are also useful as medicines.)

alkalosis *noun* MED an unusually high alkalinity in the blood or other body fluids

alkane *noun* CHEM a hydrocarbon containing carbon-to-carbon or carbon-to-hydrogen single bonds only, belonging to a series with the general chemical formula C_nH_{2n+2}

alkene *noun* CHEM a hydrocarbon containing one carbon-to-carbon double bond, belonging to a series with the general chemical formula C_nH_{2n}

alkyl benzenesulfonate, alkyl benzenesulphonate *noun* CHEM a surface-acting agent used in detergents, which is not biodegradable and creates large amounts of foam in sewers and rivers

alkyl group *noun* CHEM a group created by removing a hydrogen atom from an aliphatic hydrocarbon such as an alkane

alkyl halide *noun* CHEM an organic compound created by replacing one or more hydrogen atoms in an alkane with halogen atoms

alkyne *noun* CHEM an open-chain hydrocarbon in which there is one carbon-to-carbon triple bond, belonging to a series whose members all have the same general chemical formula. Formula: C_nH_{2n-2}

allantois *noun* ANAT a sac found in the embryos of mammals, birds and reptiles (NOTE: In mammals, it combines with the chorion to form the placenta and umbilical cord.)

Allee effect *noun* ECOL an effect of population density on population growth, by which there is a fall in reproductive rate at very low population densities and a positive relationship between population density and the reproduction and survival of individuals

allele *noun* GENETICS one of two or more alternative forms of a gene, situated in the

same area (**locus**) on paired chromosomes and controlling the inheritance of the same characteristic

allelomorph *noun* GENETICS same as **allele**

allelopathy *noun* ECOL the release by one plant of a chemical substance that restricts the germination or growth of another plant

allergen *noun* MED a substance which produces a hypersensitive reaction in someone. Allergens are usually proteins, and include foods, the hair of animals and pollen from flowers, as well as dust.

COMMENT: Allergic reaction is known as anaphylaxis. Treatment of allergies depends on correctly identifying the allergen to which the patient is sensitive. This is done by patch tests in which drops of different allergens are placed on scratches in the skin. Food allergens discovered in this way can be avoided, but other allergens such as dust and pollen can hardly be avoided and have to be treated by a course of desensitising injections.

allergenic *adjective* MED producing an allergy ○ *the allergenic properties of fungal spores*

allergenic agent *noun* MED a substance which produces an allergy

allergic *adjective* MED affected by an allergy ○ *allergic to penicillin*

allergic agent *noun* MED same as **allergenic agent**

allergic reaction *noun* MED an effect such as a skin rash or sneezing produced by a substance to which a person has an allergy ○ *He showed an allergic reaction to chocolate.*

allergy *noun* MED a sensitivity to substances such as pollen or dust, which cause a physical reaction ○ *She has an allergy to household dust.* ○ *He has a penicillin allergy.*

alleviate *verb* to reduce or lessen the harmful effect of something ○ *Anti-icing additives are available to alleviate the problem of icing up.*

alleviation *noun* a reduction or lessening of the harmful effect of something ○ *Deep regular breathing may provide some alleviation from stress.*

allo- *prefix* different

allocate *verb* 1. to provide something for a particular purpose ○ *Research grants are allocated to both large and small projects.*

2. COMPUT to divide a period of time or a piece of work in various ways and share it

out between users ○ *The operating system allocated most of main memory to the spreadsheet program.*

allocation *noun* 1. the provision of something for a particular purpose ○ *the allocation of assignments to students.* 2. COMPUT the dividing of memory, disk space, printer use, program or operating system time or a device in various ways

allochthonous *adjective* relating to flora, fauna, material or inhabitants that have moved from elsewhere to the region in which they are found. Compare **autochthonous**

alogamy *noun* BOT fertilisation by pollen from different flowers or from flowers of genetically different plants of the same species

COMMENT: Some fruit trees are self-fertile, that is, they fertilise themselves with their own pollen. Others need pollinators that are usually different cultivars of the same species.

allogenic succession *noun* ECOL the establishment of different communities in a particular area as a result of external environmental factors such as climatic change

allograft *noun* MED a graft of tissue from one individual to another of the same species. Also called **homograft**

allopatriic *adjective* ECOL referring to plants of the same species which grow in different parts of the world and so do not cross-breed

allopatriic speciation *noun* the development of new species which are geographically isolated from each other

allophone *noun* ACOUSTICS the smallest unit of sound from which speech can be formed. ◇ **phoneme**

allotrope *noun* CHEM one of many forms in which a chemical element can occur, each with differing physical properties (NOTE: For example, diamonds, graphite and coal are allotropes of carbon.)

allotropy *noun* CHEM the existence of different structural forms of an element

allow *verb* to enable, permit or authorise something ○ *An engine should be run at low rpm after flight to allow engine components to cool.* ○ *We will allow more time for the report to be presented.* □ **to allow for** to make something available or take something into consideration ○ *The schedule does not allow for delays.*

allowable *adjective* permitted ○ *maximum allowable tyre pressure*

allowance *noun* **1.** a consideration for possibilities or changing circumstances □ **to make allowances for** to take something into account **2.** something which is allowed
alloy *noun* a metal made from a compound of two or more metallic elements, e.g. brass

COMMENT: Many metals have practical disadvantages in the pure state and alloys have been developed to make the best use of their advantages.

all-terrain vehicle *noun* AUTOMOT a vehicle which can be driven over all types of land surface. Abbr **ATV**

alluvial *adjective* EARTH SCI referring to alluvium

alluvial deposit *noun* EARTH SCI a deposit of silt formed on the bed of a river or lake and carried and laid down elsewhere, often on flood plains

alluvial fan *noun* EARTH SCI a fan-shaped deposit of sediment built up by a river where the slope of the bed becomes less steep

alluvial flat *noun* EARTH SCI a flat area along a river where silt is deposited when the river floods

alluvial mining *noun* MIN EXTRACT the extraction of minerals from alluvial deposits, e.g. panning for gold

alluvial plain *noun* EARTH SCI same as **alluvial flat**

alluvial silt *noun* EARTH SCI same as **alluvium**

alluvial soil *noun* EARTH SCI same as **alluvial deposit**

alluvial terrace *noun* EARTH SCI a flat plain left when a river cuts deeply into the bottom of a valley

alluvium *noun* EARTH SCI the silt deposited by a river or a lake

allyl group *noun* CHEM a group of unsaturated hydrocarbons with the general formula $\text{CH}_2=\text{CHCH}_2-$

aloft *adjective* up in the air ○ *A pressure gradient occurs aloft from land to sea.*

alpha *noun* **1.** COMPUT the first working attempt of a computer product ○ *The new software is still in an alpha product stage.* **2.** COMPUT data that defines the properties of a pixel or part of an image **3.** the first letter of the Greek alphabet

alpha beta technique *noun* COMPUT a technique used in artificial intelligence for solving game and strategy problems

alpha blending *noun* COMPUT control over the transparency of a graphical object, normally used to display complex graphical objects such as glass and water

alpha cell *noun* ANAT one of the types of cells in glands such as the pancreas which have more than one type of cell

alpha decay *noun* PHYS radioactive disintegration of a substance due to the emission of alpha particles

alpha diversity *noun* ECOL the number of species occurring in a small area

alphageometric *adjective* COMPUT referring to a set of codes that instruct a teletext terminal to display various graphics patterns or characters

alpha helix *noun* BIOCHEM a helical protein structure consisting of amino acids stabilised by hydrogen bonds

alphameric *adjective* US COMPUT same as **alphanumeric**

alphamosaic *adjective* COMPUT referring to a character set used in teletext to provide alphanumeric and graphics characters

alphanumeric *adjective* COMPUT **1.** using both letters and numbers **2.** referring to data that includes letters and numbers

alpha particle *noun* PHYS a nucleus of the same composition as a helium atom with two protons and two neutrons (NOTE: It is emitted by the nuclei of some radioactive elements such as radon, and when emitted will pass through gas but not through solids.)

alpha-particle sensitivity *noun* COMPUT a problem experienced by some electronic memory devices that will lose data stored in them when exposed to alpha radiation

alpha radiation *noun* PHYS radiation by alpha particles from radioactive nuclei

alpha ray *noun* PHYS a stream of alpha particles

alphasort *verb* COMPUT to sort information into alphabetical order

alpha waste *noun* PHYS radioactive waste emitting alpha particles

Alphonsine Tables *plural noun* ASTRON a book of tables of astronomical data, mainly planetary positions, published at Toledo, Spain, in 1273 and used throughout the Middle Ages in Europe

alpine *adjective* EARTH SCI referring to the European mountains known as the

Alps, or to other high mountains ■ *noun*
PLANTS a plant that grows on mountains between the tree line and the snow line

alpine pasture *noun* **AGRIC** the grass fields in high mountains which are used by cattle farmers in the summer

alpine plant *noun* **BOT** a plant which grows on or comes originally from high mountains ○ *Alpine vegetation grows above the tree line.*

alt *noun* **COMPUT** a type of newsgroup on the Internet that contains discussions about alternative subjects

COMMENT: Alt newsgroups are not official newsgroups and are not supported or monitored by any company. Some online service providers do not allow their subscribers to view all the newsgroups because they may contain offensive and pornographic material.

alter *verb* to modify something and make it different ○ *The rudder linkage was altered to comply with certification requirements.* □ **to alter course** to change to a different route

alteration *noun* **1.** a modification ○ *It was discovered that alterations had been made to the log book.* ○ *As a result of the accident, alterations were made to the design of the system.* **2.** the making of a modification

alternate *verb* **COMPUT** to change from one state to another and back, over and over again ■ *adjective* **1.** **COMPUT** changing from one to another **2.** **COMPUT** every other ○ *A, c, e and g are alternate letters as are b, d, f and h* **3.** **BOT** referring to flowers, buds, or leaves that are arranged singly at different heights on either side of a stem, rather than being in pairs or groups

alternate mode *noun* **COMPUT** an application for multi-user use, where two operators can access and share a single file at the same time

alternate route *noun* **COMPUT** a backup path in a communications system, used in case of a fault or breakdown

alternating current *noun* **ELEC** electric current whose value varies with time in a regular sinusoidal way, changing the direction of flow each half cycle. Abbr **AC**

COMMENT: The mains electricity supply uses alternating current to minimise transmission power loss, with a frequency of 50Hz in the UK and 60Hz in the US.

alternation *noun* **COMPUT** a logical function that produces a true output if any input is true

alternative *adjective* **1.** different ○ *an alternative means of achieving the same result* **2.** not traditional or conventional ○ *searching for alternative sources of energy*

alternative denial *noun* **COMPUT** a logical function whose output is false if all inputs are true and true if any input is false

alternative energy *noun* **INDUST** the energy produced by tidal, wind, or solar power, or by burning biomass rather than by fossil fuels or nuclear power

alternative fuel *noun* a fuel which is promoted as a cleaner alternative to petrol, e.g. methanol

alternative medicine *noun* **MED** the treating of diseases and disorders with procedures and remedies, e.g. herbal medicines or acupuncture, which are not usually used by traditionally trained doctors

alternative technology *noun* the use of traditional techniques and equipment and materials that are available locally for agriculture, manufacturing and other processes

alternator *noun* **ELEC** a device for producing alternating current electricity that can be driven by a motor, or by water or wind power

altimeter *noun* **AEROSP** a pressure or radio instrument for measuring vertical distance or altitude

altimeter display *noun* **AEROSP** an analogue or digital appearance of altitude information

altimeter reading *noun* **AEROSP** the altitude indicated by an altimeter

altimeter setting *noun* **AEROSP** an adjustment of the sub-scale of an altimeter to adjust the base level of the altimeter to seal level or another level

altitude *noun* the height of an object above sea-level

Alt key *noun* **COMPUT** a special key on the keyboard of a PC used to activate special functions in an application ○ *Press Alt and P at the same time to print your document.*

COMMENT: The Alt key has become the standard method of activating a menu bar in any software running on a PC. For example, Alt-F normally displays the File menu of a program, Alt-X normally exits the program.

alto- *prefix* moderate or high altitude

altocumulus *noun* **METEOROL** a layer of small white cumulus clouds at moderate altitude above 3000m, usually resulting in fair weather. Compare **stratocumulus**

altostratus *noun* METEOROL a high thin uniform cloud above 3000m, usually seen as a front is approaching

altruism *noun* ZOOL the behaviour of an animal that reduces its chances of survival or of producing offspring, but increases those chances for another closely related individual of the same species

ALU *abbreviation* COMPUT arithmetic logic unit

alum *noun* CHEM a naturally occurring potassium aluminium sulfate used as a mordant in dyeing. Formula: $K_2SO_4 \cdot Al_2(SO_4)_3 \cdot 24H_2O$.

alumina *noun* CHEM a white aluminium oxide used in catalysts, abrasives and the manufacture of artificial rubies and sapphires. Formula: Al_2O_3 . (NOTE: It is extracted from corundum and bauxite.)

aluminate *noun* CHEM a salt of aluminium and a metal oxide

aluminium *noun* CHEM ELEM a metallic element extracted from the ore bauxite (NOTE: The chemical symbol is **Al**; the atomic number is **13** and the atomic weight is **26.98**.)

aluminium chloride *noun* CHEM a white crystalline material used in medicines, cosmetics, pigments and antiperspirants. Formula: $AlCl_3$ or Al_2Cl_6 .

aluminium hydroxide *noun* CHEM a chemical substance used as an antacid to treat indigestion. Formula: $Al(OH)_3$.

aluminium oxide *noun* CHEM same as **alumina**

aluminium sulfate, aluminium sulphate *noun* CHEM a white crystalline material used in paper manufacture, textiles and water purification. Formula: $Al_2(SO_4)_3$.

aluminous cement *noun* **high-alumina cement, aluminous cement** INDUST cement made of bauxite and limestone, used because it resists heat

alveoli *plural noun* ANAT plural of **alveolus**

alveolus *noun* ANAT a thin-walled air sac that occurs in large numbers in each lung and allows oxygen to enter and carbon dioxide to leave the blood

always on *adjective* COMPUT referring to a feature of high-speed broadband communications devices in which the computer appears to be permanently connected to the net and you do not need to dial up a special number (NOTE: It is characteristic of cable

modems and ADSL which link a computer to the Internet.)

Am *symbol* CHEM ELEM americium

AM *abbreviation* ELEC amplitude modulation

amber *noun* BIOL a yellow translucent substance that is the fossilised resin of conifers. It sometimes contains fossilised insects.

ambi- *prefix* BIOL both

ambient *adjective* **1.** referring to background conditions **2.** referring to normal surrounding atmospheric conditions

ambient climate *noun* the atmospheric conditions surrounding a specific geographical point

ambient conditions *plural noun* the atmospheric conditions such as humidity, temperature or air pressure in which something exists ◦ *The ambient conditions are ideal for the development of fungi.*

ambient environment *noun* the environment which surrounds an ecosystem

ambient noise *noun* PHYS normal background noise that is present all the time, normally given a reference pressure level of 0.0002 pascal

ambient quality standards *plural noun* ENVIRON the levels of acceptable clean air which a regulatory body tries to enforce

ambient temperature *noun* ECOL the temperature of the air surrounding something

ambiguity *noun* something heard or seen which can be understood in more than one way, resulting in possible confusion

ambiguity error *noun* an error due to incorrect selection of ambiguous data

ambiguous *adjective* referring to ambiguity (NOTE: For example, the term 'current flow' is ambiguous because it can be understood in two ways: 'electrical flow' or 'flow at the present time')

ambiguous genitalia *plural noun* MED outer genitals that do not have the typical appearance of either sex

AMD *abbreviation* MED age-related macular degeneration

ameba *noun* MICROBIOL another spelling of **amoeba**

amelioration *noun* an improvement or the process of improving something ◦ *There has been some amelioration in pollution levels.*

amend *verb* to update or correct a document or procedure

amendment *noun* a change, updating, improvement or correction to a document or procedure, etc.

amendment record *noun* COMPUT a record containing new information used to update a master record or file

amenity *noun* ENVIRON something which makes surroundings more pleasant, e.g. a park, swimming pool or sports centre

amenity society *noun* ENVIRON a group of people who are concerned about the protection and improvement of their local surroundings

amensalism *noun* symbiosis between two different species that is harmful to one but not the other

amensualism *noun* a situation where a species is adversely affected by another

American National Standards Institute *noun* COMPUT an organisation which specifies computer and software standards including those that define network standards and high-level programming languages. Abbr **ANSI**

American Standard Code for Information Interchange *noun* COMPUT a code which represents alphanumeric characters as binary codes. Abbr **ASCII**

americium *noun* CHEM ELEM an artificial radioactive element (NOTE: The chemical symbol is **Am**; the atomic number is **95** and the atomic weight is **243**.)

amide group *noun* CHEM a group of organic compounds in which one of the hydrogen atoms of an ammonia structure NH_3 is replaced by an acyl group $-\text{RCO}$

amine *noun* CHEM any organic derivative of ammonia in which one or more hydrogen atoms is replaced with an alkyl group

amino acid *noun* BIOCHEM a chemical compound which is a component of proteins \circ *Proteins are first broken down into amino acids.* \diamond **essential amino acid**

COMMENT: Amino acids all contain carbon, hydrogen, nitrogen and oxygen, as well as other elements. Some amino acids are produced in the body itself, but others have to be absorbed from food. The eight essential amino acids are: isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine.

amino group *noun* CHEM a group of compounds with the basic chemical structure $-\text{NH}_2$

amitosis *noun* BIOL multiplication of a cell by splitting the nucleus

ammeter *noun* ELEC an instrument for measuring current flowing in a circuit

ammonia *noun* CHEM a gas with an unpleasant smell that is easily soluble in water. Formula: NH_3 .

ammoniacal *adjective* referring to ammonia

ammoniacal nitrogen *noun* nitrogen derived from ammonia

ammonia-soda process *noun* CHEM \blacktriangledown **Solvay process**

ammonia water *noun* CHEM a solution of ammonia in water. Formula: NH_4OH .

ammonification *noun* CHEM the treatment or soaking of something with ammonia

ammonium *noun* CHEM an ion formed from ammonia

ammonium carbonate *noun* CHEM a white crystalline material which is a component of smelling salts and baking powder. Formula: $(\text{NH}_4)_2\text{CO}_3$.

ammonium chloride *noun* CHEM a white crystalline material used in cough medicines, soldering flux and batteries. Formula: NH_4Cl .

ammonium fixation *noun* CHEM the absorption of ammonium ions by the soil

ammonium ion *noun* CHEM a positively charged ion formed from a reaction of ammonia with a hydrogen ion. Formula: NH_4^+ .

ammonium nitrate *noun* CHEM a popular fertiliser used as top dressing (NOTE: It is available in a special prilled or granular form, and can be used both as a straight fertiliser and in compounds.)

ammonium phosphate *noun* AGRIC a fertiliser which can be used straight, but is more often used in compounds (NOTE: Applications may increase the acidity of the soil.)

ammonium sulfate, ammonium sulfate *noun* CHEM a colourless crystalline solid that is soluble in water, used as a fertiliser. Formula: $(\text{NH}_4)_2\text{SO}_4$. Also called **sulfate of ammonia**

amniocentesis *noun* MED a test to determine the health, sex, or genetic constitution of a foetus performed by removing a sample of amniotic fluid through a needle inserted into the mother's womb

amnion *noun* BIOL the inner of two membranes that enclose an embryo and surrounding fluid of a bird, reptile or mammal

amniote *noun* ZOO a vertebrate that develops from an embryo that is contained within an amnion, e.g. a bird, reptile or mammal

amniotic fluid *noun* ANAT the fluid that surrounds and protects a foetus (NOTE: It flows out through the vagina before a baby is born.)

amoeba *noun* MICROBIOL a single-celled organism found in water, wet soil, or as a parasite of other organisms. Genus: *Amoeba*. (NOTE: An amoeba consists of a shapeless protoplasmic mass enclosed by a flexible membrane and forms temporary projections (**pseudopodia**) in order to move. The plural is **amoebae**.)

amoebiasis *noun* MED an infection caused by an amoeba, which can result in amoebic dysentery in the large intestine **intestinal amoebiasis** and can sometimes infect the lungs **pulmonary amoebiasis**

amoebic *adjective* MICROBIOL referring to an amoeba or amoebae

amoebic dysentery *noun* MED a mainly tropical form of dysentery caused by *Entamoeba histolytica* which enters the body through contaminated water or unwashed food

amoebicide *noun* CHEM a substance which kills amoebae

amoebocyte *noun* BIOL a cell that resembles an amoeba, especially in the way it moves and engulfs particles

amorphous *adjective* with no regular shape

amount *noun* a quantity of something ○ *What is the largest amount of data which can be processed in one hour?*

amount to verb **1.** to make a total ○ *The total keyboarded characters amount to ten million.* ○ *Rainfall in some areas only amounts to a few millimetres per annum.* **2.** to be equivalent to something ○ *The government's attitude amounts to a dismissal of the acid rain problem.*

amp *noun* MEASURE same as **ampere** (NOTE: usually used with figures: **a 13-amp fuse**)

AMP *noun* BIOCHEM a compound involved in chemical reactions that release large amounts of energy in the tissues of living organisms. Full form **adenosine monophosphate**

amperage *noun* EDUC the strength of an electric current expressed in amperes ○ *Measuring the amperage of a motor can give a rough estimate of the load on the motor.*

ampere *noun* ELEC, MEASURE in the SI system, the basic unit of electric current equal to a current between two parallel conductors in a vacuum that produces a force equal to 2×10^{-7} newtons per metre ○ *Current flow is measured in amperes.*

ampere-hour *noun* MEASURE a measurement of electric current over time. Abbr **AH**

amphetamine *noun* PHARM a drug that stimulates the central nervous system, formerly used to treat depression and as an appetite suppressant

Amphibia *plural noun* ZOO a class of egg-laying animals which live partly in water and partly on land and whose larvae live in water (NOTE: Amphibia include frogs, toads and newts.)

amphibian *noun* **1.** ZOO an animal which lives both in water and on land, e.g. a frog, toad or newt **2.** AUTOMOT a vehicle which can travel both on water and on land ■ *adjective* ZOO referring to an organism which lives both in water and on land

amphibious *adjective* **1.** ZOO referring to an animal which lives both in water and on land **2.** AUTOMOT referring to a vehicle which can travel both on water and on land

amphoteric *adjective* CHEM able to react as an acid in the presence of a strong base or as a base in the presence of a strong acid

amp-hour *noun* ELEC, MEASURE same as **ampere-hour**

ample *adjective* plenty of ○ *During the course you will have ample opportunity or time to demonstrate your skill.*

amplicon *noun* GENETICS a fragment of nucleic acid that is the product of artificial large-scale reproduction of genetic material

amplification *noun* ACOUSTICS the output-to-input signal strength ratio ○ *Increase the amplification of the input signal.* ○ *The amplification is so high, the signal is distorting.*

amplified fragment length polymorphism *noun* BIOTECH a rapid method that uses the polymerase chain reaction technique to detect variations in DNA sequences between individuals. Abbr **AFLP**

amplifier *noun* ELEC an electronic circuit that increases the power of a signal

amplify *verb* ELEC to increase the strength of an electrical signal ○ *An electric current is amplified and then transmitted.* (NOTE: **amplifying** – **amplifies** – **amplified**)

amplitude *noun* PHYS a range of variation of the strength or size of a signal or quantity such as the height of a wave, the magnitude of a variable star, or any other measured amount

amplitude modulation *noun* ELEC a method of carrying data by varying the size of a carrier signal, which is of fixed frequency, according to the data

ampoule, ampule *noun* BIOL a small glass container, closed at the neck, used to contain sterile drugs for use in injections

AMU *abbreviation* PHYS, MEASURE atomic mass unit

amygdala *noun* ANAT an almond-shaped body in the brain

amyl- *prefix* BIOCHEM starch

amylase *noun* BIOCHEM an enzyme which converts starch into maltose

amyl group *noun* CHEM a group of monovalent alkyls with the general formula C_5H_{11} . Also called **pentyl group**

amylopsin *noun* BIOCHEM an enzyme which converts starch into maltose

amylose *noun* BIOCHEM a carbohydrate of starch

an-, ana- *prefix* without or lacking

anabatic wind *noun* METEOROL a stream of wind currents which are caused by solar heating of the land and rise up south-facing mountainsides. Compare **katabatic wind**

anabolic *adjective* BIOCHEM referring to a substance which synthesises protein

anabolic steroids *plural noun* hormones which encourage growth and muscle building

anabolism *noun* BIOCHEM the process of building up complex chemical substances on the basis of simpler ones

anadromous *adjective* MARINE BIOL referring to a species of fish such as salmon which hatches in fresh water and becomes adult in salt water. Compare **catadromous**

anadromy *noun* MARINE BIOL a form of migration of fish such as salmon which hatch in fresh water, migrate to the sea and

then return to fresh water to spawn. Compare **catadromy**

anaemia *noun* MED a condition where the level of red blood cells is less than normal or where the haemoglobin is reduced, making it more difficult for the blood to carry oxygen (NOTE: The US spelling is **anemia**.)

anaemic *adjective* MED affected by anaemia (NOTE: The US spelling is **anemic**.)

anaerobe *noun* MICROBIOL a microorganism which lives without oxygen, e.g. the tetanus bacillus or blue-green algae. Compare **aerobe**

anaerobic *adjective* BIOCHEM not needing oxygen for existence. Compare **aerobic**

anaerobically *adverb* without using oxygen ○ *Slurry is digested anaerobically by bacteria.*

anaerobic decomposition *noun* the breaking down of organic material by microorganisms without the presence of oxygen

anaerobic digester *noun* ENVIRON a digester that operates without oxygen ○ *Anaerobic digesters can be used to convert cattle manure into gas.*

COMMENT: Anaerobic digesters for pig, cattle and poultry waste feed the waste into a tank where it breaks down biologically without the presence of oxygen to give off large amounts of methane. This gas is then used to generate electricity. The remaining slurry can be applied directly to the land.

anaerobic digestion *noun* BIOCHEM the breakdown of organic material without the presence of oxygen, a process which permanently removes the unpleasant smell of many organic wastes so that they can be used on agricultural land

anaerobic respiration *noun* BIOCHEM the series of biochemical processes which lead to the formation of ATP without oxygen

anaerobiosis *noun* BIOCHEM a biological activity which occurs without the presence of oxygen

anaerobism *noun* a lack of oxygen such as is found in gley soils

anaesthesia *noun* 1. BIOL the loss of the feeling of pain 2. MED a process that prevents a person or animal from feeling pain, usually by the use of drugs (NOTE: The US spelling is **anesthesia**.)

anaesthetic *adjective* BIOL producing a loss of feeling ■ *noun* MED a substance given to a patient to suppress feeling before

an operation (NOTE: The US spelling is **anesthetic**.)

anaesthetic induction *noun* MED the process of inducing anaesthesia in a patient

anaesthetic risk *noun* MED the risk that an anaesthetic may cause serious unwanted side effects

analgesia *noun* MED a reduction of the feeling of pain without loss of consciousness

analgesic *adjective* BIOL referring to analgesia ■ *noun* PHARM a painkilling drug which produces analgesia and reduces pyrexia

COMMENT: There are two types of analgesic: non-opioid, e.g. paracetamol and aspirin (acetylsalicylic acid), and opioid e.g. codeine phosphate. Opioid analgesics are used for severe pain relief in terminal care, as cough suppressants and to reduce gut motility in cases of diarrhoea. Analgesics are commonly used as local anaesthetics, e.g. in dentistry.

analog *noun* TECH a representation and measurement of numerical data by continuously variable physical quantities such as the size of electrical voltages. Compare **digital**

analog computer *noun* COMPUT a computer which processes data in analog form rather than digital form

analog data *noun* COMPUT data that is represented as a continuously variable signal (NOTE: Speech is a form of analog data.)

analog display *noun* COMPUT a screen that can display an infinite range of colours or shades of grey (NOTE: VGA monitors are a form of analog display. Digital displays can only display a finite range of colours.)

analog gate *noun* COMPUT a logic gate whose output is proportional to an input signal

analog input card *noun* COMPUT a card containing all the circuitry on one PCB required for amplifying and converting analog input signals to a digital form

analogous *adjective* similar ○ *Isobars are analogous to contour lines.*

analog signal *noun* COMPUT a continuously varying signal

analog to digital *noun* COMPUT the process of changing from an analog form to a digitally coded form. Abbr **A to D**, **A/D**

analogue *adjective* TECH **1.** another spelling of **analog** **2.** □ **analogue display** a

traditional hands and face display on a clock

analyse *verb* **1.** to examine something in detail ○ *We'll need to analyse the effect of the new reporting procedures.* **2.** to separate a substance into its parts ○ *The laboratory is analysing the soil samples.* ○ *When the water sample was analysed it was found to contain traces of bacteria.*

analyser *noun* a machine which analyses blood or tissue samples automatically

analysis *noun* **1.** the process of examining something in detail **2.** the process of breaking down a substance into its parts in order to study them closely ○ *Samples of material were removed for analysis.* ◇ **data analysis**

analyst *noun* **1.** a person who examines samples of substances to find out what they are made of **2.** a person who carries out a study of a problem ○ *a health and safety analyst*

analyte *noun* the chemical for which tests are made on a sample

analyze *verb* US spelling of **analyse**

analyzer *noun* US spelling of **analyser**
anamorphic *adjective* OPTICS referring to an image that has unequal vertical and horizontal scaling, making it appear squashed or taller than the original

anaphase *noun* BIOL a stage in cell division, after the metaphase and before the telophase

anastomosis *noun* BIOL a connection made between two vessels or two tubes, either naturally or by surgery

anatomical *adjective* ANAT referring to anatomy ○ *the anatomical features of a foetus*

anatomy *noun* **1.** ANAT the inner structure of the body of an animal or plant ○ *human anatomy* **2.** BIOL the scientific study of the structure of the body ○ *a degree in anatomy* **3.** the description of the structure and shape of a particular part ○ *the anatomy of a bone or leaf*

ANC *abbreviation* CHEM acid-neutralising capacity

ancestral file *noun* COMPUT a hierarchical system of backing up files as in son to father to grandfather file, where the son is the current working file

anchor cell *noun* COMPUT a cell in a spreadsheet program that defines the start of a range of cells

ancient woodland *noun* ECOL a wooded area which has been covered with trees for many hundreds of years

ancillary equipment *noun* COMPUT equipment which is used to make a task easier, but which is not absolutely necessary

AND circuit, AND element *noun* MATHS
 † **AND gate**

AND element *noun* COMPUT same as **AND gate**

AND function *noun* MATHS a logical function whose output is true if both its inputs are true

COMMENT: If both inputs are 1, results of the AND will be 1. If one of the input digits is 0, then AND will produce a 0.

AND gate *noun* ELECTRONICS an electronic gate that performs a logical AND function on electrical signals. Also called **AND circuit, AND element**

androecium *noun* BOT the male parts of a flower, consisting of the stamens

androgen *noun* BIOCHEM a male sex hormone that promotes the development of male secondary sexual characteristics (NOTE: Testosterone is an androgen.)

anechoic *adjective* ACOUSTICS not having or producing echoes

anechoic chamber *noun* ACOUSTICS a completely quiet room in which sound or radio waves do not reflect off the walls

anemia *noun* MED US spelling of **anaemia**

anemic *adjective* MED US spelling of **anaemic**

anemograph *noun* an instrument which maintains a continuous recording of wind direction and speed on a graph ○ *The anemograph gives a continuous recording of wind velocity which is displayed on a chart and reveals the pattern of gusts, squalls and lulls.*

anemometer *noun* METEOROL an instrument, usually attached to a building, which provides wind-speed information

COMMENT: An anemometer is formed of four cups at the ends of the arms of a cross-piece, which is mounted horizontally on a pivot and turns round as the wind blows. It can be linked to an anemograph, which records the wind speed on a roll of paper.

energy *noun* **1.** BIOL the state of being weak or lacking energy **2.** PHYSIOL a lack of immunity

aneroid barometer *noun* METEOROL a barometer with a vacuum to which a dia-

phragm is attached, which moves as the atmospheric pressure changes

aneroid capsule *noun* METEOROL a thin flexible cylindrical box, usually made of metal, which has most of the air removed from it and which expands and contracts with changes in atmospheric pressure ○ *A decrease in atmospheric pressure will allow the aneroid capsule to expand.*

aneroid switch *noun* ENG a switch operated by an aneroid capsule

anesthesia *noun* BIOL, MED US spelling of **anaesthesia**

aneuploid *adjective* GENETICS referring to a cell or organism with fewer or more chromosomes than usual for its type

aneurine *noun* BIOL same as **thiamine**

angiosperm *noun* BOT a plant in which the sex organs are carried within flowers and seeds are enclosed in a fruit. Compare **gymnosperm**

angiotatin *noun* BIOCHEM a naturally occurring protein in the body that plays a role in inhibiting the formation of new blood vessels

angle *noun* MATHS the difference in direction between two lines or surfaces measured in degrees

angle of incidence *noun* PHYS, MATHS the angle that a ray or other beam makes with the normal or line perpendicular to a surface which it strikes

angle of reflection *noun* PHYS, MATHS the angle of a reflected ray or other beam with the normal line perpendicular to a surface from which it is reflected

angle of refraction *noun* PHYS, MATHS the angle of a refracted or absorbed ray or other beam with the normal line perpendicular to a surface which it has refracted

angstrom *noun* MEASURE, PHYS a unit of measurement used especially for wavelengths of light and equal to one ten billionth of a metre (NOTE: The angstrom is not an SI unit and is falling out of official scientific favour.)

angular *adjective* referring to an angle, or forming an angle ○ *The angular difference between the direction of magnetic north and compass north is called variation.*

angular measure *noun* MATHS the measurement of angles, commonly by dividing a complete circle into 360 degrees, with each degree divided into 60 minutes and each minute into 60 seconds

angular momentum *noun* PHYS a momentum a body possesses as the result of circular or other angular motion (NOTE: In astronomy it is usually encountered when considering objects in orbit.)

angular velocity *noun* PHYS the velocity of a body in its orbit, or other angular motion, measured either in distance per unit time (kilometres per second) or angle per unit time (degrees per second)

anhydride *noun* CHEM a compound formed by the removal of water from another compound

anhydrite *noun* MINERALS a colourless or lightly tinted anhydrous calcium sulfate mineral used in the manufacture of cement and fertilisers

anhydrous *adjective* CHEM referring to a compound or crystal that contains no water

anhydrous alcohol *noun* CHEM same as **absolute alcohol**

aniline *noun* CHEM a colourless oily liquid that is poisonous and is aromatic in structure. Formula: $C_6H_5NH_2$. (NOTE: It is used in the manufacture of dyes, resin, pharmaceuticals and explosives.)

animal ZOOLOG *noun* an organism which can feel sensations and move voluntarily ■ *adjective* referring to organisms which can feel sensations and move voluntarily

animal ecology *noun* ECOLOGY the study of the relationship between animals and their environment

animal husbandry *noun* AGRIC the process of breeding and looking after farm animals

animated GIF *noun* COMPUT a simple animation effect created by saving several small graphic images within one file so that they can be repeatedly displayed in sequence giving an impression of animation (NOTE: It is often used to create animated buttons or other effects on a webpage.)

animation *noun* COMPUT the creation of the illusion of movement by displaying a series of slightly different images on screen (NOTE: The images are displayed very rapidly to give the effect of smooth movement.)

anion *noun* CHEM an ion with a negative electric charge

anisotropic *adjective* CHEM referring to something with physical properties which are different according to direction, e.g. non-symmetrical crystals with different

dimensions or refractive indices along each of two or more axes

ankylose *verb* PHYSIOLOG (of bones) to fuse together

anneal *verb* INDUSTRY to heat something and allow it to cool slowly in order to strengthen it ○ *Sheet and plate magnesium are annealed at the rolling mill.*

annelid *noun* ZOOLOG an invertebrate organism with a flat segmented body. Phylum: Annelida. (NOTE: Earthworms and leeches are annelids.)

annihilation *noun* PHYS the process in which a particle reacts with its antiparticle, destroying both and releasing energy in the form of radiation or other particles

annual *adjective* 1. happening or done once a year 2. over a period of one year ■ *noun* a plant whose life cycle of germination, flowering and fruiting takes place within the period of a year

annual inspection *noun* a yearly inspection

annual ring *noun* BOT a ring of new wood formed each year in the trunk of a tree which can easily be seen when the tree is cut down. Also called **growth ring**, **tree ring** (NOTE: As a tree grows, the wood formed in the spring has more open cells than that formed in later summer. The difference in texture forms the visible rings. In tropical countries, trees grow all the year round and so do not form rings.)

annular *adjective* shaped like a ring ○ *Annular inner and outer air casings form a tunnel around the spine of the engine.*

annulus *noun* a ring, or a structure shaped like a ring

annunciation *noun* an announcement or indication on an annunciator

annunciator, annunciator panel *noun* ELEC a device which gives off a sound or light as a warning or to indicate if something is active

anode *noun* a positive electrical terminal of a device. Opposite **cathode**

anodise *verb* CHEM to coat or cover something by using electrolysis ○ *Anti-corrosion treatment includes chromic acid anodising of aluminium parts.*

anomalous year *noun* TIME a year measured by the time the Earth takes to revisit the apses of its orbit, and equal to 365.26 days

anomalous *adjective* referring to something departing from the expected order or

range ○ *an anomalous instrument reading*
○ *an anomalous result*

anomaly *noun* something which differs from the expected order or range ○ *Any anomalies in the results will be detected during checking.*

anonymous FTP *noun* COMPUT a method commonly used on the Internet that allows a user to connect to a remote computer using the FTP protocol and log in as a guest to download publicly accessible files (NOTE: If you are using the FTP protocol to connect to a remote computer and you are asked for a log-in name and password, you can normally gain access to the remote computer's public areas by entering 'anonymous' as the log-in user name and your full)

Anopheles *noun* BIOL a mosquito, one species of which carries the malaria parasite

anorthosite *noun* GEOL a coarse-grained igneous rock formed at great depth that is widespread in the highlands of the Moon and is also found on Earth

anoxia *noun* PHYSIOL a complete lack of oxygen ○ *The investigation established that the cause of death was anoxia.*

anoxic *adjective* CHEM referring to water which lacks oxygen

anoxybiosis *noun* BIOL a biological activity occurring where there is a lack of oxygen

ANSI *abbreviation* COMPUT American National Standards Institute

ANSI C *noun* COMPUT a standard version of the C programming language

ANSI driver *noun* COMPUT a small resident software program that interprets ANSI screen control codes and controls the screen appropriately

ANSI escape sequence *noun* COMPUT a sequence of ANSI screen control characters that controls the colours and attributes of text on screen (NOTE: The sequence must begin with the ASCII character Esc (ASCII 27) and the character [(ASCII 91).)

answer *noun* a reply or solution to a question ■ *verb* **1.** to reply or provide the solution to a question **2.** COMPUT to reply to a signal and set up a communications link ○ *The first modem originates the call and the second answers it.*

antacid *noun* BIOL a medicine or other substance which stops too much acid form-

ing or alters the amount of acid in the stomach

antagonist *noun* **1.** ANAT a muscle which opposes another muscle in a movement **2.** PHYSIOL a substance which acts through specific receptors to block the action of another substance, but which has no observable physiological effect itself ○ *Atropine is a cholinergic antagonist and blocks the effects of acetylcholine.*

Antarctic *noun* EARTH SCI the area of land around the South Pole, largely covered with snow and ice ■ *adjective* GEOG referring to the Antarctic

Antarctica *noun* GEOG the continent at the South Pole

Antarctic air *noun* METEOROL a mass of cold air which is permanently over the Antarctic region

Antarctic Circle *noun* GEOG the parallel running round the Earth at latitude 66°32'S, to the south of which lies the Antarctic region

ante- *prefix* BIOL before

antenna *noun* **1.** ZOOL one of a pair of long thin sensors on the heads of insects, crustaceans and some other arthropods **2.** TELECOM a radio or television aerial ○ *Long-range radars require a large antenna.* ○ *Possibly the largest single antenna is the huge dish at Arecibo in Puerto Rico.* (NOTE: The plural is **antennas** or **antennae**; **aerial** is preferred in UK English.)

anterior *adjective* BIOL situated in front □ **anterior aspect** viewed from the front ○ *the anterior aspect of part of the body* Opposite **posterior**

anther *noun* BOT the part of the stamen of a flower that produces pollen

antheridium *noun* BOT the male sex organ in algae, fungi, ferns and mosses

anthocyanin *noun* BIOCHEM a water-soluble plant pigment responsible for blue, violet and red colours

anthracene *noun* CHEM a crystalline material with an aromatic structure used in the manufacture of dyes and other organic chemicals. Formula: C₁₄H₁₀.

anthracite *noun* INDUST a type of shiny hard black coal which burns well and does not produce much smoke

anthracosis *noun* MED a disease of the lungs, caused by inhaling coal dust

anthrax *noun* a highly infectious, often fatal, bacterial disease of mammals, espe-

cially cattle and sheep, that is transmissible to humans and causes skin ulcers (**cutaneous anthrax**) or a form of pneumonia when inhaled (**pulmonary anthrax**)

anthropic principle *noun* ASTRON the idea that the universe is in its present form to allow life capable of observing it to evolve (NOTE: The principle is the opposite of the commonsense view that life arises as a result of the structure of the universe. It is controversial because it involves a cause, life, coming after the effect, the universe. Some cosmologists claim that it is wrong, unnecessary or unscientific. Others look at the coincidences which are necessary for intelligent life)

anthropogenic *adjective* ENVIRON caused by or resulting from human activities

anthropomorphic software *noun* COMPUT software that appears to react to what a user says

anti- *prefix* against or opposing

anti-aliasing *noun* COMPUT **1.** a method of reducing the effects of jagged edges in graphics by using shades of grey to blend in along edges **2.** the adding of sound signals between the sound samples to create a smoother sound

antibacterial *adjective* BIOL preventing or reducing the growth of bacteria

antibacterial activity *noun* BIOL an effective action against bacteria

antibiotic *adjective* BIOL preventing or reducing the growth of bacteria and fungi ■ *noun* PHARM a drug such as penicillin which was originally developed from fungi and which stops the spread of bacteria or fungi ○ *He was given a course of antibiotics.*

antibody *noun* BIOCHEM a protein which is produced in the body in response to foreign substances such as bacteria or viruses ○ *Tests showed that he was antibody-positive.*

anticaking additive, anticaking agent *noun* FOOD INDUST an additive added to food to prevent it becoming solid (NOTE: Anticaking additives have the E numbers E530–578.)

anticipate *verb* to realise what may happen and do what is necessary in readiness

anticipation *noun* the process of realising what may happen and doing what is necessary in readiness

anticlockwise *adjective, adverb* referring to a circular movement in the direction opposite to that in which the hands of a clock move ○ *Turn the nut anticlockwise to loosen it.* Opposite **clockwise**

anticoagulant *noun* PHARM a natural or synthetic agent that prevents the formation of blood clots

anticodon *noun* GENETICS (*in transfer RNA*) a set of three consecutive nucleotides in transfer RNA involved in the formation of a protein

anticoincidence circuit, anticoincidence function *noun* COMPUT a logical function whose output is true if either of two inputs is true, and false if both inputs are the same

anti-corrosion *adjective* METALL protecting against corrosion, especially rust ○ *an anti-corrosion treatment*

anticyclone *noun* METEOROL an area of high atmospheric pressure, usually associated with fine dry weather in summer and fog in winter (NOTE: Winds circulate round an anticyclone clockwise in the northern hemisphere and anticlockwise in the southern hemisphere.)

anticyclonic *adjective* **1.** METEOROL referring to anticyclones **2.** EARTH SCI referring to the opposite direction to the rotation of the Earth

anticyclonically *adverb* METEOROL in the opposite direction to the rotation of the Earth

anticyclonic gloom *noun* METEOROL a period of grey weather during the daytime, when low stratocumulus clouds form at the approach of an anticyclone

antidiuretic hormone *noun* BIOCHEM same as **vasopressin**. Abbr **ADH**

antidote *noun* PHARM a substance which controls the effects of a poison ○ *There is no satisfactory antidote to cyanide.*

antifoam, anti-foaming agent *noun* INDUST a chemical substance added to a detergent or to sewage to prevent foam from forming

antifouling paint *noun* a pesticide painted onto the bottom of a ship to prevent organisms growing on the hull. ○ **TBT** (NOTE: It may be toxic enough to pollute sea water.)

antifungal *adjective* INDUST referring to a substance which kills or controls fungi

antigen *noun* BIOL a substance in the body which makes the body produce antibodies to attack it, e.g. a virus or germ

antigenic *adjective* referring to antigens

antigenic stability *noun* the condition of an individual who has been infected by a disease, and then remains immune to further infection in later life. This is the case in most childhood diseases.

antigravity *noun* PHYS a theoretical gravitational force in which mass repels rather than attracts other mass and radiation (NOTE: Although never observed, antigravity has a role in modern physics and cosmology, where whole 'antigravity universes' are postulated. On a smaller scale, some astronomical objects including Kerr black holes seem able to drive light away from them.)

antihistamine *noun* PHARM a drug used to control the effects of an allergy which releases histamine

anti-icing *adjective* preventing icing ○ *an anti-icing additive* ○ *anti-icing fluid*

antilogarithm *noun* MATHS a number whose logarithm is the given number (NOTE: For $\log_{10} a = b$, then $\text{antilog}_{10} b = a$.)

antimalarial *adjective, noun* PHARM used to treat malaria

antimatter *noun* PHYS matter of the opposite charge, magnetic spin or other characteristic to the equivalent particles making up the bulk of the mass of the present universe (NOTE: Examples of antimatter include positrons, identical to electrons except for having a positive rather than negative electrical charge, and antiprotons, which are identical to protons except for having a negative rather than positive electrical charge. Little is known about why there is so little antimatter in the universe we see around us, but when matter and antimatter meet they annihilate each other with a release of energy.)

antimicrobial *adjective* referring to something which is capable of killing or inhibiting the growth of microorganisms, especially bacteria, fungi or viruses

antimony *noun* CHEM ELEM a crystalline silvery-white element that is toxic and occurs in metallic and nonmetallic forms. It is used in alloys and semiconductors and found in ores, e.g. stibnite. (NOTE: The chemical symbol is **Sb**; the atomic weight is **51** and the atomic weight is **121.75**.)

antinociception *noun* PHYSIOL a reduction in pain sensitivity produced within neurons when an endorphin or similar opium-containing substance (**opioid**) combines with a receptor

antioncogene *noun* GENETICS a recessive gene which is thought to suppress the growth of a cancer by limiting cell multiplication

antioxidant *noun* INDUST a substance which prevents oxidation, used to prevent materials such as rubber from deteriorating and added to processed food to prevent oil going bad (NOTE: In the EU, antioxidant food additives have numbers E300–321.)

antiparticle *noun* PHYS an elementary particle with the same mass as a corresponding particle but with opposite values for other properties (NOTE: When an antiparticle and its particle interact, mutual annihilation occurs.)

antipodes *plural noun* GEOG two points on opposite sides of the Earth

anti-pollution *adjective* ENVIRON intended to reduce or stop environmental pollution

anti-pollution legislation *noun* a set of laws designed to control pollution

antiseptic *adjective* BIOL preventing or reducing the growth of harmful microorganisms ○ *She gargled with an antiseptic mouthwash.* ■ *noun* PHARM a substance which prevents germs growing or spreading ○ *The nurse painted the wound with antiseptic.*

antiserum *noun* MED a serum taken from an animal which has developed antibodies to bacteria and formerly used to give temporary immunity to a disease (NOTE: The plural is **antisera**.)

antistatic mat *noun* COMPUT a special rubberised mat which dissipates static electricity charge through an electrical earth connection (NOTE: An operator touches the mat before handling sensitive electronic components which could be damaged by static electricity.)

antitoxic serum *noun* PHARM same as **antiserum**

antitoxin *noun* BIOL an antibody produced by the body to counteract a poison in the body

antivenin, antivenene, antivenom *noun* PHARM a serum which is used to counteract the poison from snake or insect bites

anti-virus software *noun* COMPUT software that looks for and removes known viruses from a computer system

antler *noun* ZOO a solid bony branched horn found in pairs on the head of an animal, especially a male, of the deer family

antrum *noun* ANAT a cavity inside the body, especially one in bone

anus *noun* ANAT the opening in the alimentary canal through which faeces leave the body

anvil *noun* a metal block which ends in a point, has a rounded bottom and a flat top, and on which metal objects such as horse-shoes are made ○ *A cumulonimbus cloud has a characteristic anvil shape.*

anvil cloud *noun* METEOROL a cloud formation, in a dark cumulonimbus thundercloud, which has the shape of an anvil

AOM *abbreviation* ENVIRON active organic matter

AONB *abbreviation* ENVIRON Area of Outstanding Natural Beauty

aorta *noun* ANAT a large artery which takes blood away from the left side of the heart and carries it to other arteries

COMMENT: The aorta is a blood vessel which carries all arterial blood from the heart. It is about 45 cm long. It leaves the left ventricle, rises, at which point the carotid arteries branch off, then goes downwards through the abdomen and divides into the two iliac arteries.

aortic *adjective* ANAT referring to the aorta

aortic valve *noun* ANAT a valve with three flaps at the opening into the aorta

apart *adverb* away from one another

apatite *noun* MINERALS a glassy calcium phosphate mineral used in fertilisers and as a source of phosphorus

aperture *noun* **1.** PHOTOGRAPHY a lens diaphragm that allows the amount of light that reaches film to be regulated **2.** PHYS an opening in a device that allows a specific amount of light or a signal to pass through it

aperture card *noun* PHOTOGRAPHY a method of storing microfilmed information with a card surround, which can contain punched information

aperture mask *noun* PHYS a mask in colour monitors, used to keep separate the red, green and blue beams

aperture synthesis *noun* PHYS a process used mainly in radio astronomy

whereby signals received by more than one telescope are combined mathematically to give the effect of using a single much larger one

aphelion *noun* ASTRON in the orbit of a planet, comet, or other astronomical object, the point that is farthest from the Sun

aphid *noun* BIOL an insect that sucks sap from plants and can multiply very rapidly, e.g. a greenfly ○ *The aphid population showed a 19% increase.* (NOTE: Aphids are pests of some garden plants such as roses and may transmit virus diseases in crops such as potatoes and sugarbeet.)

COMMENT: Cereal aphids are various species of greenfly. Winged females feed on cereal crops in May and June. The grain aphid causes empty or small grain by puncturing the grain as it develops, letting the grain contents seep out.

Aphis *noun* ZOO the genus of insects which comprises aphids

aphotic zone *noun* OCEANOGR a region in a sea or lake below about 1500m, so deep that sunlight cannot penetrate it. Compare **euphotic zone**

API *abbreviation* COMPUT application programming interface ○ *If I follow the published API for this system, my program will work properly.*

apical meristem *noun* BOT the actively dividing tissue at the tip of a shoot or root that produces the new tissue for growth

API scale *noun* MEASURE a scale of gravity or density of crude oil on which the heaviest oils have the lowest numbers

APL *noun* COMPUT a high-level programming language used in scientific and mathematical work. Full form **A programming language**

APM *noun* COMPUT a specification which allows an operating system such as earlier versions of Windows to control the power management features of a computer (NOTE: This standard has been replaced by the ACPI standard in Windows 98 and Windows NT 5.0.)

apoenzyme *noun* BIOCHEM the protein part of an enzyme that only becomes catalytically active after it combines with a nonprotein-supporting molecule (**coenzyme**)

apogee *noun* ASTRON the point in a satellite's orbit where it is most distant from the Earth (NOTE: For orbits around other

objects, the terms aphelion, for the Sun, and apluna, for the Moon, are used.)

apolipoprotein E *noun* BIOCHEM a compound found in three forms which transports lipids within the cell and across cell membranes (NOTE: The genes for two of the forms are linked with an increased risk of Alzheimer's disease.)

apomict *noun* BIOL an organism that reproduces asexually

apomictic *adjective* BIOL reproducing asexually

apomixis *noun* BIOL a form of asexual reproduction in which embryos are formed from unfertilised ova

aponeurosis *noun* ANAT a band of tissue which attaches muscles to each other

aposematic coloration *noun* ZOO the natural brightly coloured markings on an animal warning predators that it is poisonous

apparatus *noun* equipment used in a laboratory or elsewhere for experiments or scientific study ○ *a self-contained apparatus which provides a efficient and convenient method for conducting safety tests* ○ *The hospital has installed new apparatus in the physiotherapy department.* ○ *The blood sample was tested in a special piece of apparatus.* (NOTE: no plural: *a piece of apparatus; some new apparatus*)

apparent *adjective* **1.** clearly understood because of what our understanding or senses tell us ○ *It became apparent that carbon monoxide was entering the cabin.* **2.** appearing to be ○ *an apparent failure of the system*

apparent magnitude *noun* ASTRON the brightness of an object in the sky as seen from the Earth. Compare **absolute magnitude**

APPC *abbreviation* COMPUT advanced program to program communications

appear *verb* **1.** to be seen or to come into view ○ *The results will appear on the monitor.* **2.** to seem to be ○ *Although air may appear to be still, it is, in fact, moving.*

appearance *noun* **1.** an instance of being seen or coming into view ○ *the sudden appearance of a new variant of the disease* **2.** the way something looks ○ *had the appearance of fine hairs*

append *verb* COMPUT to add a file or data to an existing file or record ○ *If you enter the DOS command COPY A+B, the file B will be appended to the end of file A.*

appendage *noun* ANAT a body part or organ that projects from the main body, e.g. a tail, wing or fin

appendicular skeleton *noun* ANAT the part of the skeleton consisting of the pelvic girdle, pectoral girdle and the bones of the arms and legs

appendix *noun* a section at the back of a book, containing additional information ○ *For further details see the appendix.* ○ *A complete list is printed in the appendix.* (NOTE: The plural is **appendices**.)

applet *noun* COMPUT **1.** a small utility used to configure a computer ○ *There are applets to help format your disk and configure your keyboard.* **2.** a small application designed to enhance the functionality of a webpage, e.g. adding multimedia effects (NOTE: Applet originally referred to the icons in the Control Panel window within Microsoft Windows.)

Appleton layer *noun* METEOROL same as **F region**

appliance *noun* INDUST a device or instrument, especially an electrical one used in the home, e.g. a vacuum cleaner, washing machine or iron

appliance computer *noun* COMPUT a ready-to-run computer system that can be bought in a shop, taken home and used immediately for a particular purpose

applicable *adjective* **1.** relevant ○ *Rule 24 is not applicable in this case* **2.** suitable, necessary or appropriate ○ *Emergency systems are checked when applicable.*

application *noun* **1.** a formal request ○ *an application for research funds* **2.** the act of putting a substance on a surface ○ *The crop received two applications of fungicide.* **3.** the act of using something that you already have, such as an ability or knowledge, in order to do something ○ *the application of knowledge and skills* **4.** a particular use ○ *This new technology has many applications.* **5.** COMPUT a piece of computer software that fulfils a particular job. Compare **operating system**

application file *noun* COMPUT a binary file stored on disk that contains the machine code instructions of a program

application icon *noun* COMPUT a small graphical symbol that represents an application program in a graphical user interface

application layer *noun* COMPUT the seventh and top layer in an ISO/OSI net-

work, which allows a user to request functions such as transfer files, send mail and use resources (NOTE: The other layers are not normally accessed by users.)

application-orientated language *noun* COMPUT a programming language that provides functions which allow the user to solve specific application problems

application program *noun* COMPUT **application software**

application programming interface *noun* COMPUT a set of standard program functions and commands that allow any programmer to interface a program with another application *o* *If I follow the published API for this system, my program will work properly.* Abbr **API**

application service provider *noun* COMPUT a specialist company that installs, configures and manages software on its own server and then allows any business to use the software via the Internet or a private network (NOTE: The user does not realise that the software is located on a distant server, and the business does not need to buy or support the software, which is usually rented.)

application software *noun* COMPUT a program which is used by a user to make the computer do what is required, designed to allow a particular task to be performed *o* *The multi-window editor is used to create and edit applications programs.*

applicator *noun* an instrument for applying a substance

apply *verb* **1.** to make a formal request for something *o* *You can apply for a research grant.* **2.** to put something on a surface *o* *to apply a coat of paint* *o* *Apply a plaster to the skin.* **3.** to use something that you have, such as knowledge or skills, in order to do something *o* *Apply the same method as in the example.* **4.** (of rules, regulations, orders, instructions, etc.) to be relevant *o* *The rules which apply to the measurement of wind velocities on isobaric charts apply equally to contour charts.* (NOTE: **applying** – **applies** – **applied**)

APPN *noun* COMPUT an extension to the IBM SNA protocol which allows workstations to share information on a peer-to-peer basis without the need for a central mainframe. Full form **advanced peer-to-peer networking** (NOTE: It is often used to route information around a network and dynam-

ically adjust the route if part of the network is damaged.)

appreciable *adjective* **1.** possible to measure *o* *Appreciable weakening may be permitted without risk of failure.* **2.** significantly large *o* *The shortfall is appreciable.*

appreciate *verb* **1.** to recognise the importance or significance of something *o* *The map reader is in a position to appreciate the relative values of the features seen on the ground.* **2.** to be thankful or grateful for something *o* *The students appreciated the extra help given by their instructor.* **3.** to increase in value *o* *The value of the building has appreciated by 100% in 10 years.*

approach *noun* **1.** a path towards something *o* *The approach to the site was blocked by an overturned lorry.* **2.** a way of achieving or doing something or dealing with a problem *o* *a radical approach to the problem of desertification* **o** **to take a different approach to a situation** to deal with or manage a situation in a different way **■** *verb* to move nearer in place or time to something *o* *The aircraft is approaching a danger area.*

appropriate *adjective* suitable to a specific situation or to achieve a desired effect *o* *take appropriate action*

appropriate dose *noun* the amount of a substance required to be effective, e.g. the amount of a fungicide required to control a disease

appropriately *adverb* as appropriate or as needed

appropriate technology *noun* ENVIRON a technology that is suited to the local environment, usually involving skills or materials that are available locally *o* *Biomethanation is an appropriate technology for use in rural areas.*

approval *noun* agreement that something can be done *o* *The procedure needs official approval.*

approve *verb* to allow or give permission for something *o* *The air traffic controller approved the emergency landing.*

approve of *verb* to believe something to be right or good

approx *abbreviation* approximate *or* approximately

approximate *adjective* not exact **o** **an approximate distance of 60 nm** about 60 nautical miles **■** *verb* to be close to *o* *The number of people working in the building*

approximates 2000. (NOTE: can be shortened to: **approx**)

approximately *adverb* not exactly ○ *Approximately 2000 people work in the building.* (NOTE: can be shortened to: **approx**)

approximating *adjective* close by or similar to ○ *results approximating to the norm*

approximation *noun* a calculation which is not exact ○ *Can you give me an approximation of keyboarding time?* ○ *The final figure is only an approximation.*

approximation error *noun* an error caused by rounding off a real number

appulse *noun* ASTRON a close approach of two astronomical objects as seen from the Earth (NOTE: Their true distances apart in space may be very large even when they are almost aligned from the point of view of a terrestrial observer.)

A programming language *noun* COMPUT full form of **APL**

apse *noun* ASTRON a line joining the two foci of an ellipse such as the orbit of a planet or satellite and the nearest and farthest points of the ellipse itself

APT *noun* COMPUT a programming language used to control numerically controlled machines. Full form **automatically programmed tools**

aqua- *prefix* EARTH SCI water. ◇ **aquaculture, aquafarming** *noun* FISHERY the breeding and keeping of fish, shellfish or plants for food in special ponds

aquaplaning *noun* the act of sliding in an uncontrolled way over a thin layer of water on a road or runway

aquarium *noun* BIOL a container with water and a display of fish and other animals or plants that live in water

aquatic *adjective* EARTH SCI referring to water

aquatic animal *noun* ZOOLOG an animal that lives in water

aquatic ecosystem *noun* ECOL an ecosystem that is based on water, e.g. a river, pond, lake or ocean

aqueous *adjective* PHYS referring to a solution made with water

aqueous humour *noun* ANAT the clear watery fluid that circulates between the cornea and the lens of the eye

aqueous solution *noun* a solution of a substance in water

aqui- *prefix* water. ◇ **aqua-**

aquiclude *noun* GEOL a body of rock or soil such as clay through which water passes very slowly

aquiculture *noun* FISHERIES same as **fish farming**

aquifer *noun* GEOL a mass of porous rock or soil through which water passes and in which water gathers

Ar *symbol* CHEM ELEM argon

arable *adjective* AGRIC referring to land on which crops are grown

arable farming *noun* AGRIC the growing of crops, as opposed to dairy farming, cattle farming, etc.

arable soil *noun* AGRIC soil which is able to be used for the cultivation of crops

arachidonic acid *noun* BIOCHEM an essential fatty acid

arachnid *noun* ZOOLOG an animal with four pairs of legs and a body with two segments. Class: Arachnida. (NOTE: Spiders, scorpions and mites are arachnids.)

arachnoid membrane *noun* ANAT the middle of the three membranes that surround the brain and spinal cord of the vertebrate central nervous system

aragonite *noun* MINERALS a colourless, blue to violet, or yellow form of calcium carbonate

arbitrary *adjective* decided by chance rather than by careful logical thought ○ *an arbitrary unit of measurement*

arbitration software *noun* software that is responsible for allocating resources to devices, often used to manage the way Plug and Play adapters use other resources in a computer

arbor- *prefix* BOT tree

arboreal *adjective* BOT referring to trees

arboreal animal *noun* ZOOLOG an animal which lives in trees

arboretum *noun* BOT a collection of trees from different parts of the world, grown for scientific study (NOTE: The plural is **arboreta**.)

arboricide *noun* AGRIC a chemical substance which kills trees

arboriculture *noun* FORESTRY the study of the cultivation of trees

arborist *noun* FORESTRY a person who studies the cultivation of trees

arbovirus *noun* MICROBIOL a virus transmitted by blood-sucking insects

arc *noun* MATHS a part of the circumference of a circle, or the shape of this ○ *A nautical mile is the length of an arc on the Earth's surface subtended by an angle of one minute at the centre of the Earth.* ■ *verb* (of a spark, especially one produced by an electric current) to jump across a gap ○ *The spark arcs from one electrode to another.* ○ *The condenser prevents spark plugs from arcing.*

Archie *noun* COMPUT a system of servers on the Internet that catalogues the public files that are available

archipelago *noun* GEOG a group of islands

architecture *noun* COMPUT the layout and interconnection of a computer's internal hardware and the logical relationships between CPU, memory and I/O devices

archival quality *noun* COMPUT the length of time that a copy can be stored before it becomes illegible

archive *COMPUT noun* a store of data kept over a long period, usually in compressed form ■ *verb* to put data in storage

archive attribute, archive bit *noun* COMPUT a liquid that changes between two forms with different optical properties such as colour depending on variations in temperature or applied voltage (NOTE: It is used in visual display units.)

archive file *noun* COMPUT a file containing data which is out of date but which is kept for future reference

archive flag *noun* COMPUT same as **archive attribute**

arc lamp *noun* ELEC an intensely bright light produced by passing current through a gap between two electrodes used, e.g., in floodlights, spotlights on film sets and specialised laboratory lamps

ARCNET, ARCnet *noun* COMPUT a network hardware and cable standard developed by Datapoint Corporation. Full form **attached resource computer network** (NOTE: It is a token bus network that transmits data at between 2.5 and 4Mbps. New versions of ARCnet transfer data at 20 and 100Mbps over fibre-optic cable. ARCNET uses a single token that moves from one workstation to the next carrying data and uses a star-wired cable topology.)

Arctic GEOG *adjective* referring to the area around the North Pole ■ *noun* the area of the Earth's surface around the North Pole, north of the Arctic Circle

arctic air *noun* METEOROL a mass of cold air which forms over the Arctic region and then moves south

Arctic Circle *noun* GEOG a parallel running round the Earth at latitude 66°32'N to the north of which lies the Arctic region

Arctogea *noun* EARTH SCI one of the main biogeographical regions of the Earth, comprising the Palaearctic, Nearctic, Oriental and Ethiopian regions

arcuate artery *noun* ANAT a curved artery in the foot or kidney

area *noun* 1. the measurement of the space taken up by something, calculated by multiplying the length by the width ○ *The area of this office is 3400 square feet.* ○ *We are looking for an area of about 100 square metres.* 2. COMPUT a section of memory or code that is reserved for a specific purpose 3. EARTH SCI a region of land ○ *The whole area has been contaminated by waste from the power station.*

area fill *noun* an instruction to fill an area of a screen or an enclosed pattern with a colour or pattern

area graph *noun* MATHS a line graph in which the area below the line is filled with a pattern or colour

area of low pressure *noun* an area in which the atmospheric pressure is low and around which the air turns in the same direction as the Earth

Area of Outstanding Natural Beauty *noun* ENVIRON in England and Wales, a region which is not a National Park but which is considered sufficiently attractive to be preserved from unsympathetic development. Abbr **AONB**

area search *noun* COMPUT a search for specific data within a specific section of memory or files

Arecibo *noun* ASTRON the site on Puerto Rico of the world's largest single dish radio telescope, 305m in diameter, made by excavating an existing crater

arête *noun* EARTH SCI a sharp ridge between two valleys

arg *abbreviation* COMPUT argument

arginine *noun* BIOCHEM an essential amino acid and a constituent of proteins

argon *noun* CHEM ELEM an inert gas, which occurs in air and of which isotopes form in the cooling systems of reactors. It is used in electric light bulbs. (NOTE: The chemical symbol is **Ar**; the atomic number is **18** and the atomic weight is **39.95**.)

argument *noun* **1.** COMPUT a discussion of something without agreeing ○ *They got into an argument over the documents.* **2.** a reason or a set of reasons used to persuade somebody to accept a point of view ○ *The main argument against the plan is cost.* **3.** COMPUT a variable acted upon by an operator or function ○ *If you enter the words 'MULTIPLY A, B', the processor will recognise the operator, MULTIPLY, and use it with the two arguments, A and B.* Compare **operand**

argument separator *noun* COMPUT a punctuation mark or symbol which separates several arguments on one line ○ *The command 'MULTIPLY A, B' uses a comma as the argument separator.*

arid *adjective* EARTH SCI referring to soil which is very dry, or an area of land which has very little rain

aridity *noun* EARTH SCI the state of being extremely dry

arid zone *noun* EARTH SCI an area in the tropics between about 15° and 30° north and south which is very dry and covered with deserts

arise *verb* to occur or come to notice ○ *New ideas have started to arise.* (NOTE: **arising** – **arose** – **arisen**)

Aristotle *noun* SCI a Greek philosopher who lived from 384–322 BC whose Earth-centred astronomy dominated the science for 18 centuries (NOTE: The system he set out allowed only for uniform circular motions to preserve the perfection of the heavens, calling for more and more complex models of the universe, especially the orbits of the Sun, Moon and planets about the Earth. His work in animal classification was also notable.)

arithmetic *adjective* MATHS referring to mathematical functions such as addition, subtraction, division and multiplication

arithmetic instruction *noun* COMPUT a program instruction in which the operator defines the arithmetic operation to be carried out

arithmetic logic unit *noun* COMPUT a hardware section of a central processing unit that performs all the mathematical and logical functions. Abbr **ALU**

arithmetic mean *noun* MATHS a number calculated by adding together several figures and dividing by the number of figures added. Also called **average**

arithmetic operator *noun* MATHS a symbol which indicates an arithmetic function, e.g. + for addition or x for multiplication

arithmetic register *noun* COMPUT a memory location which stores operands

arithmetic shift *noun* COMPUT a word or data moved one bit to the left or right inside a register, losing the bit shifted off the end

-arium *suffix* a display, usually involving water

ARLL *abbreviation* COMPUT advanced run-length limited

arm *noun* **1.** COMPUT a lever or projection **2.** COMPUT a horizontal distance from a reference point to the centre of gravity ○ *The principle of the arm is used in weight and balance calculations for an aircraft.* **3.** ANAT the part of the body which goes from the shoulder to the hand, formed of the upper arm, the elbow and the forearm ○ *She broke her arm skiing* ○ *Lift your arms up above your head.* ■ **verb** COMPUT **1.** to prepare a device or machine or routine for action or inputs **2.** to define which interrupt lines are active

armature *noun* ELEC an assembly of rotating coils in an electric motor or dynamo (NOTE: Secondary windings are wound over the primary windings and the whole assembly is known as an armature.)

armed interrupt *noun* COMPUT an interrupt line which has been made active using an interrupt mask

aromatase *noun* BIOCHEM an enzyme that converts androgens to oestrogens

aromatic *adjective* having a pleasant smell ■ *noun* CHEM a substance, plant or chemical which has a pleasant smell

aromatic compound, aromatic hydrocarbon *noun* CHEM a compound such as benzene, with a ring of carbon atoms held by single and double bonds

ARP *abbreviation* COMPUT address resolution protocol

ARPANET *abbreviation* COMPUT Advanced Research Projects Agency Network

ARQ *abbreviation* COMPUT automatic repeat request

arrange *verb* **1.** to plan and prepare something ○ *to arrange a meeting* **2.** to put something in a special position ○ *A series of dipoles is arranged in a circle.*

arrangement *noun* **1.** a plan to do something **2.** the position of a number of different parts ○ *The diagram shows a simple arrangement of pistons, cylinders and pipes.*

array *noun* **1.** TELECOM a set of aerials in a specific arrangement **2.** COMPUT an ordered structure containing individually accessible elements referenced by numbers, used to store tables or sets of related data

array dimension *noun* COMPUT a number of elements in an array, given as rows and columns

array processor *noun* COMPUT a computer that can act upon several arrays of data simultaneously, for very fast mathematical applications ○ *The array processor allows the array that contains the screen image to be rotated with one simple command.*

arrest *verb* to stop something or prevent something from happening □ **to arrest the spread of a fire** to stop the fire spreading ■ *noun* a sudden stoppage

arrester *noun* a device or substance which prevents or stops something from happening

arrow *noun* a printed sign which points to something

arrow keys *noun* COMPUT one of a set of four keys on a keyboard which move the cursor or pointer around the screen, controlling movement up, down, left and right

arrow pointer *noun* COMPUT a small arrow on-screen which can be moved using a mouse

arroyo *noun* EARTH SCI a gully with a stream at the bottom, found in desert regions of the US. Compare **wadi**

arsenate *noun* CHEM an arsenic acid salt

arsenic *noun* CHEM ELEM a grey semimetallic chemical element that forms poisonous compounds such as arsenic trioxide, which was formerly used in some medicines (NOTE: The chemical symbol is **As**; the atomic number is **33** and the atomic weight is **74.92**.)

arsenic acid *noun* CHEM a white poisonous crystalline solid containing arsenic, used in pigment and insecticide manufacture. Formula: H_3AsO_4 .

arsenical *noun* CHEM a drug or insecticide which is one of the group of poisonous oxides of arsenic

arsenic oxide *noun* CHEM a toxic colourless compound with three solid forms, obtained by burning arsenic in air or as a by-product of smelting. It is used in glass-making. Formula: As_2O_3 .

arsenide *noun* CHEM a compound of arsenic and a metallic element

arsine *noun* CHEM a colourless and highly toxic gas that smells of garlic, used in the manufacture of organic chemicals, semiconductors and chemical weapons. Formula: AsH_3 .

artefact, artifact *noun* ENVIRON a human-made object

arterio- *prefix* ANAT referring to arteries

arteriole *noun* ANAT a very small artery

artery *noun* ANAT a blood vessel taking blood from the heart to the tissues of the body

COMMENT: In most arteries the blood has been oxygenated in the lungs and is bright red. In the pulmonary artery, the blood is deoxygenated and so is darker. The arterial system begins with the aorta which leaves the heart and from which all the arteries branch.

artesian well *noun* ENG a well which has been bored into a confined aquifer, the hydrostatic pressure usually being strong enough to force the water to the surface

arthropod *noun* ZOO an invertebrate with jointed limbs, a segmented body, and a chitin exoskeleton. Phylum: Arthropoda. (NOTE: Insects, arachnids, centipedes and crustaceans are arthropods.)

article *noun* COMPUT a single message in a newsgroup

articulate *adjective* ANAT with joints or jointed segments, as in the bodies of higher vertebrates and arthropods

articulation *noun* ANAT a joint or series of joints

artifact *noun* **1.** COMPUT a very small error in a video signal **2.** COMPUT a very small error in a digital version of an analog signal **3.** ENVIRON another spelling of **artefact**

artificial *adjective* made by humans and not existing naturally

artificial community *noun* BOT a plant community kept by people, as in a garden

artificial fertiliser *noun* AGRIC a fertiliser manufactured from chemicals

artificial horizon *noun* AEROSP the horizon line on the attitude indicator

artificial insemination *noun* AGRIC a method of breeding livestock by injecting sperm from specially selected males into females. Abbr **AI**

artificial intelligence *noun* COMPUT the design of computer programs and systems that attempt to imitate human intelligence and decision-making functions, providing basic reasoning and human characteristics. Abbr **AI**

artificial light *noun* a light produced by electricity, gas, etc.

artificial manure *noun* AGRIC a manufactured chemical substance used to increase the nutrient level of the soil

artificial rain *noun* rain which is made by scattering crystals of salt and other substances into clouds

artificial selection *noun* AGRIC the selection by people of individual animals or plants from which to breed further generations because the animals or plants have useful characteristics

artiodactyl *noun* ZOOL a herbivorous hoofed animal that walks on its toes of which there are an even number on each foot. Order: Artiodactyla. (NOTE: Cows, camels, pigs or deer are artiodactyls.)

artwork *noun* COMPUT graphical work or images

aryl group *noun* CHEM a compound formed by removing one hydrogen atom from an aromatic compound

As *symbol* CHEM ELEM arsenic

asbestos *noun* INDUST a fibrous mineral substance that causes lung disease if inhaled. It was formerly used as a shield against fire and as an insulating material in many industrial and construction processes.

COMMENT: Asbestos was formerly widely used in cement and cladding and other types of fireproof construction materials. It is now recognised that asbestos dust can cause many lung diseases, leading in some cases to forms of cancer, with the result that constructions containing asbestos are being stripped out and rebuilt with alternative materials. Blue asbestos is extremely toxic and is banned in many countries; white and brown asbestos can be safely used in some forms.

asbestos cement *noun* INDUST a mixture of asbestos and cement, used to make pipes, tiles and other small items used in construction

asbestos fibre *noun* INDUST threads of asbestos which can be woven into rope or tape, etc.

asbestosis *noun* MED a disease of the lungs caused by inhaling asbestos dust

ascend *verb* to move slowly upwards ○ *Hot air ascends.* □ **in ascending order** in order of number or rank with the smallest or less important at the bottom and the largest or more important at the top

ascender *noun* COMPUT a part of a character that rises above the main line of printed characters, as the 'tail' of 'b' or 'd'

ascending aorta *noun* ANAT the first section of the aorta as it leaves the heart and rises

ascent *noun* a slow upwards movement ○ *the forced ascent of air over high ground* ○ *In a stable atmosphere where the ascent of air is forced, precipitation is mostly light and occasionally moderate.* Opposite **descent**

ascertain *verb* to make sure about something ○ *Control surfaces should be moved by hand to ascertain that they have full and free movement.*

ASCII *abbreviation* COMPUT American Standard Code for Information Interchange

ASCII character *noun* COMPUT a character which is in the ASCII list of codes

ASCIIZ string *noun* COMPUT a sequence of ASCII characters followed by the ASCII code zero which indicates the end of the sequence

ascorbic acid *noun* CHEM vitamin C

COMMENT: Ascorbic acid is found in fresh fruit, especially oranges and lemons, and in vegetables. Lack of vitamin C can cause anaemia and scurvy.

-ase *suffix* BIOL an enzyme

asepsis *noun* MED, MICROBIOL a state of having no infection

aseptic *adjective* MED, MICROBIOL referring to asepsis ○ *It is important that aseptic techniques should be used in microbiological experiments.*

aseptic surgery *noun* MED surgery using sterilised equipment, rather than relying on killing germs with antiseptic drugs

asexual *adjective* BIOL not involving sexual reproduction

asexually *adverb* not involving sexual intercourse ○ *By taking cuttings it is possible to reproduce plants asexually.*

asexual reproduction *noun* BIOL reproduction by taking cuttings of plants or by cloning

ASF *abbreviation* COMPUT Active Streaming Format

ash *noun* 1. TREES a hardwood tree. Genus: *Fraxinus*. 2. CHEM a grey or black powder formed of minerals left after an organic substance has been burnt

ASI *abbreviation* AEROSP airspeed indicator

ASIC *abbreviation* COMPUT application-specific integrated circuits

ASP *abbreviation* COMPUT 1. Active Server Page 2. application service provider

asparagine *noun* BIOCHEM an amino acid found in protein

aspartic acid *noun* BIOL an amino acid found in sugar

aspect *noun* 1. a part of a problem or subject ○ *Vertical motion is an important aspect of meteorology*. 2. a view of something from a particular position 3. a direction in which something faces ○ *a site with a northern aspect*

aspect ratio *noun* COMPUT a ratio of the width to the height of pixel shapes

aspen *noun* TREES a hardwood tree with leaves that tremble in the wind. Genus: *Populus*.

as per *preposition* according to □ **as per sample** as shown in the sample □ **as per specification** according to the details given in the specification

aspergillosis *noun* an infection of the lungs with *Aspergillus*, a type of fungus which affects parts of the respiratory system

asphalt *noun* INDUST a black substance formed from bitumen

COMMENT: Asphalt is found naturally in tar sands, but is also manufactured as a by-product of petroleum distillation. It is used, when melted, to paint on roofs to make them waterproof or to mix with aggregate to make hard road surfaces.

aspirin *noun* BIOL 1. a common pain-killing drug 2. a tablet of this drug

ASR *noun* COMPUT a device or terminal that can transmit and receive information

COMMENT: An ASR terminal can input information via a keyboard or via a tape cassette or paper tape. It can receive information and store it in internal memory or on tape.

assay *noun* CHEM an act of testing of a substance

assemble *verb* 1. to put a number of parts together to form something ○ *Parts are made in different countries but the aeroplane is assembled in France*. 2. COMPUT to make a whole from various smaller parts ○ *The parts for the disk drive are made in Japan and assembled in France*. 3. COMPUT to translate assembly code into machine code ○ *There is a short wait during which the program is assembled into object code*. ○ *Syntax errors were spotted while the source program was being assembled*. 4. COMPUT to insert specific library routines, macros or parameters into a program

assembler, assembler program *noun* COMPUT a program which converts a program written in assembly language into machine code

assembly *noun* 1. the process of putting an item together from various parts ○ *There are no assembly instructions to show you how to put the computer together*. 2. COMPUT the process of converting a program into machine code

assembly code *noun* COMPUT a set of mnemonics which are used to represent machine code instructions in an assembler

assembly language *noun* COMPUT a programming language used to code information which will then be converted to machine code

assembly language program *noun* COMPUT a number of assembly code instructions which perform a task

assembly program *noun* COMPUT same as **macro assembler**

assertion *noun* 1. COMPUT (*in a computer program*) a series of instructions that define a fact or rule 2. a fact that is true or defined as being true

assess *verb* to consider something carefully to make a judgment about it

assessment *noun* 1. careful consideration of something to make a judgment about it 2. a judgment based on evidence

asset *noun* COMPUT a separate data element such as a video, audio or image which is used in a multimedia application

assign *verb* 1. to set something apart beforehand or allocate something for a specific purpose 2. to give someone or a machine something to do ○ *He was assigned the job of checking the sales figures*. ○ *Two PCs have been assigned to out-putting the labels*. 3. COMPUT to set a

variable equal to a string of characters or numbers **4**. **COMPUT** to keep part of a computer system for use while a program is running

assimilate *verb* **BIOCHEM** to take into the body's tissues substances which have been absorbed into the blood from digested food

assimilation *noun* **BIOCHEM** the action of assimilating food substances

assimilation efficiency *noun* the percentage of food energy which is taken into the gut of a consumer and assimilated through the wall of the gut. Abbr **AE**

associate *verb* to be linked to or accompanied by something ○ *Turbulence is often associated with strong winds.*

association *noun* **1**. **EARTH SCI** a group of people with similar interests **2**. a link between two things ○ *They were looking for an association between specific chemicals and the disease.* **3**. **ECOL** same as **bio-logical association**

associative memory *noun* **COMPUT** a method of data retrieval which uses part of the data rather than an address to locate the data

associative processor *noun* **COMPUT** a processor that uses associative memory

associative storage *noun* **COMPUT** same as **associative memory**

assumption *noun* an understanding about something which is not based on facts or proof

astatine *noun* **CHEM ELEM** a natural radioactive element (NOTE: The chemical symbol is **At**; the atomic number is **85** and the atomic weight is **210**.)

aster *noun* **BIOL** a structure shaped like a star, seen around a centrosome during cell division

Asteraceae *plural noun* **BOT** a common and very large family of plants with flat flowers that consist of many florets arranged around a central structure. Former name **Compositae**

asterisk *noun* **COMPUT** **1**. a graphical symbol (*) used in programming as a sign for multiplication **2**. a graphical symbol used in many operating systems to mean 'any character'

asteroid *noun* **ASTRON** a body found in the solar system, intermediate in size between a planet and a meteorite

COMMENT: The largest asteroids are hundreds of kilometres across and the smallest only hundreds of metres. They

mostly orbit just inside the orbit of Jupiter. Asteroids are material from the earliest days of the solar system, so information about them is of great astronomical value.

asteroid belt *noun* **ASTRON** the region between the orbits of Mars and Jupiter where most asteroids are concentrated

asthenosphere *noun* **EARTH SCI** part of the interior of the Earth, formed of molten matter below the lithosphere

asthma *noun* a lung condition characterised by narrowing of the bronchial tubes, in which the muscles go into spasm and the person has difficulty breathing

astigmatism *noun* **OPTICS, OPHTHALMOL** a defect in a lens or mirror that prevents light rays from meeting at a single point (NOTE: It results in the formation of an imperfect image. Astigmatism in the eye is very common and can be overcome by wearing glasses.)

astral *adjective* **ASTRON** relating to, characteristic of, or consisting of stars

astrobiology *noun* **BIOL, ASTRON** same as **exobiology**

astrology *noun* **ASTRON** an ancient but still popular system of attempting to predict the future from astronomical events (NOTE: It separated from scientific astronomy in the 17th century as knowledge of the solar system grew, weakening the argument that the positions of the planets in the sky could affect people's lives.)

astrometrical *adjective* **ASTRON** referring to astrometry

astrometry *noun* **ASTRON** a branch of astronomy involving precise measurements of the positions of objects in the sky, with the use of meridian telescopes, which can now record hundreds of observations per night onto computer disks (NOTE: The **European Space Agency's Hipparcos telescope** was the first to be launched to perform astrometrical observations above the turbulence of the Earth's atmosphere.)

astronaut *noun* **ASTRON** a human traveller in space

astronomical *adjective* relating to astronomy

astronomical telescope *noun* **ASTRON** a telescope used to view astronomical objects

astronomical unit *noun* **ASTRON** a measure of distance used in solar system studies, equal to the average distance of the

Earth from the Sun, 149.6 million km.
Abbr **AU**

astronomy *noun* ASTRON the study of natural objects in space, including Earth (NOTE: Modern astronomy is related closely to other sciences, especially physics, and has many subdivisions, notably **cosmology** and **astrophysics**)

astrophysicist *noun* ASTRON a scientist who specialises in astrophysics

astrophysics *noun* ASTRON a branch of astronomy which examines astronomical phenomena in terms of the laws and principles of physics

asulam *noun* CHEM, AGRIC a herbicide used around trees and fruit bushes

asymmetric, asymmetrical *adjective* not identical or equal on each side of an imaginary central dividing line

asymmetric compression *noun* COMPUT a method of reducing the space taken by data which requires a lot of processing time and power to compress an image or video sequence but is very quick to decompress (NOTE: It is usually used when creating video sequences for distribution.)

asymmetric digital subscriber line *noun* COMPUT a high-speed transmission standard that uses the same wires as a normal telephone service, but is much faster and provides a user with an always-on connection to the Internet so there is no need to dial an access number and no delay (NOTE: Data is usually transferred from the Internet to the user's computer at 2Mbps but transferred from the user's computer to the Internet at a slower rate of 256Kbps.)

async *adjective* COMPUT same as **asynchronous** (*informal*)

asynchronous *adjective* COMPUT referring to serial data or equipment which does not depend on being synchronised with another piece of equipment

asynchronous transfer mode *noun* COMPUT **1.** a method of transferring data very rapidly, at up to 155Mbps, across a network using fixed-length data cells 53 octets long **2.** a CCITT and ANSI standard defining cell relay transmission ▶ abbr **ATM**

At *symbol* CHEM ELEM astatine

ATAPI *abbreviation* COMPUT advanced technology attachment packet interface

atavism *noun* GENETICS the reappearance of a genetically controlled feature in

an organism after it has been absent for several generations, usually as a result of an accidental recombination of genes

at hazard *adverb* at risk, in danger

atherosclerosis *noun* MED a condition in which deposits of fats and minerals form on the walls of an artery, especially the aorta or one of the coronary or cerebral arteries, and prevent blood from flowing easily

Atlantic Conveyor Belt *noun* GEOG same as **North Atlantic Conveyor**

Atlantic Ocean *noun* GEOG the ocean to the north of the Antarctic, south of the Arctic, west of Europe and Africa and east of North and South America

atlas *noun* **1.** GEOG a book of maps and other geographical information **2.** a book of diagrams, charts and other information about a single subject such as anatomy

ATM *abbreviation* COMPUT asynchronous transfer mode

atmosphere *noun* **1.** METEOROL a mass of gases surrounding the Earth or any astronomical object such as a planet or star **2.** PHYS, MEASURE a unit of measurement of pressure, equal to 101325 pascals or equal to a height of 760mm of mercury

COMMENT: Earth's atmosphere extends to a height of several thousand kilometres, but is concentrated in the 20km immediately above the planet's surface. Its pressure decreases with height. The atmosphere is divided into the troposphere, stratosphere, mesosphere and thermosphere. Around the Earth, the main gases found in the atmosphere are: nitrogen and oxygen, less than 1% carbon dioxide and argon, plus traces of hydrogen, helium, krypton, neon, ozone and xenon.

atmospheric *adjective* METEOROL referring to the atmosphere

atmospheric attenuation *noun* ELEC the weakening of a radio signal as it passes through the air

atmospheric contamination *noun* ENVIRON pollution of the air with harmful substances

atmospheric lifetime *noun* ENVIRON same as **lifetime**

atmospheric nitrogen *noun* CHEM nitrogen as found in the atmosphere

atmospheric pollutant *noun* ENVIRON same as **air pollutant**

atmospheric pollution *noun* ENVIRON same as **air pollution**

atmospheric pressure *noun* METEOROL the normal pressure of the air on the surface of the Earth

atmospheric pressure zones *plural noun* METEOROL a band of a specific atmospheric pressure around the Earth

atmospheric refraction *noun* PHYS a change in direction of waves as a result of variations in temperature, pressure and humidity, particularly at lower altitudes

A to D *abbreviation* COMPUT analog to digital

atoll *noun* EARTH SCI an island in warm seas, made of coral and shaped like a ring

atom *noun* **1.** CHEM a fundamental unit of a chemical element and the smallest part of an element that can exist independently **2.** COMPUT a value or string that cannot be reduced to a simpler form

COMMENT: An atom of any chemical element consists of a positively charged nucleus surrounded by negatively charged electrons in a particular orbit, the orbit being defined by the energy levels. The mass of an atom is mostly defined by the nucleus, which is composed of positively charged protons and neutrally charged neutrons. Hydrogen is the only atom with just a proton in its nucleus.

atomic *adjective* **1.** PHYS referring to atoms **2.** COMPUT referring to an operation that returns data to its original state if it is stopped during processing

atomic bomb *noun* PHYS † **atomic weapon**

atomic energy *noun* INDUST energy created during a nuclear reaction, either fission or fusion, which, in a nuclear reactor, produces heat warming water and forming steam which runs a turbine to generate electricity

COMMENT: Atomic energy is produced from the fission of atoms of uranium-235. One of the problems associated with the production of atomic energy is the radioactive waste produced by nuclear reactors. This takes various forms: it can be a gas such as krypton or xenon, spent fuel rods or water from cooling processes.

Atomic Energy Authority *noun* † **United Kingdom Atomic Energy Authority, International Atomic Energy Agency**

Atomic Energy Commission *noun* US an agency responsible for nuclear energy in the US. Abbr **AEC**

atomic fission *noun* PHYS the splitting of the nucleus of an atom such as uranium-235 into several small nuclei which

then release energy and neutrons. Also called **nuclear fission**

atomic force microscope *noun* PHYS a microscope that measures forces at the atomic level using a very sensitive crystal-tipped cantilever to probe a sample surface

atomic fusion *noun* PHYS the joining together of several nuclei to form a single large nucleus, creating energy, as in a hydrogen bomb

atomicity *noun* CHEM the number of atoms found in a molecule of a chemical element, e.g. the atomicity of ozone (O₃) is 3

atomic mass *noun* CHEM the mass of an atom measured in atomic mass units

atomic mass unit *noun* PHYS, MEASURE a unit of measurement of mass, used to express the weight of an atom or molecule and equal to one twelfth of the mass of an atom of carbon-12. Abbr **AMU**. Symbol **u**

atomic number *noun* CHEM a number of positive electric charges round the nucleus of an atom, equal to the number of protons in the atom (NOTE: Atomic number is used to give an element a place in the periodic table.)

atomic orbital *noun* PHYS the space around a nucleus in which there is a high probability of finding an electron orbiting the nucleus. † **orbital**

atomic pile *noun* INDUST a nuclear reactor

atomic power *noun* INDUST the power generated by a nuclear reactor, or electricity generated by a nuclear power station

atomic-powered *adjective* INDUST operated by nuclear power

atomic power station *noun* INDUST a power station in which nuclear reactions are used to provide energy to run turbines that generate electricity

atomic waste *noun* ENVIRON radioactive waste from a nuclear reactor, including spent fuel rods and coolant

atomic weapon *noun* ENVIRON a bomb or missile whose destructive power is produced by nuclear fission or fusion

atomic weight *noun* MEASURE † **relative atomic mass**

atomise, atomize *verb* to reduce liquids to a fine spray ○ *The fuel must be atomised or vaporised to combine with the air to permit combustion.*

atomiser, atomizer *noun* INDUST an instrument that sprays liquid in the form of very small drops like mist. Also called **nebuliser**

atopy *noun* MED a hereditary allergic reaction

ATP *abbreviation* BIOCHEM adenosine triphosphate

atrazine *noun* AGRIC a herbicide that kills germinating seedlings, used especially on maize crops

atresia *noun* MED an unusual closing or absence of a tube in the body

atrium *noun* **1.** ANAT one of the two upper chambers in the heart. Compare **ventricle** **2.** BIOL a cavity in the ear behind the eardrum (NOTE: The plural is **atria**)

COMMENT: The two atria in the heart both receive blood from veins. The right atrium receives venous blood from the superior and inferior vena cavae and the left atrium receives oxygenated blood from the pulmonary veins.

atrophic *adjective* MED relating to or affected by atrophy

atrophic gastritis *noun* MED inflammation of the stomach caused by the inability to secrete sufficient acid to kill bacteria

atrophy *noun* MED the shrinking of a body part or organ because of disease, damage or lack of use

atropine *noun* PHARM a poisonous plant compound (**alkaloid**), found in *Atropa belladonna*, that affects heart rate and is used medically to relax muscles

attach *verb* **1.** to join, fix or connect one thing to another **2.** COMPUT to make a connection or link *o I issued the command to attach to the local server.* **3.** COMPUT to connect a node or login to a server on a network

attached processor *noun* COMPUT a microprocessor that performs specific functions under the control of a central processor

attachment *noun* **1.** the joining, fixing or connecting of one thing to another *o The attachment of a wing improved the grip and handling of the car.* **2.** an accessory which can be attached *o The video camera is sold with a number of attachments including a carrying strap and a battery pack.* **3.** COMPUT a device which is attached to a machine for a special purpose *o There is a special single sheet feed attachment.* **4.** COMPUT a named file which is transferred together with an electronic mail message *o*

There is an attachment with my last mail message – it contains the sales report.

attack *noun* ACOUSTICS the shape of the start of a sound signal over time. *o sustain, decay*

attain *verb* to reach or achieve something, often with difficulty *o In order to attain a fuller understanding of gas turbines, it is essential to know something about basic gas laws.*

attempt *noun* a try *o Any attempt to increase range by applying more power is of little or no benefit.* **verb** to try to do something

attend *verb* to exist or happen in connection with something else (*formal*) *o Serious consequences may attend this decision.*

attendant *adjective* accompanying something else *o Fuel spillage and attendant fire risk must be minimised.* **noun** a person whose job is to look after a public place, or to look after and help other people

attend to *verb* **1.** to deal with something or someone *o We need to attend to the feed-back first of all.* **2.** to pay attention to something (*formal*) *o Please attend to this safety advice immediately.*

attention *noun* special care or treatment *o This routine requires the attention of the processor every minute.*

attenuate *verb* (*of a radio signal*) to lose power or strength *o A wave attenuates or loses strength as range increases.*

attenuated strains *plural noun* pathogenic microorganisms, mainly bacteria and viruses, which have lost their virulence

attenuation *noun* (*of radio signal*) a reduction or loss of signal strength, the difference between transmitted and received power measured in decibels *o If the cable is too long, the signal attenuation will start to cause data errors.* *o Atmospheric attenuation is negligible until the upper end of the UHF band when it increases rapidly to limit the highest usable frequency to about 10GHz.* Opposite **gain**

attenuative *adjective* weakening a radio signal *o rain has an attenuative effect*

attitude *noun* **1.** a way of thinking, feeling or behaving about something **2.** AEROSP the position of the aircraft in the air in relation to the horizon *o Angle of attack will vary with changes in engine speed and aircraft attitude.*

attitude indicator *noun* AEROSP a flight instrument which gives the pilot

pitch and bank information ○ *In light aircraft, the attitude indicator is situated on the instrument panel, directly in front of the pilot.* Abbr **AI**

COMMENT: The attitude indicator is sometimes referred to as the artificial horizon. In instrument flight training, the attitude indicator is the primary reference instrument.

atto- *prefix* MEASURE one quintillionth, 10^{-18} . Symbol **a**

attract *verb* to cause something to draw near ○ *If two magnets, with unlike poles are brought together, they will attract each other.* ○ *The solid attracts the gas to its surface.*

attractant *noun* CHEM a chemical that attracts an organism. ♦ **pheromone**

COMMENT: Artificially produced attractants can be used to attract insects, which can then be killed.

attraction *noun* the act or an instance of being drawn near to someone or something ○ *The strength of the magnetic force will depend, amongst other things, on the magnitude of attraction at the magnetic source.*

attribute *noun* **1.** a characteristic or quality **2.** COMPUT a field entry in a file ○ *This attribute controls the colour of the screen.* **3.** COMPUT a piece of information concerning the display or presentation of information

attrition *noun* the wearing away of something, as may be caused by friction ○ *Examination showed attrition of two extensor tendons.*

ATV *abbreviation* all-terrain vehicle

Au *symbol* CHEM ELEM gold

AU *symbol* ASTRON astronomical unit

audibility threshold *noun* the level of sound which a person can just hear. Also called **hearing threshold**

audible *adjective* able to be heard ○ *The fire detection system should contain an audible warning device.*

audible indication *noun* a sound such as a warning bleep

audio *adjective, noun* PHYS referring to sound or to things that can be heard

audio-, audi- *prefix* hearing or sound

audio board *noun* † **sound card**

audio cassette recorder *noun* ELECTRONICS a machine to transfer audio signals onto magnetic tape. Abbr **ACR**

audio file *noun* a digital sound sample stored on disk

audiogram *noun* BIOL a graph drawn by an audiometer

audiometer *noun* BIOL an instrument for testing hearing or for testing the range of sounds that the human ear can detect

audio range *noun* ACOUSTICS the frequency range between 50 and 20000Hz that can be detected by a human ear

audio response unit *noun* a speech synthesiser that allows a computer to give verbal responses to requests

audit *noun* **1.** a check on figures, scientific data or procedures **2.** COMPUT an act of noting tasks carried out by a computer ■ *verb* COMPUT to examine the state of a system and check that it is still secure or working properly

auditory *adjective* BIOL relating to the ears or to the hearing process

auditory acuity *noun* BIOL the ability to hear sounds clearly

auditory nerve *noun* ANAT a nerve that transmits impulses concerned with hearing and balance from the inner ear to the brain

Aufbau principle *noun* CHEM a principle that each successive chemical element in a sequence can be created by adding a proton to the nucleus and an electron to an orbital of the preceding element

augend *noun* MATHS (*in an addition*) the number to which another number is added to produce the sum

Auger effect *noun* PHYS the emission of an electron from an excited positive ion to produce an ion with a double charge

augment *verb* MATHS to increase

augmented addressing *noun* MATHS the production of a usable address word from two shorter words

augmenter *noun* MATHS a value added to another

AUP *abbreviation* COMPUT acceptable use policy

aural *adjective* BIOL referring to hearing ○ *The aural and visual alerts will continue until the operator takes action to cancel them.*

aureole *noun* **1.** METEOROL a glow visible round the Sun, when seen through thin mist **2.** ANAT the dark area around a nipple

auricle *noun* **1.** ANAT the outer ear. Also called **pinna** **2.** ANAT an atrium of the heart **3.** ANAT an ear-shaped part in each upper chamber of the heart **4.** BOT a part of a grass plant found at the base of a leaf

auriferous *adjective* METALL referring to a deposit which bears gold

Aurora Australis *noun* METEOROL same as **Southern Lights**

Aurora Borealis *noun* METEOROL same as **Northern Lights**

Australasian Region *noun* EARTH SCI same as **Notogea**

Australia Telescope *noun* ASTRON the southern hemisphere's largest radio telescope, with six dishes over a 6km area, situated in New South Wales

autecology *noun* ECOL the study of an individual species in its environment. Compare **synecology**

author *COMPUT noun* a person who wrote a program ■ *verb* to create a multimedia application by combining sound, video and images

authorisation *noun* 1. the permission or power to do something 2. the giving of permission to access a system

authorise *verb* 1. to give permission for something to be done ○ *to authorise the purchase of a new computer system* 2. to give someone the authority to do something ○ *The lab was authorised to conduct the tests.*

authorised *adjective* permitted

authorised user *noun* COMPUT a person who is allowed to access a computer system

authority *noun* 1. the power to act 2. an official body that controls an area or a specific activity ○ *You will have to apply to the local planning authority.* 3. SCI a person or body with specialised knowledge of a subject

author level *noun* COMPUT a mode of an authoring software package that is used by the author to design the application

auto *adjective* working without the user needing to act

auto- *prefix* 1. automatic or automated 2. self

autocatalysis *noun* CHEM the catalytic acceleration of a chemical reaction by a product of the same reaction

autochthonous *adjective* referring to flora, fauna or other matter which is produced by the community in which it is found. Compare **allochthonous**

autocidal control *noun* a form of pest control, especially of insects, by which

sterile males are introduced in order to stop the population breeding

autoclave *noun* CHEM a strong steel vessel in which pressure can be raised artificially, used for steam sterilisation and chemical reactions at high temperature

autoecology *noun* ECOL same as **autecology**

autogamy *noun* 1. BOT pollination with pollen from the same flower 2. ZOO the division of a protozoan's nucleus into two parts which reunite

autogenic succession *noun* 1. BIOL succession that follows biological processes, and can include colonisation and changes to the environment 2. ECOL the establishment of different communities in a particular area as a result of biological changes, including colonisation and changes to the environment

autoimmune *adjective* BIOL referring to an immune reaction to antigens in a person's own tissue

autolysis *noun* BIOL the action of cells destroying themselves with their own enzymes

automate *verb* to make a device or procedure automatic

automated system *noun* a system that has been made less dependent on direct human control or management

automatic *adjective* 1. done without needing to think ○ *In the early stages of training, student pilots have to think about the use of the flying controls but after a while these actions become automatic.* 2. working by itself without the need of an operator ○ *The normal activation method of the sprinkler system is automatic.*

automatic gain control *noun* ELECTRONICS an electronic circuit that adjusts the level of an incoming signal so that it is suitable for the next part of the circuit. Abbr **AGC**

automatic hyphenation *noun* COMPUT a feature of a software program that looks up in an electronic dictionary how to split and hyphenate words correctly

automatic power off *noun* COMPUT the process of equipment switching itself off if it has not been used for a time

automatic repeat request *noun* COMPUT an error correction system used in some modems that asks for data to be re-transmitted if there are errors. Abbr **ARQ**

automation *noun* **1.** an automatic operation or control of a piece of equipment, process or system ○ *Automation of throttle control has removed the need for pilots to monitor airspeed so closely.* **2.** the use of machinery to save manual labour

autonomic *adjective* governing itself independently

autonomic nervous system *noun* ANAT the nervous system formed of ganglia linked to the spinal column, which regulates the automatic functioning of the main organs of the body such as the heart and lungs

autoradiography *noun* BIOL, MED the technique of placing a sample or specimen in contact with a photographic plate prior to developing a photograph that reveals the distribution of radioactivity in it

auto repeat *noun* COMPUT a facility where a character is automatically repeated if the key is kept pressed down

auto save *noun* COMPUT a feature of some application programs such as word-processor or database software that automatically saves the file being used every few minutes in case of a power failure or system crash

auto scan *noun* COMPUT the ability of a monitor to maintain the same rectangular image size when changing from one resolution to another

autosome *noun* GENETICS a chromosome that does not determine sex

autotroph, autotrophic organism *noun* BIOL an organism which manufactures its own organic constituents from inorganic materials, e.g. a bacterium or green plant. Compare **chemotroph, heterotroph**

autumn *noun* the season of the year, following summer and before winter, when days become shorter and the weather progressively colder (NOTE: The US term is **fall**.)

autumnal *adjective* referring to the autumn

autumnal equinox *noun* ASTRON one of the two occasions in the year when the Sun crosses the celestial equator and night and day are each 12 hours long, occurring around 22 September

AUX *noun* COMPUT a serial communications port under the DOS operating system. Full form **AUXILIARY**

auxiliary *adjective* referring to a secondary system that is used when necessary

auxiliary equipment *noun* backup or secondary equipment in case of a breakdown

auxiliary gearbox *noun* ENG a gear-box that allows main engine power to be used for secondary systems

auxiliary memory *noun* COMPUT same as **auxiliary storage**

auxiliary processor *noun* COMPUT an extra, specialised processor, such as an array or numerical processor that can work with a main processor to increase execution speed

auxiliary storage, auxiliary store *noun* COMPUT a data storage medium such as a magnetic tape or floppy disk that is not the main high-speed computer storage ○ *Disk drives and magnetic tape provide auxiliary storage on this machine.* Also called **auxiliary memory**

auxin *noun* BOT a plant hormone that encourages or suppresses tissue growth (NOTE: Some herbicides act as synthetic auxins by upsetting the balance of the plant's growth.)

COMMENT: Some herbicides act as synthetic auxins by upsetting the balance of plant growth.

availability *noun* the fact of being available

available *adjective* able to be had or used ○ *available in all branches* ○ *item no longer available* ○ *items available to order only*

available bit rate *noun* COMPUT a service provided by an ATM network that tries to provide the bandwidth requested by a customer but cannot guarantee to do so. Abbr **ABR**

available list *noun* COMPUT a list of unallocated memory and resources in a computer system

available point *noun* COMPUT the smallest single unit or point of a display whose colour and brightness can be controlled

available power *noun* COMPUT, ENG the maximum electrical or processing power that a system can deliver

available time *noun* the time during which a system may be used

avalanche *noun* **1.** EARTH SCI a large mass of snow that becomes detached and falls down the side of a mountain **2.** COMPUT a series of actions beginning with one

which starts a number of others ○ *There was an avalanche of errors after I pressed the wrong key.*

avalanche wind *noun* EARTH SCI a very strong wind caused by an avalanche

avatar *noun* COMPUT **1.** the graphic image that is used to represent a real person in a cyberspace or three-dimensional system, e.g. in an adventure game **2.** the name for the superuser account on a UNIX system ▶ also called **root**

average *adjective* **1.** typical or usual ○ *of average ability* ○ *below average performance* **2.** MATHS referring to the arithmetic mean ○ *average cost per unit* ○ *average price* ○ *average sales per representative* ■ *noun* MATHS same as **arithmetic mean** ○ *the average for the last three months* ○ *sales average* ■ *verb* MATHS to produce as an average figure

avert *verb* to avoid something ○ *To avert a collision, he changed direction.*

Aves *noun* ZOOLOG the class that comprises birds

avian *adjective* ZOOLOG relating to birds

avian flu *noun* a type of influenza that affects birds and can infect humans. Also called **bird flu**

aviary *noun* a cage or large enclosure for birds

avicide *noun* ZOOLOG a substance that kills birds

avifauna *noun* ZOOLOG all the birds that live naturally in a specific area (NOTE: The plural is **avifauna** or **avifaunas**.)

avionics *noun* AEROSP the electronic communication, navigation and flight-control equipment of an aircraft

Avogadro's constant *noun* PHYS same as **Avogadro's number**

Avogadro's law *noun* PHYS the physical principle that equal volumes of different gases at the same temperature and pressure contain the same number of molecules

Avogadro's number *noun* PHYS the number of atoms or molecules contained in one mole of a substance (NOTE: Its value is 6.022×10^{23})

avoid *verb* **1.** to prevent something from happening ○ *He just managed to avoid an accident.* **2.** to keep away from or not do something ○ *Avoid entering this area when the red light is on.* ○ *Avoid alcohol with this medication.*

aware *adjective* knowing and conscious of something

awareness *noun* the state of being aware

axenic *adjective* MICROBIOL referring to a culture of an organism that is free from contamination by other organisms

axial *adjective* referring to an axis

axial-flow turbine *noun* ENG a turbine with blades like those on a ship's propeller, rotating horizontally

axial skeleton *noun* ANAT the main part of the skeleton, formed of the spine, skull, ribs and breastbone

axil *noun* BOT the angle between a leaf or branch and the stem from which it grows

axillary artery *noun* ANAT an artery leading from the subclavian artery in the armpit

axis *noun* **1.** an imaginary line around which a body rotates ○ *The Earth rotates around its own axis.* ○ *An aircraft moves around three axes – vertical, longitudinal and lateral.* **2.** ANAT an imaginary line through the centre of a plant or animal **3.** ANAT a central vessel which divides into other vessels **4.** MATHS the horizontal or vertical scale on a graph ○ *The plot shows the effect of airspeed on lift, with airspeed shown on the horizontal axis and lift on the vertical axis.* (NOTE: The plural is **axes**.)

axle *noun* ENG a shaft on which a wheel is mounted ○ *Unequal tyre pressures, where two wheels are mounted on the same axle, will result in one tyre carrying a greater share of the load than the other.*

axon *noun* ANAT a nerve fibre that sends impulses from one neuron to another, linking with the dendrites of the other neuron

axon covering *noun* ANAT a myelin sheath that covers a nerve

azeotrope *noun* CHEM a mixture of liquids with a different boiling point from that of any of its components, retaining its composition as a vapour

azerty keyboard *noun* COMPUT a keyboard on which the keys are arranged with the first line beginning AZERTY. Compare **QWERTY keyboard** (NOTE: It is used mainly in Europe.)

azimuth *noun* **1.** the position of an object in the horizontal plane, usually measured in degrees clockwise from the north **2.** COMPUT the angle of a tape head to a reference such as a tape plane

azine *noun* CHEM an organic compound with a ring containing a total of six carbon and nitrogen atoms per molecule

azo dye *noun* CHEM an organic dye containing an azo group, usually orange, yellow or brown (NOTE: They may be added to food to give it colour.)

azotobacter *noun* MICROBIOL a nitrogen-fixing bacterium belonging to a group found in soil

azygos vein *noun* ANAT a vein that brings blood back into the vena cava from the abdomen

B

b *abbreviation* COMPUT bit ■ *symbol* MEASURE, PHYS barn

B *abbreviation* COMPUT byte ■ *symbol* 1. CHEM ELEM boron 2. COMPUT the hexadecimal equivalent of the decimal number 11

Ba *symbol* CHEM ELEM barium

babbitt metal *noun* METALL a soft alloy containing a high proportion of tin, along with copper and antimony, often containing lead, used in the manufacture of anti-friction bearings

babble *noun* ACOUSTICS crosstalk or noise from other sources which interferes with a signal

BAC *abbreviation* BIOTECH bacterial artificial chromosome

bacillary *adjective* BIOL referring to a bacillus

bacillary dysentery *noun* MED dysentery caused by the bacillus *Shigella* in contaminated food

bacillus *noun* BIOL a bacterium shaped like a rod (NOTE: The plural is **bacilli**.)

back *noun* 1. ANAT the part of the body from the neck downwards to the waist, which is made up of the spine and the bones attached to it ○ *She strained her back working in the garden.* Also called **dorsum** (NOTE: For other terms referring to the back, see words beginning with **dors-**.) 2. the opposite side to the front ○ *There is a wide range of connectors at the back of the main unit.* ■ *verb* 1. to help a person or enterprise 2. METEOROL (*of the wind*) to change direction, anticlockwise in the northern hemisphere and clockwise in the southern hemisphere. Opposite **veer**

backbone *noun* 1. ANAT in vertebrate animals, a series of bones (**vertebrae**) linked together to form a flexible column running from the pelvis to the skull 2. COMPUT a high-speed high-capacity connection path that links smaller sub-networks, normally used to connect servers on a network

○ *We have linked the servers in each office using a high-speed backbone.* (NOTE: Smaller workgroups or networks are connected to the backbone as segments or ribs.)

backcross GENETICS *verb* to cross an organism, especially a hybrid, with one of its parents or an individual genetically identical to that parent ■ *noun* a hybrid obtained by backcrossing

backdoor *noun* COMPUT an unauthorised route into a computer system that bypasses the main security or password protection scheme

back-end processor *noun* COMPUT a special-purpose auxiliary processor

background *noun* 1. a person's past work or experience ○ *His background is in the computer industry.* ○ *The company is looking for someone with a background of success in the electronics industry.* ○ *Do you know anything about his background?*

2. COMPUT a part of a picture which is behind the main object of interest ○ *The new graphics processor chip can handle background, foreground and sprite movement independently.* 3. COMPUT a system in a computer where low-priority work can be done in the intervals when very important work is not being done 4. a set of conditions which are always present in the environment, but are less obvious or less important than others

background carboxyhaemoglobin level *noun* PHYSIOL the concentration of carboxyhaemoglobin in the blood of a person living a normal existence without exposure to particularly high levels of carbon dioxide

background concentration *noun* 1. ENVIRON same as **background pollution**

2. PHYS same as **background radiation**

background level *noun* PHYS, GEOL the general level of something such as noise or pollution which is always there

background noise *noun* **1.** a general level of noise which is always there in the environment ○ *The other machines around this device will produce a lot of background noise.* **2.** (in an electronic instrument) noise which is present along with the required signal ○ *The modem is sensitive to background noise.*

background pollution *noun* the general level of air pollution in an area, disregarding any specifically local factors, e.g. the presence of a coal-fired power station

background printing *noun* **COMPUT** the process of printing from a computer while it is processing another task ○ *Background printing can be carried out while another document is being edited.*

background radiation *noun* **PHYS, GEOL** radiation from natural sources like rocks, the soil or the atmosphere, and not from a single artificial source

COMMENT: Background radiation can depend on the geological structure of the area. Places above granite are particularly subject to high levels of radiation. Other sources of background radiation are: cosmic rays from outer space, radiation from waste products of nuclear power plants which has escaped into the environment and radiation from TV and computer screens.

background task *noun* **COMPUT** a process executed at any time by a computer system, not normally noticed by the user

backing store, backing storage, backing memory *noun* **COMPUT** a permanent storage medium onto which data can be recorded before being processed by the computer or after processing for later retrieval ○ *By adding another disk drive, I will increase the backing store capabilities.* ○ *Paper tape is one of the slowest access backing stores.*

backlight *noun* **COMPUT** a light that provides illumination from behind

backlit display *noun* **COMPUT** a liquid crystal display unit that has a backlight fitted to improve the contrast of the display

backlog *noun* **COMPUT** a quantity of work or tasks that have yet to be processed ○ *The programmers can't deal with the backlog of programming work.*

back mutation *noun* **GENETICS** the changing back of a mutated gene to its original form

backout *verb* **COMPUT** to restore a file to its original condition before any changes were made

back panel *noun* **COMPUT** a panel at the rear of a computer which normally holds the connectors to peripherals such as keyboard, printer, video display unit and mouse

backplane *noun* **COMPUT** the part of the body of a computer which holds the circuit boards, buses and expansion connectors (NOTE: The backplane does not provide any processing functions.)

backscatter **EARTH SCI** *noun* the sending back of radiation ○ *Backscatter contributes to an increase in albedo.* ■ *verb* to send back radiation ○ *A proportion of incoming solar radiation is backscattered by air in the atmosphere.*

backshore *noun* **EARTH SCI** the part of a beach between the foreshore and where permanent vegetation grows

backslash *noun* **COMPUT** the printed or keyboard symbol \ (NOTE: It is ASCII character 92, the sign used in MS-DOS to represent the root directory of a disk or to separate subdirectories in a path.)

backspace *noun* **COMPUT** a movement of the cursor to the preceding character, or a key that effects this

backspace character *noun* **COMPUT** a code that causes a backspace action in a display device. Abbr **BS**

backswamp *noun* **EARTH SCI** a marshy area in a flood plain

backtrack *verb* **COMPUT** to carry out list processing in reverse, starting with the goal and working towards the proofs

back up **COMPUT** *verb* **1.** to support or help something or someone ○ *He brought along a file of documents to back up his claim.* ○ *The printout backed up his argument for a new system.* **2.** to make a copy of a file, data or a disk ○ *The company accounts were backed up on disk as a protection against fire damage.* ○ *The program enables users to back up hard disk files with a single command.* ■ *noun* a copy of a file or set of data kept for security against errors in the original or master copy

backup *noun* a system, instrument, computer disk or other resource to be used if the first one fails ○ *The backup failed as well.* ○ *Backup generators are driven by the engine.* ■ *adjective* **COMPUT** to be used if the first one fails

backup copy *noun* **COMPUT** a copy of a computer disk to be kept in case the origi-

nal disk is damaged ○ *The most recent backup copy is kept in the safe.*

Backus-Naur-Form *noun* COMPUT a system of writing and expressing the syntax of a programming language. Abbr **BNF**

backward *adjective* directed towards the back ○ *a backward movement*

backward channel *noun* TELECOM a channel from the receiver to transmitter allowing the receiver to send control and handshaking signals

backward error correction *noun* TELECOM a correction of errors which are detected by the receiver and a signal sent to the transmitter to request re-transmission of the data

backwards *adverb* towards the back ○ *move backwards* (NOTE: The US term is **backward**.)

backwards compatible *noun* COMPUT **1.** working with all the old adapter cards designed for earlier versions of the computer **2.** providing the same functions as the previous version and able to read the files created in the previous version

backwash *noun* EARTH SCI the flow of seawater down a beach. Compare **swash**

backwater *noun* EARTH SCI **1.** stagnant water connected to a river or stream **2.** the water held behind a dam, or kept back by a current

bacteria *plural noun* very small organisms, invisible except through a microscope, belonging to a large group, some of which help in the decomposition of organic matter, some of which are permanently in the intestines of animals and can break down food tissue and some of which cause disease (NOTE: The singular is **bacterium**.)

COMMENT: Bacteria can be shaped like rods (bacilli), like balls (cocci) or have a spiral form (such as spirochaetes). Bacteria, especially bacilli and spirochaetes, can move and reproduce very rapidly.

bacteria bed *noun* INDUST a filter bed of rough stone, forming the last stage in the treatment of sewage

bacterial *adjective* MICROBIOL referring to or caused by bacteria ○ *Children with sickle-cell anaemia are susceptible to bacterial infection.*

bacterial artificial chromosome *noun* BIOTECH a sequence of DNA taken from an organism and inserted in a bacterium

bacterial contamination *noun* MICROBIOL the pollution of something such as water or food by bacteria

bacterial decay *noun* MICROBIOL decay caused by the action of bacteria

bacterial digestion *noun* the process by which bacteria break down organic matter such as sewage and slurry

bacterial pneumonia *noun* a form of pneumonia caused by pneumococcus

bacterial strain *noun* MICROBIOL a distinct type of bacterium

bactericidal *adjective* MICROBIOL destroying bacteria

bactericide *noun* MICROBIOL a substance that destroys bacteria

bacteriological warfare *noun* ENVIRON same as **germ warfare**

bacteriology *noun* MICROBIOL the scientific study of bacteria

bacteriophage *noun* MICROBIOL a virus that affects bacteria

bacteriostat *noun* MICROBIOL a substance that inhibits the growth and activity of bacteria but does not kill them

bacterium *noun* MICROBIOL † **bacteria**

COMMENT: Bacteria can be shaped like rods (bacilli), like balls (cocci) or have a spiral form (such as spirochaetes). Bacteria, especially bacilli and spirochaetes, can move and reproduce very rapidly.

bad sector *noun* COMPUT a disk sector that has been wrongly formatted or that contains an error or fault and is unable to be correctly written to or read from ○ *You will probably receive error messages when you copy files that are stored on bad sectors on a disk.*

affle *noun* a metal plate for preventing the free movement of sound or liquids ○ *Integral fuel tanks can be strengthened by fitting affle plates.* ○ *The affle in the recording studio works as a sound absorber to remove unwanted echoes.*

bag *noun* COMPUT a number of elements in no particular order

Baily's beads *plural noun* ASTRON bright points of sunlight that briefly appear around the Moon immediately before and after a total eclipse of the Sun (NOTE: They are caused by sunlight shining through valleys on the Moon.)

Bakelite *trademark* INDUST a synthetic resin, particularly a phenol-formaldehyde resin

balance *noun* **1.** a state in which two sides are equal or in proportion ○ *The propelling nozzle size is extremely important and must be designed to obtain the correct balance of pressure, temperature and thrust.* **2.** a state in which weights or forces are evenly distributed **3.** a state in which proportions of substances are correct ○ *to maintain a healthy balance of vitamins in the diet* **4.** a state of staying upright and not falling ○ *He stood on top of the fence and kept his balance.* **5.** COMPUT the placing of text and graphics on a page in an attractive way ○ *The DTP package allows the user to see whether the overall page balance is correct.* **6.** a device for weighing, made with springs or weights ○ *He weighed the powder in a spring balance.* ■ **verb** **1.** to plan something so that two parts are equal or in proportion **2.** to put an opposite and equal weight, force or importance to something else ○ *The pressure exerted by the weight of the atmosphere above the level of the bowl balances a column of mercury in the tube.* **3.** to stay steady, especially when resting on the centre of gravity

balanced circuit *noun* ELECTRONICS an electronic circuit that presents a correct load to a communications line (NOTE: The correct load is usually equal to the impedance of a element.)

balanced diet *noun* BIOL a diet which provides all the nutrients needed in the correct proportions

balanced error *noun* STATS the equal probability that any error could occur out of a number of possible errors

balanced line *noun* TELECOM a communications line that is terminated at each end with a balanced circuit, preventing signal reflections

balanced routing *noun* COMPUT a method of using all possible routes through a network equally

balance of nature *noun* ECOL a popular concept that relative numbers of different organisms living in the same ecosystem may remain more or less constant without human interference □ **to disturb the balance of nature** to make a change to the environment which has the effect of putting some organisms at a disadvantage compared with others

baleen *noun* MARINE BIOL a series of plates like a comb, which hang down from the upper jaw of some whales and act like a sieve

baleen whale *noun* MARINE BIOL a whale that has two breathing holes and feeds by sucking in water and then forcing it out with the tongue through the baleen, which traps plankton. Suborder: Mysticeti. (NOTE: Baleen whales are the larger of the two groups of whales; the others are the toothed whales or Odontoceti.)

ball *noun* ANAT **1.** the soft part of the hand below the thumb **2.** the soft part of the foot below the big toe

ball and socket joint *noun* ANAT a joint where the round end of a long bone is attached to a cup-shaped hollow in another bone in such a way that the long bone can move in almost any direction

ballast *noun* ENG material such as stones carried in the hull of a ship to make it heavier and so less likely to roll

ballistics *noun* PHYS the study of the movements and forces involved in the propulsion of objects through the air

balloon *noun* a large bag inflatable with hot air or gas to provide lift, but without power ○ *Meteorologists send balloons into the upper atmosphere to collect useful information.*

Balmer series *noun* ASTRON a series of spectral lines characterising hydrogen and seen in visible light (NOTE: The Balmer series is easily observable in the spectra of the Sun and other stars and is caused by the movement of electrons to and from the energy level possible in hydrogen above the normal ground state.)

balun *noun* ELEC ENG a transformer that matches two circuits that have different impedances ○ *We have used a balun to connect the coaxial cable to the twisted-pair circuit.*

band *noun* **1.** a strip or loop of fabric, metal or plastic **2.** a narrow area that is different in colour from other areas **3.** ELEC a range of numbers or frequencies between two limits within a radio system **4.** COMPUT a group of tracks on a magnetic disk **5.** EARTH SCI a layer of rock

banded *adjective* **1.** GEOL referring to rock arranged in layers **2.** BIOL showing bands of colour

bandpass filter *noun* ELEC ENG an electronic filter that allows a range of frequencies to pass, but reduces in power all frequencies outside the specified range

bandwidth *noun* **1.** ELEC ENG a range of frequencies **2.** ELEC a measure of the

amount of data that can be transmitted along a cable or channel or other medium
 ○ *This fibre-optic cable has a greater bandwidth than the old copper cable and so it can carry data at higher speeds.* **3.** COMPUT a measure of the range of frequencies that a monitor or CRT will accept and display (NOTE: High-resolution monitors display more pixels per area so need high-speed data input and so a higher bandwidth.)

bandwidth on demand *noun* ONLINE a system used with a switching service such as ISDN in a wide area network that allows users to send as much information as they want by automatically allocating extra channels to cope with higher bandwidth requirements (NOTE: The network will adjust to transmit the required amount of information.)

bank *noun* **1.** COMPUT a collection of similar devices ○ *A bank of minicomputers processes all the raw data.* **2.** MED a place where blood or organs from donors can be stored until needed **3.** EARTH SCI a piece of land at the edge of water such as a river or lake **4.** EARTH SCI a long heap of sand or snow, e.g. a sandbank in shallow water or a snowbank along the side of a road **5.** ENVIRON a place where something is collected for a particular use, e.g. a seed bank or a bottle bank **6.** AVIAT a rotating or rolling movement of an aircraft around its longitudinal axis to a particular angle ○ *An attitude indicator gives the pilot pitch and bank information.* ■ *verb* AVIAT (of aircraft) to rotate or roll around its longitudinal axis to a particular angle ○ *Stresses are increased when the aircraft banks, turns or pulls out of a dive.*

COMMENT: Memory banks are used to expand the main memory of a computer by having a number of memory chips arranged into banks. Each bank operates over the same address range but is selected independently by a special code.

bank switching *noun* COMPUT the selection of a particular memory bank from a group

banner ad, banner advertisement *noun* COMPUT an image that carries an advertising slogan, logo or message and is displayed on a webpage

BAP *abbreviation* Biodiversity Action Plan

bar *noun* **1.** ENG a long straight solid piece of material, usually metal ○ *The part is made from a solid bar of aluminium.* **2.**

METEOROL a unit of atmospheric pressure, equal to 1000 millibars or 10^5Pa **3.** COMPUT a thick line or block of colour **4.** a long bank of sand submerged at high tide at the entrance to a harbour, river or bay ■ *verb* to stop someone from doing something □ **to bar entry to a file** to stop someone accessing a file

barbiturate *noun* PHARM a sedative drug
bar chart *noun* MATHS a graph on which values are represented as vertical or horizontal bars of different heights or lengths

bar code *noun* COMPUT data represented as a series of printed stripes of varying widths (NOTE: Bar codes are widely used on goods in supermarkets and in automated data systems such as those in lending libraries.)

bar-code reader *noun* COMPUT an optical device that reads data from a bar code

bare board *noun* COMPUT a circuit board with no components on it (NOTE: It usually refers to a memory expansion board that does not yet have any memory chips mounted on it.)

barium *noun* CHEM ELEM a chemical element that forms poisonous compounds (NOTE: The chemical symbol is **Ba**; the atomic number is **56** and the atomic weight is **137.34**.)

barium concrete *noun* CHEM a concrete with barium added to it, used to absorb radiation

barium meal *noun* MED a liquid solution containing barium sulfate which a patient drinks so that an X-ray can be taken of his or her alimentary tract

barium sulfate, barium sulphate *noun* CHEM a white insoluble odourless powder which is opaque to X-rays and used in X-ray photography. Formula: BaSO_4 .

bark *noun* **1.** BOT the outer layer of a tree trunk or branch **2.** ZOOL the cry of an animal of the dog family, e.g. a wolf or fox

barley *noun* PLANTS a cereal crop used as animal feed and for making malt for beer or whisky. Latin name: *Hordeum sativum*.

COMMENT: Barley is widely grown in northern temperate countries, with the largest production in Germany and France. It is an important arable crop in the UK. The grain is mainly used for livestock feeding and for malting. It is rarely used for making flour.

barn *noun* MEASURE, PHYS a unit of area used to measure nuclear cross-sections, equal to 10^{-28}m^2 . Symbol **b**

barnacle *noun* MARINE BIOL a small invertebrate animal with a shell that clings to rocks and ships and draws food to itself by using slender hairs

baro- *prefix* METEOROL referring to weight or pressure

barograph *noun* METEOROL an instrument that records changes in atmospheric pressure by a pen attached to a barometer which records fluctuations in pressure on a roll of paper

barometer *noun* METEOROL an instrument which measures changes in atmospheric pressure and is used to forecast changes in the weather

barometric *adjective* METEOROL referring to a barometer

barometrically *adverb* METEOROL by use of a barometer

barometric corrections *plural noun* METEOROL corrections made to the reading on a mercury thermometer to allow for altitude and outside temperature

barometric pressure *noun* METEOROL atmospheric pressure indicated by a barometer

barometric tendency *noun* METEOROL the amount of decrease in atmospheric pressure with increase in altitude

barrage *noun* ENG a construction to prevent or regulate the flow of tides, used either to prevent flooding or to harness tidal power

COMMENT: The advantages of building barrages to harness tidal power are that they are economical to run and use no fuel. They do pose particular environmental problems, as do all dams, in that they may change the ecosystem of the surrounding countryside. A barrage would have an effect on the estuary marshlands, on the river behind it, and possibly on the movement of coastal silt by the tides.

Barr body *noun* GENETICS an inactive X chromosome present in the cells of women and female animals (NOTE: It is used in a test to determine sex.)

barred spiral galaxy *noun* ASTRON a galaxy in which the stars appear as a spiral with a bright bar across the centre

barrel *noun* 1. ELEC ENG a conducting post in a terminal 2. INDUST a large cylindrical container for liquids such as beer, wine and oil 3. MEASURE, INDUST the amount of a liquid contained in a standard barrel of 42 US gallons, used as a measure

of the quantity of crude oil produced and equal to 159 litres or 35 imperial gallons

barren *adjective* 1. ECOL unable to support plant or animal life ○ a sparse and barren landscape at high altitude 2. BIOL unable to reproduce

barrier *noun* ENG a structure that prevents something going from one place to another. ◇ **geographical barrier, species barrier**

barrier beach, barrier island *noun* EARTH SCI a bank of sand or a strip of land lying along the shore and separated from it by a lagoon

barrier reef *noun* a long coral reef lying along the shore and enclosing a lagoon

baryon *noun* PHYS a subatomic particle belonging to a group that undergoes strong interactions, has a mass greater than or equal to that of the proton, and consists of three quarks

basal *adjective* 1. being the base or bottom of something 2. forming the basis of something

basal area *noun* BOT the area covered by the trunks of trees or stems of plants

basal ganglia *plural noun* ANAT the masses of grey matter at the base of each cerebral hemisphere which receive impulses from the thalamus and influence the motor output from the frontal cortex

basal metabolic rate *noun* BIOL the amount of energy used by a body in exchanging oxygen and carbon dioxide when at rest. Abbr **BMR** (NOTE: It is a measure of the energy needed to keep the body functioning and the temperature normal.)

basal metabolism *noun* energy used by a body at rest, i.e. energy needed to keep the body functioning and the temperature normal. This can be calculated while an animal is in a state of complete rest by observing the amount of heat given out or the amount of oxygen taken in and retained.

basalt *noun* GEOL a hard black volcanic rock

basaltic *adjective* GEOL referring to or containing basalt (NOTE: Most volcanic lava is basaltic.)

base *noun* 1. the original, lowest or first position 2. the main ingredient of something such as a paint or an ointment 3. CHEM a substance that reacts with an acid to form a salt 4. COMPUT a collection of

files used as a reference **5**. MATHS a number that is taken as the basis of a system of calculation, representing the number of units in the system **6**. COMPUT (*in object-oriented programming*) a class from which other classes can be derived by inheritance ■ **verb 1**. to start to calculate from a position ○ *We based our calculations on the rate of change we observed.* **2**. to develop something from something else ○ *The operation of the auxiliary power unit is based on the gas turbine engine.* ○ *The principle of vapour cycle cooling is based upon the ability of a refrigerant to absorb heat.*

base 2 noun MATHS a binary number system using the two digits 0 and 1

base 8 noun MATHS an octal number system using the eight digits 0 – 7

base 10 noun MATHS a decimal number system using the ten digits 0 – 9

base 16 noun MATHS a hexadecimal number system using the ten digits 0 – 9 and six letters A – F

base address noun COMPUT an initial address in a program used as a reference for others

baseband noun 1. TELECOM the frequency range of a signal before it is processed or transmitted **2**. COMPUT digital signals transmitted without modulation **3**. COMPUT information modulated with a single carrier frequency

baseband modem noun TELECOM a communications circuit that transmits an unmodulated baseband signal over a short distance ○ *Do not use a baseband modem with a normal phone line.*

baseband signalling noun TELECOM the transmitting of data as varying voltage levels across a link

base font noun COMPUT the default font and point size used by a word-processing program

base hardware noun COMPUT the minimum hardware that a particular software package needs in order to run

base level noun 1. the lowest level of something, from which other levels are calculated **2**. GEOL the depth below which erosion would be unable to occur

baseline noun 1. ASTRON (*In interferometry*) the distance between the farthest-separated points at which data are collected **2**. the point from which change can be measured **3**. COMPUT a line which defines the size and layout of a page in an application

4. COMPUT the horizontal line along which characters are printed or displayed

baseline conditions plural noun ENVIRON (*in economic analyses*) the health, environmental, economic or other conditions that exist before any accidental or deliberate changes occur ○ *return the damaged land to baseline conditions*

baseline emission noun ENVIRON the level of emission of a gas such as a greenhouse gas that would occur without a change in policy

base memory noun COMPUT the first 640kb of random access memory fitted to a PC

basement noun GEOL the lowest level of rock, which has been covered by sediment

basement membrane noun ANAT a membrane at the base of an epithelium

base metal noun CHEM a common metal, e.g. copper, lead or tin

base pair noun GENETICS a set of two bases such as adenine–thymine or cytosine–guanine on separate strands of DNA, held together by hydrogen bonds. Abbr **bp**

base register noun COMPUT a register in a CPU, but not usually in small computers, that contains the address of the start of a program

base unit noun MEASURE one of the seven SI units on which other units are based (NOTE: The SI base units are: ampere, candela, kelvin, kilogram, metre, mole and second.)

basic adjective 1. from which everything else comes ○ *This chapter provides a basic understanding from which the study of meteorology can develop.* ○ *Everyone needs a knowledge of basic maths.* ○ *The basic structure is the same for all models in this range.* **2**. CHEM relating to a chemical which reacts with an acid to form a salt

BASIC noun COMPUT a high-level programming language for developing programs in a conversational way, providing an easy introduction to computer programming. Full form **beginner's all-purpose symbolic instruction code**

basic encoding rule noun COMPUT a standard method of encoding data that is stored in the ASN language. Abbr **BER** (NOTE: It is often used in libraries and other Internet data sites.)

basic input/output operating system noun COMPUT a set of system routines that interface between high-level program

instructions and the system peripherals to control the input and output to various standard devices such as the screen, keyboard and disk drives. Abbr **BIOS**

basic law *noun* a fundamental rule

basic principle *noun* a central or fundamental idea or theory

basic rock *noun* GEOL a rock such as basalt which contains little silica

basic salt *noun* CHEM a chemical compound formed when an acid reacts with a base

basic slag *noun* AGRIC calcium phosphate, produced as waste from blast furnaces and formerly used as a fertiliser because of its phosphate content

basic solution *noun* CHEM a water solution with a pH greater than 7

basilar artery *noun* ANAT an artery that lies at the base of the brain

basilic vein *noun* ANAT a large vein running along the inside of the arm

basin *noun* EARTH SCI a large low-lying area of land, drained by a large river system or surrounding an ocean ○ *Thousands of tributaries drain into the Amazon basin.* ○ *A ring of volcanoes lies around the edge of the Pacific basin.*

basis *noun* the central and most important part of something from which everything else is derived ○ *The basis of air navigation is the triangle of velocities.* (NOTE: The plural is **bases**.)

BASIS *noun* a scheme for registering distributors of chemicals used to protect crops, so that dangerous chemicals are stored and used correctly. Full form **British Agrochemicals Standards Inspection Scheme**

bass *noun* ACOUSTICS the lower end of the range of audible frequencies that make up a sound

bastnaesite, bastnasite *noun* MINERALS a rare mineral containing lanthanum and cerium

batch COMPUT *noun* **1.** a group of items which are made at one time ○ *The last batch of disk drives is faulty.* **2.** a group of documents which are processed at the same time ○ *today's batch of orders* **3.** a group of tasks or amount of data to be processed as a single unit ○ *We deal with the orders in batches of fifty.* ■ *verb* **1.** to put data or tasks together in groups **2.** to put items together in groups

batch processing *noun* COMPUT a system of data processing where information is collected into batches before being processed by the computer in one machine run. Compare **immediate processing**

COMMENT: Batch processing is the opposite to interactive processing (where the user gives instructions and receives an immediate response).

batch total *noun* COMPUT the sum of a number of batches of data, used for error checking, validation or to provide useful information

Batesian mimicry *noun* ZOO a form of mimicry where one species mimics another which is poisonous, so as to avoid being eaten

bathy- *prefix* OCEANOGRAPHY referring to the part of the seabed between 200 and 2000m deep

bathyal zone *noun* OCEANOGRAPHY a region of the ocean extending from the edge of the continental shelf, which slopes down sharply into deeper water, to a depth of about 4000m

bathylimnetic *adjective* GEOGRAPHY referring to the deepest part of a lake

BATNEEC *noun* ENVIRONMENT a principle applied to the control of emissions into the air, land and water from polluting processes, in order to minimise pollution without the use of advanced technology or expensive methods. Full form **best available technology not entailing excessive cost**

battery *noun* ELECTRICITY a chemical device which produces electrical current

battery-backed *adjective* COMPUT with a battery backup ○ *The RAM disk card has the option to be battery-backed.* ○ *Battery-backed CMOS memory replaces a disk drive in this portable.*

battery backup *noun* COMPUT the use of a battery to provide power to a volatile device such as a RAM chip to retain data after a computer has been switched off

battery capacity *noun* ELECTRICITY the amount of electrical energy a battery can store and deliver, expressed in ampere hours

battery charger *noun* ELECTRICITY a device for charging a battery by converting mains voltage AC to a DC voltage suitable for the battery

battery charging *noun* ELECTRICITY the replenishing of the charge stored in a rechargeable battery

battery discharge *noun* ELEC a loss or release of electrical supply from a battery

battery meter *noun* ELEC a device that indicates how much life or working time is left in a battery

battery-operated *adjective* ELEC powered or run by an electric battery

baud *noun* COMPUT a measure of the number of signal changes transmitted per second

baud rate *noun* COMPUT the rate of transmission of signal charge, per second ○ *The baud rate of the binary signal was 300 bits per second.* ○ *A modem with auto-baud scanner can automatically sense at which baud rate it should operate.*

COMMENT: Baud rate is often considered to be the same as bits per second, but in fact it depends on the protocol used and the error checking. 300 baud is roughly equivalent to 30 characters per second using standard error checking.

bauxite *noun* CHEM a mineral that contains aluminium ore

bay *noun* 1. EARTH SCI a wide curved coastline, partly enclosing an area of sea 2. ENG a space or area in a structure where equipment can be fitted or located

bay bar, bay barrier *noun* EARTH SCI a bank of sand or strip of land lying along the coastline of a bay

bayonet fitting *noun* ELEC a type of attachment with two side pins, found on some light bulbs

B box *noun* COMPUT same as **base register**

BBSRC *noun* an organisation which provides funding for research into biotechnology and areas such as livestock breeding, crop productivity and agricultural sustainability. Full form **Biotechnology and Biological Sciences Research Council**

bcc *abbreviation* COMPUT blind carbon copy

BCC *abbreviation* COMPUT block character check

BCD *abbreviation* COMPUT binary coded decimal ○ *The BCD representation of decimal 8 is 1000.*

BCH code *abbreviation* COMPUT Bose-Chandhuri-Hocquenghem code

BCNF *abbreviation* COMPUT Boyce-Codd normal form

BCPL *noun* COMPUT a high-level programming language

Be *symbol* CHEM ELEM beryllium

beach *noun* EARTH SCI an area of sand or small stones at the edge of the sea, a lake or a river

beach sediment *noun* GEOL stone, sand, mud and shells deposited on a beach by the sea, by a river or by erosion of the cliffs

beacon *noun* 1. AEROSP a light or radio signal for navigational purposes 2. COMPUT a signal transmitted repeatedly by a device that is malfunctioning on a network

beacon frame *noun* COMPUT a special frame within the FDDI protocol that is sent after a network break has occurred. ◇ **FDDI**

bead *noun* COMPUT a small section of a program that is used for a single task

beak *noun* hard parts forming the mouth of a bird. Also called **bill**

beaker *noun* a flat-bottomed glass container used in laboratories

beam *noun* 1. ENG a long thick solid bar used as a support ○ *A beam is designed with a breaking load of 12 tons but when a three-ton load is applied repeatedly, the beam may fail.* 2. PHYS a narrow shaft of light or radiation ○ *A beam of laser light is used in this printer to produce high-resolution graphics.*

beam deflection *noun* ELEC ENG the moving of the electron beam in a CRT across the screen

beamlet *noun* PHYS, MED a small amount of low-level radiation, used in noninvasive radiation treatments of cancer

beam sharpening *noun* ELEC ENG the making of a radio or light beam narrower ○ *Any system employing beam sharpening is vulnerable to side lobe generation at the transmitter.*

bear *verb* to tolerate something ○ *I can't bear such a long delay.*

bearing *noun* 1. NAVIG an angle, measured in a clockwise direction, of a distant point relative to a reference ○ *To plot a position line from the non-directional radio beacon, it is first necessary to convert the relative bearing to a true bearing and then calculate the reciprocal.* 2. ENG a device containing steel balls or needles which allows free rotation of one component around another

Beaufort scale *noun* METEOROL a scale rising from 0 to 12, used to refer to the strength of wind ○ *The meteorological office has issued a warning of force 12 winds.*

COMMENT: The Beaufort scale was devised in the 18th century by a British admiral. The descriptions of the winds and their speeds in knots are: 0, calm (0 knots); 1, light air (2 knots); 2, light breeze (5 knots); 3, gentle breeze (9 knots); 4, moderate breeze (13 knots); 5, fresh breeze (19 knots); 6, strong breeze (24 knots); 7, near gale (30 knots); 8, gale (37 knots); 9, strong gale (44 knots); 10, storm (52 knots); 11, violent storm (60 knots); 12, hurricane (above 60 knots).

becquerel *noun* PHYS, MEASURE the SI unit of measurement of radiation, 1 becquerel being the amount of radioactivity in a substance where one nucleus decays per second. Symbol **Bq**. \diamond **rad** (NOTE: now used in place of the **curie**)

bed *noun* **1.** EARTH SCI the bottom of a river, lake or the sea **2.** GEOL a layer of sediment in rock \circ *The cliffs show clearly several beds of sandstone.*

bedding *noun* GEOL sediment in different layers

bedrock *noun* GEOL the rock which is found under a layer of ore or coal

bee *noun* INSECTS a flying insect with a hairy body (NOTE: Bees pollinate some types of plant.)

beech *noun* TREES a common temperate hardwood tree. Genus: *Fagus*.

beep *noun* an audible warning noise \circ *The printer will make a beep when it runs out of paper.* \blacksquare *verb* to make a beep \circ *The computer beeped when the wrong key was hit.*

beetle *noun* INSECTS an insect with hard covers on its wings. Order: Coleoptera.

beginning of file *noun* COMPUT a character or symbol that shows the start of a valid section of data. Abbr **bof**

behaviour *noun* BIOL the way in which a living organism responds to a stimulus

behavioural *adjective* BIOL referring to behaviour

behavioural ecology *noun* ECOL the study of patterns of behaviour in animals

behavioural scientist *noun* BIOL a person who specialises in the study of behaviour

behavioural strategy *noun* ECOL a strategy adopted by an animal as a response to a predator, e.g. attack, escape or hiding

behaviourism *noun* PSYCHOL a psychological theory that only the subject's behaviour should be studied to discover his or her motivation or problems

behaviourist *noun* PSYCHIAT a psychologist who follows behaviourism

bel *noun* ACOUSTICS, MEASURE a unit of relative loudness equal to 10 decibels

bell character *noun* COMPUT a control code that causes a machine to produce an audible signal (NOTE: It is equivalent to ASCII code 7.)

bell curve *noun* MATHS a line on a graph that is curved in the middle like a bell

bell jar *noun* SCI a bell-shaped glass cover used to enclose equipment in experiments and prevent gases from escaping or entering

below *preposition* **1.** lower in position than \circ *below sea level* \circ *the beach below the cliffs* **2.** less in number or quantity than \circ *below freezing point* **3.** EARTH SCI downstream from \circ *the Thames below London*

below freezing point *adjective, adverb* PHYS less than or lower than freezing point

belt *noun* **1.** a long, narrow area \circ *a belt of trees* \diamond **Green Belt** **2.** ENG a loop of strong material connecting two pulleys or wheels, one driving the other

belt-driven *adjective* ENG moved by a belt linked to another wheel which, in turn, is moved by a motor or an engine \circ *Generators are belt-driven or shaft-driven.*

benchmark *noun* **1.** a level or standard against which increases or decreases can be measured **2.** COMPUT a program used to test the performance of software or hardware or a system \circ *The magazine gave the new program's benchmark test results.* \blacksquare *verb* to establish a level or standard against which increases or decreases can be measured

bending load *noun* ENG a load causing bending of a structure

benign *adjective* MED not cancerous and unlikely to cause a medical problem

benthic *adjective* EARTH SCI on or living on the bottom of the sea or of a lake

benthic fauna *plural noun* MARINE BIOL animals living on the bottom of the sea or a lake

benthos *noun* MARINE BIOL a collection of organisms living on the bottom of the sea or a lake

benzene *noun* CHEM a simple aromatic hydrocarbon produced from coal tar that is very carcinogenic. Formula: C_6H_6 .

benzene hexachloride *noun* CHEM the active ingredient of the pesticide lindane,

which was banned from use in the UK from 2001

benzene ring *noun* CHEM the molecular structure of benzene and its derivatives with six carbon atoms bonded in a hexagon by alternating single and double bonds

benzoic acid *noun* CHEM the simplest aromatic carboxylic acid, a white crystalline solid found in some natural resins. Formula: C_6H_5COOH . (NOTE: It is used as a food preservative and in pharmaceuticals and cosmetics manufacture.)

benzpyrene *noun* CHEM an inflammable substance found in coal tar, produced in exhaust fumes from petrol engines and coal- and oil-burning appliances, and from smoking tobacco. It is carcinogenic.

BER *abbreviation* COMPUT **1.** basic encoding rule **2.** bit error rate

bergschrund *noun* EARTH SCI a deep wide crevasse found between a cirque glacier and its back wall

berkelium *noun* CHEM ELEM a synthetic radioactive element in the actinide series of the periodic table produced by bombardment of americium-241 with helium ions (NOTE: The chemical symbol is **Bk**; the atomic number is **97** and the atomic weight is **247**.)

berry *noun* BOT a small fleshy fruit with several seeds, e.g. a tomato or a grape

beryl *noun* MINERALS a hard crystalline mineral composed of beryllium aluminium silicate and used as a gemstone (NOTE: It occurs in white, yellow, pink, green or blue forms.)

beryllium *noun* CHEM ELEM a metallic element. It is used in making various alloys. (NOTE: The chemical symbol is **Be**; the atomic number is **4** and the atomic weight is **9.01**.)

bespoke software *noun* COMPUT software that has been written especially for a customer's particular requirements

Bessemer converter *noun* METALL a type of furnace in which air is blown through molten metal

Bessemer process *noun* INDUST a method of making steel

COMMENT: The Bessemer process involves heating molten metal and blowing air into it at the same time in a Bessemer converter. The process is used to remove phosphorus and carbon from pig iron. The air forms iron oxide, which removes impurities from the molten metal, including carbon monoxide

which burns off. Finally, manganese is added to the metal to remove the iron oxide.

best-before date *noun* FOOD INDUST a date stamped on foodstuffs sold in supermarkets, which is the last date when the food is guaranteed to be in good condition. Compare **sell-by date**

best fit *noun* **1.** the nearest match to a requirement **2.** COMPUT a function that selects the smallest free space in main memory for a requested virtual page

best practice *noun* the most effective or efficient method of achieving an objective or completing a task

beta *noun* **1.** COMPUT the second working attempt of a computer product **2.** the second letter of the Greek alphabet

beta amyloid *noun* BIOCHEM a protein that accumulates in clumps in the brain as a result of a gene variation, leading to the memory loss and dementia that are features of Alzheimer's syndrome

beta blocker *noun* PHARM a drug that controls heart rate, used in the treatment of high blood pressure and stress

beta cell *noun* ANAT a cell that produces insulin

beta decay *noun* PHYS the radioactive decay of an atomic nucleus during which a beta particle is emitted

beta diversity *noun* ECOL the number of species in a wide region

beta particle *noun* PHYS an electron given off in radioactive decay or otherwise found outside an atom (NOTE: Beta particles are among the commonest components of radiation. They will pass through thin substances such as metal and can harm living tissue.)

beta radiation *noun* CHEM radiation formed of beta particles

beta test *noun* COMPUT a second stage of tests performed on new software just before it is due to be released *○ The application has passed the alpha tests and is just entering the beta test phase.*

beta version *noun* COMPUT a version of a software application that is almost ready to be released

Betz limit *noun* INDUST the maximum power that can be produced by a wind turbine

beware *verb* to watch out for something unwanted, unpleasant or dangerous *○ Beware of inferior reproductions.*

beyond *preposition* farther away than ○ *The radio horizon extends beyond the visible horizon.*

bezel *noun* COMPUT the front cover of a computer's casing or disk drive unit

Bézier curve *noun* COMPUT a geometric curve whose overall shape is defined by two midpoints, called control handles

COMMENT: Bézier curves are a feature of many high-end design software packages. They allow a designer to create smooth curves by defining a number of points. The Postscript page description language uses Bézier curves to define the shapes of characters during printing.

BGP *noun* COMPUT a protocol that allows routers to share routing information to allow each router to calculate the most efficient path for information. Full form **border gateway protocol** (NOTE: This protocol is most often used between routers installed at Internet service providers.)

Bh *symbol* CHEM ELEM bohrium

BHC *abbreviation* CHEM benzene hexachloride

BHT *abbreviation* butylated hydroxytoluene

Bi *symbol* CHEM ELEM bismuth

bi- *prefix* two or twice

bias *noun* **1.** ELEC an electrical reference level **2.** MATHS a deviation of statistical results from a reference level

biased *adjective* having a bias

biased data *plural noun* data or records that point to one conclusion

biased exponent *noun* MATHS the value of the exponent in a floating point number

bicarbonate *noun* CHEM same as **hydrogen carbonate**

biceps *noun* ANAT a muscle with two attachment points at one end, especially a large muscle (**biceps brachii**) in the upper arm

biconcave *adjective* OPTICS referring to a lens which is concave on both sides

biconvex *adjective* OPTICS referring to a lens which is convex on both sides

bicuspid *adjective* BIOL with two points or cusps ○ *bicuspid teeth* ■ *noun* DENT a tooth with two cusps or points, especially a human premolar

bicuspid valve *noun* ANAT a valve in the heart which allows blood to flow from the left atrium to the left ventricle but not in the opposite direction

bid *verb* COMPUT (*of a computer*) to gain control of a network in order to transmit data ○ *The terminal had to bid three times before there was a gap in transmissions on the network.*

biennial BOT *adjective* happening every two years ■ *noun* a plant that completes its life cycle over a period of two years

bifurcation *noun* BIOL a place where something divides into two parts

big bang *noun* ASTRON the event which according to most modern cosmogony began the universe

COMMENT: The big bang is assumed to have happened some 18 billion years ago. At that time, it seems, all the matter now distributed throughout the universe was in a single compact mass. Since then it has formed into galaxies, stars, planets and other objects, expanding constantly.

big crunch *noun* ASTRON the possible end of the universe, according to the theory that states that if the universe is dense enough, it will eventually finish expanding and contract again under its own mass, collapsing back into a single small volume in a reverse action replay of the big bang

big game *plural noun* ZOO large wild animals. e.g. elephants and tigers, hunted and killed for sport, especially formerly.

bight *noun* EARTH SCI a wide curve in a shoreline

bilateral symmetry *noun* the characteristic of being able to be divided by an imaginary plane into equivalent right and left halves

bile duct *noun* ANAT a tube along which bile flows from the liver and, when present, the gall bladder to the small intestine (NOTE: The common bile duct is formed by the merging of hepatic and cystic ducts.)

bile salts *plural noun* BIOCHEM alkaline salts in the bile

bilharzia *noun* **1.** a flatworm which enters the bloodstream from infected water and causes schistosomiasis. Genus: *Schistosoma*. **2.** same as **schistosomiasis**

bilharziasis *noun* MED same as **schistosomiasis**

bilinear filtering *noun* COMPUT a method of removing unwanted image defects by looking at the four adjacent pixels that surround each pixel to check that there is no sudden change in colour

bilirubin *noun* PHYSIOL a reddish-yellow bile pigment formed by the breakdown of

haemoglobin in the liver (NOTE: Excess bilirubin in the blood causes jaundice.)

billion *noun* MATHS a number equal to one thousand million (NOTE: In the US it has always meant one thousand million, but in the UK it formerly meant one million million, and it is still sometimes used with this meaning. With figures it is usually written **bn**: *5bn*.)

BIM *noun* COMPUT a character indicating the start of a data stream stored on a disk drive or tape. Full form **beginning of information mark**

bimetallic *adjective* CHEM made of two metals

bimetallic strip *noun* ELEC ENG a strip of two separate metals with different rates of expansion, joined together side by side so that when the strip is heated it bends and makes or breaks electrical contact ○ *Circuit breakers use a bimetallic strip as the sensing element.*

binary *adjective* **1.** COMPUT referring to a number notation system, base 2, which uses only the digits 0 and 1 **2.** made of two parts **3.** CHEM referring to a compound or alloy containing two different elements ■ *noun* **1.** COMPUT same as **binary digit** **2.** ASTRON same as **binary star**

binary adder *noun* COMPUT a device that provides the sum of two or more binary digits

binary arithmetic *noun* MATHS rules and functions governing arithmetic operations in base 2

binary bit *noun* COMPUT same as **binary digit**

binary cell *noun* COMPUT a storage element for one bit

binary chop *noun* COMPUT same as **binary search**

binary code *noun* COMPUT a pattern of binary digits that represents various symbols or elements

binary coded decimal *noun* COMPUT full form of **BCD**

binary digit *noun* COMPUT the smallest single unit in binary notation, either a 0 or a 1

binary file *noun* COMPUT a file that contains data rather than alphanumeric characters ○ *The program instructions are stored in the binary file.* ○ *Your letter is a text file, not a binary file.* (NOTE: A binary file can include any character code and cannot always be displayed or edited.)

binary fission *noun* BIOL a common method of asexual reproduction by which one cell divides into two similar or identical cells

binary half adder *noun* COMPUT a binary adder that can produce the sum of two inputs, producing a carry output if necessary, but cannot accept a carry input

binary large object *noun* COMPUT a field in a database record that can contain a large quantity of binary data, normally a bitmap image. Abbr **blob**

binary number *noun* COMPUT same as **binary digit**

binary operation *noun* COMPUT **1.** an operation on two operands **2.** an operation on an operand in binary form

binary search *noun* COMPUT a fast search method for use on ordered lists of data (NOTE: The search key is compared with the data in the middle of the list and one half is discarded, and this is repeated with the remaining half until only the required data item is left.)

binary star *noun* ASTRON a star system with two members (NOTE: Most stars are binary stars. The different types include eclipsing, spectroscopic, visual and astrometric binaries according to the methods needed to separate them observationally.)

binary system *noun* MATHS a system that operates with binary digits

binary-to-decimal conversion *noun* MATHS the process of converting a binary digit into its equivalent decimal value

binaural *adjective* BIOL referring to or using both ears

binaural sound *noun* ACOUSTICS a method of recording sound so that it gives the impression of stereophony when played back

bind *verb* **1.** COMPUT to link and convert one or more object code programs into a form that can be executed **2.** MANUF to glue or attach sheets of paper along their spine to form a book **3.** CHEM to form a chemical bond

binder *noun* COMPUT a program that converts object code into a form that can be executed

binding agent *noun* CHEM a substance that causes two or more other substances to stick together or combine

binding energy *noun* PHYS the energy required to separate a system into its individual components

binding site *noun* BIOCHEM a cavity on the surface of a protein that contains a pattern of amino acids arranged so that they can form a chemical bond only with a specific molecule

binding target *noun* ENVIRON an environmental standard that must be met in the future

BinHex *noun* COMPUT a method of encoding binary data into ASCII characters (NOTE: Software programs and data files are stored as binary data using all eight bits of information within one byte of storage space, whereas ASCII characters can be stored in just the first seven of the eight bits of storage space within one byte.)

binocular vision *noun* BIOL the ability to see with both eyes at the same time (NOTE: It gives a stereoscopic effect and allows a person to judge distances.)

binomial *noun* MATHS a mathematical expression made up of two terms linked by a plus or minus sign

binomial classification *noun* BIOL the scientific system of naming organisms devised by the Swedish scientist Carolus Linnaeus (1707–78)

COMMENT: The Linnaean system of binomial classification gives each organism a name made up of two Latin words. The first is a generic name referring to the genus to which the organism belongs, and the second is a specific name referring to the particular species. Organisms are usually identified by using both their generic and specific names, e.g. *Homo sapiens* (human), *Felis catus* (domestic cat) and *Sequoia sempervirens* (redwood). A third name can be added to give a subspecies. The generic name is written or printed with a capital letter and the specific name with a lowercase letter. Both names are usually given in italics or are underlined if written or typed.

binomial nomenclature *noun* BIOL the naming of every type of organism with a unique two-word Latin or Latinised scientific name, the first word denoting the genus and the second the species

bio- *prefix* referring to living organisms

bioaccessible *adjective* BIOCHEM able to be taken up by any organism

bioaccumulate *verb* BIOL (*of toxic substances*) to accumulate in increasing amounts up the food chain

bioaccumulation *noun* ENVIRON the accumulation of substances such as toxic

chemicals in increasing amounts up the food chain

bioaeration *noun* INDUST the treatment of sewage by pumping activated sludge into it

bioassay *noun* BIOCHEM a test of a substance by examining the effect it has on living organisms

bioaugmentation *noun* ENVIRON the addition of microorganisms to human or industrial waste to reinforce natural biological processes

bioavailability *noun* BIOCHEM the degree to which a nutrient or other chemical can be metabolised by an organism

biocatalysis *noun* BIOCHEM the process of a chemical reaction being aided by a biochemical agent such as an enzyme

biocatalyst *noun* BIOCHEM a biological agent such as an enzyme that aids a chemical reaction

biocatalytic *adjective* BIOCHEM referring to biocatalysis

biocenosis *noun* BIOL US spelling of **biocoenosis**

biochemical *adjective* BIOCHEM referring to biochemistry

biochemical oxygen demand *noun* ENVIRON same as **biological oxygen demand**

biochemist *noun* BIOCHEM a scientist who specialises in biochemistry

biochemistry *noun* BIOCHEM the chemistry of living tissues

biocide *noun* BIOL a substance that kills living organisms ○ *Biocides used in agriculture run off into lakes and rivers.* ○ *The biological effect of biocides in surface waters can be very harmful.*

biocide pollution *noun* ENVIRON pollution of lakes and rivers caused by the runoff from fields of herbicides and other biocides used in agriculture

bioclimatic *adjective* referring to the relationship between climate and living organisms, or to the study of bioclimatology

bioclimatology *noun* ECOL the study of the effect of climate on living organisms

biocoenosis *noun* 1. ECOL a varied community of organisms living in the same small area such as the bark of a tree 2. the relationship between the organisms in such a community (NOTE: [all senses] The US spelling is **biocenosis**.)

biocomposite *noun* INDUST a material that is made from a plant fibre such as hemp fixed within a resin made from a fossil fuel. ◊ **ecocomposite**

bioccontrol *noun* AGRIC same as **biological control**

bioconversion *noun* INDUST the changing of organic waste into a source of energy, e.g. the production of methane gas from the decomposition of organic matter

biodegradability *noun* ENVIRON the degree to which material such as packaging can be decomposed by natural processes

biodegradable *adjective* ENVIRON referring to something which is easily decomposed by organisms such as bacteria or by natural processes such as the effect of sunlight or the sea ◊ *Organochlorines are not biodegradable and enter the food chain easily.*

biodegradable packaging *noun* ENVIRON material such as boxes, cartons or bottles that can be decomposed by organisms such as bacteria or by natural processes such as the effect of sunlight or the sea

biodegradation *noun* BIOCHEM the breaking down of a substance by natural processes, e.g. the breakdown of activated sludge by bacteria

biodegrade *verb* ENVIRON to decay as the result of natural processes

biodetergent *noun* INDUST same as **biological detergent**

biodiesel *noun* INDUST a substitute for diesel fuel made wholly or partly from organic products, especially oils extracted from plants such as oilseed rape

biodigestion *noun* ENVIRON the use of microorganisms to break down food and organic waste

biodiverse *adjective* ECOL containing a large number of species ◊ *a biodiverse area of rainforest*

biodiversity *noun* ECOL the range of species, subspecies or communities in a specific habitat such as a rainforest or a meadow

Biodiversity Action Plan *noun* a detailed scheme to maintain the biological diversity of a specific area. Abbr **BAP**

biodiversity hotspot *noun* ECOL a threatened region with a large range of endemic plant species (at least 1500) but where more than 70% of the original habi-

tat has been lost because of human activities. Typically, the diversity of endemic vertebrates is also high.

biodiversity indicator *noun* a factor that allows change in the environment over time to be assessed. Also called **bioindicator**

biodiversity prospecting *noun* ENVIRON the process of searching among wild organisms for new species or genetic characteristics that may have potential commercial value

biodome *noun* ENVIRON a very large greenhouse or similar structure with a controlled internal environment in which plants and animals from much warmer or colder regions are kept in conditions similar to nature

biodynamics *noun* BIOL the study of living organisms and the production of energy

bioecology *noun* ENVIRON the study of the relationships among organisms and between them and their physical environment, with particular emphasis on the effect of humans on the environment

bioenergetics *noun* BIOL same as **biodynamics**

bioenergy *noun* INDUST energy produced from biomass

bioengineering *noun* INDUST the use of biochemical processes on an industrial scale to produce drugs and foodstuffs or to recycle waste

bioerosion *noun* BIOL erosion or decay due to the action of living organisms

bioethanol *noun* CHEM a fuel for internal-combustion engines that is made by fermenting biological material to produce alcohol (NOTE: Typically 5–10% bioethanol is added to petrol.)

biofabric *noun* MICROBIOL a fabric impregnated with genetically engineered bacteria that eat odours, absorb sweat, and continually regenerate dirt and dust repellents

biofeedback *noun* MED the control of the autonomic nervous system by the patient's conscious thoughts as a response to the results of tests or scans

biofilm *noun* BIOL a thin layer of cells of a microorganism such as a bacterium or fungus, held to a surface by the material the microorganisms produce. The plaque that forms on teeth is a biofilm.

biofilter *noun* ENVIRON a filter system that uses microorganisms to convert the organic compounds of a pollutant to carbon dioxide, water and salts

biofuel *noun* INDUST a fuel produced from organic domestic waste or other sources such as plants (NOTE: Coppiced willow is sometimes grown for biofuel.)

biogas *noun* INDUST a mixture of methane and carbon dioxide produced from fermenting waste such as animal dung ○ *Farm biogas systems may be uneconomic unless there is a constant demand for heat.* ○ *The use of biogas systems in rural areas of developing countries is increasing.*

biogenesis *noun* BIOL the theory that living things can only be produced from other living things and cannot be spontaneously generated

biogenic *adjective* relating to plants and animals

biogenic source *noun* a plant or animal which emits air pollutants

biogeochemical *adjective* BIOL relating to biogeochemistry

biogeochemical cycle *noun* BIOL a process in which nutrients from living organisms are transferred into the physical environment and back to the organisms (NOTE: This process is essential for organic life to continue.)

biogeochemistry *noun* BIOCHEM the study of living organisms and their relationship to the chemical components of the Earth such as its soil, rocks and minerals

biogeographer *noun* ECOL a scientist who studies regions that have their own fauna and flora

biogeographical region, biogeographical zone *noun* ECOL a region of the Earth that has its own special fauna and flora, separated from other regions by a natural barrier or change in environmental conditions

biogeography *noun* ECOL the study of the relationship between organisms and the geography of the region where they occur, including how they originally came to that region

biogeosphere *noun* EARTH SCI the top layer of the Earth's crust, which contains living organisms

biohazard *noun* a risk to human beings or their environment presented by something that is toxic or infectious

biohydrology *noun* ECOL the study of the interactions between the water cycle and plants and animals

bioindicator *noun* same as **biodiversity indicator**

bioinformatics *noun* BIOL the use of computers to extract and analyse biological data

bioinsecticide *noun* AGRIC an insecticide developed from natural plant toxins, e.g. pyrethrum. † **microbial insecticide**

biolistics *noun* BIOTECH a method of genetic modification involving the shooting of small particles of gold coated with DNA or messenger RNA directly into cells or tissues at high velocity

biological *adjective* referring to biology

biological association *noun* ECOL a group of organisms living together in a large area, forming a stable community

biological clock *noun* PHYSIOL the circadian rhythm of daily activities and bodily processes such as eating, defecating and sleeping, frequently controlled by hormones

biological control *noun* AGRIC the control of pests by using predators and natural processes to remove them. Also called **bio-control**

COMMENT: Biological control of insects involves using bacteria, viruses, parasites and predators to destroy the insects. Plants can be controlled by herbivorous animals such as cattle.

biological desert *noun* ENVIRON an area where there is no life (NOTE: Heavy pollution can turn the bottom of a lake into a biological desert.)

biological detergent *noun* ENVIRON a detergent with added enzymes, which makes the washing process more effective

biological diversity *noun* BIOL same as **biodiversity**

Biological Diversity Convention *noun* ENVIRON one of two binding treaties agreed at the Earth Summit, in Rio de Janeiro in June 1992, requiring states to take steps to preserve ecologically valuable areas and species

biological half-life *noun* ENVIRON the time taken for half of an amount of radioactive material to be eliminated naturally from a living organism

biological indicator *noun* ENVIRON an organism that is known to respond to specific changes in the environment

biologically decomposable *adjective* BIOL same as **biodegradable**

biological magnification *noun* ENVIRON same as **bioaccumulation**

biological mass *noun* same as **biomass**

biological monitoring *noun* ENVIRON the process of checking the changes that take place in a habitat over time

biological oceanography *noun* MARINE BIOL the study of marine plants and animals and the way they interact with marine environments. Compare **marine biology**

biological oxygen demand *noun* ENVIRON a measure of the amount of pollution in water, shown by the amount of oxygen needed to oxidise the polluting substances. Abbr **BOD**

COMMENT: Diluted sewage passed into rivers contains dissolved oxygen, which is utilised by bacteria as they oxidise the pollutants in the sewage. The oxygen is replaced by oxygen from the air. Diluted sewage should not absorb more than 20 ppm of dissolved oxygen.

biological pesticide *noun* AGRIC same as **biopesticide**

biological pump *noun* the process by which carbon sinks from the surface to the depths of the oceans, so reducing the levels of carbon dioxide in the atmosphere

biological treatment *noun* INDUST the processing of sewage by using bacteria to break up the organic matter

biological wastewater treatment *noun* the use of aerobic or anaerobic microorganisms to produce effluents and separated sludge containing microbial mass together with pollutants, often as well as using mechanical processes

biological weathering *noun* GEOL the process of change in the state of soil or rock through actions such as burrowing or root growth undertaken by living organisms

biologist *noun* BIOL a scientist who specialises in biology

biology *noun* BIOL the study of living organisms

bioluminescence *noun* PHYSIOL the production of light by organisms such as fireflies or sea animals, as a result of an enzymic reaction (NOTE: Bioluminescence is found in many deep-sea animals, fireflies and some bacteria and fungi.)

biomagnification *noun* ENVIRON same as **bioaccumulation**

biomanipulation *noun* the action or process of changing the environment to improve the survival of wildlife

biomarker *noun* a distinctive indicator of a biological or biochemical process, e.g. a chemical whose occurrence shows the presence of a disease

biomass *noun* 1. ECOL the sum of all living organisms in a given area or at a given trophic level, usually expressed in terms of living or dry mass 2. INDUST organic matter used to produce energy (NOTE: Willow and miscanthus are grown as biomass for fuel.)

COMMENT: There are many environmental benefits from using biomass for energy. They include: less climate change, lower levels of acid rain, less pressure on landfill sites, new wildlife habitats and enhanced biodiversity, and improved woodland management.

biomass boiler *noun* TECH a device that burns biomass as a fuel to heat water

biomass energy *noun* INDUST the energy produced by burning renewable materials such as wood or waste

biomass fuel *noun* INDUST same as **biofuel**

biomaterial *noun* ENVIRON a biodegradable material of plant origin

biome *noun* 1. ECOL a large ecological region characterised by its vegetation and climate and the organisms adapted to live in it 2. ENVIRON a very large greenhouse or similar structure with a controlled internal environment in which plants and animals from much warmer or colder regions are kept in conditions similar to nature

COMMENT: The ten principal biomes are: mountains, polar regions, tropical rain-forest, grasslands, deserts, temperate forests, monsoon forests, deciduous forests, coniferous forests and evergreen shrub forests.

biometeorology *noun* ECOL the scientific study of the weather and its effect on organisms

biomethanation *noun* INDUST a system of producing biogas for use as fuel

biometrical *adjective* BIOL referring to biometrics

biometrics *noun* BIOL the use of statistical techniques on biological data (NOTE: takes a singular verb)

biomineralisation *noun* PHYSIOL a process in which organisms transform

organic matter into mineral matter, e.g. in the formation of bone

biomonitoring *noun* ENVIRON the measurement and tracking of a chemical substance in an organism or in biological material such as blood or urine, in order to monitor exposure to pollution, chemicals or other hazards

bion *noun* BIOL a single living organism in an ecosystem

biopesticide *noun* AGRIC a pesticide produced from biological sources such as plant toxins that occur naturally. ◊ **microbial insecticide**

COMMENT: Biopesticides have the advantage that they do not harm the environment as they are easily inactivated and broken down by sunlight. This is, however, a practical disadvantage for a farmer who uses them, since they may not be as efficient in controlling pests as artificial chemical pesticides, which are persistent but difficult to control.

biophysics *noun* SCI the science that applies the laws and methods of physics to the study of biological processes

biophyte *noun* BOT a plant that obtains nutrients from the decomposing bodies of insects which it traps and kills, e.g. a sundew

biopiracy *noun* ENVIRON the commercial development of genetic resources such as plants with medicinal properties or genes for resistance to disease without allowing the people or government of the area where they were originally discovered to share in financial benefits

bioprocess *noun* BIOTECH a method used to produce commercially useful biological material

bioprospecting *noun* ENVIRON the process of looking for plants that contain potentially useful pharmaceutical compounds

bioreactor *noun* BIOTECH a large tank used for growing microorganisms in industrial production

bioregion *noun* an area defined in environmental terms rather than by geopolitics

bioremediation *noun* ENVIRON the use of organisms such as bacteria to remove environmental pollutants from soil, water or gases (NOTE: Bioremediation is used to clean up contaminated land and oil spills.)

biorhythm *noun* PHYSIOL a change that takes place within living organisms on a cyclical basis, e.g. sleeping, waking, or the

reproductive cycle. ◊ **biological clock** (NOTE: It is believed by some people that behaviour, mood and sense of wellbeing are affected by biorhythms.)

BIOS *abbreviation* COMPUT basic input/output operating system

biosecurity *noun* the management of the risks to animal, plant and human health posed by pests and diseases

biosensor *noun* BIOTECH an apparatus in which a biological agent such as an enzyme is used to detect, measure or analyse specific chemicals (NOTE: Biosensors are increasingly used in tests to diagnose medical conditions such as high blood pressure.)

bioseparation *noun* BIOL the use of biological agents such as plants, enzymes, or biological membranes in separating the different components of something, e.g. in the purification of proteins or water, or in making food and pharmaceutical products

biosignature *noun* BIOL a substance such as an element, isotope, or molecule present in something such as a meteorite that is characteristic of life and is used as evidence of past or present life

biosolids *plural noun* a nutrient-rich organic material, solid or semi-solid before processing, that is derived from sewage as a product of wastewater treatment and used as a fertiliser

biosphere *noun* ECOL same as **ecosphere**

biosphere reserve *noun* ENVIRON an environmentally sensitive area with protected status managed primarily to preserve natural ecological conditions (NOTE: Biosphere reserves may be open to tourists.)

biospheric cycle *noun* ENVIRON a natural cyclical process that supports life on Earth, e.g. the oxygen cycle, carbon cycle, nitrogen cycle or water cycle

biostimulation *noun* ENVIRON the addition of nutrients to polluted waste or ground in order to enhance the remedial activity of microorganisms

biosurface *noun* BIOCHEM the region on the surface of a protein, enzyme, or receptor that acts as a binding site for molecules

biosynthesis *noun* BIOCHEM the production of chemical compounds by a living organism

biota *noun* ECOL the flora and fauna of a region

biotechnology *noun* the use of biological processes in industrial production, e.g. the use of yeasts in making beer, bread or yoghurt. ♦ **genetic modification**

Biotechnology and Biological Sciences Research Council *noun* full form of **BBSRC**

biotic *adjective* *ECOL* referring to the living constituents of an environment. Compare **abiotic**

biotic barrier *noun* *ECOL* a set of conditions which prevent members of a species moving to other regions

biotic carrier potential *noun* *ECOL* an assessment of the maximum increase in the number of individuals in a species, not considering the effects of competition and natural selection

biotic climax *noun* *ECOL* a plant community produced by a permanent influence or combination of influences of organisms, including people, e.g. woodland

biotic community *noun* *ECOL* a community of organisms in a specific area

biotic factor *noun* *ECOL* an organism that has an effect on a specific environment. Compare **abiotic factor**

biotic index *noun* *ENVIRON* a scale for showing the quality of an environment by indicating the types of organisms present in it

biotic potential *noun* *ECOL* same as **biotic carrier potential**

biotic pyramid *noun* *ECOL* a graphical representation of the structure of an ecosystem in terms of which organism eats which (NOTE: The base is composed of producer organisms, usually plants, then herbivores, then carnivores. It may be measured in terms of number, biomass or energy.)

biotic succession *noun* *ECOL* the sequence of changes that takes place in the composition of a group of organisms under the influence of their changing environment

biotin *noun* *BIOL* a B group vitamin found in egg yolks, liver and yeast

biotope *noun* *ECOL* a small area with uniform biological conditions such as climate, soil or altitude

biotron *noun* *SCI* a facility in which temperature and other environmental conditions can be controlled

biotroph *noun* *BIOL* a parasite which only feeds on living organisms. Compare **necrotroph**

biotype *noun* *ECOL* a group of similar individuals within a species

biphenyl *noun* *CHEM* a white or colourless crystalline substance, used as a fungicide, in the production of dyes and as a preservative applied to the skins of citrus fruit. Formula: $C_6H_5C_6H_5$. (NOTE: The preservative has E number E230.)

bipolar *adjective* *COMPUT* with two levels

bipolar disorder *noun* *PSYCHIAT* a psychiatric disorder in which the patient experiences extreme mood swings

bipolar junction transistor *noun* *ELEC* a transistor constructed of three layers of alternating types of doped semiconductor (p-n-p or n-p-n). Abbr **BJT**

COMMENT: Each layer has a terminal labelled emitter, base and collector. Usually the base signal controls the current flow between the emitter and collector.

bipolar neuron *noun* *ANAT* a neuron with two processes found in the retina

bipolar signal *noun* *COMPUT* the use of positive and negative voltage levels to represent the binary digits

bipolar transistor *noun* *COMPUT* same as **bipolar junction transistor**

biquinary code *noun* *COMPUT* a code in which decimal digits are represented as two digits added together (NOTE: Decimal digits less than 5 are represented as 0 + the digit; decimal digits greater than 4 are represented as 5 + the digit minus 5.)

birch *noun* *TREES* a common hardwood tree found in northern temperate zones. Genus: *Betula*.

bird *noun* *ZOOL* a warm-blooded animal that has wings, feathers and a beak and lays eggs

COMMENT: All birds are members of the class Aves. They have feathers and their forelimbs have developed into wings, though not all birds are able to fly. Birds are closely related to reptiles, and have scales on their legs. Some birds, for example rooks, pigeons and pheasants, can cause very serious damage to crops: various controls can be used such as shooting, scarecrows and destruction of nests. Birds also destroy many pests, for example wireworms, leatherjackets and caterpillars. Some birds such as chickens are farmed for food.

bird flu *noun* same as **avian flu**

bird of passage *noun* ZOOLOGY a bird that migrates from one area to another, stopping for a short time before moving on

bird of prey *noun* BIRDS a bird that kills and eats other birds or small animals

bird reserve *noun* BIRDS same as **bird sanctuary**

bird sanctuary *noun* BIRDS a place where birds can breed and live in a protected environment

birth *noun* BIOLOGY the event of being born

birth control *noun* HEALTH the restriction of the number of children born by using contraception

birth defect *noun* BIOLOGY a malformation that exists in a person's or animal's body from birth

birthrate *noun* BIOLOGY the number of births per year, shown per thousand of the population ○ *a birthrate of 15 per thousand* ○ *There has been a severe decline in the birthrate.*

bisect *verb* MATHEMATICS to divide something into two exactly equal parts

bisexual *adjective* BIOLOGY with both male and female characteristics in the same individual

bismuth *noun* CHEMISTRY ELEMENT a chemical element, used to form alloys with a low melting point (NOTE: The chemical symbol is **Bi**; the atomic number is **83** and the atomic weight is **208.98**.)

bistable *adjective* ELECTRONICS (of a device or circuit) having two possible states, on and off

bistable circuit *noun* ELECTRONICS a circuit which can be switched between two states

bisulfate, bisulphate *noun* CHEMISTRY same as **hydrogen sulfate**

bit *noun* COMPUTING **1.** the smallest single unit in binary notation, either a 0 or a 1 **2.** the smallest unit of data that a system can handle

bit addressing *noun* COMPUTING the selecting of a register and examining one bit within it

bit blit, bitblit *verb* COMPUTING to move a block of bits from one memory location to another

bit depth *noun* COMPUTING a number of bits used to represent the number of colours that can be displayed on a screen or printer at one time ○ *The bit depth of each pixel is represented by a number of bits associated with the pixel that describe the number of*

colours that can be displayed. ○ *A bit depth of four provides 16 colours, a bit depth of eight provides 256 colours.*

bit error rate *noun* COMPUTING the ratio of the number of bits received to the number of errors in a transmission. Abbr **BER**

bit handling *noun* COMPUTING the commands and processes that allow bit manipulation or changing

bit-map, bitmap *verb* COMPUTING to define events or data by using an array of single bits (NOTE: This can be an image or graphics or a table of devices in use.)

bit-mapped font *noun* COMPUTING a font whose characters are made up of patterns of pixels. Compare **vector font**

bit-mapped graphic *noun* COMPUTING an image whose individual pixels can be controlled by changing the value of their stored bits

bit position *noun* COMPUTING the place of a bit of data in a computer word

bit rate *noun* COMPUTING a measure of the number of bits transmitted per second. Abbr **bps**

bit-slice architecture *noun* COMPUTING the construction of a large word size computer by joining a number of smaller word size blocks ○ *The bit-slice design uses four four-bit word processors to make a sixteen-bit processor.*

bits per inch *noun* COMPUTING a number of bits that can be recorded per inch of recording medium. Abbr **BPI**

bits per pixel *noun* COMPUTING a number of bits assigned to store the colour of each pixel. Abbr **BPP** (NOTE: One bit provides black or white, four bits gives 16 colour combinations, eight bits gives 256 colour combinations.)

bits per second *noun* COMPUTING a measure of the number of binary digits transmitted every second. Abbr **bps**

bitumen *noun* CHEMISTRY a solid hydrocarbon contained in coal

bituminous coal *noun* INDUSTRY coal containing a high percentage of tar

bituminous sand, bituminous shale *noun* GEOLOGY same as **oil sand**

bivalent *adjective* **1.** GENETICS relating to structurally identical chromosomes that come together as a pair during the initial stage of meiosis **2.** CHEMISTRY having a valency of two

bivalve *noun* ZOOLOGY an invertebrate animal with a shell composed of two halves joined at one place. Bivalves such as oysters or mussels may live in fresh or salt water.

biz *noun* COMPUT a type of newsgroup that contains business discussions and opportunities (NOTE: Only the biz newsgroups are supposed to discuss commercial matters. Other related newsgroups are for technical or academic discussion.)

BJT *abbreviation* ELEC bipolar junction transistor

black *adjective* PHYS having no colour or appearing very dark owing to the absorption of all or nearly all light ○ *Thick black smoke poured out of the factory chimneys.*

black and white *noun* COMPUT **1.** the use of shades of grey to represent colours on a monitor or display **2.** an image in which each pixel is either black or white with no shades of grey

black bean *noun* TREES a very hard tropical wood, resistant to termites

black beetle *noun* ZOOLOGY a cockroach which is a common household pest in Asia. Latin name: *Blatta orientalis*.

black body *noun* ASTRONOMY an object or body which follows perfectly the physical laws on how matter should emit and absorb radiation

black carbon *noun* ENVIRONMENT carbon in the form of fine particles which rise in the smoke produced by the burning of fossil fuels such as coal, wood or oil

Black Death *noun* MED a serious form of bubonic plague, which caused a pandemic during the Middle Ages

black dwarf *noun* ASTRONOMY the final dark form of a white dwarf star, reached when all its heat has been radiated away

COMMENT: The black dwarf stage would take so long to reach that, even if the theory is correct, none may yet exist anywhere in the universe. But since every star weighing less than 1.4 times the Sun's mass is set to become one, there are going to be billions of them at some future point in the universe's development, unless they are all swept up by the contraction of an oscillatory universe. A black dwarf would contain no nuclear or other activity recognisable by outsiders and would be detectable mainly by its gravitation.

black earth *noun* GEOLOGY same as **chernozem**

black frost *noun* METEOROLOGY a condition when the air is dry and the ground temper-

ature is lower than the air temperature, but no white frost forms

black hole *noun* ASTRONOMY a zone from which no radiation can normally escape, formed by the collapse of a star of just over two solar masses or more

COMMENT: The theoretical description of a black hole, where time slows to a halt and other bizarre physical effects occur, was drawn up in 1916, and since then further complications such as the addition of rotation and electrical charge have been made, as well as observational knowledge of objects like the Crab Nebula which seem to contain black holes. The cores of galaxies such as our own seem to contain massive black holes of millions of solar masses, which can be detected by measuring the orbital motion of stars near the centre of the galaxy. Their velocities betray the presence of an unusually large mass at the core of the galaxy.

black ice *noun* METEOROLOGY ice which is clear, not white and opaque as frost, and which forms on the surface of roads

blackout *noun* ELEC a complete loss of electrical power

black spot *noun* BOT a fungal disease that attacks plants, causing black spots to appear on the leaves

bladder *noun* **1.** BOT an inflated modified leaf of a plant that traps insects, e.g. bladderwort, or an inflated fruit, e.g. senna pod **2.** MARINE BIOL same as **air bladder** **3.** ANATOMY same as **urinary bladder**

blade *noun* **1.** a flattened part of a propeller, rotor or wind turbine **2.** BOT a thin flat leaf, e.g. a leaf of a grass, iris or daffodil

blade angle *noun* AVIATION the angle between the axis of a blade and the axis of rotation ○ *With a variable pitch propeller, the blade angle may be changed in flight.*

blade tip *noun* AVIATION the end of a blade farthest from the centre of rotation

blade twist *noun* **1.** AVIATION the reduction in the blade angle of a propeller from root to tip **2.** the unwanted variation in the pitch of a propeller blade from root to tip caused by aerodynamic loads

blank *adjective* (of paper) with nothing written, printed or drawn on it ○ *a blank sheet of paper*

blanket *noun* a thick covering ○ *A blanket of snow covered the fields.* ○ *The town was covered in a blanket of smog.* ■ *verb* to cover something thickly ○ *Thick fog blanketed the airport.*

blanket bog *noun* ECOL a wide area of marshy ground that may occur in lowland or upland areas (NOTE: In the UK, they occur mainly at high altitude in the north and west.)

blank form *noun* a form without the details filled in

blanking interval *noun* COMPUT a period during which a screen displays nothing, in between two images or during the picture beam flyback

blank instruction *noun* COMPUT a program instruction which does nothing

blank string, empty string *noun* COMPUT same as **null string**

blast *noun* PHYS the impact from an explosion ○ *Thousands of people would be killed by the blast.* ■ *verb* COMPUT **1.** to write data into a programmable ROM device **2.** to free sections of previously allocated memory or resources

-blast *suffix* BIOL a very early stage in the development of a cell

blast effect *noun* ENVIRON a result of the impact from an explosion, e.g. damage caused

blast furnace *noun* INDUST a heating device for producing iron or copper from ore (NOTE: The ore, coke and limestone are heated together, air is blown through the mixture and the molten metal is drawn off into moulds. The waste matter from this process is known as slag.)

blasto- *prefix* BIOL a germ cell

blastocyst *noun* BIOL a mammalian embryo as it is when it implants in the wall of the womb

blastula *noun* BIOL an embryo at an early stage of development, comprising a hollow ball of cells

bleach *verb* CHEM to make something whiter or lighter in colour, or to become whiter or lighter in colour

bleaching *noun* **1.** CHEM the removal of colour by the action of a chemical or sunlight **2.** MARINE BIOL a process in which coral loses its colour or loses its symbiotic algae ○ *There have been several incidents of coral bleaching on reefs around Easter Island and northeastern Australia.*

bleaching agent *noun* CHEM something that removes colour, e.g. a chemical or the action of sunlight

bleaching powder *noun* CHEM a white powder prepared by the action of chlorine

on calcium hydroxide and from which chlorine is liberated by the action of a dilute acid. Formula: CaCl(OCl). (NOTE: It is used as a bleaching agent or disinfectant.)

bleed *verb* **1.** BIOL to exude blood or sap from a wound **2.** ENG to remove liquid or gas from a system ■ *noun* COMPUT **1.** a line of printing that runs off the edge of the paper **2.** a badly adjusted colour monitor in which colours of adjoining pixels blend

bleed screw *noun* ENG a small screw in the highest point of a hydraulic system to allow for the removal of air or vapour

blight *noun* BOT a disease caused by different fungi, that rapidly destroys a plant or plant part

blind *adjective* **1.** BIOL unable to see **2.** COMPUT not responding to specific codes

blind carbon copy *noun* COMPUT a method of sending a message to several users without the knowledge of individual recipients. Compare **carbon copy**. Abbr **BCC**

blind spot *noun* **1.** ACOUSTICS a part of an auditorium where the performance cannot be heard clearly **2.** ANAT the area of the retina without rods or cones where the optic nerve enters

blit *verb* COMPUT (*in computer graphics*) to process or move a block of bits from one memory location to another

blitter *noun* COMPUT an electronic component designed to blit ○ *The new blitter chip speeds up the graphics display.*

blob *abbreviation* COMPUT binary large object

block *noun* **1.** a large mass of something **2.** COMPUT a series of items grouped together **3.** COMPUT a number of stored records treated as a single unit **4.** a wide printed bar ■ *verb* **1.** to prevent a fluid or other substance from passing freely through a pipe, channel or filter ○ *At high altitude, any water condensing out of the fuel could freeze and block the filters.* **2.** to prevent a course of action ○ *The government blocked attempts to prevent the building of the new airport.*

blockage *noun* **1.** a collection of something blocking a pipe, channel or filter ○ *Ice crystals may form to cause a blockage of the fuel filter.* **2.** the state of being blocked ○ *The blockage was caused by ice.*

block character check *noun* COMPUT an error detection method for blocks of transmitted data. Abbr **BCC**

block code *noun* COMPUT an error detection and correction code for block data transmission

block cursor *noun* COMPUT a cursor in the shape of a solid rectangle that fills a character position

block diagram *noun* COMPUT a graphical representation of a system or program operation

blocking factor *noun* COMPUT a number of records in a block of data

block transfer *noun* COMPUT the process of moving large numbers of records around in memory

blood *noun* BIOL the red liquid that is pumped by the heart around an animal's body

COMMENT: Blood is formed of red and white corpuscles, platelets and plasma. It circulates round the body, going from the heart and lungs along arteries and returning to the heart through veins. As it moves round the body it takes oxygen to the tissues and removes waste material from them. Blood also carries hormones produced by glands to the various organs that need them.

blood bank *noun* HEALTH SERV a section of a hospital where blood given by donors is stored for use in transfusions

blood cell *noun* BIOL a red or white cell that is one of the components of blood

blood chemistry *noun* **1.** MED a record of the changes that take place in blood during disease and treatment **2.** BIOL substances that make up blood and can be analysed in blood tests, the results of which are useful in diagnosing disease

blood corpuscle *noun* BIOL same as **blood cell**

blood count *noun* **1.** MED a test to count the number of different blood cells in a quantity of blood **2.** BIOL the number of blood cells counted

blood glucose level *noun* BIOL the amount of glucose present in the blood ○ *The normal blood glucose level stays at about 60 to 100mg of glucose per 100ml of blood.*

blood group *noun* BIOL one of the different types of blood by which groups of people are identified

COMMENT: Blood is classified in various ways. The most common classifications are by the agglutinogens in red blood corpus-

cles (factors A and B) and by the Rhesus factor. Blood can therefore have either factor (Group A or Group B) or both factors (Group AB) or neither (Group O) and each of these groups can be Rhesus negative or positive.

blood grouping *noun* the classifying of people according to their blood groups

blood pigment *noun* BIOL same as **haemoglobin**

blood plasma *noun* BIOL a watery liquid which forms the greatest part of blood

blood platelet *noun* BIOL a small blood cell which releases thromboplastin and which multiplies rapidly after an injury to cause the blood to clot

blood poisoning *noun* MED a condition where bacteria are present in blood and cause illness

blood pressure *noun* BIOL the pressure at which the blood is pumped round the body by the heart

COMMENT: Blood pressure is measured using a sphygmomanometer, where a rubber tube is wrapped round the patient's arm and inflated. Two readings of blood pressure are taken: the systolic pressure, when the heart is contracting and so pumping out, and the diastolic pressure (which is always a lower figure) when the heart relaxes. Normal adult values are considered to be 160/95, unless the patient is diabetic or has heart disease, when lower target values are set.

blood product *noun* MED a substance such as plasma extracted from donated blood for use in the treatment of various medical conditions

blood serum *noun* BIOL a yellowish watery liquid that separates from blood when the blood clots

bloodstream *noun* BIOL blood as it passes round the body

blood sucker *noun* an insect or parasite which sucks blood from an animal

blood sugar level *noun* BIOL same as **blood glucose level**

blood test *noun* BIOL a laboratory test to find the chemical composition of a patient's blood

blood vessel *noun* ANAT a tube that carries blood round the body. ◊ **artery, capillary, vein**

bloom *BOT noun* a flower ○ *The blooms on the orchids have been ruined by frost.* ■ *verb* to flower ○ *The plant blooms at night.* ○ *Some cacti only bloom once every seven years.*

bloop *verb* COMPUT to pass a magnet over a tape to erase signals which are not needed

blow *noun* a sudden movement of air or gas ○ *the blow of air through the furnace* ■ *verb* **1.** COMPUT to program a PROM device with data **2.** (*of air or wind*) to move ○ *The sea breeze may blow almost parallel to the coast.* **3.** ELEC (*of a fuse*) to break, as it should, when the circuit is overloaded (NOTE: **blowing – blew – blown**)

blow-back *noun* a sudden movement of fluid in the opposite direction to the general flow ○ *A sudden release of pressure may cause a blow-back.*

blow-by *noun* AUTOMOT unburnt fuel mixed with air and other gases that escapes past the piston rings in an internal combustion engine

COMMENT: In many parts of the world emission of gases from pistons is controlled by law, since these gases contribute significantly to atmospheric pollution.

blower *noun* a device for blowing air ○ *Air for combustion is obtained from a blower.*

blubber *noun* fat lying in a thick layer under the skin of marine animals such as whales

blue *noun* the colour which is that of a clear unclouded sky in the daytime

blue-green alga *noun* BIOL † **cyano-bacterium**

blue mud *noun* OCEANOLOG a deposit found on the seabed in the Pacific Ocean and elsewhere, containing decaying organic matter and iron sulfide, the latter giving it its blue colour

blueprint *noun* a copy of an original set of specifications or a design in graphical form

blue shift *noun* PHYS a reduction in the wavelength of radiation caused by the observer and source approaching each other

COMMENT: This manifestation of the Doppler effect is seen far less often than the red shift in astronomy, since the latter is widely caused by the expansion of the universe. Blue and red shifts are used together in astronomy for measuring rotations of planets and stars, since blue shift is observed as an object emitting light moves closer to the observer, defined in the Doppler effect, and seen as higher frequency of the light waves from the object.

Bluetooth *trademark* COMPUT a short-range radio communications system

that is designed to provide a simple way for computer, Internet and input devices to communicate (NOTE: The technology was developed by a group of computer and telecommunications companies that included Ericsson, IBM, Intel, Nokia and Toshiba.)

blue vitriol *noun* CHEM same as **copper sulfate**

blur OPTICS *noun* an image where the edges or colours are not clear ■ *verb* to make the edges or colours of an image fuzzy ○ *The image becomes blurred when you turn the focus knob.*

blurred vision *noun* BIOL a condition in which a person does not see objects clearly

BMI *abbreviation* MED body mass index

BMP *noun* COMPUT a three-letter extension to a filename that indicates that the file contains a bit-mapped graphics image ○ *This paint package lets you import BMP files.*

BMR *abbreviation* BIOL basal metabolic rate

bn *abbreviation* COMPUT billion

BNC connector *noun* COMPUT a cylindrical metal connector with a copper core that is at the end of coaxial cable and is used to connect cables together (NOTE: It attaches by pushing and twisting the outer cylinder onto two locking pins.)

BNF *abbreviation* COMPUT Backus-Naur-Form

board *noun* COMPUT a flat insulation material on which electronic components are mounted and connected

BOD *abbreviation* ENVIRON **1.** biochemical oxygen demand **2.** biological oxygen demand ○ *The main aim of sewage treatment is to reduce the BOD of the liquid.*

body *noun* **1.** ANAT the main part of a person, not including the head or arms and legs **2.** the whole physical bulk of a person ○ *The dead man's body was found several days later.* **3.** a mass or piece of material **4.** the main part of something **5.** (*in scientific description*) an object ○ *Acceleration is the rate of change of velocity of a body.*

body cavity *noun* ZOOLOG same as **coelom**

body fat *noun* BIOL tissue where the cells contain fat, which replaces the normal fibrous tissue when too much food is eaten

body fluid *noun* PHYSIOLOG a fluid or secretion of the body, e.g. blood, saliva, semen, vaginal secretions, milk, urine, sweat or tears

body mass index *noun* MED a figure obtained by dividing the weight in kilos of a person by the square of his or her height in metres. Abbr **BMI**

COMMENT: If a person is 1m 70 (i.e. 5' 7") and weighs 82kg (i.e. 180 pounds), his or her BMI is 28 (i.e. above normal).

body of air *noun* METEOROL a large quantity of air behaving in a characteristic way

body of sternum *noun* ANAT the main central part of the breastbone

body of vertebra *noun* ANAT the main part of a vertebra, which supports the weight of the body

body of water *noun* a separate and distinct mass of water

bof, BOF *abbreviation* COMPUT beginning of file

bog *noun* 1. EARTH SCI soft wet land, usually with moss growing on it, which does not decompose, but forms a thick layer of acid peat (NOTE: The mosses that grow on bogs live on the nutrients that fall in rain.) 2. an area of bog

boggy *adjective* EARTH SCI soft and wet like a bog

bogland *noun* EARTH SCI an area of bog

bohrium *noun* CHEM ELEM an artificially produced radioactive chemical element (NOTE: The chemical symbol is **Bh**; the atomic number is **107** and the atomic weight is **264**.)

Bohr theory *noun* PHYS a theory of atomic structure suggesting that electrons move around a nucleus in distinct orbits, with a jump between orbits accompanied by the absorption or emission of a photon (NOTE: It was the earliest important attempt to apply quantum theory to atomic structure.)

boil *verb* 1. PHYS to heat a liquid until it reaches a temperature at which it changes into gas 2. to reach boiling point *o* *Water boils at 100° C.*

boiler *noun* 1. ENG a container in which water is boiled to make steam to drive something such as a turbine 2. a container in which water is heated for domestic use

boilerplate *noun* COMPUT a final document that has been put together using standard sections of text held in a word processor

boiling point *noun* PHYS the temperature at which a liquid changes into gas *o* *The boiling point of water is 100° C.*

boiling tube *noun* SCI a glass tube similar to a large test tube, used in scientific experiments

boiling water reactor *noun* INDUST a nuclear reactor fuelled by uranium, in which light water is heated to form steam which drives the turbines. Abbr **BWR**

boldface *noun* a thicker and darker form of a typeface

bole *noun* BOT the wide base of a tree trunk

bolt *noun* ENG a metal rod, with a head, which screws into a nut *o* *Titanium is used for making bolts.* *o* *The two halves of the wheel are held by bolts.* ■ *verb* to attach something with a bolt *o* *Aircraft wheels are constructed in two halves which are bolted together.*

bolt of lightning *noun* a single electrical discharge of lightning

Boltzmann constant *noun* PHYS the ratio of the universal gas constant to Avogadro's number, 1.38×10^{-23} joules per kelvin

Boltzmann distribution *noun* PHYS a law that describes the temperature of a material such as a gas cloud with the number of molecules within it at different possible energy levels

bomb COMPUT *noun* a routine in a program designed to crash the system or destroy data at a specific time ■ *verb* (of software) to fail (informal) *o* *The program bombed, and we lost all the data.* *o* *The system can bomb if you set up several desk accessories or memory-resident programs at the same time.*

bond CHEM *noun* same as **chemical bond** ■ *verb* 1. (of two substances) to link together *o* *Adsorption is the bonding of a gas to a solid surface.* 2. (of atoms) to form a chemical bond

bond energy *noun* CHEM the energy contained in a chemical bond between two atoms in a molecule and therefore required to break it

bone *noun* ANAT 1. one of the calcified pieces of connective tissue which make up the skeleton, e.g. a leg bone *o* *There are several small bones in the human ear.* 2. a hard substance of which the parts of the skeleton are formed

COMMENT: Bones are formed of a hard outer layer (compact bone) which is made up of a series of layers of tissue (Haversian systems) and a softer inner part (cancellous

bone or spongy bone) which contains bone marrow.

bone conduction *noun* PHYSIOL the conduction of sound waves to the inner ear through the bones of the skull rather than through the air

bone marrow *noun* ANAT soft tissue inside bones

COMMENT: Two types of bone marrow are found. Red bone marrow and myeloid tissue are found in the cavities of vertebrae, the sternum and other flat bones, and form red blood cells. As a person gets older, fatty yellow bone marrow develops in the central cavity of long bones.

bone marrow transplant *noun* MED a transplant of bone marrow from a donor to a recipient (NOTE: For other terms referring to bone marrow, see words beginning with **myel-**, **myelo-**.)

bonemeal *noun* AGRIC a fertiliser made of ground bones or horns, reduced to a fine powder

bone structure *noun* **1.** ANAT a system of jointed bones forming the body **2.** BIOL the arrangement of the various components of a bone

book *noun* COMPUT a multimedia title. The name comes from the fact that most multimedia titles are arranged as a series of different pages which together form a book.

bookmark *noun* COMPUT **1.** a code inserted at a particular point in a document that allows the user to move straight to that point at a later date **2.** a website address stored in a web browser that allows the user to move straight to the website at a later date without re-typing the address

Boolean algebra, Boolean logic *noun* MATHS a set rules for defining, simplifying and manipulating logical functions, based on statements that are true or false

Boolean operator *noun* COMPUT a logical operator such as AND or OR

Boolean value *noun* COMPUT one of two values, either true or false

boom *noun* ACOUSTICS a sudden loud noise, especially one caused by an aircraft travelling at speeds greater than the speed of sound

COMMENT: Shock waves from a boom can cause objects to resonate so violently that they are damaged. Supersonic aircraft generally fly at speeds greater than the speed of sound only over the sea, to avoid noise nuisance and damage to property.

booster *noun* **1.** something which gives extra help or support **2.** a device which increases the force or amount of something

booster pump *noun* ENG a centrifugal pump often positioned at the lowest point of a liquid fuel tank to ensure positive pressure in the supply lines to the engine ○ *Fuel is fed through a filter and a booster pump.* ○ *The purpose of the booster pump is to prevent fuel aeration.*

boot *verb* COMPUT to execute a set of instructions automatically in order to reach a required state

bootable *adjective* COMPUT (*of a storage device*) holding the commands to boot up a computer and load the operating system (NOTE: The main hard disk is normally a bootable device as is the floppy disk drive.)

boot disk *noun* COMPUT a special disk which contains a bootstrap loader and the operating system software ○ *After you switch on the computer, insert the boot disk.*

bootleg *noun* COMPUT an illegal copy of recorded material

boot partition *noun* COMPUT (*on a hard disk with more than one partition*) the partition that contains the bootstrap loader and operating system

bootstrap loader *noun* COMPUT a set of instructions that are executed by the computer before a program is loaded, usually to load the operating system once the computer is switched on

borane *noun* CHEM a compound containing boron and hydrogen, used in rocket and jet fuels

borax *noun* CHEM a white crystalline salt that is an ore of boron, used as a cleaning agent, water softener, preservative and in glass and ceramics manufacture. Formula: $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$. (NOTE: It occurs naturally as tincal.)

bore *noun* **1.** INDUST a measurement across the inside of a pipe or hole ○ *The central heating uses small-bore copper piping.* ○ *The well has a 2-metre bore.* **2.** EARTH SCI a tidal wave which rushes up the estuary of a river at high tide ■ *verb* INDUST to make a round hole in the ground ○ *They have bored six test holes to try to find water.*

boreal *adjective* METEOROL referring to the climate in the northern hemisphere between 60° and 40° N with short hot summers and longer cold winters

Borealis METEOROL ↓ **Northern Lights**

borehole *noun* **1.** INDUST a hole bored deep into the ground to survey for the presence of oil, gas or water, or to establish the nature of ground structure ○ *The borehole is intended to test the geology of the site to see what sort of foundation the building will need.* **2.** EARTH SCI a hole bored into the water table for the extraction of water ○ *Boreholes supply water of excellent quality.*

boric acid *noun* CHEM a soluble weak acidic white crystalline solid, used as a fire retardant and antiseptic and in the manufacture of heat-resistant glass and ceramics. Formula: H_3BO_3 .

-borne *suffix* carried by ○ *wind-borne pollen of grasses*

boron *noun* CHEM ELEM a chemical element. It is essential as a trace element for healthy plant growth. (NOTE: The chemical symbol is **B**; the atomic number is **5** and the atomic weight is **10.81**.)

borrow *verb* MATHS (*in arithmetic processes such as subtraction*) to transfer a unit from a higher category to count in a lower one, compensating for it later (NOTE: To take 19 from 21 you have to borrow 1 from the tens and take 9 from 11 then compensate and take 2 from 2.)

Bose-Chandhuri-Hocquenghem

code *noun* COMPUT an error correcting code for data storage and transmission. Abbr **BCH code**

Bose-Einstein condensation *noun* PHYS a process in which the bosons of a particle system enter the lowest-energy ground state at a specific temperature

boson *noun* PHYS a fundamental particle with zero or integral spin and no restriction on the number of identical particles that may be in the same state (NOTE: Photons and alpha particles are bosons.)

botanic, botanical *adjective* BOT referring to botany

botanical *adjective* referring to botany

botanical garden, botanic garden *noun* BOT a place where plants are grown for showing to the public and for scientific study

botanical horticulture *noun* BOT the activity of growing different species of plants to study and maintain them

botanical insecticide *noun* BIOCHEM an insecticide made from a substance extracted from plants, e.g. pyrethrum,

derived from chrysanthemums, or nicotine, derived from tobacco plants

botanical specimen *noun* BOT a plant collected for study

botanist *noun* BOT someone who studies plants as a scientific or leisure activity

botany *noun* BOT the study of plants as a scientific or leisure activity

bottled gas *noun* INDUST a gas produced from refining crude oil and sold in pressurised metal containers for use in domestic cooking or heating, or as vehicle fuel

bottom *noun* EARTH SCI **1.** the floor of a sea, lake or river **2.** a flat area along a river where silt is deposited when the river floods

bottom feeder *noun* MARINE BIOL an organism such as a fish which collects food on the bottom or in the deepest water of the sea, a lake or river

bottom-up control *noun* ECOL the system of regulation of trophic levels by which the abundance of individuals in the higher trophic levels is determined by factors in the lower levels. Compare **top-down control**

bottom water *noun* GEOG water in the deepest part of the sea, a lake or a river

boulder *noun* GEOL a large rounded piece of rock

boulder clay *noun* GEOL a clay soil mixed with rocks of different sizes, found in glacial deposits

bounce *noun* COMPUT a multiple key contact caused by a faulty switch

boundary *noun* a line that separates one area from another ○ *The boundary between two air masses is called the frontal surface.*

boundary layer *noun* **1.** METEOROL the altitude at which the flow of air is affected by the ground **2.** PHYS a layer of fluid next to the surface over which it is flowing and, because of friction, travelling more slowly than layers farther from the surface

boundary protection *noun* COMPUT the preventing of any computer program from writing into a reserved area of memory

boundary register *noun* COMPUT a computer register in a multi-user system that contains the addresses for the limits of one user's memory allocation

bounding box *noun* COMPUT a rectangle that determines the shape and position

of an image that has been placed in a document or on screen

Bourdon gauge *noun* ENG a pressure gauge consisting of a flattened curved tube that straightens under internal pressure

Bovidae *plural noun* ZOO the largest class of even-toed ungulates, including cattle, antelopes, gazelles, sheep and goats

bovine *adjective* ZOO referring to cattle

bovine somatotrophin *noun* BIOCHEM full form of **BST**

bovine spongiform encephalopathy *noun* full form of **BSE**

Bowman's capsule *noun* ANAT a cup-shaped extension of a kidney tubule into which waste and water are filtered from the blood to produce urine

Boyce-Codd normal form *COMPUT* **normal form**. Abbr **BCNF**

Boyle's law *noun* PHYS the principle that the volume of a confined gas at constant temperature is inversely related to its pressure

BPI, bpi *abbreviation* *COMPUT* bits per inch

BPP *abbreviation* *COMPUT* bits per pixel

bps *abbreviation* *COMPUT* bits per second
○ *Their transmission rate is 60000bps through a parallel connection.*

Bq *symbol* becquerel

Br *symbol* CHEM ELEM bromine

brace *verb* MECH ENG to strengthen a construction using cross-members and/or wires

braces *plural noun* *COMPUT* curly bracket characters, {}, used in some programming languages to enclose a routine

brachial artery *noun* ANAT an artery running down the arm from the axillary artery to the elbow, where it divides into the radial and ulnar arteries

bracket *noun* **1.** ENG a triangular or L-shaped metal support **2.** PHYS a range of frequencies within a band of radio frequencies **3.** a mark, (or), used to enclose text or numbers, usually in pairs

bracket together *verb* MATHS to print brackets round several items to show that they are treated in the same way and separated from the rest of the mathematical equation or text

brackish *adjective* GEOG referring to water which contains some salt, though less than seawater, and is not good to drink

bract *noun* BOT a small green leaf at the base of a flower or flowering stem

Bragg's law *noun* PHYS an equation for predicting the angle at which X-rays reflected from a crystal will be most intense

braided river *noun* GEOG a river that is divided into a pattern of many channels with small areas of dry land between them

braiding *noun* GEOG the process of a river becoming divided into many channels with small areas of dry land between them

brain *noun* ANAT the cranial part of the central nervous system, situated inside the skull

COMMENT: The main part of the brain is the cerebrum, formed of two sections or hemispheres, which relate to thought and to sensations from either side of the body. At the back of the head and beneath the cerebrum is the cerebellum, which coordinates muscle reaction and balance. Also in the brain are the hypothalamus which governs body temperature, hunger, thirst and sexual urges, and the tiny pituitary gland, which produces hormones that regulate other glands.

brain dead *adjective* MED with the brain and central nervous system no longer working

brain death *noun* MED the time at which the brain and central nervous system stop working (NOTE: It is measured by strict medical and legal criteria as life support may be switched off and organs removed for transplantation once a person has been certified brain dead.)

brain stem *noun* ANAT the part of the brain that connects the cerebral hemispheres and the spinal cord (NOTE: It is composed of the midbrain, pons and medulla oblongata.)

brain wave *noun* PHYSIOL one of the rhythmic waves of voltage arising from electrical activity within brain tissue

brake *noun* ENG a device for stopping a vehicle or a machine ■ *verb* to slow down or to stop by pressing the brakes ○ *He had to brake hard after landing in order to turn off at the correct taxiway.* (NOTE: **braking** – **braked**; do not confuse with **break**)

brake drum *noun* MECH ENG the part of the brake mechanism attached to the wheel and against which the brake shoes rub, preventing the wheel from turning

brake shoe *noun* MECH ENG a long curved block that presses against a brake drum to slow or stop a wheel

bran *noun* FOOD INDUST the outside covering of a cereal grain (NOTE: It is removed from wheat in making white flour, but is an important source of roughage in the human diet and is used in muesli and other breakfast cereals.)

branch *noun* **1.** COMPUT a possible path or jump from one instruction to another **2.** a line linking one or more devices to the main network ○ *The faulty station is on this branch.* **3.** BOT a woody stem growing out from the main trunk of a tree **4.** a subdivision of something larger **5.** EARTH SCI a smaller stream separating from but still forming part of a river ■ *verb* COMPUT to jump from one section of a program to another, often using a test or decision with two or more possible results that lead to two different points in the program

COMMENT: In BASIC, the instruction GOTO makes the system jump to the line indicated; this is an unconditional branch. The instruction IF...THEN is a conditional branch, because the jump will only take place if the condition is met.

branch cable *noun* ELEC ENG a cable that runs from a main cable to a node

branched chain *noun* CHEM a molecular structure that has side chains or branches attached to specific atoms of the original chain

brane *noun* PHYS a spatial dimension in space-time arising out of string theory

brass *noun* METALL an alloy of copper and zinc

Brassicaceae *noun* BOT a family of common plants, including cabbage, whose flowers have four petals. Former name **Cruciferae**

breadboard *noun* ELEC ENG a device that allows prototype electronic circuits to be constructed easily without permanent connections or soldering

break *noun* **1.** COMPUT the action of pressing a key to stop a program execution **2.** the key pressed to stop a program execution ■ *verb* COMPUT **1.** to fail to carry out the duties of an agreement ○ *The company has broken the agreement.* **2.** to decipher a difficult code ○ *He finally broke the cipher system.*

breakbone fever *noun* MED same as **dengue** (NOTE: The patient suffers a high fever, pains in the joints, headache and a rash.)

breakdown *noun* **1.** a failure of a system or organisation **2.** the separation of a substance into its component parts

breakdown process *noun* the action of separating into elements or of decomposing

breaking load *noun* MECH ENG a load capable of being supported before a structure breaks

breakout box *noun* COMPUT a device that displays the status of lines within an interface, cable or connector ○ *The serial interface doesn't seem to be working – use the breakout box to see which signals are present.*

breakpoint *noun* COMPUT a symbol inserted into a program which stops its execution at that point to allow registers, variables and memory locations to be examined (NOTE: It is used when debugging a program.)

breakup *noun* COMPUT the loss or distortion of a signal

breakwater *noun* ENG a stone or wooden structure that is built out from the shore into the sea in order to block the force of waves and so prevent erosion

breastbone *noun* ANAT same as **sternum**

breath *noun* BIOL the air which goes in and out of the body when you breathe ○ *He ran so fast he was out of breath.* ○ *Stop for a moment to get your breath back.* ○ *She took a deep breath and dived into the water.*

breathe *verb* BIOL to take air into the lungs and blow air out through the nose or mouth ○ *He could not breathe under water.* ○ *The patient has begun to breathe normally.*

COMMENT: Children breathe about 20 to 30 times per minute, men 16–18 per minute, and women slightly faster than men. The breathing rate increases if the person is taking exercise or has a fever. Some babies hold their breath and go blue in the face, especially when crying or during a temper tantrum.

breathe in *verb* BIOL to take air into your lungs ○ *He breathed in the smoke from the fire and it made him cough.*

breathe out *verb* BIOL to let the air out of your lungs ○ *The doctor told him to take a deep breath and breathe out slowly.*

breather *noun* MECH ENG a pipe connecting the crankshaft to the atmosphere to prevent build-up of crankcase pressure

breathing *noun* BIOL the process of taking air into the lungs and blowing it out again through the mouth or nose ○ *If breathing is difficult or has stopped, begin artificial ventilation immediately.* (NOTE: For other terms referring to breathing, see words beginning with **pneumo-**.)

breccia *noun* GEOL a type of rough rock made of sharp fragments of other rocks fused together

breed *noun* AGRIC a group of animals of a specific species which have been developed by people over a period of time so that they have desirable characteristics ○ *a hardy breed of sheep* ○ *Two new breeds of rice have been developed.* ■ *verb* 1. BIOL (of organisms) to produce young ○ *Rabbits breed very rapidly.* 2. BIOL to encourage something to develop ○ *Insanitary conditions help to breed disease.* 3. AGRIC to produce an improved animal or plant by crossing two parent animals or plants showing the desired characteristics ○ *Farmers have bred new hardy forms of sheep.* □ **to breed true** BIOL to reproduce all the characteristics of the type in the next generation ○ *F₁ hybrids do not breed true.*

breeder *noun* AGRIC a person who breeds new forms of animals or plants ○ *a cat breeder* ○ *a cattle breeder* ○ *a rose breeder* ○ *a plant breeder*

breeder reactor *noun* PHYS a nuclear reactor which produces more fissile material than it consumes

COMMENT: Uranium-238 is a natural uranium isotope which can be used to produce the fissile plutonium-239. In a breeder reactor, uranium-238 is used as a blanket round the plutonium fuel, and when the plutonium is fissioned high-speed neutrons are produced which change on contact with the uranium-238 and eventually produce a slightly greater quantity of plutonium-239 than that originally used as fuel. The excess plutonium can be used as a fuel in another breeder reactor or in an ordinary burner reactor.

breed in *verb* to introduce a characteristic into an animal breed or plant variety, by breeding until it is a permanent characteristic of the breed

breeding *noun* AGRIC the crossing of different plants or animals to produce offspring with desirable characteristics

breeding ground *noun* ECOL an area where birds or animals come each year to breed

breeding season *noun* BIOL the time of year when organisms produce offspring

breeding stock *noun* prime animals kept for breeding purposes to maintain and improve quality of stock

breeze *noun* 1. METEOROL a light wind 2. INDUST the solid waste of burnt coal or other material produced by a furnace

breeze block *noun* INDUST a large building brick made from breeze and cement

Bremsstrahlung *noun* PHYS radiation given out by fast-moving electrons or other particles encountering electromagnetic fields, observed especially in radio astronomy (NOTE: Bremsstrahlung energy is released because of severe deceleration of electrons in a magnetic field and is observable in cosmic radiation.)

bridge *COMPUT verb* to use bridgework to help transfer programs, data files, etc., to another system ■ *noun* 1. a device that connects two networks together and allow information to flow between them (NOTE: Bridges function at the data link layer of the OSI network model.) 2. matching communications equipment that makes sure that power losses are kept to a minimum 3. hardware or software that allows parts of an old system to be used on a new system ○ *A bridging product is available for companies with both generations of machines.*

bridgework *noun* COMPUT the hardware or software used to make the transfer from one computer system to another easier by changing file format, translation etc.

brief *adjective* lasting only for a short time ■ *noun* a set of general instructions to enable somebody to perform his or her duties ○ *The inspector's brief is to find out as much as possible about the causes of accidents.* ■ *verb* to give basic information to somebody

brightness *noun* COMPUT the luminance of an object which can be seen on a screen ○ *A control knob allows you to adjust brightness and contrast.*

brilliant *adjective* COMPUT (of light or colour) very bright and shining

bring up *verb* COMPUT to start a computer system

British Agrochemicals Standards Inspection Scheme *noun* full form of BASIS

British Standards Institute *noun* COMPUT an organisation that monitors

design and safety standards in the UK. Abbr **BSI**

British thermal unit *noun* PHYS, MEASURE the amount of heat needed to raise the temperature of one pound of water by one degree Fahrenheit. Abbr **Btu** (NOTE: Its approximate SI equivalent is 1055 joules.)

brittle *adjective* breaking easily ○ *Absorption of oxygen and nitrogen from the air at temperatures above 1000° F makes titanium brittle.*

broad *adjective* wide ○ *Broad paths are left through the forest plantations to act as firebreaks.*

broadband *noun* COMPUT, TELECOM a transmission method that combines several channels of data onto a carrier signal and can carry the data over long distances. Compare **baseband**

COMMENT: The three most popular broadband communication devices are ISDN, cable modems and ADSL (part of the wider DSL standard). Each country has different prevalent standards and pricing models. For example, ISDN provides a digital link that can transfer data at the rate of 64 kbps. It dials an access number and provides a link when required. ADSL, in contrast, provides a direct connection that appears to be 'always on' using a network adapter to link the computer to the Internet provider. ADSL normally supports a transfer speed of up to 2 Mbps.

broadcast *noun* 1. TELECOM data transmission to many receivers 2. COMPUT a message or data sent to a group of users ■ *verb* ELEC, TELECOM, COMPUT to distribute information over a wide area or audience ○ *He broadcast the latest news over the WAN.*

broadcast message *noun* TELECOM a message sent to everyone on a network ○ *Five minutes before we shut down the LAN, we send a broadcast message to all users.*

broadcast network *noun* TELECOM a network for sending data to a number of receivers

broadcast quality *noun* TELECOM the quality of video image or signal that is used by professional television stations ○ *We can use your multimedia presentation as the advert on TV if it's of broadcast quality.*

broadleaf, broadleaf tree *noun* BOT a deciduous tree that has wide leaves, e.g. beech or oak. Compare **conifer**

broadleaved *adjective* BOT (of a tree) having wide leaves rather than needles. Compare **coniferous**

broadleaved evergreen *noun* BOT an evergreen tree or shrub with wide leaves, e.g. rhododendron or laurel

broadly *adverb* 1. widely 2. generally ○ *broadly speaking*

broad-spectrum *adjective* BIOCHEM referring to an antibiotic or pesticide which kills or controls many types of organism

broad spectrum antibiotic *plural noun* an antibiotic used to control many types of bacteria

broad-spectrum antibiotic *noun* PHARM an antibiotic used to control many types of bacteria

bromide *noun* 1. CHEM a salt of hydrobromic acid 2. PHARM potassium bromide, formerly used as a sedative

bromine *noun* CHEM ELEM a chemical element. It is used in various industrial processes and in antiknock additives for petrol. (NOTE: The chemical symbol is **Br**; the atomic number is **35** and the atomic weight is **79.90**.)

bromoform *noun* CHEM same as **tribromomethane**

bronchiole *noun* ANAT a narrow tube branching from a main air tube or bronchus in a lung

bronchitis *noun* the inflammation of the membranes in the bronchi, often caused by viruses

bronchus *noun* ANAT a tube that conveys air from the windpipe to a lung

brood *noun* BIOL a group of offspring produced at the same time, especially a group of young birds ○ *The territory provides enough food for two adults and a brood of six or eight young.*

brook *noun* GEOG a little stream

brouter *noun* COMPUT a device that combines the functions of a router and bridge to connect networks together ○ *The brouter provides dynamic routing and can bridge two local area networks.*

brown *adjective* 1. of a colour like the colour of earth or wood 2. ENVIRON not produced from renewable sources

brown algae *plural noun* MARINE BIOL brown seaweed. Phylum: Phaeophyta.

brown bread *noun* FOOD INDUST bread made with flour which has not been bleached or refined (NOTE: Not all brown bread is made with wholemeal flour.)

brown coal *noun* INDUST a type of soft coal which is not as efficient a fuel as

anthracite and produces smoke when it burns. Also called **lignite**

brown dwarf *noun* ASTRON an object intermediate in mass between a star and a planet, giving out some radiation but not massive enough to allow full-scale fusion

COMMENT: Thought to be common in areas of star formation, brown dwarfs have proved elusive to observe but one, Gliese 229b, was definitively seen in 1995, 19 light years from Earth in the constellation Lepus. Other candidates for brown dwarf status have since been claimed.

brown earth *noun* EARTH SCI good fertile soil, slightly acid and containing humus

brown electricity *noun* INDUST electricity produced from coal or gas, and not from wind power, tidal power, etc.

brown fat *noun* BIOL animal fat which can easily be converted to energy, and is believed to offset the effects of ordinary white fat

brown flour *noun* FOOD INDUST wheat flour which contains some bran and has not been bleached

brown fumes *plural noun* ENVIRON fumes from tarry substances produced by coal burning at low temperatures

Brownian movement *noun* PHYS the random movement of microscopic particles floating in a liquid or gas (NOTE: It results from the particles colliding with the molecules that surround them.)

brown podzolic soil *noun* GEOL brown earth from which humus particles have been leached by rain

brown rice *noun* FOOD INDUST a rice grain that has had the husk removed, but has not been milled and polished to remove the bran

brown-ring test *noun* CHEM a test used to detect nitrate in a sample (NOTE: The sample is mixed with ferrous sulfate, and sulfuric acid is added. If a brown line is visible where the mixture meets the acid, this indicates that the sample contains a nitrate.)

brown smoke *noun* ENVIRON † **brown fumes**

browse *verb* 1. COMPUT to view data in a database or online system 2. COMPUT to search through and access database material without permission 3. ECOL to feed on plant material, especially the leaves of woody plants, which is not growing close to the ground. Compare **graze**

browser *noun* COMPUT a software program that is used to navigate through webpages stored on the Internet

COMMENT: A browser program asks the Internet server (called the HTTP server) to send it a page of information. This page is stored in the HTML layout language which is decoded by the browser and displayed on screen. The browser displays any hotspots and will jump to another page if the user clicks on a hyperlink.

browsing *noun* COMPUT the process of moving through a multimedia title or a list of files or through sites on the Internet in no particular order (NOTE: The user controls which page to move to next and what to view.)

Brucella *noun* BIOL a type of rod-shaped bacterium

brush *noun* 1. ELEC a small replaceable block of carbon which rubs against the surface of a commutator in a generator or electric motor ○ *At high altitude, the air becomes drier and this causes a greatly increased rate of wear on the brushes.* 2. COMPUT a tool in paint package software which draws pixels on screen ○ *The paint package lets you vary the width of the brush in pixels and the colour it produces.*

3. BOT same as **brushwood**

brush killer *noun* AGRIC a powerful herbicide which destroys the undergrowth

brushwood *noun* BOT undergrowth with twigs and small branches

brute force method *noun* COMPUT a problem-solving method which depends on computer power rather than elegant programming techniques

bryophyte *noun* BOT a non-flowering plant, frequently growing in damp places, with separate gamete- and spore-bearing forms, e.g. moss. Division: *Bryophyta*.

BS *abbreviation* COMPUT backspace

BSE *noun* VET a fatal brain disease of cattle. Also called **mad cow disease**. Full form **bovine spongiform encephalopathy**

BSI *abbreviation* COMPUT British Standards Institute

BST *noun* BIOCHEM a growth hormone of cattle, formerly added to feed to improve milk production but banned in the EU since 2000. Full form **bovine somatotrophin**

Btu, BTU, BThU *abbreviation* PHYS, MEASURE British thermal unit

bubble chamber *noun* PHYS a chamber filled with a liquid in which the trail of a moving particle shows up as a line of bubbles

bubble memory *noun* COMPUT a method of storing binary data using the magnetic properties of some materials, allowing very large amounts of data to be stored in primary memory

bubble sort *noun* COMPUT a sorting method which repeatedly exchanges various pairs of data items until they are in order

bubonic plague *noun* MED a fatal disease of the lymph system caused by *Pasteurella pestis* transmitted to humans by fleas from rats

bucket *noun* COMPUT a storage area containing data for an application

buckle *verb* PHYS to bend out of shape because of heat or force ○ *Overheating will make the battery plates buckle.*

bucky tube *noun* CHEM same as **nanotube**

bud *noun* BOT a young shoot on a plant, which may later become a leaf or flower

budding *noun* BOT a way of propagating plants in which a bud from one plant is grafted onto another plant

buffer *noun* **1.** COMPUT a circuit that isolates and protects a system from damaging inputs from driven circuits or peripherals **2.** COMPUT a temporary storage area for data waiting to be processed **3.** CHEM a substance that keeps a constant balance between acid and alkali **4.** CHEM a solution in which the pH is not changed by adding acid or alkali ■ *verb* **1.** COMPUT to use a temporary storage area to hold data until the processor or device is ready to deal with it **2.** CHEM to prevent a solution from becoming acid or alkaline ○ *If a lake is well buffered, it will not have a low pH factor; even if acid rain falls into it.* ○ *Bicarbonate is the main buffering factor in fresh water.*

buffer action *noun* CHEM the process of keeping a balance between acid and alkali

buffer land *noun* ENVIRON land between a protected area such as a nature reserve and the surrounding countryside or town. Also called **buffer zone**

buffer size *noun* COMPUT the total number of characters that can be held in a buffer

buffer zone *noun* ENVIRON same as **buffer land**

buffet *noun* AEROSP the shaking of an aircraft caused by the breakdown of the airflow over the upper surface of the wing ○ *Large aircraft use a stick shaker to supplement the natural stall warning of buffet.* ■ *verb (of water or wind)* to push something around with great force ○ *The storm buffeted the coast.* ○ *The aircraft was buffeted by strong crosswinds as it made its final approach to land.*

COMMENT: Buffet is a warning to the pilot that the smooth airflow over the wing is breaking down and that corrective action should be taken to prevent a stall.

buffet speed *noun* AEROSP the speed at which buffet is first noticed

bug *noun* **1.** COMPUT an error in a computer program which makes it run incorrectly (*informal*) **2.** ZOOL an insect (*informal*) **3.** ZOOL a winged insect belonging to the class Hemiptera

buggy *noun* a small computer-controlled vehicle

build *noun* COMPUT a particular version of a program ○ *This is the latest build of the new software.* ■ *verb* **1.** ENG to make a construction ○ *The developer is planning to build 2500 new houses on the greenfield site.* ○ *The female birds build nests of straw in holes in trees.* **2.** COMPUT to develop software

building *noun* **1.** ENVIRON a construction such as a house, shop or office ○ *modern buildings with good insulation* **2.** EARTH SCI the process of constructing something ○ *permission for building on the site*

building area *noun* ENVIRON an area of land on which building may take place or is taking place. Also called **building zone**

building block *noun* COMPUT a self-contained unit that can be joined to others to form a system

building-related illness *noun* an illness that can be traced to a specific pollutant or source within a building (NOTE: Legionnaires' disease is a building-related illness.)

building zone *noun* ENVIRON same as **building area**

build up *verb* **1.** to form by accumulation ○ *In these conditions, ice builds up on the wings* ○ *The pesticide gradually built up in the food chain.* **2.** to develop gradually ○ *Traffic has built up over the last five years.*

build-up *noun* a gradual accumulation ○ *a build-up of DDT in the food chain* ○ *a build-up of static electricity*

built environment *noun* ENVIRON the buildings, roads and other structures made by people and in which they live, work or travel. Compare **natural environment**

built-in *adjective* COMPUT referring to a feature that is already included in a system
 ○ *The built-in adapter card makes it fully IBM compatible.* ○ *The computer has a built-in hard disk.* ○ *The printer has several built-in fonts.*

built-up area *noun* ENVIRON an area which has many houses, shops, offices and other buildings, with very little open space

bulb *noun* **1.** ELEC a glass ball that produces light when electricity is supplied ○ *A bulb has an element that heats up and glows brightly when you switch on the electricity.* **2.** something shaped like a lamp bulb ○ *The most common type of hygrometer is the wet and dry bulb thermometer arrangement.* **3.** BOT an underground plant organ of fleshy scale leaves and buds. It can be planted and will produce flowers and seed.

bulk erase *noun* COMPUT the erasing of a complete magnetic disk or tape in one action

bulkhead *noun* AEROSP a dividing partition across the structure of the fuselage separating one compartment from another for reasons of safety or strength ○ *A fire-proof bulkhead is provided to separate the cool area of the engine from the hot area.*

bulking agent *noun* INDUST an additive which causes a substance to stick together as a mass

bulk storage medium *noun* COMPUT a medium that is able to store large amounts of data in a convenient size and form ○ *Magnetic tape is a reliable bulk storage medium.*

bullet *noun* COMPUT a symbol, often a filled circle or square in front of a line of text, used to draw attention to a particular line in a list

bund *noun* ENG a soil wall built across a slope to retain water or to hold waste in a sloping landfill site

bundle *noun* **1.** TELECOM a number of optic fibres gathered together **2.** COMPUT a package containing a computer together with software or accessories offered at a special price ○ *The bundle now includes a PC with spreadsheet and database applications for just £999.* ■ *verb* COMPUT to market at a special price a package that

contains a computer together with a range of software or accessories

bundled software *noun* COMPUT software included in the price of a computer system

Bunsen burner *noun* SCI a portable tube-shaped gas burner with an adjustable hole controlling air intake and flame characteristics, used in laboratories

buoyancy *noun* PHYS the ability to float on a liquid or air

burette *noun* MEASURE, CHEM a glass tube with a scale marked on the side and a stopcock at the bottom, used to release accurately measured quantities of liquid during chemical analysis

burn *noun* MED an injury to skin and tissue caused by light, heat, radiation, electricity or a chemical ■ *verb* **1.** ENVIRON to destroy or damage something by fire ○ *Several hundred hectares of forest were burnt in the fire.* **2.** INDUST to use fuel or food to produce energy ○ *Swimming will help you burn calories.*

burner *noun* INDUST a device for burning something such as fuel or waste

burner reactor *noun* INDUST a type of nuclear reactor in which fuel such as uranium-239 is used to generate heat by fission

burn in *verb* COMPUT **1.** to mark a monitor screen after displaying a high brightness image for too long **2.** to write data into a PROM chip

burning *noun* ENVIRON the process of burning something such as fuel or waste

burn out *noun* COMPUT excess heat or incorrect use that causes an electronic circuit or device to fail

burn-up *noun* INDUST the amount of fuel burnt in a nuclear reactor, shown as a proportion of the fuel originally used

burst *noun* **1.** ELEC a short isolated sequence of transmitted signals **2.** PHYS a minor explosion caused by increased pressure ○ *The risk of tyre burst through overheating is increased by hard application of the brakes.* **3.** a very short period of activity followed by no activity ○ *a burst of energy* ○ *The ground installation transmits a code in two short bursts.* ■ *verb* to explode because of increased pressure or a puncture ○ *Metal debris on the runway may cause a tyre to burst.* (NOTE: **bursting** – **burst**)

burst mode *noun* ELEC the transfer of a batch of data across a bus with no interruptions

bus *noun* COMPUT **1.** a communication link consisting of a set of leads or wires which connects different parts of a computer hardware system, and over which data is transmitted and received by various circuits in the system **2.** a central source of information which supplies several devices

bus arbitration *noun* COMPUT a protocol and control of transmission over a bus that ensures fair usage by several users

busbar *noun* ELEC an electrical conductor used to carry a particular power supply to various pieces of equipment ○ *Complex busbars are thick metal strips or rods to which input and output connections are made.*

bus clock *noun* COMPUT the speed at which data is transferred along the main bus in a computer

bus driver *noun* COMPUT a high power transistor or amplifier that can provide enough power to transmit signals to a number of devices

bus extender, bus extension card *noun* COMPUT **1.** a device that extends an 8-bit bus to accommodate 16-bit add-in cards **2.** a special board used by repair engineers that moves an add-in board up to a position that is easier to work on

bush *noun* **1.** BOT a plant with many woody stems ○ *a coffee bush ○ a rose bush* **2.** GEOG in semi-arid regions, natural land covered with bushes and small trees

bush-fallow *noun* AGRIC a form of subsistence agriculture in which land is cultivated for a few years until its natural fertility is exhausted, then allowed to rest for a long period during which the natural vegetation regrows, after which the land is cleared and cultivated again

bus master *noun* COMPUT a device that controls the bus while transmitting (NOTE: Bus master status can move between sending stations.)

bus structure *noun* COMPUT the way in which buses are organised, e.g. whether serial, parallel or bidirectional

bus topology *noun* COMPUT a network topology in which all devices are connected to a single cable which has terminators at each end ○ *Ethernet is a network that uses the bus topology.* ○ *Token ring uses a ring topology.*

busy *adjective* COMPUT **1.** occupied in doing something or in working ○ *When the busy line goes low, the printer will accept more data.* □ **the line is busy** the telephone line is being used **2.** an electrical signal indicating that a device is not ready to receive data

butadiene *noun* CHEM a colourless and flammable gas, used in synthetic rubber and in nylon and latex paint manufacture. Formula: $\text{CH}_2=\text{CHCH}=\text{CH}_2$. (NOTE: It is a product of petroleum.)

butane *noun* CHEM a gas produced during petroleum distillation, used domestically for heating and sold in special containers as bottled gas. Formula: C_4H_{10} .

butanedioic acid *noun* CHEM a crystalline carboxylic acid formed during the fermentation of sugar, occurring in some plants and in amber. Formula: $\text{HOOC}-(\text{CH}_2)_2\text{COOH}$. Also called **succinic acid**

butanol *noun* CHEM a colourless liquid with four different molecular structures (**isomers**), used as a solvent and in organic chemical manufacture. Formula: $\text{C}_4\text{H}_9\text{OH}$. Also called **butyl alcohol**

butterfly *noun* INSECTS a flying insect with large, often colourful wings

button *noun* COMPUT **1.** a switch that carries out an action ○ *Use the mouse to move the cursor to the icon and start the application by pressing the mouse button.* **2.** a square shape displayed on a screen that will carry out a particular action if selected with a pointer or keyboard ○ *There are two buttons at the bottom of the status window, select the left button to cancel the operation or the right to continue.*

button bar *noun* COMPUT a line of square shapes displayed on screen each of which start an action or program when selected

butyl alcohol *noun* CHEM same as **butanol**

butylated hydroxytoluene /ˌbjuːtɪleɪtɪd haɪˌdrɒksiˈtɒljuiːn/ *noun* a common antioxidant additive (E321) used in processed foods containing fat. It may be carcinogenic. Abbr **BHT**

Buys Ballot's law *noun* METEOROL a rule for identifying low pressure areas based on the Coriolis effect stating that in the northern hemisphere, if the wind is blowing from behind you, then the low pressure area is to the left, while in the southern hemisphere it is to your right

buzz ELEC *noun* a sound like a loud hum

■ *verb* to make a loud hum

buzzer *noun* ELEC an electrical device which makes a loud hum

by-catch *noun* FISHERY fish or sea mammals caught during fishing but not required and thrown back dead into the sea ○ *By-catch is a major environmental problem as it involves the uncontrolled destruction of populations.*

bypass *noun* an alternative route, pipe, or channel ○ *A turbine bypass in the form of an alternative exhaust duct is fitted with a valve.*

by-pass *noun* ENVIRON a road built around a town, to relieve traffic congestion ○ *Since the by-pass was built, traffic in the town has been reduced by half.* ■ *verb* to avoid something by going around it ○ *They*

by-passed the normal complaints procedure and went straight to the director of the chemical company. ○ *The plans are to build a new main road, by-passing the town.*

by-product *noun* INDUST something additional produced during a process

byte *noun* COMPUT a group of bits or binary digits, usually eight, which a computer operates on as a single unit

bytecode *noun* COMPUT a form of Java instructions that can be executed in a Java Virtual Machine (NOTE: When a programmer develops a program written in Java, the Java compiler converts the instructions in a bytecode form that can then be run on any computer that supports the Virtual Machine software.)

C

C *symbol* **1.** CHEM ELEM carbon **2.** MEASURE Celsius **3.** MEASURE centi- **4.** ELEC coulomb **5.** COMPUT the hexadecimal number equivalent to decimal 12 ■ *noun* COMPUT a high level programming language developed mainly for writing structured systems programs (NOTE: The C language was originally developed for and with the UNIX operating system.)

C++ *noun* COMPUT a high-level programming language based on its predecessor, C, but providing object oriented programming functions

Ca *symbol* CHEM ELEM calcium

cable *noun* **1.** a thick metal wire **2.** ELEC a flexible conducting electrical or optical link ○ *The cable has the wrong connector for this printer.*

cable connector *noun* ELEC the connector at each end of a cable

cable matcher *noun* ELEC a device that change the impedance of a cable so that the cable can be used with a specific device

cable modem *noun* COMPUT a device that provides high-speed access to the Internet via the coaxial cable, used to distribute cable television signals

cable plant *noun* ELEC all the cables, connectors and patch panels within a building or office

cable tester *noun* ELEC a piece of test equipment used to find breaks, faults or cracks in cabling

cache COMPUT *noun* a section of high-speed memory which stores data that the computer can access quickly ■ *verb* to store data in a cache ○ *This central processing unit caches instructions, improving performance by 15 per cent.*

cache hit *noun* COMPUT a retrieval of data from cache memory rather than from the storage device, indicating that time was saved and the cache was useful

cache memory *noun* COMPUT same as **cache**

CAD *abbreviation* COMPUT computer-aided design *or* computer-assisted design

cadaver *noun* a dead body, especially one that is to be dissected

caddy *noun* COMPUT a plastic or metal case for a CD-ROM

cadmium *noun* CHEM ELEM a metallic element naturally present in soil and rock in association with zinc (NOTE: The chemical symbol is **Cd**; the atomic number is **48** and the atomic weight is **112.40**.)

cadmium sulfide, cadmium sulphide *noun* CHEM an orange or yellow solid used as a colouring, e.g. in paints. Formula: CdS.

caducous *adjective* BIOL referring to a part of a plant or animal which becomes detached during the organism's life

CAE *abbreviation* COMPUT computer-aided engineering *or* computer-assisted engineering

caesium *noun* CHEM ELEM a metallic alkali element which is one of the main radioactive pollutants taken up by fish (NOTE: The chemical symbol is **Cs**; the atomic number is **55** and the atomic weight is **132.91**.)

caesium clock *noun* PHYS a very accurate clock in which caesium atoms are stimulated by an alternating magnetic field (NOTE: A precise time is determined when the frequencies of the atoms and the magnetic field are the same.)

CAI *abbreviation* COMPUT computer-aided instruction *or* computer-assisted instruction

cal *symbol* PHYS, MEASURE calorie

CAL *abbreviation* COMPUT **1.** computer-aided learning **2.** computer-assisted learning

calc- *prefix* calcium

calcareous *adjective* EARTH SCI (of soil or rock) containing calcium

calcareous grassland *noun* ECOL the type of vegetation such as grasses that is typical on chalk soil. \diamond **acid grassland**

calci- *prefix* same as **calc-**

calcicole, calcicolous plant *noun* BOT a plant which grows well on chalky or alkaline soils. Also called **calciphile**

calciferol *noun* BIOL vitamin D₂

calcification *noun* CHEM the process of hardening by forming deposits of calcium salts

calcified *adjective* BIOL made hard \circ *Bone is calcified connective tissue.*

calcifuge *noun* BOT a plant which prefers acid soils and does not grow on chalky or alkaline soils. Also called **calciphobe**

calcimorphic soil *noun* GEOL soil which is rich in lime

calcin *verb* CHEM to heat something at high temperature

calcination *noun* CHEM the heating of something such as a gas at high temperature in the production of metal oxides

calciphile *noun* BOT same as **calcicole**

calciphobe *noun* BOT same as **calcifuge**

calcite *noun* MINERALS a colourless or white crystalline form of calcium carbonate, used in cement, plaster, glass and paints. Formula: CaCO₃. (NOTE: It is the main constituent of limestone, marble and chalk.)

calcitonin *noun* BIOCHEM a hormone, produced chiefly by the thyroid gland in mammals, that promotes the deposition of calcium in bones

calcium *noun* CHEM ELEM a metallic chemical element naturally present in limestone and chalk. It is essential for biological processes. (NOTE: The chemical symbol is **Ca**; the atomic number is **20** and atomic weight is **40.08**.)

COMMENT: Calcium is essential for various bodily processes such as blood clotting and is a major component of bones and teeth. It is an important element in a balanced diet. Milk, cheese, eggs and certain vegetables are its main sources. In birds, calcium is responsible for the formation of strong eggshells. Water which passes through limestone contains a high level of calcium and is called 'hard'.

calcium bicarbonate *noun* CHEM same as **calcium hydrogencarbonate**

calcium carbide *noun* CHEM a greyish-black solid that is white when pure,

used for acetylene gas generation. Formula: CaC₂.

calcium carbonate *noun* CHEM a white insoluble solid formed from animal organisms that is naturally abundant and is found in chalk, limestone and marble. It is used in the production of cement, antacids, paint and toothpaste. Formula: CaCO₃.

calcium cycle *noun* BIOL a cycle of events by which calcium in the soil is taken up into plants, passed to animals which eat the plants and then passed back to the soil again when the animals die and decompose

calcium deficiency *noun* BIOL a lack of calcium in an animal's bloodstream

calcium hydrogencarbonate *noun* CHEM a solid formed when calcium carbonate is dissolved in water containing carbon dioxide. Formula: CaCO₃ + H₂O - Ca(HCO₃)₂. Also called **calcium bicarbonate**

calcium hydroxide *noun* CHEM a white alkaline powder used in acid soil treatment, cement, plaster, and glass manufacture. Formula: Ca(OH)₂. Also called **slaked lime**

calcium oxide *noun* CHEM a chemical used in many industrial processes and also spread on soil to reduce acidity. Formula: CaO. Also called **quicklime**

calcium phosphate *noun* the main constituent of bones and bone ash fertiliser. Formula: (Ca₃(PO₄)₂).

calcium sulfate, calcium sulphate *noun* CHEM a white odourless powder used as a drying agent, a building material and in plaster of Paris. Formula: CaSO₄.

calcium supplement *noun* HEALTH an addition of calcium to the diet, or as injections, to improve the level of calcium in the bloodstream

calculate *verb* **1.** MATHS to find the answer to a problem using numbers \circ *The DP manager calculated the rate for keyboarding.* \circ *You need to calculate the remaining disk space.* **2.** to estimate something \circ *I calculate that we have six months' stock left.*

calculated field *noun* COMPUT a field within a database record that contains the results of calculations performed on other fields

calculation *noun* MATHS the answer to a mathematical problem

calculator *noun* an electronic machine which works out the answers to numerical

problems ○ *My pocket calculator needs a new battery.* ○ *He worked out the discount on his calculator.*

calculus *noun* MATHS a branch of mathematics that deals with the behaviour of functions with continuous variables

calibrate *verb* **1.** to make a scale on a measuring instrument **2.** to check or change the scale or graduations on a measuring instrument to make it accurate ○ *The international standard atmosphere is used to calibrate pressure altimeters.* **3.** to measure the inside diameter of a tube or passage

calibrated airspeed *noun* AEROSP indicated airspeed corrected for instrumentation and installation errors. Abbr **CAS**

calibration *noun* **1.** the establishment or adjustment of a scale on a measuring instrument **2.** ELEC the comparison of a signal from an input with a known scale to provide a standardised reading

calibre *noun* an interior diameter of a tube, blood vessel, etc.

californium *noun* CHEM ELEM a synthetic radioactive metallic element in the actinide series of the periodic table (NOTE: The chemical symbol is **Cf**; the atomic number is **98** and the atomic weight is **251**. It is produced by bombardment of curium or americium with neutrons, and is used as a neutron source.)

call *verb* COMPUT to transfer control to a separate program or routine from a main program ○ *After an input is received, the first function is called.*

callback *noun* COMPUT a security system designed to reduce the risk of an unauthorised user connecting to a computer installed with dial-in networking (NOTE: Communications software and a modem are used to dial the remote computer and enter a name and password. The remote computer then hangs up the telephone line and calls back on a preset telephone number.)

calling *noun* COMPUT a signal to request attention, sent from a terminal or device to the main computer

calling sequence *noun* COMPUT a series of program commands required to direct execution to or back from a subroutine

call instruction *noun* COMPUT a programming instruction that directs control to a routine with control passed back once

the routine has finished (NOTE: Before the call, the program counter contents are saved to show where to return to in the main program.)

calm *noun* METEOROL a period when there is no wind at all

calomel half cell *noun* CHEM an electrode formed of mercury, mercury (I) chloride and potassium, providing a known potential and used as a reference point

caloric *adjective* PHYS referring to calories

caloric energy *noun* PHYS the amount of energy shown as a number of calories

caloric requirement *noun* BIOL the amount of energy, shown in calories, which an animal or a human being needs each day

calorie *noun* MEASURE, PHYS a unit of measurement of heat or energy. Symbol **cal** (NOTE: The **joule**, an SI measure, is now more usual: 1 calorie = 4.186 joules.)

COMMENT: One calorie is the amount of heat needed to raise the temperature of one gram of water by one degree Celsius. The kilocalorie (shortened to 'Calorie') is also used as a measurement of the energy content of food and to show the caloric requirement or amount of energy needed by an average person. The average adult in an office job requires about 2,500 calories per day, supplied by carbohydrates and fats to give energy and proteins to replace tissue. More strenuous physical work needs more calories. If a person eats more than the number of calories needed by his energy output or for his growth, the extra calories are stored in the body as fat.

Calorie *noun* PHYS same as **kilocalorie**. Symbol **Cal, kcal**

calorific *adjective* PHYS, PHYSIOL referring to calories, especially in food

calorific value *noun* PHYSIOL same as **energy value**

calorimeter *noun* PHYS a piece of equipment that measures the amount of heat given out or taken in during a process such as combustion or a change of state

calyx *noun* BOT the part of a flower made up of green sepals which cover the flower when it is in bud (NOTE: The plural is **calyces**.)

cam *noun* MECH ENG an oval or egg-shaped wheel which, when rotating, converts circular motion into reciprocating motion ○ *In a piston engine, the shape of each cam is designed to give the correct amount of opening to the valve.*

CAM *abbreviation* COMPUT **1.** computer-aided manufacture **2.** computer-assisted manufacture **3.** content-addressable memory

cambium *noun* BOT in plant roots and stems, a cylindrical layer of cells that produces new sap-conducting tissues and increases girth

Cambridge ring *noun* COMPUT a local area networking standard used for connecting several devices and computers together in a ring with simple cable links

camouflage ZOOL *noun* the natural concealment of an animal's shape by colours or patterns ○ *The stripes on the zebra are a form of camouflage which makes the animal difficult to see in long grass.* ■ *verb* to hide the shape of an animal or object by using colours or patterns on the skin or exterior

camphor *noun* CHEM a white solid with a characteristic odour, used medicinally and in the manufacture of celluloid plastics and explosives

camplate *noun* MECH ENG a rotating or non-rotating plate with cams on it ○ *The fuel pump consists of a rotor assembly fitted with several plungers, the ends of which bear onto a non-rotating camplate.*

camshaft *noun* MECH ENG a rotating shaft-carrying cam, which opens and closes valves in a piston engine ○ *As the camshaft rotates, the cam will transmit a lifting force.*

Canadian deuterium-uranium reactor *noun* INDUST a nuclear reactor using uranium oxide as a fuel and heavy water containing deuterium as a moderator and coolant. Abbr **CANDU** (NOTE: There is a reactor of this type at Pickering, Ontario in Canada.)

canal *noun* ENG **1.** a waterway made by people for boats to travel along **2.** a waterway made by people to take water to irrigate land

cancel *verb* COMPUT to stop a process or instruction before it has been fully executed

cancer *noun* MED a malignant growth or tumour which develops in tissue and destroys it, which can spread by metastasis to other parts of the body and cannot be controlled by the body itself

COMMENT: Cancers can be divided into cancers of the skin (carcinomas) and cancers of connective tissue such as bone or muscle (sarcomas). Cancer can be

caused by tobacco, radiation and many other factors. There is evidence that constant exposure to the Sun can cause cancer (melanoma) of fair skin and depletion of the ozone layer in the atmosphere may increase the incidence of skin cancer. Many cancers are curable by surgery, by chemotherapy or by radiation, especially if they are detected early.

cancerous *adjective* MED referring to cancer ○ *a cancerous growth*

candela *noun* PHYS, MEASURE an SI unit measuring the brightness of a light ○ *The red and green wing tip navigation lights must be at least 5 candela.* Symbol **cd**

candle power *noun* a former unit of brightness, replaced by the candela ○ *Estimation of visibility is achieved by noting the distances at which lights of a known candle power can be observed.*

canine *adjective* ZOOL referring to dogs ■ *noun* DENT same as **canine tooth**

canine tooth *noun* DENT a pointed tooth, between the incisors and bicuspid of a mammal

cankered *adjective* BIOL (*of skin or plant tissue*) having areas of damage caused by canker

cannabinoid *noun* CHEM an organic chemical substance belonging to a group that comprises the active constituents of cannabis

Cannizzaro reaction *noun* CHEM an alkaline chemical reaction in which aldehydes are broken down into alcohols and acid salts

canonical schema *noun* COMPUT a model of a database that is independent of the hardware or software available

canopy *noun* BOT a layer of branches and leaves of trees which shade the ground underneath. ◇ **green area index**

canopy cover *noun* BOT the percentage of the surface of the ground which is shaded by the leaves and branches of trees

cantilever *noun* MECH ENG a beam fixed and supported at one end only ○ *The wings are of cantilever design.*

canyon *noun* GEOG a deep valley with steep sides

cap *noun* **1.** a top or lid ○ *the exhaust valve cap* **2.** FUNGI a part of the dome-shaped structure of some fungi which bears spores on its lower surface

CAP *abbreviation* Common Agricultural Policy

capability *noun* the fact of being able to do something ○ *This scanner has the capability of working at 2400 dpi.*

capability list *noun* COMPUT a list of operations that can be carried out

capable *adjective* able to do something ○ *That is the highest speed that this printer is capable of.* ○ *The software is capable of far more complex functions.* ○ *The machine is capable of carrying out hundreds of tests an hour.*

capacitance *noun* ELEC the ability of a component to store electrical charge ○ *Capacitance is measured in farads and can either be a fixed amount or a variable amount.* ○ *If the supply frequency is low, the voltage has more time to build up a larger charge, or capacitance.*

capacitative, capacititive *adjective* ELEC having capacitance

capacitor *noun* ELEC an electronic component which can store charge

capacitor storage *noun* ELEC a device using the capacitative properties of a material to store data

capacity *noun* **1.** the ability to do something easily ○ *Energy is the capacity for performing work.* **2.** the amount of something which a container can hold ○ *Each cylinder has a capacity of 0.5 litres.* **3.** INDUST the amount which can be produced or the amount of work which can be done ○ *industrial or manufacturing or production capacity* □ **to work at full capacity** COMPUT to do as much work as possible □ **to use up spare or excess capacity** COMPUT to make use of time or space which is not fully used

capillarity *noun* PHYS same as **capillary action**

capillary *noun* **1.** ANAT a tiny blood vessel between the arterioles and the venules, which carries blood and nutrients into the tissues **2.** BIOL a narrow tube carrying a liquid

capillary action, capillary flow *noun* PHYS the movement of a liquid upwards inside a narrow tube or upwards through the soil

COMMENT: Capillary flow has an important effect on water in soil, as it does not drain away. Water moves through the soil by capillary action, i.e. by the surface tension between the water and the walls of the fine tubes or capillaries. It is a very slow movement, and may not be fast enough to supply plant roots in a soil which is drying out.

caprylic acid *noun* CHEM same as **octanoic acid**

capstan *noun* COMPUT a spindle of a tape player or tape backup unit that keeps the tape pressed against the magnetic read/write head or pinch roller

capsule *noun* **1.** a small closed container **2.** BOT a dry structure which bursts open with force releasing the seeds of flowering plants or spores of mosses **3.** ANAT a membrane round an organ

captive breeding *noun* the breeding of threatened species in zoos, usually with the intention of later releasing them into the wild

capture *verb* COMPUT **1.** to take data into a computer system ○ *The software allows captured images to be edited.* ○ *Scanners usually capture images at a resolution of 300 dots per inch (dpi).* □ **to capture a printer port** to redirect data intended for a local printer port over a network to a shared printer □ **to capture a screen** to store the image that is currently displayed on the screen in a file **2.** *(in a Token-Ring network)* to remove a token from the network in order to transmit data across the network

carapace *noun* ZOOLOG a thick hard case or shell of bone or chitin covering part of the body, especially the back, of an animal such as a crab or turtle

carbamate *noun* CHEM a pesticide belonging to a large group used as insecticides, herbicides and fungicides. It is no longer approved for use in the UK.

carbamide *noun* CHEM same as **urea**

carbanion *noun* CHEM a negatively charged organic ion in which carbon has three covalent bonds

carbene *noun* CHEM a highly reactive, transient molecule in which a carbon atom has only three bonds

carbide *noun* CHEM a compound of carbon and another element, generally a metal

carbohydrate *noun* BIOL an organic compound composed of carbon, hydrogen and oxygen, e.g. sugars, cellulose and starch

COMMENT: Carbohydrates are compounds of carbon, hydrogen and oxygen. They are found in particular in sugar and starch from plants, and provide the body with energy. Plants build up valuable organic substances from simple materials. The most important part of this process, which is called photosynthesis, is the production of

carbohydrates such as sugars, starches and cellulose by green plants which convert carbon dioxide and water using sunlight as energy. Carbohydrates form the largest part of the food of animals.

carbolic acid *noun* CHEM same as **phenol**

carbon *noun* CHEM ELEM a common non-metallic element that is an essential component of living matter and organic chemical compounds (NOTE: The chemical symbol is **C**; the atomic number is **6** and the atomic weight is **12.01**.)

carbon-14 dating *noun* TECH same as **carbon dating**

carbonaceous *adjective* CHEM referring to rock which is rich in hydrocarbons, e.g. coal

carbonate *noun* CHEM a compound formed from a base and carbonic acid ■ *verb* INDUST to add carbon dioxide to a drink to make it fizzy

carbonation *noun* FOOD INDUST the addition of carbon dioxide to a drink to make it fizzy

carbon black *noun* CHEM a fine carbon powder derived from petroleum or natural gas and used as a pigment and in making rubber

carbon brush *noun* ELEC a small, replaceable, carbon block in an electric motor, generator or alternator which allows the passage of electric current

carbon copy *noun* COMPUT a feature of electronic mail software that allows you to send a copy of a message to another user. ◊

blind carbon copy. Abbr **cc**

carbon cycle *noun* BIOCHEM the circulation of carbon, by which carbon atoms from carbon dioxide are incorporated into organic compounds in plants during photosynthesis. They are then oxidised into carbon dioxide during respiration by plants or herbivores which eat them and by carnivores which eat the herbivores, thus releasing carbon to go round the cycle again.

carbon dating *noun* TECH the process of finding out how old something is by analysing the amount of carbon, especially the radioactive isotope carbon-14, in it that has decayed

carbon deposit *noun* a residue of burnt oil deposited in a combustion chamber in the course of the combustion process ◊ *Carbon deposits on a spark-plug electrode may cause misfiring.*

carbon dioxide *noun* CHEM a colourless odourless non-flammable atmospheric gas. It is used in photosynthesis and given off in aerobic respiration. Formula: CO₂.

COMMENT: Carbon dioxide exists naturally in air and is produced by burning or by decaying organic matter. In animals, the body's metabolism utilises carbon, which is then breathed out by the lungs as waste carbon dioxide. Carbon dioxide is removed from the atmosphere by plants when it is split by chlorophyll in photosynthesis to form carbon and oxygen. It is also dissolved from the atmosphere in water. The increasing release of carbon dioxide into the atmosphere, especially from burning fossil fuels, contributes to the greenhouse effect. Carbon dioxide is used in solid form as a means of keeping food cold. It is also used in fizzy drinks and has the E number 290. It is used as a coolant in some nuclear reactors. Carbon dioxide is found in the atmospheres of the Earth, Venus and Mars. On Earth it is produced mainly by volcanoes and was the atmosphere's dominant active component (nitrogen, the main component, is chemically inert) until photosynthesis began and oxygen was produced.

carbon dioxide equivalent *noun* MEASURE, ENVIRON a metric measure used in comparing emissions from different greenhouse gases to assess their global warming potential. Also called **CO₂ equivalent**

carbon dioxide tax *noun* CHEM same as **carbon tax**

COMMENT: Carbon dioxide exists naturally in air and is produced by burning or rotting organic matter. In animals, the body's metabolism makes the tissues burn carbon, which is then breathed out by the lungs as waste carbon dioxide. Carbon dioxide is removed from the atmosphere by plants when it is split by chlorophyll in photosynthesis to form carbon and oxygen. It is also dissolved from the atmosphere in sea water. The increasing release of carbon dioxide into the atmosphere, especially from burning fossil fuels, contributes to the greenhouse effect. Carbon dioxide is used in solid form as a means of keeping food cold. It is also used in fizzy drinks and has the E number 290. It is used as a coolant in some nuclear reactors. Carbon dioxide is found in the atmospheres of the Earth, Venus and Mars. On Earth it is produced mainly by volcanoes and was the atmosphere's dominant active component (nitrogen, the main component of the atmosphere, is very inert chemically) until photosynthesis began and oxygen was produced

carbon disulfide, carbon disulphide *noun* CHEM a colourless toxic flammable liquid containing impurities giving it a

characteristic smell of rotten eggs. Formula: CS_2 . (NOTE: It is used as a solvent for rubber vulcanisation, as a pesticide and in Cellophane and rayon manufacture.)

carbon emissions *plural noun* ENVIRON the carbon dioxide and carbon monoxide produced by motor vehicles and industrial processes and regarded as atmospheric pollutants

carbon fibre *noun* 1. INDUST a thin strong strand of pure carbon which can be combined with other materials to make them stronger 2. EARTH SCI a light and strong composite material containing strands of pure carbon

carbonic acid *noun* CHEM a weak acid formed in small quantities when carbon dioxide is dissolved in water. Formula: H_2CO_3 .

carboniferous *adjective* GEOL containing coal or carbon ○ *carboniferous limestone*

Carboniferous period *noun* GEOL the period of geological time when reptiles first appeared and much of the Earth's surface was covered by forests

carbonisation *noun* BIOCHEM the process by which fossil plants have become carbon

carbonise *verb* CHEM to cover or coat a surface with carbon

carbonium ion *noun* CHEM an organic ion containing a carbon atom bearing a positive charge

carbon monoxide *noun* CHEM a colourless, odourless and poisonous gas found in fumes from car engines, burning gas and cigarette smoke. Formula: CO.

COMMENT: Carbon monoxide exists in tobacco smoke and in car exhaust fumes and is dangerous because it is easily absorbed into the blood and takes the place of the oxygen in the blood, combining with haemoglobin to form carboxyhaemoglobin, which has the effect of starving the tissues of oxygen. Carbon monoxide has no smell and people do not realise that they are being poisoned by it until they become unconscious, with a characteristic red colouring to the skin.

carbon neutral *adjective* INDUST producing and using the same amount of carbon (NOTE: Renewable plant fuels are carbon neutral. If the same numbers of plants are replanted as are harvested, the CO_2 levels in the air will remain about the same.)

carbon sequestration *noun* ECOL the uptake and storage of carbon by trees and other plants absorbing carbon dioxide and releasing oxygen

carbon sink *noun* ECOL a part of the ecosphere such as a tropical forest which absorbs carbon

carbon source *noun* ECOL a part of the ecosphere such as animals or an industrial or domestic process that releases carbon into the atmosphere in the form of carbon dioxide

carbon tax *noun* an amount of money added by a government to the price of fuel according to its carbon content, to encourage the use of fuels that contain less carbon and so reduce emissions of carbon dioxide. Also called **carbon dioxide tax**

carbon tetrachloride *noun* CHEM a dense non-flammable toxic liquid that is colourless with a sweetish smell, used as a solvent, refrigerant and dry-cleaning agent and in fire extinguishers. Formula: CCl_4 .

carbon trading *noun* ENVIRON the system of one country using some of another country's permitted carbon dioxide output as well as its own. ◊ **emissions trading**

Carbon Trust *noun* ENVIRON a UK organisation supported by government grants that encourages and promotes the development of low-carbon technologies, both energy-efficient technologies and low-carbon energy supplies

carbonyl chloride *noun* CHEM same as **phosgene**

carbonyl group *noun* CHEM a chemical group formed with a double-bond between carbon and oxygen atoms, $C=O$, occurring in aldehydes, carboxylic acids and ketones

carborundum *noun* CHEM a dark crystalline abrasive material composed of silicon carbide

carboxyhaemoglobin *noun* BIOCHEM a compound of carbon monoxide and the blood pigment haemoglobin formed when a person breathes in carbon monoxide from car fumes or from ordinary cigarette smoke

carboxyl group *noun* CHEM the acid group $-COOH$:

carboxylic acid *noun* CHEM an organic acid that contains the carboxyl group

carburation *noun* MECH ENG the process of mixing fuel with air in a carburettor ○ *Carburation must ensure that rapid and*

complete burning will take place within the cylinder.

carburettor *noun* AUTOMOT a device for mixing air with fuel in the right quantities before combustion ○ *Most carburettors are installed so that they are in a warm position.*

carcin- *prefix* MED cancer

carcinogen *noun* MED a substance which causes cancer

COMMENT: Carcinogens are found in pesticides such as DDT, in asbestos, aromatic compounds such as benzene, and radioactive substances.

carcinogenesis *noun* MED the formation of cancerous cells in tissue

carcinogenic *adjective* MED causing cancer

carcinogenic agent *noun* MED a substance which causes cancer

card *noun* COMPUT **1.** a small piece of stiff paper or plastic **2.** a sheet of insulating material on which electronic components can be mounted

card edge connector *noun* COMPUT a series of metal tracks ending at the edge and on the surface of a card, allowing it to be plugged into an edge connector to provide electrical contact for data transmission

cardi-, cardio- *prefix* ANAT the heart

cardiac *adjective* ANAT referring to the heart

cardiac muscle *noun* ANAT the muscle of the heart wall

cardinal *adjective* MATHS referring to a positive integer ○ *13, 19 and 27 are cardinal numbers, -2.3 and 7.45 are not.*

cardinal number *noun* MATHS a number used to denote quantity but not order, e.g. 4 or 42

cardinal points *plural noun* GEOG the four points on the horizon, north, south, east and west, which are used to show direction

cardiogram *noun* MED a recording of heart movements

cardioid microphone *noun* ACOUSTICS a highly sensitive microphone which is used to pick up sound in a specific area

cardioid response *noun* ACOUSTICS a heart-shaped response curve of an antenna or microphone when a signal source is moved around it

cardiomyocyte *noun* BIOL, ANAT a cell of muscular tissue in the heart

cardiovascular system *noun* ANAT a system of organs and blood vessels, including the heart, arteries and veins, in which the blood circulates round the body

caret *noun* COMPUT a symbol (^) that is often used to represent the Control key

canallite *noun* MINERALS a white or pale mineral containing hydrated magnesium and potassium chlorides, used as a source of potassium and in fertilisers

canassial *noun* DENT one of the sharp molar and premolar teeth of a carnivore that are adapted for cutting flesh

carnivore *noun* ZOOL an animal that eats meat. ◊ **detritivore, frugivore, herbivore, omnivore**

carnivorous *adjective* **1.** BIOL referring to animals that eat meat ○ *a carnivorous animal* **2.** EARTH SCI referring to plants which trap and digest insects ○ *Sundews are carnivorous plants.*

carnivorous plant *noun* BOT a plant which attracts insects, traps them and then digests their bodies

Carnot cycle *noun* MECH ENG a theoretical heat-engine cycle that is reversible and gives maximum efficiency

carotene *noun* BIOCHEM an orange or red plant pigment

carotenoid *noun* BIOCHEM an orange or red plant pigment belonging to a group that includes carotenes

carotid artery *noun* ANAT one of two main arteries that carry blood to the head and neck

carotid body *noun* ANAT a mass of cells and nerve fibres in each carotid artery in the neck that detects acidity and oxygen levels in the blood so that they can be regulated by the body

carotid pulse *noun* ANAT a pulse in the carotid artery at the side of the neck

carpal *adjective* ANAT relating to the bones of the wrist

carpel *noun* BIOL a female part of a flower, formed of an ovary, style and stigma

carpus *noun* ANAT a bone belonging to the set of eight that make up the wrist (NOTE: The plural is **carpi**.)

carr *noun* GEOG an area of wetland which supports some trees ○ *fen carr* ○ *willow carr*

carrier *noun* **1.** COMPUT a device which holds a section of microfilm **2.** PHYS same

as **carrier signal** **3**. MED an organism that carries disease and infects other organisms, e.g. an insect that transmits the parasite causing malaria **4**. MED someone who has an infectious disease without showing symptoms, who may then infect other people **5**. MED a healthy person who carries a genetic variation that causes a hereditary disease, e.g. haemophilia **6**. CHEM a neutral substance to which an active ingredient is added

carrier detect *noun* COMPUT a signal generated by a modem to inform the local computer that it has detected a carrier signal from a remote modem. Abbr **CD**

carrier frequency *noun* COMPUT the frequency of a carrier signal before it is modulated

carrier gas, carrier solvent *noun* INDUST a gas used in an aerosol can to make the spray come out

carrier sense multiple access-collision detection *noun* COMPUT a network communications protocol used on an Ethernet network that prevents two sources transmitting at the same time by waiting for a quiet moment, then attempting to transmit. Abbr **CSMA-CD**

carrier signal *noun* COMPUT a continuous high frequency waveform that can be modulated by a signal ○ *He's not using a modem – there's no carrier signal on the line.* Also called **carrier**

carrier wave *noun* TELECOM the continuous transmission of a wave of constant amplitude and frequency

carry *verb* COMPUT to move something from one place to another ○ *The fibre optic link carried all the data.* ○ *The information-carrying abilities of this link are very good.* ■ *noun* MATHS an extra digit due to an addition the result being greater than the number base used ○ *When 5 and 7 are added, there is an answer of 2 and a carry which is put in the next column, giving 12.*

carry bit, carry flag *noun* COMPUT a single data bit that is used to indicate that a carry has occurred during an add operation

carrying capacity *noun* ECOL the maximum number of individuals of a species that can be supported in a given area

carry look ahead *noun* COMPUT a high speed electronic device that can predict if a carry will be generated by a sum operation and add it in. Compare **ripple-through carry**

cartesian coordinates *plural noun* COMPUT a positional system that uses two axes at right angles to represent a point which is located with two numbers, giving a position on each

cartesian structure *noun* COMPUT a data structure whose size is fixed and the elements are in a linear order

cartilage *noun* ANAT thick connective tissue which lines the joints and acts as a cushion and which forms part of the structure of an organ

cartilaginous fish *noun* ZOOLOG a fish with a cartilage skeleton. Class: Chondrichthyes. (NOTE: Sharks, rays and catfish are cartilaginous fish.)

cartridge *noun* COMPUT a removable cassette, containing a disk, tape, program or data, usually stored in ROM

CAS *abbreviation* AEROSP calibrated air-speed

cascade *noun* **1**. EARTH SCI a small waterfall **2**. CHEM a system for purifying substances, in which the substance passes through a series of identical processes, each stage increasing the purity ■ *verb* EARTH SCI (*of liquid*) to fall down like a waterfall

cascade carry *noun* COMPUT a carry generated in an adder from an input carry signal

cascading menu *noun* COMPUT a secondary menu that is displayed to the side of the main pull-down menu

cascading style sheet *noun* COMPUT a method of describing the font, spacing and colour of text within a webpage and storing this information in a style sheet that can be applied to any text within the page. Abbr **CSS**

case *noun* **1**. an outer covering ○ *Cooling air is directed through passages in the engine case to control engine case temperature.* **2**. an example, situation or circumstance ○ *Wind directions are measured from magnetic north in the case of landing and take-off.* **3**. MED a single occurrence of a disease ○ *There were two hundred cases of cholera in the recent outbreak.* **4**. MED a person who has a disease or who is undergoing treatment **5**. COMPUT a programming command that jumps to various points in a program depending on the result of a test **case-hardened** *adjective* METALL referring to a metal which has been given a hard outside layer by heating with carbon

case history *noun* MED an account of what has happened to a patient undergoing treatment

case sensitive *adjective* (of a command or operation) only working when the characters are entered in either uppercase or lowercase letters ○ *The password is case sensitive.*

case sensitive search *noun* a search function that succeeds only if the search word and the characters in the search word are both uppercase or lowercase in the same sequence

cash crop *noun* AGRIC a crop grown to be sold rather than eaten by the person who grows it, e.g. oil palm

Casimir force *noun* PHYS a small electrostatic force between a pair of conductors in a vacuum

cassette *noun* COMPUT a sealed plastic container used to store and protect magnetic tape

COMMENT: Using cassette tape allows computer data to be stored for future retrieval. It is used instead of a disk system on small computers or as a slow, serial access, high-capacity back-up medium for large systems.

cast *noun* COMPUT **1.** an instruction in a programming language that converts data from one type to another ○ *To convert the variable from an integer to a character type, use the cast command.* **2.** each individual part of a multimedia presentation or animation (NOTE: The members of a cast can be individual images, sound clips or text.)

cast-based animation *noun* COMPUT a type of animation in which everything is an object with defined movement, colour, shape, etc. (NOTE: A script controls the actions of each object.)

caste *noun* a group with a particular function in a hierarchical society of social insects such as termites

caste system *noun* ZOO a system where animals have different roles in a society (NOTE: In the case of bees, there are three different groups: the queen, the workers (sterile females) and the drones (males).)

cast iron *noun* CHEM a very hard alloy of iron, silicon and 1.7% to 4.5% carbon, which is smelted and poured into moulds to shape it

castrate *verb* to remove the testicles of a male animal

CAT *abbreviation* **1.** AEROSP clear air turbulence **2.** COMPUT computer-aided testing or computer-assisted testing **3.** COMPUT computer-aided training or computer-assisted training **4.** COMPUT computerised tomography **5.** Centre for Alternative Technology

catabolic *adjective* CHEM referring to catabolism

catabolism *noun* CHEM the breaking down of complex chemicals into simple chemicals

catadromous, katadromous *adjective* MARINE BIOL referring to fish that live in fresh water and go to the sea to spawn.

Compare **anadromous**

catadromy, katadromy *noun* MARINE BIOL the migration of fish such as eels from fresh water to the sea for spawning. Compare **anadromy**

catalyse *verb* CHEM to act as a catalyst in helping to make a chemical process take place (NOTE: The US spelling is **catalyze**.)

catalysis *noun* CHEM a process in which a chemical reaction is helped by a substance, the catalyst, which does not change during the process

catalyst *noun* CHEM a substance which produces or helps a chemical reaction without itself changing ○ *an enzyme which acts as a catalyst in the digestive process.*

catalytic *adjective* CHEM referring to catalysis

catalytic converter, catalytic muffler *noun* INDUST a box filled with a catalyst such as platinum attached to the exhaust pipe of a motor vehicle burning unleaded petrol in order to reduce the emission of carbon monoxide

catalytic cracker *noun* INDUST an oil-refinery device in which heat and a catalyst are used to break down large molecules in crude oil into smaller ones that are useful as fuel

catalytic reaction *noun* CHEM a chemical reaction which is caused by a catalyst which does not change during the reaction

catastrophe *noun* COMPUT a serious fault, error or breakdown of equipment, usually leading to serious damage and shutdown of a system

catastrophe theory *noun* ASTRON a theory of planetary formation involving collision or near-collision between the Sun and another passing star (NOTE: Such catastrophe theories now have few adher-

ents. They should not be confused with a different catastrophe theory, related to concepts of chaos and non-linearity, which explains sudden events in geometrical terms.)

catchment, catchment area *noun* **1.** EARTH SCI an area of land, sometimes extremely large, that collects and drains the rainwater that falls on it, e.g. the area round a lake or the basin of a river. Also called **drainage area, drainage basin** **2.** ENVIRONMENT an area around a school, hospital, shopping centre, or other service from which its pupils, patients or customers come

catchment basin *noun* EARTH SCI same as **catchment 1**

catecholamine *noun* BIOCHEM a compound belonging to a class that act as neurotransmitters or hormones (NOTE: Adrenaline is a catecholamine.)

categorise *verb* to put items into groups, classes or categories ◦ *Figure 2 categorises the types of wave by frequency band.*

category *noun* an official class or group

Category 1 *noun* COMPUT a standard that defines an older-style unshielded twisted-pair cable that is formed by loosely twisting two insulated wires together to reduce noise and interference (NOTE: This type of cable is not suitable for data transmission.)

Category 2 *noun* COMPUT (*in the EIA/TIA 568 specification*) a standard that defines a type of unshielded twisted-pair cable that can be used to transmit data at rates up to 4MHz

Category 3 *noun* COMPUT (*in the EIA/TIA 568 specification*) a standard that defines a type of unshielded twisted-pair cable that can be used to transmit data at rates of up to 10MHz (NOTE: This type of cable is the minimum standard of cable required for a 10BaseT network. The standard suggests that the cable should have three twists per foot of cable.)

Category 4 *noun* COMPUT (*in the EIA/TIA 568 specification*) a standard that defines a type of unshielded twisted-pair cable that is the minimum standard of cable required for data transmission rates up to 16Mbit/second on a Token Ring network

Category 5 *noun* COMPUT (*in the EIA/TIA 568 specification*) a standard that defines a type of cable that can carry data

transmitted at up to 100MHz and is suitable for FDDI over copper wire, 100BaseT or other high-speed networks

category wiring *noun* COMPUT (*in the EIA/TIA 568 specification*) one of five levels of standards that define the type of cable or wire used in a network

catena *noun* **1.** COMPUT a number of items in a chained list **2.** COMPUT a series of characters in a word **3.** EARTH SCI a diagram showing the differences in soil caused by drainage

catenate *verb* **1.** COMPUT to join together two or more sets of data **2.** CHEM to form a chain of atoms of the same element

caterpillar *noun* a soft-bodied larva of many species of butterflies and moths. Caterpillars feed mainly on foliage, but can also attack roots, seeds and bark of crops.

cathode *noun* ELEC a negative electrical terminal of a device or battery. Compare **anode**

cathode ray oscilloscope *noun* PHYS an electrical instrument with a cathode ray tube that displays the shape or size of an electrical signal on the screen

cathode ray tube *noun* **1.** a device used for displaying characters, figures or graphical information, similar to a TV set. Abbr **CRT** **2.** PHYS a sealed glass tube with one flat end coated on the inside with a luminescent compound and an electron gun at the other end (NOTE: The gun fires a stream of electrons that are visible as a dot on the screen. The dot can be moved around the screen by applying an electrical charge to two metal plates next to the electron gun that deflect the stream of electrons.)

COMMENT: Cathode ray tubes are used in television sets, computer monitors and VDUs. A CRT consists of a vacuum tube, one end of which is flat and coated with phosphor, the other end containing an electron beam source. Characters or graphics are visible when the controllable electron beam strikes the phosphor causing it to glow.

cathode ray tube storage *noun* a cathode ray tube with a long persistence phosphor screen coating that retains an image for a long time

cation *noun* CHEM an ion with a positive electric charge

cation exchange *noun* CHEM an exchange which takes place when the ions of calcium, magnesium and other metals found in soil replace the hydrogen ions in acid

cation exchange capacity *noun* a measure of the fertility of soil which describes its ability to hold and supply nutrients. Abbr **CEC**

catkin *noun* BOT a long hanging structure consisting of many single-sex flowers on a thin stem, found on temperate trees such as hazel, birch and oak. They are pollinated by the wind.

CAT scan *noun* MED same as **CT scan**

cattle *plural noun* ZOO domestic farm animals raised for their milk, meat and hide. Class: Bovidae. ◦ *herds of cattle* ◦ *dairy cattle*

caudal anaesthetic *noun* BIOL an anaesthetic often used in childbirth, where the drug is injected into the base of the spine to remove feeling in the lower part of the trunk

caudal vertebrae *plural noun* ANAT the vertebrae nearest the base of the spinal column

cause *noun* the reason for something happening ◦ *If the ammeter shows a high state of charge after start up, it is quite normal and no cause for alarm.* ■ *verb* to make something happen ◦ *Air in the fuel line can cause an engine to flame-out or stop.* □ **to cause damage** to harm something ◦ *The breakdown of the electricity supply caused damage estimated at £100000.*

caustic *adjective* CHEM acid

caustic lime *noun* CHEM calcium oxide. Formula: CaO. Also called **quicklime**

caustic potash *noun* CHEM same as **potassium hydroxide**

caustic soda *noun* CHEM same as **sodium hydroxide**

caution *noun* 1. careful consideration ◦ *We advise caution in accepting the recommendation.* 2. care in doing something ◦ *exercise extreme caution* ◦ *proceed with caution*

CAV *abbreviation* COMPUT constant angular velocity

cave *noun* EARTH SCI a large hole under the ground, usually in rock

cavern *noun* EARTH SCI a very large cave, formed by water which has dissolved limestone or other calcareous rock

cavitation *noun* the formation of vapour-filled cavities or holes in liquids and gases, caused by low pressure and high speed ◦ *Most reservoirs are pressurised to provide a positive fluid pressure at the*

pump inlet and thus prevent cavitation and the formation of bubbles.

cavity *noun* a hole inside a solid substance

cavity wall *noun* CONSTR a wall made of two ranges of bricks, with a space in between them, giving greater insulation

CB *abbreviation* METEOROL cumulonimbus

CBD *abbreviation* Convention on Biological Diversity

CBR *abbreviation* COMPUT constant bit rate

cc *abbreviation* 1. COMPUT carbon copy 2. BIOL cubic centimetre

CCD *abbreviation* COMPUT charge-coupled device

CCD memory *noun* COMPUT capacitors used with MOS transistors to store data, allowing either serial or random access

CCITT *noun* COMPUT an international committee that defines communications protocols and standards. Full form **Comité Consultatif International Téléphonique et Télégraphique**

cd *abbreviation* PHYS, MEASURE candela

Cd *symbol* CHEM ELEM cadmium

CD *abbreviation* carrier detect

CD-audio, CD-DA *noun* COMPUT a standard that defines how music can be stored in digital form as a series of numbers on a compact disc. Full form **compact disc-digital audio**

CD-I, CD-i *noun* COMPUT hardware and software standards that combine sound, data, video and text onto a compact disc and allow a user to interact with the software stored on a CD-ROM. Full form **compact disc-interactive** (NOTE: The standard defines encoding, compression and display functions.)

CDM *abbreviation* ENVIRON Clean Development Mechanism

cDNA *abbreviation* GENETICS complementary DNA

CD-R *noun* COMPUT the technology that allows a user to write data to and read from a compact disc ◦ *A CD-R disc can be played in any standard CD-ROM drive but needs a special CD-R drive to write data to the disc.* Full form **recordable compact disc**

CD-ROM *noun* COMPUT a small plastic disc which is used as a high capacity ROM device. Full form **compact disc-ROM**

(NOTE: Data is stored in binary form as holes etched on the surface which are then read by a laser.)

CD-ROM drive *noun* COMPUT a mechanical device that spins a compact disc and reads data stored on the surface of the disc using a tiny laser beam

CD-ROM Extended Architecture *noun* COMPUT an extended CD-ROM format that defines how audio, images and data are stored on a CD-ROM disc. Abbr **CD-ROM/XA**

CD-ROM Extensions *plural noun* COMPUT software required to allow an operating system, typically DOS, to access a CD-ROM drive

CD-ROM mode 1 *noun* COMPUT a standard original method of storing data in the High Sierra file format

CD-ROM mode 2 *noun* COMPUT a higher capacity storage format that stores data in the space used in mode 1 for error correction. Neither mode 1 nor mode 2 can play audio and simultaneously read data, hence the XA extension.

CD-ROM re-writable *noun* COMPUT a disc technology that can read a standard CD-ROM, write to a CD-R or write data many times to the same CD-R

CD-ROM/XA *abbreviation* COMPUT CD-ROM Extended Architecture

CE *abbreviation* consumption efficiency

CEC *abbreviation* cation exchange capacity

cedar *noun* TREES a large coniferous tree belonging to several genera, including *Thuja* and *Cedrus*

CEFAS *abbreviation* Centre for Environmental, Fisheries and Aquaculture Science

CEH *abbreviation* Centre for Ecology and Hydrology

ceiling *noun* an upper limit or point that cannot be passed ○ *a ceiling on imports*

cel *noun* COMPUT a single frame in an animation sequence

-cele, -coele *suffix* BIOL referring to a hollow

celestial *adjective* referring to the sky

celestial body *noun* ASTRON an astronomical object that is a permanent feature in the sky, e.g. a star or a planet

celestial equator *noun* ASTRON an imaginary line in the sky above the Earth's equator

celestial navigation *noun* NAVIG navigation by using the stars in the sky to establish location

celestial sphere *noun* ASTRON the region of space that seems to surround the Earth and in which astronomical objects are seen

celi- *prefix* BIOL a hollow, usually the abdomen

cell *noun* **1.** BIOL the basic independently functioning unit of all plant and animal tissue **2.** a separate unit or section of something larger **3.** ELEC a system of positive and negative plates for storage of electricity that form a battery ○ *A battery is a device which converts chemical energy into electrical energy and is made up of a number of cells.* **4.** COMPUT a single function or number in a spreadsheet program **5.** COMPUT a single memory location, capable of storing a data word, accessed by an individual address **6.** COMPUT a fixed-length packet of data, e.g. one in the ATM system containing 53-octets of data **7.** METEOROL the central part of a thunder cloud ○ *The life cycle of the thunderstorm cell ends when the downdraughts have spread throughout the cloud.*

COMMENT: A biological cell is a unit which can reproduce itself. It is made up of a jelly-like substance (cytoplasm) which surrounds a nucleus and contains many other small organelles which are different according to the type of cell. Cells reproduce by division (mitosis) and the chemical reactions that occur with them are the basis of metabolism. The process of division and reproduction of cells is how the human body is formed.

cell body *noun* BIOL a part of a nerve cell which surrounds the nucleus and from which the axon and dendrites begin

cell division *noun* BIOL the way in which a cell reproduces itself by dividing into new cells

COMMENT: There are two types of cell division. Mitosis leads to two new cells, each with a nucleus containing the same number of chromosomes as the original cell. Meiosis leads to four new cells, each with a nucleus containing half the number of chromosomes of the original cell, and is the means of producing gametes.

cell membrane *noun* BIOL a membrane enclosing the cytoplasm of a cell. Also called **plasma membrane**

cellular *adjective* **1.** BIOL referring to the cells of organisms **2.** made of many similar parts connected together

cellular plant *noun* BOT a plant with no distinct stem, leaves, etc.

cellular tissue *noun* BIOL a form of connective tissue with large spaces within cells

cellulose *noun* **1.** BIOCHEM a carbohydrate which makes up a large percentage of plant matter, especially cell walls **2.** INDUST a chemical substance processed from wood, used for making paper, film and artificial fibres

COMMENT: Cellulose is not digestible by humans, and is passed through the digestive system as roughage.

cell wall *noun* BIOL the outermost layer of a cell in plants and some fungi, algae and bacteria, which provides protection and support

Celsius *noun* MEASURE a scale of temperature where the freezing point of water is 0° and the boiling point is 100°. Symbol **C**. Former name **centigrade** (NOTE: It is used in many countries, but not in the USA, where the Fahrenheit system is still commonly used.)

COMMENT: To convert Celsius temperatures to Fahrenheit, multiply by 1.8 and add 32. So 20°C is equal to 68°F.

cement *noun* **1.** EARTH SCI material which binds things together, such as that which binds minerals together to form sedimentary rocks **2.** INDUST a powder which, if mixed with water and then dried, sets hard like stone

COMMENT: Various types of cement are used in construction. The commonest is made of burnt lime with clay and other mineral compounds. High-alumina cement is used in stressed concrete and is made from ground bauxite.

cement kiln *noun* INDUST a furnace where lime is burnt to make cement

center *noun* US spelling of **centre**

centi- *prefix* MEASURE one hundredth, 10⁻². Symbol **c**

centigrade *noun* PHYS same as **Celsius**

centilitre *noun* a unit of measurement of liquid equivalent to one hundredth of a litre. Symbol **cl**

centimetre *noun* a unit of measurement of length, equivalent to one hundredth of a metre. Symbol **cm**

centimetre-gram-second *adjective* relating to or using a measurement system that has the centimetre as the basic unit for length, the gram for mass, and the second for time. Abbr **cgs** (NOTE: In scientific contexts the centimeter-gram-second system

has been largely replaced by the SI system.)

centimorgan *noun* MEASURE, GENETICS a unit of measurement that indicates how close genes are to each other on the same chromosome

centipede *noun* ZOOLOG a small fast-moving invertebrate with a long slender body divided into many segments, most of which bear one pair of legs

central *adjective* in the middle

central heating *noun* UTIL a system for heating a building where hot water or hot air is circulated round from a single source of heat, usually a boiler

centralise, centralize *verb* to put something into the centre or into the middle position ○ *The operating jack centralises the control surface after the turn.*

centralised computer network *noun* COMPUT a network with processing power provided by a central computer

centralised data processing *noun* COMPUT data processing facilities located in a centralised place that can be accessed by other users

central memory *noun* COMPUT an area of memory whose locations can be directly and immediately addressed by the CPU. Abbr **CM**

central nervous system *noun* ANAT the brain and spinal cord which link together all the nerves. Abbr **CNS**

central processing unit *noun* COMPUT a group of circuits which perform the basic functions of a computer, made up of three main parts: the control unit, the arithmetic and logic unit and the input/output unit. Abbr **CPU**

centre *noun* **1.** a point in the middle of something ○ *a park in the centre of the town* ○ *The centre of the hurricane passed over the city.* **2.** a focus for activity or attention, or where activities are coordinated ○ *a resource centre* (NOTE: The US spelling is **center**.) ■ *verb* to move something to a central position ○ *Centre the control column.* (NOTE: The US spelling is **center**.)

Centre for Alternative Technology *noun* an association that advises on sustainable and environmentally sound methods in technological development. Abbr **CAT**

Centre for Ecology and Hydrology *noun* a UK organisation that does research

on and monitors terrestrial and freshwater environments. Abbr **CEH**

Centre for Environmental, Fisheries and Aquaculture Science *noun* a research and advisory agency run by Defra, which investigates aquatic science and contamination

centreline *noun* AEROSP a painted or imaginary line running along the centre of a runway (NOTE: The US spelling is **centerline**.)

centre of curvature *noun* MATHS the central point of a circle whose radius is at right angles to a line tangent to any point on the concave side of a smooth curve

centre of gravity *noun* 1. PHYS the point at which a body can be balanced ○ *Distribution of the tanks and the fuel in the tanks is vital in maintaining the aircraft centre of gravity and trim.* Abbr **CG 2.** the point through which the resultant force of gravity acts

centre of origin, centre of origin and diversity *noun* BIOL a region where a species is thought to have originated and spread from

centrifugal *adjective* going away from the centre

centrifugal force *noun* PHYS the force of acceleration away from the axis around which a body rotates

centrifugal switch *noun* ELEC a switch operated by centrifugal force

centrifugation *noun* the separation of the components of a liquid in a centrifuge. Also called **centrifuging**

centrifuge *noun* a device which uses centrifugal force to separate or remove liquids ■ *verb* to separate liquids by using centrifugal force ○ *The rotating vanes of the breather centrifuge the oil from the mist.*

centrifuging *noun* same as **centrifugation**

centriole *noun* BIOL a small structure found in the cytoplasm of a cell, which forms asters during cell division

centripetal *adjective* going towards the centre

centripetal force *noun* PHYS, MATHS the force of acceleration towards the axis around which a body rotates

centromere *noun* GENETICS the point at which two strands (**chromatids**) of a chromosome join and at which the spindle fibres are attached during cell division

Centronics interface *noun* COMPUT a parallel printer interface devised by Centronics Inc

centrosome *noun* BIOL a region of cytoplasm in a cell, near the nucleus and containing the centrioles

cephal- *prefix* referring to the head

cephalic *adjective* referring to the head

cephalopod *noun* MARINE BIOL a marine invertebrate animal with a well-developed head and tentacles, e.g. an octopus, squid or cuttlefish. Class: Cephalopoda.

cephalothorax *noun* ZOOLOG the fused head and thorax found in arachnids such as spiders and in many crustaceans

cereal *noun* BOT a type of grass which is cultivated for its grains. Cereals are used especially to make flour for breadmaking, for animal feed or for producing alcohol. (NOTE: The main cereals are wheat, rice, barley, maize and oats.)

COMMENT: Cereals are all members of the Graminales family. Oats, wheat, barley, maize and rye are commonly grown in colder temperate areas, and rice, sorghum and millet in warmer regions. Cereal production has considerably expanded and improved with the introduction of better methods of sowing, combine harvesters, grain driers, bulk handling and chemical aids such as herbicides, fungicides, insecticides and growth regulators.

cerebellum *noun* ANAT the part of the brain, located beneath and behind the front part (**cerebrum**), which controls and coordinates muscular activity and maintains balance (NOTE: It typically consists of two interconnected hemispheres.)

cerebral artery *noun* ANAT one of the main arteries which take blood into the brain

cerebral cortex *noun* ANAT the much-folded outer layer of the front part of the brain (NOTE: Among its functions are the perception of sensations, learning, thought and memory.)

cerebral hemisphere *noun* ANAT one of the two halves of the front part of the brain (**cerebrum**)

cerebrospinal fluid *noun* ANAT the colourless fluid that fills the spaces around and within the brain and spinal cord to cushion against injury

cerebrum *noun* ANAT the main part of the brain

COMMENT: The cerebrum is the largest part of the brain, formed of two sections (the cerebral hemispheres) which run along the

length of the head. The cerebrum controls the main mental processes, including the memory.

Cerenkov counter *noun* PHYS a device for measuring Cerenkov radiation emitted by a particle

Cerenkov radiation *noun* PHYS the light emitted by an electrically charged particle as it travels through a transparent medium at a speed greater than that of light in the same medium

cerium *noun* CHEM ELEM a soft grey metallic element, the most abundant of the rare-earth group, used in glassmaking, ceramics, cigarette-lighter flints (NOTE: The chemical symbol is **Ce**; the atomic number is **58** and the atomic weight is **140.12**.)

CERN *noun* SCI an EU organisation that carries out research into high-energy particle physics, now called the European Laboratory for Particle Physics

certain *adjective* **1.** specific *o in certain areas o at certain times o under certain circumstances o with certain exceptions* **2.** sure *o There are certain to be horizontal differences in the mean temperature of a layer.*

certificate *noun* COMPUT a unique set of numbers that identifies a person or company and is used to prove the person's identity over the Internet

COMMENT: A certificate is normally used to provide security over the Internet (for secure email or secure website transactions). A trusted company issues the certificate once it is satisfied that the person or company is legitimate, authentic and who they claim to be. The company can then use this certificate to prove its identity, create secure messages or set up a secure website to accept payments online.

certificate authority *noun* COMPUT an independent server or company on the Internet which supplies or validates a special digital certificate to prove that another company is genuine (NOTE: A certificate authority issues a special encrypted number that complies with the X.509 standard and is encrypted with a public-key encryption system.)

certificate of approval *noun* a document showing that an item has been approved officially

certification *noun* the process of obtaining or giving approval for something such as carrying out a particular type of test, or

of obtaining a certificate to prove that something is what it claims to be

certify *verb* to give official approval to something, or to say officially that something is what it claims to be

cervical vertebra *noun* ANAT a vertebra of the set found in the neck

cervix *noun* ANAT **1.** the narrow passage between the womb and the vagina **2.** a neck, or a narrow part like a neck

Cetacea *noun* ZOOLOG an order of mammals which live in the sea, e.g. dolphins, porpoises or whales

CF *abbreviation* COMPUT compact Flash

CF *abbreviation* CHEM chlorofluorocarbon

CFM *abbreviation* CHEM chlorofluoromethane

CFP *abbreviation* Common Fisheries Policy

CG *abbreviation* PHYS centre of gravity

CGI *abbreviation* COMPUT common gateway interface

cgs *abbreviation* centimetre-gram-second

chain *noun* **1.** COMPUT a series of files or data items linked sequentially **2.** COMPUT a series of instructions to be executed sequentially **3.** a number of metal rings attached together to make a line **4.** a number of components linked together, or a number of connected events ■ *verb* COMPUT to link files or data items in series by storing a pointer to the next file or item at each entry *o More than 1000 articles or chapters can be chained together when printing.*

chained file *noun* COMPUT a file in which an entry will contain data and an address to the next entry that has the same data content, allowing rapid retrieval of all identical data records. Also called **threaded file**

chained list *noun* COMPUT a list in which each element contains data and an address to the next element in the list

chained record *noun* COMPUT a data record in a chained file

chaining *noun* COMPUT the execution of a very large program by executing small segments of it at a time, allowing programs larger than memory capacity to be run

chaining search *noun* COMPUT the searching of a file of elements arranged as a chained list

chain reaction *noun* **1.** PHYS a nuclear reaction in which a neutron hits a nucleus, makes it split and so releases further neutrons **2.** CHEM a chemical reaction where each stage is started by a chemical substance which reacts with another, producing further substances which can continue to react

chalk *noun* EARTH SCI a fine white limestone rock formed of calcium carbonate

COMMENT: Chalk is found widely in many parts of northern Europe. Formed from animal organisms it is also used as an additive (E170) in white flour.

chalky *adjective* EARTH SCI referring to soil which is contains a lot of chalk

chamber *noun* a small enclosed compartment

change *verb* **1.** COMPUT to make something different **2.** to use one thing instead of another ■ *noun* COMPUT same as **change record**

change record *noun* COMPUT a record containing new data which is to be used to update a master record

channel *noun* **1.** ELEC a frequency range used for the transmission of radio signals ○ *The system operates on VHF communications between 118 and 135.95 MHz giving 360 channels at 50kHz spacing.* **2.** COMPUT a physical connection between two points that allows data to be transmitted, e.g. a link between a central processing unit and a peripheral **3.** ENG a deep part of a harbour or sea passage where ships can pass, or a stretch of water between two seas **4.** GEOG a bed of a river or stream ■ *verb* **1.** to send signals or data via a particular path **2.** to send water in a particular direction (NOTE: British English is **channelled** – **channeling**, but the US spelling is **channeled** – **channeling**.)

channelise, channelize *verb* ENG to straighten a stream which has many bends, in order to make the water flow faster

chaos *noun* PHYS **1.** the unbounded space and formless matter supposed to have existed before the creation of the universe **2.** the unpredictability inherent in a system such as the weather, in which apparently random changes occur as a result of the system's extreme sensitivity to small differences in initial conditions

chaos theory *noun* PHYS a theory stating that when a system is sensitive to small differences in initial values, the future

behaviour of that system may be unpredictable

chaperonin *noun* BIOCHEM a protein belonging to a large group of protein families involved in the stabilisation, translocation, and unfolding of developing proteins

chapter *noun* COMPUT a section of a main program that can be executed in its own right, without the rest of the main program being required

char *noun* COMPUT a data type which defines a variable as containing data that represents a character using the ASCII code

character *noun* **1.** PSYCHIAT the way in which a person thinks and behaves **2.** ZOOLOG the way in which an animal or plant is different from others **3.** COMPUT a graphical symbol which appears as a printed or displayed mark, e.g. one of the letters of the alphabet, a number or a punctuation mark

character-based *adjective* COMPUT (of a screen design) drawn using ASCII characters rather than graphical windows

characterise *verb* **1.** to be a characteristic of something or someone ○ *Deserts are characterised by little rainfall, arid soil and very little vegetation.* **2.** to describe the typical features of something

characteristic *noun* **1.** a property or feature of something ○ *inherited characteristics* ○ *One of the characteristics of an octopus is that it can send out a cloud of ink when attacked.* **2.** COMPUT the value of an exponent in a floating point number ○ *The floating point number 1.345×10^3 has a characteristic of 3.* ■ *adjective* COMPUT typical ○ *This fault is characteristic of this make and model of personal computer.*

characteristic species *noun* ECOL a species typical of and only occurring in a particular region

character key *noun* COMPUT a word processor control used to process text one character at a time

character matrix *noun* COMPUT a pattern of dots that makes up a displayed character

character mode *noun* COMPUT a mode that can only display the characters defined in the built-in character set

character printer *noun* COMPUT a device that prints characters one at a time ○ *A daisy wheel printer is a character printer.*

character recognition *noun* COMPUT a system that optically reads written or printed characters into a computer, using various algorithms to ensure that characters are correctly recognised

character rounding *noun* COMPUT the process of making a displayed character more pleasant to look at, within the limits of pixel size, by making sharp corners and edges smooth

character set *noun* COMPUT a list of all the characters which can be displayed or printed

characters per inch *plural noun* COMPUT a number of printed characters which fit within the space of one inch ○ *You can select 10 or 12 characters per inch with the green button.* Abbr **cpi**

characters per second *plural noun* COMPUT the number of characters which are transmitted or printed per second. Abbr **cps**

character string *noun* COMPUT an amount of storage allocated for a series of alphanumeric characters

character stuffing *noun* COMPUT an addition of blank characters to a file to increase its length to a preset size

charcoal *noun* INDUST an impure form of carbon, formed when wood is burnt in the absence of oxygen

charge *noun* **1.** ELEC a quantity of electricity measured in coulombs **2.** PHYS the number of or excess of or lack of electrons in a material or component (NOTE: An electron possesses the smallest unit of negative charge (e) equal to 1.602102×10^{-19} . A proton possesses the equivalent positive charge.) ■ *verb* ELEC to supply a device with an electric charge

chargeable *adjective* ELEC referring to a battery which can be charged

charge-coupled device *noun* ELEC an electronic device operated by charge, especially one which converts photons of light into a digital signal, converting an optical image into a digital image. Abbr **CCD**

charge-coupled device memory *noun* ELEC a set of capacitors used, with MOS transistors, to store data, allowing serial and random access

Charles' law *noun* CHEM a law describing the relationship between the volume of a gas and its temperature at constant pressure

charm *noun* PHYS a quantum characteristic of some elementary particles such as quarks

chart *noun* a diagram showing information as a series of lines or blocks ■ *verb* to make a chart of something

chassis *noun* COMPUT a metal frame that houses the circuit boards together with the wiring and sockets required in a computer system or other equipment

check *noun* US a tick used to mark or approve an item ■ *verb* to examine something to make sure it is in good working order ○ *The separate parts of the system were all checked for faults before being packaged.*

check bit *noun* COMPUT one bit of a binary word that is used to provide a parity check

check box *noun* COMPUT a small box displayed with a cross or tick inside it if the option has been selected, or empty if the option is not selected ○ *Select the option by moving the cursor to the check box and pressing the mouse button.*

check digit, check number *noun* COMPUT an additional digit inserted into transmitted text to monitor and correct errors

check point *noun* COMPUT a point in a program where data and program status can be recorded or displayed

check register *noun* COMPUT temporary storage for received data before it is checked against the same data received via another path or method

checksum, check total *noun* COMPUT a program which checks that data is correct, summing it and comparing the sum with a stored value ○ *The data must be corrupted if the checksum is different.*

chela *noun* ZOO a grasping claw, e.g. one of the front claws of a crab or lobster (NOTE: The plural is **chelae**.)

chelate *noun* CHEM a chemical compound containing metallic and nonmetallic atoms ■ *adjective* ZOO having or being shaped like the grasping claws (**chelae**) of crabs and lobsters

chelates *plural noun* compounds of trace elements and organic substances which are water-soluble and may be safely applied as foliar sprays or to the soil

chemical *noun* CHEM a substance formed of chemical elements or produced by a chemical process ○ *the widespread use of chemicals in agriculture* ○ *The machine*

analyses the chemicals found in the collected samples. ■ **adjective** **1.** CHEM referring to chemistry or chemicals **2.** made by humans from a combination of substances or chemical elements and not produced naturally (*informal*) ○ *an unpleasant chemical taste*

chemical agent *noun* a substance which makes another substance react

chemical bond *noun* CHEM the force which links atoms to form molecules. Also called **bond**

chemical change *noun* CHEM a change in which a chemical reaction is produced and a new substance created

chemical combination *noun* CHEM the process by which chemicals combine to form compounds, governed by general principles including the laws of conservation of mass, constant proportions and multiple proportions

chemical composition *noun* the chemicals which make up a substance

chemical compound *noun* a substance formed from two or more chemical elements, in which the proportions of the elements are always the same

chemical control *noun* the control of pests using chemicals

chemical dating *noun* ARCHAEOLOG the determining of the age of something by chemical analysis

chemical element *noun* a substance which exists independently and cannot be broken down into simpler substances

chemical engineering *noun* INDUST a branch of engineering which deals with the design, construction and operation of processes and equipment used in the production of industrial chemicals

chemical equation *noun* CHEM a representation, using chemical symbols, of the process involved in a chemical reaction

chemical equilibrium *noun* CHEM a chemical reaction which is in a balanced state, the reactants and products staying in the same ratio

chemical fertiliser *noun* AGRIC same as **artificial fertiliser**

chemical food poisoning *noun* poisoning by chemical substances in food, e.g. by toxic substances naturally present in some plants or insecticides in processed food

Chemical Industries Association *noun* a trade association in the UK repre-

senting the chemical and chemistry-using industries. Abbr **CIA**

chemical mutagen *noun* CHEM a chemical substance which causes mutation
chemical name *noun* the technical name for a substance ○ *Sodium hydroxide is the chemical name for caustic soda.*

chemical oxygen demand *noun* ECOL the amount of oxygen taken up by organic matter in water used as a measurement of the amount of organic matter in sewage. Abbr **COD**

chemical plant *noun* INDUST a factory where chemicals are produced

chemical process *noun* CHEM a reaction which happens when two or more chemicals come into contact

chemical reaction *noun* CHEM a process in which atoms or groups of atoms are redistributed, changing the molecular composition of the original substances

chemical residue *noun* CHEM waste left after a chemical process has taken place

chemical symbol *noun* CHEM a letter or letters used to indicate an element, used especially in formulae, etc. (NOTE: Examples are **C** for carbon and **Co** for cobalt.)

chemical toilet *noun* a toilet containing chemicals to neutralise the body's waste products. Also called **chemical closet**

chemical toxicity *noun* the poisonous nature of chemicals used in pest control

chemical treatment *noun* INDUST the processing of sewage by adding chemical substances to it

chemical warfare *noun* MIL war using chemical weapons

chemical warhead *noun* MIL the front part of a missile containing a poisonous chemical

chemical weapon *noun* MIL a missile or other weapon containing a poisonous chemical, e.g. a nerve gas or defoliant

chemist *noun* CHEM a scientist who specialises in the study of chemistry

chemistry *noun* CHEM **1.** the study of substances, elements and compounds and their reactions with each other **2.** chemical substances existing together ○ *Human action has radically altered the chemistry of the atmosphere.*

chemistry of the blood *noun* same as **blood chemistry**

chemo- *prefix* CHEM chemistry

chemoautotrophic *adjective* BIOL referring to the oxidation of nitrogen or other chemical elements to create a source of food. Compare **photoautotrophic**

chemokine *noun* BIOCHEM a protein secreted by lymph cells (**cytokines**) that activates white blood cells during the development of inflammation

chemolithotrophic *adjective* BIOL referring to organisms such as bacteria which obtain energy from inorganic substances

chemo-organotrophic *adjective* BIOL referring to an organism such as an animal which obtains its energy from organic sources

chemoprotective *adjective* MED protecting the body from the effects of chemicals and diseases such as cancer through the antioxidant or immunity-boosting properties of a specific diet or supplement

chemoreceptor *noun* BIOL a cell which responds to the presence of a chemical compound by activating a sensory nerve. ◊ **exteroceptor, interoceptor, receptor**

chemosphere *noun* EARTH SCI the zone in the Earth's atmosphere, above the upper part of the troposphere and within the stratosphere, where chemical changes take place under the influence of the Sun's radiation

chemosterilant *noun* CHEM a chemical substance which sterilises by microorganisms

chemosynthesis *noun* CHEM the production by bacteria of organic material using chemical reactions

chemotaxis *noun* BIOL a movement of a cell which is attracted to or repelled by a chemical substance

chemotherapeutic *adjective* using chemicals that have been either synthesised or produced by the action of living organisms to treat diseases

chemotroph *noun* BIOL an organism which converts the energy found in organic chemical compounds into more complex energy, without using sunlight. Compare **phototroph**

chemotrophic *adjective* BIOL referring to something which obtains energy from sources such as organic matter. Compare **phototrophic** (NOTE: Most animals are chemotrophic.)

chemotropism *noun* BIOL the movement or growth of an organism in response to a chemical stimulus

chernozem *noun* EARTH SCI a dark fertile soil, rich in organic matter, found in the temperate grass-covered plains of Russia and North and South America. Also called **black earth**

chiasma *noun* GENETICS the point at which two chromatids cross over each other, join and exchange genetic material during meiosis (NOTE: The plural is **chiasmata**.)

child process, child program *noun* COMPUT a routine or program called by another program which remains active while the second program runs (NOTE: The smaller window cannot be moved outside the boundary of the main window and is closed when the main window is closed.)

child window *noun* COMPUT a window within a main window

Chile saltpetre *noun* CHEM an impure form of sodium nitrate occurring naturally in large deposits in Chile and Peru. Formula: NaNO_3 .

chill *noun* METEOROL coldness

chimera, chimaera *noun* GENETICS an organism, especially a plant, with two genetically varying types of tissue due to grafting or mutation

chimeric *adjective* GENETICS composed of genetically different tissues, either naturally or as a result of a laboratory procedure

chimney stack *noun* INDUST a tall chimney, especially on an industrial building

china clay *noun* INDUST same as **kaolin**

chinook *noun* METEOROL a warm wind that blows from the Rocky mountains down onto the Canadian plains in winter

chip *noun* COMPUT a device consisting of a small piece of a crystal of a semiconductor onto which are etched or manufactured a number of components such as transistors, resistors and capacitors, which together perform a function

chip architecture *noun* COMPUT the design and layout of components on a chip

chip count *noun* COMPUT the number of chips on a printed circuit board or in a device ◊ *It's no good, the chip count is still too high.*

chip select *noun* COMPUT a single line on a chip that will enable it to function when a signal is present. Abbr **CS**

chip set *noun* COMPUT a group of chips which together will carry out a function

chirality *noun* CHEM the characteristic of existing in left-hand and right-hand forms, usually referring to optical compounds and optics

chi-square *noun* MATHS a statistical calculation used to test how well the distribution of a set of observed data matches a theoretical probability distribution

chitin *noun* CHEM a tough waterproof substance that forms part of the outer skeleton of insects and the cell walls of fungi

chitosan *noun* CHEM a substance derived from the chitin of crab, lobster, and other crustaceans. It is used to stop bleeding and encourage healing, and as a moisturiser and dietary supplement.

chlor- *prefix* same as **chloro-**

chloral *noun* CHEM a colourless oily liquid with a strong and unpleasant smell. Formula: CCl_3CHO .

chloral hydrate *noun* PHARM a white water-soluble crystalline solid, used as a sedative. Formula: $\text{C}_2\text{H}_3\text{Cl}_3\text{O}_2$.

chloride *noun* CHEM a salt of hydrochloric acid

chlorinate *verb* ENVIRON to treat something with chlorine, especially to sterilise drinking water or water in a swimming pool by adding chlorine

chlorinated *adjective* CHEM treated with chlorine

chlorinated hydrocarbon *noun* CHEM a compound containing chlorine, carbon and hydrogen that remains in the environment after use and may accumulate in the food chain, e.g. an organochlorine pesticide such as lindane or DDT, an industrial chemical such as a polychlorinated biphenyl (PCB), or a chlorine waste product such as a dioxin or furan

chlorination *noun* CHEM sterilisation by adding chlorine

COMMENT: Chlorination is used to kill bacteria in drinking water, in swimming pools and sewage farms, and has many industrial applications such as sterilisation in food processing.

chlorine *noun* CHEM ELEM a greenish chemical element, used to sterilise water and for bleaching (NOTE: The chemical

symbol is **Cl**; the atomic number is **17** and the atomic weight is **35.45**.)

chlorine demand *noun* CHEM the amount of chlorine needed to kill bacteria in a given quantity of sewage

chlorine monoxide *noun* CHEM a substance which forms in the stratosphere and destroys ozone

chlorite *noun* MINERALS a soft black or green mineral found in metamorphic rocks

chloro- *prefix* **1.** CHEM chlorine **2.** EARTH SCI green

chlorofluorocarbon *noun* CHEM a compound of fluorine and chlorine. It is used as a propellant in aerosol cans, in the manufacture of plastic foam boxes, as a refrigerant in refrigerators and air conditioners and as a cleaner of circuit boards for computers. Abbr **CFC**

COMMENT: Chlorofluorocarbons are classified by numbers: CFC-10 is used in aerosols; CFC-11 is used to make plastic foam; CFC-12 is a coolant for refrigerators; and CFC-13 is a cleaning substance used in the electronics industry. When CFCs are released into the atmosphere, they rise slowly, taking about seven years to reach the stratosphere. But once they are there, under the influence of the Sun's ultraviolet light they break down into chlorine atoms which destroy the ozone layer. This allows harmful solar UV radiation to pass through to the Earth's surface. Because it takes so long for the CFCs to reach the stratosphere, any reduction in their use on Earth does not have an immediate effect on the concentrations in the stratosphere. Replacements for CFCs are being developed.

chlorofluoromethane *noun* CHEM a gas that is a volatile organic compound, generated from landfill sites, petrol engine exhausts and other industrial processes. In the chemical industry, it is often manufactured from carbon tetrachloride. Formula: CH_2Cl_2 . Abbr **CFM**

chloroform *noun* CHEM a colourless sweet-smelling toxic liquid with a low boiling temperature, which rapidly changes to a vapour, and causes drowsiness or unconsciousness if inhaled. Formula: CHCl_3 . (NOTE: It is known to have damaged the ozone layer.)

chloromethane *noun* BIOCHEM a gas which is a compound of carbon and chlorine, formed by fungi as they rot wood (NOTE: It acts in a similar way to CFCs in depleting the ozone layer.)

chlorophyll *noun* BOT a green pigment in plants and some algae

COMMENT: Chlorophyll absorbs light energy from the Sun and supplies plants with the energy to enable them to carry out photosynthesis. It is also used as a colouring (E140) in processed food.

Chlorophyta *noun* BOT a large group of algae that possess chlorophyll

chloroplast *noun* BIOL a tiny sac within the cells of plants and some algae which contains chlorophyll and other pigments and is the place where photosynthesis occurs (NOTE: The number of chloroplasts in a cell varies, but each consists of interconnected stacks of disc-shaped membranes in fluid, surrounded by a double membrane.)

chloroplatinic acid *noun* CHEM a compound formed by dissolving platinum in aqua regia. Formula: H_2PtCl_6 . Also called **platinic chloride**, **hexahydrate acid**

chloroprene *noun* CHEM a colourless organic liquid used in neoprene manufacture. Formula: $CH_2CHCClCH_2$.

chlorosis *noun* BOT a reduction of chlorophyll in plants, making the leaves turn yellow

chlorpyrifos *noun* CHEM an organophosphate insecticide used on a wide range of crops

choke *noun* **1.** AUTOMOT a valve in a carburettor which controls the amount of air combining with fuel **2.** ELEC same as **inductor** ■ *verb* **1.** to become, or cause somebody to become, unable to breathe **2.** to block a tube, channel or opening, making a liquid unable to move ○ *The reservoirs became choked with rapidly growing weeds.*

choke tube *noun* AUTOMOT same as **venturi tube** ○ *Increase in rpm increases the speed of air passing through the choke tube or venturi.*

cholesterol *noun* BIOCHEM a fatty substance found in fats and oils. It is produced by the liver and forms an essential part of cells.

COMMENT: Cholesterol is found in brain cells, the adrenal glands, liver and bile acids. Cholesterol is formed by the body, and high blood cholesterol levels are associated with diets rich in animal fat such as butter and fat meat. Excess cholesterol can be deposited in the walls of arteries, causing atherosclerosis.

cholinergic *adjective* PHARM producing, activated by, or having effects similar to those of acetylcholine

chord *noun* MATHS a straight line connecting two points on an arc or circle

chordate *noun* ZOOLOG an animal that has a main dorsal nerve cord, a skeletal rod (**notocord**) and gill slits at some stage during its development. Phylum: Chordata. (NOTE: All vertebrates are chordates, as well as some primitive marine invertebrate animals.)

chord keying *noun* COMPUT the action of pressing two or more keys at the same time to perform a function

COMMENT: To access a second window, chord keying of Control and F2 may be necessary. Chord keying a shift and character delete keys at the same time will delete a line of text.

chorion *noun* ANAT the outer membrane surrounding the embryo of mammals, reptiles and birds (NOTE: In mammals it combines with the allantois to form the placenta.)

chorionic gonadotrophin *noun* BIOCHEM a hormone produced by the placenta in mammals that helps maintain a pregnancy

choroid *noun* ANAT (*in vertebrates*) a brownish membrane between the retina and the white of the eye that contains many blood vessels

CHP plant *abbreviation* PHYS combined heat and power plant

Christmas disease *noun* MED a type of haemophilia

Christmas factor *noun* MED a substance in plasma, the lack of which causes Christmas disease

chrom- *prefix* same as **chromo-**

chroma *noun* COMPUT a measure of colour hue and saturation

chromatic *adjective* referring to colours
chromatic aberration *noun* PHYS a defect in a lens that causes light of different colours to be refracted differently

chromatid *noun* GENETICS either of the two strands into which a chromosome divides in the process of duplicating itself in cell division

chromatin *noun* GENETICS the substance that forms chromosomes and contains DNA, RNA and various proteins

chromatography *noun* CHEM a scientific method for separating and analysing chemicals through a porous medium

chromatolysis *noun* GENETICS the breakdown of chromatin within a damaged cell nucleus

chromatophore *noun* 1. BIOL a plant or animal cell which contains pigment, e.g. a cell in the eyes, hair and skin, or a similar cell in an alga (NOTE: Chromatophores enable chameleons to change colour.) 2. BOT a cell in plants or algae which contains chlorophyll

chrominance signal *noun* COMPUT a section of a colour monitor signal containing colour hue and saturation information

chromium *noun* CHEM ELEM a metallic trace element. It is used to make alloys. (NOTE: The chemical symbol is **Cr**; the atomic number is **24** and the atomic weight is **52.00**.)

chromo- *prefix* 1. colour 2. chromium

chromomere *noun* GENETICS a small dense granule of chromatin found at intervals along a chromosome during cell division

chromonema *noun* GENETICS the coiled central filament that forms the core of each strand (**chromatid**) of a chromosome

chromophore *noun* CHEM a structure that is part of a molecule and gives colour in dyes and other compounds

chromosomal *adjective* GENETICS referring to chromosomes

chromosome *noun* GENETICS a thin structure in the nucleus of a cell, formed of DNA which carries the genes (NOTE: Different types of organism have different numbers of chromosomes.)

chromosome aberration *noun* GENETICS an abnormality in the number, arrangement or other characteristic of chromosomes

chromosome band *noun* GENETICS a pattern produced in a chromosome by a stain, which makes it identifiable from other chromosomes

chromosome map *noun* GENETICS an illustration that shows the relative extent and position of each gene on a chromosome

chromosome number *noun* GENETICS the number of chromosomes present in each cell nucleus of a specific animal or plant (NOTE: Each species has its own characteristic chromosome number, e.g. humans have 46 chromosomes, receiving 23 from each parent.)

chromosphere *noun* ASTRON 1. the lower region of the Sun's atmosphere, between the photosphere and the corona 2. the lower region of the atmosphere of any star

chronic *adjective* MED referring to a disease or condition which lasts for a long time ○ *The forest was suffering from chronic soil acidification.* Compare **acute**

chronic daily headaches *plural noun* MED a condition in which the patient is affected by a series of extremely painful recurring migraine and tension headaches that are present for 15 or more days a month

chronic exposure *noun* exposure to a pollutant or radioactive substance for a long period, even for a whole lifetime

chronic toxicity *noun* BIOL high exposure to harmful levels of a toxic substance over a period of time

chronological order *noun* an arrangement of records or files according to their dates

chrysalis *noun* ZOO 1. a stage in the development of a butterfly or moth when the pupa is protected in a hard case 2. the hard case in which a pupa is protected

chunk *noun* COMPUT a basic part of a RIFF file that consists of an identifier and data

chute *noun* 1. ENG a sloping channel along which something such as water or rubbish may pass 2. EARTH SCI a waterfall

chyle *noun* PHYSIOL a fluid with a milky consistency containing lymph and emulsified fat that is formed in the small intestine during the digestion process

chyme *noun* PHYSIOL a thick fluid containing partially digested food and gastric secretions that is passed from the stomach to the small intestine

Ci *abbreviation* PHYS, MEASURE curie

CIA *abbreviation* Chemical Industries Association

-cide *suffix* killing

CIF *abbreviation* COMPUT common intermediate format

cilia *plural of cilium*

ciliary *adjective* BIOL referring to cilia

ciliary body *noun* ANAT a ring-shaped thickening at the front of the eye that connects the pigmented layer (**choroid**) to the iris diaphragm (NOTE: It contains the ciliary

muscle, which changes the shape of the lens in focusing the eye.)

ciliary feeder *noun* ZOOLOG a mollusc which feeds by sucking water and the organisms it contains through cilia

ciliary ganglion *noun* ANATOMY a parasympathetic ganglion in the orbit of the eye, supplying the intrinsic eye muscles

ciliate, ciliated *adjective* BIOLOGY having cilia

ciliated epithelium *noun* BIOLOGY a simple epithelium where the cells have tiny hairs or cilia

cilium *noun* BIOLOGY one of many tiny projections resembling hairs which move backwards and forwards and drive particles or fluid along (NOTE: The plural is **cilia**.)

CIM *abbreviation* COMPUTING 1. computer input microfilm 2. computer-integrated manufacturing

cinders *plural noun* 1. CHEMISTRY hard pieces of material left when the flames from a burning substance have gone out 2. EARTH SCIENCE the small pieces of lava and rock thrown up in a volcanic eruption

cinematics another spelling of **kinematics**

cinnamic acid *noun* CHEMISTRY a white odourless substance that is insoluble in water, used in perfumes. Formula: $C_6H_5CH=CHCOOH$.

cipher *noun* COMPUTING a system of transforming a message into an unreadable form with a secret code ○ *Always use a secure cipher when sending data over a telephone line.*

ciphertext *noun* COMPUTING the data output from a cipher. Compare **plaintext**

CIR *abbreviation* COMPUTING current instruction register

circadian *adjective* BIOLOGY describes a pattern repeated approximately every 24 hours

circadian rhythm *noun* BIOLOGY a rhythm of daily activities in plants and animals, repeating every twenty-four hours

circle *noun* MATHEMATICS a line forming a round shape

circuit *noun* ELECTRICITY a connection between electronic components that perform a function

circuit analyser *noun* ELECTRICITY a device that measures voltage, current, impedance or signal in a circuit

circuit board *noun* ELECTRICITY an insulating board used to hold components which are then connected together electrically to form a circuit. Also called **circuit card**

circuit breaker *noun* ELECTRICITY an electrical device used to interrupt an electrical supply when there is too much current flow

circuit capacity *noun* ELECTRICITY the information-carrying capacity of a particular circuit

circuit card *noun* COMPUTING same as **circuit board**

circuit design *noun* COMPUTING a layout of components and interconnections in a circuit

circuit diagram *noun* ELECTRICITY a graphical description of a circuit ○ *The CAD program will plot the circuit diagram rapidly.*

circuitry *noun* ELECTRICITY a system of electrical circuits ○ *In an anti-skid braking system, circuitry is employed which can detect individual wheel deceleration.* ○ *The circuitry is still too complex.*

circuit switching *noun* ELECTRICITY a design of communication system in which a path from sender to receiver is created when required rather than using a permanent, fixed line (NOTE: The normal telephone system is an example of a circuit switching network.)

circular *adjective* shaped like a circle ○ *Anodes are circular plates with centre holes.*

circular buffer *noun* a computer-based queue that uses two markers, for the top and bottom of the line of stored items (NOTE: The markers move as items are read from or written to the stack.)

circular file *noun* COMPUTING a data file that has no visible beginning or end and each item points to the location of the next item with the last item pointing back to the first

circular list *noun* COMPUTING a list in which each element contains data and an address to the next element in the list with the last item pointing back to the first

circular reference *noun* COMPUTING an error condition that occurs when two equations in two cells reference each other

circular saw *noun* INDUSTRY a saw with a circular action which moves in a circle

circular shift *noun* COMPUTING a rotation of bits in a word with the previous last bit inserted in the first bit position

circulate *verb* to move round in such a way as to arrive at the point of departure ○ *Water circulates via the radiator and pump through to the engine block itself.*

circulation *noun* 1. the act of moving round in such a way as to arrive at the point of departure ○ *the circulation of the blood* ○ *The general circulation is indicated by the arrows.* □ **circulation of carbon** the process by which carbon atoms from carbon dioxide are incorporated into organic compounds in plants during photosynthesis 2. **PHYSIOL** same as **circulation of the blood**

circulation of carbon *noun* **BOT** the process by which carbon atoms from carbon dioxide are incorporated into organic compounds in plants during photosynthesis (NOTE: The carbon atoms are then oxidised into carbon dioxide again during respiration by the plants or by herbivores which eat them and by carnivores which eat the herbivores, so releasing carbon to go round the cycle again.)

circulation of the blood *noun* **PHYSIOL** the movement of blood around the body from the heart through the arteries to the capillaries and back to the heart through the veins

circulatory *adjective* **ANAT** referring to circulation

circulatory system *noun* **ANAT** the system of arteries and veins which, together with the heart, make the blood circulate around the body

COMMENT: Blood circulates around the body, carrying oxygen from the lungs and nutrients from the liver through the arteries and capillaries to the tissues. The capillaries exchange the oxygen for waste matter such as carbon dioxide which is taken back to the lungs to be expelled. At the same time the blood obtains more oxygen in the lungs to be taken to the tissues. The circulation pattern is as follows: blood returns through the veins to the right atrium of the heart; from there it is pumped through the right ventricle into the pulmonary artery, and then into the lungs; from the lungs it returns through the pulmonary veins to the left atrium of the heart and is pumped from there through the left ventricle into the aorta and from the aorta into the other arteries.

circum- *prefix* around

circumference *noun* **MATHS** the distance around the edge of a circle

circumflex nerve *noun* **ANAT** a sensory and motor nerve in the upper arm

circumpolar *adjective* **GEOG** around the North or South Pole

circumpolar vortex *noun* **METEOROL** a circular movement of air around the North or South Pole. Also called **polar vortex**

cirque *noun* **EARTH SCI** a hollow formed in mountains or high plateaux by small, separate glaciers. Also called **corrie**, **cwm**

cirrocumulus *noun* **METEOROL** a form of high cloud, occurring above 5000m, like altocumulus with little clouds

cirrostratus *noun* **METEOROL** a high thin layer of cloud

cirrus *noun* **METEOROL** a high cloud, occurring above 5000m, forming a mass of separate clouds which look as if they are made of fibres, but which are formed of ice crystals

CIS *abbreviation* **COMPUT** contact image sensor

CISC *abbreviation* **COMPUT** complex instruction set computer

cistron *noun* **GENETICS** a section of DNA that contains the genetic code for a short chain of amino acids (**polypeptide**) and is the smallest functional unit carrying genetic information

CITES *abbreviation* Convention on International Trade in Endangered Species of Wild Fauna and Flora

citric acid *noun* **CHEM** an acid found in fruit such as oranges, lemons and grapefruit

citric acid cycle *noun* **BIOCHEM** same as **Krebs cycle**

civil engineering *noun* **ENG** the application of the principles of science to the design, construction and use of roads, bridges, dams, etc.

cl *abbreviation* **MEASURE** centilitre

Cl *symbol* **CHEM ELEM** chlorine

clad *verb* to protect something by covering it ○ *Alloys can be protected from corrosion by cladding the exposed surface with a thin layer of aluminium.*

cladding *noun* a protective material surrounding something

cladistics *noun* **BIOL** a system of classifying organisms in groups according to characteristics that they have inherited from a common ancestor

clamper *noun* **ELEC** a circuit which limits the level of a signal from a scanning head or other input device to a maximum before this is converted to a digital value

clarification *noun* INDUST the process of removing solid waste matter from sewage

clarification basin *noun* INDUST a tank in which solid waste matter is removed from sewage

class *noun* **1.** COMPUT the definition of what a particular software routine will do or what sort of data a variable can hold **2.** BIOL one of the categories into which organisms are divided ○ *Groups of plant and animal families are classified into orders and groups of orders into classes.*

classification *noun* a system by which objects or organisms are put into order so as to be able to refer to them again and identify them ○ *the classification of plants and animals* ○ *the ABO classification of blood*

classify *verb* **1.** to allocate something to a category ○ *The area has been classified as an Area of Outstanding Natural Beauty.* ○ *The pollution records are classified under the name of the site which has been polluted.* **2.** to put things into order so as to be able to refer to them again and identify them easily ○ *Blood groups are classified according to the ABO system.* **3.** to restrict the publication of ○ *The reports on the accident are classified and may not be consulted by the public.*

class interval *noun* COMPUT a range of values that can be contained in a class

clathrate *noun* CHEM a solid compound containing molecules of one component enclosed within the crystal structure of the other component ■ *adjective* BOT appearing or built like a lattice

clavicle *noun* **1.** ANAT a human collar bone **2.** ZOOL a bone or structure that is similar in function to the human clavicle or collar bone (NOTE: It can be reduced or absent in many mammals.)

clay *noun* EARTH SCI a type of heavy non-porous soil made of fine particles of silicate

clayey *adjective* EARTH SCI containing clay ○ *These plants do best in clayey soils.*

clay land *noun* EARTH SCI land where the soil has a lot of clay in it

claypan *noun* EARTH SCI a hollow on the surface of clay land where rain collects

clean *adjective* **1.** not dirty **2.** COMPUT with no errors or with no programs ○ *I'll have to start again – I just erased the only clean copy.* ■ *verb* to make something clean

clean air *noun* ENVIRON air which does not contain impurities

clean copy *noun* COMPUT a copy which is ready for keyboarding and does not have many changes on it

Clean Development Mechanism *noun* ENVIRON a scheme by which an industrialised country can receive credit for emission reductions in a developing country which result from projects financed by the industrialised country. Abbr CDM

clean power station *noun* INDUST a power station which gives off little pollution or radiation

clean room *noun* COMPUT an area where hard disks, wafers and chips are manufactured in a dust free environment

cleanse *verb* to make clean

cleanser *noun* a powder or liquid used for cleaning

clean technology *noun* INDUST an industrial process which causes little or no pollution

clean up *verb* ENVIRON to remove refuse, waste substances or pollutants from a place ○ *They are working to clean up the beaches after the oil spill.*

clean-up, cleaning-up *noun* ENVIRON an act of removing refuse, waste substances or pollutants ○ *The local authorities have organised a large-scale clean-up of polluted beaches.*

clean-up costs *plural noun* ENVIRON the amount of money which has to be spent to remove pollutants, e.g. after an industrial process or an environmental disaster such as an oil spill

clear *adjective* **1.** easily understood ○ *There's no clear way of explaining the problem.* **2.** easily seen through ○ *Acid rain turns lakes crystal clear.* ■ **clear of** EARTH SCI free from something undesirable ○ *The area is now clear of pollution.* ■ *noun* METEOROL a clear sky ■ *verb* **1.** to remove something which is in the way ○ *They cleared hectares of jungle to make a new road to the capital.* **2.** COMPUT to wipe out, erase or set to zero a computer file, variable or section of memory ○ *to clear an area of memory* ○ *to clear the data register* ○ *Type CLS to clear the screen.* ○ *All arrays are cleared each time the program is run.* **3.** COMPUT to release a communications link when transmissions have finished

clear air *noun* METEOROL an atmosphere with no mist or smoke

clear air turbulence *noun* AEROSP turbulence encountered in the atmosphere where no cloud is present ○ *Clear air turbulence can be particularly dangerous because it is often unexpected due to lack of visual warning.* Abbr **CAT**

clearance *noun* the act of removing something which is in the way in order to make space for something else

clearcut FORESTRY *noun* the cutting down of all the trees in an area ■ *verb* to clear an area of forest by cutting down all the trees

clear to send *noun* COMPUT an RS232C signal that a line or device is ready for data transmission. Abbr **CTS**

cleavage *noun* MINERALS the splitting of rocks or minerals along natural planes of weakness determined by their internal crystal structure (NOTE: The angle of cleavage is one of the features used to identify minerals.)

click COMPUT *noun* **1.** a sound of short duration, often used to indicate that a key has been pressed **2.** an act of pressing a key or button on a keyboard ○ *You move through text and graphics with a click of the button.* ■ *verb* to press and release a key or button on a keyboard or the mouse ○ *Use the mouse to enlarge a frame by clicking inside its border.*

click through rate *noun* COMPUT the number of times that visitors click on a displayed banner advertisement on a website, used as a method of charging the advertiser. Abbr **CTR**

client *noun* COMPUT a workstation, PC or terminal connected to a network that can send instructions to a server and display results

client application *noun* COMPUT an application that can accept linked or embedded objects from a server application or application that is used in a client-server system

client-server architecture *noun* COMPUT a distribution of processing power in which a central server computer carries out the main tasks in response to instructions from terminals or workstations

client-server network *noun* COMPUT a method of organising a network in which one central dedicated computer, the server, looks after tasks such as security, user

accounts, printing and file sharing, while clients, i.e. the terminals or workstations connected to the server, run standard applications. Compare **peer-to-peer network**

client side *adjective* COMPUT referring to data or a program that runs on the client's computer rather than on a server (NOTE: A JavaScript program runs on the user's web browser and is a client side application, while a cookie is data stored on the user's hard disk.)

cliff *noun* EARTH SCI the steep side of an area of high ground, often by the sea, usually rocky

climate *noun* METEOROL the general weather patterns that a place has

COMMENT: Climate is influenced by many factors, in particular the latitude of the region, whether it is near the sea or far inland and the altitude.

climate change *noun* ENVIRON a long-term alteration in global weather patterns, occurring naturally, as in a glacial or post-glacial period, or as a result of atmospheric pollution (NOTE: Sometimes climate change is used interchangeably with 'global warming', but scientists tend to use the term in the wider sense to include natural changes in the climate.)

climate feedback *noun* METEOROL a process that is activated by the direct climate change caused by variations in the balance between incoming solar radiation and outgoing infrared radiation (NOTE: Climate feedbacks may increase (positive feedback) or diminish (negative feedback) the magnitude of direct climate change.)

climate lag *noun* METEOROL a delay which occurs in climate change as a result of a factor that changes very slowly

climate model *noun* METEOROL a quantitative representation on a computer of the characteristics of the atmosphere, oceans, land surface and ice and the ways in which they interact

climate modelling *noun* METEOROL a simulation of the climate using computer-based models

climatic *adjective* METEOROL referring to climate

climatic climax *noun* METEOROL a stable state (**climax**) which is controlled by climatic factors

climatic factor *noun* ECOL a condition of climate which affects the organisms living in a specific area

climatic zone *noun* ECOL one of the eight areas of the Earth which have different climates

COMMENT: The climatic zones are: the two polar regions (the Arctic and Antarctic); the boreal in the northern hemisphere, south of the Arctic; two temperate zones, one in the northern hemisphere and one in the southern hemisphere; two subtropical zones, including the deserts; and the equatorial zone which has a damp tropical climate.

climatological *adjective* METEOROL referring to climatology ○ *Scientists have gathered climatological statistics from weather stations all round the world.*

climatological data *plural noun* METEOROL information and statistics about climate

climatological station *noun* METEOROL a scientific research centre where the climate is studied

climatologist *noun* METEOROL a scientist who specialises in the study of the climate

climatology *noun* METEOROL the scientific study of climate

climax *noun* ECOL the final stage in the development of plant colonisation of a specific site, when changes occur within a mature and relatively stable community. Compare **disclimax**

climax community *noun* BOT a plant community which has been stable for many years and which changes only as the environment or climate changes or there is human interference

climb *noun* (of aircraft) the action of increasing altitude by use of power ○ *Fine pitch enables full engine speed to be used during take-off and climb.* ■ *verb* (of aircraft) to increase altitude by use of power ○ *After take-off, the aircraft climbed to 5000ft.*

cline *noun* BIOL the set of gradual changes which take place in a species according to geographical and climatic differences across the environment in which it lives

clinical medicine *noun* MED the study and treatment of patients in a hospital ward or in the doctor's surgery as opposed to the operating theatre or laboratory

clinical pathology *noun* MED the study of disease as applied to the treatment of patients

clinker *noun* INDUST the lumps of ash and hard residue from furnaces, used to make road surfaces or breeze blocks

clinostat *noun* BOT a slowly rotating platform on which a plant is placed so that it is exposed to a stimulus such as light equally on all sides

clip *verb* COMPUT to select an area of an image that is smaller than the original

clip-art *noun* COMPUT a set of pre-drawn images or drawings that a user can incorporate into a presentation or graphic ○ *We have used some clip-art to enhance our presentation.*

clipboard *noun* COMPUT a software utility that temporarily stores any type of data, e.g. a word or image ○ *Copy the text to the clipboard, then paste it back into a new document.*

clisere *noun* ECOL the succession of communities influenced by the climate of an area

clitoris *noun* ANAT a sensitive erectile female organ found at the front of the vulva in mammals, and also in some reptiles and birds (NOTE: In humans it lies immediately behind the junction of the labia minora.)

CLNP *abbreviation* COMPUT connectionless network protocol

cloaca *noun* ZOOLOG the terminal region of the gut with the intestinal, urinary and genital canals opening into it (NOTE: It is present in reptiles, amphibians, birds, many fishes, and in some invertebrates.)

clock *COMPUT noun* 1. a device which shows the time 2. a circuit which generates pulses used to synchronise equipment ■ *verb* to synchronise signals or circuits with a clock pulse

clock cycle *noun* COMPUT the period of time between two consecutive clock pulses

clock frequency *noun* the frequency of the main clock that synchronises a computer system ○ *The main clock frequency is 10MHz.*

clock pulse *noun* COMPUT a regular pulse used for timing or synchronising purposes

clockwise *adjective, adverb* describing a circular movement in the same direction as the hands of a clock, from left to right ○ *in a clockwise direction* Opposite **anticlockwise**

clog *verb* 1. to become blocked ○ *The drain clogs easily.* 2. to prevent movement of fluid through a pipe, channel or filter

because of a build-up of solid matter ○ *The stream was clogged with waterweed.*

clone *noun* **1.** BIOL a group of cells derived from a single cell by asexual reproduction and therefore identical to the first cell **2.** BIOL an organism produced asexually, either naturally or by means such as taking cuttings from a plant **3.** BIOL a group of organisms all of which have been derived from a single individual by asexual means **4.** COMPUT a computer or circuit that behaves in the same way as the original it was copied from ○ *They have copied our new personal computer and brought out a cheaper clone.* ○ *Higher performance clones are available for all the models in our range.* ■ *verb* BIOTECH to reproduce an individual organism by asexual means

cloning *noun* BIOL the reproduction of an individual organism by asexual means

close *verb* COMPUT to shut down access to a file or disk drive

closed bus system *noun* COMPUT a computer with no expansion bus that makes it very difficult for a user to upgrade

closed chain *noun* CHEM a number of molecules arranged in a ring

closed fracture *noun* MED a broken bone that does not protrude through the skin

closed loop *noun* COMPUT a computer control operation in which data is fed back from the output of the controlled device to the controlling loop

closed subroutine *noun* COMPUT a number of computer instructions in a program that can be called at any time, with control being returned on completion to the next instruction in the main program

Clostridium *noun* BIOL a type of bacterium (NOTE: Species of Clostridium cause botulism, tetanus and gas gangrene, but also increase the nitrogen content of soil.)

clot *PHYSIOL verb* (of blood) to become thick and stop flowing, forming a scab if exposed to the air ■ *noun* a mass of thickened blood that forms over a wound or in a blood vessel

clotting factor *noun* MED one of a group of substances in the blood that are essential for normal clotting and scab formation over a wound

cloud *noun* METEOROL **1.** a mass of water vapour or ice particles in the sky which can produce rain or snow **2.** a mass of particles suspended in the air ○ *Clouds of smoke*

poured out of the factory chimney. ○ *The eruption sent a cloud of ash high into the atmosphere.* ○ *Dust clouds swept across the plains.* (NOTE: As a plural, **clouds** means several separate clouds; otherwise the singular **cloud** can be used to refer to a large continuous mass: *There is a mass of cloud over the southern part of the country.*)

COMMENT: Clouds are formed as humid air rises and then cools, causing the water in it to condense. They are classified by meteorologists into ten categories: cirrus, cirrocumulus and cirrostratus (high-level clouds); altocumulus and altostratus (middle-level clouds); and stratocumulus, nimbostratus, cumulus, cumulonimbus and stratus (low-level clouds).

cloudbank *noun* METEOROL a mass of low clouds

cloudbase *noun* METEOROL the bottom part of a layer of cloud

cloudburst *noun* METEOROL a sudden rainstorm

cloud ceiling *noun* METEOROL the height of cloud cover

cloud chamber *noun* PHYS a piece of laboratory equipment in which clouds can be formed for the study of ionisation

cloud cover *noun* METEOROL the amount of sky which is covered by clouds.

♦ **okta**

cloud formation *noun* METEOROL **1.** the natural production and development of clouds **2.** a pattern of clouds in the sky

cloudlayer *noun* METEOROL a mass of clouds at a specific height above the land

cloudless *adjective* METEOROL without clouds

cloudy *adjective* **1.** METEOROL covered with clouds ○ *a cloudy sky* **2.** not clear or transparent ○ *a cloudy liquid*

clump *noun* **1.** BOT a group of trees or plants growing together ○ *a clump of bushes* ○ *a clump of grass* **2.** a group of items brought close together in a mass ○ *to form a clump* **3.** a small mass of a substance ■ *verb* PHYS to collect or stick together

clumping *noun* the gathering together of a large number of things in a mass

cluster *noun* **1.** a group of similar things that are close together ○ *a flower cluster* **2.** STATS a number of similar events happening at a similar time or in a similar place ○ *a cluster of leukaemia patients in the area of the nuclear power station* **3.** COMPUT

one or more sectors on a hard disk that are used to store a file or part of a file **4**. COMPUT a number of terminals, stations, devices or memory locations grouped together in one place

CLUT *noun* COMPUT a table of numbers used in Windows and graphics programs to store the range of colours used in an image. Full form **colour look-up table**

CLV *abbreviation* COMPUT constant linear velocity

cm *abbreviation* MEASURE centimetre

CM *abbreviation* COMPUT central memory

CMI *abbreviation* COMPUT computer-managed instruction

CMIP *abbreviation* COMPUT common management information protocol

CMIS *noun* COMPUT a powerful network management system. Full form **common management information specification**

CML *abbreviation* COMPUT computer-managed learning

CMOS *abbreviation* COMPUT complementary metal oxide semiconductor

COMMENT: The final package uses very low power but is relatively slow and sensitive to static electricity as compared to TTL integrated circuits. The main use is in portable computers where battery power is being used.

CMYK *noun* COMPUT (*in graphics and DTP*) a method of describing a colour by its four component colours. Full form **cyan-magenta-yellow-black**

cnidarian *noun* ZOO a marine invertebrate with tentacles surrounding its mouth, e.g. a sea anemone, coral and jellyfish. Phylum: Cnidaria.

CNS *abbreviation* ANAT central nervous system

Co *symbol* CHEM ELEM cobalt

CO *symbol* CHEM carbon monoxide

co- *prefix* together

CO₂, CO2 *symbol* CHEM carbon dioxide

coagulant *noun* BIOCHEM a substance which can make blood coagulate

coagulate *verb* BIOCHEM (*of a liquid*) to become semi-solid as suspended particles clump together ○ *Blood coagulates in contact with air.*

coagulation *noun* BIOCHEM (*of a liquid*) the process of becoming semi-solid

coal *noun* INDUST a solid black organic substance found in layers underground in

most parts of the world, burnt to provide heat or power

COMMENT: Coal was formed many millions of years ago from organic refuse deposited in swamps. Decaying plants formed peat, which was pressed by other layers of deposits to form first lignite, or brown coal, and then coal itself. Coal is composed mainly of carbon and can be classified into various grades. Lignite is soft and not a very efficient fuel. Bituminous coals are harder and contain more carbon. Anthracite is the hardest coal, being almost pure carbon, and is the most efficient producer of heat. Coal is used commercially to fuel power stations, to burn to produce gas and to make coke, which burns at a higher temperature and is used in metal refining. It is also processed to make various forms of smokeless fuels used in domestic heating appliances. Coal affects the environment in two ways: (a) in the mining process, waste matter can create ugly slag heaps and can contaminate rivers, and old mines create subsidence as they fill in; (b) burning coal emits toxic smoke, especially sulphur oxides and fly ash, together with carcinogenic substances such as benzopyrene. These emissions cause smog at low levels and can rise into the atmosphere and contribute to the greenhouse effect.

coal basin *noun* EARTH SCI a part of the Earth's surface containing layers of coal

coal deposit *noun* EARTH SCI a layer of coal in the rocks beneath the Earth's surface

coalesce *verb* to join together to form a large mass or number ○ *The moisture in the air coalesces into large water droplets.*

coalescence *noun* the process of joining together to form a larger mass or number ○ *Coalescence of water vapour in the atmosphere forms larger droplets of water.*

coal-fired power station *noun* INDUST a power station which burns coal to produce electricity

coal gas *noun* INDUST a gas produced by processing coal, leaving coke as a residue

coal gasification *noun* INDUST the process of converting coal into gas to be used as fuel in gas-fired power stations

coal grinding *noun* INDUST the reduction of coal to fine particles in a crushing machine

coal measure *noun* GEOL a layer of rock containing coal that erodes very quickly and soon becomes covered in vegetation, therefore rarely seen exposed

coal mine *noun* INDUST a hole dug in the ground to extract coal

coal seam *noun* GEOL a layer in the rocks beneath the Earth's surface from which coal can be extracted

coal tar *noun* INDUST one of several liquids with a strong distinctive smell formed by distillation of coal (NOTE: It is used in the pharmaceutical industry and as a wood preservative.)

coarse *adjective* **1.** referring to a particle or feature which is larger than others ◦ *Coarse sand fell to the bottom of the liquid as sediment, while the fine grains remained suspended.* **2.** rough

coast *noun* EARTH SCI the zone where the land meets the sea

coastal *adjective* EARTH SCI near the coast ◦ *a plant found in coastal waters*

coastal erosion *noun* EARTH SCI the loss of land from a coast as a result of the force of waves and currents

coastal fog *noun* METEOROL a type of advection fog which forms along the coast

coastal protection, coast protection work *noun* ENVIRON action to protect the coast from being eroded by the action of the sea such as building sea walls and projecting structures to break the force of the waves

coastal refraction *noun* TELECOM a change in direction of sound waves when a signal crosses a coastline from sea to land

coastal retreat *noun* EARTH SCI serious erosion of a coastline

coastline *noun* EARTH SCI the outline of a coast as seen on a map or a high place, or the land as seen from the sea

coat *noun* a thin covering of a substance such as paint ◦ *The coats of paint on a large aircraft significantly increase its weight.* ■ *verb* to cover something with a thin layer of a substance such as paint ◦ *Metals are coated for protection against corrosion.*

coating *noun* **1.** a thin layer of a substance ◦ *There are two coatings on the inside of CRT screens.* **2.** the act of covering something with a thin layer of a substance

co-axial cable, coax *noun* ELEC a cable made up of a central core surrounded by an insulating layer then a second shielding conductor. Compare **twisted-pair cable**

COMMENT: Co-axial cable is used for high-frequency, low-loss applications including thin Ethernet network cabling.

cobalt *noun* CHEM ELEM a metallic element. It is used to make alloys. (NOTE: The chemical symbol is **Co**; the atomic number is **27** and the atomic weight is **58.93**.)

cobalt-60 *noun* CHEM, MED a radioactive isotope used in radiotherapy to treat cancer

COBOL *abbreviation* COMPUT common business-oriented language

coccus *noun* MICROBIOL a bacterium shaped like a ball (NOTE: The plural is **cocci**.)

COMMENT: Cocci grow together in groups, either in clumps (staphylococci) or in long chains (streptococci).

coccyx *noun* ANAT a bone at the base of the spinal column in apes and humans

cochlea *noun* ANAT a part of the inner ear in mammals, birds and some reptiles which detects sounds of different pitch (NOTE: In mammals it is spirally coiled and contains numerous tiny hair cells which move in response to sound waves, causing nerve impulses to travel to the brain, which interprets them as sound.)

cochlear nerve *noun* ANAT a division of the auditory nerve

cock *noun* ENG a manually controlled valve or tap to control the flow of a liquid ◦ *It is necessary to have a master cock for each engine.*

coconut palm *noun* TREES a palm tree with large hard-shelled edible nuts. Latin name: *Cocos nucifera*.

cocoon *noun* ZOOLOG a hollow silky structure made by many invertebrates to protect their eggs or developing pupae

COD *abbreviation* BIOCHEM chemical oxygen demand

code *noun* **1.** a system of numbers, letters or symbols used to represent language or other information **2.** GENETICS same as **genetic code** **3.** COMPUT rules used to convert instructions or data from one form to another **4.** COMPUT a sequence of computer instructions ■ *verb* **1.** to convert instructions, information or data into another form **2.** COMPUT to write a program in a programming language **3.** GENETICS (*of a codon or gene*) to provide the genetic information which causes a specific amino acid to be produced ◦ *Genes are sections of DNA that code for a specific protein sequence.*

CODEC *noun* COMPUT a device which encodes a signal being sent or decodes a

signal received, used in many advanced PABX systems. Full form **coder/decoder**

code element *noun* COMPUT the voltage or signal used to represent binary digits

code group *noun* COMPUT a special sequence of five code bits that represent an FDDI symbol

codepage *noun* COMPUT the definition of the character produced by each key on the keyboard

coder *noun* COMPUT a device which encodes a signal

coding *noun* COMPUT the act of putting a code on something

codistillation *noun* ENVIRON the process by which molecules of toxic substances can be evaporated into clouds over land and then fall back into the sea as rain

cod liver oil *noun* PHARM an oil from the liver of codfish (NOTE: It is rich in calories and in vitamins A and D and is often used as a diet supplement.)

codominant *adjective* **1.** ECOL (*of a species*) (said of two or more species) being roughly equally abundant in an area and more abundant than any other species ○ *There are three codominant tree species in this forest.* **2.** GENETICS referring to alleles of a gene that are not fully dominant over other alleles in a heterozygous individual

codon *noun* GENETICS a unit consisting of a set of three consecutive nucleotides in messenger RNA that specify a particular amino acid in protein synthesis

coefficient *noun* MATHS a mathematical quantity placed before and multiplying another (NOTE: In $4x$, 4 is the coefficient of x .)

-coele *suffix* BIOL another spelling of **-cele**

coelenterate *noun* ZOOL an organism which has a soft bag-like body and a gut with only one opening. Phylum: Coelenterata. (NOTE: Sea anemones, corals and jellyfish are all coelenterates.)

coeliac *adjective* ANAT referring to the abdomen

coeliac disease *noun* MED a disease of the small intestine resulting from an inability to digest wheat protein (NOTE: The protein gluten causes the body's own immune system to attack and damage the gut lining.)

coeliac ganglion *noun* ANAT a ganglion on each side of the origins of the diaphragm, connected with the coeliac plexus

coelom *noun* ANAT the body cavity in most many-celled animals including humans

coenocyte *noun* BOT a mass of cytoplasm containing many nuclei within a common cell wall

coenocytic *adjective* BOT referring to a coenocyte (NOTE: The threads (**hyphae**) of many fungi and the bodies of some algae are coenocytic.)

coenzyme *noun* BIOCHEM a non-protein compound that combines with the protein part of an enzyme (**apoenzyme**) to make it active

coevolution *noun* the evolution of two species together such as parasite and host

coffee *noun* **1.** BOT a bush or small tree widely grown in the tropics for its seeds, which are used to make a drink. Latin name: *Coffea arabica*. **2.** the drink prepared from the seeds of coffee bushes

coffee plantation *noun* AGRIC a plantation of coffee bushes

cogeneration *noun* INDUST the production of heat and power, as in a combined heat and power installation

cohesion *noun* PHYS the force of attraction between the molecules of a solid or liquid that holds them together

cohort *noun* SCI a group of individuals sharing a common factor such as age or a set of circumstances

cohort study *noun* an investigation in which a group of people without a disease are classified according to their exposure to a risk and are studied over a period of time to see if they develop the disease, in order to study links between risk and disease

coil *noun* ELEC a device consisting of coiled wire for converting low voltage to high voltage ○ *A voltage coil is connected across the generator.*

coincide *verb* to happen at the same time and/or in the same place

coincidence function, coincidence operation MATHS same as **AND function**

coincidence gate, coincidence circuit, coincidence element *noun* ELECTRONICS same as **AND gate**

coke *noun* INDUST a fuel manufactured by heating coal to high temperatures without the presence of air

COMMENT: Coke is produced in coking ovens, where coal is heated to white heat without air. This removes most of the tar

and the resulting fuel burns at a much higher temperature than coal and produces very little smoke or ash. It is used in blast furnaces.

coke burner *noun* INDUST a device in which coal is heated to produce coke

col *noun* **1.** EARTH SCI a high pass between two mountains **2.** METEOROL a low pressure area between two anticyclones

cold *noun* **1.** low temperature ○ *Sheep can withstand the cold.* **2.** MED a common infection in the nose

cold-blooded *adjective* ZOOL referring to an animal such as a reptile or fish whose body temperature is dependent on the temperature of its surroundings. Also called **ectotherm, poikilotherm**

COMMENT: The body temperature of cold-blooded animals changes with the outside temperature.

cold boot *noun* COMPUT same as **cold start**

cold desert *noun* EARTH SCI an area with little vegetation because of the cold temperatures

cold front *noun* METEOROL the edge of an advancing mass of cold air, associated with an area of low pressure, bringing clouds and rain as it meets the warmer air which it displaces

cold fusion *noun* PHYS a hypothetical form of nuclear fusion held to take place at room temperature

cold hardening *noun* BOT the process by which a conifer prepares for the winter by reducing the amount of water contained in its needles

cold setting materials *noun* INDUST materials which do not need heat to harden

cold start *noun* COMPUT the switching on of a computer or running of a program from its original start point

cold trough *noun* METEOROL a long area of low pressure with cold air in it, leading away from the centre of a depression

coleopteran *noun* INSECTS an insect such as a beetle with modified tough forewings that act as covers for the membranous hindwings. Order: Coleoptera.

coleoptile *noun* BOT a sheath which protects the stem tip (**plumule**) of a germinating grass seed as it grows to the surface

coliform *adjective* BIOL referring to bacteria which are similar in shape to *Escherichia coli*

collagen *noun* BIOL a fibrous protein forming connective bundles of connective tissue, bone and cartilage

collagen disease *noun* MED a disease that affects the connective tissue (NOTE: Collagen diseases include rheumatic fever and rheumatoid arthritis.)

collagenous *adjective* **1.** BIOL containing collagen **2.** MED referring to collagen disease

collapse *noun* a sudden and complete fall ■ *verb* to fall suddenly and completely ○ *The magnetic field will reach a maximum in one direction, collapse to zero and reach a maximum in the opposite direction.*

collate *verb* to compare and put items in order

collateral circulation *noun* MED the enlargement of some secondary blood vessels, as a response when the main vessels become slowly blocked

collator *noun* COMPUT a piece of software that collates data

collect *verb* to gather or gather something over a period of time ○ *Water collects in the hollows.* ○ *Any given object will usually collect ice more quickly at high speed.*

collection *noun* **1.** the process of gathering something together ○ *the regular collection of samples for analysis* **2.** BIOL a group of objects or organisms brought together ○ *a labelled collection of insects* ○ *a living collection of plants*

collector panel *noun* INDUST same as **solar panel**

collide *verb* to hit or to crash into something ○ *Some particles will collide with each other.*

collimator *noun* OPTICS a lens or mirror used in an optical system to produce light in a parallel beam for further processing, e.g. in a spectrograph

collision *noun* **1.** a crash between two objects such as vehicles or molecules **2.** COMPUT an event that occurs when two electrical signals meet and interfere with each other over a network, normally causing an error

colloid *noun* PHYS a substance with very small particles that do not settle but remain in suspension in a liquid

colloidal *adjective* PHYS referring to a colloid

colloidally dispersed particles *plural noun* PHYS particles which remain in suspension in a liquid

co-located *adjective* having the same location

co-location *noun* COMPUT the putting of several computers used as Internet servers at a specialist site designed to support and maintain servers on behalf of their customers

colon *noun* 1. PRINTING a printing sign, (:), which shows a break in a string of words or introduces an explanation 2. the large intestine, running from the caecum to the rectum

colonial *adjective* ECOL referring to a colony

colonial animal *noun* ZOO an animal which usually lives in colonies, e.g. an ant

colonisation, colonization *noun* ECOL the act of colonising a place ◦ *Islands are particularly subject to colonisation by species of plants or animals introduced by people.*

colonise, colonize *verb* ECOL (*of plants and animals*) to become established in a new ecosystem ◦ *Derelict city sites rapidly become colonised by plants.* ◦ *Rats have colonised the sewers.*

coloniser, colonist *noun* an organism that moves into and establishes itself in a new ecosystem, e.g. a plant such as a weed

colony *noun* ECOL a group of animals, plants or microorganisms living together in a place ◦ *a colony of ants*

color *noun* US spelling of **colour**

coloration *noun* ZOO the colours or patterns of an animal ◦ *protective coloration*

colorimeter *noun* OPTICS a device for measuring the concentration of a solution of a coloured substance by reference to standard solutions or standard colour slides

colostrum *noun* PHYSIOL a yellowish fluid that is rich in antibodies and minerals produced by a mother's breasts after giving birth and prior to the production of true milk (NOTE: It provides newborns with immunity to infections.)

colour *noun* the set of differing wavelengths of light that are reflected from objects and sensed by the eyes ◦ *Flower colour attracts insects.* ■ *verb* to give colour to something ◦ *The chemical coloured the water blue.* (NOTE: [all senses] The US spelling is **color**.)

colour balance *noun* OPTICS an adjustment of the red, green and blue primary colours to produce a pure white colour (NOTE: When configuring a colour monitor, a colour sensor is placed on the screen and the red, green and blue electron gun settings are adjusted to produce a pure white colour.)

colour bit *noun* COMPUT a data bit assigned to a pixel to describe its colour (NOTE: One bit provides two colours, two bits give four colours and eight bits allow 256 colour combinations.)

colour cell *noun* COMPUT the smallest area on a screen that can display colour information

colour cycling *noun* COMPUT the changing of the colours in a palette over a period of time, normally used to create a special effect or animation

colour depth *noun* COMPUT the number of different colours that can be displayed by any single pixel in a display (NOTE: It is determined by the number of colour bits in each pixel.)

colour display *noun* COMPUT a display device able to represent characters or graphics in colour

colour index *noun* ASTRON a quantitative measure of the colour of astronomical objects

COMMENT: Colour indices compare the brightness of an object through two or more filters at different wavelengths. B-V (blue minus visual, the straw colour which marks the peak acuity of the human eye) is the most commonly used colour index. The smaller the value of B-V, the bluer a star appears and the hotter it is.

colouring *noun* 1. the appearance of something in terms of its colour 2. FOOD INDUST same as **food colouring**

COMMENT: Colouring additives have E numbers 100 to 180. Some are natural pigments, for example riboflavine (E101), carrot juice (E160) or chlorophyll (E140) and are safe. Others such as tartrazine (E102) and other azo dyes are suspected of being carcinogenic. Also suspect is caramel (E150), which is the most widely used colouring substance.

colour key *noun* OPTICS an image manipulation technique used to superimpose one image on another (NOTE: It is often used with two video sources to create special effects: one image is photographed against a coloured background and then superimposed with another image to produce a combined picture.)

colourless *adjective* with no colour ○ *Water is a colourless liquid.*

colour palette *noun* COMPUT the selection of colours that are currently being used in an image

colour saturation *noun* PHYS the purity of a colour signal

colour separation *noun* PRINTING the separating of a colour image into its constituent colours to produce printing plates (NOTE: Full colour printing needs four-colour separation to produce four printing plates for the cyan, magenta, yellow and black (CMYK) inks that together create a colour image.)

colour standard *noun* ELEC ENG one of three international standards used to describe how colour TV and video images are displayed and transmitted (NOTE: The three standards are NTSC, PAL and SECAM.)

colour temperature *noun* PHYS a shade of the colour white that would be seen if pure carbon were heated to a particular temperature in Kelvin (NOTE: The standard for many TV and video systems is a colour temperature of 6500K, known as Illuminant D65.)

column *noun* **1.** a solid with a tall narrow shape ○ *Basalt rocks form columns in some parts of the world.* **2.** a body of fluid with a tall, narrow shape ○ *Torricelli first demonstrated that the atmosphere has weight by showing that it can support a column of liquid.* **3.** a vertical section of a table in a document ○ *Column four of the table shows the totals of the other three.*

columnar *adjective* in the form of a column ○ *Igneous rocks may have a columnar structure.*

columnar graph *noun* MATHS a graph on which values are shown as vertical or horizontal bars

column chromatography *noun* CHEM chromatography using a column of powder as the porous medium

COM *abbreviation* COMPUT **1.** Component Object Model **2.** computer output on microfilm

COMAL *noun* COMPUT a structured programming language similar to BASIC. Full form **common algorithmic language**

combat *verb* to fight against something ○ *The medical team is combating an outbreak of diphtheria.* ○ *What can we do to combat the spread of the disease?*

combe, coombe *noun* GEOG a small valley with steep sides and usually no water flowing through it

comb filter *noun* ELEC an electronic device used to separate the luma (Y) and chroma (C) signals from a composite video signal

combination *noun* **1.** two or more things together ○ *Lichens are a combination of a fungus and an alga.* **2.** the act of bringing two or more things together ○ *the successful combination of our ideas with their resources*

combinational *adjective* combining a number of separate elements

combinational circuit *noun* ELECTRONICS an electronic circuit consisting of a number of connected components

combinational logic *noun* COMPUT a logic function made up of a number of separate logic gates

combine *verb* to bring two or more things together to make one, or to come together to make one

combined head *noun* COMPUT a transducer that can read and write data from the surface of a magnetic storage medium, e.g. a floppy disk

combined heat and power plant *noun* INDUST a power station that produces both electricity and hot water. Abbr **CHP plant** (NOTE: Such a plant may operate on almost any fuel, including refuse.)

combined station *noun* COMPUT a high-level data link control station that processes commands and responses

combined symbol matching *noun* an efficient optical character recognition system. Abbr **CSM**

combust *verb* CHEM to burn, or to burn something ○ *The region combusts 75% of its refuse for heat reclamation.*

combustible *adjective* burning easily ○ *made of combustible materials* ○ *Wood and paper are easily combustible.*

combustion *noun* PHYS the burning of a substance with oxygen

combustion chamber *noun* MECH ENG the part of the cylinder in a piston engine where the ignition of the fuel/air mixture takes place

combustion residue *noun* PHYS the material left after combustion has taken place

comet *noun* ASTRON an astronomical object that is a mass of ice and dust and has a long luminous tail produced by vaporisation when its orbit passes close to the Sun
comma *noun* a symbol (,) that is often used to separate data, variables or arguments

comma-delimited *adjective* COMPUT (of a file) in which each item or field of data is separated by a comma

command *noun* COMPUT **1.** an electrical signal that will start or stop a process **2.** a word or phrase that is recognised by a computer system and starts or terminates an action ○ *an interrupt command* ○ *The command to execute the program is RUN.*

command-and-control regulations *plural noun* ENVIRON rules that require polluters to meet specific emission-reduction targets, often using specific types of equipment

command-driven program *noun* COMPUT a program which requires the user to enter instructions at every stage

command interpreter *noun* COMPUT a program within an operating system which recognises a set of system commands and controls the processor, screen and storage devices accordingly ○ *When you type in the command 'DIR', the command interpreter asks the disk drive for a list of files and instructs the monitor to display the list.*

command language *noun* COMPUT a programming language made up of procedures for various tasks, which can be called up by a series of commands

command line *noun* COMPUT **1.** a program line that contains a command instruction **2.** a command prompt and system command

command line operating system *noun* COMPUT a type of computer system software which is controlled by a user typing in commands (NOTE: These systems are now largely replaced by systems which allow a user to control the system through images.)

command register *noun* COMPUT a register which stores the instruction to be carried out

commence *verb* to start doing something

commensal BIOL *noun* an organism which lives on another plant or animal but does not harm it or influence it in any way.

○ **parasite, symbiont** ■ *adjective* referring to a commensal

commensalism *noun* BIOL the state of organisms existing together as commensals

comment *noun* **1.** an opinion expressed in speech or writing ○ *critical comments* ○ *Thank you for your helpful comments on my paper.* **2.** COMPUT a helpful note in a program to guide other programmers who might read it ○ *The lack of comments is annoying.* ○ *BASIC allows comments to be written after a REM instruction.*

comminution *noun* INDUST the crushing or grinding of rock, ore or sewage into small particles

comminutor *noun* INDUST a crushing machine that makes particles smaller

committee *noun* a group of people dealing with a particular subject or problem

common *adjective* **1.** occurring frequently ○ *a common spelling error* **2.** used or done by several people ○ *a common ethical stance* **3.** ordinary ○ *common household chemicals*

COMMENT: About 80% of common land is privately owned and, subject to the interests of any commoners, owners enjoy essentially the same rights as the owners of other land. Commoners have different types of 'rights of common', e.g. to graze animals, or to extract sand, gravel or peat.

Common Agricultural Policy *noun* a set of regulations and mechanisms agreed between members of the European Union to control the supply, marketing and pricing of farm produce. Abbr **CAP**

Common Birds Census *noun* an ongoing survey of commonly occurring birds, run by the British Trust for Ornithology

common business-oriented language *noun* COMPUT full form of **COBOL**

common carotid artery *noun* ANAT a main artery running up each side of the lower part of the neck

Common Fisheries Policy *noun* the legal framework which covers all fishing in the European Union. It aims to conserve fish stocks by regulating fish catches. Abbr **CFP**

common gateway interface *noun* COMPUT a standard that defines how a webpage can call special scripts stored on an Internet server to carry out enhancing functions. Abbr **CGI**

common iliac artery *noun* ANAT one of two arteries which branch from the aorta in the abdomen (NOTE: In turn they divide into the internal iliac artery, leading to the pelvis, and the external iliac artery, leading to the leg.)

common intermediate format *noun* COMPUT a standard for video images that displays an image 352 pixels wide and 288 pixels high. Abbr **CIF**

common management information protocol *noun* COMPUT a protocol officially adopted by the International Standards Organisation and used to carry network management information across a network. Abbr **CMIP**

common object request broker architecture *noun* COMPUT a standard defined by the Object Management Group to standardise the way an application can access an object. Abbr **CORBA** (NOTE: This is a rival standard to COM.)

common salt *noun* CHEM a white powder used to make food, especially meat, fish and vegetables, taste better. Also called **sodium chloride**

communicate *verb* to pass information
communicating artery *noun* ANAT one of two arteries which connect the blood supply from each side of the brain, forming part of the circle of Willis

communication *noun* COMPUT the passing of information

communications channel *noun* COMPUT a physical link over which data can be transmitted

communications port *noun* COMPUT a socket or physical connection allowing one device to communicate with another

communications protocol *noun* COMPUT a set of parameters that define how the transfer of information will be controlled ○ *The communications protocol for most dial-up online services is eight-bit words, no stop bit and even parity.*

communications software *noun* COMPUT software that allows a user to control a modem and use an online service

community *noun* **1.** a group of people who live and work in a district ○ *The health services serve the local community.* **2.** ECOL a group of different organisms which live together in an area ○ *the plant community on the sand dunes*

community architecture *noun* ENVIRON a way of designing new housing

projects or adapting old buildings, in which the people living in the area as well as specialists are involved in the planning
community ecology *noun* ECOL the study of the processes that determine the composition and structure of the mixture of species found in a particular area

community heating *noun* ENG the heating of houses and shops in an area from a central source

community medicine *noun* MED the study of medical practice which examines groups of people and the health of the community, including housing, pollution and other environmental factors

community physician *noun* MED a doctor who specialises in community medicine

community services *plural noun* MED services which are available to the community

community transport *noun* ENVIRON a bus or rail service which is available to the community

commutator *noun* ELEC a device containing metal bars connected to the coils of a generator to produce electrical current ○ *As the power output required is DC not AC, a commutator is fixed at one end of the armature.*

comp *noun* COMPUT a type of newsgroup that provides discussion about computers and computer programming

compact *adjective* referring to something which does not take up much space ■ *verb* to reduce the space taken by something

compact code *noun* COMPUT a minimum number of program instructions required for a task

compact disc *noun* COMPUT a small plastic disc that contains audio signals in digital form etched onto the surface. Abbr **CD**

compact Flash *noun* COMPUT a tiny memory expansion device that uses Flash-ROM to store up to 512Mb of data, often used in MP3 music players and digital cameras. Abbr **CF**

compacting *noun* ENG same as **compaction**

compacting algorithm *noun* COMPUT a formula for reducing the amount of space required by text

compaction *noun* ENG the compression of ground and making it hard, e.g. by driv-

ing over it with heavy machinery or as the result of a lot of people walking on it

companding *noun* COMPUT a combination of two processes that reduce or compact data before transmission or storage then restore packed data to its original form. Full form **compressing and expanding**

companion animal *noun* an animal that is kept for company and enjoyable interaction, rather than for work or food

companion plant *noun* BOT a plant which improves the growth of nearby plants or reduces pest infestation (NOTE: Companion plants are often used by horticulturists and gardeners because they encourage growth or reduce pest infestation in an adjacent plant.)

companion planting *noun* BOT the use of plants that encourage the growth of others nearby

comparable *adjective* able to be compared equally with something else ○ *Titanium is non-magnetic and has an electrical resistance comparable to that of stainless steel.*

comparative risk analysis *noun* a comparison of two types of risk

comparator *noun* COMPUT a logical device whose output is true if there is a difference between two inputs

compare *verb* to find the similarities and dissimilarities between two or more things ○ *When the chart is properly oriented, it is easier to compare the distance between landmarks on the ground to their corresponding distances on the chart.* ○ *An aneroid barometer is small compared with a mercury barometer.* (NOTE: **compare with** is usually used to express difference **compare to** to express similarity)

comparison *noun* the bringing out of differences and similarities between two or more things ○ *A table showing a comparison of fixed points on various temperature scales is given on page three.*

compartment *noun* FORESTRY a section of a managed plantation of trees

compass *noun* NAVIG an instrument with a needle which always points to the magnetic north

compass bearing *noun* NAVIG the direction or position relative to a fixed point measured in degrees on a compass

compass quadrant *noun* NAVIG a quarter part of a circle centred on a navigational aid

compatibility *noun* COMPUT the ability of two hardware or software devices to function together

COMMENT: By conforming to the standards of another manufacturer or organisation, compatibility of hardware and software allows programs and hardware to be interchanged without modification.

compatible COMPUT *adjective* referring to two hardware or software devices that function correctly together □ **is the hardware IBM-compatible?** will it work if used with an IBM computer? ■ *noun* a hardware or software device that functions correctly with other equipment ○ *This computer is much cheaper than the other compatibles.*

compensate *verb* to make up for the loss of something ○ *The fall in air temperature increases the air density and so compensates to some extent for the loss of the thrust due to atmospheric pressure.*

compensation depth *noun* ECOL the point in a lake or sea at which the rate of formation of organic matter by photosynthesis is the same as the rate of loss of matter by respiration

compensation point *noun* ECOL the point at which the rate of photosynthesis is the same as the rate of respiration (NOTE: It can be measured as the point at which the amount of carbon dioxide used by plants equals the amount of oxygen they release.)

competition *noun* ECOL the struggle for limited resources such as food, light or a mate, occurring between organisms of the same or different species

competitive exclusion principle *noun* ECOL the concept that two or more species with identical requirements will not be able to live on the same limited resources because one species will compete more successfully than the other (NOTE: The loser has to adapt its feeding habits or behaviour or migrate to another area, otherwise it will experience a decrease in population or even become extinct.)

competitive release *noun* ECOL the process by which a species may expand its niche if it has no competitors

compilation *noun* COMPUT the translation of an encoded source program into machine-readable code

compilation error *noun* COMPUT a syntax error found during program compilation, resulting in the job being aborted

compile *verb* COMPUT to convert a high-level language program into a machine code program that can be executed by itself

compiler, compiler program *noun* COMPUT a piece of software that converts an encoded program into a machine code program ○ *The new compiler has an in-built editor.*

complement *MATHS noun* **1.** the inversion of a binary digit ○ *The complement is found by changing the 1s to 0s and 0s to 1s.* **2.** the result obtained after subtracting a number from one less than the radix ■ *verb* to invert a binary digit

complementary *adjective* **1.** MATHS describes either of two angles that together make a right angle **2.** MATHS describes the elements of a mathematical set that are not included in a particular subset of that set **3.** fitting in with and improving the performance of something

complementary DNA *noun* GENETICS single-stranded DNA made in a laboratory using the enzyme reverse transcriptase so that its base sequence is complementary to a messenger RNA template (NOTE: It may be used in gene cloning or as a gene probe.)

complementary gene *noun* GENETICS a gene that produces an observable effect in an organism only in association with another gene

complementary metal oxide semiconductor *noun* COMPUT an integrated circuit design and construction method using a pair of complementary transistors. Abbr **CMOS**

complementary operation *noun* MATHS a logical operation that results in the logical NOT of a function

complementation *noun* MATHS a number system used to represent positive and negative numbers

complemented *adjective* MATHS referring to a binary digit that has had a complement performed on it

complete operation *noun* COMPUT an operation that retrieves the necessary operands from memory, performs the opera-

tion, returns the results and operands to memory and reads the next instruction to be processed

completion *noun* the finishing of a task
complex *noun* CHEM a compound in which molecules or ions form coordinate bonds with a central metal atom

complex instruction set computer *noun* COMPUT a computer whose instruction set contains a number of long complicated instructions. Compare **reduced instruction set computer**. Abbr **CISC** (NOTE: These instructions make programming easier, but reduce execution speed.)

complexity *noun* the state of being complicated or difficult to understand ○ *Up-to-date design does not necessarily mean structural complexity.*

complex number *noun* MATHS a number written as $a + ib$, where i is the square root of minus one (NOTE: Complex numbers may be either real or imaginary.)

compliance *noun* the act of obeying a regulation or conforming to a set of standards

compliant *adjective* conforming to a particular set of standards ○ *If you want to read PhotoCD compact discs in your computer you must be sure that the CD-ROM drive is PhotoCD or CD-ROM XA compliant.*

complicate *verb* to make something more difficult ○ *Map reading is often complicated by seasonal variations.*

complicated *adjective* not easy to understand or solve

complications *plural noun* MED secondary medical problems developing as part of an existing medical condition ○ *The patient may develop complications after surgery.*

comply *verb* to be or do what is required by an instruction or law ○ *Equipment and furnishings of modern jet transports must comply with safety regulations.* (NOTE: **complying – complied**)

component *noun* **1.** ENG a part of an object, system or piece of equipment ○ *The undercarriage is made up of a number of different components.* **2.** PHYS one part of a force which consists of a number of different parts, e.g. wind **3.** CHEM a substance which forms part of a compound

component density *noun* ELEC the number of electronic components per unit area on a printed circuit board ○ *Component density is so high on this mother-*

board, that no expansion connectors could be fitted.

component error *noun* COMPUT an error introduced by a malfunctioning device or component rather than incorrect programming

Component Object Model *noun* COMPUT a set of rules that define the way in which objects within the Windows OLE system interact with other documents, objects and applications. Abbr **COM**

component video *noun* a method of transmitting video information with separate signals for the luminance and two chrominance channels to avoid interference. Compare **composite video**

compose *verb* to be made from a number of parts ○ *Air is composed of a mixture of gases: 75% nitrogen, 23% oxygen, 1% argon and very small quantities of several other gases.*

Compositae *plural noun* BOT former name for **Asteraceae**

composite *adjective* made up of a number of different parts ○ *a composite material* ■ *noun* a lightweight but very strong synthetic material used in aircraft manufacturing ○ *To make a composite it is necessary to combine the reinforcing glass fibres with special glue or resin.*

composite circuit *noun* ELEC an electronic circuit made up of a number of smaller circuits and components

composite display *noun* COMPUT a video display unit that accepts a single composite video signal and can display an infinite number of colours or shades of grey

composite video *noun* COMPUT a video signal that combines the colour signals and the monochrome signal into one single signal ○ *Most TV sets and video players expect a composite video feed.* Compare **component video**

composition *noun* the make-up or structure of something ○ *the composition of the atmosphere*

compost AGRIC *noun* **1.** rotted vegetation or organic waster, which resembles humus and is used as fertiliser or mulch **2.** a prepared soil or peat mixture in which plants are grown in horticulture ■ *verb* to allow organic material to rot and turn into compost

compost activator *noun* AGRIC a chemical added to a compost heap to speed

up the decomposition of decaying plant matter

compost heap *noun* AGRIC a pile of organic, especially plant, waste, usually kept in a container and left to decay gradually, being turned over occasionally. It is used as a fertiliser and soil improver.

composting *noun* AGRIC the controlled decomposition of organic waste, especially used for the disposal for plant waste in gardens or domestic green waste such as vegetable peelings

composting drum *noun* AGRIC a cylindrical container in which organic waste is rotted down to make compost

compound *adjective* made up of two or more parts or substances ■ *noun* CHEM a substance made up of two or more components

COMMENT: Chemical compounds are stable (i.e. the proportions of the elements in them are always the same) but they can be split into their basic elements by chemical reactions.

compound document *noun* COMPUT a document that contains information created by several other applications

compound eye *noun* ZOO an eye made up of a group of identical light-sensitive components (NOTE: This type of eye is found in insects and some crustaceans.)

compound fertiliser *noun* AGRIC a fertiliser that supplies two or more nutrients. Also called **mixed fertiliser**. Compare **straight fertiliser**

compound file *noun* COMPUT a file that consists of individual files grouped together

compound lens *noun* OPTICS a lens which contains more than one glass element (NOTE: A compound lens is more accurate than a single-element one.)

compound statement *noun* COMPUT a number of program instructions in one line of program ○ *The debugger cannot handle compound statements.*

compress *verb* to squeeze or put pressure on something so that it takes up less space or volume ○ *Use the archiving program to compress the file.*

compressed video *noun* a video signal that has been compressed to reduce the data rate required to transmit the information

compressibility *noun* the natural ability of a substance to change volume when under varying pressures ○ *In systems using*

very high pressure, the compressibility of the liquid becomes important.

compressible *adjective* able to be compressed ○ *Air is compressible but water is not.*

compression *noun* **1.** the act or instance of putting pressure on something **2.** COMPUT a reduction in the size of a file by encoding the data in a more efficient form

compression chamber *noun* MECH ENG a chamber in an internal-combustion engine in which a combination of fuel and air is compressed in a cylinder before being ignited

compression ratio *noun* COMPUT the ratio of the size of an original uncompressed file to the size of its compressed version

compression stroke *noun* ENG the stage of an internal combustion cycle when the fuel-air mixture comes under pressure from the upwards-moving piston

compression wave *noun* PHYS a wave which travels through a body in the form of a compression of matter (NOTE: Compression waves are known from earthquakes and seem to form the spiral arms of galaxies.)

compressive *adjective* PHYS referring to forces caused by pressure on a surface

compressive load *noun* PHYS a load caused by forces acting in opposite directions towards each other ○ *A strut is designed to withstand compressive loads.*

compressive stress *noun* PHYS the resistance of something to crushing by two forces acting towards each other along the same straight line

compressor *noun* MECH ENG a device such as a pump that compresses air in order to increase its pressure ○ *A shaft connects the turbine to the compressor.*

comprise *verb* to be made up of different parts ○ *A simple fuel system comprises a tank, pipes, a filter, a pump and a carburettor.* (NOTE: The preferred use of **comprise** is as a synonym for the verb **consist of**. However it is sometimes used in an opposite sense: *tank, pipes, a filter, a pump and a carburettor comprise the fuel system* and in a passive form: *the fuel system is comprised of a tank, pipes, a pump and a carburettor*)

Compton effect *noun* PHYS the decrease in energy and increase in wave-

length of a photon after it interacts with an electron

compulsory *adjective* forced or ordered by an authority ○ *the compulsory slaughter of infected animals*

computable *adjective* MATHS able to be calculated

computation *noun* MATHS a calculation

computational error *noun* MATHS a mistake made in calculating

compute *verb* MATHS to calculate something ○ *Connection charges were computed on an hourly rate.*

computer *noun* COMPUT **1.** a machine that receives, stores or processes data according to a stored program **2.** a programming language that consists of commands in binary code which can be directly understood by a central processing unit, without the need for translation

computer-aided, computer-assisted *adjective* COMPUT using a computer to make the work easier

computer-aided design, computer-assisted design *noun* COMPUT the use of computers and graphics terminals to help a designer in his or her work. Abbr CAD

computer-aided engineering, computer-assisted engineering *noun* COMPUT the use of a computer to help an engineer solve problems or to calculate design or product specifications. Abbr CAE

computer-aided instruction, computer-assisted instruction *noun* COMPUT the use of a computer to assist in teaching a subject. Abbr CAI

computer-aided learning, computer-assisted learning *noun* COMPUT the use of a computer to assist people to learn a subject. Abbr CAL

computer-aided manufacture, computer-assisted manufacture *noun* COMPUT the use of a computer to control machinery or to assist in a manufacturing process. Abbr CAM

computer-aided testing, computer-assisted testing *noun* COMPUT the use of a computer to test equipment or programs to find any faults. Abbr CAT

computer-aided training, computer-assisted training *noun* COMPUT the use of a computer to demonstrate to and assist pupils in learning a skill. Abbr CAT

computer animation *noun* COMPUT same as **animation**

computer architecture *noun* COMPUT
1. the layout and interconnection of a computer's internal hardware 2. the way in which the central processing unit, terminals, printers and network connections of a computer system are arranged

computer-assisted *adjective* COMPUT same as **computer-aided**

computer conferencing *noun* COMPUT the connecting of a number of computers together to allow a group of users to communicate ○ *The multi-user BBS has a computer conferencing facility.*

computer crime *noun* COMPUT theft, fraud or other crimes involving computers

computer engineer *noun* COMPUT a person who maintains, programs or designs computer equipment

computer fraud *noun* COMPUT the theft of data, dishonest use, or other crimes involving computers

computer-generated *adjective* COMPUT produced using a computer ○ *a computer-generated image*

computer generation *noun* COMPUT a stage in the advances in the field of computing

COMMENT: The development of computers has been divided into a series of 'generations'. First generation computers were constructed using valves and had limited storage. Second generation computers had transistors. Third generation computers had integrated circuits. Fourth generation computers have low-cost memory and use integrated circuit (IC) electronics. Fifth generation computers of the future will have very fast processors and large memories and allow human input/output.

computer illiterate *adjective* COMPUT not able to understand the basic principles of computers, related expressions and concepts, and to use computers for programming or applications. ◊ **computer literate**

computer input microfilm *noun* COMPUT microfilm used for computer data storage. Abbr **CIM**

computer-integrated manufacturing *noun* COMPUT the coordinated use of computers in every aspect of design and manufacturing. Abbr **CIM**

computerised tomography *noun* MED a system for building up a three-dimensional image of the organs inside the body, using a scanning device that takes a number of X-ray photographs

at slightly different angles as the scanner rotates

computer language *noun* COMPUT a language formed of figures or characters which is used to communicate with a computer

computer literate *adjective* COMPUT able to understand the basic principles of computers, related expressions and concepts, and to use computers for programming or applications

computer logic *noun* COMPUT the way in which the various sections of a computer's hardware are arranged

computer-managed instruction *noun* COMPUT the use of a computer to assist people in learning a subject. Abbr **CMi**

computer-managed learning *noun* COMPUT the use of a computer to teach people and assess their progress. Abbr **CML**

computer network *noun* COMPUT a number of computers, terminals and peripherals connected together to allow communications between each

computer output on microfilm *noun* COMPUT information output from a computer, stored directly onto microfilm. Abbr **COM**

computer program *noun* COMPUT a series of instructions to a computer, telling it to do a particular piece of work ○ *to write a computer program*

computer programmer *noun* COMPUT a person who writes computer programs

computer science *noun* COMPUT the scientific study of computers, the organisation of hardware and the development of software

computer-telephony integration *noun* COMPUT a system that allows normal audio telephone conversations to be transmitted over a computer data network and controlled by a computer. Abbr **CTI**

computing *noun* COMPUT the work done on computers

computing power *noun* COMPUT a measure of the speed and ability of a computer to perform calculations

concatenate *verb* COMPUT to join together two or more things in a linked system

concatenated data set *noun* COMPUT more than one file or set of data joined together to produce one set

concave *adjective* MATHS **1.** curved inwards like the inner surface of a sphere **2.** referring to a polygon with an interior angle greater than 180°

concentrate *noun* a strong solution which is to be diluted ○ *orange juice made from concentrate* ■ *verb* **1.** to collect in a particular place rather than spread around ○ *Most of the mass of air is concentrated at the lowest levels of the atmosphere.* **2.** to give attention and thought to something in particular ○ *This chapter concentrates on charts.* **3.** to reduce the volume of a solution and increase its strength by evaporation. Opposite **dilute**

concentration *noun* **1.** a collection in a particular place rather than spread around ○ *The maximum concentration of ozone is between 20 and 25km above the Earth's surface.* **2.** CHEM the amount of a substance in a given volume or mass of a solution

concentration peak *noun* the largest amount of a substance in a solution or in a given volume

concentrator *noun* COMPUT **1.** a device at the centre of a Token-Ring network which provides a logical star topology in which nodes are connected to the concentrator. Inside the device is a physical ring circuit that connects all the nodes together. **2.** a node which provides access for one or more stations to the network **3.** the device at the centre of a star-topology 10Base-T Ethernet network which receives signals from one port and regenerates them before sending them out to the other ports **4.** a device where all the cables from nodes are interconnected

concentric *adjective* having the same centre

concentric circles *plural noun* circles of different diameters but with the same centre point

concept *noun* an idea or abstract principle

conception *noun* BIOL the joining of egg and sperm to form an embryo

conceptual model *noun* COMPUT a description of a database or program in terms of the data it contains and its relationships

concern *noun* **1.** serious interest ○ *They showed concern for her training and development.* **2.** a worry or problem ○ *safety concerns* ○ *health concerns* □ **a matter for concern** something which must be taken

very seriously ■ *verb* to be about something ○ *If there is serious vibration, the operator should shut down the machine concerned.* ○ *The report concerns existing safety regulations and makes recommendations for upgrading.*

concrete *noun* INDUST a hard stone-like substance made by mixing cement, sand, aggregate and water and letting it dry

concrete shield *noun* INDUST a protective cover made of concrete, e.g. around a nuclear reactor

concretion *noun* GEOL the formation of a solid mass of rock from pieces of stones and other sedimentary materials

concurrency *noun* COMPUT a resource that is accessed by more than one user or application at a time

concurrent *adjective* almost simultaneous ○ *Each concurrent process has its own window.*

concurrently *adverb* at almost the same time

concurrent operating system *noun* COMPUT an operating system that allows several programs or activities to be processed at the same time

condensate *noun* PHYS **1.** a substance formed by condensation, e.g. a liquid formed from a vapour **2.** a substance that is a gas when occurring naturally underground but becomes liquid when brought to the surface

condensation *noun* **1.** PHYS the action of making vapour into liquid **2.** the water that forms when warm damp air meets a cold surface such as a wall or window

condensation aerosol *noun* METEOROL the droplets of moisture that form in warm damp air as it cools, producing mist

condensation nucleus *noun* METEOROL a particle on which moisture condenses, forming a raindrop ○ *Moisture readily condenses on an existing surface and sulfate particles are ideal condensation nuclei.* (NOTE: The plural is **condensation nuclei.**)

condensation pump *noun* PHYS same as **diffusion pump**

condensation reaction *noun* CHEM a reaction between two molecules that creates a by-product of a third molecule, normally water

condensation theory *noun* ASTRON the theory that the Moon and the Earth both

formed at about the same time, by aggregation of small particles into larger bodies

condensation trail *noun* AEROSP a white streak in the sky left by an aircraft flying at high altitude and caused by condensation and freezing of components of its exhaust gases, mainly water

condense *verb* **1.** to make something compact or more dense **2.** PHYS to make a vapour become liquid **3.** PHYS (*of a vapour*) to become liquid

condenser *noun* a device that cools steam or other vapour and turns it back into liquid

COMMENT: Condensers are used in power stations to turn steam back into water, which goes back to the boilers for re-heating. On a smaller scale, they are used in domestic appliances such as clothes driers and refrigerators. They are also important in the distillation of substances such as alcohol.

condition *noun* **1.** the present state of something **2.** ECOL the physical state of a site of special scientific interest, according to whether or not conservation objectives are being achieved ○ *favourable condition* ○ *unfavourable condition* **3.** something on which another thing depends □ **on condition that** only if ■ *verb* COMPUT to modify data that is to be transmitted so as to meet set parameters ○ *Condition the raw data to a standard format.*

conditional adjective COMPUT **1.** provided that particular things take place **2.** referring to a process which is dependent on the result of another

conditional branch *noun* COMPUT same as **conditional jump**

conditional breakpoint *noun* COMPUT a breakpoint after which the programmer can jump to one of a number of sections, depending on data or program status

conditional jump *noun* COMPUT a programming instruction that provides a jump to a section of a program if a specific condition is met ○ *The conditional jump will select routine one if the response is yes and routine two if no.*

conditional statement *noun* COMPUT a program instruction that will redirect program control according to the outcome of an event

conditional transfer *noun* COMPUT same as **conditional jump**

condition code register *noun* COMPUT a register that contains the state of the

central processing unit after the execution of the last instruction

conditioned reflex *noun* BIOL an automatic reaction by an animal to a stimulus, learned from past experience

conditioning *noun* the act of improving the quality of something

conditions *plural noun* variable environmental factors such as temperature and pressure ○ *The behaviour of the gas was observed under standard conditions.* ○ *The conditions in this environment are ideal for rapid plant growth.*

conductive *adjective* allowing something to happen more easily ○ *Atmospheric conditions conducive to the formation of ice are detected and these operate a warning system.*

conduct *verb* **1.** PHYS to carry out something such as an experiment, survey or review **2.** ELEC to allow an electrical current to flow through a material ○ *to conduct electricity* ○ *Copper conducts well.*

conductance *noun* PHYS a measure of the ability of an object to carry electricity (NOTE: This is the reciprocal of resistance.)

conduction *noun* PHYS the process by which heat or electricity passes through a substance ○ *Heat is transferred to the layer of air next to the Earth's surface by conduction.*

conduction band *noun* PHYS a range of electron energy levels within a semiconductor that allows electrons to flow when an electric field is applied

conductive *adjective* PHYS having the ability to allow heat or electricity to pass through ○ *Steel is a conductive material.* ○ *Land masses are less conductive than water.*

conductivity *noun* PHYS the ability of a material to conduct heat or electricity ○ *Because of the poor conductivity of air, heat is transferred from the Earth's surface upwards by convection.*

conductor *noun* PHYS a substance through which heat or electricity can pass ○ *Water and steel are good conductors.*

conduit *noun* **1.** a channel along which a fluid flows **2.** ELEC a pipe or elongated box used to protect electrical cables

cone *noun* **1.** MATHS a solid body with a base in the shape of a circle, and with sides that narrow to a point **2.** any object shaped like a cone **3.** ANAT a cell in the retina of the eye which is sensitive to light. ◊ **rod** (NOTE:

Cones are sensitive to bright light and colours and do not function in bad light.) **4.** BOT a hard scaly structure containing seeds on such plants as conifers

Conference of the Parties *noun* the group of nations which have ratified the Framework Convention on Climate Change. Abbr **COP**

configuration *noun* **1.** a pattern or way in which things are arranged **2.** COMPUT the way in which the hardware and software of a computer system are planned and set up

configure *verb* COMPUT to select hardware, software and interconnections to make up a special system ○ *This terminal has been configured to display graphics.*

confine *verb* to restrict something to a particular area ○ *Cooling is confined to the air in contact with the ground.*

confined *adjective* restricted or contained

confined aquifer *noun* GEOL an aquifer that has a layer of rock or soil above it

confined space *noun* a small space that does not allow free movement

confirm *verb* **1.** to agree that something is correct **2.** to repeat something to remove any uncertainty ○ *The increasing airspeed confirms that the aircraft is not in level flight.* ○ *Please confirm your last instruction.*

confluence *noun* **1.** EARTH SCI a place where two rivers or streams of air join **2.** METEOROL a place where two streams of air join

conform *verb* **1.** to correspond to required standards ○ *Fuels must conform to strict requirements.* **2.** to do what is required by rules and regulations

conformation *noun* CHEM a structural arrangement of the atoms of a molecule, two or more of which may be possible by rotation around a single bond

congener *noun* **1.** a species which belongs to the same genus as another **2.** CHEM a chemical element which belongs to the same group as another

congenic *adjective* GENETICS referring to animal cells that are genetically identical except for the arrangement of genes in a single region (**locus**) of a chromosome

congenital *adjective* BIOL existing at or before birth

COMMENT: A congenital condition is not always inherited from a parent through the genes. It may be due to abnormalities that

develop in the foetus because of factors such as a disease which the mother has, as in the case of German measles, or a drug that she has taken.

congenital defect *noun* MED a defect which exists in a baby from birth

congested *adjective* blocked

congestion *noun* **1.** the blocking of a tube or a passage **2.** COMPUT a state that occurs when communication or processing demands are greater than the capacity of a system

conglomerate *noun* GEOL a sedimentary layer formed of small round stones

congruent *adjective* MATHS **1.** referring to two numbers whose difference is exactly divisible by a third number **2.** having identical geometric shapes

conic *adjective* based on the shape of a cone

conical *adjective* shaped like a cone

conic projection *noun* GEOG the standard two-dimensional representation of the Earth

conic section *noun* MATHS a shape produced by slicing through a cone at varying angles (NOTE: Conic sections include circles, ellipses, parabolas and hyperbolas.)

conifer *noun* BOT a tree with long thin needle-shaped leaves and bearing seed in scaly cones. Most are evergreen.

COMMENT: Conifers are members of the order Coniferales and include pines, firs and spruce. They are natives of the cooler temperate regions, are softwoods and often grow very fast. Their tough leaves are called needles and are resistant to cold and drought. They are frequently used in timber plantations.

conifer monoculture *noun* FORESTRY a system of afforestation where only one type of conifer is grown

coniferous *adjective* BOT referring to conifers

coning *noun* PHYS the widening out of a column of smoke as it leaves a chimney

conjoined twin *noun* MED either of twins born physically joined together

conjugated *adjective* CHEM containing at least two double or triple chemical bonds alternating with single bonds

conjugation *noun* **1.** ZOOLOG a simple form of reproduction in single-celled organisms in which they join together, exchange genetic information and then separate **2.** BIOL in algae and fungi, the fusion of male and female nuclei **3.** CHEM the alternation

in a molecule of two or more double or triple bonds with single bonds **4. GENETICS** the distribution of pairs of chromosomes into the four nuclei produced when a parent nucleus divides

conject *noun* COMPUT one of the variables in a logical AND function

conjunction *noun* **1.** COMPUT a logical function whose output is true if all inputs are true **2.** ASTRON the close apparent approach of two objects in the sky as seen from Earth (NOTE: It normally refers to the Sun and another planet.)

connect *verb* **1.** to join or associate two or more objects, processes or ideas together *o Batteries are sometimes connected in series.* **2.** COMPUT to link together two points in a circuit or communications network

connection *noun* **1.** a point at which things are joined or associated *o There is an electrical connection to the battery.* **2.** a link or feature which makes things interdependent *o There is a connection between temperature change and altitude.*

connectionless network protocol *noun* COMPUT an OSI transport protocol that provides an efficient way of routing information around a local area network using a datagram to carry the information. Abbr **CLNP**

connection-oriented network services *plural noun* COMPUT an OSI transport protocol that provides an efficient way of routing information around a wide area network. Abbr **CONS**

connective *noun* COMPUT a symbol between two operands that describes the operation to be performed

connective tissue *noun* ANAT the tissue that forms the main part of bones and cartilage, ligaments and tendons, in which a large amount of fibrous material surrounds the tissue cells

connectivity *noun* COMPUT the ability of a device to connect with others and transfer information

connector *noun* COMPUT a physical device with a number of metal contacts that allow devices to be easily linked together *o The connector at the end of the cable will fit any standard serial port.*

CONS *abbreviation* COMPUT connection-oriented network services

consecutive *adjective* following one another without a break *o 4, 5 and 6 are three consecutive numbers.*

conservancy *noun* ENVIRON an official body which protects a part of the environment

conservation *noun* ENVIRON **1.** the process of protecting something from undesirable change **2.** the maintenance of environmental quality and resources by the use of ecological knowledge and principles

conservation area *noun* ENVIRON an area of special environmental or historical importance that is protected by law from changes that have not received official permission

conservation biology *noun* the study of how species and ecosystems can be maintained

conservationist *noun* ENVIRON a person who promotes, carries out or works for conservation

conservation laws *plural noun* PHYS a set of laws of physics which state that energy, mass, angular momentum and other physical properties of systems are unvarying

COMMENT: The conservation laws mean that energy is not destroyed by use but merely degraded, and a car that wears out weighs as much as a new one until pieces start to fall off. In systems such as a star or a nuclear power station, matter can be changed into energy, but even then the total amount of both resources is conserved.

conservation measure *noun* ENVIRON a way in which environmental quality can be maintained

conservation of energy *noun* ENVIRON the process of making consumption of energy more efficient, preventing loss or waste of energy, e.g. by the loss of heat from buildings

conservation of resources *noun* ENVIRON the process of managing resources such as fossil fuels and other natural materials so as not to waste them, damage them or use them too quickly

conservation status *noun* ECOL the condition of a site of special scientific interest, according to whether or not conservation objectives are being achieved

conserve *verb* ENVIRON **1.** to keep and not waste something *o The sloth sleeps during the day to conserve energy.* **2.** to look after and keep something in the same state *o to conserve tigers' habitat*

consider *verb* to think carefully about something ○ *We need to consider the effects on the countryside.*

consideration *noun* something important to remember and to think carefully about □ **to take something into consideration** to remember to include something when thinking about something, solving a problem or making a calculation

consistency check *noun* COMPUT a check to make sure that objects, data or items conform to their expected formats

consistent *adjective* always reacting or behaving in the same way ○ *Human hair responds in a consistent manner to changes in the relative humidity.*

consist of *verb* to be made up of something

consociation, consocieties *noun* an ecological community that has one main species, e.g. a wood consisting mostly of beech trees

console *noun* COMPUT a unit which allows an operator to communicate with a computer system consisting of an input device such as a keyboard and an output device such as a printer or screen

consolidate *verb* to make something more solid or strong

consolidation *noun* the process by which something is made more solid or strong

conspecific BIOL *adjective* referring to an organism belonging to the same species as another organism ■ *noun* an organism belonging to the same species as another organism

constant *noun* MATHS an item of data whose value does not change. Opposite **variable** ■ *adjective* COMPUT not changing ○ *The disk drive motor spins at a constant velocity.* □ **to remain constant** to stay the same ○ *The temperature of the gas remains constant.*

constant angular velocity *noun* COMPUT a constant speed of spinning of a CD-ROM. Abbr **CAV** (NOTE: The size of each data frame on the disc varies so as to maintain a regular data throughput of one frame per second.)

constant bit rate *noun* COMPUT a type of data transfer service that is used to guarantee a specific data transmission rate over a network even if there is a lot of traffic. Abbr **CBR**

constant length field *noun* COMPUT a data field that always contains the same number of characters

constant linear velocity *noun* COMPUT a disk technology in which the disk spins at different speeds according to the track that is being accessed. Abbr **CLV**

constant pressure *noun* PHYS pressure which stays the same

constellation *noun* ASTRON **1.** a group of stars that forms a distinct shape and has a name **2.** an area of the sky accepted by astronomers as a unit of the celestial sphere

COMMENT: Many constellations are still called after the familiar objects or mythological figures picked out by ancient astronomers in the patterns made by their prominent stars, an exception being the constellations of the extreme southern hemisphere, which were named in the last few hundred years. The International Astronomical Union now recognises 88 constellations.

constituent *noun* a substance or component which forms part of a whole ■ *adjective* forming part of a whole ○ *the constituent elements of air*

constitute *verb* to make up or form something ○ *Oxygen and nitrogen together constitute most of the atmosphere.*

constrain *verb* **1.** to restrict someone or something **2.** PHYS to set limits that define the maximum movement of an object **3.** MATHS to limit the value of a variable **4.** MATHS to define the maximum or minimum limits of a variable

constrain *noun* something that restricts something else

constrict *verb* **1.** to make something narrower **2.** to make the flow of gas or liquid more difficult by narrowing the passage through which it flows ○ *In the carburettor venturi, the flow of air is constricted.*

constriction *noun* a narrowing ○ *A thermometer has a constriction in the base of the tube between the bulb and the beginning of the scale.*

construct *verb* **1.** to put elements or factors together to make something ○ *The table on page 4 can be used to construct the estimated time required for this experiment.* **2.** to build or develop something ○ *to construct a model*

construction *noun* **1.** a way of putting things together ○ *The basic construction of the lead-acid cell consists of a positive electrode and negative electrode.* **2.** the building of something ○ *The construction*

of the prototype took two years. **3.** something built ○ *an elegant construction of steel*

construction industry *noun* ENVIRON the business or trade of constructing buildings

consult *verb* to ask an expert for advice ○ *He consulted the maintenance manager about the disk fault.*

consultant *noun* a specialist who gives advice ○ *They called in a computer consultant to advise them on the system design.*

consumable goods *plural noun* INDUST products that are used quickly and have to be bought often, e.g. food or stationery

consumables *plural noun* COMPUT small cheap extra items required in the day-to-day running of a computer system, e.g. paper and printer ribbons ○ *Put all the printer leads and paper with the other consumables.*

consume *verb* **1.** to use up or burn fuel ○ *The new pump consumes only half the fuel which the other pump would use.* **2.** to eat foodstuffs ○ *The population consumes ten tonnes of foodstuffs per week.*

consumer *noun* **1.** a person or company which buys and uses goods and services ○ *Gas consumers are protesting at the increase in prices.* ○ *The factory is a heavy consumer of water.* **2.** ZOOL an organism that eats other organisms. Compare **producer**

consumption *noun* **1.** the fact or process of using something ○ *a car with low petrol consumption* ○ *The country's consumption of wood has fallen by a quarter.* **2.** BIOL the taking of food or liquid into the body ○ *Nearly 3% of all food samples were found to be unfit for human consumption through contamination by lead.*

consumption efficiency *noun* the percentage of the total available matter at one trophic level which is consumed by animals at the next trophic level, e.g. the percentage of plants eaten by herbivores. Abbr **CE**

consumption residues *plural noun* MANUF waste matter left after manufactured goods are used

contact *noun* **1.** a physical connection between two or more things, especially the fact of one touching the other ○ *Don't allow the part to come into contact with*

water. □ **in contact with** touching ○ *The air in contact with the surface cools.* **2.** □ **to be in contact with someone** to be in a position to communicate with someone **3.** a person who can be contacted in order to get something done **4.** ELEC a section of a switch or connector that provides an electrical path when it touches another conductor ○ *The circuit is not working because the contact is dirty.* ■ *verb* to communicate with someone

contact bounce *noun* COMPUT same as **bounce**

contact breaker *noun* ELEC a mechanically operated switch which is timed to break the primary circuit when maximum current is flowing

contact herbicide *noun* AGRIC a substance which kills a plant whose leaves it touches, e.g. paraquat

contact image sensor *noun* COMPUT a scanner in which the detectors touch the original, without any lens that might distort the image. Abbr **CIS**

contact insecticide *noun* AGRIC a substance such as DDT that kills insects which touch it (NOTE: DDT is now banned in many countries because of its toxicity and ability to accumulate in the environment.)

contact weedkiller *noun* AGRIC same as **contact herbicide**

contagion *noun* MED the spreading of a disease by touching an infected person, or objects which an infected person has touched. Compare **infection**

contagious *adjective* MED referring to a disease which can be transmitted by touching an infected person, or objects which an infected person has touched. Compare **infectious**

contain *verb* to hold or have something inside ○ *Most clouds contain some super-cooled water droplets.*

container *noun* **1.** a box, case or bottle that holds something else **2.** TRANSP a large case, with internationally agreed measurements, that can be transported by truck and then easily loaded on a ship **3.** COMPUT something that can be set to a value ○ *The programmer uses this variable as a container, storing the object's colour.*

containment *noun* **1.** PHYS the preventing of the nuclei and electrons generated in nuclear fusion from reaching the walls of the reaction chamber **2.** MED, ENVIRON the

actions taken to stop the spread of something such as disease or contamination

contaminant *noun* ENVIRON a substance which causes contamination

contaminate *verb* ENVIRON to make something impure by touching it or by adding something, especially something harmful, to it ○ *Supplies of drinking water were contaminated by uncontrolled discharges from the factory.* ○ *A whole group of tourists fell ill after eating contaminated food.*

contaminated fuel *noun* INDUST a fuel which contains an unwanted substance, e.g. water

contaminated land, contaminated site *noun* AGRIC an area which has been polluted as a result of human activities such as industrial processes, presenting a hazard to human health, and which needs cleaning before it can be used for other purposes

COMMENT: Contaminated land is a feature of most industrialised countries. Careless past management of waste, lack of pollution controls and many leaks and spills have left a legacy of land contaminated by a wide variety of substances. In some cases this presents unacceptable risks to human beings, ecosystems, water resources or property and has to be dealt with by formal remedial measures.

contamination *noun* 1. ENVIRON the action of making something impure ○ *the contamination of the water supply by runoff from the fields* □ **contamination of air** pollution in the atmosphere 2. ENVIRON the state of something such as water or food which has been contaminated and so is harmful to living organisms ○ *The level of contamination is dropping.*

content *noun* 1. whatever is contained within something (NOTE: This is often expressed as a percentage.) □ **the moisture content of the atmosphere** the amount of water vapour in the air 2. COMPUT information, ideas, text, images or data that form a letter, document, webpage, database or book

content-addressable memory, content-addressable storage *noun* COMPUT same as **associative memory**. Abbr **CAM**

contention *noun* COMPUT a situation that occurs when two or more devices are trying to communicate with the same piece of equipment

content provider *noun* COMPUT a company that supplies information such as text,

news stories, images, video or software for a publication or for use on a website

content-rich *adjective* COMPUT containing a lot of useful information

contents *plural noun* 1. what is inside something ○ *The contents of the bottle poured out onto floor.* ○ *The officials inspected the contents of the box.* □ **the contents of the letter** COMPUT the words written in the letter 2. COMPUT a list of items in a file or document

context-sensitive *adjective* COMPUT depending on a particular situation

context-sensitive help *noun* COMPUT a help message that gives useful information about the particular function or part of the program you are in rather than general information about the whole program

contig *noun* GENETICS a continuous series of overlapping cloned DNA segments used to map the physical order of bases along the chromosome from which they were derived

contiguous file *noun* COMPUT a file stored in a series of adjacent disk sectors

contiguous graphics *plural noun* COMPUT graphic cells or characters which touch each other ○ *Most display units do not provide contiguous graphics; their characters have a small space on each side to improve legibility.*

continent *noun* EARTH SCI one of the seven large landmasses on the Earth's surface (NOTE: The continents are Asia, Africa, North America, South America, Australia, Europe and Antarctica.)

continental *adjective* EARTH SCI referring to a continent

continental climate *noun* METEOROL a type of climate found in the centre of a large continent away from the sea, with long dry summers, very cold winters and not much rainfall

continental crust *noun* EARTH SCI the part of the Earth's crust under the continents and continental shelves, lying above the oceanic crust

continental drift *noun* EARTH SCI a geological theory that the present continents were once part of a single landmass and have gradually drifted away from each other over a period of millions of years

continental shelf *noun* EARTH SCI the sloping land surface of the seabed from the shore out to sea for an average distance of 70 km

continental slope *noun* EARTH SCI an area of the seabed which slopes down sharply from the edge of the continental shelf into deeper water

continental terrace *noun* EARTH SCI a level part of the Earth's crust including the continental shelf and the lower-lying areas of the continents themselves

contingency *noun* something which might happen in the future and therefore must be planned for

contingency plan *noun* a plan which will be put into action if something unexpected happens

contingent valuation method *noun* ENVIRON a survey-based economic method which is used to determine the monetary value of the benefits or costs of an environmental policy or feature

continual *adjective* happening again and again ○ *The continual system breakdowns have slowed down the processing.*

continue *verb* to go on doing something or to do something which you were doing earlier

continuity *noun* 1. the situation of not stopping or being interrupted 2. COMPUT a clear conduction path between two points

continuous *adjective* going on without stopping

continuous spectrum *noun* ASTRON a band of light of differing wavelengths against which dark absorption lines are seen

COMMENT: Stars exhibiting a continuous spectrum are those, like the Sun, where the surface of the star is seen rather than its atmosphere, the absorption lines providing information about the atoms in the atmosphere rather than the surface.

continuous wave *noun* PHYS an electromagnetic wave that has constant frequency and amplitude and is not produced in pulses

continuum *noun* MATHS a set of real numbers in which there are no gaps (NOTE: There is always an intermediate number between any two numbers in the set.)

contour *noun* 1. the shape of something 2. EARTH SCI same as **contour line**

contour farming *noun* AGRIC a method of cultivating sloping land in which the land is ploughed along a terrace rather than down the slope, so reducing soil erosion

COMMENT: In contour farming, the ridges of earth act as barriers to prevent soil being

washed away and the furrows retain the rainwater.

contouring *noun* COMPUT a process that converts a wire-frame drawing into a solid-looking object by adding shadows and texture

contour interval *noun* GEOG the space between two contour lines on a map

contour line *noun* GEOG a line drawn on a map to show ground of the same height above sea level

contour map *noun* GEOG a map showing the contours of a geographical area

contour ploughing, contour ridging *noun* AGRIC the practice of ploughing across the side of a hill so as to create ridges along the contours of the land which will hold water and prevent erosion

contour strip cropping *noun* AGRIC the planting of different crops in bands along the contours of sloping land so as to prevent soil erosion

contraception *noun* HEALTH the intentional prevention of pregnancy by the use of devices, drugs, sexual practices or surgical procedures

contract *noun* an agreement ■ *verb* to become smaller in volume or length ○ *Liquids contract as the temperature drops.* Opposite **expand**

contractile vacuole *noun* BIOL a membrane-surrounded cavity within a cell that fills with water from the cell and then contracts, expelling the water to the exterior

contraction *noun* 1. the decrease in volume of a substance brought about by cooling ○ *Due to contraction, the length of a mercury column shortens.* Opposite **expansion** 2. PHYSIOL a shortening ○ *a muscle contraction*

contrail *noun* AEROSP same as **condensation trail**

contrast *noun* 1. the degree of difference between light and dark tones ○ *Contrast and colour enable a pilot to identify ground features.* 2. the difference between two things ○ *There is an enormous contrast between the performance of the two aircraft.* □ **in contrast to** when compared with ■ *verb* to examine the differences between two sets of information ○ *The old data were contrasted with the latest information.*

contrast enhancement filter *noun* COMPUT a special filter put over a monitor to increase contrast and prevent eye-strain

contribute *verb* to give or provide something as part of the whole ○ *Exhaust gases contribute to engine power.* ○ *I contributed a paper to a special issue of the journal.*

contribution *noun* something given or provided as part of a whole ○ *The differences in the effect of solar radiation on land and sea make the biggest contribution to weather and climate.*

contributor *noun* a person or thing that contributes to something ○ *She was a contributor to the seminar.* ○ *The ozone effect is a major contributor to the division of the lower atmosphere into two layers.*

control *noun* **1.** the action of directing or working in a specific way **2.** the process of restraining something or keeping something in order □ **to bring or keep something under control** to make sure that something is well regulated ○ *The authorities brought the epidemic under control.* □ **out of control** unregulated ○ *The epidemic appears to be out of control.* **3.** (in experiments) a sample used as a comparison with the one being tested **4.** COMPUT a section of a computer or device which carries out instructions and processes signals **5.** a key on a computer keyboard which sends a control character ■ *verb* to make a machine, system or procedure work in a specific way ○ *The purpose of the centrifugal switch is to control the starting and ignition circuits.*

control area *noun* an area where controls are operating to prevent the spread of a disease within the area, usually a larger area than the infected area

control block *noun* COMPUT a reserved area of computer memory that contains control data

control bus *noun* COMPUT a set of connections to a microcomputer that carry the control signals between CPU, memory and input/output devices

control cable *noun* AVIAT a metal wire linking a pilot's cockpit controls to control surfaces such as the elevators and ailerons

control character *noun* COMPUT a special character that provides a control sequence rather than an alphanumeric character

control computer *noun* COMPUT a dedicated computer used to control a process or piece of equipment

control cycle *noun* COMPUT the events required to retrieve, decode and execute an instruction stored in memory

control data *plural noun* data that control the actions of a device

control driven *adjective* COMPUT referring to instructions that are executed once a control sequence has been received by a computer

control field *noun* COMPUT the storage area for control instructions

control gene *noun* GENETICS a gene that regulates the development and specialisation of cells

control group *noun* a group of organisms or substances that are not being tested, but whose test data are used as a comparison

control instruction *noun* COMPUT a program instruction that controls the actions of a device ○ *The next control instruction will switch to italics.*

control language *noun* COMPUT a system of commands that identify and describe the resources required by a job that a computer has to perform

controlled experiment *noun* an experiment designed to test the effects of independent variables on a dependent variable by changing one independent variable at a time

controlled tipping *noun* ENVIRON the disposal of waste in special landfill sites

controller *noun* **1.** a device which ensures that something operates in the correct way ○ *the propeller speed controller* **2.** a person who manages systems to ensure the smooth operation of procedures **3.** COMPUT a hardware or software device that controls a peripheral such as a printer or monitors and directs data transmission over a local area network

control memory *noun* COMPUT a memory that decodes control instructions into microinstructions that operate a computer or microcontroller

control mode *noun* COMPUT the state of a device in which control signals can be received to select options or functions

Control of Substances Hazardous to Health (UK Regulations) *noun* full form of COSHH

control panel *noun* COMPUT **1.** the control switches and status indicators of a main computer system **2.** a utility that dis-

plays user-definable options such as keyboard, country code and type of mouse

control register *noun* COMPUT the storage location only used for control data

control rod *noun* INDUST a rod or cylinder made of or containing a material such as graphite that absorbs neutrons and is used to control the rate of fission in a nuclear reactor

controls *plural noun* the manual or automatic devices used to control a machine or system to make it work in a correct way

control sequence *noun* COMPUT the codes containing a control character and various arguments, used to carry out a process or change mode in a device

control signal *noun* ELECTRONICS an electrical signal transmitted to control the actions of a circuit

control statement *noun* COMPUT **1.** a program instruction which directs a program somewhere, e.g. to another branch **2.** a program instruction which directs an electronic central processing unit to provide controlling actions or controls the actions of a central processing unit

control structure *noun* COMPUT a set of instructions that are run in a particular circumstance (NOTE: An IF.THEN statement selects a particular control structure depending on the value of a variable.)

control system *noun* COMPUT a system used to check that a computer system is working correctly

control token *noun* COMPUT a special sequence of bits transmitted over a LAN to provide control actions

control total *noun* COMPUT a result of summing specific fields in a computer file to provide error detection

control transfer *noun* COMPUT the redirection of the central processing unit when a jump or call instruction is encountered

control unit *noun* COMPUT a section of the central processing unit which selects and executes instructions. Abbr **CU**

control word *noun* a word which defines in a particular process the actions that are to be followed

convection *noun* PHYS the process by which hot air rises and cool air descends ○ *Heat is transferred from the Earth's surface upwards largely by convection.*

convective *adjective* PHYS referring to something which is affected by the vertical circulation of air

convective clouds *plural noun* METEOROL clouds formed as a result of warm moist air rising and condensing at altitude

convenience *noun* **1.** ease or comfort in doing something ○ *Reading lights are provided for passengers' convenience.* **2.** ease of understanding ○ *For convenience we will assume that the Earth is round.*

convenient *adjective* useful or easy to use ○ *The circular slide rule has a convenient scale for converting weights and volumes.*

convention *noun* **1.** an idea or mode of behaviour which, because of long usage, has become normal and accepted ○ *By convention, wind direction is given as the direction from which the wind blows.* **2.** a meeting of large numbers of people ○ *a convention of environmentalists* **3.** a formal agreement ○ *Convention on Biological Diversity* □ **by convention** by general agreement or custom

conventional *adjective* usual, accepted and familiar to most people ○ *the conventional symbols used on weather charts*

conventional fuel *noun* ENVIRON a traditional means of providing energy, e.g. coal, wood or gas, as opposed to alternative energy sources such as solar power, tidal power or wind power

conventional medicine *noun* MED the generally accepted medical practice taught in hospitals and medical schools. Compare **alternative medicine**

conventional memory *noun* COMPUT the random access memory region installed in a PC from 0 up to 640Kb (NOTE: This area of memory can be directly controlled by MS-DOS and it is where most programs are loaded when they are executed.)

conventional power station *noun* INDUST a non-nuclear power station

conventional RAM *noun* COMPUT same as **conventional memory**

Convention on Biological Diversity *noun* ENVIRON an international agreement made at the Earth Summit in Rio de Janeiro in 1992 to conserve biological diversity, encourage sustainable use of natural resources and ensure that benefits from the use of genetic resources are shared in a fair way. Abbr **CBD**

Convention on International Trade in Endangered Species of Wild Fauna and Flora *noun* an international

agreement between 123 countries to reduce or prevent the trade in endangered species of wild animals and plants. Abbr CITES

converge *verb* to move towards, come together or meet at a point ○ *Meridians converge towards the poles.* Opposite **diverge**

convergence *noun* **1.** the movement towards or the act of coming together or meeting at a point ○ *There is convergence of meridians of longitude at the North and South Poles.* **2.** COMPUT the combination of two or more technologies to produce a new technology (NOTE: Fax machines are the product of convergence of telephone, scanning and printing technologies.) **3.** COMPUT the accuracy with which the picture beam strikes the three colour dots that form each colour pixel **4.** METEOROL a phenomenon that occurs whenever there is a net inflow of air into a region of the atmosphere, resulting in the accumulation of air and an increase in density. Compare **divergence** **5.** EARTH SCI the process that occurs in an ocean when warm surface water meets cold polar surface water and starts to cool and sink

convergence zone *noun* EARTH SCI the area of an ocean in which convergence occurs

conversational mode *noun* COMPUT a computer system that provides immediate responses to a user's input

converse *noun* the opposite □ **warm air rises – the converse is also true** in other words, cool air descends ■ *verb* to have a conversation

conversion *noun* COMPUT a change from one system to another

conversion factor *noun* a formula or figure used for conversion of units, e.g. of temperatures or distances, from one system to another ○ *The conversion factor for converting UK gallons to litres is: $x \ 4.546$.*

convert *verb* to change something to a different system, set of rules or state ○ *How do you convert degrees C into degrees F?* ○ *Photochemical reactions convert oxygen to ozone.* ○ *She has converted her car to take LPG.*

converter *noun* **1.** a device which alters the form of something ○ *A backup converter converts the alternating current power into direct current.* **2.** COMPUT a device or program which translates data

from one form to another ○ *The converter allowed the old data to be used on the new system.*

convertibility *noun* the ability to be changed

convertible *adjective* easily changed to fit in with a new system or set of standards ○ *The statute mile, unlike the nautical mile, is not readily convertible into terms of angular measurement.*

convex *adjective* curved outwards like the outer surface of a sphere or ellipsoid

convey *verb* to pass, carry or move something from one place to another ○ *A large number of tubes convey the cooling medium through the matrix.*

cookie *noun* COMPUT a tiny file stored on a computer when connected to a remote Internet site using a browser (NOTE: A cookie is used by the remote site to store information about options which can be read when the site is next visited.)

cool *adjective* rather cold ■ *verb* to make or become less hot ○ *The airflow is used to cool the oil.*

coolant *noun* **1.** CHEM, MECH ENG a substance used to cool something such as an engine **2.** INDUST a substance used to take the heat generated from a nuclear power station to the boilers ○ *Ordinary water is used as coolant in some types of nuclear reactor.*

cooler *noun* a device for cooling something ○ *A self-contained system, consisting of an oil tank, pump, filter, cooler, and oil jets, lubricates the auxiliary power unit.*

cooling *noun* the action of making something cool ○ *the cooling of the oil by the airflow* ■ *adjective* making cool

cooling medium *noun* CHEM a substance which reduces the temperature of another substance or material

cooling pond *noun* INDUST **1.** a part of a nuclear reactor where irradiated elements are cooled **2.** a part of an industrial process where water is allowed to cool in the open air

cooling tower *noun* INDUST a tall tower for cooling the water used in industrial processes such as at power stations

cooling water *noun* the water used to make something less hot, e.g. the irradiated elements from a nuclear reactor or the engine of a machine

coombe *noun* another spelling of **combe**

cooperation *noun* the act of working together in harmony to achieve a common goal

cooperative processing *noun* COMPUT a system in which two or more computers in a distributed network can each execute a part of a program or work on a particular set of data

coordinate *verb* to organise complex tasks so that they fit together efficiently ○ *She has to coordinate the keyboarding of several parts of a file in six different locations.* ■ *noun* MATHS, NAVIG one of the values used to locate a point on a graph or map

coordinate bond *noun* CHEM a chemical bond in which a pair of electrons is shared by two atoms, both of which are supplied by one atom (NOTE: A coordinate bond is a type of covalent bond.)

Coordinated Universal Time *noun* the time based on the 24-hour clock system. Abbr **UTC** (NOTE: 7 p.m. is **1900 hours**, spoken as: 'nineteen hundred hours')

coordinate graph *noun* MATHS a means of displaying one point on a graph, using two values referring to axes which are usually at right angles to each other

coordinate time *noun* ASTRON time as measured by an observer far from a source of strong gravitation such as a black hole, providing a framework against which the effects of relativity can be measured

coordination *noun* **1.** the bringing together of the various parts of a procedure or plan to ensure that the operation works correctly ○ *A rescue coordination centre was set up to control the emergency.* **2.** PHYSIOL the ability to use different parts of the body together well ○ *A pilot must have good hand/eye coordination.*

COP *abbreviation* Conference of the Parties

cope *verb* to manage to do something, often with some difficulty ○ *In heavy rainstorms, the windscreen wipers may not be able to cope.* ○ *The structure must be able to cope with increased loads caused by turning movement.*

Copernican system *noun* ASTRON the theory of Nicolaus Copernicus (1479–1543) that the Earth and other planets revolve around the Sun (NOTE: This theory challenged the Ptolemaic system of astronomy that had prevailed since the second century.)

copper *noun* CHEM ELEM a metallic trace element. It is essential to biological life and used in making alloys and in electric wiring. (NOTE: The chemical symbol is **Cu**; the atomic number is **29** and the atomic weight is **63.55**.)

copper chloride *noun* CHEM a chloride containing copper

copper ore *noun* CHEM a mineral containing copper

copper oxide *noun* CHEM a red or black powder, insoluble in water. Formula: Cu_2O .

copper sulfate, copper sulphate *noun* CHEM a naturally occurring poisonous blue compound that is white when dehydrated. Formula: CuSO_4 . (NOTE: It is used in textile dyeing, electroplating, fungicides and wood preservatives.)

coppice FORESTRY *noun* an area of trees which have been cut down to near the ground to allow shoots to grow which are then harvested. The shoots may be used as fuel or for making products such as baskets or fencing. ■ *verb* to cut trees down to near the ground to produce strong straight shoots ○ *Coppiced wood can be dried for use in wood-burning stoves.* Compare **pollard**

coppicing *noun* FORESTRY the practice of regularly cutting down trees near to the ground to produce strong straight shoots for fuel or other uses ○ *Coppicing, a traditional method of woodland management, is now of interest for producing biofuel.*

COMMENT: The best trees for coppicing are those which naturally send up several tall straight stems from a bole, such as willow, alder or poplar. In coppice management, the normal cycle is about five to ten years of growth, after which the stems are cut back.

coprocessor *noun* COMPUT an extra, specialised processor such as an array or numerical processor that can work with a main processor to increase execution speed

coprolite *noun* GEOL fossilized dung of ancient animals, formerly mined and used as fertilizer

coprophilous *adjective* growing on dung ○ *coprophilous fungi*

copy *noun* **1.** COMPUT a document or object that looks the same as another **2.** a duplicate of an original ○ *Make copies of the report for everyone.* **3.** COMPUT a document ■ *verb* COMPUT to make a second document or object that is like the first ○ *He copied all the files and took them home.*

copy protect *verb* COMPUT to move a switch to prevent copies being made ○ *The program is not copy protected.* ○ *All the disks are copy protected.* ■ *noun* a switch used to prevent copies of a disk being made

copy protection *noun* the preventing of the making of copies ○ *A hard disk may crash because of faulty copy protection.* ○ *The new product will come without copy protection.*

copyright *noun* a legal right which writers or programmers have allowing them not to have their own work copied without the payment of royalties. † **patent**

Copyright Act *noun* an act of Parliament making copyright legal and controlling the copying of copyright material

copyrighted *adjective* legally protected from copying

coral *noun* MARINE BIOL a rock-like substance composed of the skeletons of dead polyps

CORAL *noun* COMPUT a computer programming language used in a real-time system. Full form **common real-time applications language**

coral reef *noun* MARINE BIOL a reef formed of coral

coral sand *noun* MARINE BIOL fine white particles which form tropical beaches, not sand at all but tiny pieces of dead coral

CORBA *noun* COMPUT full form of **common object request broker architecture**

cord *noun* ELEC a wire used to connect a device to a socket

cordite *noun* CHEM an explosive made of cellulose nitrate and nitroglycerine

core *noun* **1.** the central part of something □ **the core of a problem** the most fundamental part of a problem **2.** COMPUT the central conducting section of a cable ○ *The primary windings consist of heavy-gauge wire mounted on a soft iron core.* **3.** EARTH SCI the central part of something ○ *The Earth's core is believed to be formed of nickel and iron.* **4.** INDUST the central part of a nuclear reactor, where the fuel rods are sited

core memory *noun* COMPUT **1.** the central memory of a computer **2.** a non-volatile magnetic storage method used in old computers

core program *noun* COMPUT a computer program stored in core memory

coresident *adjective* COMPUT referring to two or more programs stored in main memory at the same time

core store *noun* COMPUT same as **core memory**

Corine *noun* ECOL a collection of information on important issues such as land cover, coastal erosion and biotopes for the major natural sites in Europe. Full form **Coordination of information on the environment**

Coriolis effect *noun* PHYS the sideways movement of particles as explained by the Coriolis force

Coriolis force *noun* PHYS a force which accelerates movement of a rotating mass perpendicular to its motion and towards the axis of rotation

COMMENT: The Coriolis force acts at a right angle to wind direction and is directly proportional to wind speed. It explains why wind patterns are clockwise in the northern hemisphere and anti-clockwise in the southern hemisphere. It is named after G. G. Coriolis, a French engineer who died in 1843.

cork *noun* BOT a protective outer layer that forms part of the bark in woody plants, taking many years to regrow once stripped (NOTE: It is used, among other things, for bottle corks, fishing net floats and flooring, but cork oaks are now attracting conservation interest.)

cork cambium *noun* BOT the tissue near the outer surface of a woody plant stem that produces cork

corn *noun* BOT a swollen underground plant stem with a terminal bud, e.g. on a crocus

corn *noun* **1.** wheat or barley (*informal*) **2.** US maize

cornification *noun* BIOL the filling of skin cells with keratin to form horny tissue such as nails or scales

corn oil *noun* FOOD INDUST a vegetable oil obtained from maize grains, used for cooking and as a salad oil

corolla *noun* BOT a set of petals in a flower

corona *noun* **1.** ELEC an electric discharge used to charge the toner within a laser printer **2.** BOT a trumpet-shaped, petal-like outgrowth in flowers such as narcissi **3.** ASTRON the outermost portion of the Sun's atmosphere, extending more than 10 solar radii and maintaining a temperature of 1 000 000°C or more

coronary artery *noun* ANAT a blood vessel carrying blood away from the heart

coronavirus *noun* MICROBIOL, MED a single-stranded RNA virus that causes major illnesses in animals and humans and is a cause of the common cold. Family: Coronaviridae.

corona wire *noun* COMPUT a thin wire that charges the powdered toner particles in a laser printer as they pass across it ◦ *If your printouts are smudged, you may have to clean the corona wire.*

coroutine *noun* COMPUT a section of a program or procedure that can pass data and control to another coroutine, then halt itself

corpus callosum *noun* ZOOL the broad bundle of nerve fibres that connects the two hemispheres of the brain in higher mammals allowing communication between the hemispheres

corpuscle *noun* PHYSIOL a cell in the blood

corpus luteum *noun* ANAT a yellowish mass of tissue that forms after ovulation in the Graafian follicle of the ovary and secretes progesterone

corrasion *noun* EARTH SCI the wearing away of rock by material carried by ice, water or wind

correct *adjective* without error ■ *verb* 1. to adjust something to a particular standard ◦ *corrected to three decimal places* ◦ *A servo-motor fitted in the elevator trim system will automatically correct for loads.* 2. to remove mistakes from something

correction *noun* 1. the adjustment or changing of something to make it correct 2. an adjustment or change to something to make it correct 3. the use of a mathematical formula for adjusting a known inaccuracy of calculation ◦ *In applying this correction the reading is converted to that which would occur at mean sea level.*

corrective *adjective* designed to correct something

corrective action *noun* action taken to improve something

correlate *verb* to compare two measurements in order to form a relationship between the two ◦ *Power is measured not by the amount of work done, but by units of accomplishment correlated with time.*

correlation *noun* a measurable and predictable relationship ◦ *At a given speed,*

there is a correlation between time and distance.

correspond *verb* 1. to have a direct relationship with or fit with something ◦ *Movements of the control surfaces correspond to movements of the pilots' flying controls.* 2. to be similar to something ◦ *The ideal conditions to maintain would be those corresponding to sea level.* 3. to write to someone ◦ *She corresponded with several Russian scientists.*

corrie *noun* EARTH SCI same as **cirque**

corrode *verb* CHEM 1. to destroy something by a slow chemical process ◦ *Turbine fuels tend to corrode the components of the fuel and combustion systems mainly as a result of the sulfur and water content of the fuel.* 2. to suffer corrosion ◦ *Aluminium will not corrode easily.*

corrosion *noun* 1. CHEM a process in which the surface of a material, generally a metal, is changed by the action of moisture, air or a chemical 2. erosion of rocks by the action of chemicals or the weather

corrosion protection *noun* CHEM action taken to prevent corrosion such as rust

corrosive *adjective* CHEM causing corrosion ◦ *Sulfuric acid is very corrosive.*

corrupt COMPUT *adjective* a program or data that contain errors ■ *verb* to introduce errors into data or a program ◦ *Power loss during disk access can corrupt the data.*

cortex *noun* 1. BOT the tissue in plants between the outer layer (**epidermis**) and the central core (**stele**) of the stem or root 2. ANAT an outer layer of tissue in the brain, glands or cells

corticosteroid *noun* 1. BIOCHEM a steroid hormone formed in the adrenal cortex 2. PHARM a synthetic drug similar to a natural corticosteroid, used to reduce inflammation and allergic reactions

corticotrophin *noun* BIOCHEM ◄ **ACTH**

cortisol *noun* BIOCHEM a hormone produced in the adrenal glands that helps to control the synthesis of glucose, reduces or prevents inflammation and helps to regulate the way fat is deposited in the body. Also called **hydrocortisone** (NOTE: When used as a medical treatment, it helps control allergies, skin conditions and adrenal failure.)

cortisone *noun* BIOCHEM a biologically inactive steroid compound that is con-

verted in the adrenal glands and other tissues to the active hormone cortisol

corundum *noun* MINERALS a hard crystalline form of aluminium oxide which has a range of colour forms

cos *abbreviation* MATHS cosine

COSHH *noun* UK regulations controlling substances with known health risks. Full form **Control of Substances Hazardous to Health (UK Regulations)**

cosine *noun* MATHS a trigonometric function defined as the length of the side adjacent to an angle in a right-angled triangle divided by the length of the hypotenuse

cosmic *adjective* ASTRON referring to the cosmos

cosmic dust *noun* ASTRON the small particles of solid matter found in outer space, often grouped in clouds

cosmic radiation *noun* ASTRON **♦ cosmic ray**

cosmic ray *noun* ASTRON a stream of high-energy particles entering Earth's atmosphere from space

COMMENT: Primary cosmic rays are of solar origin and their composition reflects the Sun's own, consisting mainly of **neutrons** and **alpha particles**, since the Sun consists mainly of hydrogen and helium. Other cosmic rays appear to come from deep space, especially from supernovae, which accounts for the appearance of heavier nuclei.

cosmic string *noun* ASTRON an extremely long thin defect in spacetime, supposedly formed in the instant following the birth of the universe

cosmogony *noun* ASTRON the study of the origin of the universe and the larger-scale objects within it, a subdivision of cosmology

cosmological principle *noun* ASTRON the theory that, on a very large scale, all the matter in the universe is distributed evenly, so that hypothetical astronomers a long way from the Earth would see the same universe, on the biggest scale, as we do. Observational tests of the principle are difficult to carry out and are complicated by the fact that looking into the universe over different distances also involves looking back over different time periods. (NOTE: Observational tests of the principle are difficult to carry out and are complicated by the fact that looking into the universe over different distances also involves looking back over different time periods.)

cosmology *noun* ASTRON the study of the universe as a whole, including its structure and long-term development as well as its origins

cosmos *noun* ASTRON the whole universe

cotangent *noun* MATHS a trigonometric function equal to the length of the side adjacent to the angle divided by that of the side opposite, for a given angle in a right-angled triangle

cotyledon *noun* BOT the green plant structure resembling a leaf that appears as a seed germinates and before the true leaves appear, developing from the embryo of the seed

COMMENT: Cotyledons are thicker than normal leaves, and contain food for the growing plant. Plants are divided into two groups, those producing a single cotyledon (monocotyledons) and those producing two cotyledons (dicotyledons).

coulomb *noun* ELEC the SI unit of electric charge equal to the amount of electrical charge transported by a current of one ampere in one second. Symbol **C**

count *verb* MATHS to make a total of a number of items **■ noun** the process of totalling a number of items

counter *noun* **1.** a device which counts automatically *○ The loop will repeat itself until the counter reaches 100.* **2.** COMPUT a register or variable whose contents are increased or decreased by a set amount every time an action occurs *○ The number of items changed are recorded with the counter.* **■ verb** to work against something to remove the effect of it *○ Some people find that swallowing hard counters the effects of changes in pressure.*

counter- *prefix* against

counter-rotating ring *noun* TELECOM the two signal paths transmitted in opposite directions around a ring network

counterstain *noun* SCI an additional stain applied to a specimen to be examined under a microscope, in order to bring out features not revealed by the primary stain **■ verb** to use a counterstain on a microscope specimen

couple *noun* two of something **□ a couple** of two or three, or a small number of **■ verb** to link *○ Pilot error, coupled with poor weather conditions, resulted in an accident.*

coupler *noun* COMPUT a mechanical device used to connect three or more conductors

coupling *noun* a joining or connecting component ○ *When not in use, the coupling is sealed by a dust cap.*

course *noun* **1.** a formal period of study ○ *a meteorology course* **2.** NAVIG an imaginary line across the surface of the Earth which must be followed in order to arrive at a destination **3.** a set of actions taken in a particular situation ○ *The best course is to wait until we have done the tests.* ○ *What course of action do you recommend?* **4.** the development of events over a period of time ○ *the usual course of the disease* □ **in the course of** during □ **in the normal course of events** usually **5.** a sequence of medical treatment given over a period of time ○ *a course of antibiotics*

courseware *noun* COMPUT software, manuals and videos that make up a training package or CAL product

covalency *noun* CHEM the chemical combining power of an atom in which electrons will be shared

covalent bond *noun* CHEM a chemical bond between two atoms in which a pair of electrons is shared

covalent radius *noun* PHYS the radius of an atom that has a covalent bond

covariance *noun* ASTRON the principle that the laws of the universe are everywhere the same

cover *verb* **1.** to include the complete extent of a period or a whole area ○ *The restriction covers the period from the 4th to the 8th of July.* □ **the area covered by the forecast** the area that the forecast deals with **2.** to deal with a subject ○ *The subject of central warning systems is covered in the systems book.* **3.** to be completely over something so as to hide what is underneath ○ *The area is covered in snow.* ■ *noun* something that goes over something else completely

coverage *noun* the amount of space or time given to a subject or an event ○ *More complete coverage of the one-in-sixty rule is given in the plotting section of these notes.*

cover crop *noun* AGRIC **1.** a crop sown to cover the soil and prevent it from drying out and being eroded (NOTE: When the cover crop has served its purpose, it is usually ploughed in, so leguminous plants

which are able to enrich the soil are often used as cover crops.) **2.** a crop grown to give protection to another crop that is sown with it ○ *In the tropics, bananas can be used as a cover crop for cocoa.* **3.** a crop grown to give cover to game birds

Cowper's gland *noun* ANAT one of a pair of small glands that lie beneath the prostate in mammals and secrete an alkaline fluid into the urethra just before ejaculation of semen

cpi *abbreviation* COMPUT characters per inch

CPM *abbreviation* COMPUT critical path method

cps *abbreviation* COMPUT characters per second

CPU *abbreviation* COMPUT central processing unit

COMMENT: In a file-handling program, CPU time might be minimal, since data retrieval from disk would account for a large part of the program run. In a mathematical program, the CPU time could be much higher in proportion to the total run time.

CPU bound *adjective* COMPUT the performance of a computer which is limited by the number of instructions the central processing unit can carry out (NOTE: Effectively, the memory and I/O devices can transfer data faster than the CPU can produce them.)

CPU clock *noun* COMPUT a clock inside a processor device which generates a regular signal millions of times every second to control operations and data transfer within the processor

CPU cycle *noun* COMPUT a period of time taken to fetch and execute an instruction, used as a measure of computer speed

CPU element *noun* COMPUT one of the main sections that make up a CPU, including ALU, control unit, I/O bus, memory and various registers

CPU time *noun* COMPUT the total period of time that a central processing unit is used to process instructions

Cr *symbol* CHEM ELEM chromium

CR *abbreviation* ENVIRON critically endangered

cracking *noun* INDUST the process by which crude oil is broken down into light oil

craft *noun* **1.** TRANSP a boat for carrying people or goods on water **2.** AEROSP an aircraft or spacecraft for carrying people or goods in the air or in space ○ *An airship is*

classified as a lighter-than-air craft. **3.** a practical skill ○ *a revival of country crafts such as basket-making*

cramp *noun* a spasm of the muscles where the muscle may remain contracted for some time

cranial nerve *noun* ANAT one of the paired nerves that emerge directly from the brain to supply muscles and sense organs in the head, neck and viscera (NOTE: There are 12 pairs in mammals, birds and reptiles, and usually 10 pairs in fish and amphibians.)

cranium *noun* ANAT the part of the skull of a vertebrate that covers and protects the brain

crankcase *noun* MECH ENG the part of an engine that houses the crankshaft and usually the oil pump ○ *oil passages that allow lubricating oil to pass through*

crankshaft *noun* MECH ENG the part of a piston engine connecting the pistons, via the connecting rods, to the flywheel and gearbox

crash *noun* **1.** a collision **2.** COMPUT a failure of a component or a bug in a program during a run, which halts and prevents further use of the system ■ *verb* **1.** to collide **2.** COMPUT to come to a sudden stop ○ *The disk head has crashed and the data may have been lost.*

crash-protected *adjective* COMPUT referring to a computer disk which has a head protection or data corruption protection system ○ *If the disk is crash-protected, you will never lose your data.*

COMMENT: It is sometimes possible to recover data from a crashed hard disk before reformatting, if the crash was caused by a bad sector on the disk rather than contact between the access head and disk surface.

crater *noun* EARTH SCI a round depression at the top of a volcano

crater lake *noun* EARTH SCI a round lake that forms in a crater

CRC *abbreviation* COMPUT cyclic redundancy check

cream of tartar *noun* FOOD same as potassium bitartrate

create *verb* to make or produce something ○ *The velocity and pressure of the exhaust gas create the thrust in the turbojet engine.* ○ *A new file was created on disk to store the document.*

creatine *noun* BIOCHEM an amino acid that occurs chiefly as phosphocreatine, an energy storage compound in muscles

creatinine *noun* BIOCHEM a substance derived from the breakdown of creatine and found in urine. Formula: $C_4H_7ON_3$.

creep *noun* **1.** gradual change **2.** weakening and slow damage to something ○ *Creep is a particular feature of components which are subjected to operation at high temperatures.* **3.** a slight movement of a tyre on a wheel caused by landing ○ *Aligned white marks on the wheel and tyre indicate that there is no creep.* **4.** EARTH SCI a slow movement of soil down a slope ■ *verb* to move slowly or without being noticed

creeper *noun* **1.** BOT a plant that spread or climbs by clinging to a surface, forming roots at each node of long shoots **2.** BIRDS a small insectivorous bird of the northern hemisphere that climbs in trees. Family: Certhidae.

creosote *noun* CHEM a yellowish brown oily substance with a characteristic smell, derived from wood tar and formerly used as a wood preservative (NOTE: It is now banned in the European Union.)

crepuscular ray *noun* METEOROL a separate vertical ray of sunlight which passes through a gap in clouds

crest *noun* **1.** EARTH SCI the highest point on the top of an object **2.** the highest point of a hill or mountain ridge **3.** a growth on the head of a bird or other animal **4.** the white top of a wave

crested *adjective* referring to a bird or other animal with a crest ○ *a crested newt*

crevasse *noun* EARTH SCI a large crack in a glacier

crevice *noun* EARTH SCI a crack or little hole in rock

crippled leapfrog test *noun* COMPUT a standard leapfrog test that uses a single memory location rather than a changing location

crisis *noun* **1.** a time when things are in a very bad state ○ *a crisis caused by drought* (NOTE: The plural is **crises**) **2.** MED a turning point in a disease after which the patient may start to become better or very much worse (NOTE: The plural is **crises**.)

criterion *noun* a standard by which something is defined, decided or judged (NOTE: The plural is **criteria**.)

critical *adjective* **1.** extremely important
 ○ *Temperature and oil pressure are critical to any type of system.* **2.** causing an important change
 ○ *As the angle of attack is increased, it reaches the critical point when the airflow over the upper surface of the wing begins to break down.* **3.** referring to a crisis
 ○ *critical conditions* **4.** making criticisms
 ○ *The report was critical of the steps taken to cut down pollution.*

critical angle *noun* OPTICS the angle at which a ray of light hits a surface and is completely reflected

critical care *noun* MED the highest level of monitoring and intensive care in hospital of patients with life-threatening failure of several organs or body systems

critical error *noun* COMPUT an error which stops processing or causes a computer to crash

critical factor *noun* **1.** an extremely important factor which causes a change to occur **2.** ENVIRON something in the environment which causes a sudden change to occur, e.g. the introduction of a pollutant or a drop in temperature

critical link *noun* BIOL an organism in a food chain which is responsible for taking up and storing nutrients which are then passed on down the chain

critical list *noun* MED the list of those patients in a hospital who are in a medically life-threatening condition

critical load *noun* ENVIRON the highest level of pollution which will not cause permanent harm to the environment

critically *adverb* **1.** in a way that criticises **2.** extremely
 ○ *critically ill*

critically endangered *adjective* ENVIRON referring to a species facing a high risk of becoming extinct, usually taken to be when there are fewer than 50 mature individuals. Abbr **CR**

critical mass *noun* PHYS the minimum amount of fissile matter that can produce a chain reaction

critical path method *noun* COMPUT the use of analysis and projection of each critical step in a large project to help a management team. Abbr **CPM**

critical pH *noun* CHEM the level of acidity at which a sudden change will occur

critical point, critical state *noun* PHYS a moment at which a substance undergoes a change in temperature, volume or pressure

critical temperature *noun* PHYS the temperature below which a gas will normally become liquid

critical threshold *noun* **1.** the point below which something will no longer take place
 ○ *The population will rapidly reach a critical threshold if steps are not taken to protect it from extinction.* **2.** ENVIRON the point at which a species is likely to become extinct

criticise *verb* to say what is wrong with something
 ○ *The report criticised the safety procedures.*

CRO *abbreviation* PHYS cathode-ray oscilloscope

Cromagnon *noun* ANTHROP the earliest known form of modern human being found in Europe during the last Ice Age and dating from around 50 000 to 30 000 years ago

crop *noun* **1.** AGRIC a plant grown for food **2.** AGRIC a yield of produce from plants
 ○ *The tree has produced a heavy crop of apples.* ○ *The first crop was a failure.* ○ *The rice crop has failed.* **3.** ZOOL the bag-shaped part of a bird's throat where food is stored before digestion ■ *verb* **1.** (of plants) to produce fruit
 ○ *a new strain of rice which crops heavily* **2.** PRINTING to reduce the size or margins of an image or to cut out a rectangular section of an image

crop breeder *noun* AGRIC a person who specialises in developing new varieties of crops
 ○ *Crop breeders depend on wild plants to develop new and stronger strains.*

crop breeding *noun* AGRIC the development of new varieties of crops

crop dusting *noun* AGRIC the practice of applying insecticide, herbicide or fungicide to crops in the form of a fine dust or spray

cropland *noun* AGRIC agricultural land which is used for growing crops

crop rotation *noun* AGRIC a system of cultivation where crops such as cereals and oilseed rape that need different nutrients and/or management are grown one after the other

crop sprayer *noun* AGRIC a machine or aircraft which sprays insecticide, herbicide or fungicide onto crops, or a company that performs this service

crop spraying *noun* AGRIC same as **crop dusting**

cross *verb* **1.** to get from one side of an area to another **2.** (of lines, roads, etc.) to go across something or each other at an

angle ○ *Meridians intersect at the poles and cross the equator at right angles.* **3.** AGRIC to produce a new form of plant or animal from two different breeds, varieties or species ○ *They crossed two strains of rice to produce a new strain which is highly resistant to disease.* ■ **noun 1.** an act of crossing two plants or animals ○ *made a cross between two strains of cattle* **2.** AGRIC a new form of plant or animal bred from two different breeds, varieties or species

cross-assembler *noun* COMPUT an assembler that produces machine-code code for one computer while running on another

crossbred *adjective* AGRIC having been bred from two parents with different characteristics ○ *a herd of crossbred sheep*

crossbreed AGRIC *noun* an animal bred from two different pure breeds ■ *verb* to produce new breeds of animals by mating animals of different pure breeds

crossbreeding *noun* AGRIC mating or artificial insemination of animals of different breeds in order to combine the best characteristics of the two breeds

cross-check *verb* to verify that something is correct

cross-compiler *noun* COMPUT an assembler or compiler that compiles programs for one computer while running on another

COMMENT: Cross-compilers and assemblers are used to compile programs for micros, but are run on larger computers to make the operation faster.

cross-compliance *noun* ENVIRON the setting of environmental conditions that must be met when developing agricultural support policies, especially in the European Union. Also called **environmental conditionality**

cross-fertilisation *noun* BOT the fertilising of one individual plant by another of the same species

cross-flow turbine *noun* ENG a turbine in which water flows at right angles to the turbine's axis of rotation

crosshair *noun* COMPUT a shape of a cursor that looks like a cross

crossing *noun* AGRIC the breeding of plants or animals from two different breeds or varieties

crossing-over *noun* GENETICS the interchange of segments between homologous chromosomes during cell division (**meio-**

sis), resulting in new combinations of genes and therefore variability in inherited characteristics

cross-linked files *plural noun* COMPUT two files which claim to be using the same cluster on a disk, an error in MS-DOS

crossover *noun* COMPUT a change from one system to another ○ *The crossover to computerised file indexing was difficult.*

cross-pollination *noun* BOT the pollination of a flower with pollen from another plant of the same species. Compare **self-pollination** (NOTE: The pollen goes from the anther of one plant to the stigma of another.)

COMMENT: Cross-pollination, like cross-fertilisation and cross-breeding, avoids inbreeding, which may weaken the species. Some plants are self-fertile (i.e. they are able to fertilise themselves) and do not need pollinators, but most benefit from cross-fertilisation and cross-pollination.

cross-section *noun 1.* a typical representative range ○ *The group included a cross-section of backgrounds and age groups.* **2.** a view of an object seen as if cut through ○ *The diagram is a cross-section of a turbojet engine.* **3.** PHYS a measure of the effective area or size of an atom or nucleus that represents a target for interaction with another particle or radiation prior to fission or ionisation

crosstalk *noun* COMPUT interference between two communication cables or channels

crosswind component *noun* AVIAT the part of the wind force that acts at an angle to the direction of flight

crown *noun 1.* BOT the top part of a plant where the main growing point is ○ *protecting the crowns from frost* ○ *The disease first affects the lower branches, leaving the crowns still growing.* **2.** DENT a covering for a tooth that is damaged

crown-of-thorns *noun 1.* MARINE BIOL a large starfish which lives on coral and destroys reefs **2.** BOT one of various thorny plants

CRT *abbreviation* COMPUT cathode ray tube

crucible *noun* CHEM a heat-resistant container in which substances are melted or calcined

crucifer *noun* BOT a plant such as cabbage whose flowers have four petals. Family: Cruciferae.

crude *adjective* **1.** in a natural or original state and not treated or improved in any way ○ *crude results* ○ *crude products* **2.** simple and unsophisticated ○ *a crude timing mechanism*

crude birth rate *noun* MED the annual number of live births per 1000 population

crude death rate *noun* MED the annual number of deaths per 1000 population

crude growth rate *noun* MED the difference between the crude birth rate and the crude death rate

crude oil *noun* CHEM oil before it is refined and processed into petrol and other products

crush *verb* to compress something with force ○ *Excessive load on the beam may crush the core.*

crusher *noun* INDUST a machine for breaking down material such as rock, ore or seed into smaller pieces

crust *noun* **1.** a hard top layer **2.** GEOL the top layer of the surface of the Earth, which is formed of rock and lies above the asthenosphere

crustacean *noun* ZOO an invertebrate animal with a hard chalky outer shell, several pairs of jointed legs and eyes on stalks. Subphylum: Crustacea. (NOTE: Crabs, lobsters, barnacles and woodlice are all crustaceans.)

cryogenic *adjective* PHYS referring to very low temperatures

cryogenic memory *noun* COMPUT a storage medium operating at very low temperatures (4 °K) to use the superconductive properties of a material

cryolite *noun* MINERALS an uncommon white crystalline fluoride of sodium and aluminium

cryophilous *adjective* BOT referring to a plant that needs a period of cold weather to grow properly

COMMENT: Cryophilous crops need a period of cold weather in order to produce flowers later in the growing period. If such crops do not undergo this cold period, their growth remains vegetative, or they only form abortive flowers with no seeds. Wheat, barley, oats, peas, sugar beet and potatoes are all cryophilous.

cryopreservation *noun* BIOL the storage of biological material at very low temperatures

cryosphere *noun* EARTH SCI the frozen part of the Earth's surface

cryptic coloration *noun* ZOO a pattern of colouring which makes an animal less easy to see, e.g. stripes on a zebra

crypto- *prefix* hidden

cryptogam *noun* BOT an organism that reproduces by means of spores, e.g. mosses or fungi

cryptogamic *adjective* BOT referring to cryptogams

cryptographic algorithm *noun* COMPUT a set of rules used to encipher and decipher data

cryptographic key *noun* COMPUT a number or code that is used with a cipher algorithm to personalise the encryption and decryption of data

cryptography *noun* the study of the methods and techniques of encryption and decryption

cryptosporidium *noun* a single-celled organism that can infect humans, usually found in contaminated water

crystal *noun* **1.** CHEM a regular geometric shape formed by minerals, or as water freezes **2.** ELECTRONICS a small slice of quartz crystal which vibrates at a specific frequency, used as a very accurate clock signal for computer or other high-precision timing applications

crystal lattice *noun* CHEM the regular array of positions in space that are occupied by the atoms, ions or molecules making up a crystal

crystalline *adjective* CHEM formed of crystals

crystalloid *adjective* CHEM having a structure, properties or an appearance like a crystal

crystal shutter printer *noun* COMPUT a page printer that uses a powerful light controlled by a liquid crystal display to produce an image on a photosensitive drum

Cs *symbol* CHEM ELEM caesium

CS *abbreviation* ELECTRONICS chip select

CS gas *noun* CHEM a gas that causes tears, salivation and painful breathing. Formula: C₉H₅ClN₂.

CSM *abbreviation* combined symbol matching

CSMA-CD *abbreviation* COMPUT carrier sense multiple access-collision detection

CSS *abbreviation* COMPUT cascading style sheet

CT *abbreviation* MED computerised tomography

CTI *abbreviation* COMPUT computer-telephony integration

CTR *abbreviation* COMPUT click through rate

CTS *abbreviation* COMPUT clear to send

CT scan *noun* MED a scan where a narrow X-ray beam, guided by a computer, photographs a thin section of the body or an organ from different angles; the results are fed into the computer which analyses them and produces a picture of a slice of the body or organ. Also called **CAT scan**

Cu *symbol* CHEM ELEM copper

CU *abbreviation* COMPUT control unit

cube *MATHS noun* **1.** a three-dimensional geometric figure formed of six equal square plane faces, each set at right angles to the four sides adjacent to it **2.** the product of three equal numbers or quantities multiplied together, usually written in mathematical notation as a raised 3, e.g. 4^3 means $4 \times 4 \times 4$ ■ *verb* to multiply a number or quantity by itself twice, e.g. 6 cubed is $6 \times 6 \times 6$

cube root *noun* *MATHS* a number or quantity that, when multiplied by itself twice, equals a given number or quantity

cubic centimetre, cubic foot, cubic inch, cubic metre, cubic yard *noun* *MEASURE* the volume of a cube whose edge measures one centimetre, foot, inch, metre or yard, respectively

cuesta *noun* *EARTH SCI* a ridge that has both scarp and dip slopes

CUG *noun* COMPUT restricted access to a database or bulletin board system on a specific topic or subject to known and registered users, usually by means of a password. Full form **closed user group**

cull *verb* **1.** to reduce the numbers of wild animals by killing them in a controlled way ○ *Deer may have to be culled each year to control the numbers on the hills.* **2.** COMPUT to remove hidden or distant objects from a three-dimensional scene or storage space, reducing processing time

culm *noun* **1.** BOT the stem of a grass which bears flowers **2.** *INDUST* a type of waste from an anthracite processing plant

cultivable acreage *noun* *AGRIC* the number of acres on which crops can be grown

cultivar *noun* *AGRIC* a variety of a plant that has been developed under cultivation and that does not occur naturally in the wild

cultivate *verb* *AGRIC* **1.** to grow crops ○ *Potatoes are cultivated as the main crop.* **2.** to dig and manure the soil ready for growing crops ○ *The fields are cultivated in the autumn, ready for sowing wheat.*

cultivated land *noun* *AGRIC* land that has been dug or prepared for growing crops

cultivation *noun* *AGRIC* the action of cultivating land or plants □ **to take land out of cultivation** to stop cultivating land or growing crops on it and allow it to lie fallow

cultivator *noun* *AGRIC* **1.** a person who cultivates land **2.** an instrument or small machine for cultivating small areas of land

cultural control *noun* the control of pests using various agricultural techniques such as crop rotation

culture *BIOL noun* a microorganism or tissues grown in a culture medium ■ *verb* to grow a microorganism or tissue in a culture medium

cultured *adjective* *BIOL* grown in a nutrient substance (**culture medium**)

culture medium *noun* *BIOL* an agar, liquid or gel on which a microorganism or tissue can be grown

culvert *noun* *ENG* a covered drain for water

cumulative *adjective* produced by being added in small, regular amounts ○ *The cumulative effect of these chemicals is considerable over time.*

cumuliform *adjective* *METEOROL* (*of clouds*) developing vertically ○ *cumuliform clouds such as cumulonimbus*

cumulonimbus *noun* *METEOROL* a dark low cumulus cloud associated with thunderstorms ○ *A cumulonimbus has a characteristic anvil shape.* Abbr **CB**

cumulus *noun* *METEOROL* a quantity of big, fluffy, white or grey clouds heaped or piled up, which develop at low altitude ○ *Grey cumulus often develop into cumulonimbus.* ○ *Cumulus clouds may develop because of thermal activity resulting from the warming of the surface.*

cuprite *noun* *MINERALS* a reddish-brown or black copper oxide ore

curie *noun* MEASURE a former unit of measurement of radioactivity, now replaced by the becquerel. Symbol **Ci**

Curie point *noun* PHYS the temperature at which there is a change in the magnetic properties of a substance such as iron

Curie's law *noun* PHYS the physical law that the effect of a magnetic field on a paramagnetic material is inversely proportional to its absolute temperature

curium *noun* CHEM ELEM a silvery-white metallic radioactive element in the actinide group artificially produced from plutonium (NOTE: The chemical symbol is **Cm**; the atomic number is **96** and the atomic weight is **247**.)

curly brackets *noun* COMPUT a pair of symbols, {}, used in some programming languages to enclose a routine

current *noun* 1. ELEC a movement of charge-carrying particles in a conductor 2. PHYS a flow of water, air or electricity ◦ *Dangerous currents make fishing difficult near the coast.* ◦ *A warm westerly current of air is blowing across the country.*

COMMENT: Mains electricity provides a 240 v AC supply at 50 Hz in the UK and 120 v at 60 Hz in the USA.

current directory *noun* COMPUT a directory within the directory tree which is currently being used

current instruction register *noun* COMPUT a register of a central processing unit that stores the instruction that is currently being executed. Abbr **CIR**

cursor *noun* COMPUT a marker on a display device which shows where the next character will appear

cursor control key *noun* COMPUT one of the keys on a keyboard which allow the cursor to be moved in different directions

curvature *noun* a degree of curving or roundness

curvature of space *noun* a property of space whereby, over large distances, it appears to obey the laws of spherical rather than plane geometry in terms of gravitation, the transmission of radiation and other effects

COMMENT: The curvature of space is predicted by the general theory of relativity, and it implies, e.g., that two lines cannot be parallel over cosmically large distances – or precisely parallel over shorter ones. Space-time curves so gradually that experiments to discover the size and direction of the curvature are almost impossible to devise.

curve *noun* a smoothly bending line, as on a graph

cusp *noun* 1. DENT a ridge or projection on the grinding surface of a molar tooth 2. ANAT a flap or fold of tissue that forms part of a valve in the heart, veins or lymph vessels 3. MATHS the point where two arcs of a curve meet

cusped foreland *noun* EARTH SCI a large triangular area of deposits made by the sea on a coast

cut *noun* 1. COMPUT the removal of a piece from a file 2. a piece removed from a file ■ *verb* COMPUT to remove sections of text from a file to make it shorter

cut and paste *noun* COMPUT the action of taking a section of text or data from one point and inserting it at another, often used in word-processors and DTP packages for easy page editing

cuticle *noun* 1. BOT a thin continuous waxy layer that covers the aerial parts of a plant to prevent excessive water loss 2. ZOOLOGY the outer layer of skin in animals

cutin *noun* BIOCHEM a network of fatty-acid polymers that forms the main component of the cuticle of plants

cut sheet feeder *noun* COMPUT a mechanism that automatically feeds single sheets of paper into a printer

cutting *noun* BOT a small piece of a plant from which a new plant will grow

COMMENT: Taking cuttings is a frequently used method of propagation which ensures that the new plant is an exact clone of the one from which the cutting was taken.

cwm *noun* EARTH SCI ◄ **cirque**

cyan *noun* a primary blue colour

cyanamide *noun* CHEM a white crystalline unstable compound. Formula: NH_2CN .

cyanide *noun* CHEM a salt of hydrocyanic acid

cyan-magenta-yellow-black *noun* COMPUT full form of **CMYK**

cyano- *prefix* blue

cyanobacterium *noun* MICROBIOL a bacterium of a large group that carry out photosynthesis. Family: Cyanophyta. Former name **blue-green alga**

cyanocobalamin *noun* BIOCHEM vitamin B_{12}

cybernetics *noun* COMPUT the study of the mechanics of human or electronic machine movements and the way in which

electronic devices can be made to work and imitate human actions

cyberspace *noun* COMPUT the world in which computers and people interact, normally via the Internet

cybersquatting *noun* COMPUT an act by which someone registers a website address, normally a trademark or brand name, then tries to sell the name to the rightful owner (NOTE: Although this is not yet illegal in most countries, court cases almost always find in favour of the company trying to recover its name.)

cycad *noun* BOT a tropical plant that has an unbranched trunk with large divided leaves growing from the top and cones

cycle *noun* **1.** a series of actions which end at the same point as they begin ○ *With the piston engine, the cycle is intermittent, whereas in the gas turbine, each process is continuous.* **2.** a period of time when something leaves its original position and then returns to it **3.** one completed operation in a repeated process **4.** a series of events which recur regularly ○ *Industrial waste upsets the natural nutrient cycle.* ■ *verb* to repeat an operation or series of instructions until instructed to stop

cycle availability *noun* COMPUT a period of time in a cycle during which data can be accessed or transmitted

cycle stealing *noun* COMPUT a memory access operation by a peripheral that halts a central processing unit for one or more clock cycles while data are being transferred from memory to the device

cyclic access *noun* COMPUT access to stored information that can only occur at a specific point in a cycle

cyclical *adjective* occurring in cycles ○ *Off-shore and on-shore wind patterns are cyclical.*

cyclic check *noun* COMPUT an error detection method that uses or examines a bit of data every *n* bits (NOTE: One bit examined then *n* bits transmitted, then another bit is examined.)

cyclic code *noun* MATHS a coding system in which the binary representation of decimal numbers changes by only one bit at a time from one number to the next

cyclic decimal code *noun* MATHS a cyclic code that refers to decimal digits

cyclic redundancy check *noun* COMPUT an error detection code for transmitted data. Abbr **CRC**

cyclo- *prefix* cyclic

cyclone *noun* **1.** METEOROL an area of low pressure around which the air turns in the same direction as the Earth. ◊ **anticyclone** **2.** INDUST a device which removes solid particles from waste gases produced during industrial processes

cyclothymia *noun* PSYCHIAT a mild form of bipolar disorder in which the patient suffers from alternating depression and excitement

cyclotron *noun* PHYS a circular particle accelerator in which charged particles are confined inside a vertical magnetic field and speeded up by an alternating high-frequency current

cylinder *noun* **1.** MATHS a solid tube shape formed by joining corresponding points on two parallel circles with straight lines **2.** MECH ENG a device shaped like a tube, in which a piston moves ○ *a static hydraulic system with a master cylinder and individual brake cylinders at each wheel* **3.** COMPUT the tracks in a multi-disk device that can be accessed without moving the read/write head

cylinder block *noun* MECH ENG a casing containing the cylinders in an internal-combustion engine

cylinder capacity *noun* MECH ENG the total volume of a reciprocating engine's cylinders, expressed in litres, cubic centimetres or cubic inches

cylinder head *noun* MECH ENG a removable top part of a piston engine cylinder containing plugs, inlet and exhaust connections and valves

cyindrical *adjective* with the shape of a cylinder

cypher *noun* COMPUT another spelling of **cipher**

cyto- *prefix* BIOL cell

cytochemistry *noun* BIOCHEM the study of the chemical activity of living cells

cytochrome *noun* BIOCHEM an iron-containing protein, several types of which are crucial to cell respiration

cytogenetics *noun* BIOL a branch of genetics which studies the structure and function of cells, especially chromosomes

cytokine *noun* BIOCHEM any protein secreted by lymph cells that affects cellular activity and controls inflammation

cytokinesis *noun* BIOL the changes in the cytoplasm of a cell that occur during cell division

cytokinin *noun* BOT a plant growth factor, of a group derived from adenine, that stimulates cell division and delays senescence

cytology *noun* BIOL the study of the structure and function of cells

cytolysis *noun* BIOL the breaking down of cells

cytoplasm *noun* BIOL a jelly-like substance inside the cell membrane which surrounds the nucleus of a cell

cytoplasmic *adjective* BIOL referring to the cytoplasm of a cell

cytoplasmic inheritance *noun* GENETICS the inheritance from a female parent of genes that are found in organelles such as mitochondria and chloroplasts in the cell cytoplasm (NOTE: This type of inheritance is not controlled by Mendel's laws.)

cytosine *noun* BIOCHEM one of the four basic components of DNA

cytotoxic *adjective* IMMUNOL harmful or fatal to living cells (NOTE: Cells that kill other cells as part of the immune response are described as cytotoxic.)

cytotoxin *noun* BIOL a substance which has a toxic effect on living cells

D

D symbol 1. MATHS the hexadecimal figure equivalent to decimal number 13 **2.** CHEM ELEM deuterium

DAC *abbreviation* COMPUT digital to analog converter ○ *Speech is output from the computer via a DAC.*

COMMENT: A DAC allows the computer to work outside the computer's environment, controlling machines, producing sound or speech, etc. An ADC allows real-world signals to be processed by a computer.

D/A converter *noun* COMPUT same as digital to analog converter

daemon *noun* COMPUT a utility program that performs its job automatically without the knowledge of the user

daidzein *noun* BIOCHEM an isoflavone found in soya products that is a possible natural cancer preventative

daisy chain *noun* COMPUT a method of connecting equipment with a single cable passing from one machine or device to the next rather than having separate cables to each device

Dalton's law *noun* PHYS the principle that the total pressure exerted by two or more mixed gases in a given volume is equal to the sum of the pressures that each would exert if it was occupying the same volume alone

dam *noun* ENG a construction built to block a river in order to channel the flow of water into a hydroelectric power station or to regulate the water supply to an irrigation scheme

DAMA *abbreviation* COMPUT demand assigned multiple access

damage *noun* the harm done to something ○ *environmental damage*

damaged *adjective* having suffered damage ○ *Is it possible to repair the damaged files?*

damage tolerance *noun* the ability of a material or structure to withstand or resist damage ○ *The structural efficiency of*

bonded and machined structure is not achieved at the expense of damage tolerance.

dampen *verb* **1.** to make something slightly wet **2.** to decrease or reduce something ○ *An accumulator is fitted to store hydraulic fluid under pressure and dampen pressure fluctuations.*

damper *noun* a device to decrease or reduce something ○ *A yaw damper is used for rudder control.*

damping *noun* INDUST the closing down of a blast furnace by cutting off the air supply

damp off *verb* BOT to die from a fungus infection which spreads in warm damp conditions and attacks the roots and lower stems of seedlings

COMMENT: Damping off is a common cause of loss of seedlings in greenhouses.

dangerous substance *noun* a substance which is particularly hazardous because of any of 14 features such as toxicity, flammability, bioaccumulation potential or persistence

dark adaptation *noun* PHYSIOL the changes that occur in the eye in response to reduction in light conditions. Compare **light adaptation**

dark energy *noun* ASTRON a hypothetical force that opposes gravity throughout the universe and accelerates the expansion of the universe

dark fibre *noun* COMPUT an optical fibre that is not carrying a signal, especially a fibre-optic cable that has just been installed but has not yet been used

dark matter *noun* ASTRON material in the universe which cannot be observed directly

COMMENT: The rotational velocity of stars around the centres of galaxies reveals that they contain more material than can be observed directly. Many types of material, including small planet-sized objects of

normal matter as well as concentrations of material unknown on Earth, have been proposed as possible solutions to the missing mass problem, whose solution is vital to such large problems as working out whether the universe will continue to expand indefinitely.

dark star *noun* ASTRON a star that is detectable only by its radio or infrared emissions or by its gravitational effect on other astronomical objects (NOTE: It is often a component of a binary star and can cause the brightness of its visible partner to vary periodically.)

darmstadtium *noun* CHEM ELEM an artificially produced chemical element (NOTE: The chemical symbol is **Ds**; the atomic number is **110** and the atomic weight is **269**.)

Darius Rotator *noun* ENG a type of vertical-axis wind turbine that has thin blades

Darwin, Charles (1809–92) a scientist known for the theory of evolution proposed in his book *On the Origin of Species* that described how species gradually change and evolve to succeed in their environment

Darwinian fitness *noun* BIOL a measure of the success of organisms at passing on their genes to subsequent generations

Darwinism, Darwinian theory *noun* BIOL the theory of evolution, formulated by Charles Darwin, which states that species of organisms arose by natural selection. ◊ **neo-Darwinism**

DASD *abbreviation* COMPUT direct access storage device

DAT *abbreviation* COMPUT digital audio tape

data *plural noun* **1.** COMPUT numbers, characters and symbols stored on a computer in such a way that they can be processed by the computer ◦ *Data are input at one of several workstations.* ◦ *The company stores data on customers in its main computer file.* ◦ *Programs act upon data files.*
2. factual information ◦ *The data show that a chemical change takes place.* ◦ *The data show that the number of plants in the population has increased.* (NOTE: The singular is **datum**)

COMMENT: Data are different from information in that they are facts stored in machine-readable form. When the facts are processed by the computer into a form that can be understood by people, the data become information.

data acquisition *noun* COMPUT the gathering of data about a subject

data analysis *noun* the extraction of information and results from data

databank *noun* COMPUT **1.** a large amount of data stored in a structured form **2.** a set of personal records stored in a computer

database *noun* COMPUT an integrated collection of files of data stored in a structured form in a large memory, which can be accessed by one or more users at different terminals

database administrator *noun* COMPUT a person in charge of running and maintaining a database system. Abbr **DBA**

database engine *noun* COMPUT a program that provides an interface between a program written to access the functions of a database management system and the system itself

database language *noun* COMPUT a set of languages such as data description language that make up a database management system

database management system *noun* COMPUT a series of programs that allow the user to create and modify databases easily. Abbr **DBMS**

database schema *noun* COMPUT the way in which a database is organised and structured

database server *noun* COMPUT a piece of database management software that runs on a server computer on a network and is used in a client-server system (NOTE: The user works with client software that formats and displays data that are retrieved by the server software.)

data block *noun* COMPUT all the data required for or from a process

data buffer *noun* COMPUT a temporary storage location for data received by a device that is not yet ready to process it

data bus *noun* COMPUT a bus carrying data between a central processing unit and memory and peripheral devices

data capture *noun* COMPUT the act of obtaining data by keyboarding, scanning or automatic means from a recording device or peripheral

data carrier detect *noun* COMPUT a signal from a modem to a computer, indicating that a carrier wave is being received ◦ *The call is stopped if the software does*

not receive a data carrier detect from the modem. Abbr **DCD**

data channel *noun* COMPUT a communications link able to carry data signals

data check *noun* COMPUT an error in reading data due to a fault in the magnetic medium

data communications *plural noun* TELECOM the transmission and reception of data rather than speech or images

data communications equipment *noun* TELECOM equipment such as a modem which receives or transmits data. Abbr **DCE**

data compacting *noun* COMPUT the reduction of the space taken by data by coding them in a more efficient way ○ *All the files were stored on one disk with this new data compacting routine.*

data compression *noun* COMPUT the means of reducing the size of blocks of data by removing spaces, empty sections and unused material

data concentrator *noun* COMPUT a means of combining intermittent data from various lines and sending them along a single line in one go

data corruption *noun* COMPUT the introduction of errors into data, due to noise or faulty equipment ○ *Acoustic couplers suffer from data corruption more than the direct connect form of modem.* ○ *Data corruption on the disk has made one file unreadable.*

data delimiter *noun* COMPUT a special symbol or character that marks the end of a file or data item

data description language *noun* COMPUT a part of database system software that describes the structure of the system and data. Abbr **DDL**

data dictionary *noun* COMPUT a file or piece of software that lists the structure and types of data used in a database

data dictionary/directory *noun* COMPUT full form of **DD/D**

data-driven *adjective* COMPUT referring to instructions that are executed once the relevant data have been received by a computer

data encryption standard *noun* COMPUT a standard developed by the US government for a high-security block data cipher system. Abbr **DES**

data entry *noun* COMPUT a method of entering data into a system usually using a

keyboard but also direct from disks after data preparation

data flowchart *noun* COMPUT a diagram used to describe a computer or data processing system ○ *The data flowchart allowed us to improve throughput, by using a better structure.*

datagram *noun* COMPUT a packet of information in a packet switching system that contains its destination address and route

data hierarchy *noun* COMPUT a data structure organised hierarchically

data input bus *noun* COMPUT a bus used when transferring data from one section of a computer to another, e.g. between memory and CPU. Abbr **DIB**

data integrity *noun* COMPUT the state of data which has not been corrupted by damage or errors

data interchange format *noun* COMPUT a standard method of storing spreadsheet formulae and data in a file. Abbr **DIF**

data item *noun* COMPUT one unit of data, e.g. the quantity of items in stock, a person's name, age or occupation

data link *noun* COMPUT a connection between two devices to allow the transmission of data

data link layer *noun* COMPUT a second layer in the ISO/OSI defined network that sends packets of data to the next link and deals with error correction (NOTE: This layer is normally split into two further sub-layers: medium access control and logical link control.)

data manipulation language *noun* COMPUT a form of database software that allows the user to access, store and change data. Abbr **DML**

dataplex *noun* COMPUT a method of multiplexing a combination of data signals

data processing *noun* COMPUT the selection and operation of data to produce useful information. Abbr **DP**

data protection *noun* the act of making sure that data are not copied by an unauthorised user

Data Protection Act *noun* COMPUT a piece of legislation passed in 1984 in the UK that means any owner of a database that contains personal details must register with the government agency and cannot use the data for purposes other than its original use without the permission of the people on the list. It also allows an individ-

ual to request a copy of the information stored about them in the list.

data record *noun* COMPUT a record containing data for use with a program

data register *noun* COMPUT an area within a central processing unit used to store data temporarily before it is processed ○ *In this small micro, the data register is eight bits wide, an address register is sixteen bits wide.*

data set ready *noun* COMPUT a signal from a device that is ready to accept data, occurring after a DTR signal is received. Abbr **DSR**

data sink *noun* COMPUT a device in a data terminal that receives data

data source *noun* COMPUT a device in a data terminal that sends data

data structure *noun* COMPUT a number of related items that are treated as one by the computer (NOTE: In an address book record, the name, address and telephone number form separate entries which would be processed as one by the computer.)

data terminal *noun* COMPUT a device that is able to display and transmit or receive data ○ *A printer is a data terminal for computer output.*

data terminal equipment *noun* COMPUT a device at which a communications path starts or finishes. Abbr **DTE**

data terminal ready *noun* COMPUT a signal from a device that indicates that it is ready to send data. Abbr **DTR**

data word *noun* COMPUT a piece of data stored as a single word

data word length *noun* COMPUT a number of bits that make up a word in a computer

date *noun* a day, month and year ○ *I have received your message of yesterday's date.* ○ *The date of creation for the file was the 10th June 1994.* □ **to bring something up to date** COMPUT to add the latest information to something □ **to keep something up to date** COMPUT to keep adding information to something so that it is always up to date ○ *We spend a lot of time keeping our files up to date.* ■ **verb** COMPUT to put a date on a document

dative bond *noun* CHEM same as **coordinate bond**

datum *noun* a reference or base point of a scale or measurement

daughter board *noun* COMPUT an add-on board that connects to a system motherboard

daughter cell *noun* BIOL one of the cells that develop by mitosis from a single parent cell

Dawes' limit *noun* ASTRON the theoretical limit to the resolving power of a telescope, equal to 2/1000 times the wavelength of light in angstrom divided by the telescope aperture in centimetres, for a result in arc seconds

daylight *noun* TIME the light of the sun during the day

dB *abbreviation* MEASURE, ACOUSTICS decibel

Db *symbol* CHEM ELEM dubnium

DBA *abbreviation* COMPUT database administrator

DBMS *abbreviation* COMPUT database management system

DC *abbreviation* ELEC direct current

DCA *abbreviation* COMPUT document content architecture

DCD *abbreviation* COMPUT data carrier detect

DCE *abbreviation* COMPUT data communications equipment

DCOM *noun* COMPUT an enhanced version of the COM specification that allows applications to access objects over a network or over the Internet. Full form **distributed component object model**

DCT *abbreviation* COMPUT discrete cosine transform

DD *abbreviation* COMPUT double density

DDC *abbreviation* COMPUT direct digital control

DD/D *noun* COMPUT the software that gives a list of types and forms of data contained in a database. Full form **data dictionary/directory**

DDE *abbreviation* COMPUT **1.** direct data entry **2.** dynamic data exchange

DDL *abbreviation* COMPUT data description language

DDP *abbreviation* COMPUT distributed data processing

DDR memory *noun* COMPUT the set of electronic memory components that are used for RAM storage in computers and peripherals. Full form **double data rate memory**

DDT *noun* CHEM an insecticide that was formerly used especially against

malaria-carrying mosquitoes. It is now banned in many countries because of its toxicity and ability to accumulate in the environment. Formula: $C_{14}H_9Cl_5$. Full form **dichlorodiphenyltrichloroethane**

DE *abbreviation* diatomaceous earth

de- *prefix* to undo, remove or stop

deactivate *verb* to turn off a system or a piece of equipment, stopping it from being ready to operate ○ *On some aircraft, nose wheel steering must be deactivated before retraction.*

dead *adjective* **1.** BIOL not alive **2.** COMPUT not functioning at all

deaden *verb* to make a sound or colour less sharp ○ *Acoustic hoods are used to deaden the noise of printers.*

dead halt *noun* COMPUT a program instruction from the user or an error that causes the program to stop without allowing recovery

dead key *noun* COMPUT one of the keys on a keyboard that cause a function rather than a character to occur

deadlock *noun* COMPUT a situation that occurs when two users want to access two resources at the same time, in which one resource is assigned to each user but neither can use the other

dead time *noun* ELECT a period between two events, in which nothing happens, to ensure that they do not interfere with each other ○ *Efficient job management minimises dead time.*

de-aerate *verb* CHEM to remove gas, especially carbon dioxide or air, from a liquid such as fuel ○ *The pump helps to de-aerate the fuel before it enters the engine.*

de-aerator *noun* CHEM a device to remove gas from a liquid

de-aerator tray *noun* INDUST a device in a lubrication system to remove air bubbles from oil

deal *verb* to handle or manage something ○ *A computer can deal with the constant inputs required to control an unstable aircraft.*

deallocate *verb* COMPUT to free resources previously allocated to a job, process or peripheral ○ *When a reset button is pressed all resources are deallocated.*

deamination *noun* PHYSIOL the removal of unwanted amino acids by the liver

death *noun* PHYSIOL the act of dying

death rate *noun* BIOL the number of deaths per year, shown per 1000 of a population ○ *a death rate of 15 per 1000* ○ *an increase in the death rate*

debacle *noun* EARTH SCI the breaking up of ice on a large river as it melts in spring

debit *noun* COMPUT a bit transmission rate that is twice the baud rate

de-bounce *noun* COMPUT the prevention of a single touch on a key giving multiple key contact

debris *noun* rubbish or waste matter ○ *volcanic debris from the eruption* ○ *Check that the area is free of stones and other debris.*

debris flow *noun* a landslide or mudslide of waste matter, as on a spoil heap

de Broglie wavelength *noun* PHYS the wavelength associated with the motion of an atomic or subatomic particle, given by Planck's constant divided by the mass and velocity of the particle (NOTE: The de Broglie wave can give rise to diffraction.)

debug *verb* COMPUT to test a program and locate and correct any faults or errors ○ *They spent weeks debugging the system.*

Debye-Huckel theory *noun* CHEM the theory that defines the behaviour of electrolytes

decay *noun* **1.** BIOL a process by which tissues become rotten and decompose, caused by the action of microorganisms and oxygen **2.** BIOL the formation of dental caries in teeth **3.** ACOUSTICS the process of a sound signal fading away ○ *With a short decay, it sounds very sharp.* ■ *verb* **1.** BIOL (of organic matter) to rot or decompose ○ *The soft leaves will gradually decay on the compost heap.* **2.** CHEM (of radioactive matter) to disintegrate

decelerate *verb* to slow down. Opposite **accelerate**

deceleration *noun* the process of slowing down ○ *Anti-skid braking systems units are designed to prevent the brakes locking the wheels during landing, thus reducing the possibility of wheel skid caused by the sudden deceleration of the wheel.*

deceleration parameter *noun* ASTRON a theory of the slowing down of the expansion of the universe, which may lead to a reversal of the expansion at some future time

deceleration time *noun* COMPUT the time taken for an access arm to come to a

stop after it has moved to the correct location over the surface of a hard disk

decentralised computer network *noun* COMPUT a network where the control is shared between several computers

dechlorination *noun* CHEM removal of chlorine and its replacement with hydrogen or with hydroxide ions to detoxify a substance

deci- *prefix* MEASURE one tenth, 10^{-1} . Symbol **d**

decibel *noun* ACOUSTICS **1.** a unit for measuring the power of a sound or the strength of a signal. The decibel scale is logarithmic. Abbr **dB** **2.** a unit for comparing two power levels, especially the relative loudness of different sounds or relative strength of electrical signals. Symbol **dB** (NOTE: The difference in decibels is equal to ten times the common logarithm of the ratio of two levels.)

deciding factor *noun* the most important factor which influences someone's decision ○ *The deciding factor was the superb graphics.*

deciduous *adjective* BOT referring to trees that shed all their leaves in one season ○ *beech, oak and other deciduous trees* ○ *deciduous woodlands*

deciduous dentition *noun* ANAT the first set of teeth of an animal which are gradually replaced by permanent teeth. Also called **deciduous teeth** (NOTE: In humans they are called milk teeth.)

deciduous forest *noun* BOT a forest containing only deciduous trees

deciduous teeth *noun* ANAT same as **deciduous dentition**

decile *noun* STATS one of a series of nine figures below which one tenth or several tenths of the total fall

deciliter *noun* US spelling of **decilitre**

decilitre *noun* MEASURE a unit of measurement of liquid equal to one tenth of a litre. Symbol **dl** (NOTE: The US spelling is **deciliter**.)

decimal *noun* MATHS an arithmetic and number representation using the decimal system ■ *adjective* referring to the decimal system □ **correct to three places of decimal or to three decimal places** correct to three figures after the decimal point ○ *2.754 is correct to three decimal places, 2.7 is correct to one decimal place.*

COMMENT: The decimal point is used in the USA and the UK. In most European coun-

tries a comma (,) is used to show the decimal point, so 4.75% is written 4,75% in Germany.

decimal fraction *noun* MATHS a fraction as expressed in the decimal system ○ *0.50 is a decimal fraction that is equal to 1/2.*

decimal notation *noun* MATHS a number representation in base 10, using the digits 0–9

decimal place *noun* MATHS the position of a number to the right of the decimal point

decimal point *noun* MATHS the dot (.) used to separate a whole number from a decimal fraction

decimal system *noun* MATHS a system of counting based on the number 10 and using the digits 0–9

decimate *verb* **1.** to reduce something severely ○ *Overfishing has decimated the herring population in the North Sea.* **2.** to reduce by one in ten

decimetre *noun* MEASURE a unit of measurement of length equal to one tenth of a metre. Symbol **dm** (NOTE: The US spelling is **decimeter**.)

decipher *verb* COMPUT to convert an encrypted or encoded message (**ciphertext**) into the original message (**plaintext**)

decision box *noun* a graphical symbol used in a flowchart to indicate that a decision is to be made and a branch or path or action carried out according to the result

decision circuit, decision element *noun* COMPUT a logical circuit that operates on binary inputs, producing an output according to the function set in hardware

decision framework *noun* LOGIC a method of organising and evaluating information, leading eventually to the making of a decision

decision instruction *noun* COMPUT a conditional program instruction that directs control by providing the location of the next instruction to be executed if a condition is met. Also called **discrimination instruction**

decision table *noun* COMPUT a list of all possible events or states that could happen and the actions taken. It may sometimes be used instead of a flowchart.

decision tree *noun* LOGIC a graphical representation of a decision table showing possible paths and actions if different conditions are met

declaration *noun* COMPUT a statement within a program that informs the compiler or interpreter of the form, type and size of a particular element, constant or variable. Also called **declarative statement**

declarative language *noun* COMPUT a programming language, normally in a database application, in which you enter what you want to achieve, rather than instructions

declarative statement *noun* COMPUT same as **declaration**

declare *verb* COMPUT to define a computer program variable or to set a variable equal to a number ○ *He declared at the start of the program that X was equal to nine.*

decline *noun* a process of becoming less ○ *The decline in the number of cases of pollution is due to better policing of factory emissions.* ○ *The population of these birds now seems to be on the decline.* ○ *Ecologists are working to diagnose forest decline in its early stages.* □ **decline in population** EARTH SCI reduction in the number of organisms living in one place ■ *verb* to become less ○ *The fish population declined sharply as the water became more acid.*

decode *verb* to change coded information into readable form

decode unit *noun* COMPUT a part of a microprocessor that translates a complex instruction into a simple form that the arithmetic logic unit can understand and process

decompilation *noun* COMPUT a conversion of a compiled program in object code into a source language ○ *fast incremental compilation and decompilation*

decomposable *adjective* CHEM referring to a substance which can be broken down into simple chemical compounds

decompose *verb* CHEM (*of organic material*) to break down into simple chemical compounds by the action of sunlight, water or bacteria and fungi

decomposer *noun* BIOL an organism which feeds on dead organic matter and breaks it down into simple chemicals, e.g. a fungus or bacterium

decomposition *noun* CHEM the process of breaking down into simple chemical compounds

decompression *noun* COMPUT the expansion of a compressed image or data file so that it can be viewed

decontaminate *verb* ENVIRON to remove a harmful substance such as poison or radioactive material from a building, a watercourse, a person's clothes or some other place

decontamination *noun* ENVIRON the removal of a harmful substance such as poison or radioactive material from a building, a watercourse, a person's clothes or some other place

decrease *noun* a lessening or reduction ○ *a decrease in power* □ **on the decrease** becoming less ■ *verb* to become less ○ *Air density and pressure decrease with an increase in altitude.* Opposite **increase**

decrement *verb* COMPUT to subtract a set number from a variable ○ *The register contents were decremented until they reached zero.*

decrypt *verb* COMPUT to convert encrypted data back into its original form

decryption *noun* COMPUT the conversion of encrypted data back into its original form ○ *Decryption is done using hardware to increase speed.*

dedicated *adjective* COMPUT reserved for a particular use ○ *There's only one dedicated graphics workstation in this network.*

dedicated channel *noun* TELECOM a communications channel reserved for a special purpose

dedicated computer *noun* COMPUT a computer which is only used for a single special purpose

dedicated logic *noun* COMPUT a logical function implemented in hardware design usually for only one task or circuit ○ *The person appointed should have a knowledge of micro-based hardware and dedicated logic.* ○ *The dedicated logic cuts down the chip count.*

deduce *verb* to reach a conclusion using information provided ○ *Sometimes, it is possible to estimate the depth of the layer of mist or fog from the ground observations and hence to deduce the ground range from any height.*

deduct *verb* to remove something from a total

deductive reasoning *noun* LOGIC the process of drawing conclusions from observations of the natural world by using

logical reasoning. Compare **inductive reasoning**

deep *adjective* EARTH SCI referring to something which goes down a long way, e.g. a well or mine

deep depository *noun* INDUST a place where nuclear waste is stored in very deep holes in the ground

deep ecology *noun* ECOL an extreme form of ecological thinking in which humans are considered as only one species among many in the environment and large numbers of humans are seen as harmful to the environment in which they live

deep-sea *adjective* OCEANOLOG referring to the deepest part of the sea a long way from land

deep-sea fauna *plural noun* MARINE BIOL fauna which live in the deepest part of the sea

deep-sea plain *noun* OCEANOLOG same as **abyssal plain**

deep-sea trench *noun* OCEANOLOG same as **oceanic trench**

deep-sea zone *noun* OCEANOLOG same as **abyssal zone**

deep vein *noun* ANAT a vein which is deep in tissue, near the bones

deep vein thrombosis *noun* MED a potentially fatal condition in which a blood clot forms in a vein or artery and may partially or completely block blood flow. It is often the result of long periods of immobility.

de facto standard *noun* a design, method or system which is so widely used that it has become a standard although not officially recognised by any committee

default *noun* COMPUT a predefined course of action or value that is assumed unless a conscious decision is taken to alter it

default option *noun* COMPUT a preset value or option that is to be used if no other value has been specified

default palette *noun* COMPUT a range of colours available on a system that a user or application can change to create an individualised range of colours. Also called **system colours**

default value *noun* COMPUT a value that is automatically used by the computer if no other value has been specified ○ *Screen width has a default value of 80.*

defecate *verb* **1.** to expel faeces from the bowel through the rectum **2.** CHEM to remove impurities from a solution, especially a solution that contains sugar

defect *noun* a fault or error ○ *a computer defect or a defect in the computer* ○ *Low oil pressure or excessive temperature indicate the development of a possible defect.*

defective *adjective* referring to something that is faulty or that is not operating correctly ○ *Loss of supply pressure is caused by either a defective booster pump or lack of fuel.*

defective sector *noun* COMPUT a fault with a hard disk in which data cannot be correctly read from a particular sector (NOTE: It could be caused by a damaged disk surface or faulty head alignment.)

defensive computing *noun* COMPUT a method of programming that takes into account any problems or errors that might occur

defensive mutualism *noun* a relationship between two species in which one protects the other from a predator

deferred addressing *noun* COMPUT indirect addressing, in which the location accessed contains the address of the operand and to be processed

deferred printing *noun* COMPUT a delay in the printing of a document until a later time

deficiency *noun* a lack of something

deficiency disease *noun* MED a disease caused by the lack of an essential element in the diet, e.g. vitamins or essential amino acids and fatty acids

deficient *adjective* lacking something essential ○ *The soil is deficient in important nutrients.* ○ *Scrub plants are well adapted to this moisture-deficient habitat.* ○ *She has a calcium-deficient diet.*

deficit *noun* a situation in which the amount going out is larger than the amount coming in

define *verb* **1.** to give an exact explanation of something, as in a dictionary **2.** to set the limits of something ○ *Cloud tops are very difficult to define.*

definite *adjective* referring to something which is not in doubt ○ *Using a time scale on the track, the pilot should be prepared to look for a definite feature at a definite time.* Opposite **indefinite**

definition *noun* an exact explanation of what a word or expression means ○ *The*

definition of a year is the time taken for a planet to describe one orbit around the Sun. □ **by definition** understood by the use of the word itself ○ *A sphere is, by definition, round.*

definitive host *noun* BIOL a host on which a parasite settles permanently

deflate *verb* to allow air to escape from something such as a tyre or balloon so that it becomes smaller or collapses ○ *To deflate a tyre, remove or depress the valve and allow the air to escape.* Opposite **inflate**

deflation *noun* the act or an instance of allowing air to escape from something such as a tyre or balloon so that it becomes smaller or collapses ○ *Deflation of a tyre is done by depressing the valve.*

deflect *verb* **1.** to move something away from a neutral or central position ○ *During an out-of-balance turn, the indicator will be deflected to the left or right.* **2.** to move a ray or moving object, gas or liquid away from its intended path ○ *The windshield deflects the airflow over the driver's head.*

deflection *noun* **1.** a movement away from a central or neutral position ○ *Full deflection of the ailerons is sometimes needed on take-off to counteract a cross-wind.* **2.** a movement of a beam or moving object, gas or liquid away from its intended path ○ *In the southern hemisphere the deflection of wind at the equator is to the left.*

deflection of light *noun* PHYS the movement of light away from a straight path as the effect of a mass (NOTE: The effect can only be observed for very large objects such as stars.)

COMMENT: The deflection is strong evidence of the special theory of relativity. It was first observed in 1919 by recording the positions of stars during a total solar eclipse, revealing that the Sun's mass drew passing starlight towards it.

deflection yoke *noun* ELEC the magnetic coils around a television tube used to control the position of the picture beam

deflocculant *noun* CHEM a substance added to break up lumps which have formed in a liquid

deflocculation *noun* CHEM the breaking up of lumps which have formed in a liquid

defoliant *noun* AGRIC a type of herbicide which makes the leaves fall off plants

defoliate *verb* AGRIC to make the leaves fall off a plant, especially by using a herbi-

cide or as the result of disease or other stress

defoliation *noun* AGRIC the loss of leaves from a plant, especially as the result of using a herbicide or because of disease or other stress

deforest *verb* AGRIC to cut down forest trees from an area for commercial purposes or to make arable land ○ *Timber companies have helped to deforest the tropical regions.* ○ *About 40000 square miles are deforested each year.*

deforestation *noun* AGRIC the cutting down of forest trees for commercial purposes or to make arable or pasture land

deformation *noun* a change of shape caused by stress ○ *Deformation of wing panels may be an indication of serious structural damage.*

defragmentation *noun* COMPUT the reorganisation of files scattered across non-contiguous sectors on a hard disk

COMMENT: When a file is saved to disk, it is not always saved in adjacent sectors thus increasing retrieval time. Defragmentation moves files back into adjacent sectors so that the read head does not have to move far across the disk, so increasing performance.

deg *abbreviation* MATHS degree

degas *verb* PHYS to remove gas from something such as a borehole

degassing *noun* PHYS the removal of gas from something such as a borehole

degauss *verb* PHYS to remove unwanted magnetic fields and effects from magnetic tape, disks or read/write heads ○ *The read/write heads have to be degaussed each week to ensure optimum performance.*

deglutition *noun* PHYSIOL the physical action or process of swallowing

degradable *adjective* CHEM, BIOL referring to a substance which can be broken down into its separate elements. ◊ **biodegradable**

degradation *noun* **1.** PHYS loss of picture or signal quality **2.** COMPUT a loss of processing capacity because of a malfunction **3.** a reduction in the quality of something ○ *Chemical degradation of the land can be caused by overuse of fertilisers and by pollutants from industrial processes.* □

degradation of air the pollution of the air **4.** CHEM the decomposition of a chemical compound into its elements

degradative succession *noun* BIOL **1.** the colonisation and subsequent decomposition of dead organic matter by fungi and microorganisms **2.** a type of autogenic succession involving colonisation and subsequent decomposition of dead organic matter by fungi and other microbes

degrade *verb* **1.** to reduce the quality of something ○ *The land has been degraded through overgrazing.* ○ *Ozone may worsen nutrient leaching by degrading the water-resistant coating on pine needles.* **2.** CHEM to make a chemical compound decompose into its elements

degree *noun* **1.** a level, amount or quantity ○ *The degree of compression is insufficient.* ○ *Manufacturers aim for a high degree of safety.* □ **to a greater degree** more □ **to a lesser degree** less **2.** MEASURE a unit of temperature ○ *twenty degrees Centigrade (20°C)* Symbol ° **3.** MEASURE a unit of measurement of an angle equal to 1/360th of a circle. Symbol ° (NOTE: Each degree is divided into 60 minutes and each minute into 60 seconds.) □ **an angle of 90°** a right angle **4.** NAVIG a unit of direction as measured on a compass. Symbol ° (NOTE: East = 90° and west = 270°.)

degree Celsius *noun* MEASURE a unit of measurement on a scale of temperature where the freezing and boiling points of water are 0 and 100 respectively

degree Fahrenheit *noun* MEASURE a unit of measurement on a scale of temperature where the freezing and boiling points of water are 32 and 212 respectively

degree of adaptability *noun* BIOL the extent to which an organism can change to fit a new situation

degree of freedom *noun* PHYS one of the variables such as temperature and pressure that are needed to specify the state of a system according to the phase rule

degree of saturation *noun* CHEM the amount of a substance which can be absorbed

dehisc *verb* BOT (*of a ripe seed pod, fruit or capsule*) to burst open to allow seeds or spores to scatter

dehiscence *noun* BOT the sudden bursting of a seed pod, fruit or capsule when it is ripe, allowing the seeds or spores to scatter

dehiscent *adjective* BOT referring to seed pods, fruit or capsules which burst

open to allow the seeds or spores to scatter. Compare **indehiscent**

dehumidifier *noun* ENG a machine which removes the moisture from air, often part of an air-conditioning system

dehydrate *verb* **1.** CHEM to lose water, or to make something lose water ○ *dehydrated foods* **2.** BIOL to lose water from the body ○ *After two days without food or drink, he became severely dehydrated.*

dehydration *noun* **1.** CHEM loss of water, or the removal of water from something ○ *preservation of food by dehydration* **2.** BIOL loss of water from the body

dehydrogenase *noun* BIOCHEM an enzyme that accelerates the transfer of hydrogen between two compounds

dejagging *noun* COMPUT same as **anti-aliasing**

delay *noun* a situation when something happens later than planned ○ *There was a delay of thirty seconds before the printer started printing.* ○ *We are sorry for the delay in supplying your order, but the computer was not working.* ■ *verb* to cause something to have a delay

delay line *noun* TELECOM a device that causes a signal to take a certain time in crossing it

delay vector *noun* TELECOM the time that a message will take to pass from one packet switching network node to another

delete *verb* COMPUT **1.** to cut out words in a document **2.** to remove text, data or a file from a storage device ○ *The word-processor allows us to delete the whole file by pressing this key.*

delimit *verb* COMPUT to set up the size of data using delimiters

delimited-field file *noun* COMPUT a data file in which each field is separated by a special character such as a tab character or comma and each record is separated by a return or a second special character

delimiter *noun* COMPUT **1.** a character or symbol used to indicate to a language or program the start or end of data, a record or information **2.** the boundary between an instruction and its argument

deliver *verb* to provide something ○ *The motor will continue to run but will deliver only one-third of the rated power.* ○ *The pump can deliver fuel at the rate of 2000 gph.*

delivery *noun* the provision of something
 ○ *On some pumps, a depressurising valve is used to block delivery to the system.*

delta *noun* **1.** EARTH SCI a triangular piece of land at the mouth of a large river formed of silt carried by the river ○ *the Nile Delta* ○ *the Mississippi Delta* **2.** the fourth letter of the Greek alphabet

deltaic deposit *noun* EARTH SCI a deposit of silt in a river delta

delta ray *noun* PHYS an electron forced from an atom by the effect of ionising radiation

demagnetise *verb* PHYS to remove stray or unwanted magnetic fields from a disk, tape or recording head

demagnetiser *noun* PHYS a device which demagnetises something ○ *He used the demagnetiser to degauss the tape heads.*

demand *noun* **1.** a strong request for something to be done **2.** a need for something ○ *They are building more power stations to satisfy the increasing demand for electricity.* ○ *They calculate that demand will exceed supply within ten years.*

demand assigned multiple access *noun* COMPUT a means of switching in circuits as and when they are required. Abbr **DAMA**

demand processing *noun* COMPUT the processing of data as soon as it appears

demand protocol architecture *noun* COMPUT a technique of loading protocol stacks in memory only if they are required for a particular session. Abbr **DPA**

deme *noun* ECOL a population of organisms in a small area

-deme *suffix* ECOL a section of a population which has distinctive characteristics

demersal *adjective* MARINE BIOL referring to fish which live on or near the seabed. Compare **pelagic**

demineralisation, demineralization *noun* CHEM the removal of salts which are dissolved in water

demineralise, demineralize *verb* CHEM to remove dissolved salts from water

democratic network *noun* COMPUT a synchronised network where each station has equal priority

demodulation *noun* TELECOM the recovery of an original signal from a received modulated carrier wave

demographic *adjective* ENVIRON referring to demography

demographic transition *noun* ENVIRON the pattern of change of population growth from high birth and death rates to low birth and death rates

demography *noun* ENVIRON the study of human populations and their development

demonstrate *verb* to show how something works ○ *He demonstrated the file management program.*

demonstration *noun* an act of showing how something works

demonstration model *noun* a piece of equipment used to show potential customers how the equipment works and then often sold cheaply

demonstration software *noun* COMPUT software that shows what an application is like to use and what it can do, without implementing all the functions ○ *The company gave away demonstration software that lets you do everything except save your data.*

denary notation *noun* MATHS a number system in base ten, using the digits 0 to 9

denaturation *noun* **1.** making something change its nature **2.** CHEM converting a protein into an amino acid

denature *verb* **1.** CHEM to add a poisonous substance to alcohol to make it unsuitable for humans to drink **2.** BIOCHEM to change the natural structure of a protein or nucleic acid by high temperature, chemicals or extremes of pH **3.** PHYS to add an isotope to fissile material to make it unsuitable for use in nuclear weapons

denatured alcohol *noun* CHEM ethyl alcohol with an additive, usually methyl alcohol, to make it unfit for people to drink

dendrimer *noun* CHEM a copolymer with a regular branching structure attached to a central chain of carbon atoms

dendrite *noun* **1.** ANAT a branch of a nerve cell, which receives impulses from axons of other nerve cells at synapses **2.** CHEM a crystal that has branched in two as it grows

dendritic *adjective* with branched parts

dendritic drainage *noun* ENG a system of drainage where smaller channels branch out from larger ones

dendrochronology *noun* BOT a scientific method of finding the age of wood by the study of tree rings

dendroclimatology *noun* BOT the study of climate over many centuries, as shown in tree rings

COMMENT: Because tree rings vary in width depending on the weather during a specific year, it has been possible to show a pattern of yearly growth which applies to all wood from the same region. This method allows old structures to be dated even more accurately than with carbon-dating systems. It is also possible to chart past changes in climate in the same way, as rings vary in thickness according to climatic conditions, allowing scientists to compare the climatic changes in various parts of the world over a very long period of time.

dendrological *adjective* BOT referring to dendrology

dendrology *noun* BOT the study of trees

dengue *noun* MED a tropical disease caused by an arbovirus, transmitted by mosquitoes, where the patient suffers a high fever, pains in the joints, headache and a rash. Also called **breakbone fever**

denitrification *noun* BIOCHEM the releasing of nitrogen from nitrates in the soil by the action of bacteria

denominator *noun* MATHS the number below the line in a simple fraction, which indicates the number of parts making up the whole

dense *adjective* 1. referring to a substance which is closely pressed together 2. PHYS referring to the amount of mass of a substance for a given unit of volume *o* *Air which contains water vapour is less dense than air which does not.* 3. composed of closely associated items *o* *The animals live in dense tropical rainforest.*

dense index *noun* COMPUT a database index containing an address for every item or entry in the database

density *noun* 1. PHYS the quantity of mass per unit of volume *o* *air density* 2. COMPUT the amount of data that can be packed into a space on a disk or tape (NOTE: Scanner software produces various shades of grey by using different densities or arrangements of black and white dots and/or different size dots.) 3. ECOL the number of individuals in a specific area

COMMENT: Density is usually measured in grams per millilitre, or cubic centimetre, a scale on which water has a density of one. On this scale the Earth's average density is 5.52 gm/cc and that of the Moon is 3.34, while the Sun is at 1.41 and a white dwarf star in the region of 100 000 gm/cc.

density altitude *noun* METEOROL pressure altitude corrected for non-ISA temperature

density dependence *noun* ECOL a situation in which an aspect or feature of a population varies with population density

density-dependent *adjective* ECOL referring to a situation where an aspect or feature of a population varies with population density *o* *density-dependent population regulation*

density-independent *adjective* ECOL referring to a situation where an aspect or feature of a population does not vary with population density *o* *density-independent mortality*

density wave theory *noun* ASTRON a theory that the arms of spiral galaxies are caused by compression waves moving in a circular plane about the galaxy's centre through the disc containing most of its mass

dental *adjective* referring to teeth

dental caries *noun* DENT the formation of cavities in teeth due to the action of acid-forming bacteria and improper dental care causing decay

dental formula *noun* DENT a system that identifies the number and type of each kind of tooth in a mammal, normally written in order of incisors, canines, premolars, and molars for the upper and lower jaw on the left or right of the jaw

dentate *adjective* BOT same as **toothed**

dentine *noun* DENT the hard part of a tooth lying underneath the enamel and surrounding the pulp and root canals

denudation *noun* ENVIRON the process of making land or rock bare by cutting down trees or by erosion

denude *verb* ENVIRON to make land or rock bare by cutting down trees and other plants or by erosion *o* *The timber companies have denuded the mountains.*

deoxygenate *verb* CHEM to remove oxygen from water or air

deoxygenation *noun* CHEM the removal of oxygen from water or air

deoxyribonuclease *noun* BIOCHEM an enzyme which breaks down DNA

deoxyribonucleic acid *noun* GENETICS full form of **DNA**

deoxyribonucleotide *noun* GENETICS a nucleotide containing deoxyribose that is a structural component of DNA

deoxyribose *noun* GENETICS a simple sugar with five carbon atoms per molecule that is a structural component of DNA

departmental LAN *noun* COMPUT a small local network used to connect a group of people who are working in the same department or office and allowing the users to share files, printers and other resources

depend *verb* **1.** to be controlled or affected entirely by something ○ *The final colour depends on how long you leave it in the solution.* **2.** to rely on somebody or something ○ *Pilots depend on air traffic controllers to help them conduct a safe flight.*

dependable *adjective* reliable or trustworthy ○ *Mercury barometers have largely been replaced by precision aneroid barometers which are smaller, simpler to use, and more dependable.*

dependent *adjective* affected by or varying with something else ○ *The height indicated by an altimeter is dependent on the pressure which is set on the sub-scale.* ○ *A process which is dependent on the result of another process.* ○ *The output is dependent on the physical state of the link.*

dependent variable *noun* MATHS a condition that may change when an independent variable is manipulated by an experimenter

deplete *verb* ENVIRON to remove a resource from something

depletion *noun* ENVIRON the removal of a resource from something ○ *a study of atmospheric ozone depletion* ○ *Production of ice crystals from methane can deplete ozone still further.*

deploy *verb* **1.** to use something ○ *They needed to deploy more resources to complete the review on time.* **2.** to work as expected ○ *The parachute failed to deploy.*

depolarize *verb* PHYS to reduce or prevent electric polarisation of a cell

depollution *noun* ENVIRON the removal of pollution from a contaminated area

deposit *noun* **1.** GEOL a layer of metal, coal or other substance that occurs in the ground ○ *Deposits of coal have been found in the north of the country.* **2.** GEOL a quantity of material moved from one place on the Earth's surface to another by natural agents such as wind or water ○ *deposits of silt* ○ *glacial deposits* **3.** a thin layer or coating on an inner or outer surface ○

deposits of red dust ○ *fatty deposits in the arteries* **4.** a fee that is added to the price of a product and refunded when the used product is returned for recycling ■ *verb* **1.** to coat a surface with a thin layer of a substance **2.** COMPUT to write data into a register or storage location

deposited matter *noun* GEOL fragments of rock, sand, shells, mud and other material left by the action of rivers, the sea, a glacier or the wind

deposition *noun* **1.** ELEC a process by which a surface of a semiconductor is coated with a thin layer of a substance **2.** the process by which material is added to the surface of the Earth, including material moved from one place to another by natural agents such as wind and water ○ *the deposition of sediment at the bottom of a lake*

depository *noun* INDUST a place where something is stored, e.g. refuse or nuclear waste ○ *They carried out tests to establish the suitability of the rock formation as a waste depository.*

depress *verb* to push down on something such as a button or switch ○ *Switches on the control columns instantly disengage the autopilot when depressed.*

depression *noun* **1.** METEOROL an area of low atmospheric pressure. Also called **low** **2.** a lower area on a surface that is often difficult to see ○ *A depression on the wing surface must be investigated in case it is an indication of more serious structural damage.*

depression of freezing point *noun* PHYS the lowering of the freezing point of a liquid by dissolving a solid in the liquid

depth *noun* the distance from the top surface of something to the bottom ○ *The troposphere's depth is variable in temperate latitudes.*

derelict *adjective* **1.** ENVIRON referring to land which has been damaged and made ugly by mining or other industrial processes, or which has been neglected and is not used for anything ○ *a plan to reclaim derelict inner city sites* **2.** referring to a building which is neglected and in ruins ○ *derelict factories*

dereliction *noun* **1.** ENVIRON a state of being damaged or neglected **2.** a failure to do what you ought to do ○ *dereliction of duty*

derivation graph *noun* COMPUT a structure within a global database that provides information on the rules and paths used to reach any element or item of data

derivative *noun* CHEM a substance or product which is formed from something else

derive *verb* to get or obtain something ○ *Performance data is derived from flight tests.* ○ *Kepler derived the laws which relate to the motion of planets in their orbits.*

dermal *adjective* referring to the skin

dermapteran *noun* INSECTS an insect that has appendages like forceps projecting from its abdomen, e.g. an earwig

dermis *noun* MED the thick sensitive layer of skin beneath the epidermis containing blood and lymph vessels, sweat glands and nerve endings

derris *noun* AGRIC a powdered insecticide extracted from the root of a tropical plant, used against fleas, lice and aphids. ◊ **rotenone**

DES *abbreviation* COMPUT data encryption standard

desalinate *verb* CHEM to remove salt from a substance such as sea water or soil

desalination *noun* CHEM the removal of salt from a substance such as sea water or soil

COMMENT: Desalination may be used to mean removing salt from sea water to make it drinkable. Desalination plants work by distillation, dialysis or by freeze drying. The process is only cost-effective where the supplies of fresh water are very small. Desalination plants work by distillation, dialysis or by freeze drying. The process is very expensive, and is only cost-effective in desert countries where the supply of fresh water is minimal.

desalination plant *noun* INDUST a factory which removes the salt from sea water to produce fresh drinking water

Descartes, René (1596–1650) ASTRON a French scientist and philosopher who developed theories of the origin of the planets. His view that planets are expired stars was proven wrong but his view of an infinite universe capable of logical explanation was original and far-sighted. He also worked on optics, including improved telescope manufacture, and the nature of light.

descend *verb* 1. to go down 2. to become lower 3. (of aircraft) to lose altitude, usually

in a planned manoeuvre. Opposite **climb**, **ascend**

descender *noun* PRINTING a part of a printed letter that is below the line

descending aorta *noun* ANAT the second section of the aorta as it turns downwards

descent *noun* 1. the act of moving down to a lower place 2. a planned loss of altitude in an aircraft ○ *The descent from cruise altitude took 40 minutes.*

de-scramble *verb* COMPUT to reassemble an original message or signal from its scrambled form

describe *verb* 1. to give the particular features of something 2. MATHS to draw or to make a geometric figure ○ *The definition of a year is the time taken for a planet to describe one orbit around the sun.* ○ *Its movement described an arc.*

description *noun* 1. a statement of the particular features of something ○ *a detailed description of world climate* 2. MATHS the act of drawing or making a geometric figure

description list *noun* COMPUT a list of data items and their attributes

descriptor *noun* COMPUT a code used to identify a filename, or a program name or pass code with a file

desert *noun* EARTH SCI an area of land with very little rainfall, arid soil and little or no vegetation

COMMENT: A desert will be formed in areas where rainfall is less than 25 cm per annum whether the region is hot or cold. About 30% of all the land surface of the Earth is desert or in the process of becoming desert. The spread of desert conditions in arid and semi-arid regions is caused not only by climatic conditions, but also by human pressures. So overgrazing of pasture and the clearing of forest for fuel and for cultivation both lead to the loss of organic material, a reduction in rainfall by evaporation and soil erosion.

desert formation *noun* ENVIRON same as **desertification**

desertification *noun* ENVIRON the process by which an area of land becomes a desert because of a change of climate or because of the action of humans, e.g. through intensive farming ○ *Changes in the amount of sunlight reflected by different vegetation may contribute to desertification.* ○ *Increased tilling of the soil, together with long periods of drought, have brought about the desertification of the area.*

desertify *verb* ENVIRON to make land into a desert ○ *It is predicted that half the country will be desertified by the end of the century.*

desert soil *noun* EARTH SCI the typical soil of a desert, normally sandy with little organic matter

desiccant *noun* 1. CHEM a substance which dries something 2. AGRIC a type of herbicide which makes leaves wither and die

desiccate *verb* 1. FOOD INDUST to preserve food by removing moisture from it 2. EARTH SCI to dry out

desiccation *noun* 1. the act or process of removing water 2. EARTH SCI the act of drying out the soil ○ *The greenhouse effect may lead to climatic changes such as the desiccation of large areas.* □ **desiccation damage** EARTH SCI harm done by the drying out of the soil

design *noun* 1. COMPUT the planning or drawing of something before it is constructed or manufactured ○ *product design and development* ○ *a creative garden design* ○ *She works in design.* 2. a plan or drawing of a product before it is built or manufactured ○ *He showed them several designs to choose from.* ■ *verb* COMPUT to plan or draw something before it is built or manufactured ○ *He designed a new chip factory.* ○ *She designs typefaces.*

designate *verb* to name something officially or appoint someone to a position officially ○ *The city centre has been designated a traffic-free zone.*

designator *noun* a group of letters and/or numbers which identify something

designer *noun* a person who has the idea for, and makes plans to produce something ○ *She is the designer of the new computer.*

designer gene *noun* GENETICS a gene popularly considered as capable of being introduced into an organism to control the presence or absence of a desired characteristic (*informal*)

desirable *adjective* having qualities that are attractive or wanted ○ *This variety has the desirable characteristics of high yield and disease resistance.*

desk study *noun* an investigation of relevant available facts and figures, often before starting practical study of a problem

desktop *noun* COMPUT a workspace on a computer screen that is a graphical representation of a desktop, with icons for items

such as a telephone, diary, calculator, and filing cabinet

desktop publishing *noun* COMPUT the design, layout and printing of documents using special software, a small computer and a printer. Abbr **DTP**

despool *verb* COMPUT to print out spooled files

despotic network *noun* COMPUT a network synchronised and controlled by one single clock

destination address *noun* COMPUT the address of the node to which data is being transferred or sent

destination object *noun* COMPUT the object or icon onto which a computer user drops an object

destroy *verb* to damage something so severely that it cannot recover ○ *At this rate, all virgin rainforests will have been destroyed by the year 2020.* ○ *The building of the motorway will destroy several areas of scientific importance.*

destruction *noun* the act of severely damaging something ○ *The destruction of the habitat has led to the almost complete extinction of the species.*

destructive *adjective* causing severe damage ○ *the destructive power of a nuclear reaction*

destructive addition *noun* COMPUT an addition operation in which the result is stored in the location of one of the operands used in the sum, so overwriting it

destructive cursor *noun* COMPUT a cursor that erases the text as it moves over it ○ *Reading the screen becomes difficult without a destructive cursor.*

destructive distillation *noun* CHEM the heating of solid substances in the absence of air causing decomposition and obtaining useful products from the vapour and residues

destructive read *noun* COMPUT a read operation in which the stored data is erased as it is retrieved

destructive readout *noun* a display device that erases previous characters when displaying new ones

desulfurisation, desulphurisation *noun* CHEM the process of removing sulfur from a substance such as oil, iron ore or coal

detach *verb* 1. to unfix and remove something ○ *They detached a fuselage panel*

which needed replacing. **2.** to become unfixed ○ *The fuselage panel detached.*

detachable *adjective* referring to something which can be unfixed and removed

detail *noun* a small part of a description □ **in detail** giving many facts ○ *The catalogue lists all the products in detail.* ■ **verb** to list all the items or aspects possible ○ *The catalogue details the shipping arrangements for customers.* ○ *The terms of the licence are detailed in the contract.*

detail file *noun* COMPUT a file containing records that are to be used to update a master file

detail paper *noun* ENG thin transparent paper used for layouts and tracing

detect *verb* **1.** to notice something that is not obvious ○ *The equipment can detect faint signals from the transducer.* ○ *She detected a slight smell of gas.* **2.** to discover the existence of something using scientific methods and equipment ○ *The equipment can detect very faint signals.*

detectable *adjective* which can be detected ○ *The increase in the amount of carbon dioxide, together with trace gases such as methane and nitrogen oxide, is likely to cause a detectable global warming.*

detected error *noun* COMPUT an error noticed during a program run, but not corrected

detection *noun* the discovery of the presence of something

detector *noun* a device for discovering the existence of something

detergent *noun* INDUST a cleaning substance which removes grease and bacteria from the surface of something (NOTE: The first detergents contained alkyl benzenesulfonate which does not degrade on contact with bacteria and so passed into sewage, creating large amounts of foam in sewers and rivers.)

detergent foam *noun* ENVIRON a large mass of froth on the surface of rivers, canals and sewers, caused by detergent in effluent

deteriorate *verb* to become worse ○ *The quality of the water in the river has deteriorated since the construction of factories on its banks.* ○ *The electrolyte in the cells of a nickel-cadmium battery does not chemically react with the plates and so the plates do not deteriorate.*

deterioration *noun* the process of becoming worse ○ *The rapid deterioration of the peri-urban environment gives cause for concern.*

determination *noun* the process of finding something out by calculation or experiment ○ *determination of the maximum safe dose*

determine *verb* **1.** to discover something by observation, calculation or experiment ○ *To determine the average age, divide the total number of years by the number of people.* **2.** to set or fix something precisely ○ *Have they determined the cause of death?* ○ *The experimental procedures have not yet been determined.* **3.** to control or have an effect on something ○ *These characteristics are genetically determined.* ○ *Health is significantly determined by diet.*

deterministic *adjective* COMPUT referring to a result of a process that depends on the initial state and inputs

detinning *noun* CHEM the removal of a coating of tin from something

detonation *noun* **1.** CHEM the extremely rapid combustion that occurs as part of an explosion **2.** AUTOMOT a sudden, explosive burning of the air/fuel mixture in the cylinders of a piston engine, possibly causing engine damage and resulting in engine failure ○ *Prior to the accident, engine detonation could be heard by people on the ground.*

detoxication, detoxification *noun* ENVIRON the removal of harmful or poisonous substances

detoxify *verb* ENVIRON to remove harmful or poisonous substances from something

detrimental *adjective* harmful ○ *Conservation groups have criticised the introduction of red deer, a species which is highly detrimental to local flora.*

detrital *adjective* **1.** BIOL formed from detritus **2.** EARTH SCI referring to a crystal which has been uncovered from weathered rock

detrital food chain *noun* BIOL the link between green plants and the decomposer organisms which feed on them

detritivore *noun* BIOL an organism which feeds on dead organic matter and breaks it down into simple chemicals, e.g. a fungus or bacterium. Also called **detrivore, scavenger**

detritivorous *adjective* BIOL referring to an organism which feeds on dead organic matter and breaks it down into simple chemicals

detritus *noun* BIOL, INDUST waste matter which may be either organic or mineral

detrivore /dɪ'traɪtɪvɔː/ *noun* ECOL same as **detritivore**

deuterated compound *noun* CHEM a substance in which the hydrogen has been replaced by deuterium

deuterium *noun* CHEM an isotope of hydrogen with a neutron as well as a proton in its nucleus. Symbol **D** (NOTE: It was discovered by Harold Urey (1893–1981) and is of importance to both nuclear technology and astrophysics.)

deuterium oxide *noun* CHEM water containing deuterium instead of the hydrogen atom, used as a coolant or moderator in some types of nuclear reactor. Formula: D₂O.

deuteron *noun* CHEM the nucleus of a deuterium atom, consisting of a neutron and a proton

develop *verb* **1.** to come into being, or cause something to come into being ○ *Icing may develop in any type of carburetor in relatively warm air temperatures.* ○ *Vertical motion and therefore turbulence suggest that thunderstorms may develop.* **2.** to grow and change ○ *During the day, light breezes may develop into strong winds.* ○ *The plants develop quickly in the right conditions.* **3.** to plan and produce something ○ *The company is trying to develop a new pesticide to deal with the problem.*

developer *noun* ENVIRON a person or company that plans and builds structures such as roads, airports, houses, factories or office buildings ○ *The land has been acquired by developers for an industrial park.*

development *noun* **1.** growth and change ○ *To study weather and its development, the meteorologist has to be aware of the horizontal changes in atmospheric pressure both in space and time.* **2.** something new, made as an improvement on something older ○ *Satellite navigation aids are a useful development.* **3.** an area which has buildings on it

development software *noun* COMPUT a set of programs that help a programmer

write, edit, compile and debug new software

deviate *verb* **1.** to be different from the usual or expected pattern or to do something that is different from the usual or expected pattern **2.** to move away from the normal position or path ○ *If the aircraft deviates beyond the normal ILS glide slope, the flight crew are alerted.*

deviation *noun* **1.** a difference from what is usual or expected **2.** the act of moving away from the usual position or path ○ *On final approach, any deviation from the extended centreline of the runway should be corrected immediately.* **3.** AEROSP a magnetic compass error caused by magnetic influences in the structure and equipment of the aircraft in which it is formed ○ *Deviation is not a constant value but varies from one aircraft to another.* **4.** STATS the difference between one value in a series and the average of all the values

device *noun* a machine or piece of equipment ○ *a device for controlling humidity* ○ *a labour-saving device*

device address *noun* COMPUT the location within the memory area that is used by a particular device (NOTE: The CPU can control the device by placing instructions at this address.)

device code *noun* COMPUT a unique identification and selection code for a peripheral

device dependent *noun* COMPUT a software program that will only work on a specific type of computer or with a specific type of device

device driver *noun* COMPUT a program or routine used to interface and manage an input/output device or peripheral

device-independent *adjective* COMPUT referring to a programming technique that results in a program that is able to run with any peripheral hardware

device name *noun* COMPUT an abbreviation that denotes a port or input/output device, e.g. COM for serial port, PRN for printer port and CON for keyboard and monitor

device priority *noun* COMPUT the importance of a peripheral device assigned by the user or central computer which dictates the order in which the central processing unit will serve an interrupt signal from it ○ *The master console has a higher device*

priority than the printers and other terminals.

device queue *noun* COMPUT a list of requests from users or programs to use a device

device status word *noun* COMPUT a data word transmitted from the device that contains information about its current status ○ *This routine checks the device status word and will not transmit data if the busy bit is set.* Abbr **DSW**

dew *noun* METEOROL drops of condensed moisture left on surfaces overnight in cool places

Dewar flask *noun* CHEM a double-walled flask with a vacuum between the walls to give thermal insulation, generally made of silvered glass or metal (NOTE: It is frequently used to store liquefied gases.)

dewater *verb* ENVIRON to remove or reduce the water content of something such as sludge

dew point *noun* METEOROL the temperature at which air is saturated with water vapour and condensation begins

COMMENT: Weather reports may include the air temperature and dew point temperature. When the difference between temperature and dew point is small, there is a strong possibility of fog, clouds or precipitation.

dew pond *noun* EARTH SCI a small pond of rainwater which forms on high ground in chalky soil

dextrorotatory *adjective* CHEM deviating the plane of polarisation of oncoming light to the right or in a clockwise direction. ◊ **laevorotatory**

dextrose *noun* **1.** BIOCHEM the most common form of glucose (NOTE: It occurs widely in nature, especially in many fruits, and in honey.) **2.** a simple sugar found in fruit and also extracted from corn starch

DFD *noun* COMPUT a diagram used to describe the movement of data through a system. Full form **data flow diagram**

DHA *noun* BIOCHEM a polyunsaturated essential fatty acid found in cold-water fish and some algae that has been linked to the reduction of cardiovascular disease and other health benefits

DHCP *noun* COMPUT TCP/IP a protocol that is used to assign an Internet address to nodes, workstations or servers in a network. Full form **dynamic host configuration protocol** (NOTE: A special server running DHCP software manages the

process of assigning addresses and a client computer can then ask this server for the address of another node on the network.)

Dhrystone benchmark *noun* COMPUT a benchmarking system developed to measure and compare the performance of computers

DIA *abbreviation* COMPUT document interchange architecture

diagnose *verb* **1.** MED to identify a disease from symptoms **2.** COMPUT to find the cause and effect of a fault in hardware or an error in software **3.** SCI to use scientific methods to discover the cause of a problem or fault

diagnosis *noun* **1.** MED the identification of a disease or problem **2.** COMPUT the discovery of a fault or the cause of a fault **3.** COMPUT the result of diagnosing faulty hardware or software

diagnostics *noun* SCI the use of scientific methods to discover the cause of a problem, fault or medical condition

diagonal *adjective* **1.** referring to a line that joins two opposite corners of a rectangle **2.** referring to a line, plane or structure that slopes halfway between the vertical and horizontal ○ *a diagonal strut* ■ *noun* **1.** a line joining two opposite corners of a rectangle **2.** a line sloping halfway between the vertical and horizontal

diagram *noun* an often simplified drawing showing the structure or workings of something ○ *The diagram shows a simple open-circuit system.*

diagrammatic *adjective* referring to something which is shown as a drawing of a system or structure □ **in diagrammatic form** in the form of a diagram ○ *The chart showed the sales pattern in diagrammatic form.*

diagrammatic format *noun* a representation of something as a diagram

diakinesis *noun* GENETICS the final stage of meiosis, during which the paired chromosomes begin to shorten, thicken and separate

dial *noun* the face of an instrument showing a scale ○ *A cup anemometer is connected to an instrument with a dial showing wind speed in knots.* ■ *verb* TELECOM to call a telephone number on a telephone or modem (NOTE: British English is **dialling** – **dialled**, but the US spelling is **dialing** – **dialed**.)

dialect *noun* COMPUT a slight variation of a standard language ○ *This manufacturer's dialect of BASIC is a little different to the one I'm used to.*

dial modifier *noun* COMPUT a set of extra commands sent to a modem that instructs the modem to use a particular system when dialling a telephone number (NOTE: For example, the command 'ATDT123' tells the modem to use tone-dialling to dial the number '123'.)

dialog box *noun* COMPUT an on-screen message from a program to the user

dialup *noun* COMPUT an online information service that is accessed by dialling into the central computer. Also called **dial-up service**

dial-up access *noun* COMPUT a means of connection to the Internet that is not permanent and uses a modem or ISDN adapter to dial a telephone access number

dial-up service *noun* COMPUT same as **dialup**

dialysing membrane *noun* CHEM a membrane used in dialysis

dialysis *noun* 1. CHEM the use of a semi-permeable membrane as a filter to separate soluble waste substances from a liquid 2. MED the process of filtering waste products from the blood of a patient with kidney malfunction

COMMENT: In dialysis, larger dispersed particles are not allowed through the membrane but small dissolved particles will pass through.

diamagnetism *noun* PHYS a tendency of some materials to be repelled by a magnetic field and align themselves at right angles to it

diameter *noun* MEASURE the distance across the widest part of a circle or a tube (NOTE: The diameter passes through the centre.) □ **less than 0.5mm in diameter** measuring less than 0.5 mm across the widest part

diamond *noun* MINERALS a very hard transparent crystalline form of carbon, used as a gemstone, in abrasives and in cutting tools

diapause *noun* ZOO a period of reduced metabolic rate in some animals or insects during which growth and development are temporarily suspended, often linked to seasonal or environmental changes

diaphragm *noun* 1. a thin sheet of material used to separate parts or chambers ○

Some switches are operated by a diaphragm which flexes under fluid or air pressure. 2. ELEC a thin flexible sheet which vibrates in response to sound waves to create an electrical signal as in a microphone, or in response to electrical signals to create sound waves as in a speaker 3. ANAT a thin layer of tissue stretched across an opening, especially the flexible sheet of muscle and fibre which separates the chest from the abdomen, and moves to pull air into the lungs in respiration

diaspore *noun* MINERALS a white, grey, or pink form of aluminium oxide used in abrasives and heat-resistant materials (NOTE: It is extracted from bauxite.)

diastase *noun* BIOCHEM the beta-amylase component of malt

diastema *noun* DENT an unusually large gap between two adjacent teeth

diastole *noun* PHYSIOL the rhythmic expansion of the chambers of the heart at each heartbeat, allowing them to fill with blood. ◇ **systole**

diatom *noun* MARINE BIOL a type of single-celled alga found in fresh and sea water that has a cell wall containing silica which forms two overlapping halves

COMMENT: Most of the producers in sea water food chains are diatoms. Bodies of diatoms have contributed to the formation of oil reserves.

diatomaceous earth *noun* GEOL a mineral deposit formed from the bodies of diatoms, used in filters and in the manufacture of polishes. Also called **kieselguhr**. Abbr **DE**

diatomic *adjective* CHEM containing two atoms per molecule

diatomist *noun* MARINE BIOL a scientist who studies diatoms

diatom ooze *noun* GEOL a deposit formed from the fossil remains of diatoms

diazine *noun* CHEM an organic compound containing a ring of four carbon and two nitrogen atoms per molecule, which exists in three isomers

diazo compound *noun* CHEM an organic compound that has a basic structure of two nitrogen atoms, one attached to a carbon atom (NOTE: Diazo compounds form the basis of many drugs.)

diazotisation, diazotization *noun* CHEM the production of a diazo compound from an amine by the action of nitrous acid

DIB *abbreviation* COMPUT data input bus

dibasic *adjective* CHEM referring to an acid with two replaceable hydrogen atoms

dibit *noun* COMPUT a digit made up of two binary bits

dicarboxylic acid *noun* CHEM an acid containing two carboxyl groups

dichlorine oxide *noun* CHEM a dark yellow gas which can be dissolved in water to form hypochlorous acid, and explodes when heated. Formula: Cl₂O.

dichlorodiphenyltrichloroethane *noun* AGRIC full form of **DDT**

dichotomizing search *noun* COMPUT a fast search method for use on ordered lists of data (NOTE: The key word is compared with the data in the middle of the list and one half is discarded, this process being repeated until only one data item remains.)

dichotomous *adjective* BOT, ASTRON divided into two

dichotomous branching *noun* BOT a pattern of plant growth that develops when a growing point forks into two points that later divide into two

dichroic *adjective* OPTICS referring to a chemical coating on the surface of a lens that selectively reflects different colours of light

dichroic filter *noun* OPTICS a filter that allows specific wavelengths of light to pass and reflects back those which are not transmitted

dichroic head *noun* OPTICS a coloured light source that is based on adjustable dichroic filters (NOTE: They are generally used with rostrum cameras and enlargers.)

dichromate *noun* CHEM a salt containing the Cr₂O₇²⁻ ion, which is generally orange-red in colour

dicot *noun* BOT same as **dicotyledon**. Compare **monocot** (*informal*)

dicotyledenous *adjective* BOT referring to dicotyledons

dicotyledon *noun* BOT a plant with seeds that have a cotyledon with two parts ○ *Dicotyledons form the largest group of plants.* Compare **monocotyledon**

dictionary *noun* **1.** a book which lists words and meanings **2.** COMPUT a data management structure which allows files to be referenced and sorted **3.** COMPUT a list of words against which a spellchecking program checks a text

die *verb* BIOL to stop living ○ *The fish in the lake died, poisoned by chemical discharge from the factory.* ○ *Scientists are trying to find out what is making the trees die.* ○ *Several people died after eating the contaminated shellfish.*

die back *verb* BIOL (*of plants*) to be affected by the death of a branch or shoot ○ *Roses may die back after pruning in frosty weather.*

dieback *noun* BOT **1.** a fungal disease of some plants which kills shoots or branches **2.** a gradual dying of trees starting at the ends of branches ○ *Half the trees in the forest are showing signs of dieback.*

COMMENT: There are many theories explaining the environmental cause of dieback. Sulphur dioxide, nitrogen oxides and ozone have all been suggested as causes, as well as acidification of the soil or acid rain on leaves.

die down *verb* to become less strong ○ *The strong winds eventually died down.* ○ *The food safety controversy shows no sign of dying down.*

diel *adjective* TIME referring to a period of 24 hours ○ *The diel cycle was due to the interaction of damage and repair processes.*

dieldrin *noun* AGRIC an organochlorine insecticide which kills on contact (NOTE: It is very persistent and can kill fish, birds and small mammals when it enters the food chain. It is banned in the European Union.)

dielectric *adjective* unable to conduct direct electric current ■ *noun* ELEC a dielectric substance or non-conductor of electricity

dielectric constant *noun* PHYS same as **relative permittivity**

diesel *noun* INDUST same as **diesel oil**

diesel engine *noun* ENG an engine in which air is compressed in a cylinder causing a rise in temperature before the introduction of oil which ignites on contact with the hot air

COMMENT: In a diesel engine, a quantity of oil is pumped to each cylinder in turn. Diesel-engined cars are usually more economical to run, but cause more pollution, especially particulates, than petrol-engined cars.

diesel-engined *adjective* ENG using a diesel engine to provide power. Also called **diesel-powered**

diesel oil, diesel fuel *noun* INDUST oil used as fuel in a diesel engine. Also called **diesel**

diesel-powered *adjective* ENG same as **diesel-engined**

diet *noun* 1. BIOL the amount and type of food eaten \square **to live on a diet of** to eat \circ *It lives on a diet of insects and roots.* 2. HEALTH a measured amount of food eaten to maintain, gain or lose weight \square **to be or go on a diet** MED Same as **diet** ■ *verb* HEALTH to reduce the quantity or change the type of food eaten in order to maintain a sensible weight and become healthier

dietary *adjective* BIOL, HEALTH referring to diet

dietary fibre *noun* BIOL same as **roughage**

COMMENT: Dietary fibre is found in cereals, nuts, fruit and some green vegetables. It is believed to be necessary to help digestion and to avoid developing constipation, obesity and appendicitis.

dietary reference values *plural noun* HEALTH the nutrients that are essential for health, published as a list by the UK government

dietetic *adjective* BIOL, HEALTH referring to diet

dietetics *noun* BIOL, HEALTH the study of food, nutrition and health, especially when applied to food intake

dietitian *noun* HEALTH a specialist in dietetics

DIF *abbreviation* COMPUT data interchange format

differ *verb* to be unlike \circ *The two products differ considerably – one has an external hard disk, the other has internal hard disk and external magnetic tape drive.*

difference *noun* 1. the way in which two things are not the same \circ *Describe the major differences between plants and animals.* 2. MATHS the amount by which one number is bigger than another number \circ *The difference between 19 and 24 is five.*

different *adjective* not the same \circ *Living in the country is very different from living in town.* \circ *The landscape looks quite different since the mine was opened.*

differential *adjective* referring to things which react differently when measured against a norm or standard

differential calculus *noun* MATHS the application of calculus to the determina-

tion of maximum and minimum points and rates of change

differential equation *noun* MATHS a mathematical equation relating functions to their derivatives

differential expansion switch *noun* ENG a switch which operates on the principle that the coefficients of expansion of dissimilar metals are different

differential heating *noun* METEOROL differences in the amount of heat received when different surfaces are heated by the Sun (NOTE: White surfaces such as snow heat less than dark ones such as soil.) \square **differential heating of the atmosphere** the heating of the atmosphere to varying temperatures depending on the relative warmth of the land at the equator and the poles

differential pulse coded modulation *noun* COMPUT a method of encoding an analog signal into a digital form in which the value recorded is equal to the difference between the current and previous samples. Abbr **DPCM**

differential reproduction *noun* BIOL the ability to produce more offspring with the same adaptations as the parents, allowing the species to survive under changed environmental conditions

differentiate *verb* to recognise the difference between two or more things or to show two or more things to be different \circ *found it hard to differentiate different shades of green*

differentiation *noun* BIOL the developmental process from unspecified cells into complex tissues, organs or body parts

diffraction *noun* PHYS the breaking down of a beam of radiation \circ *Diffraction produces a surface wave which follows the curvature of the earth.* (NOTE: The longer the wave, the greater the diffraction produced.)

COMMENT: The different rates of diffraction of light of different wavelengths is the principle behind the diffraction grating.

diffraction grating *noun* OPTICS a glass plate or metal mirror engraved with a large number of parallel lines or grooves, which produces a spectrum when light passes through it

COMMENT: The diffraction grating has replaced the glass prism for most spectrum-gathering. A diffraction grating consists of an array of fine lines ruled parallel to each other on a flat surface which can either reflect or transmit the light falling

on it, to give a transmission or reflection grating. The diffraction of light around the edges of the lines on the grating produces the spectrum.

diffuse *adjective* **1.** spread out in every direction ○ *Glare caused by diffuse reflection of sunlight from the top of a layer of fog or haze can seriously reduce air-to-ground visibility.* **2.** widespread in effect and without a single identifiable source ○ *diffuse pollution* ◇ **non-point source** ■ *verb* **1.** to spread out in every direction ○ *Light diffuses as it passes through fog.* **2.** to spread through tissue or other matter ○ *Some substances easily diffuse through the walls of capillaries.*

diffuse water pollution *noun* water pollution which is caused by several small sources such as runoff from farms

diffusion *noun* **1.** the process of spreading out ○ *Gas from the turbine enters the exhaust system at high velocities but, because of high friction losses, the speed of flow is decreased by diffusion.* **2.** CHEM a means of transferring doping materials into an integrated circuit substrate **3.** PHYS the spreading of gas or light **4.** CHEM the mixing of a liquid with another liquid, or of a gas with another gas **5.** CHEM the passing of a liquid or gas through a membrane

diffusion pump *noun* PHYS a vacuum pump that achieves low pressures by condensing gas molecules carried in diffused vapour on its cool surfaces. Also called **condensation pump**

digest *verb* **1.** PHYSIOL to break down food and convert it into elements which can be absorbed by the body **2.** ENVIRON to use bacteria to process waste, especially organic waste such as manure, in order to produce biogas ○ *55% of UK sewage sludge is digested.* ○ *Wastes from food processing plants can be anaerobically digested.*

digester *noun* INDUST a device that produces gas such as methane from refuse

digester gas *noun* INDUST gas such as methane produced by a digester

digestibility *noun* the proportion of food which is digested and is therefore of value to the animal which eats it

digestibility coefficient *noun* the proportion of food digested and not excreted, shown as a percentage of the total food eaten

digestible *adjective* PHYSIOL able to be digested ○ *Glucose is an easily digestible form of sugar.*

digestible organic matter *noun* INDUST an organic substance which can be processed to produce biogas, e.g. manure. Abbr **DOM**

digestion *noun* **1.** PHYSIOL the process by which food is broken down and converted into elements which can be absorbed by the body **2.** BIOCHEM the conversion of organic matter into simpler chemical compounds, as in the production of biogas from manure. ◇ **bacterial digestion**

digestive *adjective* PHYSIOL referring to digestion

digestive enzyme *noun* BIOCHEM an enzyme which speeds up the process of digestion

digestive system *noun* ANAT the set of organs in the body associated with the digestion of food

digestive tract *noun* ANAT same as **alimentary canal**

digit *noun* **1.** MATHS a symbol or character which represents an integer that is smaller than the radix of the number base used ○ *a phone number with eight digits or an eight-digit phone number* ○ *the decimal digit 8* ○ *The decimal number system uses the digits 0123456789.* **2.** ZOO a finger or toe, or a similar body part

digital *adjective* MATHS, COMPUT representing data or physical quantities in numerical form, especially using a binary system in computer-related devices

digital audio tape *noun* COMPUT a compact cassette, smaller than an audio cassette, that provides a system of recording sound as digital information onto magnetic tape with very high-quality reproduction. Abbr **DAT** (NOTE: It is also used as a high-capacity tape backup system that can store 1.33Gb of data.)

digital circuit *noun* COMPUT an electronic circuit that operates on digital information providing logical functions or switching

digital computer *noun* COMPUT a computer which processes data in digital form

digital data *noun* COMPUT data represented in numerical form, usually binary

digital display *noun* COMPUT a video display that can only show a fixed number of colours or shades of grey

digital logic *noun* COMPUT the application of Boolean algebra to hardware circuits

digital read-out *noun* COMPUT data displayed in numerical form, e.g. a display of numbers on an LCD in a calculator

digital resolution *noun* COMPUT the smallest number that can be represented with one digit, the value assigned to the least significant bit of a word or number

digital signal *noun* ELEC an electric signal that has only a number of possible states, as opposed to an analog signal which is continuously variable

digital signalling *noun* ELEC ENG control and dialling codes sent down a telephone line in digital form

digital signal processing *noun* ELEC ENG a special integrated circuit used to manipulate digital signals. Abbr **DSP**

digital signature *noun* COMPUT a unique identification code sent by a terminal or device in digital form

digital subscriber line *noun* TELECOM a system of transmitting data at high speed over standard telephone wire. Abbr **DSL** (NOTE: One of the most popular DSLs is the asymmetric digital subscriber line scheme that provides a permanent, high-speed connection to the Internet over standard telephone lines.)

digital switching *noun* ELEC ENG the operation of communications connections and switches by digital signals

digital to analog converter *noun* ELEC ENG a circuit that outputs an analog signal that is proportional to the input digital number, and so converts a digital input to an analog form. Abbr **DAC**

digital versatile disc, digital video-disc *noun* COMPUT full form of **DVD**

digital video interactive *noun* COMPUT a system that defines how video and audio signals should be compressed and displayed on a computer. Abbr **DV-I**

digitate *adjective* **1.** ZOOL having fingers or toes, or body parts like fingers or toes **2.** BOT same as **palmate**

digitise, digitize *verb* ELEC ENG to change analog movement or signals into a digital form which can be processed, e.g. by computers ○ *We can digitise your signature to allow it to be printed with any laser printer.*

digitiser, digitizer *noun* ELEC ENG an analog to digital device which converts an

analog signal to a digital one which can be understood by a computer

digit place, digit position *noun* MATHS the position of a digit within a number

dihybrid *noun* GENETICS an organism that is heterozygous for two genes, each gene being represented by two variant forms (**alleles**)

dihydrate *noun* CHEM a chemical that contains two molecules of water of crystallisation

DIL *noun* ELEC a standard layout for integrated circuit packages using two parallel rows of connecting pins along each side. Full form **dual-in-line package**

dilatation *noun* MED same as **dilation**

dilate *verb* to increase in volume

dilation *noun* **1.** an increase in volume **2.** MED the process of widening, enlarging or stretching a hollow organ or body passage

diluent *noun* CHEM a substance which is used to dilute a liquid

dilute CHEM *verb* to add water or solvent to a liquid to make it weaker. Opposite **concentrate** ■ *adjective* with water or solvent added

dilute and disperse *noun* ENVIRON a method of using landfill sites in which the waste is allowed to leak gradually into the surrounding soil

diluted *adjective* CHEM referring to a decreased strength or concentration of a liquid as a result of adding another liquid ○ *Spillage from a lead acid battery may be neutralised by washing with a diluted solution of sodium bicarbonate.*

diluter *noun* CHEM a device for decreasing the strength or concentration of a liquid or gas

dilution *noun* **1.** CHEM the action of diluting a liquid **2.** a liquid which has been diluted

DIM *abbreviation* COMPUT document image management

dimension *noun* **1.** a measurable distance such as height or length ○ *Variations of atmospheric pressure produce changes in the dimensions of the capsule chamber.* **2.** MATHS the power to which something is raised

dimensional analysis *noun* PHYS the use of knowledge about the physical dimensions of a system to infer information that is too complex to calculate

dimensioning *noun* COMPUT a definition of the size of something such as an array or matrix ○ *Array dimensioning occurs at this line.*

dimer *noun* CHEM a molecule made up of two simpler identical molecules or monomers

dimethyl sulfide, dimethyl sulphide *noun* CHEM a gas given off by water which is rich in sewage pollution

diminish *verb* to decrease or to reduce something ○ *Friction is greatest near the ground and diminishes with height.* ○ *Hammering diminishes the metal rod's strength.*

diminished *adjective* reduced ○ *At higher altitudes, ground objects are less easily seen because of diminished size.*

diminished radix complement *noun* MATHS a number representation in which each digit of the number is subtracted from one less than the radix

DIMM *abbreviation* COMPUT dual in-line memory module ○ *DIMM cards are used to expand the memory in high-performance computers.*

dimorphism *noun* BIOL the existence of two different forms within a species, as in sexual dimorphism in which there are distinct males and females or in the occurrence of sexual and asexual forms in some lower plants

DIN *noun* ELEC a German industry standards organisation; often referred to in the specification for plugs and sockets. Full form **Deutsche Industrienorm**

dinitrogen oxide *noun* CHEM same as nitrous oxide

dinosaur *noun* PALAEONT an extinct carnivorous or herbivorous reptile that lived in the Mesozoic Era. Order: Ornithischia and Saurischia.

diode *noun* ELECTRONICS an electronic component that allows an electrical current to pass in one direction and not the other

dioecious *adjective* BOT referring to a plant species in which male and female flowers occur on different individuals. ♀ **monoecious**

diol *noun* CHEM an alcohol containing two hydroxyl groups in each molecule

dioptr *noun* OPTICS US spelling of dioptr

dioptr *noun* OPTICS a unit of measurement of refraction of a lens. US spelling **dioptr**

COMMENT: A one dioptr lens has a focal length of one metre; the greater the dioptr, the shorter the focal length.

dioxide *noun* CHEM an oxide containing two atoms of oxygen

dioxin *noun* CHEM an extremely poisonous gas. It is formed as a product of waste incineration and some other combustion processes and is also a by-product of the manufacture of the herbicide 2,4,5-T. (NOTE: It is the gas that escaped in the disaster at Seveso in 1976.)

dip *noun* GEOG the angle between a magnetic needle and the horizontal plane

DIP¹ *noun* ELECTRONICS a standard layout for an integrated circuit package using two parallel rows of connecting pins along each side. Full form **dual-in-line package**

DIP² *abbreviation* document image processing

dipl-, diplo- *prefix* BIOL double

diploblastic *adjective* ZOOL referring to an invertebrate animal in which the body is made up of two cellular layers only, derived from the embryonic endoderm and ectoderm. Cnidarians are diploblastic.

diploid *adjective* GENETICS referring to an organism that has two matched sets of chromosomes in a cell nucleus, one set from each parent (NOTE: Each species has a characteristic diploid number of chromosomes.)

diploint *noun* GENETICS an organism whose cell nuclei have a diploid number of chromosomes, apart from in reproductive cells

diplotene *noun* GENETICS a stage in the first part of meiosis in which paired chromosomes start to move apart from each another but remain connected at points (**chiasmata**) (NOTE: At these connecting points, genetic information is exchanged.)

dipole *noun* PHYS two equal and opposite magnetic poles or electrical charges that are only a short distance apart

dipole moment *noun* PHYS the product of two equal and opposite magnetic poles or electric charges that are a short distance apart

DIP switch *noun* ELEC a small bank of switches that are used to configure a device. Full form **dual-inline-package switch**

dipterous *adjective* referring to an insect such as a fly with two wings

direct *verb* to manage or organise something ■ *adjective* COMPUT straight or with no processing or going in a straight way ■ *adverb* COMPUT straight or with no third party involved ■ *noun* COMPUT a binary code which directly operates the central processing unit, using only absolute addresses and values (NOTE: This is the final form of a program after a compiler or assembler pass.)

direct access *noun* COMPUT storage and retrieval of data without the need to read other data first

direct access storage device *noun* COMPUT a storage medium whose memory locations can be directly read or written to. Abbr **DASD**

direct addressing *noun* COMPUT a method of addressing where the storage location address given in the instruction is the location to be used

direct current *noun* ELEC an electric current of constant value that flows in one direction. Abbr **DC**

direct data entry *noun* COMPUT the process of keying in data directly onto a magnetic disk or tape. Abbr **DDE**

direct digital control *noun* COMPUT a machine operated automatically by computer. Abbr **DDC**

direct dye *noun* CHEM a dye that can be applied directly to a fabric without needing an additional chemical (**mordant**) to fix the colour

direction *noun* the course taken by someone or something ○ *The Earth rotates about its own axis in an anticlockwise direction.*

directive *noun* COMPUT a programming instruction used to control something such as a language translator or compiler ■ *adjective* ELEC referring to the ability of a device to send or receive signals in straight lines ○ *The antenna is highly directive in transmission and reception.*

direct memory access *noun* COMPUT a direct, rapid link between a peripheral and a computer's main memory which avoids the use of accessing routines for each item of data required ○ *direct memory access transfer between the main memory and the second processor* Abbr **DMA**

directory *noun* COMPUT a unit of organisation of files stored on a disk, containing a group of files or further sub-directories

directory services *noun* COMPUT all the users and resources linked to a network recorded in a simple and easy-to-access way so that a user can locate another user by name rather than by a complex network address ○ *With directory services installed, it's much easier for our users to find and connect to the shared printers.*

directory website *noun* COMPUT a website that contains a list of other websites, normally organised into sections and often with a search feature

direct page register *noun* COMPUT a register that provides memory page access data to allow access to any part of memory when a central processing unit is carrying out a direct memory access

direct reference address *noun* COMPUT a virtual address that can only be altered by indexing

direct transfer *noun* COMPUT a bit for bit copy of the contents of one register into another register, including any status bits

dirty bit *noun* COMPUT a flag bit set by memory-resident programs to indicate that they have already been loaded into main memory

disable *verb* COMPUT to prevent a device or function from operating ○ *He disabled the keyboard to prevent anyone changing the data.*

disadvantage *noun* a factor which makes someone or something less likely to succeed ○ *The disadvantage of a booster pump is that the output is constant so that when engine demand is high, fuel pressure tends to be low and vice versa.*

disappear *verb* **1.** to cease to exist ○ *If air blew at right angles to isobars, the horizontal pressure differences would eventually disappear.* **2.** to pass out of sight

disarm *verb* COMPUT to prevent an interrupt having any effect

disassemble *verb* COMPUT to translate machine code instructions back into assembly language mnemonics

disaster management *noun* the policies developed and the actions undertaken to deal with a disaster

disc *noun* **1.** a circular flat plate ○ *A turbine consists of a disc on which is mounted a number of blades.* **2.** a CD **3.** COMPUT another spelling of **disk**

discard *verb* to throw out something which is not needed

disc floret *noun* BOT a small tubular part among those on the central rounded part of the flower head of a plant belonging to the Compositae, such as a daisy or sunflower. Compare **ray floret**

discharge *noun* **1.** ELEC a release of power from a source such as a battery ○ *A lightning flash is a large-scale example of an electrical spark, or discharge.* **2.** ENVIRON the action of releasing waste material into the environment **3.** ENVIRON waste material, such as that from an industrial process or in the form of sewage, that is passed into the environment **4.** PHYS the rate of flow of a liquid in a channel ■ *verb*

1. ELEC to release electrical supply from a source such as a battery ○ *The battery discharged overnight.* **2.** GEOG (of a river) to flow into a lake or the sea ○ *The river Rhine discharges into the North Sea.* **3.** ENVIRON to pass waste material into the environment ○ *The factory discharges ten tonnes of toxic effluent per day into the river.*

discharge area *noun* GEOG an area of land where there is a net annual transfer of water from the ground water to surface water

discharge pipe *noun* INDUST a pipe which carries waste material from an industrial process or in the form of sewage and deposits it somewhere else, e.g. in a tank or in the sea ○ *Discharge pipes used to take the liquid waste into the sea.*

discharge tube *noun* ELEC ENG a tube filled with gas at low pressure that glows on conduction of electricity when a voltage is applied (NOTE: It is used in neon and fluorescent lights.)

disclimax *noun* ENVIRON a stable ecological state which has been caused by human intervention, e.g. a desert caused by deforestation. Compare **climax**

disclimax community *noun* ENVIRON a stable plant community which is caused by human action, e.g. felling a rainforest for timber

disclose *verb* to reveal details of something which were supposed to be secret

disclosing agent *noun* a dye that is used to colour something that cannot otherwise be seen, e.g. plaque on teeth

disclosure *noun* the act of telling details about something, especially something that has been secret or confidential ○

requested full disclosure of experimental procedures

discoloration, discolouration *noun* a change of colour, especially one caused by deterioration

discolour *verb* to change the colour of something, especially through deterioration, usually making it paler (NOTE: The US spelling is **discolor**.)

discoloured *adjective* with a changed colour, especially through deterioration

disconnect *verb* to separate two things attached to one another ○ *The electrical supply can be disconnected by pulling out the plug.*

discontinuity *noun* **1.** GEOL a break in a layer of rock, caused by a fault or erosion **2.** EARTH SCI a band in the interior of the Earth which separates two layers and through which seismic shocks do not pass

discovery *noun* **1.** BIOL an act of finding something which was not known before ○ *The discovery of penicillin completely changed hospital treatment.* **2.** something which was not known before ○ *New medical discoveries are reported each week.*

discrete *adjective* referring to values, events, energy or data which occur in small individual units ○ *The data word is made up of discrete bits.*

discrete cosine transform *noun* COMPUT an algorithm used to encode and compress images. Abbr **DCT**

discretionary *adjective* able to be used if wanted or not used if not wanted ○ *discretionary powers*

discrimination *noun* the ability to know or see the difference between two similar things ○ *Discrimination between the colour tones is difficult.*

discrimination instruction *noun* COMPUT a conditional program instruction that directs control by providing the location of the next instruction to be executed if a condition is met. Also called **decision instruction**

discussion group *noun* COMPUT a feature of a website that lets visitors discuss a particular subject by posting messages

disease *noun* MED, BOT an illness of people, animals or plants ○ *He caught a disease in the tropics.* ○ *She is suffering from a serious disease of the kidneys or from a serious kidney disease.* ○ *He is a specialist in occupational diseases.*

disease control *noun* the systems put in place by a farm or a government to prevent diseases from spreading within the area under their supervision

diseased *adjective* MED, BOT affected by a disease and so not functioning as usual or not whole ◦ *a diseased kidney* ◦ *To treat dieback, diseased branches should be cut back to healthy wood.*

disease dynamics *noun* the study of the change, growth or activity of a disease

disengage *verb* to switch off a system or device ◦ *Switches on the control columns instantly disengage the autopilot when depressed.*

dish *noun* a shallow container

dish antenna *noun* TELECOM a circular aerial with a shape like a shallow bowl

disinfect *verb* MED to make something or somewhere free from microorganisms such as bacteria ◦ *All utensils must be thoroughly disinfected.* (NOTE: **Disinfect, disinfection** and **disinfectant** are used for substances which destroy germs on instruments, objects or the skin.)

disinfectant *noun* MED a substance used to kill microorganisms such as bacteria

disinfection *noun* MED the process of making something or somewhere free from microorganisms such as bacteria

disinfect *verb* to remove insect or animal pests from a place

disintegrate *verb* to break into pieces ◦ *In holocrine glands the cells disintegrate as they secrete.*

disintegration *noun* the process of breaking into pieces ◦ *Electromagnetic radiations resulting from the disintegration of radioactive materials are known as gamma rays.*

disintegration constant *noun* PHYS the probability that a radioactive nucleus will decay inside a standard unit of time

disjunction *noun* MATHS a logical function that produces a true output if any input is true

disjunctive search *noun* COMPUT a search for data items that match at least one of a number of keys

disk *noun* COMPUT a flat circular plate coated with a substance that is capable of being magnetised (NOTE: Data is stored on the disk by magnetising selective sections to represent binary digits.)

COMMENT: The disk surface is divided into tracks which can be accessed individually.

Magnetic tapes cannot be accessed in this way.

disk cache *noun* COMPUT a high speed section of memory that is used to temporarily store frequently used data that has been read from the disk (NOTE: The computer checks the cache to see if the data is there before it accesses the disk. This system can dramatically improve apparent disk performance.)

disk compression *noun* COMPUT a method of increasing the apparent capacity of a disk to store data, carried out by a special piece of software that compresses the data as it is being saved to disk and then decompresses the data when it is read back

disk controller *noun* COMPUT an integrated circuit or circuits used to translate a request for data by the central processing unit into control signals for the disk drive, including motor control and access arm movement

disk crash *noun* COMPUT a fault caused by the read/write head touching the surface of the disk

disk directory *noun* COMPUT a list of names and information about files in a backing storage device ◦ *The disk directory shows file name, date and time of creation.*

disk drive *noun* COMPUT a device which spins a magnetic disk and controls the position of the read/write head

diskette *noun* COMPUT a light, flexible disk that can store data in a magnetic form, used in most personal computers

disk file *noun* COMPUT a number of related records or data items stored under one name on disk

disk formatting *noun* COMPUT the initial setting up of a blank disk with track and sector markers and other control information

disk head *noun* COMPUT a head which reads or writes on a floppy disk

diskless *adjective* COMPUT not having any disk drives for data storage ◦ *a diskless system* ◦ *They want to create a diskless workstation.*

disk mirroring *noun* COMPUT a data protection system in which all or part of a hard disk is duplicated onto another, separate, disk drive. Also called **duplexing**

disk operating system *noun* COMPUT a section of the operating system software

that controls disk and file management.

Abbr **DOS**

disk partition *noun* COMPUT **▶ partition**

disk sector *noun* COMPUT the smallest area on a magnetic disk that can be addressed by a computer

disk storage *noun* COMPUT the use of disks as a backing store

disk track *noun* COMPUT one of a series of thin concentric rings on a magnetic disk, which the read/write head accesses and along which data is stored in separate sectors

dislocation *noun* **1.** CHEM an irregularity in the fine structure arrangement (**lattice**) of an otherwise normal crystal **2.** MED the displacement of a bone from its usual position in a joint ◦ *a hip dislocation*

dismantle *verb* **1.** to take something apart into single components ◦ *to dismantle an engine* (NOTE: There is no verb to 'mante'.) **2.** to come apart into single components ◦ *The supporting structure dismantles easily.*

disomic *adjective* GENETICS having an extra chromosome in the haploid state

disorder *noun* **1.** a disruption of a system or balanced state **2.** MED an illness ◦ *a stomach disorder*

dispenser *noun* **1.** INDUST a device or machine which gives out a particular thing ◦ *a detergent dispenser* **2.** a person or an official group that provides something ◦ *a major dispenser of research funds*

dispersal *noun* ECOL the moving of individual plants or animals into or from an area ◦ *seed dispersal by wind* ◦ *Aphids breed in large numbers and spread by dispersal in wind currents.*

disperse *verb* **1.** (of organisms) to separate and move away over a wide area **2.** to send something out over a wide area ◦ *Some seeds are dispersed by birds.* ◦ *Power stations have tall chimneys to disperse the emissions of pollutants.*

dispersed particles *plural noun* PHYS particles which are not dissolved in a liquid but remain in suspension

dispersing agent *noun* **1.** CHEM a chemical substance sprayed onto an oil slick to break up the oil into smaller particles **2.** INDUST a chemical added to a fungicide/bactericide formulation to allow particles of the active agent to be distributed effectively

dispersion *noun* **1.** ECOL the pattern in which animals or plants are found over a wide area **2.** PHYS the splitting of electromagnetic radiation such as light into its component wavelengths as it passes through a medium **3.** COMPUT a logical function whose output is false if all inputs are true, and true if any input is false

dispersion aerosol *noun* droplets of moisture which are blown into the air as spray

dispersion model *noun* ENVIRON a mathematical prediction of how pollutants from a source will be distributed in the surrounding area under specific conditions of wind, temperature, humidity and other environmental factors

displace *verb* to move something out of the normal position ◦ *The atmosphere is said to be stable if, when a parcel of air is displaced vertically, it tends to return to its original level.*

displacement *noun* **1.** a movement away from a normal position **2.** COMPUT an offset used in an indexed address

displacement reaction *noun* CHEM same as **substitution reaction**

display COMPUT *noun* a device on which information or images can be presented visually ◦ *Our names came up on the display.* ■ *verb* to show information ◦ *The customer's details were displayed on the screen.* ◦ *By keying HELP, the screen will display the options available to the user.*

display adapter *noun* COMPUT a device which allows information in a computer to be displayed on a CRT (NOTE: The adapter interfaces with both the computer and CRT.)

display attribute *noun* COMPUT a variable which defines the shape, size or colour of text or graphics displayed

display character *noun* COMPUT a graphical symbol such as one of the letters of the alphabet or a number that appears in printed form

display processor *noun* COMPUT a processor which changes data to a format suitable for a display controller

display register *noun* COMPUT a register which contains character, control or graphical data that is to be displayed

display resolution *noun* COMPUT a number of pixels per unit area which a display can clearly show

disposable *adjective* INDUST thrown away after use ○ *disposable syringes*

disposal *noun* the process of getting rid of something ○ *The disposal of raw sewage into the sea contaminates shellfish.* ♢ **final disposal**

disposal facility *noun* INDUST a landfill, incinerator or other facility that receives waste for disposal

dispose of *verb* to get rid of something ○ *The problem with nuclear reactors is how to dispose of the radioactive waste.*

disrupt *verb* ENVIRON to upset a system or balanced state ○ *The storm disrupted the electricity supply.*

disruption *noun* ENVIRON the process of upsetting a system or balanced state

dissect *verb* BIOL to cut and separate tissues in a body to examine them

dissecting aneurysm *noun* MED an aneurysm which occurs when the inside wall of the aorta is torn, and blood enters the membrane

dissection *noun* BIOL the cutting and separating of parts of a body or an organ as part of a surgical operation, autopsy or course of study

disseminate *verb* **1.** to make information or knowledge available ○ *The information was disseminated widely throughout the organisation.* **2.** to spread throughout something

disseminated *adjective* BIOL occurring in every part of an organ or in the whole body ○ *disseminated cancer*

dissemination *noun* the process of making information about something available ○ *the dissemination of new technology*

dissimilar *adjective* referring to something which is not the same as or is unlike something else ○ *Differential expansion switches operate on the principle that the coefficients of expansion of dissimilar metals are different.*

dissimilatory *adjective* CHEM describes a chemical process involving the production of an inorganic compound or element from an organic one, or a product resulting from this process

dissipate *verb* to spread out or cause something to spread out and lose power or strength ○ *Tropical storms often dissipate as they pass from sea to land.*

dissipation *noun* the process of spreading out with loss of power or strength ○ *The rubber covering forms a good electrical conductor for the safe dissipation of static electricity.*

dissolvable, dissoluable *adjective* CHEM able to be dissolved

dissolve *verb* CHEM **1.** to become part of a liquid and form a solution ○ *Sugar dissolves in water.* ○ *There is a possibility that gas may be dissolved into the fluid and thus introduced into the system.* **2.** to cause something to dissolve ■ *noun* COMPUT a special effect that is used in presentation graphics software or multimedia to fade out one image and fade in the next

dissolved *adjective* CHEM having become part of a liquid and forming a solution

dissolved oxygen *noun* CHEM the amount of gaseous oxygen present in water, expressed as either its presence in a volume of water (in milligrams per litre) or its percentage in saturated water. Abbr **DO**

distal *adjective* BIOL away from the centre or point of attachment. Compare **proximal**

distance *noun* a measurement of the space between two points ○ *The distance from A to B on the diagram is 2 cm.*

distance vector protocols *plural noun* COMPUT information about the different routes over a wide area network that can be used by a router to find the shortest and fastest route to send information

distil *verb* **1.** CHEM to produce a pure liquid by heating a liquid and condensing the vapour, as in the production of alcohol or essential oils **2.** INDUST to produce by-products from coal

distillate *noun* CHEM a substance produced by distillation

distillation *noun* CHEM the process of producing a pure liquid by heating a liquid and condensing the vapour, as in the production of alcohol or essential oils

distilled water *noun* CHEM pure water, used in some industrial processes and in electric batteries

distinct *adjective* clearly separate ○ *When a lead-acid battery is fully charged, each cell displays three distinct indications.*

distinction *noun* a point of difference ○ *A clear distinction is made between showers and general precipitation.*

distinctive *adjective* easily recognised because of particular features or characteristics

distinguish *verb* to know or to see the difference between things ○ *The OCR has difficulty in distinguishing certain characters.*

distinguishable *adjective* easily recognised as different from other things ○ *distinguishable from their surroundings*

distort *verb* **1.** to go or put something out of shape ○ *Stress could cause the body to distort or change its shape.* **2.** PHYS to introduce unwanted differences between a signal input and output from a device

distortion *noun* **1.** the act of going out of shape or of putting something out of shape ○ *distortion of the airframe* **2.** PHYS unwanted differences in a signal before and after it has passed through a piece of equipment ○ *Distortion of the signal made it difficult for the controller to understand what the pilot said.*

distributary *noun* EARTH SCI a stream or river flowing out from a larger river, as in a delta

distribute *verb* **1.** to give something or send something out ○ *distribute electrical power* **2.** to spread something over a wide area ○ *Multiple wheel undercarriage units distribute the weight of the aircraft.* **3.** COMPUT to send out data or information to users in a network or system

distributed adaptive routing *noun* COMPUT the directing of messages in a packet network switching system by an exchange of information between nodes

distributed database system *noun* COMPUT a database system in which the data is stored on several different computers but can be searched as if it is one single location

distributed data processing *noun* COMPUT operations to derive information from data which is kept in different places. Abbr **DDP**

distributed file system *noun* COMPUT a system that uses files stored in more than one location or backing store but processed at a central point

distributed network *noun* COMPUT a network in which each node can operate as a server storing files or working as a print server

distributed processor *noun* COMPUT a system with many small computers at

different workstations instead of one central computer

distribution *noun* **1.** the process of giving or sending something out ○ *power distribution systems* **2.** the act or an instance of spreading over a wide area ○ *There is a high distribution of used and disused airfields in the south of England.* **3.** ECOL the pattern in which something is found in various areas, depending on factors such as climate or altitude ○ *The distribution of crops in various regions of the world is a result of thousands of years of breeding and testing.*

distribution area *noun* ECOL a number of places in which a species is found

distribution network *noun* † **local area network, wide area network**

distributor *noun* ELEC ENG a device which sends an electrical charge to each spark plug in turn ○ *The distributor directs the high voltage impulses to the cylinders in turn as they reach their ignition point.*

district *noun* a part of an area, especially for administrative purposes

district heating *noun* INDUST a system of heating all houses in a district from a central source, as from hot springs in Iceland or by cooling water from a power station

disturb *verb* to alter the usual condition of something ○ *Small hills can disturb the flow of air.* ○ *The building of the road has disturbed the balance of the ecosystem.*

disturbance *noun* **1.** an alteration in the usual condition of something ○ *In general, the higher the mountain and the faster the air flow the greater is the resulting disturbance.* **2.** ENVIRON a change in an ecosystem caused by an alteration of the environmental conditions, by a process such as drought, pollution or felling of woodland

disturbance threshold *noun* ECOL the point at which an alteration of the environmental conditions causes change in an ecosystem

ditch *noun* AGRIC, ENG a channel to take away rainwater

dither *verb* COMPUT to create a curve or line that looks smoother by adding shaded pixels beside the pixels that make up the image

dithered colour *noun* COMPUT a colour that is made up of a pattern of different coloured pixels

dithionic acid *noun* CHEM an acid that is unstable and only found in solution. Formula: HSO.

diuresis *noun* MED an increase in the production of urine

diuretic *adjective, noun* MED referring to a substance which makes the kidneys produce more urine

diurnal *adjective* 1. referring to the 24-hour cycle of day and night ○ *Diurnal changes in surface temperature over the sea are small.* 2. happening every day 3. happening in the daytime

diurnal cycle *noun* a pattern that recurs over a 24-hour period ○ *Air pollution shows a diurnal cycle.*

diurnal rhythm *noun* BIOL regularly recurring activities such as feeding and sleeping which take place every day

divalent *adjective* CHEM with a valency of 2

diverge *verb* to move further apart from something else ○ *Air diverges at low levels and converges at high levels, causing a sinking or subsiding effect in the atmosphere.* Opposite **converge**

divergence *noun* 1. a difference ○ *a divergence of opinion on the cloning issue* ○ *a divergence between the preliminary report and the final results* 2. METEOROL a phenomenon which occurs whenever there is a net outflow of air from a region of the atmosphere, resulting in the depletion of air and a reduction in density. Compare **convergence**

divergent *adjective* 1. different 2. moving apart from something else

divergent duct *noun* a duct which has an inlet area which is smaller than the outlet area

divergent evolution BIOL same as **adaptive radiation**

diverging lens *noun* OPTICS a lens, usually concave, that makes a parallel beam of light spread out

diversify *verb* 1. to develop something in different ways ○ *Farmers are encouraged to diversify land use by, for example, planting woodlands or creating recreational facilities.* 2. to start doing several different things ○ *Farmers are being encouraged to diversify into other areas of business, such as rural tourism.*

diversity *noun* ECOL the richness of the number of species

divide *verb* 1. to separate something into parts, or become separated into parts ○ *Air masses are divided into two types according to source region and these are known as polar and tropical air masses.* 2. MATHS to calculate how many times a number is contained in another number ○ *Eight divided by four equals two ($8 \div 4 = 2$).*

dividend *noun* MATHS an operand that is divided by a divisor in a division operation (NOTE: The dividend is divided by the divisor to form the quotient and a remainder.)

divisible *adjective* MATHS able to be divided, especially without leaving a remainder

division *noun* 1. a separation into parts 2. MATHS a calculation of how many times a number is contained in another number ○ *learning multiplication and division* 3. BIOL a traditional category in the scientific classification of plants, now replaced by **phylum**

division sign *noun* MATHS a printed or written sign (\div) used to show that numbers are to be divided

divisor *noun* MATHS an operand used to divide a dividend in a division operation

dizygotic twins *plural noun* BIOL two offspring who are not identical and not always of the same sex because they come from two different ova fertilised at the same time. Compare **monozygotic twins**. Also called **fraternal twins**

D-lines *plural noun* PHYS a pair of lines that are visible in the spectrum of sodium, used as a reference point

DLL *abbreviation* COMPUT dynamic link library ○ *The word-processor calls a spell-check program that is stored as a DLL.*

dm *symbol* MEASURE decimetre

DM *abbreviation* BIOL dry matter

DMA *abbreviation* COMPUT direct memory access

DML *abbreviation* COMPUT data manipulation language

DMT *noun* COMPUT technology that uses digital signal processors to create sound signals that carry digital video, sound, image and data over cable at high speed. Full form **discrete multi-tone**

DNA *noun* GENETICS a nucleic acid chain carrying genetic information that is a major constituent of chromosomes. Full form **deoxyribonucleic acid**

DNA chip *noun* GENETICS same as **gene chip**

DNA fingerprinting *noun* GENETICS the analysis of DNA patterns from body tissues such as blood, saliva or semen in order to establish somebody's identity. Also called **DNA profiling**

DNA polymerase *noun* GENETICS an enzyme that carries out repair and reproduction of DNA using single-stranded DNA

DNA profiling *noun* GENETICS same as **DNA fingerprinting**

DNA sequencing *noun* GENETICS the process of determining the exact order of the bases that make up a section of DNA

DNA virus *noun* MICROBIOL a virus with a genome that contains DNA

DNR *abbreviation* MED do not resuscitate

DNS *abbreviation* COMPUT **1.** domain name server **2.** domain name system

DO *abbreviation* dissolved oxygen
COMMENT: SJ_CFGlossComp

dock *verb* COMPUT to connect a laptop computer to a special docking station on a desk to give it the same resources as a normal desktop

docking station *noun* a hardware device into which a portable computer is inserted for recharging or downloading data

docosaehaenoic acid *noun* BIO-CHEM full form of **DHA**

document *noun* **1.** a piece of paper or set of papers containing text **2.** COMPUT a computer file containing text created with a word-processor ■ *verb* to make a record of a process

documentation *noun* **1.** all the documents referring to something ○ *Please send all documentation concerning the product.* **2.** COMPUT the information, notes and diagrams that describe the function, use and operation of a piece of hardware or software

document content architecture *noun* COMPUT same as **document interchange architecture**. Abbr **DCA**

document image management *noun* COMPUT the software that allows a user to capture, store and index printed text in a digital form. Abbr **DIM** (NOTE: It normally works in conjunction with a scanner and a high-capacity storage medium such as a recordable CD-ROM.)

document image processing *noun* COMPUT the process of scanning paper documents, performing OCR on the contents and storing this on disk so that it can be searched for. Abbr **DIP**

document interchange architecture *noun* COMPUT a standard method for the transmission and storage of documents, text and video over networks, which is part of the IBM SNA range of standards. Abbr **DIA**. Also called **document content architecture**

document reader *noun* COMPUT a device which converts written or typed information to a form that a computer can understand and process

dodecanoic acid *noun* CHEM same as **lauric acid**

doldrums *plural noun* METEOROL an area of low pressure over the ocean near the equator where there is little wind

doline, dolina *noun* EARTH SCI a round or oval depression in the ground, found in limestone regions

dolomite *noun* EARTH SCI an alkaline carbonate of magnesium or calcium rock

dolphin *noun* MARINE BIOL a marine mammal belonging to the family which also includes killer whales and pilot whales. Family: Delphinidae.

DOM¹ *noun* COMPUT a scheme that describes how the different parts of a webpage are represented, in which each item is an object and has a set of attributes that defines how it is displayed and managed by a web browser. Full form **document object model** (NOTE: Dynamic HTML (DHTML) uses DOM to change how a webpage is displayed by a user's web browser.)

DOM² *abbreviation* **1.** ECOL digestible organic matter **2.** ENVIRON dry organic matter

domain *noun* **1.** a particular area of activity ○ *The subject is controversial outside the scientific domain.* **2.** COMPUT an area or group of nodes in a network □ **in the public domain** COMPUT available to the public and not copyright ○ *All these programs are in the public domain and can be downloaded free of charge.*

domain name *noun* COMPUT a unique name that identifies the location of an Internet server or computer on the Internet
COMMENT: A domain name is in a convenient text format but refers to a physical

address that locates the computer that stores the website for the domain name. This physical address is called the IP address. The domain name is made up of two or three parts, each separated by a 'dot'. Domain types include 'com' for a company (originally those based in the USA, but now worldwide), 'co' for company, 'edu' for an educational establishment, 'net' for a network or Internet supplier, 'gov' for a US government domain and 'mil' for a military site. The last two characters refer to the country of origin, e.g. 'au' for Australia, 'cn' for China, 'de' for Germany and 'uk' for the UK.

domain name server *noun* COMPUT a computer on the Internet that stores part or all of the domain name system database. Abbr **DNS**

domain name system *noun* COMPUT a distributed database used in an Internet system to map names to addresses. Abbr **DNS** (NOTE: For example, you can use the name 'www.acblack.com' to locate the A & C Black website rather than a complex IP address.)

domestic *adjective* referring to the home or used in the home

domesticated *adjective* BIOL referring to a species which was formerly wild but has been selectively bred to fill human needs

domestic green waste *noun* ENVIRON the waste produced by a household that is from plants or other materials that can be composted

domestic heating oil *noun* INDUST petroleum oil used as fuel in a central heating boiler

domestic livestock *noun* AGRIC pigs, goats, sheep, cows and other animals which are kept by human beings

domestic refuse *noun* ENVIRON waste material from houses. Also called **domestic waste, household refuse**

domestic sewage *noun* ENVIRON the sewage from houses

domestic waste *noun* ENVIRON same as **domestic refuse**

dominance *noun* **1.** ECOL a state where one species in a community is more abundant than others **2.** ZOO the priority for food and reproductive mates that one animal has over another in a group **3.** GENETICS the characteristic of a gene form (**allele**) that leads to the trait which it controls being shown in any individual carrying it. Compare **recessiveness**

dominance hierarchy *noun* ZOO the system of priority given to specific individuals in terms of access to food and reproductive mates ○ *In many species a male is at the top of the dominance hierarchy.*

dominant *adjective* **1.** important or powerful **2.** GENETICS (*of an allele*) having the characteristic that leads to the trait which it controls being shown in any individual carrying it. Compare **recessive** **3.** ECOL (*of a species*) being more abundant than others in a community

COMMENT: For physical characteristics controlled by two alleles, if one allele is dominant and the other recessive, the resulting trait will be that of the dominant allele. Traits governed by recessive alleles appear only if alleles from both parents are recessive.

dominate *verb* to have the most effect or influence on something

dongle *noun* COMPUT a coded circuit or chip that has to be present in a system before a piece of copyright software will run

donor *noun* CHEM an atom, molecule, or group providing a pair of electrons in order to form a chemical bond

do-nothing instruction *noun* COMPUT a programming instruction that does not carry out any action except increasing the program counter to the next instruction address

dopa *noun* BIOCHEM a substance from which the body makes dopamine, and hence adrenaline and dopamine (NOTE: In a synthetic form it is used to treat Parkinson's disease.)

dopamine *noun* BIOCHEM a neurotransmitter that is also used by the body to make adrenaline

dopant *noun* INDUST a chemical substance that is diffused or implanted onto the substrate of a chip during manufacture, to provide it with n- or p-type properties

dope *verb* INDUST to introduce a dopant into a substance

doped *adjective* ELEC referring to a chip which has had a dopant added

doping *noun* INDUST the process or act of adding dopant to a chip

Doppler effect *noun* PHYS a perceived change in the frequency of a wave as its source moves relative to an observer (NOTE: For example, the sound of a siren on a moving vehicle appears to change as

it approaches and passes, the size of the effect being related to its speed.)

Doppler radar *noun* TECH radar which can distinguish between fixed and moving targets or provide ground speed and track information from an airborne installation

dormancy *noun* BIOL an inactive period
○ *seed dormancy*

dormant *adjective* **1.** BIOL not active or developing
○ *Some seeds lie dormant in the soil for many years.* **2.** EARTH SCI referring to a volcano which is not erupting but is still able to erupt. Compare **extinct**

dorsal *adjective* ANAT referring to the back of a structure such as the body of a leaf. Opposite **ventral**

dorsal vertebra *noun* ANAT one of the twelve vertebrae in the back, between the cervical vertebrae and the lumbar vertebrae

dorsum *noun* ANAT same as **back**

DOS *abbreviation* COMPUT disk operating system
○ *Boot up the DOS after you switch on the PC.*

dose *noun* MED the amount of a drug or of ionising radiation received by an organism
○ *The patients received more than the permitted dose of radiation.*

dosemeter *noun* PHYS same as **dosimeter**

dose response *noun* MED a response of an organism to a toxic substance, which alters as its overall exposure to the substance changes

dosimeter, dosimeter *noun* PHYS an instrument for measuring the amount of radiation

dot *noun* PRINTING a small round spot

dot pitch *noun* COMPUT the spacing between two adjacent pixels displayed on a monitor
○ *The smaller the dot pitch, the sharper the image displayed.*
○ *Typically the dot pitch is between .20 to .40mm.*

dotted-decimal-notation *noun* COMPUT a method of writing a domain name, email address or other IP network address using a dot to separate the numeric parts of the address

double *adjective* involving two or twice

double blind *noun* a form of experimental control, in which neither the experimenter nor the subject knows which variables are being controlled, in order to reduce error and bias

double bond *noun* CHEM a set of two covalent bonds between two atoms in which two pairs of electrons are shared

double buffering *noun* COMPUT the use of two buffers working together so that one can be read while the other is accepting data

double-click *COMPUT noun* the use of two rapid press-release actions on a mouse button, normally to start a program or select an option
○ *Move the pointer to the icon then start the program with a double-click.* ■ *verb* to click twice rapidly on a mouse button

double cross *noun* **1.** GENETICS the production of a new hybrid from parents each of which is a first-generation hybrid of pure strains **2.** a new hybrid produced by a double cross

double decomposition *noun* CHEM a chemical reaction in which two compounds are decomposed by the exchange of at least one of their components, with the formation of two new compounds

double density *noun* COMPUT a system to double the storage capacity of a disk drive by doubling the number of bits which can be put on the disk surface

double helix *noun* GENETICS the molecular structure of DNA, consisting of a pair of polynucleotide strands connected by a series of hydrogen bonds and twisted in opposing spirals

double precision *noun* COMPUT the use of two data words to store a number, providing greater precision

double refraction *noun* OPTICS the splitting of one ray of light into two by some crystals

double word *noun* COMPUT two bytes of data handled as one word, often used for address data

Douglas fir *noun* TREES a North American softwood tree widely planted throughout the world, and producing strong timber. Latin name: *Pseudotsuga menziesii*.

down *adverb* COMPUT (of computers or programs) not working
○ *The computer system went down twice during the afternoon.* ■ *noun* GEOG a grass-covered chalky hill with low bushes and few trees ■ *plural noun downs* GEOG an area of grass-covered chalky hills with low bushes and few trees

down draught *noun* **1.** METEOROL the cool air which flows downwards as a rain-

storm approaches **2.** EARTH SCI the air which flows rapidly down the lee side of a building or mountain **3.** the air which blows down a chimney

downland *noun* GEOG an area of grassy treeless hills

download *verb* COMPUT **1.** to load a program or section of data from a remote computer via a telephone line ○ *There is no charge for downloading public domain software from the BBS.* **2.** to load data from a central processing unit to a small computer **3.** to send printer font data stored on a disk to a printer where it will be stored in temporary memory or RAM

downpipe *noun* ENG a pipe carrying rainwater from a roof into a drain or soak-away

downstream *adverb, adjective* EARTH SCI towards the mouth of a river ○ *The silt is carried downstream and deposited in the delta.* ○ *Pollution is spreading downstream from the factory.* ○ *Downstream communities have not yet been affected.* Compare **upstream**

down-the-drain chemical *noun* CHEM a household chemical such as a product used for cleaning that is disposed of through the public drains

downtime *noun* COMPUT a period of time during which a computer system is not working or usable. Opposite **uptime**

downward *adjective* moving to a lower level ○ *When flying in turbulent air conditions, an aircraft is subjected to upward and downward gust loads.* (NOTE: In US English, **downward** is used as an adverb as well as an adjective.)

downward compatibility *noun* COMPUT the ability of a complex computer system to work with a simple computer ○ *The mainframe is downward compatible with the micro.*

downwards *adverb* to a lower level or towards the bottom ○ *Pull the toggles downwards to inflate the lifejacket.*

downwash *noun* INDUST the action which brings smoke from a chimney down to the ground as it is caught in a downward moving current of air

DP *abbreviation* COMPUT data processing

DPA *abbreviation* COMPUT demand protocol architecture

DPCM *abbreviation* COMPUT differential pulse coded modulation

draft *noun* an early rough version of a document or drawing ■ *verb* to make an early rough version of a document or drawing ○ *He drafted out the details of the program on a piece of paper.*

draft printing *noun* COMPUT low quality, high speed printing

drag *noun* AEROSP the resistance of the air created by moving an aircraft through the air ○ *To reduce the effect of drag on an aircraft by the fixed undercarriage a retractable type was introduced.* ○ *If an engine failure occurs, the windmilling propeller may cause considerable drag.*

COMMENT: There are two basic types of drag, called parasite drag and induced drag. Parasite drag is caused by friction between the air and the aircraft surface or aeriels, landing gear, and other parts. Induced drag is produced by lift.

drag and click *verb* COMPUT to hold down a mouse button while moving the mouse, so moving the object selected

drag and drop *verb* to drag a section of text, icon or object onto another program icon which starts this program and inserts the data ○ *Drag and drop the document icon onto the word-processor icon and the system will start the program and load the document.*

drain *noun* **1.** ENG an underground pipe which takes waste water from buildings or from farmland **2.** EARTH SCI, AGRIC an open channel for taking away waste water **3.** a device to allow fluid to escape from its container ■ *verb* **1.** to allow fluid to escape by providing a hole or tube or other means through which it can pass **2.** to remove liquid from somewhere **3.** (*of liquid*) to flow into something ○ *The stream drains into the main river.*

drainage *noun* the removal of liquid from somewhere

drainage area, drainage basin *noun* EARTH SCI same as **catchment 1**

drainage basin, drainage area *noun* same as **catchment 1**

drainage channel *noun* EARTH SCI, AGRIC a small ditch made to remove rainwater from the soil surface

drainage ditch *noun* EARTH SCI, AGRIC a channel to take away rainwater

drainage trench *noun* ENG a long hole cut in the ground to allow water to run away

drainpipe *noun* ENG a pipe carrying rain-water, sewage or other liquid into a drain or soakaway

DRAM *abbreviation* COMPUT dynamic RAM

draught *noun* a local current of air. US spelling **draft**

draught animal *noun* AGRIC an animal used to pull vehicles or carry heavy loads

draw *verb* **1.** to make a picture with lines
 ○ *Because there is a temperature gradient across each front it is possible to draw isotherms which reduce in value from warm to cold air.* **2.** to move something by pulling
 ○ *Fluid is drawn into the pump body.* (NOTE: **drawing – drew – drawn**)

drawing program *noun* COMPUT a piece of software that allows the user to draw and design on screen

drift *noun* EARTH SCI a slow movement or change

drift current *noun* METEOROL a current in the sea caused by the wind

drift ice *noun* EARTH SCI a large piece of ice floating in the sea

drill *noun* **1.** ENG a tool, often electrically powered, for making holes in metal, wood or other hard material **2.** a short series of actions carried out in a particular sequence

drilling *noun* INDUST the process of boring a hole or an oil well

drilling mud *noun* INDUST a mixture of clay, water and minerals, used as a lubricant and coolant when drilling into rock

drilling rig, drilling platform *noun* INDUST a large metal construction containing the drilling and pumping equipment for extracting oil or gas

drilling ship *noun* INDUST a ship which can bore an oil well

drinkable *adjective* ENVIRON referring to water or another liquid that is safe to drink

drinking water *noun* ENVIRON water for drinking, especially water that is safe to drink

drive *noun* **1.** a device that transmits power to wheels or propellers
 ○ *Rotation of the engine for starting is done by an electric starter motor connected to a drive shaft in the accessories gearbox.* **2.** COMPUT a part of a computer which operates a tape or disk
 ■ *verb* **1.** to make something move or turn **2.** to control and guide a vehicle
 ○ *He's learning to drive.* **3.** COMPUT to make a tape or disk work
 ○ *The disk is*

driven by a motor. (NOTE: **driving – drove – driven**)

drive array *noun* COMPUT a set of multiple hard disk drives linked together with an intelligent controller that uses the drives to store multiple copies of the data on each drive for reliability or parts of each data on each drive for speed

drive letter *noun* COMPUT a letter that denotes the disk drive currently being used. Also called **designator** (NOTE: A and B are normally floppy disks, C is normally the hard disk in a personal computer.)

driver *noun* COMPUT a program or routine used to interface and manage an input/output device or other peripheral. Also called **device driver**

drizzle *noun* METEOROL a light persistent rain with drops of less than 0.5mm in diameter

drizzly *adjective* METEOROL referring to weather with a lot of drizzle

drop *noun* **1.** a small amount of liquid that falls
 ○ *a drop of water* ○ *a few drops of rain* **2.** a lowering or reduction
 ○ *The passage of a cold front is usually followed by a drop in temperature.* ○ *A sudden drop in oil pressure is usually an indication of serious engine trouble.* **3.** BOT a fall of immature fruit
 ■ *verb* **1.** to become lower
 ○ *The temperature dropped by several degrees.* **2.** to fall or let something fall

drop cable *noun* COMPUT a section of cable that links an adapter fitted in a workstation to the main network cable or sometimes to a transceiver or T-connector in the main network cable

drop-down menu *noun* COMPUT a menu that appears below a menu title when it is selected on a computer screen

drop in *noun* COMPUT a small piece of dirt that is on a disk or tape surface, which does not allow data to be recorded on that section

droplet *noun* a small drop of liquid
 ○ *Experiments show that smaller droplets of rain can remain supercooled to much lower temperatures than large droplets.*

droppings *plural noun* ZOOL excreta from animals
 ○ *The grass was covered with rabbit and sheep droppings.*

drosophila *noun* ZOOL, GENETICS a small two-winged fruit fly that is frequently used in genetic research

drought *noun* METEOROL a long period without rain at a time when rain usually falls

drought stress *noun* ECOL a lack of growth caused by drought

drove *verb* ▶ **drive**

drowned valley *noun* EARTH SCI a valley which has been submerged by the advance of the sea or a lake

drug *noun* 1. PHARM a chemical substance, either natural or synthetic, which is used in medicine and affects the way in which organs or tissues function ○ *The doctors are trying to cure him with a new drug.* ○ *She was prescribed a course of pain-killing drugs.* ○ *The drug is being monitored for possible side-effects.* 2. HEALTH a habit-forming, often illegal, substance

drug addiction *noun* HEALTH the condition of being mentally and physically dependent on taking a drug regularly. Also called **drug dependence**

drug allergy *noun* MED a reaction to a specific drug

drug dependence *noun* HEALTH same as **drug addiction**

drug tolerance *noun* PHYSIOL a condition where a drug has been given to a patient for so long that it is no longer effective and the dosage has to be increased

drum *noun* 1. a cylindrical container used for storage, especially of liquids ○ *an oil drum* 2. COMPUT an early type of magnetic computer storage

drumlin *noun* EARTH SCI a small oval hill formed by the movement of a glacier, with one end steep and the other sloping

drupe *noun* BOT a fruit with a single seed and a fleshy body (NOTE: Stone fruits such as cherries or plums are drupes.)

DRV *abbreviation* MED dietary reference values

dry *adjective* with very little moisture ■ *verb* to remove moisture from something

dry adiabatic lapse rate *noun* METEOROL the rate of temperature change in rising dry air

dry cell *noun* ELEC a current-generating electric device that contains an electrolyte in the form of a paste or within a porous material

dry cell battery *noun* ELEC a battery that cannot be recharged. Compare **rechargeable battery**

dry contact *noun* ELEC a faulty electrical connection, often causing an intermittent fault

dry deposition *noun* ENVIRON the fall of dry particles from polluted air forming a harmful deposit on surfaces such as buildings or the leaves of trees

dry farming *noun* AGRIC a system of extensive agriculture, producing crops in areas of limited rainfall, without using irrigation

dry ice *noun* INDUST solid carbon dioxide, used as a refrigerant

drying bed *noun* INDUST an area where sewage sludge is spread out to dry

drying out *noun* ENVIRON a process whereby water is drained away from wetlands

dry land GEOG *noun* **dryland** an area that often has no rain for long periods (*often plural*) ■ *adjective* referring to areas where there is little rain

dry matter *noun* BIOL the matter remaining in a biological sample or in animal feed after the water content has been removed. Abbr **DM**

dryness *noun* a state of not being wet ○ *the dryness of the atmosphere on very high mountains*

dry organic matter *noun* AGRIC organic matter such as sewage sludge or manure which has been dried out and may be used as a fertiliser. Abbr **DOM**

dry rot *noun* BOT a fungal disease causing rot in wood, potatoes or fruit

dry run *noun* COMPUT an act of running a program with test data to check everything works

dry season *noun* METEOROL the time of year in some countries when very little rain falls. Compare **rainy season**

dry steam *noun* PHYS steam that does not contain droplets of water

dry up *verb* (*of a river or lake*) to become dry ○ *The river dries up completely in summer.*

Ds *symbol* CHEM ELEM darmstadtium

DSL *abbreviation* COMPUT digital subscriber line

DSP *abbreviation* COMPUT digital signal processing

DSR *abbreviation* COMPUT data set ready

DSW *abbreviation* COMPUT device status word

DTE *abbreviation* COMPUT data terminal equipment

DTMF *abbreviation* COMPUT dual tone multi-frequency

D to A converter *noun* COMPUT same as digital to analog converter

DTP *abbreviation* COMPUT desktop publishing

DTR *abbreviation* COMPUT data terminal ready

dual *adjective* using two or a pair

dual bus system *noun* COMPUT a way of linking different parts of a system which keeps the memory bus separate from the input/output bus

dual in-line memory module *noun* COMPUT a system of arranging RAM memory chips on two sides of a tiny expansion card that can be inserted into a slot on the computer's motherboard to upgrade the main memory. Abbr **DIMM**

dual-in-line package *noun* COMPUT full form of **DIP**, **DIL**

dual port memory *noun* COMPUT a memory with two sets of data and memory lines to allow communications between central processing units

dual processor *noun* COMPUT a computer system with two processors for faster program execution

dual tone multi-frequency *noun* COMPUT a method of dialling in a telephone system in which each number on the telephone handset generates two tones. Abbr **DTMF**

dub *verb* to add sound effects to an animation, multimedia presentation, film or video

dubnium *noun* CHEM ELEM an extremely rare and unstable element produced by bombarding californium with carbon nuclei (NOTE: The chemical symbol is **Db**; the atomic number is **105** and the atomic weight is **262**.)

duct *noun* **1.** a channel or tube through which things such as fluids or cables can pass ○ *The modern jet engine is basically a duct into which the necessary parts are fitted.* ○ *Air-conditioning ducts need regular cleaning.* **2.** ANAT a narrow passageway in a gland or bladder through which fluid leaves

ductile *adjective* PHYS (*of metals*) able to retain strength when bent and to be made into thin sheets or wires

ductless gland *noun* ANAT same as endocrine gland

dumb terminal *noun* COMPUT a peripheral that can only transmit and receive data from a computer, but is not capable of processing data

dummy *noun* COMPUT an imitation product to test the reaction of potential customers to its design

dummy instruction *noun* COMPUT an instruction in a program that is only there to satisfy language syntax or to make up a block length

dump *noun* **1.** COMPUT data which has been copied from one device to another for storage **2.** COMPUT the transferring of data to a disk for storage **3.** COMPUT a printout of the contents of all or selected data in memory **4.** ENVIRON a place where waste, especially solid waste, is thrown away ○ *The mine is surrounded by dumps of excavated waste.* ■ *verb* **1.** COMPUT to move data from one device or storage area to another ○ *The account results were dumped to the backup disk.* **2.** ENVIRON to throw away waste, especially without being subject to environmental controls

dumping *noun* ENVIRON the disposal of waste ○ *the dumping of nuclear waste into the sea* ○ *illegal dumping*

dumping ground *noun* ENVIRON a place where waste is thrown away, especially casually

dumpsite *noun* ENVIRON a place on land or at sea where waste is dumped ○ *Sludge bacteria can survive in seawater for long periods and are widely dispersed from dumpsites.*

dunes *plural noun* EARTH SCI an area of sand blown by the wind into small hills and ridges which may have plants growing on them ○ *The village was threatened by encroaching dunes.* ○ *The dunes were colonised by marram grass.*

dung *noun* AGRIC solid waste excreta from animals, especially cattle, often used as fertiliser

COMMENT: In some areas of the world dried dung is used as a cooking fuel, which has the effect of preventing the dung from being returned to the soil and leads to depletion of soil nutrients.

duodecimal number system *noun* MATHS a number system with a base of twelve

duodenum *noun* ANAT the first short section of the small intestine, into which food passes from the stomach

duplex *noun* COMPUT the simultaneous transmission of two signals on one line

duplex computer *noun* COMPUT a pair of two identical computer systems used in an on-line application, with one being used as a backup in case of the failure of the other

duplexing *noun* COMPUT same as **disk mirroring**

duplication *noun* 1. the process of copying or repeating something 2. a situation where two or more things have the same purpose ○ *Control surfaces are divided into sections operated by a separate control unit, thus providing duplication to guard against failure of a unit.*

durability *noun* the ability of a substance or device to last a long time in good condition ○ *High quality components have good durability.*

dura mater *noun* ANAT the tough outer membrane of the three membranes that surround the brain and spinal cord of the vertebrate central nervous system

duramen *noun* BOT same as **heartwood**

duration *noun* the length of time for which something continues ○ *The duration of the examination is two hours.*

durum *noun* AGRIC a type of wheat grown in southern Europe and the USA and used in making semolina for processing into pasta. Latin name: *Triticum durum*.

dust *noun* a fine powder made of particles, e.g. dry dirt or sand

dust bowl *noun* EARTH SCI a large area of land where strong winds blow away the dry topsoil

dust burden *noun* PHYS the amount of dust which is found suspended in a gas

dust cloud *noun* METEOROL a mass of particles of dry dirt or sand suspended in the air

dust devil *noun* METEOROL a rapidly turning column of air which picks up sand over a desert or beach, and things such as dust, leaves and litter elsewhere

dust discharge *noun* ENVIRON a release of dust into the atmosphere, especially from an industrial process

dust extractor *noun* INDUST a machine which removes dust from a place

dust storm *noun* METEOROL a storm of wind which blows dust and sand with it, common in North Africa

dust veil *noun* ENVIRON a mass of dust in the atmosphere created by volcanic eruptions, storms and burning fossil fuels, which cuts off solar radiation and so reduces the temperature of the Earth's surface

Dutch elm disease *noun* BOT a fungal disease that kills elm trees, caused by *Ceratomyces ulmi* and spread by a bark beetle

duty-rated *adjective* COMPUT referring to the maximum number of operations which a device can perform in a set time to a given specification

DVD *noun* COMPUT a means of storing over 17Gb of data onto a CD-ROM type disc. Full form **digital versatile disc, digital videodisc**

DVD-R *noun* COMPUT a DVD disc drive that allows a user to write data once on to a DVD disc. Full form **DVD-Recordable**

DVD-RAM *noun* COMPUT a DVD disc drive that allows a user to write, erase and rewrite data on to a DVD disc

DVD-ROM *noun* COMPUT a DVD disc drive that can read a DVD disc and provides data transfer rates equal to a standard nine-times CD-ROM

DVD+RW *noun* COMPUT a type of rewritable DVD disc that allows a user to store data on a disc with a capacity of 3Gb per side

DVD-video *noun* COMPUT a standard that defines how full-length films can be compressed and stored on a DVD disc and played back on a dedicated player attached to a television set or viewed on a computer fitted with a DVD drive

DV-I *abbreviation* COMPUT digital video interactive

DVI connector *noun* COMPUT a connector on a monitor or graphics equipment for analogue and digital signals

dwarf *noun* ASTRON same as **dwarf star**

dwarf galaxy *noun* ASTRON a small galaxy that contains no more than a few million stars and does not shine brightly

dwarfing rootstock *noun* AGRIC a plant which is normally low-growing so causing the plant grafted on to it to grow smaller than it would otherwise

dwarfism *noun* the condition of having an unusually short growth habit

dwarf planet *noun* ASTRON an astronomical object that orbits a star and does not shine with its own light, but that does not meet all of the conditions necessary to be classified as a planet

dwarf star *noun* ASTRON a star with relatively low mass, size and luminosity. Also called **dwarf** (NOTE: The Sun is a dwarf star.)

dyadic Boolean operation *noun* MATHS a logical operation producing a result from two words, e.g. AND

dye *noun* a substance used to change the colour of something ○ *Minute surface cracks which are difficult to detect by visual means may be highlighted by using penetrant dyes.*

dye-polymer recording *noun* COMPUT a recording method which creates minute changes in a thin layer of dye imbedded in a plastic optical disk (NOTE: Dye-polymer recording has the advantage that the data stored can be erased.)

dye-sublimation printer *noun* COMPUT a high-quality colour printer that produces images by squirting tiny drops of coloured ink onto paper ○ *The new dye-sublimation printer can produce colour images at a resolution of 300dpi.*

dyke *ENG noun* **1.** a long wall of earth built to keep water out **2.** a ditch for drainage ■ *verb* to build walls of earth to help prevent water from flooding land

dynamic *adjective* **1.** referring to something in motion or occurring as part of a process **2.** COMPUT referring to data which can change with time

dynamic allocation *noun* COMPUT a system where resources are allocated during a program run, rather than being determined in advance

dynamic data exchange *noun* COMPUT a method by which two active programs can exchange data. Abbr **DDE**

dynamic data structure *noun* COMPUT the structure of a data management system which can be changed or adapted

dynamic electricity *noun* ELEC electricity which is flowing in a current

dynamic equilibrium *noun* a situation which is fluctuating around an apparent average state, where that average state is also changing through time

dynamic link library *noun* COMPUT in some operating systems, a library of utility

programs that can be called from a main program ○ *The word-processor calls a spell-check program that is stored as a dynamic link library.* Abbr **DLL**

dynamic memory *noun* COMPUT same as **dynamic RAM**

dynamic pressure *noun* AEROSP the pressure created by the forward movement of an aircraft ○ *If the dynamic pressure increases due to an increase in forward speed, the force required to move the control column will increase.*

dynamic RAM *noun* COMPUT random access memory that requires its contents to be updated regularly. Also called **dynamic memory**

dynamic routing *noun* COMPUT a process of selecting the shortest or most reliable path for data through exchanges at the time of the connection

dynamics *noun* PHYS the study of motion and the way in which forces produce it

dynamic seal *noun* ENG a seal which is part of a moving component, e.g. in a hydraulic system ○ *Dynamic seals require lubrication to remain effective.*

dynamic storage allocation *noun* COMPUT the allocation of memory to a program when it needs it rather than reserving a block in advance

dynamite *noun* CHEM a powerful explosive consisting of an inert porous material such as wood pulp or sawdust and nitroglycerine

dynamo *noun* PHYS a device that converts mechanical energy into electrical energy, usually producing direct current

dynamometer *noun* ENVIRON a machine that measures the output of an engine

dyne *noun* MEASURE the cgs unit of force, equivalent to 10^{-5} newtons

dysenteric *adjective* MED referring to dysentery

dysentery *noun* MED an infection and inflammation of the colon causing bleeding and diarrhoea

COMMENT: Dysentery occurs mainly in tropical countries. The symptoms include diarrhoea, discharge of blood and pain in the intestines. There are two main types of dysentery: bacillary dysentery, caused by the bacterium *Shigella* in contaminated food; and amoebic dysentery or amoebiasis, caused by a parasitic amoeba *Entamoeba histolytica* spread through contaminated drinking water.

dysgenic *adjective* GENETICS affecting later generations detrimentally as a result of transmitting undesirable characteristics

dysgenics *noun* GENETICS the study of factors associated with a decrease in the survival of the genetically well-adapted members of a line of descent

dysphotic *adjective* EARTH SCI referring to the area of water in a lake or the sea between the aphotic zone at the bottom of the water and the euphotic zone which sunlight can reach

dysprosium *noun* CHEM ELEM a soft silvery element of the lanthanide group that is paramagnetic and highly reactive (NOTE: It is extracted from monazite and bastnasite and used for laser materials, and in nuclear research. The chemical symbol is **Dy**; the atomic number is **66** and the atomic weight is **162.50**.)

dystonia *noun* MED a neurological disorder that causes involuntary muscle spasms

and twisting of the limbs

dystrophic *adjective* ENVIRON referring to a pond or lake that contains very acidic brown water, lacks oxygen, and is unable to support much plant or animal life because of excessive humus content

dystrophy *noun* **1.** MED the wasting of an organ, muscle or tissue due to lack of nutrients in that part of the body **2.** a condition in which pond or lake water is unable to support much plant or animal life because of excessive humus content. The dead vegetation does not decompose but settles at the bottom forming a peat bog.

DYUV *noun* COMPUT a digital video encoding technique in which luminance of a pixel is calculated by the RGB (Red, Green, Blue) input signal. Full form **delta YUV** (NOTE: $Y = 0.6G + 0.3R + 0.1B$. From the value of Y it is possible to calculate the values of U and V as $UR - Y$; $VB - Y$.)

E

e *abbreviation* MATHS exponential constant 2.71828... which is defined by the equation $e = \exp(1)$ ■ *symbol* PHYS the charge on an electron equal to 1.60219×10^{-19} coulombs

E *symbol* MEASURE exa- ■ *noun* MATHS the hexadecimal number equivalent to decimal number 14

EA *abbreviation* Environment Agency

ear *noun* 1. ANAT an organ which is used for hearing (NOTE: For terms referring to the ear, see words beginning with **auric-**, **ot-** or **oto-**.) 2. BOT the flower head of a cereal plant such as wheat or maize where the grains develop

COMMENT: The outer ear is shaped in such a way that it collects sound and channels it to the eardrum. Behind the eardrum, the three ossicles in the middle ear vibrate with sound and transmit the vibrations to the cochlea in the inner ear. From the cochlea, the vibrations are passed by the auditory nerve to the brain.

ear canal *noun* ANAT one of several passages in or connected to the ear, especially the external auditory meatus, the passage from the outer ear to the eardrum

eardrum *noun* ANAT the membrane at the end of the external auditory meatus leading from the outer ear, which vibrates with sound and passes the vibrations on to the ossicles in the middle ear (NOTE: For terms referring to the eardrum, see words beginning with **auric-** or **tympan-**.)

EAROM *abbreviation* COMPUT electrically alterable read-only memory

ear ossicle *noun* ANAT one of three small bones, the malleus, the incus and the stapes, in the middle ear

earth *noun* 1. soil 2. the ground or land surface 3. ELEC a connection in a circuit representing zero potential ○ *All loose wires should be tied to earth.* ■ *verb* ELEC to connect an electrical device to the ground ○ *All appliances must be earthed.* (NOTE: The US term is **ground**.)

Earth *noun* ASTRON, EARTH SCI the planet on which human beings developed and live

COMMENT: Earth is the third planet of the solar system and the only one known to support life. Earth is also remarkable for its seas of liquid water, for its oxygen-containing atmosphere and for being geologically very active. Earth's equatorial radius is 6378km, about a third of a per cent more than its polar radius because of Earth's rotation. About 4500 million years old, like the other planets, Earth rotates on its axis in a day, orbits the Sun in a year and has a satellite, the Moon, which orbits it once per lunar month. Earth can be divided into various zones: the lithosphere (solid rock and molten interior), the hydrosphere (the water covering the surface), the atmosphere (the gaseous zone rising above Earth's surface) and the biosphere (those parts of the other zones in which living organisms exist). The interior of the Earth is formed by a central core made of nickel and iron, part of which is solid. Above the core is the mantle, a layer about 2700km thick of molten minerals. On top of the mantle is the crust, formed of solid rock between 6 and 70km thick.

Earth Liberation Front *noun* ENVIRON an environmental movement that stages demonstrations and takes direct action to defend forests and land from logging companies and developers

earthquake *noun* EARTH SCI a phenomenon in which the Earth's crust or the mantle beneath it shakes and the surface of the ground moves because of movement inside the crust along fault lines, often causing damage to buildings

earth science *noun* any science concerned with the physical aspects of the planet Earth, e.g. geochemistry, geodesy, geography, geology, geomorphology, geophysics or meteorology,

Earth Summit *noun* ENVIRON the United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil, in June 1992

COMMENT: The principal outcomes of the 'Earth Summit' were a declaration, conventions on controlling climate change and preserving biological diversity, and a lengthy agenda outlining the extent of global environmental problems and the measures needed to tackle them in order to achieve the agreed goal of 'sustainable development'. Opinion was divided as to how far the conference could be termed a success. Many environmentalists stressed its failure to set binding targets for resolving environmental problems, and to address adequately the links between poverty in developing countries and environmental degradation. Others stressed that it should be seen as a first step towards sustainable development and an important acknowledgement of the seriousness of the problem and of the fact that global co-operation is needed to overcome it.

earth tremor *noun* EARTH SCI a slight earthquake

earth wire *noun* ELEC a wire connecting an electrical device to the ground, representing zero potential

earthworks *plural noun* ENG constructions such as walls or banks made from soil

earthworm *noun* ZOO an invertebrate animal with a long thin body divided into many segments, living in large numbers in the soil

COMMENT: Earthworms aerate the soil as they tunnel. They also eat organic matter and help increase the soil's fertility. They help stabilise the soil structure by compressing material and mixing it with organic matter and calcium. It is believed that they also secrete a hormone which encourages rooting by plants.

east *adjective, adverb, noun* NAVIG **1.** a compass point 90° clockwise from due north and directly opposite west ○ *London is east of New York.* ○ *The wind is blowing from the east.* ○ *The river flows east into the ocean.* **2.** the direction in which Earth rotates and the direction of the rising sun

easterly *adjective* NAVIG to or from the east ○ *The hurricane was moving in an easterly direction.* ■ *noun* METEOROL a wind which blows from the east

eastern *adjective* NAVIG referring to or in the east ○ *The main rain forests lie in the eastern half of the country.*

east wind *noun* METEOROL a wind which blows from the east

easy-to-use *adjective* COMPUT simple to understand and operate

eat *verb* BIOL to chew and swallow food (NOTE: **eating** – **ate** – **eaten**)

ebb EARTH SCI *verb* (of the sea or water affected by tides) to move away from a shore, as the tide falls ■ *noun* the movement of the sea or water affected by tides away from a shore as the tide falls. Compare **flow**

ebb tide *noun* EARTH SCI a tide which is going down or which is at its lowest ○ *The plan is to build a barrage to generate electricity on the ebb tide.* Compare **flood tide**

EBCDIC *abbreviation* COMPUT extended binary coded decimal interchange code

e-beam *noun* PHYS a stream of high-energy electrons, used in food irradiation, sterilisation, welding and imaging

EBNF *abbreviation* COMPUT extended BNF

ebony *noun* TREES a black tropical hardwood tree, now becoming scarce. Genus: *Diospyros*.

ebook *noun* COMPUT same as **electronic book**

EBR *abbreviation* COMPUT electron beam recording

eccentric *adjective* ASTRON referring to an orbit which is elliptical rather than circular

eccentricity *noun* ASTRON the amount by which an ellipse such as an orbit differs from an exact circle (NOTE: Eccentricity is measured as the difference between the large and small radii (the semi-major and semi-minor axes) divided by the semi-major axis.)

ecdysis *noun* ZOO the regular shedding of the hard outer layer (**cuticle**) of arthropods or the skin of reptiles

ecesis *noun* the successful establishment of a plant or animal species in a new environment

echinoderm *noun* ZOO a marine invertebrate animal with a radially symmetrical body, tube feet, and an internal skeleton of calcareous plates, e.g. a starfish, sea urchin, sea lily or sea cucumber. Phylum: Echinodermata.

echo PHYS *noun* **1.** the repetition of a sound by reflection of sound waves from a surface **2.** the return of a signal back to the source from which it was transmitted ○ *The strength of the returning echo from a radar transmission depends on a number of factors.* ■ *verb* to return a received signal along the same transmission path

echo- *prefix* PHYS referring to sound

echo cancellation *noun* TELECOM a technique used to remove echo signals from a communications line

echolocation *noun* PHYS the technique of finding the location of something by sending out a sound signal and listening to the reflection of the sound (NOTE: Bats and whales navigate and find their food by using echolocation.)

echosounder *noun* PHYS a device used to find the depth of water by sending a sound signal down to the bottom and calculating the distance from the time taken for the reflected sound to reach the surface again

echosounding *noun* PHYS the process of finding the depth of water using an echosounder

ECL *abbreviation* COMPUT emitter-coupled logic

eclampsia *noun* MED a serious condition of pregnant women at the end of pregnancy, where the patient has convulsions and high blood pressure and may go into a coma, caused by toxæmia of pregnancy

eclipse *noun* ASTRON a situation when the Moon passes between the Sun and the Earth or when the Earth passes between the Sun and the Moon, in both cases cutting off the light visible from Earth. ◊ **solar eclipse, lunar eclipse**

COMMENT: In an eclipse of the Moon, Earth comes between the Moon and Sun, so that its shadow crosses the Moon's surface. The term is also used universally but in fact wrongly for occasions when the Sun's disc is blotted out by the Moon from the point of view of observers on Earth. These events are in fact occultations of the Moon, or eclipses of the Earth. The Moon and the Sun are almost exactly the same size – about half a degree – in the Earth's sky, making it possible, by coincidence, to observe the eclipsed Sun. This provides a powerful experimental tool for examining the Sun's atmosphere. The Moon's shadow on Earth is so narrow that any given solar eclipse is visible only from a narrow line on the Earth's surface. If the Moon is too far away in its orbit the full eclipse effect is not seen, but an **annular eclipse** is observed instead.

ecliptic *noun* ASTRON the apparent path of the Sun's annual motion relative to the stars, shown as a circle passing through the centre of the imaginary sphere (**celestial sphere**) containing all the planets and stars (NOTE: Eclipses of the Sun or Moon can occur only when the Moon crosses the ecliptic.)

ECMA symbol *noun* COMPUT one of a standard set of symbols used to draw flow-charts

ECN *abbreviation* Environmental Change Network

eco- *prefix* ECOL, ENVIRON ecology, ecological

ecoagriculture *noun* ENVIRON the practice of productive agriculture using methods designed to maintain natural resources, biodiversity and the landscape

eco-architect *noun* ARCHIT, ENVIRON, INDUST an architect who specializes in building environmentally friendly energy-efficient buildings

eco-audit *noun* ENVIRON same as **environmental audit**

ecocatastrophe *noun* ENVIRON an event that results in very severe damage to the environment, especially one caused by human action

ecoclimate *noun* ECOL the climate of a specific habitat, regarded as an ecological factor

ecocline *noun* ECOL the changes which take place in a species as individuals live in different habitats

ecocomposite *noun* ENVIRON a material made from a plant fibre such as hemp fixed in a resin based on a plant extract such as cashew-nut shell liquor

eco-efficiency *noun* ENVIRON the efficient manufacture of goods at competitive prices without harm to the environment

eco-engineering *noun* ENG the use of trees and traditional materials to protect areas of land likely to suffer erosion or landslips, keeping hard construction to a minimum

ecolabelling *noun* ENVIRON the identification and labelling of products and services that are considered less harmful to the environment than other similar products or services

E. coli *abbreviation* MICROBIOL *Escherichia coli*

ecological *adjective* referring to ecology

ecological balance *noun* ECOL the theoretical concept of stability occurring when relative numbers of different organisms living in the same ecosystem remain more or less constant, although in practice there is always fluctuation

ecological corridor *noun* ECOL a strip of vegetation allowing the movement of

wildlife or other organisms between two areas

ecological damage *noun* ENVIRON the harm done to an ecosystem

ecological disaster *noun* ENVIRON an event which seriously disturbs the balance of the environment

ecological diversity *noun* ECOL a variety of biological communities that interact with one another and with their physical and chemical environments

ecological efficiency *noun* ECOL a measurement of how much energy is used at different stages in the food chain or at different trophic levels

ecological engineering *noun* ENVIRON a design process that aims to integrate human activities with the natural environment for the benefit of both, taking ecological impact into account in the construction of roads or harbours, the introduction of new plants or animals, or other actions

ecological factor *noun* ECOL a factor which influences the growth and distribution of a plant species in a habitat

ecological fitness *noun* the number of offspring that survive to maturity and themselves reproduce

ecological footprint *noun* an area of the Earth that supplies the ecosystem resources for an organism to exist ○ *Ecological footprints enable people to visualise the impact of their consumption patterns and activities on ecosystems.* ○ *You can alter the size of your ecological footprint by modifying your actions.*

ecological indicator *noun* ECOL a species that has particular nutritional or climatic requirements and whose presence in an area indicates that those requirements are satisfied

ecological justification *noun* ENVIRON the reasoning for nature conservation based on the idea that the environment provides specific functions necessary for human life

ecologically *adverb* in an ecological way

ecologically sustainable development *noun* development which limits the size of the human population and the use of resources, so as to protect the existing natural resources for future generations

ecological niche *noun* ECOL the chemical, physical or biological characters that determine the position of an organism or

species in an ecosystem (NOTE: This is also referred to as the 'role' or 'profession' of an organism, which may be described in terms of its environment and type, e.g. as an aquatic predator or a terrestrial herbivore.)

ecological pyramid *noun* ECOL same as **biotic pyramid**

ecological recovery *noun* ECOL the return of an ecosystem to its former favourable condition

ecological restoration *noun* ECOL the process of renewing and maintaining the health of an ecosystem

ecological structure *noun* ECOL the spatial and other arrangements of species in an ecosystem

ecological succession *noun* ECOL the series of stages by which a group of organisms living in a community reaches its final stable state or climax

ecologist *noun* 1. ECOL a scientist who studies ecology 2. ENVIRON a person who is in favour of maintaining a balance between living things and the environment in which they live in order to improve the life of all organisms

ecology *noun* ECOL the study of the relationships among organisms as well as the relationships between them and their physical environment

Eco-Management and Audit Scheme *noun* full form of EMAS

ecomovement *noun* ENVIRON a grouping of people and organisations dedicated to the protection of the environment

economic conservation *noun* the management of the natural environment to maintain a regular yield of natural resources

economic geology *noun* EARTH SCI the study of rock or soil formation for the purpose of commercial mineral extraction

economic injury level *noun* the level of an activity such as pest control at which it is not longer profitable to continue. Abbr EIL

economizer *noun* INDUST a device which saves waste heat in a boiler, by transferring heat from waste gases to the water being heated or where water is pre-heated before it passes to the main boiler

ecoparasite *noun* BIOL a parasite which is adapted to a specific host

ecophysiology *noun* ECOL the study of organisms and their functions and how they exist in their environment

ecosphere *noun* EARTH SCI the part of the Earth and its atmosphere where living organisms exist, including parts of the lithosphere, the hydrosphere and the atmosphere. Also called **biosphere**

ecosystem *noun* ECOL a complex of plant, animal and microorganism communities and their interactions with the environment in which they live ○ *European wetlands are classic examples of ecosystems that have been shaped by humans.*

COMMENT: An ecosystem can be any size, from a pinhead to the whole ecosphere. The term was first used in the 1930s to describe the interdependence of organisms among themselves and their relationships with the living and non-living environment.

ecosystem approach *noun* ECOL a set of internationally agreed principles guiding the way in which the natural environment and wildlife should be managed

ecosystem diversity *noun* the variety of habitats that exist in the biosphere

ecosystem services *plural noun* services provided naturally by the ecosystem, which help humans to exist, e.g. reduction in atmospheric carbon dioxide levels, stabilising the climate and maintenance of the ozone layer

ecotax *noun* ENVIRON a tax that is used to encourage people to change from an activity that damages the environment or to encourage activities with beneficial environmental effects. Also called **environmental tax**

ecotone *noun* ECOL an area between two different types of vegetation which may share the characteristics of both, e.g. the border between forest and moorland

ecotoxic *adjective* ENVIRON likely to cause severe damage to organisms and their environment

ecotoxicity *noun* ECOL the degree to which a chemical released into an environment by human activities affects the organisms that live or grow there

ecotoxicology *noun* ENVIRON the study of how chemicals associated with human activities affect organisms and their environment

ecotype *noun* ECOL a form within a species that has special characteristics which allow it to live in a specific habitat

ecowarrior *noun* ECOL an activist who is prepared to take direct, sometimes illegal, action on environmental issues rather than just campaign

ECT *abbreviation* MED electroconvulsive therapy

ecto- *prefix* outside. Compare **endo-**

ectoderm *noun* BIOL the outermost of three layers of cells of an embryo, which form the epidermis, nervous tissue and sense organs

ectoparasite *noun* BIOL a parasite which lives on the skin or outer surface of its host but feeds by piercing the skin

ectopic *adjective* MED not in the usual position

ectoplasm *noun* BIOL the outer and densest layer of the cytoplasm in cells

ectotherm *noun* ZOOLOG an organism which is largely reliant on external sources of heat to raise its body temperature ○ *Plants and reptiles are ectotherms.* Compare **endotherm**. Also called **poikilotherm**

eczema *noun* MED a non-contagious inflammation of the skin, with itchy rash and blisters

EDAC *abbreviation* COMPUT error detection and correction

edaphic *adjective* EARTH SCI referring to soil

edaphic climax *noun* EARTH SCI a climax community caused by the type of soil in an area

edaphic factors *plural noun* ECOL the soil conditions that affect the organisms living in a specific area

edaphon *noun* ECOL an organism living in soil

eddy *noun* PHYS a whirlpool of air or of water in a current

eddy current *noun* ELEC an electric current induced in the iron core of an electromagnet by an alternating magnetic field, frequently a source of wasted energy

Eden Project *noun* ENVIRON a development by a conservation charity in a large disused clay pit in Cornwall that explores human dependence on plants in a global context, illustrating economic, social and environmental impacts. Plants from tropical and other climates are housed in extremely large, domed glasshouses.

edge *noun* the furthest point of something such as a flat object, a signal or a clock pulse

edge connector *noun* COMPUT a long connector with a slot containing metal contacts to allow it to make electrical contact with an edge card

edge detection *noun* COMPUT the process of using an algorithm and routines for image recognition to define the edges of an object

edge-triggered *adjective* ELEC referring to a process or circuit which is clocked or synchronised by the changing level (**edge**) of a clock signal rather than the level itself

EDI *abbreviation* COMPUT electronic data interchange

edible *adjective* BIOL referring to something that can be eaten

edible fungus *noun* FUNGI a fungus that is not poisonous to humans if eaten

edit *verb* COMPUT to change, correct and modify text or programs

editor program *noun* COMPUT a piece of software that allows the user to select sections of a file and alter, delete or add to them

EDO memory *noun* COMPUT memory technology that provides better performance by being able to find and read data from a memory location in one operation. Full form **extended data output memory** (NOTE: It can also store the last piece of data that was saved to memory in a cache ready to be read back from memory.)

EDP *abbreviation* COMPUT electronic data processing (NOTE: **EDP** is more commonly used in US English)

EDP capability *noun* COMPUT a word-processor able to carry out certain data processing functions

edutainment *noun* COMPUT software that is a cross between entertainment and educational products

EEA *abbreviation* European Environment Agency

EEG *abbreviation* electroencephalogram

EEPROM *abbreviation* ELEC electrically erasable programmable read-only memory

EER *abbreviation* MEASURE energy efficiency ratio

EEROM *abbreviation* COMPUT electrically erasable read-only memory

EFA *abbreviation* BIOCHEM essential fatty acid

effect *noun* 1. something which happens as the result of an action ○ *Ultra-violet radiation has the effect of warming the atmosphere.* ○ *Pressure patterns have an effect on weather.* Compare **affect** 2. the condition of being in full force □ **in effect** in operation □ **to take effect, to come into effect** to start to operate ○ *A new regulation comes into effect tomorrow.* ■ **verb** to carry out or bring about something ○ *Several modifications to the design were effected.* ○ *The accident effected a change in procedures.*

effective *adjective* 1. having an expected and satisfactory result ○ *effective control measures* 2. starting to work ○ *The regulation is effective immediately.*

effective address *noun* COMPUT an address resulting from the modification of an address

effective instruction *noun* COMPUT the instruction executed after the modification of an original instruction

effectiveness *noun* an assessment of how effective an action is ○ *Ice covering reduces the effectiveness of an aerial.*

effector *noun* 1. ANAT a muscle, gland or organ capable of responding to a nerve impulse 2. ANAT a nerve that conducts an impulse 3. BIOCHEM a substance that controls protein synthesis by binding to an enzyme and increasing or decreasing its activity

efferent *adjective* PHYSIOL referring to nerves that conduct impulses away from the brain or spinal cord, or blood vessels that remove blood from an organ

efferent nerve *noun* ANAT same as **motor nerve**

effervescence *noun* CHEM the escape of small bubbles of gas from a liquid

efficiency *noun* 1. the ability to act or produce something with a minimum of waste, expense or unnecessary effort 2. a comparison of the effective or useful output to the total input in any system ○ *Efficiency is a key component of a successful business.* 3. MECH ENG a ratio of the energy delivered by a machine to the energy supplied for its operation ○ *mechanical efficiency*

efficiency ratio *noun* MECH ENG a number which shows the proportion of work done or energy produced by a

machine or engine, to the energy supplied, usually expressed as a percentage

efficient *adjective* referring to the ability to act or produce something with a minimum of waste, expense or unnecessary effort ○ *At some speeds and altitudes the pure jet engine is less efficient than a piston engine.*

efficient combustion *noun* PHYS combustion in which fuel energy is used to its maximum capability with minimum waste

efflorescence *noun* CHEM the loss of some of the water of crystallisation from a crystalline salt

effluent *noun* INDUST liquid, semisolid or gas waste from industrial processes or material such as slurry or silage effluent from a farm

effluent charge *noun* INDUST a fee paid by a company to be allowed to discharge waste into the sea or a river

effluent monitor *noun* INDUST a device which monitors the radioactivity in liquid waste from nuclear power stations

effluent purification process *noun* INDUST any method of purifying sewage

effluent standard *noun* ENVIRON the amount of sewage allowed to be discharged into a river or the sea

effort *noun* 1. the use of physical or mental energy to do something ○ *In order to qualify for a licence, it is necessary to put some effort into the training course.* 2. PHYS the force applied against inertia

effusion *noun* PHYS the flow of a gas through a very small aperture under pressure

egestion *noun* PHYSIOL the process by which a cell or organism excretes

egg *noun* 1. BIOL a reproductive cell produced in a female mammal by the ovary which, if fertilised by male sperm, becomes an embryo 2. ZOOL a fertilised ovum of an animal such as a bird, fish, reptile, amphibian or insect, protected by a membrane layer in which the embryo continues developing outside the mother's body until it hatches

COMMENT: The average hen's egg weighs about 60g, of which about 20g is yolk, 35g white and the rest shell and membranes. Eggs contain protein, fat, iron and vitamins A, B, D and E. In 2004, total egg consumption in the UK was 8.961 million, and the annual egg consumption per capita was 174. The percentage of egg production from intensive systems was 66% (a signifi-

cant drop from the 87% of 1993), 27% were from free range (11% in 1993) and 7% came from other sources. The value of retail sales of eggs in 2004 was £568 million, with each bird producing an average yield of 292 eggs per year.

egg cell *noun* BIOL an immature ovum or female cell

EHO *abbreviation* ENVIRON Environmental Health Officer

EIA *abbreviation* ENVIRON environmental impact assessment

EIA interface *noun* COMPUT a standard defining interface signals, transmission rate and power, usually used to connect terminals to modems

eicosapentaenoic acid *noun* BIO-CHEM full form of EPA²

EIDE *noun* COMPUT an enhanced IDE specification that improves the performance and data transfer rates to and from a hard disk drive. Full form **extended integrated drive electronics**

eigenvalue *noun* PHYS (*in quantum mechanics*) the energy of a wave function of a system

8-bit byte *noun* COMPUT a byte made up of eight binary digits. Also called **octet**

8-bit sample *noun* COMPUT a single sample of an analog signal which is stored as an 8-bit digital number, meaning that there are 256 possible levels. ○ **16-bit sample**

EIL *abbreviation* economic injury level

Einstein, Albert (1879–1955) a physicist of Swiss birth who lived most of his life in the USA. His work on relativity altered the face of modern physics.

einsteinium *noun* CHEM ELEM a synthetic radioactive element in the actinide group, produced by irradiation of plutonium and other elements. Symbol **Es** (NOTE: The chemical symbol is **Es**; the atomic number is **99** and the atomic weight is **254**.)

EIS *abbreviation* 1. ENVIRON environmental impact statement 2. COMPUT executive information system ○ *With this EIS software, we can see how every part of the company performs.*

either-or operation *noun* COMPUT a logical function that produces a true output if any input is true

ejaculate PHYSIOL *verb* to eject semen from the penis during orgasm ■ *noun* semen that has been ejected from the penis during orgasm

ejecta *plural noun* EARTH SCI the ash and lava thrown up by an erupting volcano

elapse *verb (of time)* to pass

elapsed time *noun* COMPUT the time taken by the user to carry out a task on a computer

elasmobranch *noun* FISH a fish with a cartilaginous skeleton and no true bone, e.g. a shark, ray or skate. Subclass: Elasmobranchii.

elastance *noun* ELECTRONICS the reciprocal of the capacitance of a device, measured in farad⁻¹

elastic *adjective* **1.** PHYS easily returning to original shape after being stretched or expanded ○ *At low values of stress, if the plot of stress and strain is a straight line, the indication is that the material is elastic within this range.* **2.** flexible

elastic banding *noun* COMPUT a method of defining the limits of an image on a computer screen by stretching a boundary around it

elastic buffer *noun* COMPUT a buffer size that changes according to demand

elasticity *noun* PHYS the property of returning to an original form or state following deformation ○ *Titanium falls between aluminium and stainless steel in terms of elasticity, density and elevated temperature strength.*

elastic limit *noun* PHYS the maximum stress that can be applied to a material without causing permanent change of form or state

elastic modulus *noun* PHYS the ratio of stress applied to a body compared to the strain produced inside the body

elastomer *noun* CHEM a material with elastic properties (NOTE: It may be a natural material such as rubber or a synthetic one such as neoprene.)

electric *adjective* ELEC worked by, charged with or producing electricity

electrical *adjective* ELEC **1.** referring to electricity ○ *an electrical fault* **2.** powered or worked by electricity ○ *Activation may be mechanical or electrical.*

electrical actuation *noun* ELEC a movement caused by an electric motor

electrical appliance *noun* ELEC a device or machine worked by electricity, e.g. a washing machine, vacuum cleaner, iron or toaster

electrical equipment *noun* devices, components or systems that use electricity

electrically *adverb* ELEC by electricity ○ *an electrically-powered motor*

electrically alterable read-only memory *noun* COMPUT a read-only memory chip whose contents can be programmed by applying a specific voltage to a write pin and can be erased by light or a reverse voltage. Abbr **EAROM**

electrically erasable programmable read-only memory *noun* COMPUT a ROM storage chip which can be programmed and erased using an electrical signal. Abbr **EEPROM**

electrically erasable read-only memory *noun* COMPUT an EAROM memory chip whose contents can be programmed by applying a specific voltage to a write pin and can be erased by light or a reverse voltage. Abbr **EEROM**

electrical polarity *noun* ELEC a definition of whether an electrical signal is positive or negative, indicating whether a point is a source or collector of electrical current (NOTE: Positive polarity terminals are usually marked red, negative are black.)

electrical power generation *noun* ELEC the production of electricity

electrical storm *noun* METEOROL a storm with thunder and lightning

electric battery *noun* ELEC a small device for storing and releasing electric energy

electric car *noun* a car that is propelled by an electric battery so that it produces no harmful emissions

electric charge *noun* PHYS a number of atoms that are charged because of an excess or deficiency of electrons

electric current *noun* ELEC the mass movement of electric charge in a conductor

electric displacement *noun* PHYS the charge per unit area in a dielectric material. Symbol **D**. Also called **electric flux density**

electric field *noun* PHYS the region or space around a charged body in which another charged particle will be affected by a force

electric flux density *noun* PHYS same as **electric displacement**

electricity *noun* ELEC an electric current used to provide light, heat or power ○ *The*

electricity was cut off and the computers crashed.

COMMENT: Electricity, though clean and relatively cheap to use, is an inefficient form of energy since more than 50% of the heat needed to make it is wasted. On the other hand, electricity is used to drive machines which could not be operated by other means.

electricity grid *noun* ELEC a system for carrying electricity round a country, using power lines from power stations. Also called **national grid** (NOTE: The electricity is at a high voltage, which is reduced by transformers to low voltage by the time the electricity is brought into use.)

electricity supply *noun* ELEC the electric power provided for domestic and industrial use ○ *The electricity supply is often cut.*

electric motor *noun* ELEC a device for turning electrical energy into mechanical energy

electric polarisation *noun* PHYS polarisation of an electric signal or electromagnetic field

electric potential *noun* PHYS the work required to transfer a unit of positive electric charge from an infinite distance to a given point. Symbol **V**

electrify *verb* to charge something with electricity or pass an electric current through something

electro- *prefix* electricity

electrocardiogram *noun* MED a visual record of the changes in electrical potential that occur with each heart beat, produced by an electrocardiograph

electrocardiograph *noun* MED a device that produces a visual record of the heart's electrical activity via electrodes placed on the patient's chest

electrochemical *adjective* CHEM of or relating to electrochemistry

electrochemical cell *noun* ELEC, CHEM a device that generates an electromagnetic force as a result of a chemical reaction. ◇ **battery, cell**

electrochemical equivalent *noun* PHYS in electrolysis, the mass of an element separated from a solution by applying one coulomb of charge. Symbol **z**. ◇ **Faraday's laws**

electrochemical series *noun* CHEM same as **electromotive series**

electrochemistry *noun* CHEM the study of chemical behaviour relating to electrolysis and electric cells

electroconvulsive therapy *noun* MED the treatment of severe depression and some mental disorders by giving the patient small electric shocks in the brain to make him or her have convulsions. Abbr **ECT**

electrode *noun* ELEC a solid electrical conductor through which an electric current enters or leaves an electrolytic cell ○ *A battery has a positive and a negative electrode.*

electrodeposit *noun* PHYS a substance deposited by electrolysis

electrode potential *noun* CHEM the potential difference generated between an electrode and the solution in which it is immersed

electrodialysis *noun* INDUST the process by which ions dissolved in sea water are removed, making the water fit to drink

electroencephalogram *noun* MED a graphic record of the electrical activity of the brain produced by an electroencephalograph

electroencephalograph *noun* MED a device that produces a graphic record of the electrical activity of the brain via electrodes placed on the patient's scalp

electroforming *noun* INDUST the process of manufacturing an object, often a very small or fragile one, by electrodeposition of a metal onto a pre-formed pattern or mould

electroluminescence *noun* PHYS light emitted from a phosphor dot when it is struck by an electron or charged particle

electroluminescent *adjective* PHYS capable of emitting light due to electroluminescence ○ *The screen coating is electroluminescent.*

electroluminescent display *noun* COMPUT a flat, lightweight display screen made up of two pieces of glass covered with a grid of conductors, separated by a thin layer of gas which luminesces when a point of the grid is selected by two electric signals

electrolysis *noun* CHEM a chemical reaction caused by the passage of electricity from one electrode to another

electrolyte *noun* CHEM a chemical solution of a substance which can conduct electricity

electrolytic cell *noun* CHEM a cell consisting of electrodes in an electrolyte solution

electrolytic rectifier *noun* PHYS a device made of two electrodes and an electrolyte that allows electric current to flow in only one direction

electrolytic separation *noun* PHYS the separation of isotopes using electrolysis

electromagnet *noun* PHYS a magnet consisting of a coil of insulated wire wrapped around a soft iron core that is magnetised only when electric current flows through the wire

COMMENT: In a practical electromagnet the magnetic field produced by the coil carrying the electric current is concentrated by the insertion of a ferrous core into the coil.

electromagnetic *adjective* PHYS **1.** having magnetic properties caused by a flow of electricity **2.** containing or worked by an electromagnet

electromagnetic force *noun* PHYS the force which acts between charged particles in chemical reactions and elsewhere

electromagnetic interaction *noun* PHYS the interaction between elementary particles arising from their electric and magnetic fields, with a strength between that of the strong and weak interactions

electromagnetic interference *noun* COMPUT the corruption of data due to nearby electrically generated magnetic fields. Abbr **EMI**

electromagnetic radiation *noun* PHYS a wave-like form of energy that can travel in a vacuum and consists of a magnetic and an electric field at right angles to each other and to the direction in which the wave travels (NOTE: It includes many familiar forms of energy such as visible light, X-rays, microwaves and radio waves, whose properties vary according to their wavelengths or frequencies.)

electromagnetic spectrum *noun* PHYS a range of energy capable of being transmitted through the universe by the propagation of electrical and magnetic fields, of which the visible spectrum experienced as light is only a minute fraction

COMMENT: The full electromagnetic spectrum starts with radio waves from very low frequency to extra high frequency. Below this come infrared wavelengths until the longest visible light, red, with a wavelength of some 780 nm. The visible runs from here to the end of the violet at 380 nm, after which the ultraviolet runs up to about 0.01

nm. After this come the gamma rays up to about a thousand trillionth of a metre wavelength. X-rays overlap the boundary between ultraviolet and gamma rays. Objects at different temperatures emit radiation preferentially at different wavelengths, getting shorter as the object gets hotter.

electromagnetic wave *noun* PHYS a wave of electromagnetic energy generated in an electromagnetic field

electromagnetism *noun* PHYS a force exerted by a magnetic field found around any conductor carrying current, the strength of which will depend on the amount of current flow

electrometallurgy *noun* METALL the range of metallurgical processes such as electroplating in which electricity is involved

electromotive force *noun* PHYS a source of electrical energy, from the movement of electrons, required to produce an electric current, produced by devices such as batteries or generators and measured in volts. Abbr **emf**

electromotive series *noun* CHEM an arrangement of chemical elements in the order of their electrode potentials, taking hydrogen as having zero electrode potential

electron *noun* PHYS a negatively charged subatomic particle within an atom *o Electrons in the outer orbits of an atom may not be strongly attracted to the nucleus and may be lost.*

electron affinity *noun* PHYS the amount of energy required to remove an electron from a negatively charged ion, giving a measure of the tendency of the molecule or atom to form a negative ion

electron beam *noun* PHYS a narrow, focused stream of electrons moving at high speed in the same direction, often in a vacuum *o The electron beam draws the image on the inside of a CRT screen.*

electron beam recording *noun* COMPUT the recording of the output from a computer directly onto microfilm using an electron beam. Abbr **EBR**

electron capture *noun* PHYS **1.** the process in the nucleus of an atom in which a proton is transformed into a neutron, reducing the atomic number by one **2.** the formation of a negative ion when an extra electron is acquired

electronegative *adjective* PHYS (*of atoms*) having negative electric charge and

therefore tending to move towards a positive electric pole

electron gun *noun* PHYS a part of a cathode ray tube that produces a beam of electrons

electronic *adjective* ELECTRONICS referring to, based on, operated by or involving the controlled conduction of electrons, especially in a vacuum, gas or semi-conducting material ○ *Lightning does not often seriously damage aircraft but it may affect sensitive electronic equipment.*

electronically *adverb* ELECTRONICS by electronic methods ○ *The text is electronically transmitted to an outside typesetter.*

electronic book *noun* COMPUT a book published in electronic form

electronic data interchange *noun* COMPUT a system of sending orders, paying invoices or transferring company information over a network or telephone line using an electronic mail system. Abbr **EDI**

electronic data processing *noun* COMPUT data processing using computers and electronic devices. Abbr **EDP**

electronic digital computer *noun* COMPUT a digital computer constructed with electronic components (NOTE: The basic form uses a central processing unit, main memory, backing storage and input/output devices. These are all implemented with electronic components and integrated circuits.)

electronic engineer *noun* ELECTRONICS a person who specialises in work on electronic devices

electronic mail *noun* COMPUT full form of **email**

electronic nose *noun* a device developed as an alternative to human assessment of the aroma characteristics of a material

electronic publishing *noun* COMPUT
1. the use of desktop publishing packages and laser printers to produce printed matter
2. the use of computers to write and display information such as viewdata

electronic pulse *noun* COMPUT a short voltage pulse

electronics *noun* ELECTRONICS the science of applying the study of electrons and their properties to manufactured products such as components, computers, calculators or telephones ○ *the electronics industry* ○ *an electronics specialist*

Electronics Industry Association Interface *noun* ELEC a standard defining

interface signals, transmission rate and power, usually used to connect terminals to modems. Abbr **EIA**

electronic smog *noun* COMPUT excessive stray electromagnetic fields and static electricity generated by a lot of pieces of electronic equipment (NOTE: This can damage equipment or a person's health.)

electronic traffic *noun* COMPUT data transmitted in the form of electronic pulses

electron lens *noun* PHYS a machine that creates an electric or magnetic field that focuses an electron beam

electron microscope *noun* SCI a microscope that uses a beam of electrons instead of light. Abbr **EM**

electron optics *noun* PHYS the study of the properties and use of an electron beam in optical devices such as a cathode ray tube or electron microscope

electron-spin resonance *noun* PHYS a type of spectroscopy in which microwave radiation is used

electronvolt *noun* PHYS a measure of energy used in physics, equal to the energy accumulated by an electron passing through a one-volt electric potential. Symbol **eV**

electrophile *noun* CHEM an electron-attracting or electron-accepting atom, molecule or chemical group

electrophilic addition *noun* CHEM a chemical reaction caused by adding a molecule to the double or triple bond of an unsaturated organic compound

electrophilic substitution *noun* CHEM a chemical reaction that substitutes an atom in an organic compound

electrophoresis *noun* PHYS the movement of charged particles in a colloid or suspension when an electric field is applied (NOTE: It forms the basis of a common technique for analysing chemicals.)

electrophorus *noun* PHYS a machine for generating electrical charge from the friction between a spinning disc and a metal plate

electrophotographic *adjective* PRINTING referring to a printing technique used in many laser printers in which a laser beam creates an image on a charged drum (NOTE: The drum then attracts particles of fine black toner to the charged areas and transfers the image to paper which is then passed near a heater to melt the toner onto the paper.)

electroplate *verb* PHYS to use electrolysis to coat the surface of one metal with another

electroporation *noun* BIOTECH a method of genetic modification that uses an electric pulse to introduce DNA from one organism into a protoplast of another

electropositive *adjective* PHYS referring to an element that tends to lose an electron and so form a positive ion

electrosensitive paper *noun* PRINTING a metal-coated printing paper which can display characters using localised heating with a special dot-matrix print head

electrosensitive printing *noun* PRINTING printing using electrosensitive paper

electroshock therapy *noun* MED same as **electroconvulsive therapy**

electrostatic *adjective* PHYS referring to devices using the properties of static electrical charge

electrostatic field *noun* PHYS an electric field produced by a static electric charge

electrostatic precipitator *noun* PHYS a device for collecting minute particles of dust suspended in gas by charging the particles as they pass through an electrostatic field

electrostatic printer *noun* PRINTING a type of printer that forms an image on paper by charging some regions to provide character shapes and using ink with an opposite charge which sticks to the paper where required

electrostatics *noun* PHYS the study of electric charges at rest (**static electricity**)

electrostatic screen *noun* ELEC a metal cage surrounding sensitive equipment and connected to the ground to protect it from interference

electrostatic storage *noun* COMPUT the storage of data in the form of small electric charged regions on a dielectric material

electrostriction *noun* PHYS a change in the size of a dielectric material when it is near an electric field

electrovalent bond *noun* CHEM a chemical bond created by the transfer of electrons from one atom to another giving a structure in which oppositely charged ions are held together by attraction forces

electrum *noun* METALL a pale-coloured alloy of silver and gold often used for jewellery and ornaments

elegant programming *noun* COMPUT the writing of a well-structured program using the minimum number of instructions

element *noun* 1. CHEM a chemical substance that cannot be broken down to a simpler substance (NOTE: There are 110 named elements.) 2. ELEC the resistance wire coil in an electrical device such as a heater 3. a removable component or removable part such as in an air filter or oil filter 4. COMPUT a small part of an object which is made up of many similar parts 5. MATHS one number or cell of a matrix or array

COMMENT: Chemical elements are the chemically discrete types of atom which make up the universe and of which chemical compounds are composed. Atoms of a particular element can vary in the number of neutrons in their nuclei. The variants are called isotopes and always have the same number of positively charged protons, and an equivalent number of electrons in orbit around the nucleus. The simplest example is the three isotopes of hydrogen: normal hydrogen, deuterium and tritium, which have no neutrons, one neutron and two neutrons respectively. Each has one proton, with one electron in orbit around the nucleus.

elemental *adjective* CHEM in the form of a pure element ○ *The snail stores elemental sulfur in its shell.*

elementary *adjective* 1. COMPUT made of many similar small sections or objects 2. fundamental or basic

elementary particle *noun* PHYS a particle that is smaller than an atom or forms part of an atom, e.g. an electron. Also called **fundamental particle**, **subatomic particle**

elements *plural noun* the weather ○ *protected from the elements*

elevate *verb* to move something to a higher place or position from a lower one ○ *In some light aircraft the magnetic compass is elevated to a position as far away from the interfering effect of other components as possible.*

elevated *adjective* 1. raised to a higher place or position 2. increased ○ *an elevated temperature*

elevation *noun* 1. the height at which something is above a point of reference such as the ground or sea level ○ *The highest point in a locality is marked by a dot*

with the elevation marked alongside. **2.** movement to a higher place or position

elevation of boiling point *noun* PHYS a rise in the boiling point of a liquid caused by dissolving a solid into the liquid

elevator *noun* COMPUT a small, square indicator displayed within a scroll bar that indicates the current position within a long document or image ○ *The user can scroll through the image or text by dragging the elevator up or down the scroll bar.*

eliminate *verb* **1.** to get rid of or remove something that is not wanted ○ *To eliminate the need for complex mechanical linkage, the selector is operated electrically.* ○ *Mosquitoes were eliminated by spraying breeding grounds with oil.* **2.** to rule out a possibility ○ *Bacteria were eliminated as a possible cause of the illness.*

elimination *noun* **1.** the removal of a problem **2.** BIOL the removal of waste matter from the body **3.** the process of ruling out a possibility □ **by a process of elimination** by removing possibilities one by one until only the most likely cause or answer is left

elimination factor *noun* COMPUT a section of data that is not used during a search

ELISA *noun* IMMUNOL a technique for detecting and measuring proteins in biological materials. Full form

enzyme-linked immunosorbent assay

ellipse *noun* MATHS an oval shape or course ○ *Each planet moves in an ellipse and the sun is at one of the foci.*

ellipsoid *noun* MATHS a curved surface or body

elliptical *adjective* MATHS having an oval shape ○ *The path of the Earth around the sun is elliptical.*

elliptical galaxy *noun* ASTRON a galaxy with no arms or internal structure and an overall elliptical or spherical shape

elm *noun* TREES a large hardwood tree that grows in temperate areas. Genus: *Ulmus*.

El Niño *noun* EARTH SCI a phenomenon occurring every few years in the Pacific Ocean, where a mass of warm water moves from west to east, rising as it moves, giving very high tides along the Pacific coast of South America and affecting the climate

COMMENT: El Niño not only brings high tides but also influences rainfall patterns around the Pacific basin, most rain falling along the Pacific coast of South America, in southern

South Asia and in the Pacific Islands, but making northern South Asia, Africa and Australia drier than usual. The phenomenon seems to occur as a cycle, every two to five years.

else rule *noun* COMPUT a logical rule used with an IF-THEN instruction to provide an alternative if the IF-THEN condition is not met

eluant *noun* CHEM another spelling of **eluent**

eluate *noun* CHEM a liquid that has removed adsorbed material from an adsorbent using an elution process, consisting of the solvent and the previously adsorbed material

eluent, eluant *noun* CHEM a solvent

elution *noun* CHEM the removal of an adsorbed substance by washing with a solvent

eluviation *noun* EARTH SCI the action of particles and chemicals leaching from the topsoil down into the subsoil

eluvium *noun* EARTH SCI gravel formed as rocks are broken down into fragments where they are lying. Compare **alluvium**

em *noun* PRINTING a measure equal to the width of the letter m in a particular font. Compare **en**

EM *abbreviation* PHYS electron microscope

email, e-mail *noun* **1.** COMPUT a system of sending messages to and receiving messages from other users on an electronic network **2.** a message sent by e-mail. Full form **electronic mail**

EMAS *noun* a voluntary scheme of the European Union in which commercial and other organisations are encouraged to assess their approach to environmental matters against a given set of criteria. Full form **Eco-Management and Audit Scheme**

embankment *noun* ENG a wall made along a river bank to prevent a river from overflowing

embed *verb* to fix something firmly in a surrounding mass ○ *A temperature probe is embedded into the stator of the generator.* ○ *Water outlets have heater elements embedded in rubber seals in the outlet pipe.*

embedded code *noun* COMPUT a set of sections or routines written in machine code, inserted into a high-level program to speed up or perform a special function

embedded computer, embedded system *noun* COMPUT a dedicated computer controlling a machine or, within a larger system, performing one fixed function

embolism *noun* MED **1.** the obstruction of a blood vessel by an embolus **2.** same as embolus

embolus *noun* MED an obstruction in a blood vessel, usually a lodged blood clot

embryo *noun* BIOL an organism that develops from a fertilised egg or seed, e.g. an animal in the first weeks of gestation or a seedling plant with cotyledons and a root (NOTE: After eight weeks an unborn baby is called a fetus.) □ **in embryo** not yet developed

embryogenesis *noun* BIOL the formation and development of an embryo

embryology *noun* BIOL the scientific study of embryos, their growth and development

embryonic *adjective* **1.** BIOL referring to an embryo **2.** in the first stages of development

embryonic abortion *noun* BIOL the termination of pregnancy while the fetus is still an embryo (NOTE: A human baby is considered to be an embryo in the first eight weeks from conception.)

embryo sac *noun* BOT a large cell inside a female reproductive organ (**ovule**) of a flowering plant in which the egg cell is fertilised and the embryo develops

embryo transfer *noun* **1.** BIOTECH the transplanting of an embryo from a female into the womb of a surrogate mother **2.** the transplanting of an embryo from one animal into the womb of another, used as a method of improving breeding quality ► abbr **ET**

emergence *noun* **1.** EARTH SCI a gradual upward movement of a land mass **2.** BOT the germination of a seed

emergency *noun* a dangerous situation in which immediate action needs to be taken ○ *You should know the safety procedures to be taken in case of emergency.* ○ *After the earthquake, an emergency was declared.*

emergency shutdown *noun* INDUST the closure of stopping a nuclear reactor when it seems that something dangerous may happen

emergency ward *noun* MED a hospital ward that deals with urgent cases such as accident victims

emergent *adjective* **1.** BOT, ENVIRON referring to a plant that is just starting to grow **2.** referring to a country that is starting to become developed industrially

emerging disease *noun* a new disease which is beginning to appear and affect human beings or wildlife

emery *noun* MINERALS a variety of the mineral corundum used as an abrasive

emf *abbreviation* PHYS electromotive force

EMI *abbreviation* COMPUT electromagnetic interference

emigration *noun* ECOL the movement of an individual out of an area. Opposite **immigration**

emission *noun* **1.** the sending out of matter, energy or signals ○ *light emissions* ○ *One factor on which the operational range of a radio emission depends is the transmitted power.* **2.** ENVIRON a substance discharged into the air by an internal combustion engine or other device ○ *Exhaust emissions contain pollutants.* ○ *Gas emissions can cause acid rain.*

emission charge *noun* ENVIRON a fee paid by a company to be allowed to discharge waste into the environment

emission credit *noun* ENVIRON the amount by which an industrialised country can buy emission reductions in a less developed country, under the Kyoto agreement of 1997. ◊ **Kyoto Protocol**

emission factor *noun* the ratio between the pollution produced and the amount of fuel burnt

emission line *noun* ASTRON a bright line seen in an emission spectrum, usually caused by radiation from a hot gas superimposing its spectrum on the radiation from a cooler object, as with the Sun's outer atmosphere modifying radiation from the Sun's surface (NOTE: If emission processes in the gas are using all the energy passing through it, a spectrum can consist entirely of bright lines on a dark background. Otherwise the observer sees bright lines on a background which also contains radiation, but at a lower level.)

emission rate *noun* the amount of pollutant produced over a specific period

emission spectrum *noun* ASTRON a spectrum consisting wholly or mainly of emission lines

emission standard *noun* ENVIRON the amount of an effluent or pollutant that can

legally be released into the environment, e.g. the amount of sewage which can be discharged into a river or the sea, or the amount of carbon monoxide that can legally be released into the atmosphere by petrol and diesel engines

emissions trading *noun* the system of one country using some of another country's permitted emission amount as well as its own, as a result of the rule that any new source of pollution must be offset by the reduction of pollution from existing sources

emission tax *noun* ENVIRON a tax levied on air or water emissions

emit *verb* to send out matter, energy or a signal ○ *radiation emitted by the sun* ○ *An X-ray tube emits radiation.* ○ *Latent heat is emitted when condensation takes place.* (NOTE: **emitting** – **emitted**)

emitter *noun* **1.** a device or other means of emitting something **2.** ELECTRONICS a layer of semiconductor material in a transistor from which the electrons carrying the charge originate

emitter-coupled logic *noun* ELECTRONICS a high-speed logic circuit design using the emitters of transistors as output connections to other stages. Abbr **ECL**

emoticon *noun* COMPUT same as **smiley**

emphasis *noun* **1.** the force of expression that gives importance to something ○ *It is only in recent years that much emphasis has been placed on determining the causes of metal fatigue.* **2.** ACOUSTICS a filter that helps cut down the background noise and so boost a signal **3.** COMPUT a special effects function in a paint program that will increase the value of a range of colours so that they appear brighter

emphysema *noun* **1.** MED a chronic lung disease characterised by enlargement and loss of elasticity of the air spaces, resulting in breathing difficulties **2.** PHYSIOL an unusual enlargement of an organ or body tissue caused by retention of air or other gas

empirical *adjective* referring to a result that is obtained by observation or experiment rather than from theory and mathematical equations

empirical formula *noun* CHEM a chemical formula showing the relative proportion of elements in a compound rather than the structural arrangement and giving no indication of molecular weight, e.g. the formula H_2O

empty *adjective* with nothing inside

emulate *verb* to copy or behave like something else ○ *Some laser printers are able to emulate the more popular office printers.*

emulator *noun* COMPUT a piece of software or hardware that allows a machine to behave like another

emulsifier *noun* FOOD INDUST a substance added to mixtures of food such as water and oil to hold them together. ◇ **stabiliser**. Also called **emulsifying agent** (NOTE: Emulsifiers are used in sauces and added to meat to increase the water content so that the meat is heavier. In the European Union, emulsifiers and stabilisers have E numbers E322 to E495.)

emulsify *verb* PHYS, FOOD INDUST to mix two liquids so thoroughly that they will not separate

emulsifying agent *noun* FOOD INDUST same as **emulsifier**

emulsion *noun* **1.** CHEM a suspension of one liquid such as oil in another such as water **2.** CHEM a part of photographic film which reacts chemically to incident light to produce an image **3.** a type of water-based paint, usually giving a matt finish

emulsion laser storage *noun* COMPUT a digital storage technique using a laser to expose light-sensitive material

en *noun* PRINTING a measure equal to half the width of a letter m in a particular font. Compare **em**

EN *abbreviation* **1.** ENVIRON endangered species **2.** English Nature

enable *verb* **1.** to make it possible for someone to do something ○ *Isolation valves are fitted to enable servicing and maintenance to be carried out.* ○ *A spooling program enables editing work to be carried out while printing is going on.* **2.** ELECTRONICS to use an electronic signal to start a process or access a function on a chip or circuit

enabled *adjective* COMPUT referring to a function or menu item that is available to the user ○ *If an option on a menu appears in grey text rather than black, this indicates that these are not enabled and that you cannot use the option.*

enabling signal *noun* a signal that starts a process or allows one to take place

enamel *noun* the smooth, white, hard coating over the visible part of a tooth that protrudes out of the gum

enantioselective *adjective* CHEM same as **stereoselective**

encapsulated *adjective* COMPUT referring to something contained within something else

encapsulated Postscript *noun* COMPUT Postscript commands that describe an image or page contained within a file that can be placed within a graphics or DTP program

encapsulation *noun* **1.** COMPUT a system of sending a frame of data in one format within a frame of another format **2.** the enclosure of something inside something else, especially for protection

encipher *verb* COMPUT to convert plain text into a secure coded form by means of a cipher system ○ *Our competitors cannot understand our files – they have all been enciphered.* Opposite **decipher**

enclose *verb* to surround something on all sides or close something in ○ *The housing encloses the various mechanical parts.* ○ *Fuses form a weak link in a circuit and are usually made of a strip of tinned copper enclosed in a glass tube.*

enclosed object *noun* a graphic object that is closed on all sides and so can be filled with a colour or pattern

enclosure *noun* ENVIRON an area surrounded by a fence, often to contain animals. Compare **exclosure**

encode *verb* to put data into code ○ *Weather information is encoded to allow large amounts of information to be given in a short time.*

encoder *noun* COMPUT a device that can translate data from one format to another

encounter *verb* to meet something unexpected or unwanted ○ *Severe icing can be encountered in wave cloud.*

encroach on *verb* to come close to and gradually cover something ○ *The town is spreading beyond the by-pass, encroaching on farming land.* ○ *Trees are spreading down the mountain and encroaching on the lower more fertile land in the valleys.*

encrypt *verb* COMPUT to convert plain text to a secure coded form using a cipher system ○ *The encrypted text can be sent along ordinary telephone lines, and no-one will be able to understand it.* Also called **encipher**

end *noun* **1.** a final point or last part ○ *at the end of the data transmission* **2.** COMPUT a statement or character to indicate the last

word of a source file ■ *verb* COMPUT to finish something or to stop

end about carry *noun* COMPUT the most significant digit added into the least significant place, used in BCD arithmetic. Also called **end around carry**

end about shift *noun* COMPUT data movement to the left or right in a word during which the bits falling outside the word boundary are discarded and replaced with zeros

endanger *verb* to put something in danger ○ *Pollution from the factory is endangering the aquatic life in the lakes.*

endangered species *noun* ENVIRON a species that is facing a risk of extinction in the wild, usually taken to be when fewer than 250 mature individuals exist. Abbr **EN** (NOTE: The plural is **endangered species**.)

end around carry *noun* COMPUT same as **end about carry**

endemic *adjective* **1.** ECOL referring to an organism that exists or originated from a specific area ○ *The isolation of the islands has led to the evolution of endemic forms.* ○ *The northern part of the island is inhabited by many endemic mammals and birds.* **2.** MED referring to a disease that occurs within a specific area ○ *This disease is endemic to Mediterranean countries.* ◇

epidemic, pandemic ■ *noun* **1.** MED an endemic disease **2.** BIOL a species of organism that is confined to a particular geographical region

endemic population *noun* ECOL a group of organisms existing in a specific geographic area

endemic species *noun* ECOL a species that is native to a specific geographic area

ending *noun* the action of coming to an end or of stopping something

endless *adjective* with no end

endless loop *noun* COMPUT **1.** a continuous piece of recording tape or a number of computer instructions that are continuously repeated **2.** a loop that has no end, except when the program is stopped ► also called **infinite loop**

endo- *prefix* inside or within. Compare **ecto-**

endocannabinoid *noun* BIOCHEM a chemical substance in the body belonging to a group resembling organic chemicals found in cannabis

endocarp *noun* BOT the innermost of the layers of the wall (**pericarp**) of a fruit (NOTE: Sometimes it is toughened or hardened, as in a cherry stone or peach stone.)

endocrine disrupter, endocrine inhibitor *noun* BIOCHEM a substance that damages the activity of the endocrine system, sometimes causing reproductive or developmental problems, sometimes because it has a similar action to a natural hormone

endocrine gland *noun* ANAT a gland without a duct such as the pituitary gland which produces hormones introduced directly into the bloodstream

endocrinology *noun* MED the study of endocrine glands and the hormones they secrete

endoderm *noun* BIOL the innermost cell layer of an animal embryo, which develops into the respiratory and digestive tract linings

endodermis *noun* BOT a layer of cells in a plant root that divides the inner core (**stele**) from the outer surrounding tissue (**cortex**) (NOTE: An endodermis also occurs in the stems of some plants such as ferns.)

end of address *noun* COMPUT a transmitted code which indicates that address data have been sent. Abbr **EOA**

end of block *noun* COMPUT a code which indicates that the last byte of a block of data has been sent. Abbr **EOB**

end of data *noun* COMPUT a code which shows that the end of a stored data file has been reached. Abbr **EOD**

end of document, end of file *noun* COMPUT a marker after the last record in a file

end of job *noun* COMPUT a code used in batch processing to show that a job has been finished. Abbr **EOJ**

end of line *noun* COMPUT a code to indicate the end of a line, usually a CR or LF character. Abbr **EOL**

end of medium *noun* COMPUT a code that indicates the end of a usable physical medium. Abbr **EM**

end of message *noun* COMPUT a code used to separate the last character of one message from the first of another message. Abbr **EOM**

end of record *noun* COMPUT a code used to show the end of a record. Abbr **EOR**

end of text *noun* COMPUT a code sent after the last character of text. Abbr **EOT, ETX**

end of transmission *noun* COMPUT a sequence of characters indicating that all the data from a terminal or peripheral have been transmitted. Abbr **EOT**

endogenous *adjective* BIOL originating within an organism

endolymph *noun* ANAT the fluid contained within the membranous labyrinth of the inner ear

endometrial laser ablation *noun* MED a gynaecological surgical procedure using a laser to treat fibroids or other causes of thickening of the lining of the uterus

endomitosis *noun* GENETICS a process by which chromosomes divide within a cell but the nucleus does not divide, leading to an increase in chromosome number

endoparasite *noun* BIOL a parasite that lives inside its host

endoplasm *noun* BIOL the cytoplasm in the core of a cell within a plasma membrane

endoplasmic reticulum *noun* BIOL a network of tubular membranes in the cytoplasm of a cell that is responsible for processing materials made in or entering or leaving the cell

endorphin *noun* BIOCHEM a substance that attaches to the same cell receptors in the brain as morphine does (NOTE: Endorphins are natural painkillers released after severe injury.)

endoscope *noun* MED an instrument used to examine the inside of the body, made of a thin tube which is passed into the body down a passage

endoskeleton *noun* ZOOL the internal skeleton of an animal such as a vertebrate

endosperm *noun* BOT a storage tissue in plant seeds that provides nourishment for the developing embryo

endospore *noun* MICROBIOL the inner layer of the wall around a spore

endothelium *noun* ANAT a membrane of special cells that lines the internal passages and organs in the body such as the heart and blood vessels. Compare **epithelium, mesothelium**

endotherm *noun* ZOOL an organism that is able to generate heat internally in order to raise its body temperature ◦ *Birds and*

mammals are endotherms. Compare **ectotherm**. Also called **homiotherm**

endothermic *adjective* **1.** CHEM used to describe a reaction or process that absorbs heat energy **2.** ZOOL maintaining a constant body temperature irrespective of environmental temperature ► compare **exothermic**

endothermic reaction *noun* CHEM a chemical reaction in which heat is removed from the surroundings. Compare **exothermic reaction**

endotoxin *noun* MED a poison from bacteria which passes into the body when contaminated food is eaten

end product *noun* INDUST an item or state produced by a manufacturing process or by radioactive decay

endrin *noun* AGRIC a type of broad-based organochlorine insecticide which is extremely toxic and persistent

end system *noun* COMPUT a server or host computer connected to the Internet

end system to intermediate system *noun* COMPUT an OSI protocol standard that allows host computers, the end system, to locate a router, the intermediate system. Abbr **ES-IS**

end-use efficiency *noun* INDUST an efficient way of using a form of energy by the end user

end user *noun* **1.** COMPUT a person who will use a device, program or product ◦ *The company is creating a computer with a specific end user in mind.* **2.** INDUST a person who uses a manufactured product

energise *verb* PHYS to supply energy such as electricity to a machine or system to make it work

energy *noun* **1.** PHYS, PHYSIOL the force or strength to carry out activities ◦ *You need to eat carbohydrates to give you energy.* **2.** INDUST electricity or other fuel ◦ *We have to review our energy requirements regularly.*

COMMENT: Energy is the capacity to do useful work and includes setting a process in motion, the production of heat and light, the emission of heat and light and the making of electricity. It is measured in joules or calories. One joule is the amount of energy used to move one kilogram the distance of one metre; one calorie is the amount of heat needed to raise the temperature of one gram of water by one degree Celsius. The calorie is also used as a measurement of the energy content of food and

to show the amount of energy needed by an average person.

energy analysis, energy audit *noun* INDUST a check of how much energy is used within a specific period

energy balance *noun* ECOL, BIOL a series of measurements showing the movement of energy between organisms and their environment

energy budget *noun* INDUST, ECOL the level of energy at different points in an ecosystem or an industrial process

energy conservation *noun* ENVIRON the avoidance of wasting energy

COMMENT: Energy conservation is widely practised to reduce excessive and costly consumption of energy. Reduction of heating levels in houses and offices, insulating buildings against loss of heat, using solar power instead of fossil fuels and increasing the efficiency of car engines are all examples of energy conservation.

energy consumption *noun* PHYS, PHYSIOL the amount of energy consumed by a person or apparatus, shown as a unit

energy crop *noun* INDUST a crop which is grown to be used to provide energy, e.g. a fast-growing tree

energy efficiency ratio *noun* INDUST a measure of the efficiency of a heating or cooling system such as a heat pump or an air-conditioning system, shown as the ratio of the output in Btu per hour to the input in watts. Abbr **EER**

energy-efficient *adjective* ENVIRON referring to the careful use of energy with minimum waste ◦ *energy-efficient manufacturing processes*

energy farm *noun* INDUST an area of land or water where plants such as cassava or sugar cane are cultivated to produce bio-fuels such as ethanol and methane

energy flow *noun* ECOL the flow of energy from one trophic level to another in a food chain

energy gain *noun* PHYS an increase in the amount of energy or heat. Also called **heat gain**

energy level *noun* PHYS a possible state at which an electron can exist in an atom (NOTE: The fact that any particular atom can house electrons only at specific energy levels gives rise to the lines in spectra, which exist as sharp features because they reflect the difference in energy between two energy levels.)

energy loss *noun* PHYS the amount of energy lost

energy of mass *noun* PHYS the amount of energy which can be released by converting a given amount of matter entirely to energy, given by the amount of matter multiplied by the velocity of light squared, in Einstein's famous equation $e = mc^2$ (NOTE: The huge amount of energy obtainable from tiny amounts of matter accounts for the long lives of the stars and for the portable size of highly destructive nuclear weapons.)

energy output *noun* PHYS the amount of energy produced

energy recovery *noun* INDUST the production of energy from synthetic materials, e.g. using the heat from incineration of solid waste to generate electricity

energy reserves *plural noun* INDUST the amount of energy stored, especially the stocks of non-renewable fuel such as oil which a nation possesses

energy resources *plural noun* INDUST potential supplies of energy not yet used, e.g. coal lying in the ground, solar heat, wind power or geothermal power

energy tax *noun* a tax on an energy source intended to discourage the use of environmentally damaging sources and encourage energy conservation or use of alternative sources

energy value *noun* PHYS, PHYSIOL the heat value of a substance measured in joules. Also called **calorific value**

engage *verb* **1.** to switch something on and use it. Opposite **disengage** **2.** to fit in with something else ○ *The large wheel engages with the smaller wheel and starts to turn.*

engine *noun* **1.** MECH ENG a machine that converts energy into mechanical force or motion, different from an electric or hydraulic motor because of its use of a fuel ○ *a jet engine* ○ *a piston engine* ○ *internal combustion engine* **2.** COMPUT a part of a software package that carries out a particular function ○ *A search engine is the part of a multimedia title that lets a user search for text in a multimedia book.*

COMMENT: In British usage there is a clear distinction between the terms engine and motor, the term motor only being used for electric power units. In American usage engine is used for all types of power unit including internal combustion.

engine block *noun* MECH ENG a cylinder block with an integral crankcase

engine capacity *noun* MECH ENG the swept volume of the cylinders in an engine

engineer ENG *noun* a person who works in engineering ■ *verb* to design and make something

engineering *noun* ENG the application of the principles of science to the design, construction and use of machines or buildings

engineering industry *noun* INDUST the factories or companies that manufacture machinery and machine parts

engine failure *noun* MECH ENG the unwanted stoppage of an engine during running

engine housing *noun* MECH ENG an engine compartment

engine intake *noun* MECH ENG the front part of an engine where air enters the engine

engine performance *noun* MECH ENG a description of how well an engine works or detailed statistical information about the capabilities of an engine

engine surge *noun* MECH ENG an instability in the power output of an engine

English Nature *noun* the UK government agency that is responsible for nature conservation in England. Abbr **EN** (NOTE: It was formerly part of the Nature Conservancy Council and is about to undergo another reorganisation.)

enhance *verb* to improve something or make something clearer

enhanced greenhouse effect *noun* the warming influence on the climate produced as human emissions of greenhouse gases increase the natural greenhouse effect

enhanced small device interface *noun* COMPUT an interface standard between a central processing unit and peripherals such as disk drives. Abbr **ESDI**

enhancer *noun* FOOD INDUST an artificial substance that increases the flavour of food or of an artificial flavouring that has been added to food (NOTE: In the European Union, flavour enhancers added to food have the E numbers E620 to E637.)

enlarge *verb* to make something bigger or larger

ENQ *abbreviation* COMPUT enquiry

enquire, inquire *verb* to ask questions about something

enquiry, inquiry *noun* **1.** a question, or the process of asking a question. ◊ **public enquiry** (NOTE: The plural is **enquiries**.) **2.** COMPUT a request for data or information from a device or database **3.** COMPUT the accessing of data in a computer memory without changing the data

enquiry character *noun* COMPUT a special control code that is a request for identification, status or data from a device

enrich *verb* **1.** to make something richer or stronger **2.** to improve the nutritional quality of food ◊ *enrich with vitamins* **3.** INDUST to increase the amount of uranium-235 in the fuel of a nuclear reactor ◊ *Fuel is enriched to 15% with fissile material.*

enriched plutonium *noun* CHEM, INDUST plutonium to which uranium-235 has been added and which is used as a fuel in nuclear reactors

enrichment *noun* **1.** INDUST the action of enriching the proportion of uranium-235 in nuclear fuel **2.** ENVIRON the increase in nitrogen, phosphorous and carbon compounds or other nutrients in water, especially as a result of a sewage flow or agricultural run-off, which encourages the growth of algae and other water plants

ensilage, ensiling *noun* AGRIC the process of making silage for cattle by cutting grass and other green plants and storing it in silos

enter *verb* **1.** to come or go into a place **2.** to write down or record something ◊ *Enter your name in the correct place in the form.* **3.** COMPUT to type in information on a terminal or keyboard ◊ *The data have been entered on data capture forms.*

enter- *prefix* ANAT same as **entero-**

enteric *adjective* ANAT referring to the intestine

enteric fermentation *noun* BIOL the breaking down of food in the gut of ruminant animals, especially cattle, producing methane which is eliminated from the animal's body

enteritis *noun* MED an inflammation of the mucous membrane of the intestine

enter key *noun* COMPUT a key pressed to indicate the end of an input or line of text

entero- *prefix* ANAT referring to the intestine

Enterobacteria *plural noun* BIOL a family of bacteria, including *Salmonella* and *Escherichia*

Enterobius *noun* ZOOLOG a threadworm or nematode which infests the intestine

enterokinase *noun* BIOCHEM an enzyme in the upper small intestine that converts trypsinogen to trypsin

enterotoxin *noun* MED a bacterial exotoxin which particularly affects the intestine

enterovirus *noun* a virus which prefers to live in the intestine

enterprise network *noun* COMPUT a network that connects all the workstations, terminals or computers in a company (NOTE: It can be within one building or linking several buildings in different countries.)

enthalpy *noun* PHYS the heat content of a system, equal to the sum of its internal energy and the product of its pressure and volume

entire *adjective* having no part excluded or left out ◊ *spilt the entire contents of the container*

entity *noun* **1.** something which is distinct and separate from something else ◊ *The institutes are closely connected but are separate legal entities.* **2.** COMPUT a subject to which the data stored in a file or database refers

entomological *adjective* ZOOLOG referring to insects

entomologist *noun* ZOOLOG a scientist who specialises in the study of insects

entomology *noun* ZOOLOG the study of insects

entrap *verb* to catch and retain something ◊ *Moisture is entrapped in the layers.* ◊ *Coal-fired power stations should be equipped with the means of entrapping sulfur.* ◊ *Up to 90% of sulfur emissions can be entrapped.*

entropy *noun* **1.** PHYS a measure of the energy in a system or process that is unavailable to do work **2.** a measure of the degree of disorder in a closed system

entry *noun* **1.** a place where you can enter **2.** COMPUT a single record or a piece of data about one action or object in a database or library

entry condition *noun* COMPUT a condition that must be satisfied before a routine can be entered

entry point *noun* **1.** a place where people can enter or by which something can be accessed **2.** COMPUT the address from which a program or subroutine is to be executed

E number *noun* a classification of additives to food approved by the European Union

COMMENT: Additives are classified as follows: colouring substances E100 – E180; preservatives E200 – E297; antioxidants E300 – E321; emulsifiers and stabilisers E322 – E495; acids and bases E500 – E529; anti-caking additives E530 – E578; flavour enhancers and sweeteners E620 – E637.

enumerated type *noun* COMPUT a system of data storage or classification using numbers to represent chosen convenient labels

COMMENT: If 'man', 'horse', 'dog' and 'cat' are items of data, stored by machine simply as 0, 1, 2, 3, they can still be referred to in the program as man or horse to make it easier for the user to recognise them.

enumeration *noun* COMPUT a method of identifying resources or objects using a unique number

envelop *verb* to surround and cover something ○ *The atmosphere envelops the Earth.*

envelope *noun* **1.** a paper packet that contains a letter or document **2.** a cover ○ *The atmosphere is the gaseous envelope surrounding the Earth.* **3.** COMPUT a transmitted packet of data containing error-detection and control information **4.** PHYS the shape of the decay curve of a sound **5.** COMPUT the name for the data which contain a mail message with the destination address information **6.** AEROSP the set of limitations within which a technological system, especially an aircraft, can perform safely and effectively

envelope feeder *noun* COMPUT a special add-on to a printer used to print on an envelope instead of on a sheet of paper

environment *noun* **1.** ECOL the surroundings of any organism, including the physical world and other organisms. ◊ **built environment, natural environment** **2.** COMPUT a condition in a computer system of all the registers and memory locations

COMMENT: The environment is anything outside an organism and in which the organism lives. It can be a geographical region, a climatic condition, a pollutant or the noises which surround an organism. The human environment includes the country or region or town or house or room

in which a person lives. A parasite's environment includes the body of the host. A plant's environment includes the type of soil at a specific altitude.

Environment Agency *noun* ENVIRON in England and Wales, the government agency responsible for protection of the environment, including flood and sea defences. Abbr **EA**

environmental *adjective* ENVIRON referring to the environment

environmental accounting *noun* ENVIRON same as **full-cost accounting**

environmental annoyance *noun* ENVIRON a nuisance caused by environmental factors such as traffic noise

environmental assessment *noun* ENVIRON the identification of the expected environmental effects of a proposed action

environmental audit *noun* ENVIRON an assessment made by a company or organisation of the financial benefits and disadvantages of adopting an environmentally sound policy. Also called **eco-audit**

environmental biology *noun* ECOL the study of living organisms in relationship to their environment

Environmental Change Network *noun* an association which monitors trends in climate change and produces statistics. Abbr **ECN**

environmental conditionality *noun* ENVIRON same as **cross-compliance**

environmental control *noun* ENVIRON the means of maintaining an environment

environmental damage *noun* ENVIRON harm done to the environment, e.g. pollution of rivers

environmental degradation *noun* ENVIRON a reduction in the quality of the environment

environmental directive *noun* ENVIRON an EU policy statement on the appropriate ways of dealing with a specific environmental issue

environmental disorder *noun* ECOL a disruption of the usual condition of an environment

environmental equity *noun* ENVIRON the principle that no section of the population receives a greater effect of environmental pollution or disruption than any other. Also called **environmental justice**

environmental ethics *noun* ENVIRON the examination and discussion of people's obligations towards the environment

environmental fluctuation *noun* a long- or short-term change in the environment, which may have a large effect on the populations living there

environmental forecasting *noun* ENVIRON the prediction of the effects on the surrounding environment of new construction programmes

environmental geology *noun* GEOL the study of geology in relation to problems concerned with the environment

environmental health *noun* HEALTH the local government functions concerned with minimising risks to public health and the local environment, including water and air quality, hygiene in restaurants and shops, and pest control

Environmental Health Officer *noun* HEALTH an official of a local authority who examines the environment and tests for hazards such as bad sanitation or noise pollution. Abbr **EHO**

environmental hygiene *noun* 1. MED the study of health and how it is affected by the environment 2. the measures undertaken to keep the human environment safe and healthy to live in, including waste disposal, clean water supplies, food safety controls and good housing

environmental impact *noun* ENVIRON the effect upon the environment of actions or events such as large construction programmes or the draining of marshes

environmental impact assessment *noun* ENVIRON an evaluation of the effect upon the environment of an action such as a large construction programme. Abbr **EIA**

environmental impact statement *noun* ENVIRON a statement required under US law for any major federal project, evaluating the effect of the project on the environment. Abbr **EIS**

environmental indicator *noun* ECOL an organism that increases or decreases in specific environmental conditions and whose presence indicates the state of an environment or a change in an environment, e.g. a lichen sensitive to industrial pollution becoming rare in a polluted area, or a species of fish returning to a formerly polluted river

environmentalism *noun* ENVIRON concern for the protection of the environment

environmentalist *noun* ENVIRON a person who is concerned with protecting the environment

environmentalist group *noun* ENVIRON an association or society concerned with the protection of the environment and increasing awareness of environmental issues

environmentalist lobby *noun* ENVIRON a group of people who try to persuade politicians that the environment must be protected and that pollution must be controlled

environmental justice *noun* ENVIRON same as **environmental equity**

environmental labelling *noun* ENVIRON same as **ecolabelling**

environmentally friendly *adjective* ENVIRON intended to minimise harm to the environment, e.g. by using biodegradable ingredients. Also called **environment-friendly**

environmental management *noun* 1. the idea of humans interacting with the environment in a responsible and ethically sound way, without sacrificing productivity 2. guidelines or practices which support this aim

environmental policy *noun* ENVIRON a plan for dealing with all matters affecting the environment on a national or local scale

environmental pollution *noun* ENVIRON the pollution of the environment by human activities

environmental protection *noun* ENVIRON the activity of protecting the environment by regulating the discharge of waste, the emission of pollutants and other human activities. Also called **environment protection**

Environmental Protection Act 1990 *noun* ENVIRON a UK regulation to allow the introduction of integrated pollution control, regulations for the disposal of waste and other provisions. Abbr **EPA**

Environmental Protection Agency *noun* an administrative body in the USA which deals with pollution. Abbr **EPA**

environmental protection association *noun* ENVIRON an organisation concerned with protecting the environment from damage and pollution

environmental quality standard *noun* ENVIRON a limit for the concentration of an effluent or pollutant which is accepted in a specific environment, e.g. the

concentration of trace elements in drinking water or of additives in food

environmental radioactivity *noun* ENVIRON the energy in the form of radiation that is emitted into the environment by radioactive substances

environmental resistance *noun* ECOL the ability to withstand pressures such as competition, weather conditions or food availability, which restrict the potential growth of a population

environmental science *noun* ENVIRON the study of the relationship between humans and the environment, the problems caused by pollution or loss of habitats, and proposed solutions

environmental set-aside *noun* ENVIRON a scheme of suspending cultivation of food crops for a period with clearly defined environmental aims and designed appropriately for local conditions

environmental studies *noun* ENVIRON a course of study that includes a range of disciplines focusing on the natural environment

environmental tax *noun* ENVIRON same as **ecotax**

environmental variation *noun* ECOL the continual changes in the environment over a period

environment-friendly *adjective* ENVIRON same as **environmentally friendly**

environment space *noun* COMPUT the amount of memory free to be used by a program

environment variable *noun* COMPUT a variable set by the system or by a user at the system command line which can be used by any program

enzootic disease *noun* an outbreak of disease among certain species of animals in a certain area. Compare **epizootic disease**

enzymatic *adjective* BIOCHEM referring to enzymes

enzyme *noun* BIOCHEM a protein substance produced by living cells which promotes a biochemical reaction in living organisms (NOTE: The names of enzymes mostly end with the suffix **-ase**.)

COMMENT: Many different enzymes exist in organisms, working in the digestive system, metabolic processes and the synthesis of certain compounds. Some pesticides and herbicides work by interfering with enzyme systems or by destroying them altogether.

enzyme-linked immunosorbent assay *noun* full form of **ELISA**

EOA *abbreviation* COMPUT end of address

EOB *abbreviation* COMPUT end of block

EOD *abbreviation* COMPUT end of data

EOJ *abbreviation* COMPUT end of job

EOL *abbreviation* COMPUT end of line

eolian *adjective* METEOROL caused by wind ○ *eolian deposits*

EOM *abbreviation* COMPUT end of message

EOR *abbreviation* COMPUT end of record

EOT *abbreviation* COMPUT **1.** end of text **2.** end of transmission

EPA¹ *abbreviation* **1.** Environmental Protection Act 1990 **2.** Environmental Protection Agency

EPA² *noun* BIOCHEM a polyunsaturated essential fatty acid found in cold-water fish that has been linked to the reduction of cardiovascular disease and other health benefits

epact *noun* ASTRON a period of about 11 days that is the difference between the lunar year and the solar year

ephemeral *noun* BIOL a plant or insect that has a short life cycle and may complete several life cycles within a year ○ *Many weeds are ephemerals.*

ephemeral stream *noun* EARTH SCI a stream that flows only after rain or snow-melt

epibiont *noun* BIOL an organism that lives on the surface of another without being a parasite

epibiosis *noun* BIOL a state where an organism lives on the surface of another, but is not a parasite

epicarp *noun* BOT the outer skin of a fruit. Also called **exocarp**

epicentre *noun* EARTH SCI a point on the surface of the Earth above the focus of an earthquake or in the centre of a nuclear explosion. Also called **focus**

epicycloid *noun* MATHS the curve traced out by a fixed point on an epicycle

epidemic *noun* MED **1.** an infectious disease that spreads quickly through a large part of the population ○ *The health authorities are taking steps to prevent an epidemic of cholera or a cholera epidemic.* **2.** a rapidly spreading infection or disease. ♠

endemic, pandemic

epidemiological *adjective* MED referring to epidemiology

epidemiologist *noun* MED a person who studies the factors involved in the incidence, distribution and control of disease in a population

epidemiology *noun* MED the study of diseases in a population, how they spread and how they can be controlled

epidermis *noun* ANAT an outer layer of cells of a plant or animal

epididymis *noun* ANAT a tightly coiled tube, attached to the testis, that stores sperm and leads into the sperm duct

epidural anaesthesia *noun* MED local anaesthesia in which anaesthetic is injected into the space between the vertebral canal and the dura mater

epigamic *adjective* ZOOLOG referring to a characteristic such as large antlers or bright colour that attracts a mate

epigeal *adjective* BOT occurring or developing above ground ○ *epigeal germination* Compare **hypogeal**

epigenetic *adjective* GENETICS relating to the control of changes in gene function that are not associated with changes in DNA sequences

epigenetics *noun* GENETICS the control of changes in gene function that are not associated with changes in DNA sequences

epigenome *noun* GENETICS a subset of genes whose function is under the control of specific biochemical factors as well as their DNA sequence

epigenomics *noun* GENETICS the study of the biochemical relationships controlling the function of genes within the epigenome

epigenous *adjective* BIOL developing or growing on a surface

epiglottis *noun* ANAT a flap of cartilage at the base of the tongue that seals off the windpipe (**trachea**) when swallowing food or liquids

epigynous *adjective* BOT referring to a flower structure in which the stamens, calyx and corolla are on the top of the ovary

epilimnion *noun* EARTH SCI the top layer of water in a lake, which contains more oxygen and is warmer than the water below. ◇ **hypolimnion**, **metalimnion**

epilitic *adjective* BIOL growing on or attached to the surface of rocks or stones

epinephrine *noun* BIOCHEM the hormone adrenaline

epiphysis *noun* ANAT same as **pineal gland**

epiphyte *noun* BOT a plant that lives on another plant for physical support, but is not a parasite of it (NOTE: Many orchids are epiphytes.)

epiphytic *adjective* BOT attached to another plant for support, but not parasitic

episode *noun* 1. an event, or a group of related events 2. an occurrence or time when a particular phenomenon takes place ○ *There have been three serious acid rain episodes in the last four months.* ○ *High sulfur dioxide episodes have killed several hundred birds at one time.*

episodic *adjective* happening sometimes but not regularly

episome *noun* GENETICS a genetic unit capable of multiplying independently in host cells or when integrated into a chromosome (NOTE: Bacterial plasmids are examples of episomes.)

epistasis *noun* GENETICS the nonappearance of a characteristic because the activity of another gene has suppressed or masked the gene that controls it

epithelial *adjective* ANAT referring to the epithelium

epithelium, epithelial layer *noun* ANAT a layer of cells covering an organ, including the skin and the lining of hollow cavities. Compare **endothelium**, **mesothelium**

epithermal neutron *noun* PHYS a neutron that has a high energy level between 10^{-2} and 10^2 eV

epixylous *adjective* BIOL growing on wood

epizoite *noun* ZOOLOG an animal that lives on the surface of another, without being a parasite

epizoon *noun* an animal which lives on another animal

epizootic disease *noun* a disease which spreads to large numbers of animals over a large area. Compare **enzootic disease**

epoch *noun* GEOL ↓ **geological epoch**

epoxy resin *noun* CHEM a tough synthetic resin that sets following the application of heat or pressure, used in adhesives and surface coatings

EPROM *abbreviation* COMPUT erasable programmable read-only memory

EPS *abbreviation* COMPUT encapsulated Postscript

Epsom salts *noun* PHARM a white powder, magnesium sulfate, which when diluted in water is used as a laxative. Formula: $MgSO_4 \cdot 7H_2O$.

equal *adjective* having the same quantity, measure, or value as another ○ *For every action, there is an equal and opposite reaction.* ■ *verb* MATHS to be the same in value as a number ○ *Two plus two equals four* ($2 + 2 = 4$).

equalise *verb* to become or make something the same in quantity, measure or value as another ○ *Fluid pressure and gas pressure equalise at normal system pressure.* ○ *The received signal was equalised to an optimum shape.*

equality *noun* MATHS a logical function whose output is true if either of two inputs is true, and false if both inputs are the same

equally *adverb* in the same way or to the same extent ○ *They were both equally responsible for the successful launch of the new system.*

equals sign *noun* MATHS a mathematical symbol ($=$) used to indicate that two or more numbers, symbols, or terms have the same value as each other

equate *verb* to be or make something the same as another ○ *The variable was equated to the input data.*

equation *noun* **1.** MATHS a statement, usually in symbols, that two quantities or mathematical expressions are equal ○ *The equation $Vg = P$ can be used to calculate the geostrophic wind.* **2.** CHEM same as **chemical equation**

equation of motion *noun* PHYS a mathematical equation used to describe the motion of an object

equation of state *noun* PHYS an equation that gives the mathematical relation between the pressure, temperature and volume of a gas or liquid

equation of time *noun* ASTRON the time that must be added to mean solar time, as given by a clock, to make it equal to apparent solar time, as given by a sundial (NOTE: It varies from about -14 minutes in February to about +16 minutes in October.)

equator *noun* **1.** EARTH SCI an imaginary circle around the Earth's surface, equidistant from the poles and perpendicular to the axis of rotation, which divides the Earth into the northern and southern hemi-

spheres ○ *Every point on the equator is equidistant from the poles.* **2.** ASTRON an imaginary circle around an astronomical object, equidistant from the poles **3.** ASTRON same as **celestial equator**

equatorial *adjective* EARTH SCI referring to the equator

equatorial current *noun* EARTH SCI a westward-moving current in the Atlantic Ocean

equatorial diameter *noun* the distance from the equator, through the centre of the Earth to the equator on the opposite side of the globe

equatorial region *noun* EARTH SCI the land area near the equator, mostly with a very hot and humid climate, except for land at high altitudes as in South America

equatorial trough *noun* METEOROL a shallow low-pressure zone around the equator

equatorial zone *noun* EARTH SCI an area near the equator, mostly with a very hot and humid climate, except for land at high altitudes as in South America

equilateral *adjective* MATHS referring to an object or structure in which all the sides are of equal length

equilibrium *noun* **1.** a state of balance **2.** CHEM the state in a reversible chemical reaction in which the reaction and its reverse reaction proceed at the same rate and balance each other so there is no further change

equilibrium constant *noun* CHEM the relationship between the concentration of products and starting materials in a reversible chemical reaction that is at equilibrium (NOTE: It is strongly dependent on temperature and pressure.)

equine *adjective* ZOOL relating to horses

equinox *noun* EARTH SCI either of the two occasions in the year, spring and autumn, when the sun crosses the celestial equator and night and day are each 12 hours long

COMMENT: The two equinoxes are the spring or vernal equinox, which occurs about 21 March and the autumn equinox, which occurs about 22 September.

equipment *noun* the devices, systems or machines that are needed for a particular purpose ○ *drilling equipment* (NOTE: no plural: for one item say a **piece of equipment**.)

equivalence *noun* MATHS a logical operation that is true if all the inputs are the same

COMMENT: Output is 1 if both inputs are 1 or if both are 0. If the two inputs are different, the output is 0.

equivalence function *noun* MATHS a logical function whose output is true if both inputs are the same. Also called **equivalence operation**

equivalence operation *noun* MATHS same as **equivalence function**

equivalence gate *noun* ELEC a gate which performs an equivalence function

equivalent operation *noun* MATHS same as **equivalence function**

equivalent *adjective* being the same, or effectively the same ○ *The function of a logic gate is equivalent to that of a switch.*

○ *A metal part could be as much as 25 times heavier than an equivalent plastic part.* □ **to be equivalent to** to have the same value as something or to be the same as something ■ *noun* an equal thing or amount

equivalent weight *noun* MEASURE, CHEM the mass of a substance that will combine with or replace 8 parts by mass of oxygen or 1.008 parts of hydrogen

era *noun* GEOL ↗ **geological era**

eradicate *verb* to remove something completely ○ *international action to eradicate glaucoma*

eradication *noun* 1. the complete removal of something 2. BIOL the total extinction of a species

erasable memory *noun* COMPUT same as **erasable storage**

erasable programmable read-only memory *noun* COMPUT a read-only memory chip which can be programmed by a voltage applied to a write pin and data applied to its output pins, usually erasable with ultraviolet light. Abbr **EPROM**

erasable storage *noun* COMPUT a temporary storage medium which can be re-used. Also called **erasable memory**

erase *verb* 1. to remove all signs of something 2. COMPUT to remove any signal from a magnetic medium 3. COMPUT to set all the digits in a storage area to zero

erase head *noun* ELEC a small magnet that clears a magnetic tape or disk of recorded signals

eraser *noun* ELEC a device that erases the contents of something, as by using ultraviolet light to erase an EPROM

eraser tool *noun* COMPUT a function that allows areas of an image to be erased or set to the background colour

erbium *noun* CHEM ELEM a soft silvery metallic element of the lanthanide group used in alloys and pigments (NOTE: The chemical symbol is **Er**; the atomic weight is **68** and the atomic weight is **167.26**.)

erg *noun* MEASURE, PHYS the cgs unit equal to the work done by a force of one dyne acting over a distance of one centimetre (NOTE: 1 erg is equivalent to 10^{-7} joules.)

ergodicity *noun* STATS a system in which conditions of a stochastic process are such that time and space averages will coincide for infinite realisations

ergonomics *noun* the study of people at work

ergosterol *noun* BIOCHEM a substance found in yeast and moulds that forms vitamin D₂ when exposed to ultraviolet light

ergot *noun* BOT a fungus that grows on cereals, especially rye, producing a mycotoxin which causes hallucinations and sometimes death if eaten. Genus: *Claviceps*.

ergotamine *noun* MED the toxin that causes ergotism

ergotism *noun* MED poisoning by eating cereals or bread contaminated by ergot

ericaceous *adjective* BOT belonging to the group of plants such as heather and azalea that grow on acid soils

EROM *abbreviation* COMPUT electrically alterable read-only memory

erosion *noun* EARTH SCI the wearing away of soil or rock by rain, wind, sea or rivers or by the action of toxic substances ○ *Grass cover provides some protection against soil erosion.*

COMMENT: Accelerated erosion is caused by human activity in addition to the natural rate of erosion. Cleared land in drought-stricken areas can produce dry soil which may blow away. Felling trees removes the roots which bind the soil particles together and so exposes the soil to erosion by rainwater. Ploughing up and down slopes as opposed to contour ploughing, can lead to the formation of rills and serious soil erosion.

error *noun* 1. a mistake 2. a known inaccuracy of an instrument or system which has to be corrected by calculating the true value 3. COMPUT a mistake due to an operator or caused by a hardware or software fault

error box *noun* COMPUT a dialog box displayed with a message alerting the user that an error has occurred

error burst *noun* COMPUT a group of several consecutive errors in a transmission

error checking code *noun* COMPUT a coding system that detects or corrects errors

error code *noun* COMPUT a code that indicates that a particular type of error has occurred

error condition *noun* COMPUT a state that is entered if an attempt is made to operate on data containing errors

error correcting code *noun* COMPUT a coding system that allows bit errors occurring during transmission to be rapidly corrected by logical deduction methods

error correction *noun* COMPUT hardware or software that can detect and correct an error in a transmission

error detecting code *noun* COMPUT a coding system that allows bit errors occurring during transmission to be detected, but is not complex enough to correct them

error detection *noun* COMPUT the use of special hardware or software to detect errors in a data entry or transmission, then usually to ask for re-transmission

error detection and correction *noun* COMPUT a forward error correction system for data communications. Abbr EDAC

error handler *noun* COMPUT a software routine that controls and reports an error when it occurs

error handling, error management *noun* COMPUT same as **exception handling**

error rate *noun* COMPUT **1.** the number of mistakes per thousand entries or per page ○ *The error rate is less than 1%.* **2.** the number of corrupt bits of data in relation to the total transmission length

error routine *noun* COMPUT a short routine within a main program that handles any errors when they occur

error trapping *noun* COMPUT the detection and correction of errors before they cause any problems

erupt *verb* EARTH SCI (*of a volcano*) to become active and produce lava, smoke and hot ash

eruption *noun* a sudden violent ejection of lava, smoke and ash by a volcano ○ *Sev-*

eral villages were destroyed in the recent volcanic eruption.

eruptive *adjective* **1.** EARTH SCI referring to a volcano that produces lava, smoke and hot ash **2.** EARTH SCI referring to rock formed by the solidification of magma **3.** MED causing boils or spots on the skin

erythrocyte *noun* BIOL a red blood cell

escape *noun* **1.** the action of allowing toxic substances to leave a container ○ *The area around the reprocessing plant was evacuated because of an escape of radioactive coolant.* **2.** BOT a cultivated plant that now reproduces in the wild **3.** ZOO a domesticated animal that has become wild ■ *verb* **1.** to move out of a container ○ *Steam was escaping from holes in the pipes.* **2.** ENVIRON to move from a domestic or cultivated area and live or grow wild **3.** to get out of captivity ○ *The monkey had escaped from a wildlife park.*

escape character *noun* COMPUT a character used to represent an escape code

escape code *noun* COMPUT a transmitted code sequence which informs the receiver that all following characters represent control actions

escapement *noun* COMPUT a preset vertical movement of a sheet of paper in a printer

escape sequence *noun* COMPUT a method of switching a Hayes-compatible modem into command mode by sending the three characters '+++’ allowing a user to enter new commands while still online

escape velocity *noun* PHYS the speed that an object must reach to escape a gravitational field (NOTE: A spacecraft needs to travel at about 25000 mph/40000kph to escape Earth's gravity and travel into space.)

escarpment *noun* EARTH SCI a steep slope at the edge of a plateau

Escherichia coli *noun* MICROBIOL a Gram-negative bacterium commonly found in faeces and associated with acute gastroenteritis if it enters the digestive systems of humans or animals

ESDI *abbreviation* COMPUT enhanced small device interface

ES-IS *abbreviation* COMPUT end system to intermediate system

esker *noun* EARTH SCI a long winding ridge formed of gravel

esophagus *noun* ANAT US spelling of oesophagus

essence *noun* CHEM a concentrated oil extracted from a plant, used in food, cosmetics, analgesics and antiseptics ○ *vanilla essence*

essential *adjective* 1. extremely important or necessary 2. MED referring to a disease with no obvious cause

essential amino acid *noun* BIOCHEM an amino acid necessary for growth but which cannot be synthesised by the body and has to be obtained from the food supply (NOTE: The essential amino acids are: isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine.)

essential element *noun* BIOCHEM a chemical element necessary for an organism's growth and function

essential fatty acid *noun* BIOCHEM an unsaturated fatty acid essential for growth but which cannot be synthesised by the body and has to be obtained from the food supply. Abbr **EFA** (NOTE: The two essential fatty acids are linoleic acid and linolenic acid.)

essential hypertension *noun* MED high blood pressure without any obvious cause

essential oil *noun* CHEM an oil from a plant, used in cosmetics, analgesics or antiseptics, e.g. peppermint oil. Also called **volatile oil**

establish *verb* 1. to work out or calculate something □ **to establish a position** to find out where something is 2. to start or set up something ○ *We established routine procedures very quickly.* □ **to establish communication** to make contact □ **to establish control** to get control 3. ECOL to settle or grow permanently ○ *The starling has become established in all parts of the USA.* ○ *Even established trees have been attacked by the disease.*

established *adjective* BOT, ZOOL living or growing successfully

ester *noun* CHEM an organic compound formed during the reaction between an acid and an alcohol with loss of water, often having a fragrant smell

estimate *noun* an approximate calculation of size, weight or extent ■ *verb* to make an approximate calculation of size, weight or extent

estimation *noun* 1. an approximate calculation ○ *an estimation of ground speed* ○ *Estimation of visibility is achieved by not-*

ing the distances at which lights of known candle power can be observed and relating these distances to visibility-by-day values.

2. an opinion □ **in my estimation** in my opinion

estivation *noun* ZOOL US spelling of **aestivation**

estrane *noun* BIOCHEM a steroid hormone derived from testosterone and used in hormone replacement therapy

estrogen *noun* BIOCHEM US spelling of **oestrogen**

estuarine *adjective* EARTH SCI, BIOL referring to estuaries

estuarine plant *noun* BOT a plant which lives in an estuary, where the water is alternately fresh and salty as the tide comes in and goes out

estuary *noun* EARTH SCI a part of a river where it meets the sea and is partly composed of salt water

ET *abbreviation* embryo transfer

ethanal *noun* CHEM same as **acetaldehyde**

ethanamide *noun* CHEM same as **acetamide**

ethane *noun* CHEM a highly flammable gas that is colourless and odourless used as a fuel and in refrigeration. Formula: C₂H₆. (NOTE: It occurs naturally in petroleum and natural gas.)

ethanedioic acid *noun* CHEM same as **oxalic acid**

ethanoate *noun* CHEM same as **acetate**

ethanoic acid *noun* CHEM same as **acetic acid**

ethanol *noun* CHEM a colourless inflammable liquid, produced by the fermentation of sugars. It is used as an ingredient of organic chemicals, intoxicating drinks and medicines. Formula: C₂H₅OH. Also called **ethyl alcohol**

ethene *noun* CHEM same as **ethylene**

ether *noun* 1. MED an anaesthetic substance, now rarely used 2. CHEM a volatile, flammable organic compound belonging to a class that contains -O- in its molecules

Ethernet *trademark* COMPUT a standard defining the protocol and signalling method of a local area network

COMMENT: The standard is IEEE 802.3. Ethernet has several implementations: 10Base5, the most common, is a bus-based topology running over coaxial cable. 10BaseT uses unshielded-twisted-pair cable in a

star-based topology. Ethernet normally has a data transmission rate of 10 Mbps.

ethical *adjective* concerning accepted standards of behaviour and practice

ethical committee *noun* a group of specialists who monitor experiments involving humans or who regulate the way in which members of the medical profession conduct themselves

ethical trading *noun* business practices which are socially responsible and protect the environment and the rights of workers

ethics *noun* **1.** a set of moral standards by which people behave **2.** a code of practice which shows how a group of professionals should interact with each other

Ethiopian Region *noun* EARTH SCI a biogeographical region, part of Arctogea, comprising Africa south of the Sahara

ethno- *prefix* BIOL human

ethnobotany *noun* BOT the study of the way plants are used by humans

ethnopharmacology *noun* the study of the medicines used by people in traditional communities

ethology *noun* BIOL the study of the behaviour of living organisms

ethyl acetate *noun* CHEM a colourless liquid that evaporates readily and has a pleasant fruity smell, used in perfume manufacture and as a solvent. Formula: $C_4H_8O_2$.

ethyl alcohol *noun* CHEM same as **ethanol**

ethylbenzene *noun* CHEM a colourless flammable liquid used in making phenylethene for polystyrene manufacture

ethylene *noun* CHEM a hydrocarbon occurring in natural gas and ripening fruits. It is used in the production of polythene and as an anaesthetic. Also called **ethene**

ethylene glycol *noun* CHEM a colourless viscous liquid with a sweet taste used as antifreeze and in polyester manufacture. Formula: $C_2H_6O_2$.

ethyne *noun* CHEM same as **acetylene**

etiolation *noun* BOT the process by which a green plant grown in insufficient light becomes yellow and grows long shoots

etiology *noun* BIOL another spelling of **aetiology**

ETX *abbreviation* COMPUT end of text

EU *abbreviation* European Union

eucalypt, eucalyptus *noun* TREES a quick-growing Australian hardwood tree with strong-smelling resin. Genus: *Eucalyptus*.

eucaryote *noun* BIOL another spelling of **eukaryote**

eucaryotic *adjective* BIOL another spelling of **eukaryotic**

euchromatin *noun* GENETICS an expanded form of the material of which chromosomes are composed (NOTE: It occurs when DNA is being actively copied and stains lightly only with basic dyes.)

eugenics *noun* SOC SCI the proposed improvement of the human species by encouragement to reproduce only among those with genetic characteristics regarded as desirable and discouragement among those with characteristics regarded as undesirable

Euglenophyta *noun* MARINE BIOL a division of unicellular algae

eukaryote, eucaryote *noun* BIOL an organism that has a cell or cells with nuclei and organelles. Compare **prokaryote**

eukaryotic, eucaryotic *adjective* BIOL referring to eukaryotes

euphotic *adjective* relating to the upper layer of a body of water that allows the penetration of enough light to support plants which photosynthesise

euphotic zone *noun* EARTH SCI the top layer of water in the sea or a lake, which sunlight can penetrate and in which photosynthesis takes place

euploid *adjective* GENETICS relating to a cell or organism with a chromosome number that is an even multiple of the basic chromosome set for the species

Europarc *noun* ENVIRON a group of government and non-government organisations concerned with the management of protected areas

European Environment Agency *noun* ENVIRON an EU organisation with responsibility for environmental matters. Abbr **EEA**

europium *noun* CHEM ELEM a soft silvery-white metallic element of the lanthanide group, derived from monazite and bastnaesite and used in lasers (NOTE: The chemical symbol is **Eu**; the atomic number is **63** and atomic weight is **151.96**.)

Eurosites *noun* ENVIRON a group of European government and non-government organisations concerned with the manage-

ment of wildlife sites, currently with 75 members in 17 countries

euryhaline *adjective* BIOL referring to an organism which can survive a wide range of salt concentrations in its environment

eurythermous *adjective* BIOL referring to an organism which can survive a wide range of temperatures in its environment

eurytopic *adjective* referring to organisms that tolerate a wide range of environmental conditions

eusocial society *noun* ZOOLOG a group of animals such as ants, bees and wasps in which some individuals are workers and do not reproduce, while others are fertile

Eustachian tube *noun* ANAT a canal extending from the middle ear to the nasopharynx that equalises air pressure on both sides of the eardrum

eustatic change *noun* EARTH SCI a change resulting from worldwide variations in sea level, as distinct from regional change caused by ground movements in a particular area

eutectic mixture *noun* CHEM a mixture that has the lowest freezing point of any combination of its constituents

eutectic point *noun* CHEM the temperature at which a eutectic mixture freezes, which is the lowest freezing point of any constituent of the mixture

eutherian *noun* ZOOLOG a mammal whose young develop within the womb attached to maternal tissues by a placenta. Subclass: Eutheria. Also called **placental mammal**

eutrophic *adjective* EARTH SCI referring to water which is high in dissolved mineral nutrients

eutrophication *noun* EARTH SCI the process by which water becomes full of phosphates and other mineral nutrients which encourage the growth of algae and kill other organisms. Also called **eutrophy**

eutrophic lake *noun* EARTH SCI a lake which has a high decay rate in the top layer of water, and so contains little oxygen at the lowest levels (NOTE: It has few fish but is rich in algae.)

eutrophy *noun* EARTH SCI same as **eutrophication** ■ *verb* BIOCHEM to fill something up with nutrients ○ *The sea is becoming eutrophied with nutrients.*

eV *symbol* PHYS electronvolt

evacuate *verb* 1. to remove all the people from a place in the event of an emergency

○ *procedures for evacuating all passengers from the airport* 2. PHYS to create a vacuum in something by removing all the air ○ *evacuate a glass jar*

evaluate *verb* 1. to judge the value or importance of something ○ *We'll evaluate the new treatment over 6 months.* 2. to calculate a value or a quantity

evaluation *noun* an examination and judgement of something ○ *The ice detector system provides continuous evaluation of conditions conducive to the formation of ice.*

evaluation copy *noun* COMPUT a demonstration version of a software product that allows a user to try the main functions of a software product before buying it

evaporate *verb* PHYS to change from being a liquid to being a vapour, or to change a liquid into a vapour ○ *In the heat of the day, water evaporates from the surface of the earth.* ○ *The sun evaporated all the water in the puddle.*

evaporation *noun* PHYS the process of changing from a liquid into a vapour

evaporative *adjective* PHYS able to evaporate

evapotranspiration *noun* BOT the movement of water from soil through a plant until it is released into the atmosphere from leaf surfaces

evapotranspire *verb* ECOL to lose water into the atmosphere by evaporation and transpiration

even *adjective* 1. flat or smooth, with no bumps or dents 2. uniform (*of distribution*) ○ *an even distribution of passengers* ○ *an even application of paint* ■ *adverb* used to emphasise a comparison with something stated ○ *It will be even higher than the new building.*

even number *noun* MATHS a number that is a multiple of two ○ *The first three even numbers are 2, 4 and 6.*

even parity check *noun* COMPUT an error checking method that only transmits an even number of binary ones in each word. Compare **odd parity check**

event *noun* 1. an action or activity 2. a catastrophic event such as an earthquake or eruption

event-driven *adjective* COMPUT referring to a computer program or process where each step of the execution relies on external actions

event focus *noun* COMPUT an object that is currently receiving messages from an action or event

event handler *noun* COMPUT a routine that responds to an event or message within an object-oriented programming environment ○ *If a user clicks the mouse button this generates a message which can be acted upon by the event handler.*

event horizon *noun* ASTRON the boundary of a black hole, at which its gravitational field is strong enough to prevent the escape of electromagnetic radiation

eventual *adjective* happening at an unspecified time in the future ○ *Water in the fuel may lead to eventual engine stoppage.*

eventually *adverb* at an unspecified time in the future ○ *Vapour cools and eventually condenses.*

evergreen BOT *adjective* referring to a plant which has leaves all year round. Compare **deciduous** ■ *noun* a tree or shrub which has leaves all year round (NOTE: Yew trees and holly are evergreens.)

evidence *noun* something which can be seen on the surface which suggests that there is a deeper structural problem ○ *no external evidence of cracking* ○ *Deformed wing panels may be evidence of an over-stressed airframe.*

evident *adjective* easily seen or understood ○ *It is evident from the information available that these problems played a part in the cause of the accident.*

evolution *noun* BIOL heritable changes in organisms which take place over a period of time involving several generations (NOTE: Significant evolutionary changes can occur in a species in relatively few generations.)

evolutionary *adjective* BIOL referring to evolution ○ *Evolutionary changes have taken place over millions of years.*

evolutionary ecology *noun* ECOL the study of the impact of evolution on current ecological patterns

evolve *verb* **1.** to develop gradually ○ *The strategy is still evolving.* **2.** BIOL to change and develop gradually over millions of years from primitive forms into the range of plant and animal species known on Earth **3.** PHYS to give off a physical quantity or chemical substance such as heat, gas or vapour

exa- *prefix* MEASURE 10¹⁸. Symbol E

exact *adjective* completely accurate or correct ○ *The exact fuel flow and pressure is adjusted.* ○ *The calculation is not exact.*

exactly *adverb* **1.** accurately ○ *measure the quantity exactly* **2.** completely ○ *A fuel injection system performs exactly the same function as a carburettor.*

examination *noun* **1.** a set of questions or exercises testing knowledge or skill ○ *The examination includes multiple-choice questions.* **2.** a careful observation or inspection ○ *examination of a faulty component* ○ *Examination of the house revealed traces of radon.*

examine *verb* **1.** to test someone's knowledge or skills by means of questions or exercises ○ *Students will be examined in four subjects.* **2.** MED to test or check the condition or health of someone ○ *to examine a patient* **3.** to study or analyse something ○ *to examine charts*

exceed *verb* to be more than expected, needed or allowed ○ *The concentration of radioactive material in the waste exceeded the government limits.* □ **it is dangerous to exceed the stated dose** MED do not take more than the stated dose

exceedance *noun* the degree to which the concentration of a pollutant is more than a standard or permissible limit ○ *exposure of the population to exceedances of air quality standards*

except *preposition* not including ○ *All the text has been keyboarded, except the last ten pages.*

except gate *noun* COMPUT a logical function whose output is true if either of two inputs is true and false if both inputs are the same

exception *noun* something or someone not included □ **an exception to the rule** an example which does not conform to a general statement □ **with the exception of** not including

exceptional *adjective* **1.** being an exception **2.** well above average

exception handling *noun* COMPUT the routines and procedures that diagnose and correct errors or minimise the effects of errors, so that a system will run when an error is detected. Also called **error handling, error management**

excess *noun* an amount or quantity greater than what is expected, needed or allowed □ **in excess of** more than ■ *adjec-*

tive more than is expected, needed or allowed

excess-3 code *noun* MATHS a code in which decimal digits are represented by the binary equivalent of three greater than the number ○ *The excess-3 code representation of 6 is 1001.*

excess electron *noun* PHYS an electron added to a semiconductor by adding an impurity to the semiconductor

excessive *adjective* more than expected, needed or allowed ○ *Excessive ultraviolet radiation can cause skin cancer.*

excess power *noun* MECH ENG the difference between horsepower available and horsepower required

exchange *verb* to take one thing and put another in its place ○ *Meteorological stations exchange information with other meteorological stations.*

exchangeable *adjective* COMPUT able to be exchanged

exchange selection *noun* a sorting method which repeatedly exchanges various pairs of data items until they are in order

excitation *noun* **1.** PHYS the process during which a nucleus, electron, atom or ion acquires enough energy to raise it to a quantum or excited state. The difference of energy between ground level and the excited state is the excitation energy. **2.** ELEC the act of supplying a small current to the windings of larger electrical motors

excite *verb* PHYS to raise a particle, atom, molecule or system from its lowest energy level (**ground state**) to a higher energy level

excited state *noun* PHYS a state in which a particle, atom, molecule or system has a higher energy level than its ground state

exciter *noun* ELEC a device that supplies a small current to the windings of a larger electrical motor

enclosure *noun* ENVIRON an area fenced to prevent animals from entering. Compare **enclosure**

exclude *verb* to keep something out ○ *Joints and interfaces should exclude moisture and improve fatigue life.*

exclusion *noun* **1.** the act of not including something or someone **2.** COMPUT restriction of access to a system

exclusion principle *noun* PHYS the rule that not more than one particle can have the same quantum conditions in the

same atom and they must differ in energy level, spin or some other characteristic. Also called **Pauli exclusion principle**

exclusion zone *noun* an area that people may not enter because a hazardous substance has been released

exclusive NOR *noun* MATHS a logical function whose output is true if all inputs are the same level and false if any are different. Abbr **EXNOR**

exclusive OR *noun* MATHS a logical function whose output is true if any input is true and false if all the inputs are the same. Abbr **EXOR**

excrement *noun* BIOL faeces

excreta *plural noun* BIOL the waste material excreted from the body of an animal, e.g. faeces, urine, droppings or sweat

excrete *verb* BIOL to pass waste matter out of the body ○ *The urinary system separates waste liquids from the blood and excretes them as urine.* Compare **secrete**

excretion *noun* BIOL the passing of the waste products of metabolism such as faeces, urine, sweat or carbon dioxide out of the body. Compare **secretion**

executable file *noun* COMPUT a file that contains a program rather than data

execute *verb* COMPUT to run or carry out a computer program or process

execute cycle *noun* COMPUT the series of events required to fetch, decode and carry out an instruction stored in memory

execute phase *noun* COMPUT a section of the execute cycle when the instruction is carried out

execution *noun* COMPUT the process of carrying out a computer program or process

execution cycle *noun* COMPUT a period of time during which an instruction is executed

executive *adjective* **1.** referring to making decisions and managing situations **2.** COMPUT referring to the operating system of a computer

executive control program *noun* COMPUT same as **operating system**

executive information system *noun* COMPUT an easy-to-use piece of software providing information to managers or executives about their company. Abbr **EIS**

exercise *verb* to use something ○ *Exercise special care when handling chemicals.*

exert *verb* □ **to exert an influence** to have an influence □ **to exert pressure** to put pressure onto something

exhalation *noun* BIOL the action of breathing out. Compare **inhalation**

exhale *verb* BIOL to breathe out. Compare **inhale**

exhaust *verb* **1.** BIOL to tire someone out **2.** to use something up completely ○ *The supplies are exhausted.* ■ *noun* **1.** ENG waste gases from an engine **2.** AUTOMOT the part of an engine through which waste gases pass ○ *Fumes from vehicle exhausts contribute a large percentage of air pollution in towns.*

exhausted fallow *noun* AGRIC fallow land which is no longer fertile

exhaust fumes, exhaust gases *plural noun* AUTOMOT gases, including carbon dioxide and carbon monoxide, produced by the engine of a car or truck as it burns petrol or fuel

exhaust gas filter system *noun* AUTOMOT a means of removing some or all of the harmful emissions from the exhaust gases of an engine by filtration or catalytic action

exhaustion *noun* **1.** the complete using up of something ○ *the exhaustion of the area's natural resources* **2.** extreme tiredness or fatigue

exhaustive *adjective* complete and thorough ○ *an exhaustive reply to the safety concerns* ○ *an exhaustive search for the information*

exhaust purification device *noun* AUTOMOT same as **exhaust gas filter system**

exhaust system *noun* AUTOMOT a part of an engine through which waste gases pass

exhaust valve *noun* AUTOMOT a valve in a piston engine which allows exhaust gases to leave the cylinder

exhibit *verb* to have something as a characteristic ○ *Composites, due to their construction, exhibit good fatigue behaviour.* ○ *Altocumulus cloud frequently exhibits a wavy appearance.*

exist *verb* to be present under particular circumstances or in a particular place ○ *Water can exist in the atmosphere in three forms.* ○ *A fire risk may exist following failure or leakage of any component.*

existence *noun* the fact or state of being ○ *Warning systems are provided to give an*

indication of the existence of a dangerous condition.

exit *noun* the act of going out of a place ○ *The exhaust valve opens to allow for the exit of exhaust gases.* ■ *verb* COMPUT to stop program execution or to leave a program and return control to the operating system or interpreter

exitance *noun a measure of the level of flux emitted per unit area of a surface (NOTE: Radiant exitance (M_e) is measured in watts per square metre ($W m^{-2}$ while luminous exitance (M_v) is measured in lumens per square metre ($1m m^{-2}$)).)*

exit point *noun* COMPUT a point in a subroutine where control is returned to the main program ○ *You have to exit to another editing system to add headlines.*

exjunction *noun* COMPUT a logical function whose output is true if either of two inputs is true and false if both inputs are the same

EXNOR *abbreviation* MATHS exclusive NOR

exobiology *noun* ASTRON the study of possible life in the universe other than on the Earth

exocarp *noun* BOT same as **epicarp**

exocrine gland *noun* ANAT a gland that discharges its secretion through a duct into a body cavity or to the exterior, e.g. the sweat glands and salivary glands

exogamous *adjective* BIOL referring to a zygote produced by gametes from two unrelated parents

exogenous *adjective* BIOL originating outside an organism

exon *noun* GENETICS a discontinuous sequence of DNA that carries the genetic code for the final messenger RNA molecule

EXOR *abbreviation* MATHS exclusive OR

exoskeleton *noun* ZOOLOG a hard covering or skeleton situated on the outside of organisms such as crustaceans, insects, turtles and armadillos, giving support and protection

exosphere *noun* EARTH SCI the highest layers of Earth's atmosphere, more than 650km above the surface and composed almost entirely of hydrogen

exothermic *adjective* CHEM relating to a chemical reaction that is a net producer of heat energy. Compare **endothermic**

exothermic reaction *noun* CHEM a chemical reaction in which heat is given out to the surroundings. Compare **endothermic reaction**

exotic *adjective* referring to an organism or species that is not native and has been introduced from another place or region ■ *noun* an organism or species that is not native to its current environment ► also called (all senses) **alien**

exotoxin *noun* MED a poison produced by bacteria which affects parts of the body away from the place of infection

expand *verb* to increase in size, volume or quantity ○ *Air expands when heated and contracts when cooled.* (NOTE: The opposite is **contract**; but when it is caused by factors other than temperature it is **compress**.)

expandable *adjective* able to be expanded

expandable system *noun* COMPUT a computer system that is designed to be able to grow in power or memory by hardware or software additions

expanded *adjective* INDUST referring to plastic or polystyrene made into a hard lightweight foam by blowing air or gas into it

COMMENT: Expanded polystyrene and other plastics are extensively used for packaging. CFCs are sometimes used in their manufacture.

expansion *noun* **1.** an increase in size, volume or quantity ○ *There is an expansion of the gas when it is heated.* **2.** COMPUT an increase in computing power or storage size **3.** MATHS (*of a mathematical expression*) the rewriting of a mathematical function as a series of terms

expansion bus *noun* COMPUT data and address lines leading to a connector and allowing expansion cards to control and access the data in main memory

expansion card *noun* COMPUT a printed circuit board connected to a system to increase its functions or performance

expansion chamber *noun* PHYS a container which allows for expansion of a fluid caused by increase in temperature or some other factor

expansion of the universe *noun* ASTRON the process by which the universe is moving outwards after the Big Bang some 20 billion years ago

COMMENT: The expansion is seen by terrestrial observers in the form of the

redshift in the radiation from distant galaxies. The **Hubble Constant** which tells us how fast objects recede for their distance is today put at 55 kilometres per second per million parsecs of distance. Distance has been determined from looking at Cepheid variables in nearby galaxies and by other means for more distant ones, while the velocities are found from redshifts in optical or other wavelengths.

expansion slot *noun* COMPUT a connector inside a computer into which an expansion card can be plugged ○ *Insert the board in the expansion slot.*

expansivity *noun* PHYS the measure of how much a solid or liquid expands or contracts in different temperatures

expect *verb* to hope or assume that something is going to happen ○ *the weather to be expected around the equinox*

expected *adjective* hoped for as a possibility ○ *the expected number of passengers*

expel *verb* to force something out ○ *Exhaust gases are expelled from the cylinder by the upward movement of the piston.* ○ *The piston expels fluid into the system on the inward stroke.*

expenditure *noun* **1.** the spending of money ○ *agreed the expenditure of public funds for this project **2.** the amount of money spent*

experience *noun* **1.** the building up of knowledge or skill over a period of time by an active participation in events or activities ○ *a teacher with 20 years' experience* **2.** an event ○ *The first solo flight is an experience most pilots never forget.* ■ *verb* to participate in something or find yourself in a particular situation ○ *It is not unusual to experience traffic delays.* ○ *Turbulence can be experienced when flying through a trough.*

experiment *noun* a scientific test under controlled conditions that is made to demonstrate or discover something ○ *Experiments have shown that left-handed people often have better hand/eye coordination than right-handed people.* □ **to conduct an experiment** to carry out an experiment ■ *verb* to carry out a scientific test under controlled conditions in order to demonstrate or discover something □ **to experiment with something** to try something to see how it performs or affects you ○ *experimenting with new drug delivery systems* □ **to experiment on someone or something** to use someone or something in an experiment ○ *experimented on laboratory mice*

experimental *adjective* referring to something still at an early stage of development ○ *the experimental and testing stages of a new technique*

experimentally *adverb* by carrying out experiments

expert *noun* a person who knows a lot about something ○ *He is a computer expert.* ○ *She is an expert in programming languages.*

expert system *noun* COMPUT a piece of software which applies the knowledge, advice and rules defined by experts in a particular field to a user's data to help solve a problem

expire *verb* **1.** PHYSIOL to breathe out **2.** BIOL to die

explanatory *adjective* giving an explanation ○ *an explanatory paragraph*

explicit address *noun* COMPUT an address provided in two parts, the reference point and a displacement or index value

explicit reference *noun* COMPUT a way of identifying a particular object, e.g. a field or button, by a unique name

explode *verb* **1.** PHYS to burst, or to make something burst, violently **2.** to increase rapidly ○ *Population numbers have exploded.*

exploit *verb* **1.** to take advantage of something ○ *Ladybirds have exploited the sudden increase in the numbers of insects.* **2.** to use a natural resource ○ *exploiting the natural wealth of the forest* **3.** to treat something or someone unfairly for personal benefit

exploitation *noun* **1.** the action of taking advantage of something **2.** the utilisation of natural resources ○ *Further exploitation of the coal deposits is not economic.* **3.** the unfair use of something or treatment of someone for personal benefit

explosion *noun* **1.** a release of energy in a sudden and often violent way ○ *an explosion caused by a bomb* **2.** the action of bursting as a result of internal pressure ○ *tyre explosion due to overheating* **3.** the loud sound made as a result of an explosion ○ *The passengers heard an explosion.* **4.** a sudden increase ○ *An explosion in cases of the virus disease is predicted.*

explosive *adjective* **1.** able to or designed to burst or explode ○ *an explosive device* **2.** causing a rapid increase ○ *explo-*

sive growth ■ *noun* a substance which can explode

explosive hazard *noun* the risk that a substance may blow up

exponent *noun* MATHS a number indicating the power to which a base number is to be raised

exponential *adjective* **1.** increasing more and more rapidly **2.** referring to a mathematical function that varies in relation to the power of another value. If $x = n^y$, then x is said to vary exponentially with y .

exponentially *adverb* more and more rapidly ○ *We can expect this population to increase exponentially over the next few years.*

exponentiation *noun* MATHS the action of raising a base number to a particular power

export *verb* COMPUT to save data in a different file format from the default ○ *To use this data with dBASE, you will have to export it as a DBF file.*

expose *verb* **1.** to subject something or someone to an action or an effect ○ *When the slope of a hill is exposed to solar radiation, wind currents are set up.* ○ *She had been exposed to the contaminant at work.* **2.** to show something which was covered or hidden ○ *The report exposed a lack of supervision in maintenance of the reactor.*

exposed *adjective* **1.** referring to something or someone not covered or hidden ○ *We painted all the exposed surfaces.* **2.** ENVIRON not protected from environmental effects ○ *left in an exposed position on the hillside* □ **exposed to the sun** in sunlight without covering

exposure *noun* **1.** the act or process of being exposed to an agent ○ *exposure to radiation* **2.** MED the harmful effect of having no protection from the weather ○ *suffering from exposure after spending a night in the snow*

exposure assessment *noun* an assessment of the amount of exposure to a chemical or other hazard to which a population has been subjected

exposure dose *noun* MED the amount of radiation to which someone has been exposed

express *verb* to put something into words, symbols or signs ○ *An angle may be expressed in degrees, minutes and seconds.*

○ *Pressure altitudes are expressed in hundreds of feet.*

expression *noun* **1.** MATHS a mathematical formula or relationship **2.** COMPUT a definition of a value or variable in a program

expressivity *noun* GENETICS the extent to which a gene affects the observable characteristics (**phenotype**) of an organism

ex-situ *adjective* BIOL referring to the study, maintenance or conservation of an organism away from its natural surroundings. Compare **in-situ**

extend *verb* to make something longer

extended arithmetic element *noun* COMPUT a section of a central processing unit that provides hardware implementations of various mathematical functions

extended binary coded decimal interchange code *noun* COMPUT an 8-bit character coding system. Abbr EBCDIC

extended family *noun* SOC SCI a family group which includes not only parents and their offspring but also other blood relatives. Compare **nuclear family**

extensible language *noun* COMPUT a computer programming language that allows the user to add data types and commands

intensification *noun* AGRIC the use of less intensive farming methods. Compare **intensification**

extension *noun* something added to something else to make it longer

extension cable *noun* ELEC a cable that allows a device located at some distance to be connected

extensive *adjective* large in range or amount ○ *Extensive use is made of volunteers.*

extensive agriculture, extensive farming *noun* AGRIC a way of farming which is characterised by a low level of inputs per unit of land. Compare **intensive agriculture**

extensive system *noun* AGRIC a farming system which uses a large amount of land per unit of stock or output ○ *an extensive system of pig farming*

extent *noun* a range or amount of something ○ *The horizontal extent of the cloud averages about 50 km.* ○ *Clouds of great vertical extent are not uncommon.* □ **to a certain extent, to some extent** partly ○

The accident was caused, to a certain extent, by the poor weather. □ **to a lesser or greater extent** not as much as or more than something previously stated

external *adjective* referring to the outside of something ○ *external appearance* Opposite **internal** □ **for external use** referring to medication that is to be used only on the outside of the body and not swallowed. Compare **internal**

external clock *noun* COMPUT a clock or synchronising signal supplied from outside a device

external device *noun* COMPUT **1.** an item of hardware such as a terminal or printer that is attached to a main computer **2.** a device that allows communications between the computer and itself, but which is not directly operated by the main computer

external disk drive *noun* COMPUT a device that is not built into the computer, but is added to increase its storage capabilities

external effects *plural noun* INDUST the costs to society of industrial processes which are not reflected in the price of the product sold, e.g. the environmental costs associated with a power station. Also called **externalities**

external iliac artery *noun* ANAT an artery which branches from the aorta in the abdomen and leads to the leg

external interrupt *noun* COMPUT an interrupt signal from a peripheral device indicating that attention is required

externalities *plural noun* INDUST same as **external effects**

external maxillary artery *noun* ANAT a branch of the external carotid artery, in the face

external register *noun* COMPUT a user's register located in main memory rather than within the CPU

external respiration *noun* PHYSIOL the process of oxygen in the air being exchanged in the lungs for carbon dioxide from the blood

external schema *noun* COMPUT the user's view of the structure of data or a program

exteroceptor *noun* BIOL a sensory organ which is affected by stimuli from outside the body, e.g. the eye or ear

extinct *adjective* **1.** ECOL referring to a species which has died out and no longer

exists ○ *Several native species have become extinct since sailors in the nineteenth century introduced dogs to the island.* **2.** EARTH SCI referring to a volcano which is no longer erupts. Compare **dormant**

extinction *noun* **1.** ECOL the process of a species dying out **2.** PHYS the effect by which a beam of light is reduced in intensity as it passes through a solution

extinction rate *noun* the rate at which species become extinct

extinction vortex *noun* a situation where genetic traits and environmental conditions combine to make a species gradually become extinct

extinguish *verb* to put out a fire

extinguisher *noun* a portable mechanical device for spraying and putting out a fire with chemicals

extinguishing agent *noun* CHEM **1.** one of several substances used to put out fires **2.** a chemical substance which makes another substance react

extracellular *adjective* BIOL taking place or situated outside a cell or cells

extrachromosomal *adjective* GENETICS referring to the inheritance of characteristics controlled by factors that are not carried on chromosomes

extracode *noun* COMPUT a short routine within the operating system that emulates a hardware function

extract *noun* **1.** a part taken from a longer text ○ *The following paragraph is an extract from the safety regulations.* **2.** a preparation made by removing water or alcohol from a substance, leaving only the essence ■ *verb* **1.** to take something out of somewhere ○ *Vanilla essence is extracted from an orchid.* **2.** to obtain something such as information or data from a source **3.** to obtain information from something ○ *Extract the important information from the report and make a summary.* **4.** CHEM, INDUST to obtain something from a substance by a chemical or industrial process ○ *A dehumidifier extracts moisture from the atmosphere.* **5.** to take something such as a mineral out of the ground **6.** to remove the essence from a liquid

extraction *noun* **1.** INDUST the act or process of removing something ○ *The extraction of coal from the mine is becoming too costly.* **2.** the action of producing a

substance out of another ○ *the extraction of sugar from cane*

extractor *noun* ENG a device that extracts something, e.g. a machine which removes fumes or gas

extractor fan *noun* ENG a small fan which removes fumes or smoke from a kitchen or factory

extragalactic *adjective* ASTRON existing, originating or happening outside the galaxy that contains Earth

extranet *noun* COMPUT an internal company network (**intranet**) that has a connection to the public Internet and allows users to gain access via the Internet (NOTE: It is often used to provide access to people in the company who are working away from the office.)

extrapolate *verb* to estimate something by using known facts ○ *Information given on a synoptic chart can be extrapolated, by the use of some simple guidelines.*

extrasolar *adjective* ASTRON existing in or relating to space outside the solar system that contains Earth

extreme *adjective* **1.** most distant in any direction ○ *the most extreme point on the map* **2.** to the greatest or highest degree ○ *extreme difficulty* ○ *Extreme care must be taken in handling the specimens.* ■ *noun* either of the two things situated at opposite ends of a range ○ *the extremes of boiling and freezing* ○ *The region experiences extremes of temperature.*

extremophile *noun* BIOL an organism, especially a microorganism, that thrives in climatic or environmental extremes such as the intense heat of a boiling sulphur pool or the intense cold of Arctic permafrost

extrinsic factor *noun* BIOCHEM a form of vitamin B₁₂

extrinsic semiconductor *noun* PHYS a semiconductor material that has had impurities added to change its conductive properties

extrusive *adjective* EARTH SCI referring to rock formed from molten lava which has pushed up through the Earth's crust

eye *noun* **1.** ANAT a sense organ that is used for seeing **2.** METEOROL the central point of a tropical storm, where pressure is lowest (NOTE: The eye can be several kilometres wide and may take some minutes to pass.)

eye-dropper *noun* COMPUT a tool in a graphics software application that allows a

user to click on a pixel in an image and select the colour of the pixel

eyepiece *noun* ASTRON the part of a telescope or microscope that holds the lens through which the image is viewed

eyesight *noun* BIOL same as **vision**

eyespot *noun* ZOO a marking in the shape of an eye, e.g. on some butterflies wings or on a peacock's tail

eye tooth *noun* DENT a canine tooth

F

F *symbol* **1.** PHYS Fahrenheit **2.** PHYS, MEASURE farad **3.** ELEC, MEASURE faraday **4.** CHEM ELEM fluorine ■ *noun* MATHS the hexadecimal number equivalent to decimal number 15

f- *prefix* one thousandth of a million millionth (10^{-15}). Full form **femto-**

F₁ *noun* GENETICS (*in breeding experiments*) the first generation of offspring from a cross between two plants or animals

F₁ hybrid *noun* GENETICS, BOT a plant produced by breeding two parent plants, which is stronger than the parents, but which will not itself breed true

fabric *noun* cloth produced especially by knitting or weaving

fabricate *verb* INDUST to manufacture something ○ *The ease with which aluminium can be fabricated into any form is one of its most important qualities.*

face *noun* **1.** ANAT the front of the head, including the eyes, nose and mouth **2.** the surface of an object ○ *the face of the Earth* ○ *The exhaust cone prevents the hot gases from flowing across the rear face of the turbine disc.* □ **the north face of a mountain** the vertical or near-vertical side facing north **3.** (*of a clock or instrument*) the part with a dial and indicators ○ *the face of an instrument* ■ *verb* to turn towards a particular direction ○ *The window faces east.*

facet *noun* a surface or plane

faceted code *noun* COMPUT a code which indicates various details of an item by assigning each one a value

facial artery *noun* ANAT an artery which branches off the external carotid into the face and mouth

facial nerve *noun* ANAT the seventh cranial nerve which governs the muscles of the face, the taste buds on the front of the tongue and the salivary and lacrimal glands

facies *noun* BIOL the characteristic appearance of something such as an animal or plant

facilitate *verb* to enable something to happen more easily or quickly ○ *A ramp is used to facilitate access to the wing.*

facilitation *noun* a situation in which a developing community changes an environment allowing other species to invade

facility *noun* **1.** a natural aptitude or ability ○ *a facility for logical thinking* **2.** a building or site with a particular function ○ *a processing facility* ○ *a recycling facility* **3.** a mode of operation which allows the user of equipment to do something ○ *The printer has a self-test facility.* ■ *plural noun facilities* the building, equipment or resources which can be used to do something ○ *laboratory facilities*

facsimile transmission *noun* TELECOM the sending and receiving of images by fax

fact *noun* a piece of information ○ *interesting scientific facts*

factor *noun* **1.** something that has an influence on something else ○ *Even with modern instruments, visibility remains a very important factor in aviation.* **2.** MATHS the amount by which something is multiplied □ **by a factor of** indicating a quantity by which a stated quantity is multiplied or divided, so as to indicate an increase or decrease in a measurement ○ *The number of plants in the quadrat had increased by a factor of 10.* **3.** MATHS either of two numbers or quantities that can be multiplied together to give a particular number **4.** MED a substance in the plasma which makes the blood coagulate when a blood vessel is injured

factorial *noun* MATHS the product of all the numbers below a number (NOTE: For example, 4 factorial (written 4!) = $1 \times 2 \times 3 \times 4 = 24$.)

factorise *verb* MATHS to break down a number into two whole numbers which when multiplied will give the original number ○ *When factorised, 15 gives the factors 1, 15 or 3, 5.*

Factor IX *noun* MED same as **Christmas factor**

Factor VIII *noun* MED a substance in plasma that makes blood coagulate and which is lacking in haemophiliacs

factor XII *noun* BIOCHEM same as **Hageman factor**

factory *noun* INDUST a building where products are manufactured ○ *a chemical factory*

factory farm *noun* AGRIC a farm that uses intensive methods of rearing animals

factory farming *noun* AGRIC a highly intensive method of rearing animals characterised by keeping large numbers of animals indoors in confined spaces and feeding them processed foods, with the use of drugs to control diseases

facultative *adjective* describing an organism that usually exists in a particular set of circumstances but is also able to do so in different circumstances ○ *a facultative parasite* ○ *a facultative anaerobe*
Compare **obligate**

fade *noun* **1.** a periodic reduction in the received strength of a radio transmission ○ *Surface wave at night causes fade of the signal.* **2.** a periodic reduction in braking power ○ *Hard braking can cause fade and tyre burst through overheating.* ■ *verb* to lose brightness, loudness or brilliance gradually ○ *The radio signal faded.*

faecal *adjective* BIOL referring to faeces (NOTE: The US spelling is **fecal**.)

faecal matter *noun* BIOL same as **faeces**

faeces *plural noun* BIOL solid waste matter passed from the bowels of a human or other animal after food has been eaten and digested (NOTE: The US spelling is **feces**.)

Fahrenheit *noun* MEASURE a scale of temperatures on which the freezing and boiling points of water are 32° and 212°, respectively (NOTE: The Fahrenheit scale is still commonly used in the USA.)

COMMENT: To convert Fahrenheit temperatures to Celsius, subtract 32, multiply by 5 and divide by 9. So 68°F is equal to 20°C. As a quick rough estimate, subtract 30 and divide by two.

fail *verb* **1.** to be unsuccessful ○ *Attempts to reach agreement on the environmental*

agenda failed. **2.** to stop working properly ○ *The car's brakes must have failed.*

fail safe system *noun* **1.** a system or device which has in-built safeguards against total failure ○ *The term 'fail safe' means in this case that the structure, though damaged, is capable of supporting a reasonable percentage of its design load.*

2. COMPUT a system which has a predetermined state it will go to if a main program or device fails, so avoiding the problems that a complete system shutdown would produce

fail soft system *noun* a system which will still be partly operational even after a part of the system has failed

failure *noun* **1.** breakdown ○ *Engine failure is sometimes accompanied by fire.* **2.** the fact of not achieving the desired end or ends ○ *the failure of an experiment* □ **failure to do something** not having done something ○ *criticised their failure to comply with the safety regulations*

failure announcement *noun* ELEC a set of signals on an annunciator panel that indicate the failure of a system

failure logging *noun* COMPUT a section of an operating system that automatically saves the present system states and relevant data when an error or fault is detected

failure rate *noun* a number of failures of a specific type within a specific period of time

failure recovery *noun* the return to normal activity of a process or program after a failure has occurred and been corrected

fairing *noun* AEROSP a device to improve the flow of air over a surface ○ *There is a dorsal fairing at the base of the fin or vertical stabiliser.* ○ *Wheel fairings, called spats, are fitted to light aircraft to reduce drag.*

Fajans' rules *plural noun* CHEM the rules that state when a chemical compound will have ionic rather than covalent bonds

fall *noun* **1.** a reduction ○ *a fall in pressure* **2.** METEOROL the amount of rain or snow which comes down at any one time ○ *an overnight fall of snow* **3.** US autumn ■ *verb* **1.** to become less in amount ○ *atmospheric pressure is falling* **2.** to be included within the range of something ○ *Design methods fall into four groups.* **3.** to come down freely because of gravity ○ *Light rain may fall occasionally.* **4.** to occur at a particular

time ○ *The vernal equinox falls in March.* (NOTE: **falling** – **fell** – **fallen**)

fall back recovery *noun* COMPUT the return to normal activity of a program after a fault has been fixed, from the point at which fall back routines were called

fallopian tube *noun* ANAT in mammals, a tube that conveys eggs from an ovary to the womb

fallout *noun* ENVIRON the radioactive matter which falls from the atmosphere as particles, either in rain or as dust

fallow AGRIC *noun* a period when land is not being used for growing crops for a period so that nutrients can build up again in the soil or to control weeds ○ *Shifting cultivation is characterised by short cropping periods and long fallows.* ■ *adjective* referring to land that is not being used for growing crops for a period

fallow crop *noun* AGRIC a crop grown in widely spaced rows, so that it is possible to hoe and cultivate between the rows

fallow cultivation *noun* AGRIC a type of cultivation in which the period under crops is increased and the length of the fallow is reduced

fallspeed *noun* METEOROL the speed at which raindrops or dry particles fall through the air

fallstreak *noun* METEOROL a column of ice particles which are falling through a cloud

false *adjective* not true or not correct ○ *Lightning may cause false readings from sensitive instruments.*

false code *noun* COMPUT a code that contains values not within specified limits

false drop *noun* COMPUT the retrieval of unwanted files from a database through the use of incorrect search codes

false error *noun* COMPUT an error warning given when no error has occurred

false fruit *noun* BOT same as **pseudocarp**

false positive *noun* MED, SCI the result of a medical, chemical, or biological test that appears to be positive but is in fact erroneous

FAM *abbreviation* COMPUT fast access memory

familiar *adjective* 1. common ○ *Clouds are the most familiar visible meteorological feature.* 2. well known or easily recognised □ **to be familiar with** to have some

knowledge of something ○ *He is familiar with the procedure.*

familiarise *verb* □ **to familiarise yourself with** to get to know something well

family *noun* 1. BIOL a group of people, or of some other animals, composed of parents and offspring 2. BIOL a group of genera which have some characteristics in common ○ *the plant family Orchidaceae* ○ *Tigers and leopards are members of the cat family.* (NOTE: Scientific names of families of animals end in **-idae** and those of families of plants end in **-ae**.) 3. COMPUT a range of different designs of a particular typeface 4. ENG a range of machines from one manufacturer that are compatible with other products in the same line from the same manufacturer

fan ENG *noun* a mechanism which circulates air for cooling ○ *If the fan fails, the system will rapidly overheat.* ■ *verb* to cool a device by blowing air over it

fang *noun* 1. a long pointed tooth of an animal on each side of the mouth towards the front 2. ZOOLOG a tooth of a venomous snake, with a hollow or grooves through which venom is emitted

fan-in *noun* ELECTRONICS the maximum number of inputs that a circuit or chip can deal with

fanning *noun* ENVIRON the spreading out of a horizontal layer of smoke and other pollutants from a chimney

fan out *verb* to spread out from a central point

fan-out *noun* ELEC the maximum number of outputs that a circuit or chip can drive without exceeding its power dissipation limit

FAO *abbreviation* FOOD INDUSTRY, AGRIC Food and Agriculture Organization

FAQ *abbreviation* COMPUT frequently asked questions

farad *noun* MEASURE the SI derived unit of electric capacitance. Symbol **F** (NOTE: A capacitor carrying one coulomb of charge when a potential difference of one volt is applied has a capacitance of one farad.)

faraday *noun* MEASURE, PHYS a unit of electric charge equal to that required to deposit a unit amount of singly charged substance during electrolysis. Symbol **F** (NOTE: Its approximate SI equivalent is 96485 coulombs.)

Faraday cage *noun* ELEC a wire or metal screen, connected to ground, that

completely encloses sensitive equipment to prevent any interference from stray electromagnetic radiation

Faraday constant *noun* the electric charge carried by one mole of electrons, equal to 9.64853×10^4 coulombs per mole. Symbol **F**

Faraday's law of electrolysis *noun* PHYS a law developed by Michael Faraday describing the chemical changes caused by changing electrical charge

Faraday's law of electromagnetic induction *noun* PHYS a law developed by Michael Faraday describing the electromotive force generated in a conductor by a changing magnetic flux

Faraday's laws *noun* PHYS a law developed by Michael Faraday describing the electromagnetic induction of an e.m.f. or electrical charge in a conductor when near a changing magnetic flux

farm AGRIC *noun* **1.** an area of land used for growing crops and keeping animals to provide food and the buildings associated with it **2.** an area of land or water where particular animals or crops are raised commercially \circ a fish farm \circ a butterfly farm ■ *verb* **1.** to run a farm **2.** to grow crops and keep animals on a particular piece or size of land \circ He farms 100 acres in Devon. **3.** to raise a particular animal or crop commercially \circ He intends to farm salmon and sea bass.

farmed *adjective* AGRIC **1.** grown or produced commercially and not in the wild \circ farmed salmon **2.** referring to meat from fish grown in a fish farm or from animals kept on a farm \circ farmed venison

farmer *noun* AGRIC someone who runs or owns a farm

farmer's lung *noun* MED a type of asthma caused by an allergy to rotting hay

farm produce *noun* AGRIC food such as fruit, vegetables, meat, milk and butter, which is produced on a farm

fascia *noun* ANAT fibrous tissue covering a muscle or an organ

fascicle *noun* BOT a bundle of branches, leaves or stems arising from the same point

fasciitis *noun* MED inflammation of the bands of connective tissue (**fascia**) between muscles or around organs, from infection or unknown causes

fast *adjective* PHYS (of a neutron) having a lot of energy

fast access memory *noun* COMPUT a storage location which can be read from or written to very rapidly. Abbr **FAM**

fast breeder reactor, fast breeder *noun* INDUSTRY a nuclear reactor which produces more fissile material than it consumes, using fast-moving neutrons and making plutonium-239 from uranium-238, thereby increasing the reactor's efficiency. Abbr **FBR**

fast core *noun* COMPUT a high speed, low access time working memory for a CPU \circ The fast core is used as a scratchpad for all calculations in this system.

fast fission *noun* PHYS nuclear fission of the uranium-238 isotope, which is much faster than that of uranium-235

fast line *noun* TELECOM a special telecommunications line which allows data to be transmitted at 48K or 96K baud rates

fast neutron *noun* PHYS a neutron with energy in excess of 1.5MeV, sufficient to produce fission in uranium 238

fat BIOL *noun* a white oily substance in the body of mammals, which stores energy and protects the body against cold (NOTE: **Fat** has no plural when it means the substance in the body of mammals; the plural **fats** is used to mean different types of fat.) ■ *adjective* describing the body of a large person or animal (NOTE: **fat** – **fatter** – **fat-test**)

COMMENT: Fat is a necessary part of diet because of the vitamins and energy-giving calories which it contains. Fat in the diet comes from either animal fats or vegetable oils. Animal fats such as butter, fat meat or cream, are saturated fatty acids. It is believed that the intake of unsaturated and polyunsaturated fats, mainly vegetable oils and fish oil, in the diet, rather than animal fats, helps keep down the level of cholesterol in the blood and so lessens the risk of atherosclerosis. A low-fat diet does not always help to reduce weight.

FAT *abbreviation* COMPUT file allocation table

fatal *adjective* BIOL causing death \circ a fatal accident \circ a fatal dose

fatal error *noun* COMPUT a fault in a program or device that causes the system to crash

father *noun* a man who has a son or daughter

father file *noun* COMPUT a backup of the previous version of a file

fatigue *noun* **1.** physical or mental tiredness resulting from exertion \circ Fatigue was

a contributing factor in the accident. **2.** the weakening or failure of a material such as metal resulting from stress ○ *Fan blades must be resistant to fatigue and thermal shock.* ○ *Titanium has good fatigue resistance.*

fatigue crack *noun* a crack caused by fatigue of materials

fat-soluble *adjective* CHEM referring to a substance that can be dissolved in fat ○ *Vitamin D is fat-soluble.* ○ *Polychlorinated biphenyls are fat-soluble and collect in the blubber of seals.*

fatty *adjective* BIOL containing a lot of fat ○ *Fatty foods contribute to the risk of obesity.*

fatty acid *noun* **1.** BIOCHEM an acid found in plants and animals that consists of a straight chain of carbon atoms ending in a carboxyl group which is an important substance in the body **2.** CHEM † **carboxylic acid**

fatty degeneration *noun* MED the accumulation of fat in the cells of an organ such as the liver or heart, making the organ less able to perform

fault *noun* **1.** a feature that spoils the overall quality of something ○ *a design fault* **2.** an error, especially in a calculation **3.** COMPUT a situation where something has gone wrong with software or hardware, causing it to malfunction ○ *The technical staff are trying to correct a programming fault.* **4.** EARTH SCI a change in the position of the rock layers of the Earth's crust in response to stress, leading to earthquakes

fault diagnosis *noun* COMPUT the process by which the cause of a fault is located

fault line *noun* EARTH SCI a line of cracks in the Earth's crust occurring where changes in the position of rock layers have taken place and along which earthquakes are likely to occur

fault management *noun* COMPUT one of the five categories of network management specified by the ISO that will detect, isolate and correct network faults

fault plane *noun* EARTH SCI the face of the rock at a fault where one mass of rock has slipped against another

fault-tolerant *adjective* COMPUT able to continue functioning even when a fault occurs ○ *They market a highly successful range of fault-tolerant minis.*

faulty sector *noun* COMPUT a sector of a magnetic disk that cannot be written to or read from correctly

fauna *noun* **1.** ECOL the wild animals and birds which live naturally in a specific area. Compare **flora** **2.** EARTH SCI a book or list describing the animals and birds of a specific area. † **flora**

favourable condition *noun* ENVIRON a category indicating a good state of conservation of an area of the environment

FBC *abbreviation* INDUST fluidised-bed combustion

FBR *abbreviation* INDUST fast breeder reactor

FC *abbreviation* INDUST fibre-concrete

FCA *abbreviation* ENVIRON full-cost accounting

FDA *abbreviation* INDUST Food and Drug Administration

fdc *abbreviation* COMPUT floppy disk controller

FDD *abbreviation* COMPUT floppy disk drive

FDDI *abbreviation* COMPUT fibre distributed data interface

FDM *abbreviation* COMPUT frequency division multiplexing

fdx, FDX *abbreviation* COMPUT full duplex

Fe *symbol* CHEM ELEM iron

feather *noun* ZOOLOG an outgrowth of the epidermis on a bird's body and wings providing insulation. The feathers on the wings and those forming the tail are important in flight. † **feathers**

feathers *plural noun* ZOOLOG the fringes of hair that some dogs and horses have on their legs or tails

feature *noun* an important, noticeable or distinctive aspect, quality, or characteristic ○ *Sea breeze is a regular feature of coastal climates.* ■ *verb* to have something as a particular characteristic ○ *The machine features voice-activated control.*

febrile *adjective* referring to a fever

fecal *adjective* BIOL US spelling of **faecal**

feces *plural noun* BIOL US spelling of **faeces**

fecundity *noun* BIOL the fertility of a plant or animal

FED *abbreviation* COMPUT field emission display

feed *verb* **1.** BIOL to take food ○ *The herd feeds here at dusk.* **2.** BIOL to give food to a person or an animal **3.** AGRIC to provide

fertiliser for plants or soil **4.** COMPUT to put paper into a machine or information into a computer ○ *This paper should be manually fed into the printer.* ○ *Data is fed into the computer.* **5.** to supply or add to something ○ *Several small streams feed into the river* ■ **noun** **1.** AGRIC food given to animals and birds ○ *Traces of pesticide were found in the cattle feed.* **2.** AGRIC fertiliser for plants or soil ○ *Tomato plants need liquid feed twice a week at this time of year.* **3.** a supply of something **4.** COMPUT a device which guides paper or other materials into and through a machine

feed additive *noun* AGRIC a supplement added to the feed of farm livestock, particularly pigs and poultry, to promote growth, e.g. an antibiotic or hormone

feedback *noun* COMPUT the return of part of the output of a process or system to the input, especially when used to maintain performance or to control a system ○ *The LC ensures that a feedback signal of the monitored output frequency is sent back to the CSDU.*

feedback control *noun* COMPUT information about the effects of a controlling signal on a machine or device, returned to the controlling computer

feeder *noun* **1.** BIOL an animal that eats particular food or eats in a particular way ○ *a night feeder* **2.** a device which supplies something ○ *a bird feeder* ○ *a paper feeder* **3.** something which supplies or adds to something else of the same type

feeder reservoir *noun* ENG a small reservoir from which water flows into another reservoir

feeder stream *noun* EARTH SCI a small stream which leads into a river

feed grain *noun* AGRIC a cereal which is fed to animals and birds, e.g. wheat or maize

feeding ground *noun* ZOO an area where animals come to feed ○ *Estuaries are the winter feeding grounds for thousands of migratory birds.*

feedingstuff *noun* AGRIC same as **feedstuff**

feed intake *noun* AGRIC, BIOL the amount of food eaten by an animal

feedstuff *noun* AGRIC food for farm animals. Also called **feedingstuff**

Fehling's test *noun* BIOCHEM a test for detecting dissolved reducing sugars such as glucose and aldehydes

feldspar, feldspath *noun* EARTH SCI a common type of crystal rock formed of silicates

fell *noun* EARTH SCI a high area of open moorland in the north of England ■ *verb* FORESTRY to cut down a tree

female *adjective* **1.** ZOO referring to an animal that produces ova and bears young **2.** BOT referring to a flower which has carpels but not stamens, or a plant that produces such flowers

female connector *noun* COMPUT a connector with connecting sockets into which the pins or plugs of a male connector can be inserted

femoral *adjective* ANAT of or concerning the thigh or femur

femoral artery *noun* ANAT a continuation of the external iliac artery, which runs down the front of the thigh and then crosses to the back

femoral nerve *noun* ANAT a nerve which governs the muscle at the front of the thigh

femoral pulse *noun* MED a pulse taken in the groin

femto- *prefix* MEASURE 10^{-15} . Symbol **f**
femtosecond *noun* MEASURE a thousandth of a picosecond

femur *noun* ZOO a bone in vertebrates that is equivalent to the human thighbone

fen *noun* EARTH SCI an area of flat marshy land, with plants such as reeds and mosses growing in alkaline water

fenland *noun* EARTH SCI a large area of flat marshy land with alkaline water

FEP *abbreviation* COMPUT front-end processor

FEPA /'fepə/ *abbreviation* Food and Environmental Protection Act

feral *adjective* ZOO referring to an animal which was formerly domesticated and has since reverted to living wild ○ *The native population of rabbits was exterminated by feral cats.*

ferment *noun* CHEM to subject something to fermentation, or be subjected to fermentation

fermentation *noun* CHEM the process by which organic compounds such as carbohydrates are broken down by enzymes from microorganisms such as yeasts to produce energy

fermi *noun* PHYS a unit of length used to measure nuclear distances, equal to 10^{-15} m

fermium *noun* CHEM ELEM an artificially produced radioactive element in the actinide group of the periodic table, produced by neutron-bombardment of plutonium (NOTE: The chemical symbol is **Fm**; the atomic number is **100** and the atomic weight is **257**.)

fern *noun* BOT a type of green flowerless plant with large leaves (**fronds**) that propagates by spores. ◊ **pteridophyte** (NOTE: Ferns grow in damp rocky places and woodlands.)

ferric oxide¹ *noun* CHEM iron oxide used as a coating for magnetic disks and tapes

ferric oxide² *noun* COMPUT a red insoluble oxide of iron that can be magnetised to store data or signals and is used as tape or disk coating. Formula: Fe₂O₃.

ferrite *noun* MINERALS a mineral containing iron oxide that occurs as small grains in a variety of rocks

ferrite core *noun* PHYS a small bead of magnetic material that can hold an electromagnetic charge used in the first type of computer

ferro- *prefix* CHEM referring to or containing iron

ferrocene *noun* CHEM an orange-red crystalline solid containing an atom of iron situated between two rings each consisting of five carbon and five hydrogen atoms. Formula: Fe(C₅H₅)₂.

ferrocyanide *noun* CHEM a salt of ferrocyanic acid containing an anion of iron and six cyanide groups, used in dyes and pigments

ferromagnetic material *noun* PHYS any ferrite material that can be magnetised

ferromagnetism *noun* PHYS the ability of some substances such as iron to become highly magnetic when exposed to a weak magnetic field within a specific temperature range

ferrous *adjective* CHEM referring to or containing iron

ferruginous *adjective* EARTH SCI referring to rock or water which contains iron

fertile *adjective* **1.** ZOOL referring to an animal or plant that is able to produce offspring by sexual reproduction. Opposite **sterile** **2.** BIOL referring to soil with a high concentration of nutrients that is able to produce good crops

fertilisation, fertilization *noun* BIOL the joining of an ovum and a sperm to form a

zygote and so start the development of an embryo

fertilise, fertilize *verb* **1.** BIOL (*of a sperm*) to join with an ovum **2.** BIOL (*of a male*) to make a female pregnant **3.** AGRIC to put fertiliser on crops or soil

fertiliser, fertilizer *noun* AGRIC a chemical or natural substance spread and mixed with soil to stimulate plant growth

COMMENT: Organic materials used as fertilisers include manure, slurry, rotted vegetable waste, bonemeal, fishmeal and seaweed. Inorganic fertilisers such as powdered lime or sulphur are also used. In commercial agriculture, artificially prepared fertilisers (manufactured compounds containing nitrogen, potassium and other chemicals) are most often used, but if excessive use of them is made, all the chemicals are not taken up by plants and the excess is leached out of the soil into ground water or rivers where it may cause algal bloom.

fertility *noun* BIOL the state of being fertile

fertility rate *noun* MED the number of births per year, shown, in humans, per thousand females aged between 15 and 44

FET *abbreviation* ELEC field-effect transistor

fetch *noun* COMPUT same as **fetch instruction**

fetch cycle *noun* COMPUT the set of events that retrieve the next instruction to be executed from memory by placing the program counter contents on the address bus

fetch-execute cycle *noun* COMPUT the set of events required to retrieve, decode and carry out an instruction stored in memory

fetch instruction *noun* COMPUT a computer instruction to select and read the next instruction or data to be processed. Also called **fetch**

fetus, foetus *noun* /'fi:təs/, /'fi:təs/ BIOL an unborn animal in the womb at the stage when all the structural features are visible, i.e. after eight weeks in humans (NOTE: The usual scientific spelling is 'fetus', although 'foetus' is common in non-technical British English usage.)

Feulgen's test *noun* GENETICS a test that determines the presence of DNA

FF *abbreviation* COMPUT **1.** form feed **2.** flip-flop

FGD plant *abbreviation* INDUST flue gas desulfurisation plant

fibre *noun* **1.** INDUST a natural filament such as cotton or a synthetic filament such as nylon **2.** BOT a long narrow plant cell with thickened walls that forms part of a plant's supporting tissue, especially in the outer region of a stem **3.** COMPUT a very thin glass or plastic strand that can carry data in the form of light signals (NOTE: [all senses] The US spelling is **fiber**.)

fibre channel *noun* COMPUT an ANSI standard that defines a high-speed serial interface that can transfer data at up to 1.06Gbps and is often used as a backbone technology to link servers or high-speed devices (NOTE: The technology is normally used over optic fibre, but will work over twisted-pair cable or coax cable.)

fibre-concrete *noun* INDUST a construction material made of sand, cement and fibre, used for making things such as roofing tiles and light walls. Abbr **FC**

fibre connector *noun* COMPUT a type of connector that can be used to connect two fibre optic cables together

fibre distributed data interface *noun* COMPUT an ANSI standard for high-speed networks that uses fibre optic cable in a dual ring topology. Abbr **FDDI** (NOTE: Data is transmitted at 100Mbps.)

fibreglass *noun* INDUST a material made of fine fibres of glass, used as a heat and sound insulator and for building bodies of cars, boats and other vehicles

fibre optic cable *noun* COMPUT a bundle of fine strands of glass or plastic protected by a surrounding material, used for transmission of light signals that carry data at very high speeds

fibre optics *noun* COMPUT the use of thin strands of glass or plastic to transmit light signals at the speed of light (NOTE: The light or laser signal is pulsed or modulated to represent data being transmitted.)

fibre over Ethernet *noun* COMPUT an enhanced version of the 802.3 Ethernet network protocol standard that allows data to be transferred at 10Mbps/second (10 BaseFX) or 100Mbps/second (100 BaseFX)

fibrin *noun* BIOCHEM an insoluble protein, formed from fibrinogen by the action of thrombin, that starts a blood clot by forming a network of fibres in which blood cells become trapped

fibrinogen *noun* BIOCHEM a soluble blood protein and clotting factor that forms fibrin when activated by thrombin

fibroblast *noun* ANAT a star-shaped or spindle-shaped cell that secretes collagen and elastic fibres in connective tissue

fibroid *noun* MED a benign tumour in the muscle fibres of the uterus ■ *adjective* like fibre

fibrous *adjective* made of a mass of fibres

fibrous-rooted plant *noun* BOT a plant with roots which are masses of tiny threads, with no major roots like taproots

fibula *noun* ANAT the thinner outer bone of two bones situated between the knee and ankle in the lower or hind leg of terrestrial vertebrates

fidelity *noun* ECOL the degree to which an organism stays in one type of environment

field *noun* **1.** ELEC an area of force and energy distribution, caused by magnetic or electric energy sources **2.** COMPUT a section containing individual data items in a record ○ *The employee record has a field for age.* **3.** PHYS the force which one object exerts on another **4.** AGRIC an area of land, usually surrounded by a fence or hedge, used for growing crops or for pasture **5.** GEOL an area of natural resources, e.g. an oilfield or coalfield **6.** an area of interest or activity ○ *He specialises in the field of environmental health.*

COMMENT: The main types of physical field are gravitational, magnetic and electric. Any mass has a gravitational field, which like electric and magnetic fields is subject to an inverse square law. Electric fields are found surrounding electric charges, and can involve objects being attracted (if they have a charge opposite to that of the object whose field they are in), repelled (if they bear the same charge) or not affected at all (if they are electrically neutral). An electric field can be produced by flowing electric current or by a static electric charge. Electric and magnetic fields are essentially manifestations of the same effect, and electricity is generated by movement in magnetic fields. Magnetic fields affect mainly iron, nickel and similar magnetic materials as well as ionised materials like charged particles in the Sun or the Earth's outer atmosphere.

field botanist *noun* BOT a botanist who examines plants in their growing habitat

field botany *noun* BOT the scientific study of plants in their growing habitat

field capacity *noun* EARTH SCI the maximum possible amount of water remaining

in the soil after excess water has drained away

field coil *noun* ELEC ENG a coil of wire that produces the magnetisation required to operate an electrical motor or generator when carrying an electrical current

field crop *noun* AGRIC a crop grown over a wide area, e.g. most agricultural crops and some market-garden crops

field-effect transistor *noun* ELECTRONICS a transistor, with at least three electrodes, in which a variable electric field controls the output current. Abbr **FET**

field emission display *noun* ELEC a method of producing thin, flat displays for laptop computers in which a miniature colour CRT is located at each pixel point. Abbr **FED**

field-grown *noun* AGRIC referring to a crop which is grown in a field as opposed to in a greenhouse

field label *noun* COMPUT a series of characters used to identify a field or its location. Also called **field name**

field magnet *noun* ELEC ENG a magnet that provides the magnetic field in an electric machine, e.g. a motor or dynamo

field name *noun* COMPUT same as **field label**

field observation *noun* BIOL an examination made in the open air, looking at organisms in their natural habitat, as opposed to in a laboratory

field programmable device *noun* COMPUT an integrated circuit that can be permanently programmed to perform logic operations on data

field research *noun* SCI a programme of scientific studies carried out at a geographical location as opposed to in a laboratory

field station *noun* SCI a scientific research centre located in the area being researched

field study *noun* SCI an investigation carried out at a geographical location as opposed to in a laboratory

field test *noun* SCI a test carried out on a substance or on an organism in the open air as opposed to in a laboratory

field tested *adjective* COMPUT referring to a product tested outside a company or research laboratory, in a real situation

fieldwork *noun* SCI scientific studies carried out somewhere other than in a laboratory

FIFO *abbreviation* COMPUT first in first out
FIFO queue *noun* COMPUT a temporary storage method, in which the first item written to the queue is the first to be read

fifth generation computer *noun* COMPUT a stage of computer system design using fast VLSI circuits and powerful programming languages to allow human interaction

figure *noun* **1.** MATHS a number, especially in mathematical calculations □ **to have a head for figures** to be good at arithmetic □ **in round figures** not totally accurate, but correct to the nearest 10 or 100 ○ *They have a workforce of 2500 in round figures.* **2.** MATHS a form consisting of any combination of points or lines, e.g. a triangle **3.** a diagram or drawing ○ *Figure 1 shows a cross-section of an internal combustion engine.*

filament *noun* BOT the stalk of a stamen, carrying an anther

file *noun* **1.** documents kept for reference □ **to place something on file** COMPUT to keep a record of something **2.** COMPUT a section of data on a computer in the form of individual records which may contain data, characters, digits or graphics

file activity ratio *noun* COMPUT a ratio of the number of different records accessed within a file compared to the total number in store

file allocation table *noun* COMPUT a data file stored on disk containing the names of each file stored on the disk, together with its starting sector position, date and size. Abbr **FAT**

file attribute *noun* COMPUT a control bit of data stored with each file which controls a particular function or aspect of the file such as read-only, archived or system file ○ *The read-only file attribute is set, so you cannot change the contents.*

file conversion *noun* COMPUT a change of format or structure of a file system, usually when using a new program or file handling routine

file copy *noun* a copy of a document which is filed in an office for reference

file defragmentation *noun* COMPUT **‡** **defragmentation**

file deletion *noun* COMPUT the erasing of a stored file

file fragmentation *noun* COMPUT a file that is stored in non-contiguous sectors on a disk

file handle *noun* COMPUT a number by which an open file is identified within a program ○ *The new data is written to the file identified by file handle 1.*

file handling routine *noun* COMPUT a short computer program that manages the reading/writing and organisation of stored files

file header *noun* COMPUT a section of information about the file stored at the beginning of the file ○ *The file header in the database file shows the total number of records and lists the index fields.*

file locking *noun* COMPUT a software mechanism that prevents data in a file being updated by two different users at the same time

filename *noun* COMPUT a unique identification code allocated to a program

filename extension *noun* COMPUT a set of three or four characters given after a filename, indicating the type or use of the file

file queue *noun* COMPUT a number of files temporarily stored in order before being processed ○ *Output devices such as laser printers are connected on-line with an automatic file queue.*

file server *noun* COMPUT a computer connected to a network that runs a network operating system software to manage user accounts, file sharing and printer sharing

file sharing *noun* COMPUT a file that can be used by two or more users or programs in a network often using file locking

file transfer, access and management *noun* COMPUT full form of FTAM

file transfer protocol *noun* COMPUT the TCP/IP standard for transferring files between computers. Abbr **FTP** (NOTE: It is a file sharing protocol that operates at layers 5, 6 and 7 of an OSI model network.)

filial generation *noun* GENETICS the offspring that result from crossing two parental lines ○ *the first filial generation*

fill *verb* **1.** to make something full ○ *The screen was filled with flickering images.* **2.** COMPUT to draw an enclosed area in one colour or shading **3.** COMPUT to put characters into gaps in a field so that there are no spaces left

filler *noun* CHEM **1.** a substance used to add bulk or strength to a material **2.** a semisolid substance that hardens when dried and is used to fill cracks or openings in wood, plaster or other materials

film *noun* a thin layer, covering or coating ○ *a thin film of oil on the surface of the lake* ○ *An electrical element made of gold film is sandwiched between the layers of glass.*

filter *noun* **1.** a material or device through which a liquid or a gas is passed in order to separate the fluid from solid matter or to remove unwanted substances ○ *a fuel filter* ○ *an oil filter* **2.** an electric, electronic, acoustic, or optical device used to reject signals, vibrations, or radiation of specific frequencies while passing others ○ *The tuner is a band pass filter which confines the bandwidth passed to the receiver to that required.* **3.** COMPUT a pattern of binary digits used to select various bits from a binary word ■ *verb* **1.** to remove unwanted elements from a signal or file **2.** COMPUT to select various bits from a binary word ○ *Filter the top three bits of the video attribute word.* **3.** COMPUT to select various records from a database file ○ *We filtered the data to select those customers based in New York.* **4.** to pass a liquid or gas through a filter in order to remove unwanted substances ○ *Fuel is filtered before entering the carburettor.*

filter basin *noun* ENVIRON a large tank through which drinking water is passed to be filtered

filter bed *noun* INDUST a layer of charcoal, gravel or similar material through which liquid sewage is passed to clean it

filter cake *noun* ENVIRON a deposit of semisolids or solids that separates out between layers of filtering material

filter cartridge, filter element *noun* a removable paper or metal component in a filter housing which must be replaced periodically ○ *From time to time the filter element must be removed and cleaned or replaced.*

filter feeder *noun* ZOO an animal that lives in water and feeds on small particles that it filters out of the water it takes in, e.g. a clam, sponge, or baleen whale

filter paper *noun* SCI porous paper used as or in a filter

filtrate *noun* CHEM a liquid which has passed through a filter

filtration *noun* CHEM the process of passing a liquid through a filter to remove solid substances

fin *noun* **1.** ZOO a thin flat projection on the body of a fish **2.** AEROSP a fixed vertical aerofoil at the rear of an aircraft ○ *The*

fin provides directional stability about the vertical axis.

final *noun* the end part of a series or process ■ *adjective* coming at the end

final disposal *noun* ENVIRON the last stage in getting rid of waste, e.g. incineration or placing in a landfill

find COMPUT *verb* to get something back which has been lost ○ *It took a lot of time to find the faulty chip.* ○ *The debugger found the error very quickly.* ■ *noun* a command to locate a piece of information

find and replace *noun* COMPUT a feature on a word-processor that allows a word or section of text to be located and replaced with another

fine *adjective* **1.** of superior quality, skill or appearance **2.** describing something that is very small in size, thickness or weight **3.** METEOROL referring to weather that is warm and sunny, with few clouds and no rain or fog

fine chemical *noun* INDUST a chemical that is manufactured in relatively small quantities and is generally high in cost to the user, e.g. a flavouring or vitamin

fine powder *noun* a powder consisting of very small particles

fine spray *noun* a spray consisting of very small drops of liquid

fine structure *noun* PHYS the splitting of lines in a spectrum into two or more closely spaced fine lines (NOTE: This effect is caused by magnetic interactions within atoms.)

fine tune *verb* COMPUT to adjust by small amounts the features or parameters of hardware or software to improve performance ○ *Fine-tuning improved the speed by ten per cent.*

fine wire *noun* very thin wire

finger *noun* **1.** ANAT one of the slender jointed parts at the end of the hand **2.** COMPUT a software program that will retrieve information about a user based on his or her electronic mail address

finish *verb* to do or make something completely ○ *The order was finished in time.* ○ *She finished all the keyboarding before lunch.*

finished *adjective* having been completed

finite *adjective* referring to something that has an end ○ *Coal supplies are finite and are forecast to run out in 2020.*

finite-precision number *noun* COMPUT a number represented by a fixed number of bits

finite resource *plural noun* ENVIRON a natural resource that is does not renew itself and which will potentially be completely used up, e.g. coal or oil. Opposite **renewable resource**

finite series *noun* MATHS a sequence of numbers represented by an algebraic function that has a fixed number of terms

fiord *noun* EARTH SCI another spelling of **fjord**

fir *noun* TREES a common evergreen coniferous tree. Genus: *Abies*.

fir cone *noun* BOT a hard oval or round structure on a fir tree containing the seeds (NOTE: The term is sometimes applied to the cones of other trees such as pines.)

fire *noun* the process, or an area, of burning ■ *verb* **1.** to shoot with a gun **2.** to launch something such as a flare or a rocket

COMMENT: In shifting cultivation, the practice of clearing vegetation by burning is widespread. One of the simplest forms involves burning off thick and dry secondary vegetation. Immediately after burning, a crop such as maize is planted and matures before the vegetation has recovered. Where fire clearance methods are used, the ash acts as a fertiliser.

firebreak *noun* FORESTRY an area kept free of vegetation, so that a fire cannot pass across and spread to other parts of the forest or heath

-fired *suffix* INDUST burning as a fuel ○ *coal-fired power station* ○ *gas-fired central heating*

fire damp *noun* CHEM same as **methane**

fire deluge system *noun* a system that extinguishes fire by spraying large quantities of water on it ○ *A lever actuates the fire deluge system.*

fire extinguisher *noun* EMERGENCIAS a portable device for putting out fires

fire hazard *noun* something that increases the risk of fire ○ *These piles of paper are a fire hazard.*

fireproof *adjective* referring to a material or structure designed to resist the effect of fire ○ *A fireproof bulkhead is provided to separate the cool area of the engine from the hot area.*

fire protection *noun* the action and/or measures taken to prevent fire

fire-retardant *adjective* CHEM referring to a substance which slows down the rate at which a material burns

fire triangle *noun* CHEM the illustration of the chemistry of fire as the three sides of a triangle representing fuel, oxygen and heat ○ *If fuel, oxygen or heat is removed from the fire triangle, combustion will cease.*

firewall *noun* COMPUT a hardware or software security system between a server or intranet and the public Internet ○ *We have installed a firewall in our intranet to prevent hackers accessing company data via the Internet link.* (NOTE: The system allows information to pass out to the Internet but checks any incoming data before passing it on to the private server.)

firmware *noun* COMPUT a computer program or data that is permanently stored in a hardware memory chip such as a ROM or EPROM

firm *noun* METEOROL the spring snow on high mountains which becomes harder during the summer

first fit *noun* COMPUT a routine or algorithm that selects the first, largest section of free memory in which to store a virtual page

first generation *noun* COMPUT the earliest type of computer technology. ◊ **computer generation**

first in first out *noun* COMPUT a temporary queue where the first item stored is the first read. Abbr **FIFO**

first law of thermodynamics *PHYS* † **thermodynamics**

fish *noun* ZOO a cold-blooded vertebrate that lives in water (NOTE: Some species are eaten for food. Fish are high in protein, phosphorus, iodine and vitamins A and D. White fish have very little oil.) ■ *verb* BIOL to try to catch fish

fish farm *noun* AGRIC a place where edible fish are bred or reared in special pools for sale as food

fish farming *noun* AGRIC the commercial activity of keeping fish in ponds or fenced areas of the sea for sale as food. Also called **aquaculture**, **aquafarming**, **aquiculture**

fishing zone *noun* FISHERY an area of sea that can be fished

fish kill *noun* ENVIRON an instance of a lot of fish being killed ○ *Aluminium is a critical factor in fish kills.*

fish ladder *noun* ENVIRON a series of pools at different levels, specially built to allow fish such as salmon to swim up or down a river on migration

fishmeal *noun* AGRIC a powder of dried fish, used as an animal feed or as a fertiliser

fish pass, fishway *noun* ENVIRON a channel near a dam, built to allow migrating fish to swim past the dam

fishway *noun* same as **fish pass**

fissile *adjective* **1.** EARTH SCI referring to rock which can split or be split **2.** CHEM referring to an isotope which can split on impact with a neutron

fission *noun* **1.** PHYS † **atomic fission** **2.** BIOL the process of splitting **3.** BIOL a process of reproduction, in which an organism splits in two and two complete new organisms grow, as in corals ■ *verb* CHEM, BIOL (*in nuclear fission*) to split an atomic nucleus ○ *When the plutonium is fissioned, fast neutrons are produced.*

fissiparous *adjective* BIOL referring to an organism that reproduces by dividing into two equal parts, each of which grows into a complete organism

fissure *noun* a crack or groove

fit *adjective* **1.** HEALTH in good physical condition ○ *Keep fit with diet and exercise.*

2. referring to something that is suitable for its purpose ○ *This food is fit to eat.* **3.** BIOL referring to an organism that is well adapted or evolutionarily successful ○ *survival of the fittest* ○ *Only the fit individuals will survive.* (NOTE: **fitter-fittest**)

■ *noun* ENG the exactness with which surfaces are adjusted to each other in a machine ○ *There should be a loose fit between the cylinder and the piston, the difference being taken up by the piston rings.* ■ *verb* **1.** to be the correct size and shape for someone or something ○ *Oxygen masks should fit the wearer properly.* **2.** to attach ○ *Wheel fairings, called spats, are fitted to some light aircraft to reduce drag.* **3.** MATHS to plot or calculate a curve that most closely approximates a number of points or data (NOTE:

fitting – fitted)

fitment *noun* **1.** the act of attaching or fixing something ○ *Attachment points are supplied for the fitment of heavy equipment.* **2.** something attached or fixed

fitness *noun* BIOL a measure of the evolutionary success of genes, traits, organisms or populations

fix *verb* **1.** to make something permanent ○ *The dye is fixed to stop it fading.* **2.** to mend something ○ *The technicians are trying to fix the switchboard.* **3.** to attach something permanently ○ *The barnacles fix their shells to the rock.*

fixation *noun* the act of fixing something.

◇ **nitrogen fixation**

fixed disk storage *noun* COMPUT a hard disk or magnetic disk that cannot be removed from the disk drive

fixed-field file *noun* COMPUT a data file in which each field consists of a pre-defined and fixed number of characters. Compare **delimited-field file**

fixed-frequency monitor *noun* COMPUT a monitor that can only accept one frequency and type of video signal

fixed-length field *noun* COMPUT a field whose size cannot be changed

fixed-length record *noun* COMPUT a record whose size cannot be changed

fixed-length word *noun* COMPUT a pre-set number of bits that make up a computer word

fixed oil *noun* CHEM oil that is liquid at 20°C

fixed point *noun* PHYS a temperature that is always the same under specific conditions (NOTE: A fixed point such as the boiling or freezing point of a substance can be used for calibrating measuring instruments.)

fixed-point arithmetic *noun* COMPUT arithmetic rules and methods using fixed-point numbers

fixed-point notation *noun* COMPUT a number representation that retains the position of the digits and decimal points in the computer, so limiting the maximum manageable numbers. Compare **floating point notation**

fixed-point number *noun* COMPUT a number represented by using fixed-point notation ○ *Storage of fixed-point numbers has two bytes allocated for the whole number and one byte for the fraction part.*

fixed routing *noun* COMPUT communications direction routing that does not consider traffic or efficient paths

fixed wing aircraft *noun* AVIAT an aeroplane with rigidly attached wings

fjord, fiord *noun* EARTH SCI a long inlet of the sea among mountains in temperate or arctic regions

flaccid *noun* BIOL soft or limp ○ *Without water, plant stems become flaccid and droop.* ■ *adjective* BOT referring to plant tissue that has become limp through loss of water. Opposite **turgid**

flag COMPUT *noun* **1.** a way of showing the end of a field or of labelling something special in a database ○ *If the result is zero, the zero flag is set.* **2.** a method of reporting the status of a register after a mathematical or logical operation ■ *verb* to attract the attention of a program while it is running to provide a result or to report an action

flag bit *noun* COMPUT a single bit of a word used as a flag for some operations

flagellum *noun* BIOL a long thin tapering outgrowth of some cells that waves or rotates to propel the cell (NOTE: Flagella are found in some bacteria and protozoa, and in sperm cells.)

flagging *noun* COMPUT the insertion of an indicator against an item so that it can be found later

flake *noun* **1.** a small piece of a solid ○ *a flake of rock* **2.** METEOROL a small piece of snow which falls from the sky. Also called **snowflake**

flame *noun* the area of burning gases seen when something is burning ○ *Flames were seen coming from number 2 engine.*

flame arrester *noun* ENG a device to prevent flame from an external source from entering a fuel tank

flame out *verb* (of combustion in a gas turbine engine) to cease from some cause other than the shutting off of fuel ○ *Air in the fuel line can cause an engine to flame out or stop.*

flame test *noun* CHEM a test to see which metal is present in a substance by placing a small amount in a flame and noting the colours produced

flammability *noun* CHEM the ability of a material to catch fire

flammable *adjective* easily set on fire and capable of burning fiercely and rapidly ○ *Aviation gasoline is a flammable liquid.* (NOTE: **Flammable** and **inflammable** mean the same thing. To avoid confusion, it is recommended to use **flammable**.)

flange *noun* ENG the outside edge or rim of a part such as a beam or wheel ○ *The web connects the upper and lower flanges of a beam.*

flare *noun* **1.** INDUST a device that burns surplus gases to prevent them from being

released into the environment, usually found on top of tall chimneys ○ *Flares are usually found on top of stacks.* **2.** a firework that burns with a bright light and can be fired into the air to summon help

flash *noun* a sudden or periodic burst of light ○ *Lightning is accompanied by a brilliant flash.* ■ *verb* **1.** to give off light in regular bursts **2.** to switch a light on and off ○ *He flashed his torch as a signal.* **3.** to appear or to happen suddenly ○ *The image flashed onto the screen.* **4.** COMPUT to turn a source of light on and off

flashing character *noun* COMPUT a character intensity that is switched on and off as an indicator

flash memory *noun* COMPUT a non-volatile memory that operates with blocks of data rather than single bytes

flash point *noun* PHYS the temperature at which fuel vapour or oil vapour will burst into flame

flashy *adjective* ENVIRON referring to a river whose water level is rising rapidly after it has rained a lot

flask *noun* SCI a small glass bottle, often with a long neck, of the type used in laboratory work

flat *adjective* **1.** having a horizontal surface without a slope, tilt or curvature **2.** (of a tyre) having no air inside ○ *The flat tyre had to be changed because it had a puncture.* **3.** ELEC (of a battery) electrically discharged or with no electrical charge left in it ○ *The engine wouldn't start because the battery was flat.*

flatbed *noun* COMPUT a printing or scanning machine that holds the paper or image on a flat surface while processing ○ *Paper cannot be rolled through flatbed scanners.*

flat file *noun* COMPUT a two-dimensional file of data items

flatfish *noun* ZOOLOG a type of fish with a flattened back that lives on the bed of the sea or of a lake and has both eyes on the top of its body, e.g. plaice (NOTE: The body of a flatfish is flattened in such a way that the fish is lying on its side. As the young fish grows, the eye underneath moves round its head to join the one on top.)

flatline *noun* MED a monitor read-out on an EEG or EKG indicating total cessation of brain or cardiac activity, respectively

flat pack *noun* ELEC an integrated circuit package whose leads extend horizontally, allowing the device to be mounted directly

onto a circuit board without the need for holes

flat panel a display monitor that is manufactured using a thin, flat liquid crystal display device

flat screen *noun* COMPUT a display monitor that has been manufactured with a flat, square-edged front to the monitor

flatten, flatten out *verb* to become flat or make something flat ○ *As altitude increases, the countryside appears to flatten out.*

flatworm *noun* ZOOLOG a worm with a flat body, a single gut opening and no circulatory system. Phylum: Platyhelminthes. (NOTE: Flatworms include both free-living species and parasites such as flukes and tapeworms.)

flavonoid *noun* BIOCHEM a natural compound derived from phenol and belonging to a group that includes many plant pigments

flavoprotein *noun* BIOCHEM an enzyme belonging to a group that includes some vital components of cell respiration

flavouring agent *noun* FOOD INDUST a substance added to food to give flavour

flaw *noun* **1.** a fault or error **2.** INDUST an imperfection in a material, often hidden, that may be an indication of future structural failure

flaw detection *noun* INDUST the process or system by which small weaknesses in metal structures are found

flea *noun* ZOOLOG a small jumping insect which lives as a parasite on animals, sucking their blood and possibly spreading disease. Order: Siphonaptera. (NOTE: Historically, bubonic plague was spread by fleas.)

fledgling *noun* a young bird that has recently become capable of flight

fleet *noun* ENG a number of vehicles such as ships, aircraft or buses

flew *verb* † fly

flex *noun* ELEC a wire or cable used to connect an appliance to the mains electricity supply (NOTE: no plural: for one item, say a piece of flex)

flexibility *noun* **1.** the amount or extent to which something can be bent ○ *Wing structures must have flexibility in order to absorb sudden changes in loading.* **2.** the extent to which something can change or respond to a variety of conditions or situations

flexible *adjective* **1.** not rigid or stiff **2.** capable of responding to a variety of conditions or situations ◦ *AC electrical energy is more flexible and more efficient than DC.*

flexible array *noun* COMPUT an array whose size and limits can be altered

flexible pipe *noun* a pipe made of soft material such as rubber or plastic

flicker COMPUT *noun* a computer graphic image whose brightness alternates owing to a low image refresh rate or signal corruption ■ *verb* to move very slightly ◦ *The image flickers when the printer is switched on.*

flicker-free *noun* COMPUT (*of a screen display*) not flickering

flight *noun* **1.** the motion of an object or organism in or through the Earth's atmosphere or through space **2.** the distance covered by a body, e.g. the distance covered by an aircraft through the atmosphere

flightless bird *noun* ZOOLOG a bird which has small wings and cannot fly, e.g. an ostrich or a penguin

flight simulator *noun* AEROSP, COMPUT a computer program that allows a user to pilot a virtual plane (NOTE: It shows a realistic control panel and moving scenes and is used either as a training programme or as a computer game.)

flint *noun* GEOL a very hard smooth form of quartz that produces a spark when struck with steel and breaks to form a sharp edge (NOTE: Prehistoric humans used flint to make tools.)

flip-flop *noun* **1.** ELEC ENG, MECH ENG an electronic circuit or mechanical device that can be switched between two stable states **2.** ELECTRONICS an electronic circuit or chip whose output can be one of two states, which is determined by one or two inputs and can be used to store one bit of digital data. Abbr **FF**

float *noun* **1.** a floating ball attached to a lever to regulate the level of a liquid in a container such as a tank **2.** COMPUT the addition of the origin address to all indexed or relative addresses to check the amount of memory a program will require ■ *verb* to remain on the surface of a fluid without sinking ◦ *Because of the air-tight nature of the fuselage, most large aircraft will float for some time before sinking.*

float chamber *noun* AUTOMOT a part of a carburettor which houses the float

float charging *noun* ELEC a way of charging a battery by varying the charging current

float factor *noun* COMPUT the location in memory at which the first instruction of a program is stored

floating *adjective* **1.** COMPUT not fixed **2.** COMPUT, PRINTING (*of a character*) separate from the character it should be attached to

floating address *noun* COMPUT a location specified in relation to a reference address

floating point arithmetic *noun* MATHS arithmetic operations on floating point numbers (NOTE: The fixed number 56.47 in floating point arithmetic would be 0.5647 and a power of 2.)

floating point notation *noun* MATHS a numerical notation in which a fractional number is represented with a point after the first digit and a power, so that any number can be stored in a standard form. Compare **fixed-point notation**

floating point number *noun* MATHS a number represented by using floating point notation

floating point operation *noun* MATHS a mathematical operation carried out on a floating point number. Abbr **FLOP**

floating point processor *noun* COMPUT same as **floating point unit**

floating point routines *noun* COMPUT a set of routines that allow floating point numbers to be handled and processed

floating point unit *noun* COMPUT a specialised computer that can process floating point numbers very rapidly ◦ *The floating point unit speeds up the processing of the graphics software.* Abbr **FPU**. Also called **floating point processor**

floating symbolic address *noun* COMPUT a symbol or label that identifies a particular instruction or word, regardless of its location

floating window *noun* COMPUT a window that can be moved anywhere on screen

float-operated switch *noun* ENG a shut-off valve operated by a float

float relocation *noun* COMPUT the conversion of a floating address to an absolute address

floculant *noun* INDUST a substance added to water as it is treated to encourage impurities to settle

floculation *noun* 1. INDUST the gathering together of particles into lumps ○ *floculation of yeast in brewing* ○ *The floculation of particles is very important in making clay soils easy to work.* 2. EARTH SCI the grouping of small particles of soil together to form larger ones ○ *The floculation of particles is very important in making clay soils easy to work.*

floculus *noun* ASTRON a mass of gas seen as either a dark or a bright spot on the surface of the Sun, often near to a sunspot

flock *noun* ZOO a large group of birds or some farm animals such as sheep and goats ○ *a flock of geese* ○ *a flock of sheep* (NOTE: The word used for a group of cattle, deer or pigs is **herd**.)

flood METEOROL *noun* a large amount of water covering land that is usually dry, caused by phenomena such as melting snow, heavy rain, high tides or storms ■ *verb* to cover dry land with a large amount of water ○ *The river bursts its banks and floods the whole valley twice a year in the rainy season.*

flood alleviation, flood control *noun* ENVIRON the avoidance of the possibility of flooding by controlling the flow of water in rivers with structures such as dams and embankments

flood damage *noun* ENVIRON the damage caused by floodwater

flooded cell battery *noun* ELEC a form of rechargeable battery where the plates are completely immersed in a liquid electrolyte (NOTE: Flooded cell batteries are commonly used as a power supply for independent and remote areas.)

floodgate *noun* ENG a gate in a weir or dyke, designed to control water flow

flooding *noun* METEOROL the uncontrolled spread of a large amount of water onto land that is usually dry ○ *Severe flooding has been reported after the heavy rain overnight.* (NOTE: About 10% of the land area of England is at risk of flooding.)

flood plain *noun* EARTH SCI a wide flat part of the bottom of a valley which is usually covered with water when the river floods

flood storage *noun* ENVIRON the measures taken to control and retain the large amount of water produced in a flood until it can disperse naturally

flood tide *noun* OCEANOLOG a tide that is rising. Compare **ebb tide**

flood warning *noun* ENVIRON an alert that there is likely to be a flood

floodwater *noun* METEOROL water that spreads uncontrolled onto land that is usually dry ○ *After the floodwater receded the centre of the town was left buried in mud.*

floodwater level *noun* METEOROL the highest point that the water reaches in a flood

floor *noun* EARTH SCI the ground beneath something ○ *fish that live on the floor of the ocean* ○ *The forest floor is covered with decaying vegetation.*

FLOP *abbreviation* MATHS floating point operation

floppy disk *noun* COMPUT a small disk for storing information which can be removed from a computer

floppy disk controller *noun* COMPUT a combination of hardware and software devices that control and manage the operations of a disk drive from a computer. Abbr **fdc**

floppy disk drive *noun* COMPUT a disk drive for floppy disks. Abbr **FDD**

FLOPs per second *noun* COMPUT the number of floating point operations that a computer can execute every second

flora *noun* BOT the wild plants that grow naturally in a specific area. Compare **fauna**

Flora, flora *noun* BOT a book or list describing the plants of a specific area ○ *a Flora of the British Isles*

floral *adjective* BOT referring to plants or flowers

floret *noun* BOT a little flower that forms part of a larger flower head

flotation *noun* CHEM a separation process in which a component of a mixture may be recovered according to its ability to float on a given liquid, often applied to minerals in an ore

flourish *verb* BIOL to live or grow well and increase in numbers ○ *The colony of rabbits flourished in the absence of any predators.*

flow *verb* 1. to move or run smoothly with continuity ○ *Air flows over the wing surfaces and lift is produced.* 2. to circulate ○ *Liquid coolant flows around the engine.* ■ *noun* 1. continuous movement of a fluid in a particular direction ○ *The flow of fuel from the fuel tanks to the engines.* 2. the rate at which a substance is moving ○ *The meter measures the flow of water through*

the pipe. **3.** EARTH SCI the movement of the sea or water affected by tides towards a shore as the tide rises. Compare **ebb**

flowchart *noun* COMPUT a chart that shows the arrangement of the steps in a process or program. Also called **flow diagram**

flow control *noun* COMPUT the management of the flow of data into queues and buffers, to prevent heavy traffic

flow diagram *noun* LOGIC same as **flowchart**

flower *noun* BOT the reproductive part of a seed-bearing plant (NOTE: Some flowers are brightly coloured to attract pollinating insects and birds and usually consist of protective sepals and bright petals surrounding the stamens and stigma. Many are cultivated for their colour and perfume.)

flowering plant *noun* PLANTS a plant that produces flowers

COMMENT: Flowering plants include trees and grasses as well as shrubs, herbs and bulbs. They all reproduce by seeds, unlike ferns, mosses and other so-called lower plants, which have no flowers and reproduce by spores.

flowerless *adjective* without flowers

flowline *noun* COMPUT a line connecting symbols to show the direction of flow within a flowchart

flowmeter *noun* MEASURE a meter attached to a pipe to measure the speed at which a liquid or gas moves through the pipe

fluctuate *verb* to vary or change irregularly ○ *The magnetic field will fluctuate at the supply frequency.*

fluctuation *noun* an irregular variation or change ○ *Small fluctuations in the Earth's average temperature can have important climatic results.*

flue *noun* INDUST a chimney or other structure through which gas or smoke is released from a furnace or stove ○ *Gases are passed directly from the flue into the atmosphere.*

flue gas *noun* ENVIRON a gas produced by a burning substance that is released into the atmosphere from a chimney

flue gas desulfurisation plant *noun* INDUST a device that traps sulfur in emissions from coal-burning furnaces and prevents it reaching the atmosphere. Abbr **FGD plant**

flue gas scrubber *noun* INDUST a device for cleaning flue gas of particles of pollutant

fluid *noun* PHYS a substance whose molecules move freely past one another and that takes the shape of its container (NOTE: Both liquids and gases are fluids.)

fluidise *verb* INDUST to make a solid move in the manner of a fluid (NOTE: One way to do this is by pulverising it into a fine powder and passing a gas through to induce flow.)

fluidised-bed combustion *noun* INDUST a method of burning fluidised low-grade fuel while keeping the emission of pollutant gases to a minimum. Abbr **FBC**

flake *noun* ZOO a parasitic flatworm (NOTE: Flukes may settle inside the liver, bloodstream or in other parts of the body.)

fluoresce *verb* PHYS to exhibit or undergo the phenomenon of fluorescence

fluorescein *noun* CHEM an orange-red crystalline compound that fluoresces bright green in blue light (NOTE: It is used in solution to show up damage to the surface of the cornea.)

fluorescence *noun* PHYS **1.** the sending out of light from a substance which is receiving radiation **2.** radiation emitted by a substance at one wavelength following illumination at another wavelength (NOTE: When the original illumination is removed, no more radiation is emitted.)

fluorescent *adjective* PHYS referring to the emission of visible light ○ *The fluorescent penetrant process of flaw detection uses a penetrant containing a dye that fluoresces in ultraviolet light.*

fluorescent light *noun* INDUST a long thin tube of glass containing mercury vapour and phosphor powder that produces white light when connected to an electricity supply

fluoridate *verb* HEALTH to add sodium fluoride to drinking water to help prevent tooth decay □ **water fluoridated to 1 ppm** MED water which has had one part per million of fluoride added to it

fluoridation *noun* HEALTH the addition of sodium fluoride to drinking water to help prevent tooth decay

fluoride *noun* CHEM a chemical compound of fluorine, usually with sodium, potassium or tin

COMMENT: Fluorides such as hydrogen fluoride are emitted as pollutants from certain industrial processes and can affect plants, especially citrus fruit, by reducing chlorophyll. They also affect cattle by reducing milk yields. On the other hand, sodium fluoride will reduce decay in teeth and is often added to drinking water or to toothpaste. In some areas, the water contains fluoride naturally and here fluoridation is not carried out. Some people object to fluoridation, although tests have proved that instances of dental decay are fewer in areas where fluoride is present in drinking water.

fluorinate *verb* CHEM to treat or combine a substance with fluorine

fluorine *noun* CHEM ELEM a yellowish gas (NOTE: The chemical symbol is **F**; the atomic number is **9** and the atomic weight is **19.00**.)

fluorocarbon *noun* CHEM an inert compound of fluorine and carbon, with high temperature stability. ◊ **chlorofluorocarbon**

fluorosis *noun* MED a condition caused by excessive fluoride in drinking water or food (NOTE: It causes discoloration of teeth and affects the milk yields of cattle.)

flush *verb* **1.** ENG to clear a tube such as a sewer by sending water through it **2.** to pass water through a tube or system in order to remove something and clean it **3.** COMPUT to clear or erase all the contents of a queue, buffer, file or section of memory ■ *adjective* level or in line with something

flutter *noun* ACOUSTICS a repeated change in tape speed owing to mechanical or circuit problems, causing signal distortion

fluvial, fluviate *adjective* EARTH SCI referring to rivers

fluvial deposit *noun* GEOL sediment deposited by a river

flux *noun* **1.** PHYS the rate at which heat, energy or radiation flows **2.** CHEM a substance applied to the surface of metals when soldering them together **3.** CHEM a substance used in ore smelting to aid the removal of impurities

flux density *noun* PHYS flux per unit area

fly *noun* ZOO a small insect with two wings. Order: Diptera. ■ *verb* BIOL, AEROSP to move through the air (NOTE: **fly** – **flew** – **flown**)

fly ash *noun* INDUST solid particles in the air that have come from burning coal or

another solid fuel ◊ *The cloud contained particles of fly ash.* (NOTE: Fly ash can be collected and used to make bricks.)

flyback *noun* COMPUT an electron picture beam return from the end of a scan to the beginning of the next. Also called **line fly-back**

fly-by-wire *noun* AEROSP technology that interprets movements of a pilot's controls and, with the aid of computerised electronics, moves the control surfaces accordingly ◊ *Using fly-by-wire technology, the stalling angle cannot be exceeded regardless of stick input.*

flying head *noun* COMPUT a hard disk read/write head that is wing-shaped to fly just above the surface of the spinning disk

FM *noun* PHYS a method of changing the frequency of one signal according to that of another signal. Full form **frequency modulation** (NOTE: It is often used as a method of carrying data over fibre-optic or telephone cables. Many modem standards use FM to transmit data.)

f-number *noun* PHOTOGRAPHY the ratio of the focal length of a camera lens to its effective diameter

foam *noun* **1.** a mass of bubbles of air or gas in a liquid film ◊ *detergent foam on the river* ◊ *foam fire extinguishers* **2.** INDUST a light, porous, semi-rigid or spongy material used for thermal insulation or shock absorption ◊ *Polyurethane foam is used in packaging.*

foam plastic *noun* plastic with bubbles blown into it to make a light material used for packing. Also called **plastic foam**

focal length *noun* OPTICS **1.** the distance at which a converging mirror or lens will bring parallel light to a point **2.** the distance from which a parallel beam will appear to diverge after passing through a diverging lens or mirror (NOTE: For a simple mirror with a surface which is part of a sphere, the focal length is half of the radius of curvature. Because astronomical objects are in effect infinitely far away, a mirror or lens will focus light from them at its own focal length, near which an eyepiece can form a visible image.)

focal point *noun* same as **focus**

focus *noun* **1.** OPTICS, PHYS a point at which rays of light or other radiation converge ◊ *The focus of a lens is also called the focal point.* Also called **focal point** ◻ **to come into focus** to become clearer, as

through the viewfinder of a camera **2**. COMPUT a particular window or field that is currently ready to accept a user's command ○ *The object that currently has the user's focus has a dotted line around it.* **3**. EARTH SCI same as **epicentre** ■ **verb** **1**. OPTICS, PHYS to make things such as light rays converge on a central point ○ *A parabolic reflector focuses the transmission into a narrow beam.* **2**. OPTICS to give an object or image a clear outline or detail by adjustment of an optical device ○ *Focus the microscope in order to make the image easier to see.* **3**. to direct something towards a particular point or purpose ○ *The crew focused all their attention on finding a solution to the problem.*

focusing *noun* PHYSIOL the process of changing the shape of the lens at the front of the eye to focus on objects at different distances

fodder, fodder crop *noun* AGRIC plant material or a crop which is grown to give to animals as food, e.g. grass or clover ○ *winter fodder*

FoE *abbreviation* Friends of the Earth

foehn *noun* METEOROL another spelling of **föhn**

foetus *noun* BIOL another spelling of **fetus**

fog *noun* METEOROL a thick mist made up of tiny drops of water

COMMENT: Fog is caused by a fall in the temperature of damp air, making the moisture in the air condense into droplets. This can happen when a warmer, moist air mass moves over a colder surface (advection fog), or when the air just above ground level is cooled as the land surface immediately beneath it cools at night due to radiation (radiation fog). Technically speaking, a fog occurs when visibility falls to below 1 000 m. Above this, moisture in the atmosphere is called **mist**. Fog may be classified as: thick fog, with visibility down to 200 m, where road traffic is affected, and dense fog, with visibility down to 50 m, where it is not safe for any vehicles to move about.

fogging *noun* COMPUT a graphic effect that is used to simulate atmospheric fog or haze, used to make a three-dimensional scene more realistic. Also called **haze**

foggy *adjective* METEOROL referring to weather conditions when there is fog

föhn, foehn *noun* METEOROL a warm dry wind which blows down the side of a mountain away from the prevailing wind. It occurs when moist air rises up the mountain on the windward side, loses its mois-

ture as rain or snow and then flows down the other side as a dry wind.

folder *noun* COMPUT a group of files stored together under a single name

folding *noun* COMPUT a method of creating a hash address by splitting the key into parts and adding them together

foliage *noun* BOT the leaves on plants ○ *In a forest, animals are hard to see through the thick foliage on the trees.*

foliar *adjective* BOT referring to leaves

foliar feed *noun* AGRIC a liquid nutrient used by gardeners to spray onto the leaves of plants which then absorb it

foliar spray *noun* **1**. AGRIC a method of applying pesticides or liquid nutrients as droplets to plant leaves ○ *needs weekly foliar sprays* **2**. ECOL a pesticide or liquid nutrient applied to plant leaves as droplets

folic acid *noun* BIOCHEM a vitamin in the vitamin B complex found in milk, liver, yeast and green plants such as spinach

COMMENT: Folic acid is essential for creating new blood cells. A lack of folic acid can cause anaemia and neural tube defects in the developing fetus. In the UK all pregnant women are given regular folic acid supplements.

follicle *noun* **1**. BOT a fruit in the form of a dry case that splits along one side to release the seeds **2**. ANAT the small structure in the skin from which each hair develops **3**. BIOL one of many small structures in the ovaries where egg cells develop

follicle-stimulating hormone *noun* BIOCHEM a hormone that regulates the growth of egg follicles in the ovaries and the making of sperm in the testes

foobar *noun* COMPUT whatever is being discussed by programmers (*informal*) (NOTE: You will often see this term used in books and lessons about software and systems.)

food *noun* **1**. BIOL the nutrient material eaten by animals for energy and growth **2**. AGRIC the nutrient material applied to plants as fertiliser

food additive *noun* FOOD INDUSTRY a chemical substance added to food to improve its appearance or taste, or to prevent it from going bad

food allergen *noun* MED a substance in food that produces an allergy

food allergy *noun* MED a reaction caused by sensitivity to some foods (NOTE: Some of the commonest food allergies are to strawberries, chocolate, milk, eggs and

wheat protein. Nut allergies are also common and may be severe.)

Food and Agriculture Organization *noun* AGRIC an international organisation that is an agency of the United Nations. It was established with the purpose of improving standards of nutrition and eradicating malnutrition and hunger. Abbr **FAO**

Food and Drug Administration *noun* FOOD INDUST, PHARM a US government department that protects the public against unsafe foods, drugs and cosmetics. Abbr **FDA**

Food and Environmental Protection Act, 1986 *noun* legislation which brings the use of agrochemicals under statutory control, as opposed to the previous voluntary arrangement. Abbr **FEPA**

food balance *noun* ENVIRON the balance between food supply and the demand for food from a population

food chain *noun* ECOL a series of organisms that pass energy and minerals from one to another as each provides food for the next (NOTE: The first organism in the food chain is the producer and the rest are consumers.)

COMMENT: Two basic types of food chain exist: the grazing food chain and the detrital food chain, based on plant-eaters and detritus-eaters respectively. In practice, food chains are interconnected, making up food webs.

food colouring *noun* FOOD INDUST a substance used to colour food

food crop *noun* AGRIC a plant grown for food

food grain *noun* AGRIC a cereal crop used as food for humans, e.g. wheat, barley or rye

food mile *noun* a measure of the distance that food is transported from its place of origin to the consumer

food poisoning *noun* MED an illness caused by eating food that is contaminated with bacteria

food processing industry *noun* FOOD INDUST the industry involved in the treating of raw materials to produce foodstuffs

food pyramid *noun* ECOL a chart of a food chain showing the number of organisms at each level

food safety *noun* ECOL the issues surrounding the production, handling, storage

and cooking of food that determine whether or not it is safe to eat

food security *noun* SOCIOL the situation that exists when people have both physical access to, and the economic means to buy, sufficient food of a quality that meets their nutritional needs and food preferences

foodstuff *noun* FOOD INDUST something that can be used as food ○ *cereals, vegetables and other foodstuffs*

food supply *noun* 1. FOOD INDUST the production of food and the way in which it gets to the consumer 2. FOOD a stock of food ○ *The ants will vigorously defend their food supply.*

food value *noun* BIOL the amount of energy produced by a specific amount of a type of food

food web *noun* ECOL a series of food chains that are linked together in an ecosystem

foot *noun* 1. ANAT the bottom part of a leg which supports the body 2. MEASURE a unit of length in the US and British Imperial Systems equal to 12 inches or 30.48 centimetres. Abbr **ft** (NOTE: The plural is **feet**.)

footer, footing *noun* COMPUT a message at the bottom of all the pages in a printed document. Compare **header**

footnote *noun* PRINTING a note at the bottom of a page, which refers to the text above it, usually using a superscript number as a reference

foot-pound *noun* MEASURE the ability to lift a one pound weight a distance of one foot

footprint *noun* 1. TELECOM the area covered by a transmitting device such as a satellite or antenna 2. COMPUT the area that a computer takes up on a desk 3. ECOL the resources that an individual or organisation consumes ○ *the ecological footprint of the building*

forage *noun* AGRIC a crop planted for animals to eat in the field ■ *verb* BIOL to look for food ○ *The woodpecker forages in the forest canopy for insects.*

forbid *verb* to say that something must not be done

forbidden character, forbidden combination *noun* COMPUT a bit combination in a computer word that is not allowed according to the rules defined by the programmer or system designer

force *noun* PHYS 1. the capacity to do work or cause physical change ○ *the force*

of an explosion **2.** a vector quantity that produces an acceleration of a body in the direction of its application ■ *verb* to use power against resistance ○ *Because of distortion to the airframe, the pilot had to force the door open in order to exit the aircraft.*

COMMENT: There are four types of force in the universe. The strong force, which binds atomic nuclei together; the weak force, encountered in particle physics; the electromagnetic force; and the gravitational force. These four forces appear to account for all the interactions of matter which we know about. Strong force is expressed by a variety of particles called quarks and is some hundred times as powerful as the electromagnetic force, which governs chemical reactions and the emission of electromagnetic radiation. Electromagnetic forces are some 100 billion times as strong as the weak force, which is itself 100 trillion trillion times as strong as gravitation. This is why a minute pocket magnet can hold a lump of iron in mid-air, defying the whole of the Earth's gravitation.

force of gravity *noun* PHYS same as gravity

forceps *plural noun* MED a surgical instrument like a pair of scissors, made in different sizes and with differently shaped ends, used for holding and pulling

force ratio *noun* PHYS the ratio between the output force **load** and the input force **effort**. Also called **mechanical advantage** (NOTE: It is often described as a percentage. A machine can have a force ratio of more than one if a small effort can work a large load.)

forcing mechanism *noun* EARTH SCI a process that alters the relative balance between incoming solar radiation and outgoing infrared radiation from Earth

forebrain *noun* ANAT the frontmost of the three parts of the brain in an embryo. Compare **midbrain**, **hindbrain**

forecast *noun* a description of what it is thought will happen in the future on the basis of current knowledge ○ *the weather forecast* ○ *population forecasts* ■ *verb* to describe what it is thought will happen in the future

foreground *noun* COMPUT **1.** the front part of an illustration **2.** a high-priority task done by a computer

foreign *adjective* GEOG belonging to or coming from another country

foreign body *noun* MED a piece of material that is not part of the surrounding body

tissue and should not be there, e.g. sand in a cut, dust in the eye or a pin which has been swallowed ○ *The X-ray showed the presence of a foreign body.*

foreign matter *noun* something unwanted which is found in a substance or a device ○ *Turbine blades can be damaged by foreign matter such as stones entering through the engine intake on take-off.*

forelimb *noun* ZOOLOG either of the two front limbs of a four-limbed vertebrate, e.g. a flipper, arm, wing or fin

foreshock *noun* EARTH SCI a small shock that comes before a main earthquake

foreshore *noun* EARTH SCI an area of sand or pebbles which is only covered by the sea when there are very high tides

forest *noun* **1.** ECOL an area of land greater than 0.5 ha, 10% of which is occupied by trees ○ *The whole river basin is covered with tropical forest.* **2.** FORESTRY same as **plantation** **3.** COMPUT a number of interconnected data structure trees ■ *verb* FORESTRY to manage a forest, by cutting wood as necessary, and planting new trees

forest conservation *noun* FORESTRY the active maintenance of forests by controlled felling and planting

forest dieback *noun* ENVIRON a disease affecting pine trees in which the pine needles turn yellow. Also called **Waldsterben**

forester *noun* FORESTRY a person who manages woodland and plantations of trees

forest floor *noun* ECOL the ground at the base of the trees in a forest

forestry *noun* FORESTRY the management of forests, woodlands and plantations of trees

forest tree *noun* BOT a large tree of the type that grows in a forest

forewing *noun* INSECTS either of the pair of front wings on a four-winged insect

form *noun* **1.** BIOL a grouping of organisms within a species, on the basis of a specific characteristic or characteristics ○ *The ground automatic relief valve is a form of discharge valve.* ○ *Drizzle is the lightest form of precipitation.* **2.** the shape of an object ○ *Fluids take on the form of the container in which they are found.* □ **in the form of** having the shape of ○ *arranged in the form of a triangle* ■ *verb* **1.** to come into being ○ *In certain conditions, ice forms on the leading edge of the wing.* **2.** to make a shape ○ *Three points on the chart form a triangle.* **3.** to make up or constitute some-

thing ○ *The classroom and accommodation building form the main part of the college.*

formaldehyde *noun* CHEM a colourless gas with an unpleasant smell, used in the manufacture of resins, fertilisers, dyes and in the preservation of organic specimens. Formula: HCHO.

formalin *noun* CHEM a 40% solution of formaldehyde in water, used as a disinfectant and in the preservation of organic specimens

formal logic *noun* LOGIC the treatment of form and structure, ignoring content

format COMPUT *noun* **1.** a specific method of arranging text or data **2.** the precise syntax of instructions and arguments ■ *verb* to arrange text as it will appear in printed form on paper ○ *Style sheets are used to format documents.* ◇ **to format a disk** COMPUT **1.** to set up a blank disk so that it is ready for data, by writing control and track location information on it **2.** to define the areas of a disk reserved for data and control

formation *noun* **1.** the coming or bringing into being of something **2.** □ **to fly in formation** (of a number of aircraft) to fly in a group which maintains a particular pattern or arrangement in the air

former *adjective* **1.** having been in the past ○ *the former president of the society* **2.** referring to the first of two things mentioned earlier ○ *Of the two proposed explanations, the former is unconvincing and the latter absurd.* ■ *noun* AVIAT a light secondary structure of the airframe which gives improved shape

form factor *noun* COMPUT the size and shape of a device, especially a computer's motherboard or other printed circuit board

form feed *noun* COMPUT to advance the paper in a printer to the top of the next page or sheet (NOTE: If you are using a laser or inkjet printer this has the effect of ejecting the current piece of paper.)

formic acid *noun* CHEM a colourless corrosive liquid with an unpleasant smell that is naturally present in ants and in some plants. Formula: HCOOH. Also called **methanoic acid** (NOTE: It is used in tanning, electroplating, paper, textiles, insecticides and refrigerants.)

form mode *noun* COMPUT a display method on a data entry terminal in which a form is displayed on the screen and the operator enters relevant details

form overlay *noun* COMPUT a heading or other matter held in store and printed out at the same time as the text

formula *noun* **1.** MATHS a mathematical rule expressed in symbols ○ *The formula for calculating speed is $D \div T = S$ (where $D = \text{distance}$, $T = \text{time}$ and $S = \text{speed}$).* (NOTE: The plural is **formulas** or **formulae**.) **2.** CHEM a representation of the chemical composition of a compound in terms of its atoms (NOTE: plural is **formulas** or **formulae**)

formula translator *noun* COMPUT full form of **FORTTRAN**

FORTH *noun* COMPUT a computer programming language mainly used in control applications

Fortin barometer *noun* PHYS a mercury barometer that accurately measures atmospheric pressure

FORTTRAN *noun* COMPUT a programming language developed originally for scientific use. Full form **formula translator**

forward *adjective* moving in advance or in front ■ *verb* **1.** to send a letter or email on to another address ○ *I did not know the answer to the question, so I have forwarded your message to my colleague.* **2.** to improve or send on something **3.** COMPUT (in a network) an action by a bridge to copy a packet of data from one segment to another

forwards *adverb* towards a position in front ○ *The throttles are moved forwards for take-off.* (NOTE: In US English, **forward** is used as an adverb as well as an adjective.)

fossil *noun* BIOL the remains of an ancient animal or plant found preserved in rock

fossil fuel *noun* INDUST a substance containing carbon formed from the decomposed remains of prehistoric plants, e.g. oil, natural gas or peat

fossil fuel combustion *noun* INDUST the burning of coal, oil or natural gas

fossil-fuelled power station *noun* INDUST a power station that burns fossil fuel to generate electricity

fossil-fuel power *noun* INDUST power, especially electricity, generated from fossil fuels

fossilised *adjective* BIOL referring to an animal or plant that has become a fossil

fossil water *noun* ENVIRON water that has accumulated in underground strata

over millions of years and is therefore not a renewable resource

Foucault pendulum *noun* PHYS a heavy pendulum suspended by a long thin wire that can swing in any direction (NOTE: The plane of motion of the pendulum appears to change as the Earth rotates.)

foul air *noun* INDUST the air that has been circulated in a building or mine without being changed

fouling *noun* AUTOMOT the contamination of spark plugs with oil or petrol so that they do not fire correctly ○ *The engine should be run at a positive idling speed to prevent spark plug fouling.*

foul water *noun* ENVIRON water containing waste or sewage

founder effect *noun* ECOL the existence of low levels of genetic variation due to a new population being established by only a few original individuals

four-address instruction *noun* COMPUT a program instruction that contains four addresses within its address field

fourcc *noun* COMPUT a method of identifying the type of data within a RIFF file. Full form **four-character code**

four-fold *adjective, adverb* MATHS four times

4GL *abbreviation* COMPUT fourth generation language

Fourier analysis *noun* MATHS the analysis of a periodic function by using the terms of a Fourier series as an approximation

Fourier series *noun* MATHS an infinite series of terms consisting of constants multiplied by sines or cosines (NOTE: It is used in the analysis of periodic functions.)

four-plus-one address *noun* COMPUT an instruction that contains the locations of four registers and the location of the next instruction

four-stroke combustion engine *noun* AUTOMOT an engine that operates in accordance with the four-stroke cycle

four-stroke cycle *noun* AUTOMOT the cycle of induction, compression, power and exhaust phases in the operation of a four-stroke combustion engine

fourth generation computer *noun* COMPUT a computer that uses large scale integration circuits, developed around 1970 and still in current use. ◊ **computer generation**

fourth generation language *noun* COMPUT a computer language that is user-friendly and has been designed with the non-expert in mind. Abbr **4GL**

fovea, fovea centralis *noun* 1. a shallow pit 2. ANAT a depression in the retina which is the point where the eye sees most clearly

fovea centralis *noun* ANAT an area of the eye that is specialised for the recognition of colour

fowl *noun* AGRIC a bird, especially a hen, raised on a farm for food. ◊ **waterfowl**

fowl pest *noun* VET a viral disease of chickens

fps *plural noun* COMPUT the number of individual frames of a video sequence that can be displayed each second to give the impression of movement. Full form **frames per second**

COMMENT: To give the impression of smooth, continuous movement, a computer needs to display at least 25 separate frames each second. If the frames are large the computer has to update the hundreds of thousands of pixels that make up each image 25 times per second. To do this needs a fast graphics adapter or special video display hardware.

FPU *abbreviation* COMPUT floating point unit

FQDN *noun* COMPUT a full domain name that can be used to identify a server. Full form **fully qualified domain name**

Fr *symbol* CHEM ELEM francium

fractal *noun* MATHS a geometric shape that repeats itself within itself and always appears the same, however much the image is magnified

fractal compression *noun* COMPUT a technique used to compress images by reducing an image to a fractal that can be represented by a mathematical equation

fraction *noun* 1. MATHS a part of a whole unit, expressed as one figure above another, e.g. $\frac{1}{4}$ or $\frac{1}{2}$ 2. MATHS the mantissa of a floating point number 3. CHEM a component of a mixture separated out by a fractional process ○ *The fraction of petroleum which is a gas is natural gas.*

fractional *adjective* MATHS referring to fractions ○ *The root is the fractional power of a number.*

fractional distillation *noun* CHEM a distillation process in which different fractions of a mixture of liquids are collected at different points during the process

fractional part *noun* MATHS the mantissa of a floating point number

fractional process *noun* CHEM a process that separates out the components of a mixture

fractionate *verb* CHEM to separate a mixture into its constituents by a method such as crystallisation or distillation

fracture *noun* **1.** MED a break in a bone ○ *a multiple fracture of the skull* **2.** EARTH SCI the breaking of rock

fragile *adjective* referring to something that is easily broken or damaged ○ *a fragile glass tube* ○ *The desert is a fragile environment.*

fragment *noun* **1.** a small piece of something ○ *a fragment of rock* **2.** COMPUT a piece of information that has had to be split up into several smaller units of information before being sent over the Internet **3.** GENETICS a piece of DNA, especially one cut by an enzyme ○ *a restriction fragment* ■ *verb* to break into pieces

fragmentation *noun* COMPUT memory allocation that results in related files being scattered all over a hard disk instead of being stored next to one another

frame *noun* **1.** a structure that gives shape or support ○ *Early aircraft fuselages were made of a frame covered by a fabric.* **2.** an open structure for holding or making a border ○ *a door or window frame* **3.** COMPUT a space on magnetic tape for one character code **4.** COMPUT a packet of transmitted data including control and route information **5.** COMPUT a single image within a sequence of different images that together show movement or animation **6.** COMPUT a set of commands that allow the main window of a browser to be split into separate sections, each of which can be scrolled independently

frame buffer *noun* COMPUT a section of memory used to store an image before it is displayed on screen

frame grabber *noun* COMPUT a high-speed electronic circuit that samples one complete frame of a video sequence, converts it to digital format and stores it in memory so that it can then be processed

frame of reference *noun* MATHS a set of geometric axes used to describe the location of a point in space

frame rate *noun* COMPUT the speed at which frames in a video sequence are displayed (NOTE: It is measured in frames dis-

played per second. PAL is 25fps, NTSC is 30fps and film is 24fps.)

frames per second *plural noun* COMPUT full form of **fps**

framework *noun* **1.** the supporting structure round which something is made or built ○ *This house has a timber framework.*

2. a set of ideas or principles that form the basis of something that will be developed more at a later stage ○ *The draft report will provide a framework for our discussions.*

3. COMPUT the basic structure of a database process or program ○ *The program framework was designed first.*

francium *noun* CHEM ELEM a naturally radioactive element (NOTE: The chemical symbol is **Fr**; the atomic number is **87** and the atomic weight is **223**.)

Frasch process *noun* MIN EXTRACT the process used to extract sulfur from underground (NOTE: Superheated water is pumped through a tube into the underground deposit, melting the sulfur, which is then forced to the surface with hot air.)

fraternal twins *plural noun* BIOL two offspring that come from two different egg cells fertilised at the same time (NOTE: Fraternal twins are not identical and not always of the same sex.)

free *adjective* **1.** not attached, confined or controlled **2.** COMPUT available for use or not currently being used ○ *free memory space* **3.** CHEM chemically uncombined ■ *verb* **1.** to release something or someone from constraint **2.** COMPUT to erase or back up programs or files to provide space in memory

free electron *noun* PHYS an electron that is not bonded to an atom or molecule (NOTE: Free electrons can move about under the influence of external electric or magnetic fields.)

free energy *noun* PHYS a measure of the capacity of a system to do work. Also called **Gibbs free energy**. Symbol **g**

free fall *noun* PHYS an ideal state in which the only force acting on an object is the Earth's gravitational attraction

free form database *noun* COMPUT a database that can store any type of data and does not have a fixed record structure

free heat *noun* ENVIRON the heat that is present in a building, coming not from heating but from other sources such as appliances, people and heat retained in walls or floors

free-living animal *noun* ECOL an animal that exists in its environment without being a parasite on another

freely *adverb* with no restrictions

free oxygen *noun* CHEM oxygen not combined with any other element

free radical *noun* CHEM an atom or group of atoms that is highly reactive due to the presence of an unpaired electron

free-swimming *adjective* MARINE BIOL same as **pelagic**

free temperature rise *noun* ENVIRON the difference between the temperature outside a building and the free heat inside it (NOTE: If a building is well insulated, the difference can be as much as 10K.)

freeware *noun* COMPUT software that is in the public domain and can be used by anyone without having to pay

freeze *verb* **1.** PHYS to pass from the liquid to the solid state by loss of heat **2.** FOOD, INDUST to preserve something such as food by keeping it at a very low temperature it **3.** METEOROL (*of weather*) to be so cold that water turns to ice *o It will freeze tomorrow.* Opposite **melt** **4.** COMPUT same as **hang** **5.** ZOOLOG to become or remain motionless to avoid the attention of predators *o These small birds freeze if a hawk passes overhead.* (NOTE: **freeze** – **froze** – **frozen**)

freeze drying *noun* INDUST a method of preserving food or tissue specimens by freezing rapidly and drying in a vacuum

freeze frame *verb* COMPUT to stop a video sequence so that only one frame is displayed

freezer *noun* an appliance for preserving perishable items by keeping them at a very low temperature

freezing fog *noun* METEOROL fog formed from supercooled vapour droplets, which remain liquid in the air but turn to ice when they touch a surface

freezing level *noun* METEOROL the altitude at which the atmospheric temperature has fallen to 0°C

freezing mixture *noun* CHEM a mixture of a salt and water or ice that produces a significant decrease in temperature (NOTE: Such mixtures are used in laboratories to produce a temperature below the freezing point of water.)

freezing point *noun* PHYS the temperature at which a liquid becomes solid *o The*

freezing point of water is 0°C or 32°F under a pressure of one atmosphere.

F region, F layer *noun* METEOROL the highest part of the ionosphere, capable of reflecting radio waves of up to 50 MHz back to Earth (NOTE: Two layers are distinguished within it and their relative heights differ from day to night.)

Freon *trademark* CHEM chlorofluorocarbon

frequency *noun* **1.** the number of times something happens in a given period of time **2.** PHYS the number of repetitions per unit time of a complete waveform such as an electric or sound wave (NOTE: The frequency of electromagnetic radiation is inversely proportional to the wavelength of the radiation.) **3.** SCI the probability of a item occurring in a sample **4.** STATS the number of occurrences of something in a group or sample

frequency allocation *noun* the frequency or range of radio frequencies set aside for particular use *o The frequency allocation for VOR is 108–117.975 MHz.*

frequency division multiplexing *noun* the assignation of a number of different signals to different frequencies or bands to allow many signals to be sent along one channel *o Using FDM we can transmit 100 telephone calls along one main cable.* Abbr **FDM**

frequency modulation *noun* PHYS a radio transmission method in which the frequency of the wave carrying the signal is varied according to the characteristics of the sound being broadcast

frequent *adjective* happening or appearing often *o frequent inspection*

frequently asked questions *noun* COMPUT a document that contains common questions and their answers related to a particular subject *o The website has a section for FAQ about the new disk drive.* Abbr **FAQ**

fresh air *noun* ENVIRON the air outside buildings or other structures *o They came out of the office into the fresh air.*

fresh water *noun* EARTH SCI water in rivers and lakes which contains almost no salt. Compare **salt water**

freshwater *adjective* **1.** EARTH SCI containing fresh water *o freshwater lakes* **2.** ZOOLOG living in fresh water *o freshwater fish such as pike*

freshwater limit *noun* EARTH SCI the place in the course of a river at which the salinity of the water has decreased and upstream of which the water contains almost no salt

Fresnel lens *noun* OPTICS a thin lens made up of concentric rings, each having a curvature corresponding to a similar ring of a plain convex lens (NOTE: A Fresnel lens in the rear window of a bus allows the driver a wide view of what is behind the vehicle.)

friable *adjective* EARTH SCI, AGRIC referring to soil which is light and crumbles easily into fragments

friction *noun* PHYS a force that resists the relative motion or tendency to such motion of two bodies in contact ◦ *Energy is converted to heat through friction.*

Friends of the Earth *noun* a pressure group formed to influence local and central governments on environmental matters. Abbr **FoE**

FROM *abbreviation* COMPUT fusible read only memory

frond *noun* BOT a large compound leaf, divided into many sections, such as that found on ferns and palm trees

front *noun* **1.** the forward part or surface ◦ *The entrance is at the front.* **2.** the area, location, or position directly before or ahead ◻ **in front** in a forward position relative to something else ◦ *Row 23 is in front of row 24.* **3.** METEOROL the mixed area between air masses of different temperatures or densities ◦ *There is a warm front advancing from the south.*

frontal *adjective* **1.** referring to the forward part or surface area of something ◦ *the frontal area* **2.** METEOROL relating to a weather front ◦ *a frontal storm*

frontal surface *noun* METEOROL the boundary between two air masses

frontal system *noun* METEOROL a series of cold or warm fronts linked together

frontal wave *noun* METEOROL a movement of air at the edge of a warm front

front-end COMPUT *adjective* located at the start or most important point of a circuit or network ■ *noun* the visible part of an application that is seen by a user and is used to view and work with information ◦ *The program is very easy to use thanks to the uncomplicated front-end.*

front-end processor *noun* COMPUT a processor placed between an input source

and the central computer whose function is to preprocess received data to relieve the workload of the main computer. Abbr **FEP**
frost *noun* METEOROL **1.** the deposit of ice that forms on surfaces when the temperature is below the freezing point of water ◦ *frost on the windowpanes* **2.** a deposit of crystals of ice on surfaces

frostbite *noun* MED an injury caused by very severe cold which freezes tissue

frostbitten *adjective* MED suffering from frostbite

COMMENT: In very cold conditions, the outside tissue of the fingers, toes, ears and nose can freeze, becoming white and numb. Thawing of frostbitten tissue can be very painful and must be done very slowly.

frost-free region *noun* METEOROL a region where there are no frosts

frost hollow, frost pocket *noun* METEOROL a low-lying area where cold air collects and frosts are frequent

frost point *noun* METEOROL the temperature at which moisture in saturated air turns to ice

frosty *adjective* METEOROL referring to an air temperature below 0°C ◦ *a frosty night*

fructification *noun* BOT the production of fruit or fruits by a plant

fructose *noun* BIOCHEM a sugar with six carbon atoms, which together with glucose forms sucrose. Also called **fruit sugar**

frugivore *noun* ZOOLOG an animal that mainly eats fruit (NOTE: Many bats and birds are frugivores.)

fruit BOT *noun* **1.** the structure of a plant formed after flowering and usually containing seeds. Many fruits are eaten as food. ◦ *a diet of fresh fruit and vegetables* ◦ *A peach is a fleshy fruit.* **2.** the fleshy material round the fruit which is eaten as food ■ *verb (of a plant)* to produce fruit ◦ *Some varieties of apple fruit very early.*

COMMENT: Fruit contains fructose which is a good source of vitamin C and some dietary fibre. Dried fruit has a higher sugar content but less vitamin C than fresh fruit.

fruit fly *noun* INSECTS a small fly that feeds on fruit. Genus: *Drosophila*. (NOTE: Fruit flies are often used in genetics experiments because they are easy to keep and have a short generation time.)

fruiting season *noun* BOT the time of year when a particular tree has fruit

fruit sugar *noun* BIOCHEM same as **fructose**

fruit tree *noun* BOT a tree that produces edible fruit

fruitwood *noun* BOT, INDUST the wood from a fruit tree such as apple or cherry, which may be used to make furniture

fruticose *adjective* BOT (*of some lichens*) with upright branches, like a small shrubby plant (*of some lichens*)

ft *abbreviation* MEASURE foot

FTAM *noun* COMPUT a standard method of transferring files between different computer systems. Full form **file transfer, access and management**

FTP *abbreviation* COMPUT file transfer protocol (NOTE: It is a file-sharing protocol that operates at layers 5, 6 and 7 of an OSI model network.)

fucoxanthin *noun* BIOCHEM a brown pigment found in some algae such as brown seaweeds

fuel INDUST *noun* a substance that can be burnt to provide heat or power, e.g. wood, coal, gas or oil ■ *verb* to use a fuel to power something ○ *The boilers are fuelled by natural gas.*

fuel additive *noun* AUTOMOT a substance which is added to petrol to prevent knocking, e.g. tetraethyl lead

fuel/air mixture *noun* AUTOMOT a combination of fuel and air which is ignited in a piston engine to provide power

fuel cell *noun* ELEC a device that converts the chemical energy of a fuel and an oxidant to electrical energy

fuel contamination *noun* INDUST the act or an instance of fuel being made unusable because of an unwanted substance such as water in it

fuel efficiency *noun* PHYS the percentage of the heat from burning a fuel that is converted into energy

fuel-efficient *adjective* INDUST referring to an engine or process that uses fuel efficiently

fuel element *noun* INDUST a piece of nuclear fuel in a reactor

fuel gauge *noun* AUTOMOT an instrument to indicate how much fuel is left in a fuel tank

fuel injection *noun* AUTOMOT the spraying of pressurised liquid fuel into the combustion chambers of an internal combustion engine to increase the engine's performance

fuel injector *noun* AUTOMOT an injector that sprays fuel into the combustion chamber of an engine

fuel oil *noun* INDUST petroleum oil used as fuel in a domestic heating boiler or industrial furnace

fuel rod *noun* INDUST a piece of nuclear fuel, in the form of a rod, placed in the core of a nuclear reactor

fuel-saving *adjective* INDUST using less fuel than others of the same type

fuel switching *noun* ENVIRON the act of changing from a fuel with a high sulfur content to one such as natural gas that contains a relatively low amount of sulfur

fuel tank *noun* ENG a container for holding liquid fuel

fuelwood *noun* INDUST wood that is grown to be used as fuel

fugitive emissions *plural noun* polluting substances released into the atmosphere as a result of leaks, evaporation or wind effects

fulcrum *noun* the point or support about which a lever turns

full adder *noun* COMPUT a binary addition circuit that can produce the sum of two inputs and can also accept a carry input, producing a carry output if necessary

full-cost accounting *noun* ENVIRON the practice of including the less obvious costs of a product or activity, such as its effects on the environment or health, together with its direct costs when making decisions. Also called **green accounting**, **environmental accounting**

full duplex *noun* COMPUT data transmission down a channel in two directions simultaneously

fullerene *noun* CHEM a form of carbon made up of up to 500 carbon atoms arranged in a sphere or tube

fuller's earth *noun* GEOL, INDUST an absorbent clay used for treating cloth and filtering liquids

full handshaking *noun* COMPUT the process of transmitting signals between two communicating devices where both devices use control signals to indicate when they are ready to receive data or have received data

full moon *noun* ASTRON the middle point of a lunar cycle, when the whole face of the Moon is lit by the Sun

full-motion video *noun* COMPUT a sequence of images that gives the impression of continuous movement

full-wave rectifier *noun* ELECTRONICS a device for converting an alternating current into a direct current operating on both the positive and negative cycles of the alternating current (NOTE: Such rectifiers are used in the design of electronic equipment such as radios, computers and televisions.)

fully *adverb* completely

fully populated *adjective* COMPUT with all the possible options or memory fitted, or with components in all free sockets

fumarole *noun* EARTH SCI a small hole in the Earth's crust near a volcano from which gases, smoke or steam are released

fumes *plural noun* **1.** PHYS gas or vapour **2.** CHEM the solid particles produced by a chemical reaction which pass into the air as smoke

fumigant *noun* MED, AGRIC a chemical compound that becomes a gas or smoke when heated and is used to kill insects

fumigate *verb* MED, AGRIC to kill microorganisms or insects by using a fumigant

fumigation *noun* **1.** MED, AGRIC the use of a fumigant to kill microorganisms or insects **2.** ENVIRON a high amount of air pollution near the ground, caused when the morning sun heats the air and forces polluted air down from higher levels

function *noun* **1.** the use or purpose of something or how it works ○ *The function of a wing is to provide lift.* **2.** MATHS a mathematical formula where a result is dependent upon several other numbers **3.** COMPUT a sequence of computer program instructions in a main program that perform a specific task **4.** COMPUT a special feature available on a computer or word-processor ○ *a spelling-checker function* ■ *verb* COMPUT to operate or perform correctly ○ *The new system has not functioned properly since it was installed.*

functional *adjective* **1.** useful or serving a practical purpose **2.** MED having no apparent organic cause

functional food *noun* HEALTH a food designed to be medically beneficial, helping to protect against serious conditions such as diabetes, cancer or heart disease. Also called **nutraceutical**, **neutraceutical**

functional genomics *noun* GENETICS the study of the relationships between the

structure of genes and their biological function in organisms

functional group *noun* CHEM a group of atoms that reacts as a single unit and determines the properties and structure of a class of chemicals (NOTE: For example, the hydroxyl group is the functional group in alcohols.)

function call *noun* COMPUT a program instruction that moves execution to a pre-defined function or named sequence of instructions

function key *noun* COMPUT one of several special keys placed along the top of a PC keyboard that have different uses according to different applications ○ *Tags can be allocated to function keys.*

COMMENT: Function keys often form a separate group of keys on the keyboard, and have specific functions attached to them. They may be labelled F1, F2 etc. Most applications use the F1 key to display help information and Alt-F4 to quit an application.

function library *noun* COMPUT a collection of functions that can be used by a program

function overloading *noun* COMPUT a programming system in which several different functions can have the same name, but are differentiated because they operate on different data types

fundamental *adjective* **1.** referring to or forming the foundation or base ○ *the fundamental laws of aerodynamics* **2.** forming or serving as an essential component of a system or structure ○ *Electricity is one of the fundamental types of energy that exist in nature.*

fundamental niche *noun* ECOL the full range of physical, chemical and biological factors each species could use if there were no competition from other species

fundamental particle *noun* PHYS same as **elementary particle**

fundamental unit *noun* MEASURE a basic unit of length, mass or time

fundie *noun* ENVIRON a member of the radical wing of the Green movement

fungal *adjective* BIOL referring to fungi ○ *She had a fungal skin infection.*

fungi BIOL plural of **fungus**

fungicidal *adjective* AGRIC referring to a substance which kills fungi ○ *fungicidal properties*

fungicide *noun* AGRIC a substance used to kill fungi

fungoid *adjective* BIOL referring to something shaped like a fungus ◦ *a fungoid growth on the skin*

fungus *noun* FUNGI an organism that has thread-like cells with walls made of chitin and no green chlorophyll (NOTE: The plural is **fungi**. For other terms referring to fungi, see words beginning with **myc-**.)

COMMENT: Fungi grow in almost every environment and are vital in nutrient cycling as they can digest the cellulose in dead plants. Mushrooms are the spore-producing structures of a large group of otherwise thread-like fungi; many are edible although some are deadly poisonous. Fungi are used in brewing, cheese-making and the production of antibiotics such as penicillin. Some fungi can cause diseases of animals and plants.

funicle *noun* BOT the stalk that attaches an ovule to the carpel wall

funnel cloud *noun* METEOROL a rotating, visible extension of a cloud, with the top attached to the cloud but without the bottom tip touching the ground ◦ *When a funnel cloud touches the ground it becomes a tornado.*

fur *noun* **1.** ZOOL a coat of hair covering an animal ◦ *The rabbit has a thick coat of winter fur.* **2.** INDUST skin and hair removed from an animal, used to make clothes ◦ *She wore a fur coat and fur gloves.*

furan *noun* CHEM a colourless flammable liquid of low boiling point with a five-membered ring structure, used as a solvent and in polymer manufacture. Formula: C_4H_4O .

furanose *noun* BIOCHEM a sugar containing a ring made up of one oxygen atom and four carbon atoms

furnace *noun* INDUST a container for burning fuel and ore

furrow *noun* AGRIC a long trench cut in the soil by a plough

fuse *noun* ELEC an electrical protection device consisting of a small piece of metal, which will melt when too much power passes through it ◻ **to blow a fuse** to melt a fuse by passing too much current through it ■ *verb* **1.** to join together to form a whole ◦ *The bones of the skull fuse together to enclose the brain.* **2.** ELEC to draw too much current, causing a fuse to melt ◦ *When the air-conditioning was switched on, it fused the whole system.*

fuselage *noun* AEROSP the central body of an aircraft, to which the wings and tail assembly are attached and which accommodates the crew, passengers and cargo ◦ *The fire started in the wing but soon spread to the fuselage.*

fusible link *noun* COMPUT a small link in a programmable logic array that can be blown to program the device permanently

fusible read only memory *noun* COMPUT a type of memory that is made up of a matrix of fusible links which are selectively blown to program it. Abbr **FROM**

fusion reactor *noun* PHYS a nuclear reactor producing energy from the fusion of two atoms such as deuterium and tritium

fuzzy logic, fuzzy theory *noun* COMPUT a type of logic applied to computer programming which tries to replicate the reasoning methods of the human brain

FYI *noun* COMPUT a document file that contains general background information related to the Internet or protocols. Full form **for your information**

g *symbol* **1.** MEASURE gram **2.** gravitational constant **3.** COMPUT 2^{30} , equal to 1 073 741 824

G

G *symbol* **1.** MEASURE gauss **2.** MATHS giga-

Ga *symbol* CHEM ELEM gallium

gadolinium *noun* CHEM ELEM a rare silvery-white metallic element in the lanthanide group of the periodic table (NOTE: It is used in high-temperature alloys and as a neutron absorber in nuclear reactors and fuels. The chemical symbol is **Gd**; the atomic number is **64** and atomic weight is **157.93**.)

GAI *abbreviation* green area index

Gaia hypothesis, Gaia theory *noun* ECOL a theory that the biosphere is like a single organism where the living fauna and flora of Earth, its climate and geology, all function together and are interrelated, influencing the development of the whole environment

gain *noun* **1.** an increase ○ *a gain in altitude* ○ *There is a gain of heat by the Earth due to solar radiation.* **2.** ELEC an increase in signal power, voltage, or current ○ *The amplifier boosts the gain of the incoming signal.* **3.** a benefit or advantage ○ *An additional gain from the horizontally opposed arrangement of cylinders is a smoother running engine.* ■ *verb* **1.** to increase by a particular amount ○ *He failed the test because the aircraft gained 100ft in the 360° level turn.* **2.** to get or obtain a result in an examination ○ *He gained a good mark in his meteorology exam.* □ **to gain access to** to be able to access a file or information in it ○ *The user cannot gain access to the confidential information in the file without a password.*

galactic *adjective* ASTRON referring to a galaxy

galactic equator *noun* ASTRON the imaginary circle formed by extending the plane that passes through the centre of the galaxy (NOTE: It is inclined at approximately 62° to the celestial equator.)

galactic halo *noun* ASTRON the large region of space outside the Milky Way, including the main spiral arms, older fainter stars and globular clusters, and the outer regions of the galactic magnetic field

galactose *noun* BIOCHEM a six-carbon sugar found mainly in lactose

galaxy *noun* ASTRON a massive assembly of stars, dust, gas and other components held together by gravity

COMMENT: The main types (see **Hubble Classification**) are spiral galaxies, barred spirals, elliptical, irregular and peculiar. It appears that only about 10% of the mass of galaxies is in the form of visible matter, and that they contain a much larger amount of dark matter. Our own galaxy is known as the Milky Way galaxy because the path of the Milky Way across the sky marks the main mass of the galaxy, whose centre is in the constellation Scorpius.

gale *noun* METEOROL a very strong wind usually blowing from a single direction (NOTE: A gale is force 8 on the Beaufort scale.)

galena *noun* MINERALS a shiny blue-grey crystalline mineral consisting of lead sulfide. Symbol **PbS** (NOTE: It is a source of lead and silver.)

gale warning *noun* METEOROL an alert that there is going to be a gale

Galileo Galilei (1564–1642) ASTRON an Italian astronomer who was one of the first people to look at the sky through a telescope

COMMENT: He concluded that the Earth moves like other astronomical objects, a conclusion that led him to a showdown with the Church of Rome in which he was forced to retract. He observed Neptune without recognising it as a planet. He also applied mathematical analysis to the movement of bodies in a way which was a precursor to Newton's work on motion, and was an inventor whose devices ranged from clocks to artillery.

gall *noun* BOT a hard growth on a plant caused by a parasitic insect

gall bladder *noun* ANAT a small muscular sac on the underside of the liver in which bile secreted by the liver is stored until needed for digestion

gallium *noun* CHEM ELEM a rare blue-grey metal element used in semiconductors, high-temperature thermometers and alloys (NOTE: The chemical symbol is **Ga**; the atomic number is **31** and the atomic weight is **69.72**.)

gallium arsenide *noun* ELEC a semiconductor compound used in chip construction. Symbol **GaAs** (NOTE: It allows faster operation than silicon chips.)

gallon *noun* a unit of liquid volume in the Imperial System, approximately equal to 4.5 litres

galvanic *adjective* ELEC referring to electricity produced by chemical reaction

galvanic cell *noun* ELEC same as **primary cell**

galvanisation, galvanization *noun* INDUST the coating of iron or steel with zinc to prevent it from rusting

galvanise, galvanize *verb* INDUST to coat iron or steel with zinc to prevent it from rusting

galvanised iron *noun* INDUST iron that has been coated with zinc to prevent it from rusting (NOTE: Sheets of galvanised iron are widely used for roofs.)

galvanometer *noun* ELEC ENG an instrument used to detect or measure small electric currents using a coil in a magnetic field to move a pointer or light in a manner that is proportional to the strength and direction of the current

game *noun* AGRIC animals that are hunted and killed for sport or food or both

game bird *noun* AGRIC a bird that is hunted and killed for sport or food or both

game reserve *noun* AGRIC an area of land where wild animals are kept to be hunted and killed for sport

gametangium *noun* BOT a cell or organ that produces sex cells (**gametes**), especially in algae and fungi

gamete *noun* BIOL a sex cell

COMMENT: In animals the male and female gametes are a spermatozoon and an ovum respectively, in plants they are a pollen grain and an ovule. Gametes are produced by a special sort of cell division called meiosis and each contains only half the number of chromosomes found in ordinary body cells.

gametocide *noun* BIOCHEM a drug that kills gametocytes

gametocyte *noun* BIOL a cell that develops into a gamete

gametogenesis *noun* BIOL the production of gametes from gametocytes by cell division (**meiosis**)

gametophyte *noun* BOT the part of a plant's life cycle when sex organs and sex cells (**gametes**) are produced

gamma *noun* the third letter of the Greek alphabet

gamma globulin *noun* IMMUNOL a protein component of blood serum that contains the antibodies (NOTE: It is produced commercially from human plasma and used in vaccines against diseases such as measles and poliomyelitis.)

gamma radiation *noun* PHYS radiation from gamma rays

gamma ray *noun* PHYS a high-energy form of electromagnetic radiation

COMMENT: Gamma rays form part of the high-energy radiation which the Earth receives from the Sun. Gamma rays are also given off by radioactive substances and can penetrate very thick metal. They have no electric charge or mass and their frequency is higher than that of X-rays.

gamogenesis *noun* BIOL sexual reproduction

ganged *adjective* ELEC mechanically linked and operated by a single action

ganged switch *noun* ELEC a series of switches that operate on different parts of a circuit, but which are all switched by a single action ○ A *ganged switch* is used to select which data bus a printer will respond to.

ganglion *noun* ANAT **1.** a mass of nerve cell bodies and synapses, usually covered in connective tissue, found along the peripheral nerves with the exception of the basal ganglia **2.** a cyst of a tendon sheath or joint capsule, usually at the wrist, which results in a painless swelling containing fluid (NOTE: The plural is **ganglia**.)

gap *noun* **1.** a space between objects or points **2.** a difference between things or groups of things ○ a *gap between theory and practice* **3.** a period of time ○ *started again after a gap of five years* **4.** COMPUT a space between recorded data **5.** COMPUT a space between a read head and the magnetic medium

gap character *noun* COMPUT an extra character added to a group of characters for

parity or another purpose, but not data or instructions

gap loss *noun* COMPUT a signal weakening due to incorrect alignment of the read/write head with the storage medium

garbage *noun* 1. US ENVIRON rubbish or household waste 2. MEDIA radio interference from adjacent channels 3. COMPUT data or information that is no longer required because it is out of date or contains errors

garbage in garbage out *noun* COMPUT an expression meaning that the accuracy and quality of information that is output depends on the quality of the input. Abbr GIGO

gas *noun* 1. CHEM a substance that is not a liquid or a solid, which will completely fill the container it occupies, and which becomes liquid when it is cooled ○ *Heating turned the liquid into a gas.* ○ *If a gas is cooled it will become liquid.* 2. INDUST a substance found underground, or produced from coal, and used to cook or heat ○ *gas central heating* ○ *We heat our house by gas.* 3. US INDUST same as **gasoline** (NOTE: The UK term is **petrol**.) 4. MED gas which accumulates in the stomach or alimentary canal and causes pain

gas carrier *noun* CHEM an inert gas used to transport the sample in gas chromatography

gas chromatography *noun* CHEM a scientific method for analysing a mixture of volatile substances

gas cleaning *noun* ENVIRON the removal of pollutants from gas, especially from emissions from factories and power stations

gas coal *noun* INDUST coal used for making coal gas

gas coke *noun* INDUST coke resulting from the processing of coal for gas

gas constant *noun* PHYS the constant in the equation that describes the mathematical relation between the pressure and volume of a gas and its absolute temperature (NOTE: Its value is 8.314 joules per kelvin.)

gas-cooled reactor *noun* INDUST a nuclear reactor in which carbon dioxide or helium is used as a coolant and is passed into water tanks to create the steam which will drive the turbines

gas discharge, gas electroluminescent display *noun* COMPUT a flat light-weight display screen that is made up of

two flat pieces of glass covered with a grid of conductors, separated by a thin layer of gas which luminesces when a point of the grid is selected by two electrical signals. Also called **gas plasma**

gas engine *noun* ENG a type of internal combustion engine using a flammable gas as a fuel

gaseous *adjective* PHYS referring to a substance formed or in the form of gas □ **water in the gaseous state** steam

gas exchange *noun* ECOL the transfer of gases between an organism and its environment

gas extraction *noun* INDUST the process of pumping gas out of a landfill site to use as fuel

gas-fired power station *noun* INDUST a power station which burns gas, as opposed to a coal-fired station or nuclear power station

gas gangrene *noun* MED a complication of severe wounds in which the bacterium *Clostridium welchii* breeds in the wound and then spreads to healthy tissue which is rapidly decomposed with the formation of gas

gas giant *noun* ASTRON a large planet such as Jupiter or Saturn that consists mainly of hydrogen and helium

gasholder *noun* INDUST same as **gasometer**

gasification *noun* INDUST the process of converting coal into gas to be used as fuel in gas-fired power stations

gasifier *noun* INDUST a factory which can convert coal into gas to be used as fuel

gasket *noun* ENG a seal or packing used between matched machine parts or around pipe joints to prevent the escape of a gas or fluid

gas laws *plural noun* PHYS laws describing alterations in the volume of a gas as the pressure and temperature are changed (NOTE: These laws are not perfectly obeyed in practice.)

gasohol *noun* INDUST a mixture of petrol and ethyl alcohol, used as a fuel in internal combustion engines

gasoline *noun* US INDUST a liquid made from petroleum, used as a fuel in internal combustion engines (NOTE: The UK term is **petrol**.)

gasoline-powered *adjective* ENG working on gasoline

gasometer *noun* INDUST a very large tank for storing coal gas or natural gas. Also called **gasholder**

gas plasma *noun* same as **gas discharge**

gas poisoning *noun* MED poisoning by breathing in carbon monoxide or other toxic gas

Gasserian ganglion *noun* ANAT same as **trigeminal ganglion**

gas supply line *noun* INDUST a pipe which carries gas from its source to the consumer

gastr- *prefix* ANAT same as **gastro-**

gastric *adjective* ANAT referring to the stomach

gastric acid *noun* BIOCHEM hydrochloric acid secreted into the stomach by acid-forming cells

gastric artery *noun* ANAT an artery leading from the coeliac trunk to the stomach

gastric juice *noun* PHYSIOL a mixture of hydrochloric acid, pepsin, intrinsic factor and mucus secreted by the cells of the lining membrane of the stomach to help the digestion of food

gastro- *prefix* ANAT the stomach

gastroenteritis *noun* MED an inflammation of the membrane lining the intestines and the stomach, caused by a viral infection and resulting in diarrhoea and vomiting

gastrointestinal tract *noun* ANAT same as **alimentary canal**

gastropod *noun* ZOOL a mollusc that has a head with eyes, tongue and tentacles, a large flattened muscular foot and often a single shell. Class: Gastropoda. (NOTE: Limpets, snails and slugs are gastropods.)

gastrula *noun* BIOL the stage in embryonic development following the blastula when the embryo develops two layers

gas turbine *noun* ENG an internal combustion engine where expanding gases from combustion chambers drive a turbine (NOTE: A rotary compressor driven by the turbine sucks in the air used for combustion.)

gasworks *noun* INDUST a place where gas, especially coal gas, is made

gate *noun* **1.** ENG a device for controlling the passage of water or gas through a pipe ○ *During a descent from altitude, with low power set, the turbocharger waste gate is fully closed.* **2.** ENG a device to prevent a

lever from being moved to an incorrect setting ○ *It is necessary to move the rpm control lever through a feathering gate to the feathering position.* **3.** ELECTRONICS a logical electronic switch whose output depends on the states of the inputs and the type of logical function implemented

gate array *noun* ELECTRONICS a number of interconnected logic gates built into an integrated circuit to perform a complex function

gate circuit *noun* ELECTRONICS a series of electronic components that implement a logical function

gated *noun* COMPUT software that redirects network traffic, normally Internet traffic, according to a set of rules (NOTE: It can also be used to limit access to a site or to route traffic to another site. Pronounced 'gate-dee'.)

gated quadrant *noun* ENG a quadrant with a device preventing a lever from being moved to an incorrect setting ○ *The throttles, usually known as power levers, operate in a gated quadrant.*

gateway *noun* **1.** an entrance that is accessible through a gate **2.** a means of doing or achieving something ○ *a gateway to success* **3.** COMPUT a device that links two dissimilar networks ○ *We use a gateway to link the LAN to a WAN.* **4.** COMPUT a software protocol translation device that allows users working in one network to access another **5.** COMPUT software that allows mail messages to be sent via a different route or to another network ○ *To send messages by fax instead of across the network, you'll need to install a fax gateway.*

gather *verb* **1.** to collect things together ○ *The children gathered sea shells on the beach.* ○ *We gathered information from several reports and reviews.* **2.** COMPUT to receive data from various sources and sort and insert it in correct order into a database

gather write *verb* COMPUT to write a group of separate records as one block of data

gauge *noun* **1.** an instrument for measuring or testing ○ *a temperature gauge* ○ *a pressure gauge* **2.** MEASURE a unit of diameter or width ■ *verb* to calculate something approximately by using the senses ○ *In fog, it is difficult to gauge horizontal distances.* (NOTE: **gauging** – **gauged**)

Gause's principle *noun* a theory that suggests that two similar and competitive species cannot occupy the same ecological niche at the same time

gauss *noun* MEASURE, PHYS the cgs unit of magnetic flux density, equivalent to 10^{-4} tesla

gauze *noun* a thin mesh made of wire or other material

Gay-Lussac's law *noun* CHEM the principle that in a reaction between gases, they combine in simple ratios of their volumes, with any gaseous product also produced in a simple ratio

Gb *abbreviation* COMPUT gigabyte

GCM *abbreviation* general circulation model

GCS *abbreviation* MED Glasgow coma scale

GCV *abbreviation* PHYS gross calorific value

Ge *symbol* CHEM ELEM germanium

GE *abbreviation* BIOTECH genetic engineering

gear *noun* MECH ENG, AUTOMOT a toothed wheel that turns with another toothed part to transmit motion or change speed or direction

gearbox *noun* MECH ENG, AUTOMOT a device to allow changes in the ratio of engine speed to final drive speed ○ *The auxiliary power unit is a small gas turbine engine which is connected to a gearbox.*

Geiger counter, Geiger-Muller detector *noun* PHYS an instrument for the detection and measurement of radiation

COMMENT: A Geiger counter is made of a tube forming a negative electrode, with a wire running through the centre which forms the positive electrode. The presence of radiation causes a discharge of electricity between the electrodes which creates an audible pulse which is used as a measure of the radiation. The greater the frequency of the pulses, the higher the level of radiation.

gel *noun* CHEM a substance that has coagulated to form a jelly-like solid

gelatin *noun* BIOCHEM a protein which is soluble in water, made from collagen

COMMENT: Gelatin is used in foodstuffs such as desserts or meat jellies and is also used to make capsules in which to put medicine.

gelignite *noun* CHEM an explosive consisting of nitroglycerine contained in a gel

with cellulose nitrate, potassium nitrate, and wood pulp or guncotton

gender *noun* BIOL the sex of a person ○ *She's just had a baby but I don't know what gender it is.*

gender changer *noun* ELEC a device for changing a female connection to a male or vice versa (*informal*)

gender reassignment *noun* MED a surgical operation, usually with accompanying hormone treatment, that changes somebody's physical characteristics to approximate those of the opposite sex

gene *noun* GENETICS a unit of DNA on a chromosome which governs the synthesis of one protein and may combine with other genes to determine a particular characteristic

COMMENT: Genes exist in different forms, called alleles. They are either dominant, in which case the characteristic is always passed on to the offspring, or recessive, where the characteristic only appears if both parents have contributed a copy of the same allele.

gene amplification *noun* BIOTECH a method for the repeated duplication of a specific length of DNA to produce an amount suitable for gene analysis, usually using the technique of polymerase chain reaction (NOTE: It can be used to test for genetic defects such as those arising from a single cell.)

gene bank *noun* GENETICS a collection of seeds from potentially useful wild plants, which may be used in the future for breeding new varieties

gene chip *noun* BIOTECH a substrate containing an array of DNA used to perform genetic testing

gene cloning *noun* BIOTECH the process of producing identical copies of a gene by the technique of polymerase chain reaction

gene expression *noun* GENETICS the process by which the coded information carried in a gene is converted into a biological function

gene flow *noun* GENETICS a movement of genes among populations through interbreeding, dispersal and migration

gene frequency *noun* GENETICS the ratio of a specific variant form (**allele**) of a gene to the total number of alleles in a specific population

gene gun *noun* BIOTECH a device for inserting DNA directly into cells, used as a method of genetic modification

gene mutation *noun* GENETICS a change in a single base or base pair in the DNA sequence of a gene

gene pool *noun* GENETICS the total of all the genes carried by the individual organisms in a population

gene probe *noun* BIOTECH a fragment of DNA or RNA marked by a chemical or radioactive substance that will bind to a specific gene, used as a method of identifying or isolating that gene

genera *BIOL plural of genus*

general *adjective* **1.** ordinary or not special **2.** dealing with everything

general anaesthesia *noun* MED loss of feeling and loss of consciousness

general anaesthetic *noun* MED a substance such as nitrous oxide given to make a patient lose consciousness so that a major surgical operation can be carried out

general circulation model *noun* METEOROL a complex computer simulation of climate and its various components ○ *General circulation models are used by researchers and policy analysts to predict climate change.*

general fertility rate *noun* MED † **fertility rate**

generalist *noun* **1.** BIOL a species which can live in many different environments **2.** a person who studies many different subjects, rather than specialising in one

general packet radio service *noun* TELECOM full form of **GPRS**

general purpose *adjective* for all-round or general use

general purpose interface adapter *noun* COMPUT an adapter usually used to interface a processing unit to an IEEE-488 bus. Abbr **GPIA**

general purpose interface bus *noun* COMPUT a standard for an interface bus between a computer and laboratory equipment. Abbr **GPIB**

general purpose register *noun* COMPUT full form of **GPR**

general register *noun* COMPUT a data register in a computer processing unit that can store items of data for many different mathematical or logical operations

general theory of relativity *noun* PHYS † **relativity**

generate *verb* **1.** to bring something into being ○ *The exhibition aims to generate interest in the study of science.* **2.** PHYS,

CHEM to produce something such as heat or electricity as a result of a chemical or physical process ○ *The passage of air around the wing generates lift.* ○ *Carbon monoxide is generated by car engines.* ○ *The nuclear reaction generates a huge amount of heat.*

3. COMPUT to use software or a device to produce codes or a program automatically ○ *to generate an image from digitally recorded data* ○ *The graphics tablet generates a pair of coordinates each time the pen is moved.*

generated address *noun* COMPUT the location used by a program that has been produced by instructions within the program

generating plant *noun* INDUST a factory which produces something such as electricity or a chemical substance

generation *noun* **1.** a group of individuals who are born and live at about the same time ○ *the younger generation* **2.** the act or process of making or creating something ○ *the generation of electricity* ○ *the generation of ideas* **3.** COMPUT the production of data, software or programs using a computer ○ *The computer is used in the generation of graphic images.* ○ *Code generation is automatic.* **4.** COMPUT a state or age of the technology used in the design of a system. See Comment at **computer generation**

5. COMPUT the distance between a file and the original version, used when making backups ○ *The father file is a first generation backup.* **6.** GENETICS a group of individual organisms derived from the same parents

generation loss *noun* PHYS a degradation of signal quality with each successive recording of a video or audio signal

generation time *noun* BIOL the time taken for cells to divide and double to form a pair of daughter cells

generator *noun* **1.** ELEC, INDUST a device that generates electricity ○ *The centre has its own independent generator, in case of mains power failure.* **2.** COMPUT a device that generates new programs according to rules or specifications set out by the user

generator lock *noun* COMPUT a device that synchronises the timing signals of two video signals from different sources so that they can be successfully combined or mixed. Also called **genlock** (NOTE: It is often used to synchronise the output of a computer's display adapter with an exter-

nal video source when using the computer to create overlays or titling.)

gene replacement therapy *noun* BIOTECH the treatment of a disease caused by a genetic defect by manipulating the faulty gene outside the body and replacing the repaired gene into the individual. Also called **gene therapy**

generic *adjective* **1.** relating to or suitable for a broad range of things or situations **2.** COMPUT compatible with a whole family of hardware or software devices from one manufacturer **3.** BIOL referring to a genus **4.** PHARM referring to a drug that does not have a proprietary name used by a manufacturer

COMMENT: Organisms are usually identified by using their generic and specific names, e.g. *Homo sapiens* (human) and *Felis catus* (domestic cat). The generic name is written or printed with a capital letter. Both names are usually given in italics or are underlined if written or typed.

generic name *noun* the scientific name of a genus. Compare **specific name** (NOTE: It is the first name in the binomial classification system, the second being the name which identifies the species. It is written with a capital letter.)

gene sequence *noun* GENETICS a set of nucleotides in a section of DNA with a specific function

gene sequencing *noun* GENETICS the process of determining the set of nucleotides in DNA that make up a specific gene. Also called **genetic sequencing**

gene splicing *noun* BIOTECH a technique in which segments of DNA or RNA, often from different organisms, are combined, in order to be introduced into an organism

genet *noun* **1.** BIOL an individual organism which is genetically different from others **2.** EARTH SCI a clone from a genetically distinct organism

gene therapy *noun* GENETICS same as **gene replacement therapy**

genetic *adjective* GENETICS referring to genes or genetics

genetically modified *adjective* BIOTECH referring to an organism that has received genetic material from another in a laboratory procedure, leading to a permanent change in one or more of its characteristics. Abbr **GM**

genetically modified organism *noun* BIOTECH a plant or animal produced

by the technique of genetic modification. Abbr **GMO**

genetic bottleneck *noun* GENETICS a change in gene frequencies and decline in total genetic variation where there is a sharp decrease in population numbers

genetic code *noun* GENETICS the information carried by an organism's DNA which determines the synthesis of proteins by cells and which is passed on when the cell divides

genetic damage *noun* GENETICS damage to an organism's genes by external agents such as radiation or chemicals

genetic diversity *noun* GENETICS, ECOL the richness of the variety and range of genes

genetic drift *noun* GENETICS a random change in gene frequency

genetic engineering *noun* BIOTECH same as **genetic modification**. Abbr **GE**

genetic fingerprint *noun* GENETICS the pattern of sequences of genetic material unique to an individual

genetic fingerprinting *noun* BIOTECH a method of revealing an individual's genetic fingerprint, used in paternity queries and criminal investigation

genetic improvement *noun* the improvement of an animal or plant by breeding

genetic information *noun* GENETICS same as **genetic code**

geneticist *noun* GENETICS a person who specialises in the study of genetics

genetic load *noun* GENETICS the average number of unfavourable recessive genetic mutations per individual in a population

genetic manipulation *noun* BIOTECH same as **genetic modification**

genetic map *noun* GENETICS a diagram of the arrangement of genes on a specific chromosome

genetic mapping *noun* GENETICS the identification of the arrangement of genes on a specific chromosome

genetic marker *noun* GENETICS a known, usually dominant, gene that is used in the identification of genes, chromosomes and characteristics already known to be associated with that gene

genetic material *noun* the parts of a cell that carry information that can be

inherited, e.g. DNA, genes or chromosomes

genetic modification *noun* BIOTECH the alteration and recombination of genetic material under laboratory conditions, resulting in transgenic organisms. Abbr GM

genetic profiling *noun* BIOTECH same as DNA fingerprinting

genetic resources *plural noun* GENETICS the genes found in plants and animals that have value to humans ○ *Modern plant varieties have been developed from genetic resources from South America.*

genetics *noun* BIOL the study of the way in which the characteristics of an organism are inherited

genetic screening *noun* GENETICS the testing of people to see if they have a specific genetic disorder

genetic sequencing *noun* GENETICS same as gene sequencing

genetic variation *noun* GENETICS the inherited differences between the members of a species

gene tracking *noun* GENETICS the method used to trace the inheritance of a particular gene through a family in order to diagnose and predict genetic disorders

gene transfer *noun* BIOTECH the insertion of genetic material from one organism into another in a laboratory procedure

-genic *suffix* produced by or producing

genistein *noun* BIOCHEM an isoflavone found in soya products that is a possible natural cancer preventive. Formula: $C_{15}H_{10}O_5$.

genlock *noun* COMPUT same as generator lock

genome *noun* 1. GENETICS the set of all the genes in an individual 2. GENETICS the set of genes which are inherited from one parent 3. BIOL all the genes in a species

genomic *adjective* GENETICS relating to a genome

genomic imprinting *noun* GENETICS the transfer of the complete set of genes from a parent to an offspring's chromosomes

genomics *noun* GENETICS the identification and study of sections of DNA with a specific function

genotoxicity *noun* GENETICS the degree to which a physical or chemical agent damages DNA or causes mutation

genotoxin *noun* GENETICS a substance that can cause damage to or mutation in DNA

genotype *noun* GENETICS 1. the genetic constitution of an organism. ○ **phenotype** 2. an individual organism

genotypic *adjective* relating to a genotype

genuine *adjective* real or correct ○ *Authentication allows the system to recognise that a sender's message is genuine.*

genus *noun* BIOL a group of closely related species (NOTE: The plural is **genera**.)

geo- *prefix* EARTH SCI Earth

geocentric *adjective* ASTRON referring to the solar system when it is regarded as having Earth as its centre

geochemical *adjective* CHEM relating to geochemistry

geochemist *noun* CHEM a scientist who specialises in the study of geochemistry

geochemistry *noun* CHEM the scientific study of the chemical composition of the Earth

geocline *noun* ECOL the set of changes that take place in a species across different geographical environments

geodesic *adjective* 1. EARTH SCI same as geodetic 2. MATHS referring to the geometry of curved surfaces

geodesic dome *noun* MATHS a dome composed of many flat faces intersected by bars to form equilateral triangles or polygons

geodesy *noun* EARTH SCI the science of the measurement of the Earth or of very large sections of it to determine the exact location of points on the Earth's surface through precise observation of distances and angles

geodetic, geodesic *adjective* EARTH SCI referring to geodesy

geographer *noun* EARTH SCI a person who specialises in the study of geography

geographic, geographical *adjective* EARTH SCI referring to geography

geographical barrier *noun* GEOG a natural feature such as a mountain range or a wide river that prevents easy movement from one area to another and separates different habitats

geographical pole *noun* EARTH SCI one of two points, the North and South Poles, where longitudinal lines meet and

which are the most northerly or southerly points on Earth

geographic information system

noun COMPUT a computer system for capturing, manipulating, analysing and displaying all forms of geographic information. Abbr **GIS**

geography *noun* EARTH SCI the scientific study of the Earth's surface, climate and physical features

geological *adjective* EARTH SCI referring to geology

geological aeon *noun* GEOL a unit of geological time, lasting millions of years and containing several eras, during which Earth's surface and its underlying strata underwent particular changes

geological epoch *noun* GEOL a unit of geological time, a subdivision of a geological period

geological era *noun* EARTH SCI a unit of geological time containing several geological periods

geological period *noun* GEOL a unit of geological time, shorter than an era and longer than an epoch

geologist *noun* EARTH SCI a scientist who specialises in the study of geology

geology *noun* EARTH SCI the scientific study of the composition of the Earth's surface and its underlying strata

geomagnetic *adjective* EARTH SCI referring to the Earth's magnetic field

geomagnetic pole *noun* EARTH SCI same as **magnetic pole**

geomagnetism *noun* EARTH SCI the study of the Earth's magnetic field

geometric, geometrical *adjective* MATHS referring to geometry ○ *A triangle is a geometric figure.*

geometric progression *noun* MATHS a series of numbers in which each number is separated by the same numerical step

geometry *noun* MATHS **1.** the study of the properties, measurement, and relationships of points, lines, angles, surfaces and solids ○ *An understanding of geometry is essential to the student of navigation.* **2.** a configuration or arrangement ○ *the geometry of the engine nacelle*

geometry processing *noun* COMPUT a process required to calculate the x, y and z coordinates of a three-dimensional object that is to be displayed on screen ○ *Geome-*

try processing is usually carried out by the central processing unit or by a specialised graphics processor.

geomorphology *noun* EARTH SCI the study of the physical features of the Earth's surface, their development and how they are related to the core beneath

geophone *noun* EARTH SCI a sensitive device which records sounds of seismic movements below the Earth's surface

geophysicist *noun* EARTH SCI a scientist who specialises in the study of geophysics

geophysics *noun* EARTH SCI the scientific study of the physical properties of the Earth

geophyte *noun* BOT a perennial herbaceous plant that lives through the winter as an underground structure such as a bulb or corm

geoscience *noun* EARTH SCI a science concerned with the physical aspects of the Earth, e.g. geochemistry, geodesy, geography, geology, geomorphology, geophysics or meteorology

geoscientist *noun* EARTH SCI a person who specialises in one or several of the geosciences

geosphere *noun* EARTH SCI the central part of the Earth, which contains no living organisms

geostationary *adjective* AEROSP referring to an object in Earth's orbit such as a satellite which travels at the same speed as Earth and is therefore stationary with reference to a point on Earth

geostrophic wind *noun* METEOROL a wind which blows horizontally along the isobars, across the surface of the Earth

geosyncline *noun* EARTH SCI a long fold in the Earth's crust, forming a basin filled with a sediment of volcanic rocks

geothermal *adjective* EARTH SCI referring to heat from the interior of the Earth

geothermal deposit *noun* EARTH SCI the heat-producing matter inside the Earth

geothermal energy *noun* INDUST the energy or electricity generated from the heat inside the Earth, e.g. in hot springs

COMMENT: Apart from channelling water from hot springs, geothermal energy can also be created by pumping cold water into deep holes in the ground at points where hot rocks lie close to the surface. The water is heated and becomes steam which returns to the surface and is used for domestic heating.

geothermal field *noun* GEOG an area of the Earth where there is heat beneath the surface, e.g. near hot springs or a volcano

geothermal gradient *noun* GEOL an increase in temperature with the increase of depth inside the Earth

geothermal installation *noun* INDUST an establishment or equipment that extracts hot water and steam from inside the Earth to heat buildings or generate electricity

geothermally *adverb* INDUST from geothermal sources ○ *Geothermally heated water can be used for domestic heating.*

geothermal power *noun* INDUST same as **geothermal energy**

geothermal power plant *noun* INDUST a power station generating electricity from the heat inside the Earth such as that (heat) in hot springs

geotropism *noun* BOT the growth or movement of a plant in response to gravity (NOTE: Stems and other parts that grow upwards against gravity show negative geotropism. The downwards growth of roots is positive geotropism.)

germ *noun* 1. MICROBIOL a microorganism that causes a disease, e.g. a virus or bacterium (*informal*) 2. BIOL a part of an organism that develops into a new organism

germanium *noun* CHEM ELEM a brittle grey crystalline element with both metallic and non-metallic properties used in semiconductors and alloys (NOTE: The chemical symbol is **Ge**; the atomic number is **32** and the atomic weight is **72.59**.)

germ carrier *noun* MED a person who carries bacteria of a disease in his or her body and who can transmit the disease to others without showing any signs of it himself (*informal*)

germ cell *noun* BIOL a cell which is capable of developing into a spermatozoon or ovum

germ-free *noun* MICROBIOL sterile, without any microbes present

germicide *adjective, noun* PHARM a substance that can kill germs

germinate *verb* BOT (*of a seed or spore*) to start to grow

germination *noun* 1. BOT the process of a seed or spore developing into a plant 2. the beginning of the growth of a seed, resulting from moisture and a high enough temperature

germ layer *noun* ZOOL one of the layers of cell which form the organs of an animal embryo

germplasm *noun* GENETICS the genetic material that is transmitted from one generation of an organism to another

germ warfare *noun* MIL a strategy of war where one side tries to kill or affect the people of the enemy side by infecting them with microorganisms that cause disease

gestation *noun* BIOL the process of carrying offspring in the womb during pregnancy

gestation period, gestation *noun* BIOL the period from conception to birth, when a female mammal has live young in her womb (NOTE: In humans, it is referred to as pregnancy.)

geyser *noun* EARTH SCI a natural feature occurring when hot water and steam rise out of a hole in the ground at regular intervals

COMMENT: A geyser such as Old Faithful in Yellowstone National Park in the USA is caused when water deep below the Earth's surface is heated to steam and rises rapidly up the pipe leading to the surface, pushing the water already in the channel up with it.

geyser field *noun* EARTH SCI an area of land where there are geysers

GH *abbreviation* growth hormone

COMMENT: AN p.427

GHG *abbreviation* greenhouse gas

ghost cursor *noun* COMPUT a second cursor which can be used in some programs

GHz *abbreviation* MEASURE gigahertz

giant star, giant *noun* ASTRON a low-density star with a diameter that is up to 100 times greater than that of the Sun

gibberellin *noun* BIOCHEM a plant hormone that stimulates growth and seed germination

Gibbs free energy *noun* PHYS same as **free energy**

giga- *prefix* MEASURE one thousand million, or 10^9 . Symbol **G**

gigabyte *noun* COMPUT a unit of 2^{30} bytes

gigaflop *noun* COMPUT a unit of one thousand million floating point operations per second

gigahertz *noun* MEASURE a frequency of one thousand million cycles per second. Abbr **GHz**

gigawatt *noun* ELEC a unit of one thousand million watts ○ *Air-conditioning accounts for one-third of the 500 gigawatt peak demand in the USA.* Abbr **GW**

gigawatt-hour *noun* ELEC a unit of one thousand million watts of electricity used for one hour. Abbr **GWh**

GIGO *abbreviation* COMPUT garbage in garbage out

COMMENT: GIGO is sometimes taken to mean 'garbage in gospel out': i.e. that whatever wrong information is put into a computer, people will always believe that the output results are true.

gilbert *noun* MEASURE the cgs unit of magnetomotive force, approximately equal to 0.7958 ampere-turns

gill *noun* ZOOL one of the gills of a fish or other animals living in water, occurring in pairs

gills *plural noun* **1.** ZOOL the breathing apparatus of fish and other animals living in water, consisting of a series of layers of tissue which extract oxygen from water as it passes over them **2.** FUNGI a series of thin structures on the underside of the cap of a fungus, carrying the spores

GIS *abbreviation* EARTH SCI geographic information system

GISA *noun* MED a strain of a common infection-causing bacterium that shows resistance to treatment by some of the commonly used glycopeptide antibiotics

given *adjective* specified or fixed ○ *At high altitudes, less fuel is consumed for a given airspeed than for the same airspeed at a lower altitude.* ■ *preposition* taking into account, considering □ **given that** taking into account the fact that, considering that ○ *Given the condition of the engine, it is surprising that it starts.*

gizzard *noun* ZOOL a thick-walled muscular part of the gut of many birds where food is mechanically crushed. Also called **proventriculus** (NOTE: A gizzard is also present in some insects, fish and crustaceans.)

glabrous *adjective* BOT smooth and without hairs

glacial *adjective* EARTH SCI referring to a glacier ○ *The rocks are marked by glacial action.*

glacial climatologist *noun* METEOROL a scientist who studies climate as recorded in the ice of glaciers

glacial deposits *plural noun* EARTH SCI the material such as sand, soil or gravel left behind by a glacier

glacial drift *noun* EARTH SCI the material left behind by a glacier, e.g. sand, soil or gravel

glacial stratigraphy *noun* METEOROL the science of studying layers of polar ice to discover information about climatic conditions when the ice was formed thousands of years ago

glacial striation *noun* EARTH SCI the marking made on rocks by a moving glacier

glaciation *noun* **1.** EARTH SCI the formation of glaciers **2.** METEOROL the formation of ice crystals at the top of a rain cloud

glacier *noun* EARTH SCI **1.** a mass of ice moving slowly across land, like a frozen river **2.** a large amount of stationary ice covering land in the Arctic regions

COMMENT: During the Ice Ages, glaciers covered large parts of the northern hemisphere, depositing sand in the form of glacial moraines and boulder clay. Glaciers are still found in the highest mountain areas and in the Arctic and Antarctic regions.

glaciologist *noun* EARTH SCI a scientist who specialises in the study of glaciers

glaciology *noun* EARTH SCI the study of glaciers

gland *noun* ANAT (*in animals and plants*) a cell or group of cells that secrete a specific substance

glandular *adjective* BIOL referring to glands

glare *noun* a strong blinding light ○ *Glare can be caused by diffuse reflection of sunlight from the top of a layer of fog.*

glare filter *noun* a coated glass or plastic sheet placed in front of a screen to cut out bright light reflections

Glasgow coma scale *noun* MED a system for assessing the severity of brain impairment in somebody with a brain injury that uses the sum of scores given for eye-opening, verbal, and motor responses. A high score of 15 indicates no impairment and a score of 8 or less indicates severe impairment.

glass *noun* **1.** CHEM any solid with a non-crystalline structure **2.** INDUST a substance made from sand and soda or lime, usually transparent and used for making windows, bottles and other objects

glass electrode *noun* CHEM an electrode made of very thin glass, often used to measure pH value

glass fibre, glass filament *noun* CHEM a very thin fibre drawn from melted glass which may be made into threads or fabric

glasshouse *noun* AGRIC a large structure made of glass inside which plants are grown, especially commercially or for scientific purposes

Glauber's salt *noun* CHEM a white soluble crystalline sodium sulphate, used in solar energy systems, and in dye, glass, and paper manufacture

glaucoma *noun* OPHTHALMOL a condition of the eyes, caused by an unusually high pressure of fluid inside the eyeball, resulting in disturbances of vision and blindness

glauconite *noun* MINERALS a green mineral composed of iron, potassium, aluminium and magnesium

glaucous *adjective* BOT blue-green, or with a waxy blue-green covering

glen *noun* GEOG (*in Scotland*) a long narrow mountain valley with a stream running along it

gley *noun* GEOG a thick rich soil found in waterlogged ground

gleyed soil *noun* GEOG soil which is waterlogged

gleying *noun* GEOG a set of properties of soil which indicate poor drainage and lack of oxygen (NOTE: The signs are a blue-grey colour, rusty patches and standing surface water.)

glitch *noun* COMPUT anything which causes the sudden unexpected failure of a computer or equipment (*informal*)

global *adjective* **1.** referring to the whole Earth ○ *the global economy* ○ *Global temperatures will rise over the next fifty years.* **2.** covering everything

global backup *noun* COMPUT **1.** a backup of all data stored on all nodes or workstations connected to a network **2.** a backup of all files on a hard disk or file server

global distillation *noun* the movement of persistent organic pollutants from warm tropical and subtropical regions to cooler higher latitudes via evaporation and condensation

global ecology *noun* ECOL the study of the relationship of organisms to each other

and to their environment throughout the world

Global Environment Facility *noun* an organisation set up in 1991 to tackle environmental problems that go beyond country boundaries. It is funded by the World Bank.

global exchange *noun* COMPUT a replace function which replaces one piece of text such as a word with another throughout a whole text

globalisation *noun* the development of a similar culture and economy across the whole world as a result of technological advances in communications

global knowledge *noun* COMPUT all the knowledge about one problem or task

global positioning system *noun* NAVIG an extremely accurate method of locating a position using satellite signals. Abbr **GPS**

global search and replace *noun* COMPUT a word-processor search and replace function covering a complete file or document

global solar radiation *noun* PHYS the rays emitted by the Sun which fall on the Earth. Abbr **GSR**

global stability *noun* ECOL the ability of an ecological or taxonomic unit to be unaffected by large disturbances

global system for mobile communications *noun* TELECOM full form of **GSM**

global temperature *noun* METEOROL the temperature over the Earth as a whole

global variable *noun* COMPUT a number that can be accessed by any routine or structure in a program

global warming *noun* ENVIRON a gradual rise in temperature over the whole of the Earth's surface, caused by the greenhouse effect

global warming potential *noun* ENVIRON a concept that takes into account the differing times that gases remain in the atmosphere, in order to find out the potential climate effects of equal emissions of each of the greenhouse gases. Abbr **GWP**

globe *noun* **1.** a spherical object **2.** the Earth

globular cluster *noun* ASTRON a cluster of densely packed stars, approximately spherical in shape, located within a spherical halo around the Milky Way galaxy

globule *noun* a round drop of liquid

globulin *noun* BIOCHEM a globular protein, various types of which are found in blood

glomerulus *noun* ANAT a cluster of capillaries found in the nephron of the kidney, which filters wastes from the blood to be excreted as urine

gloom *noun* 1. low light intensity 2. METEOROL dark and miserable weather

glossopharyngeal nerve *noun* ANAT the ninth cranial nerve which controls the pharynx, the salivary glands and part of the tongue

glottis *noun* ANAT 1. the opening of the upper portion of the larynx between the vocal cords (NOTE: The plural is **glottises** or **glottides**.) 2. the portion of the larynx that produces voice

glove box *noun* CHEM, BIOL a sealed container with gloved openings on its sides that is used for handling radioactive or toxic substances safely without contamination

glowworm *noun* INSECTS a beetle of which the females and larvae produce a greenish light

glucagon *noun* BIOCHEM a hormone produced by islet cells in the pancreas that stimulates the breakdown of glycogen to glucose and so raises blood sugar

glucosamine *noun* BIOCHEM a glucose derivative found in supportive tissues and plant cell walls

glucose *noun* BIOCHEM a simple sugar found in some fruit, but also broken down from white sugar or carbohydrate and absorbed into the body or secreted by the kidneys

COMMENT: Combustion of glucose with oxygen to form carbon dioxide and water is the body's main source of energy.

glucose tolerance test *noun* MED a test for diabetes mellitus in which the patient eats glucose and has urine and blood tests at regular intervals

glume *noun* BOT one of a pair of dry leaves (**bracts**) that occur at the base of a spikelet in grasses and cereals or at the base of an inflorescence in reeds

gluon *noun* PHYS a theoretical elementary particle that has no mass (NOTE: Gluons may be involved in binding quarks together.)

glutamic acid, glutamine *noun* BIOCHEM an amino acid in protein

gluten *noun* BIOCHEM a protein found in some cereals which makes a sticky paste when water is added (NOTE: The gluten content of flour affects the quality of the bread made from it.)

gluten enteropathy *noun* 1. MED an allergic disease, mainly affecting children in which the lining of the intestine is sensitive to gluten, preventing the small intestine from digesting fat 2. BIOL a condition in adults where the villi in the intestine become smaller, and so reduce the surface which can absorb nutrients ► also called **coeliac disease**

gluten-free diet *noun* MED a diet consisting only of food containing no gluten

glyceride *noun* CHEM an ester that is formed by the reaction of glycerol with an acid (NOTE: It occurs widely in animal and vegetable fats and oils.)

glycerin, glycerine, glycerol *noun* BIOCHEM a colourless viscous sweet-tasting liquid present in combination with fats and oils

COMMENT: Synthetic glycerin is used in various medicinal preparations and also as a lubricant in toothpaste and cough medicines. A mixture of glycerin and honey is useful to soothe a sore throat.

glycine *noun* BIOCHEM an amino acid in protein

glycogen *noun* BIOCHEM a type of starch that is converted from glucose by the action of insulin and stored in the liver as a source of energy

glycol *noun* CHEM same as **diol**

glycolipid *noun* BIOCHEM a sugar-containing lipid found in cell membranes

glycolysis *noun* BIOCHEM the process by which living cells break down glucose to pyruvate in order to release usable energy

glycopeptide *noun* BIOCHEM a peptide that contains carbohydrate

glycopeptide intermediate Staphylococcus aureus *noun* MED, MICROBIOL full form of **GISA**

glycoprotein *noun* BIOCHEM a protein that is linked to a carbohydrate

GM *abbreviation* BIOTECH 1. genetically modified 2. genetic modification

GMO *abbreviation* BIOTECH genetically modified organism

GMT *abbreviation* TIME Greenwich Mean Time

gnathostome *noun* ZOOLOG a vertebrate with a mouth that has jaws. Superclass:

Gnathostomata. (NOTE: The classification includes all vertebrates except agnathans.)

GND *abbreviation* ELEC ground

gneiss *noun* EARTH SCI a rough rock with layers of different minerals

gnatobiotics *noun* BIOL the study of organisms living either in a germ-free environment or a controlled environment into which a known contaminant has been introduced

goal *noun* **1.** an aim or something you are trying to do **2.** a final state reached when a task has been finished or has produced satisfactory results

gob *noun* INDUST waste matter from coal processing plants which use bituminous coal

goblet cell *noun* BIOL a tube-shaped cell in the epithelium which secretes mucus

gold *noun* CHEM ELEM a heavy yellow metal that is relatively rare. It is used to make jewellery and precious objects. (NOTE: The chemical symbol is **Au**; the atomic number is **79** and the atomic weight is **196.97**.)

gold contact *noun* ELEC an electrical contact, usually for low-level signals, that is coated with gold to reduce the electrical resistance

gold mine *noun* MIN EXTRACT a hole dug in the ground to extract gold

Golgi apparatus *noun* BIOL a stack of flattened sacs in the cytoplasm of cells in which proteins are sorted and packaged, especially for secretion

gonad *noun* ANAT an organ in animals that produces reproductive cells or gametes, e.g. a testis or an ovary

gonadotrophic-releasing hormone *noun* BIOCHEM a hormone released by the hypothalamus that causes the secretion of luteinising hormone and follicle-stimulating hormone by the pituitary gland

Gondwanaland *noun* EARTH SCI an ancient landmass that included South America, Africa, India, Australia and Antarctica

Gopher *noun* COMPUT a system that allows a user to find information and files stored on the Internet using a series of commands

gorge *noun* EARTH SCI a narrow valley with steep sides

GOSUB *noun* COMPUT a programming command which executes a routine then returns to the following instruction

GOTO *noun* COMPUT a programming command which instructs a jump to another point or routine in the program ○ *GOTO 105 instructs a jump to line 105.*

COMMENT: GOTO statements are frowned upon by software experts since their use discourages set structured programming techniques.

Gouraud shading *noun* MATHS a mathematical equation that is used to create shading within a three-dimensional scene (NOTE: The equation is applied to each side of each object and produces a gradual change in colour to give the impression of light and shade.)

govern *verb* ENG to control or limit the speed, size or amount of something ○ *The type of undercarriage fitted to an aircraft is governed by the operating weight.*

governor *noun* ENG a device for controlling or limiting the speed, size or amount of something ○ *Excessive speeding of the engine is prevented by a governor in the fuel system.*

GPIA *abbreviation* COMPUT general purpose interface adapter

GPIB *abbreviation* COMPUT general purpose interface bus

GPR *noun* COMPUT a data register in a computer-processing unit that can store items of data for many different mathematical or logical operations. Full form **general purpose register**

GPRS *noun* TELECOM a standard system for wireless radio and mobile telephone communications that is due to replace the existing GSM system. Full form **general packet radio service** (NOTE: GPRS supports high-speed data transfer rates of up to 150Kbps compared to the GSM limit of 9.6Kbps.)

GPS *abbreviation* NAVIG global positioning system

gr *abbreviation* MEASURE grain

Graafian follicle *noun* ANAT a fluid-filled sac or vesicle that surrounds and protects a maturing ovum in the ovary of a mammal

graben *noun* EARTH SCI a type of rift valley, formed where land between fault lines has sunk

grab sample *noun* EARTH SCI a single sample of soil or water taken without considering factors such as time or flow

graceful degradation *noun* COMPUT the process of allowing some parts of a system to continue to function after a part has broken down

grade *noun* a position on a scale of size, quality, amount or academic achievement

gradient *noun* **1.** PHYS the rate at which a physical quantity such as temperature or pressure changes relative to change in a given variable, especially distance *o* *Because there is a temperature gradient across each front it is possible to draw isotherms which reduce in value from warm to cold air.* *o* *A pressure gradient occurs aloft from land to sea.* **2.** COMPUT a smooth change of colour from one colour to another or from black to white **3.** the angle of a slope *o* *Plant roots cannot retain the soil on very steep gradients.* **4.** MATHS the rate of increase or decrease of a measurement

gradual *adjective* progressing with continuous but unhurried certainty *o* *a gradual change* *o* *Loss of cabin pressure may be gradual rather than sudden.*

graduate *verb* **1.** to be granted an academic degree or diploma *o* *She graduated from Oxford University with a first class honours degree.* **2.** to advance to a new level of skill, achievement or activity *o* *After 50 hours of flying the single engine trainer, the student pilots graduate to flying the twin engine aircraft.* **3.** to divide into marked intervals, especially for use in measurement *o* *A thermometer has a scale that is graduated in degrees Celsius.*

graft BIOL *noun* a piece of plant or animal tissue transferred onto another plant or animal and growing there ■ *verb* to transfer a piece of tissue from one plant or animal to another

COMMENT: Many cultivated plants are grafted. The piece of tissue from the original plant (the scion) is placed on a cut made in the outer bark of the host plant (the stock) so that a bond takes place. The aim is usually to ensure that the hardy qualities of the stock are able to benefit the weaker cultivated scion.

Graham's law *noun* CHEM a chemical rule in which the diffusion rate of a gas is related to the inverse square root of its density

grain *noun* **1.** the seed, which is technically a fruit, of a cereal crop such as wheat

or maize **2.** AGRIC a cereal crop such as wheat of which the seeds are dried and eaten *o* *grain farmers* (NOTE: In this sense, **grain** does not have a plural.) **3.** GEOL the size of crystals in a rock or the size of particles of sand **4.** MEASURE a measure of weight equal to 0.0648 grams. Abbr **gr**

grain crop *noun* a cereal crop such as wheat of which the seeds are dried and eaten

grain storage *noun* AGRIC the practice or means of keeping grain until it is sold or used (NOTE: Most grain is stored on the farm until it is sold, and is kept in bins or in bulk on the floor of the granary. The system of storage depends on whether the grain is to be used for feeding animals on the farm or is to be sold.)

gram *noun* MEASURE a metric measure of weight equal to one thousandth of a kilogram. Abbr **g**

-gram *suffix* a record of information in the form of a picture

Gramineae *plural noun* BOT former name for **Poaceae**

grammar checker *noun* COMPUT a software utility used to check a document or letter to make sure it is grammatically correct

Gram-negative bacterium *noun* MICROBIOL a bacterium which takes up the red counterstain, after alcohol has washed out the first violet dye

Gram-positive bacterium *noun* MICROBIOL a bacterium which retains the first violet dye and appears blue-black when viewed under the microscope

Gram's stain, Gram's method *noun* BIOTECH a method of staining bacteria that allows two main types to be distinguished

COMMENT: The bacterial sample is first stained with a violet dye, treated with alcohol, and then counterstained with a red dye.

grandfather file *noun* COMPUT the third most recent version of a backed up file, after father and son files

Grand Unified Theory *noun* PHYS a mathematical representation linking the four fundamental forces, electromagnetic, gravitational, strong and weak, that has been theorised but not yet achieved

granite *noun* GEOL a hard grey rock with pieces of quartz, feldspar and other minerals in it

grant *noun* an amount of money given to support a specific person or project

granular *adjective* in the form of granules

granularity *noun* COMPUT the size of memory segments in a virtual memory system

granule *noun* **1.** CHEM a small particle *o granules of sand* **2.** EARTH SCI a small artificially made particle of a substance *o Fertilisers are produced in granule form, which is easier to handle and distribute than powder.*

grape sugar *noun* BIOCHEM a sugar that is obtained from grapes

graph *noun* MATHS a diagram that shows a relationship between two sets of numbers as a series of points often joined by a line *o The graph shows the relationship between lift and drag at various airspeeds.*

-graph *suffix* a machine which records by drawing

-grapher *suffix* **1.** a person skilled in a subject **2.** a technician who operates a machine which records information

graphic *adjective* **1.** in the form of pictures or diagrams *o a graphic representation of age group response* **2.** described in vivid detail *o The eyewitness provided a graphic description of the events leading to the accident.* **noun** COMPUT a picture used in a computer application *o The instructor's worksheets were greatly improved by several graphics which highlighted the subject matter.*

graphical *adjective* COMPUT referring to something represented by graphics

graphically *adverb* by using pictures *o The sales figures are graphically represented as a pie chart.*

graphical user interface *noun* COMPUT an interface between an operating system or program and the user that uses graphics or icons to represent functions or files. Abbr **GUI**

COMMENT: A graphical user interface normally uses a combination of windows, icons and a mouse to control the operating system. In many GUIs, for example Microsoft Windows and the Apple Macintosh System, you can control all the functions of the operating system just using the mouse. Icons represent programs and files; instead of entering the file name, you select it by moving a pointer with a mouse.

graphic data *noun* COMPUT stored data that represents graphical information when displayed on a screen

graphic display *noun* COMPUT a computer screen able to present graphical information

graphic display resolution *noun* COMPUT the number of pixels that a computer is able to display on the screen

graphic language *noun* COMPUT a computer programming language with commands that are useful when displaying graphics *o This graphic language can plot lines, circles and graphs with a single command.*

graphics *plural noun* COMPUT illustrations which represent information *o graphics such as bar charts, pie charts and line drawings*

graphics accelerator *noun* COMPUT a special card that fits inside a computer and uses a dedicated processor chip to speed up the action of drawing lines and images on the screen

graphics coprocessor *noun* COMPUT a high-speed display adapter that is dedicated to graphics operations such as line drawing and plotting. *o graphics processor*

graphics library *noun* COMPUT a number of routines stored in a library file that can be added to any user program to simplify the task of writing graphics programs

graphic solution *noun* MATHS a technique of using geometric constructions to solve problems *o One side of the calculator has a moveable slide which is used for the graphic solution of triangle of velocities problems.*

graphics primitive *noun* COMPUT a basic shape such as an arc, line or filled square that is used to create other shapes or objects

graphics processor *noun* COMPUT a secondary processor used to speed up the display of graphics. *o graphics coprocessor* (NOTE: It calculates the position of pixels that form a line or shape and displays graphic lines or shapes.)

graphite *noun* CHEM a mineral form of carbon occurring naturally as crystals or as a soft black deposit (NOTE: It is used as a moderator in some types of nuclear reactor and is mixed with clay to make lead pencils.)

graph plotter *noun* COMPUT a printing device with a pen which takes data from a computer and plots it in graphic form

-graphy *suffix* SCI the process of making an image

grass *noun* BOT a monocotyledonous plant in the Poaceae family. There are many genera. (NOTE: Grasses include cereals and are important as food for herbivores and humans.)

grassland *noun* EARTH SCI land covered mainly by grasses. ◊ **acid grassland**, **calcareous grassland** ■ *plural noun* **grasslands** wide areas of land covered mainly by grasses, e.g. the prairies of North America and the pampas of South America

COMMENT: Grasslands can be divided into the following types. **Rough mountain and hill grazing**: not of great value, the plants being mainly fescues, bents, nardus and molinia grasses. **Permanent pastures**: these are never ploughed, and the quality depends on the percentage of perennial ryegrass. **Leys**: these are temporary grasslands which are sown to grass for a limited period (usually one to five years). The year in which the seed mixture is sown is known as the 'seeding year'. At the end of the first year there is the first year harvest. Sowing the seeds mixture with a cover crop is known as 'undersowing'. 'Direct sowing' is sowing on bare ground without a cover crop. The main species used in grasslands are the following. **Grasses**: perennial ryegrass, cocksfoot, Timothy, Italian ryegrass and meadow fescue; **clovers**: red clover, white clover; **other legumes**: lucerne, sainfoin; **herbs**: yarrow, chicory, rib grass, burnet. Farmers depend on reliable seed firms to supply them with standard seed mixtures. Varieties and strains of herbage plants have different growth characteristics and the choice of mixtures will depend on the purposes of the ley.

graticule *noun* 1. OPTICS a series of fine lines in an optical instrument such as a telescope, used for measuring 2. NAVIG the network of lines formed by the meridians and parallels of longitude and latitude of the Earth on a flat sheet of paper ◊ *A graticule of lines of latitude and longitude is imagined to cover the Earth.*

gravel *noun* EARTH SCI sand and small pebbles occurring as deposits (NOTE: On the Wentworth-Udden scale, gravel has a diameter of 2–4 millimetres.)

gravel pit *noun* INDUST an area of land from which gravel is extracted

graveyard *noun* INDUST, ENVIRON a place where nuclear waste is buried, or where

unwanted machines or vehicles are left (*informal*)

gravitation *noun* ASTRON, PHYS the apparently universal attractive force between matter, increasing according to the two masses multiplied together and decreasing with the square of their distance apart, according to the law of gravitation set out by Isaac Newton (NOTE: The size of the force for any particular combination of distance and mass is given by the gravitational constant.)

gravitational *adjective* PHYS referring to gravity

gravitational constant *noun* PHYS the numerical factor that relates force, mass and distance in Newton's theory of gravitation (NOTE: It has the value $6.673 \times 10^{-11} \text{ N m}^2\text{kg}^{-2}$.)

gravitational field *noun* PHYS an area of space in which gravity is felt ◊ *Tides are caused by the Moon's gravitational pull.*

gravitational lens *noun* ASTRON a concentration of matter dense enough to refract light into an image

gravitational radiation *noun* ASTRON a form of energy whose existence is predicted by general relativity and which has been looked for using instruments such as large metal cylinders suspended in caverns below the Earth's surface (NOTE: Gravitational radiation would be observed, if at all, in the form of very long waves of fluctuating gravitational attraction (**gravity waves**).)

gravitational redshift *noun* PHYS, ASTRON the redshift of light or other electromagnetic radiation caused by its passing through a strong gravitational field, rather than being due to a Doppler effect

gravitino *noun* PHYS (*in unified field theory physics*) a proposed particle which carries gravitational energy, in the same way as neutrinos are the carriers of angular momentum

graviton *noun* PHYS a proposed subatomic particle which carries gravitational forces between massive particles, in the same way as photons carry electromagnetic energy

gravity *noun* a natural force of attraction which pulls bodies towards each other and which pulls objects on the Earth towards its centre ◊ *In order for a bird to fly, lift must overcome gravity.*

gravity feed *noun* AUTOMOT the use of the force of gravity to move fuel from the tank to the carburettor

gravity wave *noun* PHYS a long wave of fluctuating gravitational attraction

gray *noun* PHYS, MEASURE an SI unit of measurement of absorbed radiation equal to 100 rads. Symbol **Gy**

Gray code *noun* COMPUT a coding system in which the binary representation of decimal numbers changes by only one bit at a time from one number to the next

COMMENT: It is used in communications systems to provide error detection facilities.

graze *verb* ZOO (of animals) to feed on low-growing plants

grazer *noun* ZOO a grazing animal

grazing *noun* 1. AGRIC the action of animals feeding on growing grass, legumes or other plants ○ *Spine on plants may be a protection against grazing.* 2. the action of animals eating plankton or other very small animals 3. AGRIC an area of land covered with low-growing plants suitable for animals to feed on ○ *There is good grazing on the mountain pastures.*

grazing food chain *noun* ECOL a cycle in which vegetation is eaten by animals, digested, then passed into the soil as dung and so taken up again by plants which are eaten by animals

grazing season *noun* AGRIC the time of year when animals can feed outside on grass

great *adjective* large in size, quantity, number, quality or importance □ a **great deal of** a large amount of

great year *noun* ASTRON a period of about 25 800 years that is a complete cycle of the precession of the equinoxes

greeked *adjective* COMPUT (in a DTP program) referring to a font with a point size too small to display accurately, shown as a line rather than individual characters

green *adjective* 1. referring to a colour like that of grass ○ *The green colour in plants is provided by chlorophyll.* 2. BIOL immature ○ *green shoots* 3. ECOL, ENVIRON referring to an interest in ecological and environmental problems ○ *green policies* ■

noun 1. a colour like that of grass 2. *also* **Green** ECOL, ENVIRON a person with a concern for ecological and environmental problems

green accounting *noun* same as **full-cost accounting**

green algae *plural noun* BIOL green organisms that live in water. Division: *Chlorophyta.*

green area index *noun* the total area of leaves, green fruits and green stems per unit of ground area covered by a plant. Abbr **GAI**

green audit *noun* ENVIRON same as **environmental audit**

Green Belt *noun* ENVIRON an area of agricultural land, woodland or parkland which surrounds an urban area

green burial *noun* an act of burial designed to have low environmental impact, typically placing a corpse that has not been embalmed in a biodegradable coffin or bag and burying it in a grave marked with a sapling. ◇ **woodland burial**

green certificate *noun* an official record confirming that a specific percentage of electricity has been produced from renewable energy sources

green chemistry *noun* the development of chemical products that do not cause pollution or environmental and human health risks

Green Chemistry Network *noun* a Royal Society of Chemistry initiative designed to foster the development of environmentally benign chemical products that prevent pollution and reduce environmental and human health risks

green claim *noun* any text, symbols or graphics on food packaging which tell the consumer something about its environmental impact, e.g. whether the packaging is recycled or biodegradable

green consumerism *noun* ENVIRON a movement to encourage people to buy food and other products such as organic foods or lead-free petrol which are regarded as environmentally good

green electricity *noun* same as **green tariff electricity**

green energy *noun* INDUST power produced by alternative technology such as wind power or tidal power

greenhouse effect *noun* ENVIRON the effect produced by the accumulation of carbon dioxide crystals and water vapour in the upper atmosphere, which insulates the Earth and raises the atmospheric temperature by preventing heat loss

COMMENT: Carbon dioxide particles allow solar radiation to pass through and reach the Earth, but prevent heat from radiating

back into the atmosphere. This results in a rise in the Earth's atmospheric temperature, as if the atmosphere were a greenhouse protecting the Earth. Even a small rise of less than 1°C in the atmospheric temperature could have serious effects on the climate of the Earth as a whole. The polar ice caps would melt, causing sea levels to rise everywhere with consequent flooding. Temperate areas in Asia and America would experience hotter and drier conditions, causing crop failures. Carbon dioxide is largely formed from burning fossil fuels. Other gases contribute to the greenhouse effect, for instance methane is increasingly produced by rotting vegetation in swamps, from paddy fields, from termites' excreta and even from the stomachs of cows. Chlorofluorocarbons also help create the greenhouse effect.

greenhouse gas *noun* ENVIRON a gas that occurs naturally in the atmosphere or is produced by burning fossil fuels and rises into the atmosphere, forming a barrier which prevents heat loss ◦ *The government is planning to introduce a tax to inhibit greenhouse gas emissions.* Abbr **GHG**

COMMENT: The six greenhouse gases with a direct effect are carbon dioxide, methane, nitrous oxide (all of which occur naturally), hydrofluorocarbons and perfluorocarbons, and sulfur hexafluoride. Indirect greenhouses gases are nitrogen oxides, which produce ozone during their breakdown in the atmosphere, carbon monoxide and non-methane volatile compounds.

greening *noun* ENVIRON the process of becoming more aware, or of increasing others' awareness, of the environment and environmental issues

green manure *noun* AGRIC fast-growing green vegetation such as mustard or rape which is grown and ploughed into the soil to rot and act as manure

green mud *noun* EARTH SCI a deposit found on the seabed off the southeastern USA and elsewhere, containing fine clay and glauconite, the latter giving it its green colour

Greenpeace *noun* an international pressure group that takes action to publicise environmental issues

green petrol *noun* INDUST, ENVIRON a type of petrol containing fewer pollutants than ordinary petrol

green politics *noun* ENVIRON the kind of political proposals put forward by environmentalists

Green Revolution *noun* BIOTECH the development in the 1960s of new forms of widely grown cereal plants such as wheat

and rice, which gave high yields and increased food production especially in tropical countries

green tariff electricity *noun* INDUST electricity produced from renewable resources such as wind. Also called **green electricity**

greenwash *noun* a public relations initiative such as advertising or public consultation, that is designed to show the concern of a business or organisation for the environmental impact of its activities but which is often regarded as propaganda

Greenwich Mean Time *noun* GEOG local time on the 0° meridian. Abbr **GMT**

COMMENT: Greenwich Mean Time is now called Coordinated Universal Time or Universal Coordinated Time (UTC) and is also known as Zulu time. UTC is expressed in 24-hour format; for example, 7:00 p.m. is 1900 hours (say: nineteen hundred hours).

Greenwich meridian *noun* GEOG same as **prime meridian**

green wood *noun* BOT new shoots on a tree, which have not ripened fully

Gregorian telescope *noun* ASTRON an astronomical telescope in which the primary mirror has a central hole through which light reflected from the smaller secondary mirror passes to the eyepiece

gremlin *noun* COMPUT an unexplained fault in a system (*informal*)

grey hole *noun* ASTRON an object which might be formed by the collapse of a massive star too small to form a black hole but too large to form a neutron star

grey matter *noun* ANAT nerve tissue which is of a dark grey colour and forms part of the central nervous system

grey scale *noun* 1. PHOTOGRAPHY a set of shades of grey used to measure the correct exposure when filming 2. COMPUT the set of shades which are produced by displaying what should be colour information on a monochrome monitor

grey water, greywater *noun* the relatively clean waste water from sinks, baths, and kitchen appliances

grid *noun* 1. a pattern of equally spaced vertical and horizontal lines 2. PHYS a metal cylinder in a cathode ray tube 3. a pattern of equally spaced vertical and horizontal metal rods or bars

grid snap *noun* COMPUT a set of patterns or lines drawn on screen limited to the points of a grid ◦ *If you want to draw accu-*

rate lines, you'll find it easier with grid snap turned on.

Grignard reagent *noun* CHEM an alkyl magnesium halide dissolved in diethyl ether used in the preparation of organic compounds

grind *verb* **1.** INDUST to reduce a substance to fine particles by crushing **2.** to move or work noisily and with difficulty

grinder *noun* INDUST a device or machine which reduces a substance to fine particles by crushing

grinding *noun* INDUST the process of reducing of a substance to fine particles by crushing

grip *verb* to hold something tightly ○ *In friction feed, the paper is gripped by the rollers.*

grit *noun* **1.** EARTH SCI sharp-grained sand **2.** METEOROL a tiny solid particle in the air, larger than dust

groove *noun* a long shallow depression in a surface

gross *adjective* total, with no deductions

gross calorific value *noun* PHYS the total number of calories which a specific amount of a substance contains. Abbr **GCV**

gross output *noun* INDUST the total amount produced

gross primary production *noun* ECOL the rate at which a biomass assimilates organic matter

gross primary productivity *noun* ECOL the rate at which producers in an ecosystem capture and store chemical energy as biomass

gross productivity *noun* BOT the rate at which energy is produced by plants through photosynthesis, before the plant uses any of the energy itself

ground *noun* **1.** the solid surface of the Earth **2.** a surface layer of soil or earth ○ *stony ground* **3.** an area of land, especially one used for a particular purpose ○ *a stretch of open ground before you reach the trees*

ground clearance *noun* ENVIRON the removal of trees and undergrowth in preparation for an activity such as ploughing or building

ground cover *noun* BOT plants that grow densely close to the ground, either in natural conditions or planted to prevent soil erosion or the spread of weeds

ground frost *noun* METEOROL the condition where the air temperature at ground level is below 0°C

ground level *noun* GEOG the height of the ground

ground-level concentration *noun* ENVIRON the amount of a pollutant measured at the height of the ground, just above it or just below it

ground moraine *noun* GEOL a deposit of gravel and sand left under a glacier

ground pollution *noun* ENVIRON the presence of unusually high concentrations of harmful substances in the soil

ground speed *noun* AVIAT the speed of an aircraft in relation to the ground

ground state *noun* PHYS the state in which a particle, atom, molecule or system has the lowest energy

ground water *noun* GEOL water that stays in the top layers of soil or in porous rocks and can collect pollution. Compare **surface water**

ground-water basin *noun* GEOL an area of land where water stays in the top layers of soil or in porous rocks and can collect pollution

ground-water level *noun* GEOL a point below the surface of the Earth where ground water lies

ground-water runoff *noun* GEOL water which enters streams and rivers from below ground

group *noun* **1.** a number of individual items or people brought together **2.** COMPUT a set of computer records containing related information **3.** CHEM a vertical column in the periodic table that contains elements with similar properties ■ *verb* to bring several things together

groupware *noun* COMPUT software specially written to be used by a group of people connected to a network and to help them carry out a particular task (NOTE: It provides useful functions such as a diary or electronic mail that can be accessed by all users.)

grove *noun* BOT a small group of trees

grow *verb* **1.** BIOL (*of plants*) to exist and develop well ○ *Bananas grow only in warm humid conditions.* **2.** BIOL (*of plants and animals*) to increase in size ○ *The tree grows slowly.* ○ *A sunflower can grow 3 cm in one day.* **3.** AGRIC to cultivate plants ○ *Farmers here grow two crops in a year.* ○ *He grows peas for the local canning fac-*

tory. **4.** to become ○ *It's growing colder at night now.* ○ *She grew weak with hunger.*

growing point *noun* BOT a point on the stem of a plant where growth occurs, often at the tip of the stem or branch

growing season *noun* BOT the time of year when a plant grows ○ *Alpine plants have a short growing season.*

growth *noun* **1.** an increase in size ○ *the growth in the population since 1960* ○ *The disease stunts the conifers' growth.* **2.** the amount by which something increases in size ○ *The rings show the annual growth of the tree.*

growth factor *noun* BIOCHEM a chemical substance which encourages the growth of a type of cell

growth hormone *noun* BIOCHEM a natural or artificial chemical that makes an animal grow more quickly. Abbr **GH**

growth inhibitor *noun* BIOCHEM a chemical which stops an organism growing

growth promoter *noun* BIOCHEM a chemical which makes an organism grow

growth rate *noun* the amount or speed of increase in size

growth regulator *noun* AGRIC a chemical used to control the growth of plants, mainly used for weed control in cereals and grassland

growth retardant *noun* BIOCHEM a chemical used to make an organism grow more slowly

growth ring *noun* BOT same as **annual ring**

growth stimulant *noun* BIOCHEM a chemical which makes an organism start to grow

growth substance *noun* BIOCHEM same as **hormone**

grub *noun* INSECTS a small caterpillar or larva

grub up *verb* AGRIC to dig up a plant with its roots ○ *Miles of hedgerows have been grubbed up to make larger fields.*

GSM *noun* COMPUT a system used for wireless cellular telephone communications throughout Europe, Asia and parts of North America. Full form **global system for mobile communications**

COMMENT: The GSM system allows eight calls to share the same radio frequency and carries the digital data that represents voice signals transmitted by each user's telephone. The main drawback of GSM is that it does not offer very fast data transfer

rates, which has become more important as users want to access the Internet and read email via a mobile telephone connection. GSM provides data transfer at up to 9.6 Kbps, but it is due to be replaced by the GPRS system, which can support high-speed data transfer at up to 150 Kbps.

GSR *abbreviation* ASTRON global solar radiation

guanidine *noun* CHEM an alkaline substance found in urine produced by protein metabolism and also in plant tissues. Formula: CH_5N_3 . (NOTE: It is used in the plastics and resins manufacture.)

guanine *noun* BIOCHEM one of the four basic components of DNA

guano *noun* AGRIC a mass of accumulated bird droppings, found especially on small islands and used as organic fertiliser

guard *noun* a device to prevent injury or damage ■ *verb* to watch over and protect something or someone from harm

guard band *noun* COMPUT a section of magnetic tape between two channels recorded on the same tape

guard bit *noun* COMPUT one bit within a stored word that indicates to the computer whether it can be altered or if it is protected

guard cell *noun* BOT either of a pair of cells that border a leaf pore and control its size (NOTE: The guard cells and pore are called a stoma, and are most common on the underside of leaves.)

guerrilla *noun* a plant species that invades a community as isolated individuals. Compare **phalanx**

GUI *abbreviation* COMPUT graphical user interface

guidance *noun* **1.** helpful advice ○ *Guidance is provided to assist people in filling in the form.* ○ *The booklet contains guidance on the safe handling of chemicals.* **2.** AVIAT the giving of flying directions to an aircraft ○ *Systems which are designed to carry out automatic landings under all visibility conditions must provide better guidance and control than a pilot.*

guidance system *noun* AEROSP a system which provides signals to the flight control system for steering an aircraft

guide *noun* something that directs or indicates ■ *verb* to direct something or someone

guide bar *noun* COMPUT a line in a bar code that shows the start or finish of the code (NOTE: The standard guide bars are

two thin lines that are a little longer than the coding lines.)

guideline *noun* a piece of advice that suggests the best way for something to be done ○ *guidelines for the conduct of experiments*

guild *noun* ECOL a group of plants or animals of different species which live in the same type of environment

gulf *noun* EARTH SCI a very large area of sea enclosed partly by land

Gulf Stream *noun* EARTH SCI a current of warm water in the Atlantic Ocean, which flows north along the east coast of the USA, then crosses the Atlantic to northern Europe, passing close to the west coast of Scotland and giving the British Isles and European coast a mild winter climate compared with countries at the same latitude such as eastern Canada

gulfweed *noun* MARINE BIOL floating seaweed that grows in the Sargasso Sea

gull *noun* ZOO a seabird, with a large body, usually white or grey feathers, a hooked beak and webbed feet. There are several different species.

gully *noun* 1. EARTH SCI a deep channel formed by soil erosion and unable to be filled in by cultivation 2. ENG, GEOL a small channel for water, e.g. an artificial channel dug at the edge of a field or a natural channel in rock

gulp *noun* COMPUT a group of words, usually two bytes. ◇ **byte**, **nibble**

gum *noun* BOT, INDUST a liquid substance in the trunks and branches of some trees, which hardens on contact with air. It is used in confectionery, pharmacy and stationery.

gust *noun* METEOROL a strong sudden rush of wind ○ *Strong gusts blew dust off the fields into the air.* ■ *verb (of wind)* to increase in strength suddenly ○ *Wind is at 10 knots gusting to 20 knots.*

gusty *adjective* METEOROL referring to wind blowing in sudden strong bursts

gut *noun* ANAT same as **alimentary canal**
Gutenberg discontinuity *noun* EARTH SCI a boundary between the mantle and the core inside the Earth

gutter *noun* PRINTING a blank space or inner margin between two facing pages

GW, gW *abbreviation* ELEC gigawatt

GWh *abbreviation* ELEC gigawatt-hour

GWP *abbreviation* global warming potential

Gy *abbreviation* PHYS gray

gymnosperm *noun* BOT a seed-bearing plant in which the seeds are carried naked on the scales of a cone rather than being inside a fruit, e.g. a conifer, cycad or ginkgo. ◇ **angiosperm**

gynoecium *noun* BOT the female sex organs (**carpels**) of a plant

gynogenesis *noun* GENETICS the development of an embryo that has only maternal chromosomes because fusion of an egg and sperm nuclei has not occurred

gypsum *noun* MINERALS a soft white or colourless mineral consisting of hydrated calcium sulfate, used in cement, plaster and fertilisers

gyre *noun* OCEANOGRAPHY a circular or spiral motion of ocean water

gyro *noun* PHYS same as **gyroscope**

gyrocompass *noun* NAVIG same as **gyroscopic compass**

gyroscope *noun* PHYS, NAVIG a device consisting of a spinning wheel, mounted on a base so that its axis can turn freely in one or more directions and thereby maintain its own direction even when the base is moved. Also called **gyro**

COMMENT: A spinning gyroscope maintains its position even when an aircraft banks, climbs or dives and drives the attitude indicator, direction indicator and turn coordinator to help pilots control an aircraft while flying in cloud or in poor visibility.

gyroscopic compass *noun* NAVIG a compass which uses gyroscopic directional stability rather than magnetism to indicate direction. Also called **gyrocompass**

gyroscopic precession *noun* PHYS, NAVIG a characteristic of a gyroscope, that the force applied to a spinning gyroscope will act at a point 90° in the direction of rotation, not at the point where the force is applied ○ *Forces of gyroscopic precession act on the direction indicator to keep it aligned vertically and horizontally.*

H

h *symbol* hecto-

H *symbol* **1.** PHYS, MEASURE henry **2.** CHEM ELEM hydrogen

ha *symbol* MEASURE, AGRIC hectare

haar *noun* METEOROL a sea mist occurring during the summer in the north of the British Isles

Haber process *noun* INDUST a commercial process in which ammonia is produced from atmospheric nitrogen and hydrogen using a catalyst at high temperature and pressure

habit *noun* BOT the characteristic way in which a specific plant grows ◦ *a bush with an erect habit* ◦ *a plant with a creeping habit*

habitat *noun* ECOL the type of environment in which a specific organism lives

habitat loss *noun* ECOL a permanent disappearance of or decrease in the amount of suitable environment available to an organism

habitat management *noun* ENVIRON same as **nature management**

habitat reduction *noun* ECOL same as **habitat loss**

haboob *noun* METEOROL a violent dust storm or sand storm of a type found in North Africa, especially in Sudan (NOTE: Such dust storms are associated with cumulonimbus clouds.)

HACCP *noun* FOOD INDUST a process for identifying and controlling hazards within a process, e.g. in the food industry. Full form **Hazard Analysis Critical Control Points**

hack *verb* COMPUT **1.** to experiment and explore computer software and hardware **2.** to break into a computer system for criminal purposes

hacker *noun* COMPUT a person who hacks

hadal zone *noun* OCEANOLOG a zone of the ocean at depths greater than the abyssal zone, i.e. below 6000m

hadron *noun* PHYS a particle that is subject to the strong nuclear interaction

haem- *prefix* BIOL blood (NOTE: The US spelling for words beginning with the prefix **haem-** is **hem-**.)

haematite *noun* MINERALS iron oxide, the most common form of iron ore. Formula: Fe₂O₃.

haemoglobin *noun* BIOCHEM a red protein in red blood cells that combines reversibly with oxygen and transports it round the body. Abbr **Hb**

COMMENT: Haemoglobin absorbs oxygen in the lungs and carries it in the blood to the tissues. Haemoglobin is also attracted to carbon monoxide and readily absorbs it instead of oxygen, causing carbon monoxide poisoning.

haemolytic anaemia *noun* MED anaemia caused by the destruction of red blood cells

hafnium *noun* CHEM ELEM a silvery metallic element, used to absorb neutrons in nuclear reactor rods and in the manufacture of tungsten filaments (NOTE: The chemical symbol is **Hf**; the atomic number is **72** and the atomic weight is **178.49**.)

Hageman factor *noun* BIOCHEM a protein found in plasma, one of the factors that causes blood to clot. Also called **factor XII**

hail METEOROL *noun* water falling from clouds in the form of small round pieces of ice ■ *verb* to fall as small pieces of ice

COMMENT: Hail occurs when rain forms in cumulonimbus clouds and is carried upwards into colder air where it freezes. It then falls back through the cloud, growing in size as it accumulates moisture.

hailstone *noun* METEOROL a piece of ice which falls from clouds like rain

hailstorm *noun* METEOROL a storm in which the precipitation is hail and not rain

hair *noun* BIOL **1.** a slender outgrowth on the surface of a plant or animal **2.** a mass of outgrowths on an animal's skin or a person's head or body

hairline fracture *noun* MED a very thin crack in a bone

half *noun* MATHS one of two equal parts ○ *Half the data was lost in transmission.* ○ *The second half of the program contains some errors.*

half adder *noun* ELECTRONICS a binary adder that can produce the sum of two inputs, producing a carry output if necessary, but cannot accept a carry input

half duplex *noun* COMPUT data transmission in one direction at a time over a bidirectional channel. Abbr **HD**

half-hardy *adjective* BOT referring to a plant that is able to tolerate cold weather down to about 5°C. φ **hardy**

half-life, half-life period *noun* 1. PHYS the time taken for half the atoms in a radioactive isotope to decay 2. the time required for an organism to eliminate naturally half the amount of a substance that has entered its body

COMMENT: Radioactive substances decay in a constant way and each has a different half-life: strontium-90 has a half-life of 28 years, radium-226 one of 1 620 years and plutonium-239 one of 24 360 years.

halftone *noun* PHOTOGRAPHY, COMPUT a photograph or image that originally had continuous tones, displayed or printed by using groups of dots to represent the tones

half-value period *noun* PHYS same as **half-life**

half word *noun* COMPUT a sequence of bits occupying half a standard computer word, but able to be accessed as a single unit

halide *noun* CHEM a compound of halogen with another element or group, e.g. fluoride

halite *noun* CHEM sodium chloride occurring naturally in the ground. Also called **rock salt**

Hall effect *noun* PHYS a description of the effect of a magnetic field on electron flow

Hall effect switch *noun* ELEC a solid-state electronic switch operated by a magnetic field

Halley, Edmond (1656–1742)

ASTRON English astronomer best remembered for the comet named after him. He realised that the great comet of 1682 was in fact a periodic comet identical to others seen at 76-year intervals throughout history. Halley later became Astronomer

Royal and was one of the circle including Newton and others which produced many discoveries in mathematics, physics and astronomy.

Halley's Comet *noun* ASTRON a comet with a 76-year orbit, which is bright enough to be seen with the naked eye (NOTE: Its brightness and the fact that it spends almost all of its orbit in deep space mean that Halley's Comet is an almost unaltered chunk of material from the earliest days of the solar system.)

halo *noun* METEOROL a circle of light seen round the Sun or Moon, caused by ice crystals in Earth's atmosphere

halo- *prefix* CHEM salt

halobiotic *adjective* BIOL referring to organisms which live in salt water

halocarbon *noun* CHEM a chemical consisting of carbon, sometimes hydrogen, and a halogen such as chlorine, fluorine, bromine or iodine. Also called **halogenated carbon**

halocline *noun* EARTH SCI a salinity gradient where two masses of water such as fresh water and the sea meet

halogen *noun* CHEM a non-metallic element belonging to a series of chemically related non-metallic elements that includes fluorine, chlorine, iodine, bromine and astatine

halogenated *adjective* CHEM referring to a chemical compound that contains one of the halogens

halogenated carbon *noun* CHEM same as **halocarbon**

halogenation *verb* CHEM the process of treating or combining something with a halogen

halogen lamp *noun* INDUST a light bulb containing a halogen that runs at a much higher temperature than a conventional incandescent lamp

halogenous *adjective* CHEM ELEM referring to or containing a halogen

halomorphic soil *noun* GEOL soil that contains large amounts of salt

halon *noun* CHEM a chemical compound that contains bromine and resembles a chlorofluorocarbon

halophile *noun* BIOL a species that can live in salty conditions

halophyte *noun* BOT a plant that is able to grow in salty soil, as in estuaries

halt COMPUT *noun* same as **halt instruction** ■ *verb* to stop or bring something to a stop ○ *Hitting CTRL S will halt the program.*

halt condition *noun* COMPUT the operating state reached when a computer comes across a fault, faulty instruction or halt instruction in the program that is being run

halt instruction *noun* COMPUT an instruction to stop a computer carrying out any further instructions until restarted. Also called **halt**

hand-held COMPUT *adjective* able to be held in the hand ○ *Nowadays, headsets are usually used in preference to hand-held microphones.* ■ *noun* a device that can be held in the hand

handle *noun* **1.** a device for taking in, or being operated by, the hand ○ *a door handle* **2.** COMPUT a number used to identify an active file within the program that is accessing the file **3.** COMPUT a small square that can be dragged to change the shape of a window or graphical object ○ *To stretch the box in the DTP program, select it once to display the handles then drag one handle to change its shape.* ■ *verb* **1.** to touch something with the hands ○ *Do not handle unwrapped food.* **2.** to control or operate something by hand ○ *The student pilot handled the aircraft well in the turbulent conditions.*

handler *noun* COMPUT a part of an operating system software or a special software routine which controls a device or function ○ *The scanner handler routines are supplied on disk.*

handling *noun* **1.** the act of touching something with the hands ○ *guidelines for the handling of chemicals* **2.** the act of controlling or operating something **3.** AUTOMOT the way in which a car behaves when it is driven ○ *The handling is superb.*

handshake, handshaking *noun* COMPUT a standardised set of signals between two devices to make sure that the system is working correctly, the equipment is compatible and data transfer is correct

hands off *adjective, adverb* (of a working system) not controlled by an operator because the operation is automatic ○ *an automatic flight control system capable of landing an aircraft hands off* ■ *noun* **1.** COMPUT a working system where the operator does not control the operation, which is automatic **2.** a working system where the

operator does not need to touch the device in use

hands-on *adjective* referring to being actively involved in something ○ *hands-on experience*

hang *verb* COMPUT to enter an endless loop and not respond to further instruction

hanging valley *noun* EARTH SCI a valley high above the side of another valley, formed when the main valley was cut deeper by a larger glacier, leaving the smaller valley to join it at a cliff (NOTE: This is one of the ways in which waterfalls are formed.)

hangup *noun* COMPUT the sudden stop of a working program (NOTE: Hangups are often due to the computer's executing an illegal instruction or entering an endless loop.)

haploid *adjective* GENETICS referring to an organism that has a single set of unpaired chromosomes in a cell nucleus

hard *adjective* **1.** not soft ○ *A diamond is one of the hardest minerals.* **2.** difficult ○ *It is hard for grazing animals to find enough to eat in drought conditions.* **3.** COMPUT (of parts of a computer system) not able to be programmed or altered

hard copy *noun* COMPUT a printed version of information contained in a computer or system

hard detergent *noun* CHEM a detergent that is not broken down in water

hard disk *noun* COMPUT a rigid magnetic disk that is able to store many times more data than a floppy disk, and usually cannot be removed from the disk drive

hard disk drive *noun* COMPUT a unit used to store and retrieve data from a spinning hard disk. Abbr HDD

harden *verb* to make something hard, or become hard

hardener *noun* CHEM a substance that causes another to become hard by chemical reaction

harden off *verb* AGRIC to make plants become gradually more used to cold ○ *After seedlings have been grown in the greenhouse, they need to be hardened off before planting outside in the open ground.*

hard frost *noun* METEOROL weather when the temperature falls well below 0 °C

hardness *noun* CHEM **1.** an indication of the percentage of calcium in water **2.** a measurement of how hard a mineral is

COMMENT: Hardness of minerals is shown on a scale of 1 to 10: diamond is the hardest (i.e. it has hardness 10) and talc is the softest. A mineral of one grade is able to scratch or mark a mineral of the grade below.

hardpan *noun* EARTH SCI a hard soil surface, usually formed of dried clay

hard reset *noun* COMPUT a switch that generates an electrical signal to reset the central processing unit and all devices, equivalent to turning a computer off and back on again. Also called **hardware reset**

hard return *noun* COMPUT a code in a word-processing document that normally indicates the end of a paragraph

hardware *noun* COMPUT the equipment and devices that make up a computer system

COMMENT: Computer hardware can include the computer itself, the disks and disk drive, printer, VDU, etc.

hardware compatibility *noun* COMPUT the architecture of two different computers that allows one to run the programs or use the add-on boards of the other without changing any device drivers or memory locations

hardware interrupt *noun* COMPUT an interrupt signal generated by a piece of hardware rather than by software

hardware platform *noun* COMPUT the standard of a particular make of computer

hardware reset *noun* COMPUT same as **hard reset**

hard water *noun* CHEM tap water that contains a high percentage of calcium and magnesium (NOTE: Hard water makes it difficult for soap to lather and also causes deposits in pipes, boilers and kettles.)

hard winter *noun* METEOROL a very cold winter ○ *In a hard winter, many smaller birds may be killed.*

hardwired connection *noun* COMPUT a permanent phone line connection, instead of a plug and socket

hardwired logic *noun* COMPUT a logical function or software program that is built using electronic hardware devices such as logic components, rather than written in software

hardwired program *noun* COMPUT a computer program built into the hardware, which cannot be changed

hardwood *noun* 1. TREES a slow-growing broad-leaved tree, e.g. oak, teak or mahogany 2. INDUST the fine-grained,

dense wood produced by a tree such as oak, teak or mahogany. Compare **softwood**

hardy *adjective* BOT referring to a plant able to tolerate cold weather, especially below 5 °C. † **half-hardy**

Hardy-Weinberg law *noun* GENETICS a principle of genetics stating that gene frequencies remain constant from generation to generation if mating is random and there are no external influences such as mutation and immigration

harmattan *noun* METEOROL a hot dry winter wind that blows from the northeast and causes dust storms in the Sahara

harmonic *noun* PHYS a single oscillation whose frequency is a whole multiple of a fundamental frequency

harmonic motion *noun* PHYS a periodic vibration that has a single frequency or an even multiple of one or is symmetrical about a point of equilibrium (NOTE: It is seen in the movement of a pendulum or the vibration of a violin string.)

harmonics *noun* MATHS same as **harmonic series**

harmonic series *noun* MATHS an infinite series constructed by adding together all the numbers in a harmonic progression

harness *verb* ENVIRON to control a natural phenomenon and make it produce energy ○ *A tidal power station harnesses the power of the tides.*

harrow AGRIC *noun* a piece of equipment with teeth or discs, used for breaking up soil or levelling the surface of ploughed soil ■ *verb* to level the surface of ploughed soil with a harrow, covering seeds that have been sown in furrows

hartley *noun* COMPUT a unit of information, equal to 3.32 bits, or the probability of one state out of ten equally probable states

harvest *noun* AGRIC 1. the time when a crop is gathered 2. a crop that is gathered ○ *We think this year's wheat harvest will be a good one.* ■ *verb* 1. AGRIC to gather a crop that is ripe ○ *They are harvesting the barley.* 2. AGRIC to gather a natural resource 3. MED to remove an organ for transplanting

hash *noun* TELECOM, COMPUT the symbol (#) on a computer keyboard or telephone keypad. Also called **hashmark** ■ *verb* COMPUT to produce a unique number derived from the entry itself, for each entry in a database

hash index *noun* COMPUT a list of entries according to their hashed numbers

hashmark, hash mark *noun* COMPUT, TELECOM same as **hash**

hash table *noun* COMPUT a list of all entries in a file with their hashed key addresses

hash total *noun* COMPUT the total of a number of hashed entries used for error detection

hash value *noun* COMPUT a number arrived at after a key is hashed

hassium *noun* CHEM ELEM an extremely rare and unstable chemical element produced in high-energy atomic collisions (NOTE: The chemical symbol is **Hs**; the atomic number is **108** and the atomic weight is **269**.)

hatch *verb* ZOOL (*of an animal*) to break out of an egg

hatchery *noun* AGRIC a place where eggs are kept warm artificially until the animal inside becomes mature enough to break out

Haversian canal *noun* ANAT a tiny longitudinal channel in bone tissue forming part of a network that contains blood vessels and nerve fibres

Hawking, Stephen (born 1942) ASTRON British cosmologist based in Cambridge, best known for work on relativistic phenomena such as black holes and as the author of *A Brief History of Time*

hay *noun* AGRIC grass mowed and dried before it has flowered, used for feeding animals

COMMENT: Hay is cut before the grass flowers and at this stage in its growth it is a nutritious fodder. If it is mowed after it has flowered it is called straw, and is of less use as a food and so is used for bedding.

hay fever *noun* MED same as **pollinosis**

COMMENT: Tree pollen is most prevalent in spring, followed by the pollen of flowers and grasses during the summer months and fungal spores in the early autumn. The pollen released by the stamens of a flower floats in the air until it finds a female flower. Pollen in the air is a major cause of hay fever. It enters the nose and eyes and chemicals in it irritate the mucus and force histamines to be released by the sufferer, causing the symptoms of hay fever to appear.

hazard *noun* something with the potential to cause injury, damage or loss *o a fire hazard* *o a health hazard* *o Thunderclouds may pose hazards to aircraft*. Compare **risk**

Hazard Analysis Critical Control Points *noun* full form of **HACCP**

hazard assessment *noun* a formal assessment of the potential of something to harm humans or the environment

hazardous *adjective* referring to the danger that something might present *o hazardous chemicals* *o Climbing mountains can be hazardous*. \square **hazardous to health** likely to damage somebody's health

hazardous substance *noun* a substance that is toxic, persistent and likely to accumulate in organisms

hazardous waste *noun* ENVIRON a by-product of manufacturing processes or nuclear processing that is toxic and can damage people's health or the environment if not treated correctly

hazard profile *noun* data on the physical and chemical characteristics, toxicity, bio-accumulation, persistence and mobility in environmental media and other properties of a chemical, used together with information on exposure to assess risk

haze *noun* **1.** METEOROL dust or smoke in the atmosphere *o Haze can seriously reduce air-to-ground visibility*. **2.** COMPUT same as **fogging**

Hb *abbreviation* BIOCHEM haemoglobin

HD *abbreviation* **1.** COMPUT half duplex **2.** high-density

HDD *abbreviation* COMPUT hard disk drive

HDLC *abbreviation* COMPUT high-level data link control

HD polythene *noun* INDUST same as **high-density polythene**

HDTV *abbreviation* TECH high-definition television

He *symbol* CHEM ELEM helium

head *noun* **1.** ANAT the top part of the body above the shoulders **2.** a person *o Allow three pieces per head*. **3.** the top part of a device, network or body **4.** a main end part or top of something **5.** COMPUT data that indicates the start address of a list of items stored in memory **6.** the start of a reel of recording tape **7.** GEOG a point where a river starts to flow **8.** INDUST pressure shown as the vertical distance that water falls from the inlet of the collection pipe to the water turbine in a hydroelectric power system **9.** pressure shown as the vertical distance of a water tank above the taps in a house \blacksquare *verb* **1.** to be in charge of an organisation or group of people **2.** to be the first

item in a list or queue **3.** to move or move something in a particular direction

head alignment *noun* COMPUT the correct position of a tape or disk head in relation to the magnetic surface, to give the best performance and correct track location

head count *noun* a count of how many people are present

head crash *noun* COMPUT a component failure in a disk drive, where the head is allowed to hit the surface of the spinning disk, causing disk surface damage and data corruption

head end *noun* interconnection equipment between an antenna and a cable television network

header *noun* COMPUT **1.** a packet of data that is sent before a transmission to provide information on destination and routing **2.** the set of words that appear at the top of each page of a document, e.g. title, author's name or page number. Also called **heading**, **headline**. Compare **footer**

header block *noun* COMPUT a block of data at the beginning of a file containing data about file characteristics

heading *noun* **1.** the title or name of a document or file **2.** COMPUT same as **header** **3.** NAVIG the direction in which a ship or aircraft is travelling

COMMENT: Wind affects an aircraft in flight. Therefore heading does not always coincide with the aircraft's track. The pilot must head the aircraft slightly into the wind to correct for drift.

heading indicator *noun* NAVIG an instrument that gives course or direction information

headland *noun* **1.** EARTH SCI a high mass of land protruding into the sea **2.** AGRIC an uncultivated area of soil at the edge of a field, where a tractor turns when ploughing

headlife *noun* COMPUT the length of time that a video or tape head can work before being serviced or replaced

headline *noun* COMPUT same as **header**

head park *noun* COMPUT the act of moving the read/write head in a hard disk drive to a safe position, not over the disk, so that if the unit is knocked or jarred the head will not damage the disk surface

headset *noun* TELECOM a set of headphones with a microphone attached ○ *Headsets are usually used in preference to hand-held microphones.*

headstream *noun* EARTH SCI a stream that flows into a river near the river's source

headwaters *plural noun* EARTH SCI the area in which tributary streams feed into a river near the river's source

health *noun* MED the state of a plant, animal or person being well and free from disease ○ *Fumes from the factory were a danger to public health.*

health education *noun* HEALTH the teaching of people to do things to improve their health, such as taking more exercise or stopping smoking

health food *noun* FOOD INDUST a food that is regarded as contributing to good health, especially one with no artificial additives (NOTE: Health foods include natural cereals, dried fruit and nuts.)

health hazard *noun* something that is likely to harm someone's health

health risk assessment *noun* MED a prediction of the potential health effects of being exposed to hazardous substances

healthy *adjective* **1.** MED not ill **2.** likely to keep or make you well ○ *a healthy diet*

heap *noun* COMPUT **1.** a temporary data storage area that allows random access **2.** a binary tree

hearing threshold *noun* same as **audibility threshold**

heart *noun* **1.** ANAT a muscular organ that pumps blood round an animal's body **2.** BOT the compact central part of a vegetable such as lettuce, cabbage or celery, where new leaves or stalks form **3.** the innermost part of something ○ *This tree grows only in the heart of the forest.*

heart rate *noun* MED the number of times a heart beats per minute

heartwood *noun* BOT the hard dead wood in the centre of a tree trunk which helps support the tree. Compare **sapwood**

heat *noun* **1.** PHYS energy that is moving from a source to another point ○ *The heat of the Sun made the surface of the road melt.* **2.** ZOOL the period when a female animal will allow mating. Technical name **oestrus** □ **an animal on heat** ZOOL a female animal in the period when she will accept a mate ■ *verb* PHYS to make something hot ○ *The solution should be heated to 25 °C.*

heat accumulator *noun* PHYS a vessel for storing hot liquid, allowing even heat

distribution or distribution over a period of time

heat balance *noun* EARTH SCI a state in which Earth loses as much heat by radiation and reflection as it gains from the Sun, making Earth's temperature constant from year to year

heat capacity *noun* PHYS the amount of heat required to raise the temperature of a substance by one degree

heat conduction *noun* PHYS the passing of heat from one part to another

heat discharge *noun* INDUST a release of waste heat into the atmosphere, especially from an industrial process

heat engine *noun* 1. PHYS a machine or organism that consumes fuel and produces heat which can be converted into work 2. EARTH SCI a phenomenon that produces the Earth's climatic pattern, caused by the difference in temperature between the hot equatorial zone and the cold polar regions, making warm water and air from the tropics move towards the poles

heater *noun* ENG a device for producing heat

heat exchanger *noun* ENG a device that takes heat from one source and gives it to another (NOTE: An example is in a heating system where a hot pipe goes through a water tank to heat it.)

heat exhaustion *noun* MED a state of collapse as a result of overexertion in hot conditions

heat flow *noun* PHYS a movement of heat, as through a metal or from the Earth into space

heat flux *noun* PHYS the flow of heat during heat exchange

heat gain *noun* PHYS same as **energy gain**

heath *noun* EARTH SCI an area of acid soil where low shrubs such as heather and gorse grow and which are treeless as a result of grazing by animals

COMMENT: Lowland heaths are found on dry sandy soils or gravel below 300 m. Upland heaths are found on mineral soils or shallow peat and may be dry or wet, with mosses growing in wetter conditions.

heat haze *noun* METEOROL a reduction in visibility caused by warm air rising from the ground

heathland *noun* EARTH SCI a wide area of heath

heating *noun* 1. PHYS the process of making something hot 2. INDUST a system that supplies heat

heating appliance *noun* ENG, INDUST a device that supplies heat, usually in a building

heating oil *noun* INDUST petroleum oil used as fuel in a central heating boiler

heating power, heating value *noun* PHYS a measurement of the amount of heat that a substance or process can supply

heat insulation *noun* PHYS the prevention of the escape of heat

heat island *noun* ENVIRON an increase in temperature experienced in the centre of a large urban area, caused by the release of heat from buildings

heat loss *noun* PHYS the amount of heat lost, as through inadequate insulation

heat of atomisation *noun* PHYS the amount of heat required to convert one mole of a substance into its gaseous form

heat of combustion *noun* PHYS the amount of heat produced by one mole of a substance when it is burned in oxygen

heat of neutralisation *noun* PHYS the heat that is released when one mole of hydrogen ions is neutralised by a base

heat-proof *adjective* 1. PHYS not affected by heat 2. referring to a material or something made from a material through which heat cannot pass

heat pump *noun* INDUST a device that cools or heats by transferring heat from cold areas to warm ones (NOTE: Heat pumps are used in refrigerators or for heating large buildings.)

heat reclamation, heat recovery *noun* INDUST the process of collecting heat from substances heated during a process and using it to heat further substances, so as to avoid heat loss

heat-sealing *noun* FOOD INDUST a method of closing plastic food containers (NOTE: The air is removed from a plastic bag with the food inside and the bag is then pressed by a hot plate, which melts the plastic and seals the contents in the vacuum.)

heat sink *noun* 1. COMPUT a metal device used to conduct heat away from an electronic component to prevent damage 2. PHYS a place that can absorb extra heat ○ *The oceans may delay global warming by acting as a heat sink.*

heat storage *noun* INDUST the storage of heat produced during a period of low consumption until a peak period when it is needed

heat transfer *noun* PHYS the process of passing heat from one medium or substance to another

heat-treated alloy *noun* an alloy that has undergone a process of hardening by using heat

heavenly body *noun* ASTRON same as celestial body

heavy *adjective* **1.** PHYS weighing a lot **2.** severe, difficult or unpleasant **3.** involving a lot of effort

heavy-duty *adjective* referring to something designed for long or hard wear or use
○ *a heavy-duty battery*

heavy gauge wire *noun* ELEC a thick wire

heavy goods vehicle *noun* AUTOMOT a large truck for moving objects

heavy hydrogen *noun* CHEM same as deuterium

heavy industry *noun* INDUST **1.** an industry such as steelmaking or engineering that takes raw materials and makes them into large finished products **2.** an industry that extracts raw materials such as coal

heavy metal *noun* CHEM a metal that has a high relative atomic mass and density and is toxic to humans, e.g. copper, lead and zinc

heavy oil *noun* CHEM a mixture of hydrocarbons that is distilled from coal tar and is heavier than water

heavy water *noun* CHEM water containing deuterium instead of hydrogen. Formula: D₂O. (NOTE: It is used as a coolant or moderator in some types of nuclear reactor.)

hectare *noun* MEASURE an area of land measuring 100 by 100 metres, i.e. 10000 square metres or 2.47 acres. Symbol **ha**

hecto- *prefix* MEASURE one hundred, 10². Symbol **H**

height *noun* the vertical distance of a point, level or object measured from a particular place such as sea level ○ *Pressure decreases with increasing height.*

helical scan *noun* COMPUT a method of storing data on magnetic tape in which the write head stores data in diagonal strips rather than parallel with the tape edge

helio- *prefix* ASTRON Sun

heliocentric *adjective* ASTRON **1.** relating to the solar system when it is regarded as having the Sun at its centre **2.** measured from the centre of the Sun

heliophyte *noun* BOT a plant that is adapted to grow in strong light

heliotropic *adjective* BOT referring to a plant that grows or turns towards a light source

helium *noun* CHEM ELEM a light inert gas, used in balloons and as a coolant in some types of nuclear reactor (NOTE: The chemical symbol is **He**; the atomic number is **2** and the atomic weight is **4.00**.)

helix *noun* **1.** something in the form of a spiral or coil, e.g. a corkscrew or a coiled spring **2.** MATHS a mathematical curve that lies on a cylinder or cone and makes a constant angle with the straight lines lying in the cylinder or cone

helophyte *noun* BOT a plant that typically grows in marshy or lake-edge environments

help *noun* **1.** anything that makes it easier to do something ○ *He finds his word processor a great help in the office.* **2.** COMPUT a function in a program or system that provides useful information about the program in use ○ *Hit the HELP key if you want information about what to do next.*

helper T cell *noun* IMMUNOL (*in the lymphocyte system*) a lymphocyte that helps provide immunity against diseases by recognising foreign antigens

hemihydrate *noun* CHEM a hydrated salt consisting of two parts of an anhydrous compound to one part water (NOTE: Plaster of Paris is a hemihydrate.)

hemipteran *noun* INSECTS an insect that has mouthparts adapted for piercing and sucking and two pairs of wings. Order: Hemiptera. (NOTE: Hemipterans are generally parasitic in nature and include bedbugs and other true bugs.)

hemisphere *noun* **1.** one half of a sphere **2.** one half of the Earth north or south of the equator ○ *the northern hemisphere*

hemizygous *adjective* GENETICS having only one of a pair of genes (NOTE: An example of this occurs in males, which have an unpaired X chromosome and therefore only one of a pair of genes.)

hemlock *noun* **1.** TREES a North American softwood tree. Genus: *Tsuga*. **2.**

PLANTS a poisonous plant. Latin name: *Conium maculatum*.

hemp *noun* **PLANTS** a plant used to make rope and that also produces an addictive drug. Latin name: *Cannabis sativa*.

henry *noun* **PHYS, MEASURE** the SI unit of electrical inductance. Symbol **H** (NOTE: It is equal to an electrical potential of one volt induced in a closed circuit by a current varying uniformly by one ampere per second.)

Henry's law *noun* **CHEM** the principle that the amount of gas dissolved at equilibrium in a volume of liquid is directly proportional to the pressure of that gas in contact with the liquid surface (NOTE: This is only applicable to gases that do not react with the solvent.)

hepatic *adjective* **ANAT** referring to the liver

hepatic artery *noun* **ANAT** an artery that takes the blood to the liver

hepatic portal system *noun* **ANAT** the network of blood vessels around the intestine that absorb food from the intestine lining into the blood

hepatic vein *noun* **ANAT** a vein that carries blood from the liver to the vena cava

heptane *noun* **CHEM** an organic hydrocarbon liquid of the alkane family, that is colourless and flammable. Formula: C_7H_{16} . (NOTE: It is obtained from petroleum and used as a solvent and anaesthetic and in octane rating measurement.)

herb *noun* **1.** a plant that is used to add flavour in cooking **2.** **PHARM** a plant that has medicinal properties **3.** **BOT** a non-woody flowering plant that has no perennial stem above the ground in winter

herb- *prefix* **BOT** referring to plants or vegetation

herbaceous *adjective* **BOT** referring to plants with soft non-woody tissue that die down above ground to survive through the winter

herbage *noun* **AGRIC** the green plants, especially grass, eaten by grazing animals

herbal *adjective* **BOT** referring to plants

herbalism *noun* **1.** **PHARM** the treatment of illnesses or disorders by the use of herbs or by medicines extracted from herbs **2.** **ALTERN MED** the study of herbs and their medicinal uses **3.** **ALTERN MED** the growth, collection, and sale or dispensing of aromatic herbs, especially those considered to have medicinal properties

herbalist *noun* **PHARM** a person who treats illnesses or disorders by the use of herbs

herbal remedy *noun* **PHARM** a remedy made from plants, e.g. an infusion made from dried leaves or flowers in hot water

herbarium *noun* **BOT** a collection of preserved plant or fungal specimens, especially one that is used for scientific study and classification

herbicide *noun* **AGRIC** a chemical that kills plants, especially used to control weeds

herbivore *noun* **ZOOL** an animal that feeds only on plants

herbivorous *adjective* **ZOOL** referring to an animal that feeds only on plants

herd *noun* **ZOOL** a group of herbivorous animals that live together *o* a herd of cows (NOTE: The word **herd** is usually used for cattle; for sheep, goats, and birds such as hens or geese, the word to use is **flock**.) ■ **verb** **1.** **AGRIC** to tend a herd of animals **2.** to gather animals together *o* herding the cows into the yard

hereditary *adjective* **GENETICS** referring to a genetically controlled characteristic that is passed from parent to offspring

hereditary factor *noun* a genetically controlled characteristic that is passed from parent to offspring

heredity *noun* **GENETICS** the transfer of genetically controlled characteristics from parent to offspring

heritable *adjective* able to be passed from parent to offspring

hermaphrodite *noun* **1.** **ZOOL** an animal, plant or flower that has both male and female sexual organs **2.** **BOT** a plant whose flowers contain both male and female sexual organs

hertz *noun* **PHYS, MEASURE** the SI unit of frequency. Symbol **Hz** (NOTE: One hertz is equal to one cycle per second.)

COMMENT: Hertz rate is the frequency at which mains electricity is supplied to the consumer. The hertz rate in Europe is 50; in the USA and Canada it is 60.

Hess's law *noun* **CHEM** the law that states that the total quantity of heat absorbed or released during a chemical reaction is the same whether the reaction occurs in one or in several steps

hetero- *prefix* different. Compare **homo-**
heterochromatin *noun* **GENETICS** the material that appears in a cell nucleus as

nodules between chromosomes but contains few genes

heterochromosome *noun* GENETICS a chromosome consisting mainly of heterochromatin, especially a sex chromosome

heterogeneous *adjective* BIOL having different characteristics or qualities (NOTE: Do not confuse with **heterogenous**.)

heterogeneous network *noun* COMPUT a computer network joining computers of many different types and makes

heterogenesis *noun* GENETICS the appearance of a mutation in a population

heterogenic *adjective* GENETICS having more than one variant form (**allele**) of a specific gene

heterogenous *adjective* BIOL coming from a different source (NOTE: Do not confuse with **heterogeneous**.)

heterologous *adjective* BIOL differing in structural features or origin

heterolytic fission, heterolysis *noun* CHEM the process of breaking a covalent bond in a compound to form two ions, one positive, one negative, of each of the elements

heteromorphic *adjective* differing in size or shape (NOTE: The X and Y sex chromosomes are heteromorphic.)

heterophyte *noun* BOT **1.** a plant that grows in a wide range of habitats **2.** a plant that lacks chlorophyll and is parasitic

heteroploid *adjective* GENETICS relating to an organism that has a chromosome number in a cell nucleus that is not an exact multiple of the basic chromosome number for that species

heterosis *noun* GENETICS an increase in size or rate of growth, fertility or resistance to disease found in offspring of a cross between organisms with different genotypes

heterotroph *noun* BIOL an organism that requires carbon in organic form and cannot manufacture it (NOTE: Animals, fungi and some algae and bacteria are heterotrophs.)

heterotrophic *adjective* BIOL referring to a heterotroph *o* a *heterotrophic organism*

heterotypic *adjective* GENETICS referring to a form of cell nucleus division in which the new nuclei produced contain only half the number of chromosomes of the parent cell, characteristic of the first division of meiosis

heterozygosity *noun* the state of being heterozygous

heterozygote *noun* GENETICS an organism that has two dissimilar forms (**alleles**) of a gene and which may therefore produce offspring different from the parents and from each other for that characteristic

heterozygous *adjective* GENETICS relating to a cell or organism that has two or more variant forms (**alleles**) of at least one of its genes (NOTE: The offspring of such an organism may differ with regard to the characteristics determined by the gene or genes involved, depending on which version of the gene they inherit.)

heuristic *adjective* COMPUT learning from past experiences *o* *A heuristic program learns from its previous actions and decisions.*

hex *abbreviation* hexadecimal notation

hexachlorocyclohexane *noun* AGRIC same as **lindane**

hexadecimal notation *noun* MATHS a number system using base 16 and the digits 0–9 and A–F

hexahydrate acid *noun* CHEM same as **chloroplatinic acid**

hex dump *noun* COMPUT a display of a section of memory in hexadecimal form

hex keypad *noun* COMPUT a set of sixteen keys with all the figures needed to enter hexadecimal numbers

Hf *symbol* CHEM ELEM hafnium

HF *abbreviation* PHYS high frequency

HFC *abbreviation* CHEM hydrofluorocarbon

HFS *abbreviation* COMPUT hierarchical filing system

Hg *symbol* CHEM ELEM mercury

hibernaculum *noun* ZOOL a place where an animal hibernates, e.g. a nest (NOTE: The plural is **hibernacula**.)

hibernate *verb* ZOOL (*of an animal*) to survive the cold winter months by a big reduction in metabolic rate and activity, and by using up stored body fat for food

COMMENT: During the cold weather, many small mammals and reptiles hibernate. Their blood temperature falls and their metabolism slows.

hibernation *noun* ZOOL a big reduction in metabolic rate and activity, and the using up of stored body fat to survive the cold winter months. Compare **aestivation**

hickory *noun* TREES a North American hardwood tree. Genus: *Carya*.

hidden *adjective* unable to be seen □ **a hidden defect in a program** COMPUT a defect that was not seen when the computer program was tested

hidden line removal *noun* COMPUT the erasure of lines which should not be visible when looking at a two-dimensional image of a three-dimensional object

hide *noun* ZOOL **1.** the skin of a large animal **2.** a shelter where humans can stay hidden while watching birds or animals

hierarchical *adjective* COMPUT organised with the most important or highest-priority item at the top, then working down a tree structure

hierarchical computer network *noun* COMPUT a method of allocating control and processing functions in a network to the computers that are most suited to the task

hierarchical database *noun* COMPUT a database in which records can be related to each other in a defined structure

hierarchical filing system *noun* COMPUT a method used to store and organise files on a disk. Abbr **HFS**

hierarchy *noun* COMPUT the way in which objects or data are organised

high *adjective* **1.** reaching far from ground level ○ *Alto cumulus clouds form at higher levels than cumulus.* **2.** of greater than average amount ○ *The sample gave a high reading of radioactivity.* ○ *The soil is red and high in aluminium and iron oxide.*

3. at the top of something ■ *noun* METEOROL an area of high atmospheric pressure

high-alumina cement *noun* INDUST cement made of bauxite and limestone, used because it resists heat

high-definition television *noun* TECH a broadcast television standard that displays images at a different aspect ratio and with much better definition than existing television sets. Abbr **HDTV**

high-density *adjective* **1.** PHYS having a large mass per unit of volume **2.** ECOL having a lot of people or organisms living closely together ○ *high-density housing*

high-density polythene *noun* INDUST very thick strong plastic. Abbr **HD polythene**

high-density storage *noun* COMPUT a very large number of bits stored per area of storage medium ○ *A hard disk is a high-density storage medium compared to paper tape.*

high-end *noun* ENG an expensive or high-performance device

high-energy food *noun* HEALTH a kind of food which gives a lot of energy when broken down by the digestive system, e.g. fats or carbohydrates

higher plants *plural noun* BOT plants that have a vascular system. Compare **lower plants**

highest common factor *noun* MATHS the highest number that can be exactly divided into each member of a set of numbers

high-fibre diet *noun* HEALTH a diet that contains a large amount of cereals, nuts, fruit and vegetables

high fidelity *noun* ACOUSTICS very good quality sound (NOTE: It normally refers to stereo sound recorded in 16 bits at a sample rate of 44.1 kHz.)

high forest *noun* EARTH SCI a forest made up of tall trees that block the light to the forest floor

high frequency *noun* PHYS a radio frequency ranging from 3 to 30MHz or with a wavelength of 10–100 metres. Abbr **HF**

high frequency band *noun* TELECOM a radio communications range between 3MHz and 30MHz

high-grade *adjective* of very high quality

high-grade ore *noun* METALL ore that contains a large percentage of metal

highland EARTH SCI *noun* an area of high land or mountains. Opposite **lowland** ■ *adjective* referring to a hilly or mountainous area ○ *Highland vegetation is mainly grass, heather and herbs.*

high latitudes *plural noun* EARTH SCI the areas of Earth near the Poles

high-level data link control *noun* COMPUT an ISO/OSI standard that provides a data link layer protocol and defines how data is formatted before being transmitted over a synchronous network. Abbr **HL DLC**

high-level inversion *noun* METEOROL a situation where warm air lies above cold air relatively high above the ground

high-level language *noun* COMPUT a computer programming language that is easy to learn and allows the user to write programs using words and commands that are easy to understand and look like English words. Abbr **HLL** (NOTE: The program is then translated into machine code, with

one HLL instruction often representing more than one machine code instruction.)

high-level nuclear waste *noun* ENVI-
RON same as **high-level waste**

high-level radiation *noun* PHYS radiation from a very radioactive substance

high-level waste, high-level radioactive waste *noun* ENVIRON waste that is hot and emits strong radiation

COMMENT: High-level waste is potentially dangerous and needs special disposal techniques. It is sealed in special containers, sometimes in glass, and is sometimes disposed of by dumping at sea.

highlight COMPUT *noun* the treatment of characters or symbols to make them stand out from the rest of the text, often by using bold type ■ *verb* to make part of the text stand out from the rest ○ *The headings are highlighted in bold.*

high memory *noun* COMPUT the memory area between 640kb and 1Mb in a PC

high order *noun* MATHS a digit with the greatest weighting within a number

high-performance *adjective* 1. designed to operate very efficiently 2. of high quality or with a high specification ○ *high-performance equipment*

high-pressure belt *noun* METEOROL a long narrow area of high pressure

high-priority program *noun* COMPUT a program that is important or urgent and is processed before others

high production volume chemical *noun* a chemical of which more than 1000 tonnes is sold per year per manufacturer or importer

high-quality *adjective* of the very best quality ○ *The store specialises in high-quality imported items.*

high-res *adjective* COMPUT same as **high-resolution** (*informal*)

high-resolution *adjective* COMPUT having the ability to display or detect a very large number of pixels per unit area ○ *high-resolution graphics* Also called **hi-res, high-res**

high-risk *adjective* HEALTH having a strong likelihood of damage or injury ○ *high-risk occupations*

high-spec *adjective* COMPUT having a high specification (*informal*) ○ *high-spec cabling*

high specification *noun* ENG the quality of a high degree of accuracy and performance

high-speed *adjective* COMPUT operating faster than normal

high-speed carry *noun* COMPUT an operation when a carry into an adder results in a carry

high-speed skip *noun* COMPUT a rapid movement in a printer to miss the perforations in continuous stationery

high-sulfur coal, high-sulphur coal *noun* INDUST coal with a lot of sulfur in it, therefore producing more sulfur dioxide when it is burnt

high-tech *adjective* TECH technologically advanced (*informal*)

high technology *adjective* COMPUT technologically advanced

high-tension *adjective* INDUST (*of electricity cable*) carrying a high voltage

high tide, high water *noun* OCEANOGR the point when the level of the sea is at its highest

highway *noun* a main public road

high-yielding *adjective* AGRIC producing a large crop ○ *They have started to grow high-yielding varieties of wheat.*

hill *noun* EARTH SCI an area of ground higher than the surrounding areas but not as high as a mountain

hill farm *noun* AGRIC a farm in mountainous country, with 95% or more of its land classified as rough grazing, mainly for

hillside *noun* EARTH SCI the sloping side of a hill

hindbrain *noun* ANAT the rearmost of the three parts of the brain in an embryo. Compare **forebrain, midbrain**

hinder *verb* to make progress difficult for something ○ *Free flow of fuel may be hindered by a blockage in the fuel line.*

hindwing *noun* INSECTS either of the two back wings of a four-winged insect

hinge *noun* a device that allows a door, flap or lid to open and close on a stationary frame ■ *verb* (*of a surface such as a door*) to move against a stationary frame

hinged *adjective* having a hinge to permit opening and closing ○ *a hinged panel*

hinterland *noun* EARTH SCI an area of land lying behind the shore of the sea or of a river

hippocampus *noun* ANAT a curved ridge in each cerebral hemisphere of the brain consisting of grey matter that functions in short-term memory and forms part

of the limbic system (NOTE: The plural is **hippocampi**.)

hi-res *adjective* COMPUT same as **high-resolution** (*informal*)

histamine *noun* BIOCHEM a substance released from mast cells throughout the human body which stimulates tissues in various ways ○ *The presence of substances to which someone is allergic releases large amounts of histamine into the blood.* ◊ **anti-histamine**

histaminic *adjective* BIOCHEM referring to histamine

histo- *prefix* BIOL biological tissue

histochemistry *noun* BIOCHEM the study of the chemical constituents of cells and tissues and their function and distribution

histogram *noun* MATHS a graph on which values are represented as vertical or horizontal bars

histology *noun* BIOL the study of the anatomy of tissue cells and minute cellular structures, using a microscope after the cells have been stained

histone *noun* GENETICS a simple protein bound to DNA that is involved in the coiling of chromosomes (NOTE: There are five types, together constituting about half the mass of chromosomes.)

history *noun* **1.** the study of what happened in the past ○ *the history of science* **2.** a record of past events and experiences ○ *We don't know much about his medical history* ○ *the history of the discovery of DNA* ○ *the life history of a frog*

hit COMPUT *noun* a successful match or search of a database ○ *There was a hit after just a few seconds.* ◻ **a hit on the line** a short period of noise on a communications line, causing data corruption ■ *verb* to press a key ○ *to save the text, hit ESCAPE S*

HL DLC *abbreviation* COMPUT high-level data link control

HLL *abbreviation* COMPUT high-level language

HMI *abbreviation* COMPUT human-machine interface

hMPV *abbreviation* MICROBIOL human metapneumovirus

hoar frost *noun* METEOROL the frozen dew that forms on outside surfaces when the temperature falls below freezing point

holandric *adjective* GENETICS referring to genetic characteristics that are carried on

the Y chromosome and are therefore inherited only by males. Compare **hologynic**

Holarctic region *noun* EARTH SCI a biogeographical region which includes the Nearctic, i.e. North America, and the Palearctic, i.e. Europe, North Africa and North Asia

hole *noun* **1.** PHYS ▶ **semiconductor** **2.** a vacancy in an energy band that is normally filled by an electron (NOTE: Such holes are mobile and help in the movement of electric current through a material.)

holistic *adjective* **1.** HEALTH involving all the patient's mental and family circumstances rather than just dealing with the illness **2.** referring to an approach that deals with a subject as a whole rather than looking at just one aspect

hollow *adjective* referring to an object with a space inside it ○ *hollow plant stems* ■ *noun* a place which is lower than the rest of the surface ○ *Pour the liquid into the hollow.*

holmium *noun* CHEM ELEM a silvery-white metallic element of the lanthanide group of the periodic table (NOTE: The chemical symbol is **Ho**; the atomic number is **67** and the atomic weight is **164.26**.)

holoenzyme *noun* BIOCHEM a complete active enzyme, consisting of an apoenzyme and coenzyme

hologram *noun* OPTICS an imaginary three-dimensional image produced by the interference pattern when a part of a coherent light source, e.g. a laser, is reflected from an object and mixed with the main beam

holography *noun* OPTICS a method of producing a three-dimensional image by scanning an object with light from a laser

hologynic *adjective* GENETICS referring to genetic characteristics that are inherited only by females. Compare **holandric**

holophytic *adjective* BOT referring to organisms such as plants that can make complex organic molecules by photosynthesis

holoplankton *plural noun* MARINE BIOL organisms which remain as plankton throughout their entire life cycle, e.g. algae

holozoic *adjective* BIOL referring to organisms such as animals that feed on other organisms or organic matter

home *noun* **1.** ENVIRON a place where a person or animal lives **2.** an environment or

habitat **3**. COMPUT the starting point or initial point

home computer *noun* COMPUT same as **personal computer**

homeo- *prefix* similar

homeobox *noun* GENETICS a set of nucleotides with a sequence of bases that is almost identical in all the genes that contain it

homeostasis *noun* **1**. the tendency of a system to resist change and maintain itself in a state of equilibrium **2**. BIOCHEM the process by which the functions and chemistry of a cell or organism are kept stable, even when external conditions vary greatly

homeotherm *noun* ZOOLOGY another spelling of **homoiotherm**

home page *noun* COMPUT the opening page of a website ○ *The home page is formatted using HTML and stored in a file called index.html.*

home range *noun* ZOOLOGY the area that an animal moves about in during its day-to-day activities (NOTE: Do not confuse with territory, which is a defended area and may be part or all of the home range.)

homing *noun* ZOOLOGY an animal's return to a specific site which is used for sleeping or breeding

hominoid *adjective* BIOL referring to the primates including humans and apes. Superfamily: Hominoidea.

homo- *prefix* same. Compare **hetero-**

homocysteine *noun* BIOCHEM an amino acid produced in the body during the metabolism of methionine. Raised levels of homocysteine are associated with atherosclerosis.

homoeo- *prefix* same as **homeo-**

homogametic *adjective* GENETICS referring to organisms that produce gametes with the same type of sex chromosome

homogamy *noun* BOT the maturation of a flower's male and female organs at the same time, so permitting self-fertilisation

homogeneous *adjective* evenly mixed or unvarying ○ *The atmosphere is not homogeneous and pressure, temperature and humidity can all change with height.* Also called **homogenous**

homogeneous computer network *noun* COMPUT a network made up of similar machines that are compatible or from the same manufacturer

homogenised milk *noun* milk which is made more digestible by breaking up the fat droplets into smaller particles which are evenly distributed through the liquid

homogenous *adjective* same as **homogeneous**

homograft *noun* MED same as **allograft**

homoiotherm, homoeotherm *noun* ZOOLOGY same as **endotherm**

homologous *adjective* BIOL **1**. having the same structural features **2**. having biological structures that share the same origin but with a different function, e.g. the wing of a bird and the fin of a fish

homologous pair *noun* GENETICS a pair of chromosomes in a diploid organism that are structurally similar and have the same arrangement of genes, although they may carry different alleles (NOTE: One member of each pair is inherited from each parent.)

homologous series *noun* CHEM a group of compounds, each with the same basic elements and similar atomic structure, in which each compound in the series differs from the next one by a fixed number of atoms

homologue *noun* BIOL a part or organ with the same origin in evolution as another but with a different function, e.g. a bird's wing in relation to the fin of a fish

homolytic fission *noun* CHEM the process of breaking a covalent bond in a compound to form two free radicals

Homo sapiens *noun* BIOL the species that consists of modern human beings and the only species of the genus with living individuals

homosphere *noun* EARTH SCI the zone of the Earth's atmosphere, including the troposphere, the stratosphere and the mesosphere, where the composition of the atmosphere remains relatively constant

homozygosity *noun* the state of being homozygous

homozygote *noun* GENETICS an organism that has two identical forms (**alleles**) of a gene at the same place on two corresponding chromosomes

homozygous *adjective* GENETICS relating to a cell or organism that has two identical forms (**alleles**) of a gene

hook *noun* COMPUT a point in a program at which a programmer can insert test code or debugging code

hookworm *noun* ZOOLOGY a parasitic worm in the intestine which holds onto the wall of the intestine with its teeth and lives on the blood and protein of the carrier

hop *noun* **1.** COMPUT the path taken by a packet of data as it moves from one server or router to another **2.** PLANTS a climbing plant that has long thin groups of green flowers which are used dried in brewing to add flavour to beer. Latin name: *Humulus lupulus*.

horizon *noun* **1.** the line where the sky and the ground appear to join **2.** GEOL a layer of soil which is of a different colour or texture from the rest

horizontal *adjective* lying flat or going from side to side, not up and down

horizontal axis *noun* MATHS a reference line used for horizontal coordinates on a graph ○ *The plot shows the effect of air-speed on lift with airspeed shown on the horizontal axis and lift on the vertical axis.* Also called **X-axis**

horizontal-axis wind turbine *noun* INDUST a wind turbine with two or three blades attached to a central hub that drives a generator and where the main shaft is parallel with the surface of the ground ○ *Horizontal-axis wind turbines are the most common form of wind turbine.*

horizontal blanking period *noun* COMPUT the time taken for the picture beam in a monitor to return to the start of the next line from the end of the previous line

horizontal motion *noun* a movement from side to side

horizontal scan frequency *noun* COMPUT the number of lines on a video display that are refreshed each second

horizontal stabiliser *noun* a device to provide longitudinal stability about the lateral axis of an aircraft

hormonal *adjective* BIOCHEM referring to hormones

hormonal deficiency *noun* BIOCHEM a lack of necessary hormones

hormone *noun* **1.** BIOCHEM a substance produced in animals in one part of the body which has a particular effect in another part of the body **2.** BOT a plant growth factor

hornblende *noun* MINERALS a dark green to black mineral consisting of the aluminium silicates of calcium, iron, magnesium and sodium

horsepower *noun* MEASURE a unit of power equal in the UK to 550 foot-pounds per second and in the USA to 745.7 watts. Abbr **h.p.**, **HP** (NOTE: This obsolete unit is still used to measure the power output of car engines.)

horticultural *adjective* AGRIC referring to horticulture

horticulture *noun* AGRIC the cultivation of flowers, fruit and vegetables in gardens, nurseries or glasshouses, as a science, occupation or leisure activity. ◇ **botanical horticulture**

horticulturist *noun* AGRIC a person who specialises in horticulture

hose *noun* a long flexible pipe usually made of fabric, plastic or rubber for pumping gases or liquids

host *noun* **1.** BIOL a plant or animal on which a parasite lives **2.** COMPUT same as **host computer** ■ *adjective* BIOL referring to a plant or animal on which a parasite lives

host adapter *noun* COMPUT an adapter which connects to a host computer ○ *The cable to connect the scanner to the host adapter is included.*

host address *noun* COMPUT same as **Internet address**

host computer *noun* COMPUT **1.** the main controlling computer in a multi-user or distributed system **2.** a computer used to write and debug software for another computer, often using a cross-compiler **3.** a computer in a network that provides special services or programming languages to users

hosting service provider *noun* COMPUT same as **host service provider**

host number *noun* COMPUT same as **Internet address**

host-parasite interaction *noun* BIOL a relationship between a host and a parasite

host plant *noun* BOT the plant on which a parasite lives

host service provider *noun* COMPUT a company that provides connections to the Internet and storage space on its computers which can store the files for a user's website ○ *We rent storage space on this host service provider's server for our company website.* Also called **hosting service provider**

hot *adjective* **1.** having a high temperature ○ *hot weather* ○ *hot water* **2.** dangerously radioactive (*informal*) **3.** ELEC electrically

charged **4.** MED extremely infectious **5.** PHYS (*of an atom*) having a raised energy level

hot chassis *noun* COMPUT a metal framework or case around a computer that is connected to a voltage supply rather than being earthed

hot desert *noun* EARTH SCI a desert situated in the tropics, e.g. the Sahara Desert or the Arabian Desert

hot fix *verb* COMPUT to detect and repair a fault such as a corrupt sector on a hard disk without affecting normal operations

hot key *noun* COMPUT a special key or key combination that starts a process or activates a program

hot link *noun* COMPUT (*in a hypertext document*) a word or image that will display new information when a user clicks on it

hot plugging *noun* COMPUT a feature of a computer that allows a device or peripheral to be plugged in or connected while the computer is working. Also called **hot swapping**

hot rock *noun* a rock with a high temperature beneath the Earth's surface (NOTE: Hot rocks can be used to create geothermal energy by pumping down cold water and making use of the rising hot water which the rocks have heated.)

hotspot *noun* **1.** COMPUT a special area on an image or display that does something when the cursor is moved onto it ○ *The image of the trumpet is a hotspot and will play a sound when you move the pointer over it.* **2.** ENVIRON a place where background radiation is particularly high

hot spring *noun* GEOG a stream of hot water running out of the ground continuously

hot swapping *noun* COMPUT same as **hot plugging**

hotword *noun* COMPUT a word within displayed text that does something when the cursor is moved onto it or it is selected ○ *Click on the hotword to see the image.*

hour *noun* a period of time which lasts sixty minutes ○ *It's a three-hour flight to Greece from London.*

hours *plural noun* MEASURE a particular time of day using the 24-hour clock ○ *The experiment started at 13:20 hours.*

house *noun* **1.** a building where a person lives **2.** a structure where animals or machinery are kept ○ *the reptile house* ○

the engine house ■ **verb** **1.** to contain or provide space for something ○ *The areas between the ribs in the wings are utilised to house fuel tanks.* **2.** to put a device in a case ○ *The magnetic tape is housed in a solid plastic case.*

housefly *noun* INSECTS a common fly living in houses, which can spread disease by laying its eggs in decaying meat and vegetables

household *noun* a group of people living together in a single home ■ **adjective** **1.** ENVIRON referring to or used in houses where people live ○ *household appliances such as fridges and ovens* **2.** familiar ○ *household knowledge*

household refuse, household waste *noun* ENVIRON same as **domestic refuse**

housekeeping *noun* COMPUT the tasks that have to be regularly carried out to maintain a computer system, e.g. checking backups or deleting unwanted files

housing *noun* **1.** a container ○ *The crankcase is the housing that encloses the various mechanical parts surrounding the crankshaft.* **2.** ENVIRON the buildings where people live

hover *verb* to remain stationary relative to the ground while in the air ■ **noun** an act of remaining stationary relative to the ground while in the air ○ *During a hover, helicopter pilots must be able to coordinate movements of both hands and feet.*

howler *noun* **1.** a very bad and obvious mistake ○ *What a howler, no wonder your program won't work.* **2.** TELECOM a buzzer that indicates to a telephone exchange operator that a user's telephone handset is not on the receiver

h.p., HP *abbreviation* MEASURE horsepower

Hs *symbol* CHEM ELEM hassium

HSB *abbreviation* COMPUT hue, saturation, brightness

HSI *abbreviation* COMPUT hue, saturation, intensity

HSL *abbreviation* PHYS hue, saturation, level

HST *abbreviation* ASTRON Hubble Space Telescope

HSV *abbreviation* COMPUT hue, saturation and value

HTML *noun* COMPUT a series of special codes that define the typeface and style that should be used when displaying the text of a document and also allow hypertext links

to other parts of the document or to other documents ○ *HTML is normally used to create documents for the World Wide Web.* Full form **hypertext markup language**

HTTP *noun* COMPUT a set of commands used by a browser to ask an Internet web server for information about a webpage. Full form **hypertext transfer protocol**

HTTPd *noun* COMPUT server software that sends webpage files to a client in response to a request from a user's web browser ○ *When you type a website address into your web browser, this sends a request to the HTTPd server software that replies with the HTML code of a formatted web page.* Full form **hypertext transfer protocol daemon**

hub *noun* COMPUT **1.** the central part of a disk, usually with a hole and ring which the disk drive grips to spin the disk **2.** the central ring or wiring cabinet where all circuits meet and form an electrical path for signals

Hubble, Edwin P. (1889–1953) ASTRON a US astronomer who revolutionised thinking about the large-scale structure of the universe by methodical study of the galaxies. He discovered that they are receding at a rate dependent on their distance from Earth, which led to the idea of the expansion of the universe. He also developed the now standard classification of galactic types.

Hubble Classification *noun* ASTRON a classification of the galaxies into elliptical, spiral and barred spiral types, which is used to describe all but the most unusual types of galaxy

COMMENT: Within these overall headings are subdivisions. The ellipticals are classed as E0 to E7, becoming steadily more elongated as the number increases. Spirals are classed as Sa, Sb or Sc, with the spirals less tightly wound for the later letters, and the same system is adopted for the barred spirals, which are classed as SBa, SBb and SBc. Type S0 indicates a regular ellipse apparently intermediate between the three categories. Galaxies that fall between the categories are sometimes classed as Sbc or some similar hybrid. It is important to note that the actual relation between the different types of galaxy may well be less neat than this family tree implies.

Hubble Constant *noun* ASTRON the number linking the rate of recession of the galaxies with their distance from Earth (NOTE: The value of the Hubble Constant is between 50 and 100km/s of recession velocity per megaparsec of distance.

Observation with the Hubble Space Telescope suggests a figure of about 80km/s per megaparsec.)

Hubble Diagram *noun* ASTRON a graph showing the distance of galaxies against their velocity of recession from Earth (NOTE: The steepness of the graph gives the **Hubble Constant**.)

Hubble Space Telescope *noun* ASTRON a telescope mounted on a satellite orbiting Earth, launched in 1990. Abbr **HST**

COMMENT: The 12-tonne spacecraft has a telescope with a 2.4 m main mirror, which by being placed above Earth's atmosphere can be used to see objects as faint as the 31st magnitude. The HST's instruments include faint-object and wide-field cameras and photometers and spectrographs. It is used mainly to examine objects in deep space, but has also produced startling images of solar system objects such as Mars, and Jupiter during the 1994 impact of Comet Shoemaker Levy 9.

hue *noun* COMPUT the colour of an image or pixel

hue, saturation, brightness *noun* PHYS same as **hue, saturation, intensity**. Abbr **HSB**

hue, saturation, intensity *noun* PHYS a method of defining a colour through its three properties: hue, colour defined by its wavelength; saturation, the purity of the colour and the amount of white. Abbr **HSI**

hue, saturation, level *noun* PHYS same as **hue, saturation, intensity**. Abbr **HSL**

Huffman code *noun* COMPUT a data compression code in which frequent characters occupy less bit space than less frequent ones

human BIOL *adjective* referring to a man, woman or child ■ *noun* same as **human being** ○ *Most animals are afraid of humans.*

human anatomy *noun* BIOL the study of the the structure, shape and functions of the human body

human being *noun* BIOL a man, woman or child

human-caused *adjective* ENVIRON referring to a disaster or event which has been brought about by human beings

human-computer interface *noun* COMPUT same as **human-machine interface**

human ecology *noun* ENVIRON the study of communities of people, the place

that they occupy in the natural world and the ways in which they adapt to or change the environment

Human Genome Project *noun* GENETICS an international research initiative to sequence and identify all human genes and record their positions on chromosomes, officially completed in 2003

human geography *noun* ENVIRON the study of the distribution of human populations with reference to their geographical environment

human-induced stress *noun* ENVIRON stress in animals caused by interactions with humans

humankind *noun* all human beings considered as a group

human-machine interface *noun* COMPUT a set of facilities provided to improve the interaction between a user and a computer system. Abbr **HMI**. Also called **human-computer interface**

human metapneumovirus *noun* MICROBIOL a single-stranded RNA virus discovered in 2001 that is a major cause of respiratory infections with symptoms similar to the common cold

human nature *noun* BIOL the general characteristics of behaviour shared by all human beings

human physiology *noun* PHYSIOL the study of the functions of the human body

human race *noun* BIOL same as **human-kind**

humate *noun* CHEM a salt that is derived from humus

humerus *noun* ANAT the long bone of the forelimb in vertebrate animals

humid *adjective* METEOROL relating to air that contains moisture vapour ○ *Decomposition of organic matter is rapid in hot and humid conditions.*

humidifier *noun* INDUST a device for making dry air moist, especially in air conditioning or heating systems

humidify *noun* to make something moist

humidity *noun* METEOROL a measurement of how much water vapour is contained in the air

humification *noun* BIOL the breakdown of rotting organic waste to form humus

humify *verb* BIOL to break down rotting organic waste to form humus

humus *noun* 1. EARTH SCI the fibrous organic matter in soil, formed from decom-

posed plants and animal remains, which makes the soil dark and binds it together 2. INDUST a dark organic residue left after sewage has been treated in sewage works

hurricane *noun* METEOROL a tropical storm with extremely strong winds

hurricane force wind *noun* METEOROL a wind blowing at force 12 on the Beaufort scale

hurry sickness *noun* MED a compulsion to do everything quickly, or a chronic feeling of being short of time, attributed to the fast pace of modern life and causing symptoms such as anxiety and insomnia

husbandry *noun* AGRIC the activity of looking after farm animals and crops ○ *a new system of intensive cattle husbandry*

hybrid *noun* BIOL a new form of plant or animal resulting from a cross between organisms that have different genotypes ○ *high-yielding maize hybrids* ■ *adjective* BIOL being the result of a cross between organisms that have different genotypes ■ *adjective, noun* made up of differing elements

hybrid circuit *noun* COMPUT the connection of a number of different electronic components such as integrated circuits, transistors, resistors and capacitors in a small package

hybridisation, hybridization *noun* GENETICS the production of hybrids

hybridise, hybridize *verb* GENETICS to produce a new form of plant or animal by combining the genes of two organisms that have different genotypes

hybrid vigour *noun* GENETICS same as **heterosis**

hydr- *prefix* same as **hydro-** (NOTE: used before vowels)

hydra *noun* MARINE BIOL a freshwater polyp with a cylindrical body at one end and a mouth surrounded by tentacles at the other

hydrate *noun* CHEM a chemical compound, frequently a salt, containing bound water molecules that can usually be expelled by heating, without decomposition of the compound

hydrated *adjective* CHEM referring to a chemical compound in which water is bound

hydraulic *adjective* MECH ENG referring to a system or device that uses fluids such as oil to transmit a force from one place to another using pipes ○ *a hydraulic pump*

hydraulic gradient *noun* EARTH SCI the direction of ground water flow due to changes in the depth of the water table

hydraulic pressure *noun* MECH ENG the pressure exerted by hydraulic fluid

hydraulic tubing *noun* MECH ENG a system of tubes or thin pipes connecting the main components of a hydraulic system

hydrazine *noun* CHEM a highly reactive fuming colourless liquid that is strongly alkaline. Formula: $H_2N.NH_2$. (NOTE: It is used as rocket fuel.)

hydric *adjective* ECOL referring to an environment that is wet. Compare **xeric**

hydro- *prefix* water

hydrobromic acid *noun* CHEM a colourless solution of hydrogen bromide in water. Formula: HBr.

hydrocarbon *noun* CHEM a compound formed of hydrogen and carbon

COMMENT: Hydrocarbons are found in fossil fuels such as coal, oil, petroleum and natural gas. They form a large part of exhaust fumes from cars and contribute to the formation of smog. When released into the air from burning coal or oil they react in the sunlight with nitrogen dioxide to form ozone. Hydrocarbons are divided into aliphatic hydrocarbons (paraffins, acetylenes and olefins) and aromatic hydrocarbons (benzenes).

hydrochloric acid *noun* 1. CHEM a colourless strong acid solution consisting of hydrogen chloride gas dissolved in water. Formula: HCl. (NOTE: It is used in industrial and laboratory processes.) 2. an inorganic acid which forms in the stomach and is part of the gastric juices

hydrocolloid strip *noun* MED a gelatinous waterproof dressing that seals a wound, retaining moisture and protecting from germs and dirt

hydrocortisone *noun* BIOCHEM same as **cortisol**

hydrocyanic acid *noun* CHEM a colourless solution of hydrogen cyanide in water, which is highly toxic and smells of almonds. Formula: HCN.

hydroelectric *adjective* INDUST relating to hydroelectricity ○ *The valley was flooded to construct the hydroelectric scheme.*

hydroelectric energy *noun* INDUST electricity produced by using a flow of water to drive the turbines

hydroelectricity *noun* INDUST the electricity produced by water power

hydroelectric power *noun* INDUST the electricity produced by using a flow of water to drive turbines

hydroelectric power station *noun* INDUST a power station that produces electricity using a flow of water to drive the turbines

hydrofluoric acid *noun* CHEM a solution of hydrogen fluoride in water that is extremely corrosive and attacks glass and stone. Formula: HF.

hydrofluorocarbon *noun* CHEM a chemical that is emitted as a by-product of industrial processes and contributes to global warming, although it does not damage the ozone layer. Abbr **HFC**

hydrogen *noun* CHEM ELEM a gaseous chemical element that combines with oxygen to form water, with other elements to form acids, and is present in all animal tissue (NOTE: Hydrogen is also used as a moderator to show the speed of neutrons in some nuclear reactors. The chemical symbol is **H**; the atomic number is **1** and the atomic weight is **1.01**.)

hydrogen bomb *noun* MIL an explosive weapon of mass destruction in which huge amounts of energy are suddenly released by the fusion of hydrogen nuclei

hydrogen bond *noun* CHEM a weak electrostatic interaction between molecules in which hydrogen atoms are bound to electronegative atoms such as oxygen or nitrogen in which the hydrogen atom is attracted to the electronegative atom (NOTE: The attraction between water molecules due to hydrogen bonds accounts for the relatively high boiling point of water.)

hydrogen bromide *noun* CHEM a colourless or brown fuming gas with a distinctive unpleasant smell. Formula: HBr.

hydrogen carbonate *noun* CHEM a salt of carbonic acid in which one hydrogen atom has been replaced, usually by a metal

hydrogen chloride *noun* CHEM a colourless fuming corrosive gas with an unpleasant choking smell. Formula: HCl. (NOTE: It is used in PVC manufacture and chemical synthesis.)

hydrogen cyanide *noun* BIOCHEM a poisonous liquid or gas with a smell of almonds, which is found naturally in some plants such as cassava or almond nuts. Formula: HCN.

hydrogen electrode *noun* PHYS an electrode created by adsorbing hydrogen

onto a platinum electrode, which is then set to zero potential and used to compare other results. Also called **hydrogen half cell**

hydrogen fluoride *noun* CHEM a colourless poisonous strong-smelling gas. Formula: HF.

hydrogen fuel *noun* INDUST liquid hydrogen, proposed as an alternative fuel for use in cars and aircraft

hydrogen half cell *noun* PHYS same as **hydrogen electrode**

hydrogen ion *noun* CHEM a positively charged hydrogen atom that is formed by the removal of an electron and is present in solutions of acids in water (NOTE: The concentration of hydrogen ions in solution is measured using the pH scale.)

hydrogen peroxide *noun* CHEM a colourless viscous liquid that readily decomposes to give off oxygen, used as a bleach, antiseptic and rocket fuel component. Formula: H₂O₂.

hydrogen spectrum *noun* PHYS the light spectrum produced when a strong electric current is passed through hydrogen gas

hydrogen sulfate, hydrogen sulphate *noun* CHEM a salt formed when one hydrogen atom is removed from sulfuric acid by reaction with a metal, metal salt or organic group. Also called **bisulfate**

hydrogen sulfide, hydrogen sulphide *noun* CHEM a colourless gas with an unpleasant smell, produced during industrial processes, which corrodes metal and is toxic to animals. Formula: H₂S.

hydrograph *noun* EARTH SCI a graph showing the level or flow of water in a river or lake

hydrography *noun* EARTH SCI the science of measuring and charting rivers, lakes and seas

hydrological *adjective* EARTH SCI referring to hydrology

hydrology *noun* EARTH SCI the study of water, its composition and properties and in particular the place of water in the environment

hydrolysis *noun* CHEM a chemical reaction in which a substance reacts with water, causing decomposition of both the original substance and the water and the production of two or more other compounds (NOTE: The conversion of starch to glucose is an example of hydrolysis.)

hydrometer *noun* PHYS an instrument that measures the density of a liquid

hydromorphic soil *noun* EARTH SCI waterlogged soil found in bogs and marshes

hydrophilic *adjective* CHEM displaying a tendency to dissolve in, absorb or mix easily with water

hydrophobic *adjective* CHEM not soluble in, mixing easily with or able to absorb water

hydrophyte *noun* BOT a plant that lives in water or in marshy conditions

hydroponics *noun* AGRIC the practice of growing plants in a nutrient liquid with or without sand, vermiculite or other granular material

hydropower *noun* INDUST same as **hydroelectric power**

hydrosere *noun* BOT a series of plant communities growing in water or in wet conditions

hydrosol *noun* CHEM a solvent of water

hydrosphere *noun* EARTH SCI all the water on the Earth, in the atmosphere, the sea and on land

hydrostatic *adjective* EARTH SCI referring to water that is not moving

hydrostatic pressure *noun* EARTH SCI the pressure of water that is not moving

hydrothermal *adjective* EARTH SCI referring to water and heat under the Earth's crust

hydrothermal formation *noun* EARTH SCI a rock formation where water pockets or porous water-filled rock come into contact with magma, so creating steam

hydrothermal vent *noun* EARTH SCI a place on the ocean floor where hot water and gas flow out of the Earth's crust

hydrotropism *noun* PLANTS a movement of a root or other plant part towards or away from moisture

hydroxide *noun* CHEM a metallic compound containing inorganic OH⁻ groups giving it basic properties

hydroxonium ion *noun* CHEM a positive ion formed by the addition of a hydrogen ion or proton to a water molecule, usually in acid solution. Formula: H₃O⁺.

hydroxyproline *noun* BIOCHEM an amino acid present in some proteins, especially in collagen

hygiene *noun* HEALTH **1.** the state or practice of being clean and keeping healthy conditions **2.** the science of health

hygienic *adjective* HEALTH **1.** referring to the state or practice of being clean ○ *hygienic conditions* ○ *Don't touch the food with dirty hands – it isn't hygienic.* **2.** producing healthy conditions

hygro- *prefix* CHEM wet

hygrometer *noun* METEOROL an instrument used for the measurement of humidity ○ *The most common type of hygrometer is the wet and dry bulb thermometer arrangement.*

hygrometry *noun* the scientific measurement of humidity

hygroscope *noun* CHEM a device or substance which gives an indication of humidity, often by changing colour

hygroscopic *adjective* CHEM referring to a substance which absorbs moisture from the atmosphere

hypo- *prefix* same as **hypo-** (NOTE: used before vowels)

hypalgesia *noun* MED a low sensitivity to pain

hyper- *prefix* over, above, higher or too much. Opposite **hypo-**

hyperaccumulate *verb* ENVIRON to take up and retain an unusually high concentration of metal from the environment

hyperactive *adjective* BIOL being unusually active and restless

hyperbaric *adjective* SCI relating to, involving, or occurring at pressures higher than normal

hypercharged *adjective* PHYS describes elementary particles with the property of hypercharge

hyperfine structure *noun* PHYS the splitting of lines in a spectrum on an even smaller scale than fine structure

hyperinsulinism *noun* MED the reaction of a diabetic to an excessive dose of insulin or to hypoglycaemia

hyperlink *noun* COMPUT a word, image or button in a webpage or multimedia title that moves the user to another page when clicked

hypermetropia *noun* OPHTHALMOL same as **hyperopia**

hyperon *noun* PHYS a baryon with a large mass and a short life (NOTE: Hyperons may be unstable.)

hyperopia *noun* OPHTHALMOL the ability to see distant objects more clearly than close objects. Also called **hypermetropia**, **long-sightedness**

hyperparasite *noun* BIOL a parasite which is a parasite on other parasites

hyperploid *adjective* GENETICS referring to an organism that has an extra chromosome or section of a chromosome (NOTE: An extra copy or segment of chromosome 21 occurs in people with Down's syndrome.)

hypersensitive *adjective* MED reacting more strongly than usual to a factor such as stress, an antigen, an event or a disease agent

hypersensitivity *noun* BIOL a condition in which an organism reacts unusually strongly to a factor such as stress, an antigen, an event or a disease agent

hypertension *noun* MED a condition where the pressure of the blood in the arteries is higher than 160/95 for adults without heart disease or diabetes

hypertext *noun* COMPUT a multimedia system of organising information in which some words in a document link to other documents and display the text when the word is selected ○ *Hypertext allows you to click once on the word 'computer' and jump to a page where it will tell you what a computer is.* ■ *adjective* referring to hypertext ○ *a hypertext page*

hypertext markup language *noun* COMPUT full form of **HTML**

hypertext transfer protocol *noun* COMPUT full form of **HTTP**

hypertext transfer protocol daemon *noun* COMPUT full form of **HTTPd**

hypertonic *adjective* CHEM referring to a solution with a higher osmotic pressure than that of another solution to which it is compared

hypha *noun* FUNGI a long thin structure containing cytoplasm that is part of the network forming the vegetative body of a fungus (NOTE: The plural is **hyphae**.)

hypo- *prefix* under, less, too little or too small. Opposite **hyper-**

hypochlorite *noun* CHEM a salt of hypochlorous acid

hypochlorous acid *noun* CHEM a weak greenish-yellow acid that is unstable and occurs only in solution or as salt. Formula: HOCl.

hypocotyl *noun* the part of a seedling beneath the cotyledon

hypodermic injection *noun* MED an injection of a liquid beneath the skin. Also called **subcutaneous injection**

hypodermic syringe *noun* MED an instrument for injecting liquids under the skin

hypogeal *adjective* BOT occurring or developing below ground. Compare **epigeal**

hypoglossal nerve *noun* ANAT the twelfth cranial nerve which governs the muscles of the tongue

hypoglycaemia *noun* MED a low concentration of glucose in the blood

hypoglycaemic *adjective* MED suffering from hypoglycaemia

hypolimnion *noun* EARTH SCI the lowest layer of water in a lake, which is cold and stationary and contains less oxygen than upper layers. ◊ **epilimnion**, **metalimnion**

hypophysis *noun* ANAT same as **pituitary gland**

hypoploid *adjective* GENETICS referring to an organism that has a chromosome number that is slightly less than the diploid number

hypotension *noun* MED a condition where the pressure of the blood is unusually low

hypotenuse *noun* MATHS the longest side of a right-angled triangle located opposite the right angle

hypothalamus *noun* ANAT the part of the brain above the pituitary gland, which controls the production of hormones by the pituitary gland and regulates important bodily functions such as hunger, thirst and sleep

hypothermia *noun* MED a reduction in body temperature below 35°C

hypothesis *noun* a suggestion that something may account for observed facts, though without proof, used as a basis for reasoning (NOTE: The plural is **hypotheses**.)

hypotonic *adjective* CHEM, BIOL referring to a solution with lower osmotic pressure than that of another solution to which it is compared

hysteresis *noun* PHYS a delay in the response of an object to changes in the forces acting on it, especially magnetic forces

Hz *abbreviation* MEASURE hertz

I *symbol* CHEM ELEM iodine

IAB *abbreviation* COMPUT **1.** Internet Activities Board **2.** Internet Architecture Board

IAEA *abbreviation* International Atomic Energy Authority

IAM *abbreviation* COMPUT intermediate access memory

IANA *abbreviation* COMPUT Internet Assigned Numbers Authority

IAR *abbreviation* COMPUT instruction address register

IAS¹ *noun* COMPUT a high-speed main memory area in a computer system. Full form **immediate access store**

IAS² *abbreviation* AEROSP indicated air-speed

I-beam *noun* COMPUT a cursor shaped like the letter 'I' used in a graphical user interface to edit text or indicate text operations

IBG *abbreviation* COMPUT interblock gap

IC *abbreviation* COMPUT integrated circuit

icand *noun* COMPUT same as **multiplacand**

ice *noun* METEOROL frozen water

COMMENT: Ice is formed when water freezes at 0°C. Ice is less dense than water and so floats. Because the ice in the polar ice caps is very thick and has been formed over many thousands of years, scientists are able to discover information about the climate over a very long period of time by examining core samples obtained by drilling into the ice.

Ice Age *noun* GEOL a long period of time when Earth's temperature was cool and large areas of the surface were covered with ice

iceberg *noun* OCEANOLOG a very large block of ice floating in the sea, formed when ice breaks away from an Arctic glacier or ice sheet

ice cap *noun* EARTH SCI same as **polar ice cap**

ice crystal *noun* METEOROL a type of precipitation composed of crystals in the form of needles, plates or columns

ice floe *noun* OCEANOLOG a block of ice floating in the sea

ice formation *noun* EARTH SCI the natural production and development of ice

ice point *noun* PHYS the freezing point of water

ice sheet *noun* EARTH SCI a large area of thick ice in the north or south polar regions

ice shelf *noun* EARTH SCI an outer margin of an ice cap or ice sheet that extends into and over the sea

ice storm *noun* METEOROL freezing rain that creates a sheet of ice on structures such as trees and electric wires

-icide *suffix* BIOL substance which destroys a particular organism

ICMP *noun* COMPUT an extension to the Internet Protocol that provides error detection and control messages ○ *The Internet command 'ping' uses ICMP to test if a named node is working correctly.* Full form

Internet control message protocol

icon *noun* COMPUT a graphic symbol or small picture displayed on screen, used in an interactive computer system to provide an easy way of identifying a function ○ *The icon for the graphics program is a small picture of an artist's palette.*

ICRP *abbreviation* International Commission on Radiological Protection

ICSH *abbreviation* BIOL interstitial-cell-stimulating-hormone

IDE *abbreviation* COMPUT integrated device electronics ○ *IDE drives are fitted to most home PCs.*

ideal *adjective* referring to a situation that is as good as can be expected or the best possible

ideal gas *noun* CHEM a theoretical concept of a gas that obeys the gas laws exactly at all temperatures and pressures

ideal solution *noun* CHEM a solution described by the equation $p = p_0 X$ where p is the vapour pressure of the solvent with a substance dissolved in it, X is the mole fraction of the solvent and p_0 is the vapour pressure of the pure solvent

identical *adjective* exactly the same as something else

identical twins *noun* BIOL same as **monozygotic twins**

identification *noun* **1.** the action or process of establishing the identity of somebody or something **2.** the action or process of recognising or establishing the nature of something *o keys for the identification of plants o the identification of our priorities*

identification character *noun* COMPUT a single character sent to a host computer to establish the identity and location of a remote computer or terminal

identification division *noun* COMPUT a section of a COBOL program source code in which the identifiers and formats for data and variables to be used within the program are declared

identifier *noun* COMPUT a grouped number/letter code by which a device, block or file can be recognized

identify *verb* **1.** to recognise somebody or something as different from somebody or something else *o The team has identified a new species.* **2.** to be the means of recognising somebody or something *o The pelvic structure identified the skeleton as female.* **3.** to understand the nature of something *o We soon identified the problem.*

identity *noun* something that distinguishes who someone or what something is

identity burst *noun* COMPUT a pattern of bits before the first block of data on a magnetic tape that identifies the tape format used

identity gate, identity element *noun* COMPUT a logical gate that provides a single output that is true if the inputs are both the same

idiogram *noun* GENETICS a photograph or diagram showing chromosomes arranged in their homologous pairs according to the standard numbering system for that organism

idle *noun* **1.** not being used, but ready and waiting to be used **2.** MECH ENG the state of

an engine when it is running but not delivering power to move the vehicle or aircraft
■ verb MECH ENG (*of an engine*) to turn over slowly without providing enough power to move a vehicle or aircraft *o After starting a piston engine from cold, allow it to idle for a short time before opening the throttle wide.*

idle character *noun* COMPUT a symbol or code that means 'do nothing' or a code which is transmitted when there is no data available for transmission at that time

idle cut-off *noun* AVIAT a position on the mixture control of a light aircraft that allows the engine to be shut down without leaving a combustible fuel/air mixture in the engine

idling speed, idle rpm *noun* MECH ENG the speed at which a piston engine turns when it is not running fast enough to move the vehicle or aircraft, i.e. on a light aircraft when the throttle is almost closed *o After start-up, the engine accelerates up to idling speed. o Before the engine is stopped, it should normally be allowed to run for a short period at idling speed to ensure gradual cooling.*

IDP abbreviation COMPUT integrated data processing

IEE abbreviation ELEC ENG Institution of Electrical Engineers

IEEE abbreviation US ELEC ENG Institute of Electrical and Electronic Engineers

IEEE-488 *noun* COMPUT an interfacing standard as laid down by the US Institute of Electrical and Electronic Engineers, in which only data and handshaking signals are involved (NOTE: It is mainly used in laboratories to connect computers to measuring equipment.)

IEEE-802.2 *noun* COMPUT a standard defining data links used with 802.3, 802.4 and 802.5

IEEE-802.3 *noun* COMPUT a standard defining the Ethernet network system

IEEE-802.4 *noun* COMPUT a standard defining Token Bus

IEEE-802.5 *noun* COMPUT a standard defining IBM Token-Ring network system in which access is using a token passed around a ring network

IEEE bus *noun* COMPUT an interface that conforms to IEEE standards

IESG abbreviation COMPUT Internet Engineering Steering Group

IETF *abbreviation* COMPUT Internet Engineering Task Force

IFF *noun* COMPUT a standard for compressed files stored on a CD-I. Full form **international file format**

IF statement *noun* COMPUT a computer programming statement, meaning do an action IF a condition is true (NOTE: It is usually followed by THEN.)

IF-THEN-ELSE *noun* COMPUT a high-level programming language statement, meaning IF something cannot be done, THEN do this, or ELSE do that

Ig *abbreviation* BIOCHEM immunoglobulin

IGMP *noun* COMPUT a standard that helps manage how data is transferred during an IP Multicast operation in which one server computer sends each packet of data to several destinations at the same time. Full form **Internet group management protocol** (NOTE: The IGMP standard is defined in RFC1112.)

igneous *adjective* EARTH SCI referring to rock such as basalt and granite, formed from molten lava

igneous intrusion *noun* EARTH SCI molten rock that solidified before reaching Earth's surface and remains as a layer among other rocks

igneous rock *noun* EARTH SCI a rock such as basalt or granite formed from lava which has either broken through Earth's crust, as in a volcanic eruption, or has entered the crust from below and formed a layer inside it

ignite *verb* to begin to burn or cause something to burn ○ *The spark plug ignites the fuel/air mixture.* ○ *The air/fuel mixture ignites.*

igniter *noun* MECH ENG a device for starting gas turbine engines ○ *An electric spark from the igniter plug starts combustion.*

ignition *noun* **1.** PHYS the starting of burning of a substance ○ *Satisfactory ignition depends on the quality of the fuel.* **2.** MECH ENG the moment when a spark from the spark plug in an internal combustion engine causes the fuel/air mixture to burn ○ *Ignition should occur just before top-dead-centre.* **3.** ELEC ENG an electrical system, usually powered by a battery or magneto, that provides the spark to ignite the fuel mixture in an internal-combustion engine ○ *Ignition problems are a source of many engine failures.* **4.** MECH ENG a

switch that activates the ignition system of a vehicle or aircraft

ignition key *noun* MECH ENG a key used to switch on the ignition of a vehicle or aircraft

ignition lock *noun* MECH ENG a key-operated switch for activating the ignition circuit of an aircraft or a vehicle

ignition temperature *noun* PHYS the temperature at which a substance will start to burn

IGP *abbreviation* COMPUT interior gateway protocol

IH *abbreviation* COMPUT interrupt handler

IIL *abbreviation* COMPUT integrated injection logic

IKBS *abbreviation* COMPUT intelligent knowledge-based system

ileocaecal valve *noun* ANAT a valve at the end of the ileum, which allows food to pass from the ileum into the caecum

ileocolic artery *noun* ANAT a branch of the superior mesenteric artery

ileum *noun* ANAT the third and last part of the small intestine, between the jejunum and the beginning of the large intestine

ilium *noun* ANAT the wide flat upper portion of the pelvis that is connected to the base of the spine (NOTE: At birth it is a separate bone, later becoming fused with two other bones in the formation of the hip bone.)

illegal *adjective* **1.** referring to an action not permitted by the criminal law **2.** COMPUT against the rules of programming syntax

illegal instruction *noun* COMPUT an instruction code not within the repertoire of a language

illumination *noun* PHYS the visible radiation that reaches a unit of surface area in a unit of time

illuminate *verb* **1.** to give light to an otherwise dark area ○ *A flare illuminates the ground below it.* **2.** to light a lamp

illumination *noun* **1.** the provision of light **2.** PHYS the extent to which a surface is illuminated

illustrate *verb* **1.** to explain something clearly, often by using pictures ○ *Contour charts illustrate the horizontal distribution of height above mean sea level.* **2.** to show something by being an example of it ○ *The accident illustrates the need for improved safety procedures in this area.*

illustration *noun* **1.** a picture which explains something ○ *The illustration on page 23 shows a cross section of a typical gas-turbine engine.* **2.** an example ○ *The mechanics of the föhn wind provide a good illustration of the adiabatic process in action.*

illuviation *noun* EARTH SCI the movement of particles and chemicals from the topsoil into the subsoil

IMA *abbreviation* COMPUT Interactive Multimedia Association

image *noun* **1.** a picture, photograph, design or other piece of artwork **2.** COMPUT an exact duplicate of an area of memory

image buffer *noun* COMPUT an area of memory that is used to build up an image before it is transferred to screen

image compression *noun* COMPUT the process of compressing the data that forms an image

image converter *noun* PHYS an optical-electronic device that turns an image formed by invisible radiation into an image that can be seen

image degradation *noun* ELEC loss of picture contrast and quality due to signal distortion or bad copying of a video signal

image editing *noun* COMPUT the altering or adjusting of an image using a paint package or special image editing program

image editor *noun* COMPUT a piece of software that allows a user to edit, change or create a bit-map image

image enhancement *noun* COMPUT the adjustment of parts of an image using special image processing software to change the brightness or sharpness of an image

image intensifier *noun* ASTRON an opto-electronic device using materials that emit large numbers of photons in response to the arrival of a single photon (NOTE: This allows image intensifiers to produce increased light fluxes from weak sources under observation.)

imagemap *noun* COMPUT a graphic image that has areas of the image defined as hyperlink hotspots that link to another webpage

image processing *noun* COMPUT the analysis of information contained in an image, usually by electronic means, by using a computer which provides the analysis or by recognition of objects in the image

image processing software *noun* COMPUT software that allows a user to adjust contrast, colour or brightness levels or apply special effects to a bit-map image

image processor *noun* COMPUT an electronic or computer system used for image processing, and to extract information from the image

image scanner *noun* COMPUT an input device which converts documents, drawings or photographs into a digitized, machine-readable form

image sensor *noun* PHYS a photoelectric device that produces a signal related to the amount of light falling on it

image stability *noun* COMPUT the ability of a display screen to provide a flicker-free picture

image storage space *noun* COMPUT a region of memory in which a digitized image is stored

image table *noun* COMPUT either of two bit-mapped tables used to control input and output devices or processes

imaginary *adjective* not real ○ *The equator is an imaginary line around the Earth.*

imaginary number *noun* MATHS a complex number written as $a + ib$, where i is the square root of minus one, and b is not equal to zero

imago *noun* INSECTS an insect in the final adult stage after metamorphosis

IMAP *noun* COMPUT a standard that defines how electronic mail messages can be accessed and read over a network. Full form **Internet message access protocol**

COMMENT: The IMAP standard, currently at version four, provides an alternative to the common POP3 standard. It stores a user's messages on a shared server, for example at an ISP, and allows a user to connect from any computer and read, send or manage messages. In contrast, the POP3 protocol downloads all messages from a shared server onto the user's computer. This makes it difficult for a user to access messages from a different computer – for example when travelling. Regardless of whether IMAP or POP3 is used to read messages, the SMTP protocol is normally used to send messages.

imbalance *noun* a situation where the balance between a set of things is unequal ○ *Lack of vitamins A and E creates hormonal imbalances in farm animals.*

imino group *noun* CHEM a group of compounds containing the basic structure -NH- where the nitrogen atom is not joined

to any other hydrogen atoms or carbonyl groups

immature *adjective* BIOL referring to an organism or part that is still developing ○ *an immature duck* ○ *an immature fruit*

immediate *adjective* nearby ○ *The immediate area surrounding the Earth is known as the atmosphere.*

immediate address *noun* COMPUT same as **zero-level address**

immediate mode *noun* COMPUT a mode in which a computer executes an instruction as soon as it is entered

immediate processing *noun* COMPUT the processing of data when it appears, rather than waiting for a synchronising clock pulse or time. Compare **batch processing**

immerse *verb* to cover something completely in liquid ○ *The booster pumps mounted on the base of the fuel tank are fully immersed.*

immigrant species *noun* ECOL a species that migrates into or is introduced into an ecosystem, deliberately or accidentally

immigration *noun* ECOL the movement of an individual into a new area. Opposite **emigration**

imminent *adjective* which will happen in a very short time

immune *adjective* IMMUNOL referring to a person, other animal or plant that is not affected by a specific microorganism ○ *This barley strain is not immune to the virus.*

immune body *noun* IMMUNOL a substance which protects against an infection or disease

immune response *noun* IMMUNOL the way in which an organism defends itself against pathogenic organisms and other foreign material

immune system *noun* IMMUNOL the arrangement of organs, cells and substances that protects the body against an infection or against an allergic disease (NOTE: The spleen, lymph tissue and white blood cells are part of the immune system.)

immunisation, immunization *noun* IMMUNOL the production of immunity to a specific disease, either by injecting an antiserum or by giving an individual the disease in such a small dose that the body does not develop the disease, but produces antibodies to counteract it

immunise, immunize *verb* IMMUNOL to make a person or other animal immune to a specific microorganism by inoculating them

immunity *noun* IMMUNOL **1.** the natural or acquired ability of a person or other animal to resist a microorganism and the disease it causes ○ *The vaccine gives immunity to tuberculosis.* **2.** the ability of a plant to resist disease through a protective covering on leaves, through the formation of protoplasts or through the development of inactive forms of viruses

immunoassay *noun* a technique for measuring the amount of antigens and antibodies in tissue

immunobiology *noun* BIOL, MED a branch of biology dealing with the effects of the immune system on factors affecting the body, including disease, growth, and genetics

immunocytochemistry *noun* CHEM, MED a branch of biochemistry that deals with the immunological reactions of cells

immunodeficiency *noun* IMMUNOL lack of immunity to a disease

immunogenetics *noun* GENETICS, IMMUNOL the study of the genetic basis of the immune system (NOTE: This study is especially important in organ transplantation, where a close genetic match of tissue improves the chances of success.)

immunoglobulin *noun* IMMUNOL a protein produced by specific white blood cells that acts as an antibody in immune responses. Abbr **Ig** (NOTE: Immunoglobulins occur in blood serum and other body fluids, and are grouped into five classes with differing structures and immune functions. They are IgG, IgA, IgD, IgE and IgM.)

immunological *adjective* referring to immunology

immunological response *noun* the response of an animal to an attack by parasites by the production of antibodies

immunology *noun* MED the study of immunity and immunisation

impact *noun* **1.** a collision of one object against another **2.** the effect that something or someone has

impact assessment *noun* ENVIRON an evaluation of the effect upon the environment of an activity such as a large construction programme or the draining of marshes

impacted area *noun* ENVIRON an area of land affected by something such as a large-scale building project

impact resistance *noun* INDUST the ability of a material to withstand impact without breaking or shattering ○ *Kevlar 49 has high impact resistance.*

impact study *noun* ENVIRON same as **impact assessment**

impair *verb* to cause something to become less effective ○ *An incorrect grade of fuel impairs engine performance.* ○ *An unfortunate legacy of past contamination still impairs the ecosystem.*

impaired vision *noun* OPHTHALMOL eyesight which is not fully clear

impairment *noun* **1.** the inability of something to function effectively ○ *hearing impairment* **2.** the process of damaging something so that it does not function effectively

impart *verb* to give a particular characteristic or quality ○ *A rotating propeller imparts rearward motion to a mass of air.*

impedance *noun* ELEC total electrical resistance to current flow in an alternating current circuit ○ *Impedance will vary with changes in frequency.*

COMMENT: Network cables need to have the correct impedance for the type of network card installed. 10BaseT unshielded twisted-pair cable normally has an impedance between 100–105 ohms, while 10Base2 coaxial cable has an impedance of 50 ohms.

impede *verb* to obstruct or hinder progress

impeller *noun* MECH ENG a rotor used to force a fluid in a particular direction ○ *A turbocharger consists of a turbine wheel and an impeller fitted on the same shaft.*

imperial gallon *noun* MEASURE a unit of volume in the British Imperial System, usually used in liquid measure and equal to 4.546 litres ○ *The system delivers fuel at the rate of 100 to 2000 gallons per hour.*

Imperial System *noun* MEASURE a non-metric system of weights and measures used in the United Kingdom, including the foot, pound and gallon

imperial unit *noun* a unit in a system measuring weight, distance and volume in pounds, yards and gallons and their subunits, now generally replaced by SI units

impermeable *adjective* **1.** PHYS referring to a substance which does not allow a liquid or gas to pass through ○ *rocks which*

are impermeable to water **2.** referring to a membrane which allows a liquid to pass through, but not solid particles suspended in the liquid

impervious *adjective* PHYS not allowing a liquid to enter

impetus *noun* PHYS a force that causes the motion of an object to overcome resistance and maintain its velocity

implantation *noun* BIOL the process in which an embryo becomes attached to the lining of the womb in higher mammals or to the yolk in other vertebrates

implement *verb* to carry out or put a plan into action

implementation *noun* the process of carrying out a plan ○ *the rapid implementation of flood defence plans*

implication *noun* **1.** a suggestion rather than a direct statement ○ *There was an implication that the method was unsound.* **2.** the effect that one thing has on another ○ *The recent cuts in funding carry serious implications for research.* **3.** COMPUT a logical operation that uses an IF-THEN structure by which if A is true and if B is true this implies that the AND function of A and B will be true

implicit reference *noun* **1.** something that is suggested rather than stated directly **2.** COMPUT a reference to an object that does not give its exact page location, but assumes that the object is on the current page or is currently visible

implied addressing *noun* COMPUT an assembler instruction that operates on only one register that is preset at manufacture ○ *Implied addressing for the accumulator is used in the instruction LDA,16.*

implosion *noun* PHYS the sudden and violent inward collapse of a hollow structure that occurs when the pressure outside is greater than that inside

import *verb* **1.** COMPUT to bring goods into a country to resell **2.** to introduce new things from elsewhere **3.** COMPUT to bring something in from outside a computer system ○ *You can import images from the CAD package into the DTP program.* **4.** COMPUT to convert a file stored in one format to the default format used by a program ○ *Select import if you want to open a TIFF graphics file.* ■ *noun* **1.** the action of bringing something into a country from abroad **2.** something brought into a country from abroad

importance *noun* strong effect or influence ○ *Upper winds are of great importance in meteorology.* (NOTE: The expressions of **fundamental importance, of great importance, of prime importance, of utmost importance, of vital importance** all mean **very important.**)

impose *verb* to introduce something difficult or restricting ○ *Restrictions have been imposed on field trials.* ○ *The trimmer is used to ease the loads imposed on the flying controls during flight.*

impoundment *noun* ENG a body of water or sludge confined by a barrier such as a dam, dyke or floodgate

impoverish *verb* to reduce the quality of something

impoverishment *noun* a reduction in quality

impregnate *verb* **1.** to fill something with a substance by passing it inside through the outer surface ○ *Fruits on sale may be impregnated with pesticides even if they have been washed.* ○ *They impregnated the wooden posts with creosote.* **2.** ZOOL to fertilise a female, by introducing male spermatozoa into the female's body so that they fuse with the female's ova

imprinting *noun* ZOOL the very early learning in an animal's social development in which strong patterns of attraction to members of its own species are developed, especially to parents

improper fraction *noun* MATHS a fraction in which the numerator is equal to or greater than the denominator, e.g. $\frac{5}{3}$;

improve *verb* to make something better or become better ○ *Turbochargers improve aircraft performance.*

improved varieties *plural noun* new species of plants which are stronger, or more productive than old species

improvement *noun* the act or an instance of something becoming or being made better ○ *the improvement of crop varieties by selection* ○ *There is still room for improvement in performance.* ○ *We need to achieve improvements in efficiency.* ○ *An improvement in weather conditions allowed the flight to depart.*

impulse *noun* **1.** ELEC a voltage pulse which lasts a very short time ○ *A magneto is designed to produce electrical impulses one after another at precise intervals, so that each separate impulse can be used to*

provide a spark at a spark plug. **2.** PHYS a force of short duration **3.** a sudden strong feeling

impulse magneto *noun* ELEC a magneto with a mechanism to give a sudden rotation and thus produce a strong spark

impulse turbine *noun* ENG a turbine where jets of water are directed at bucket-shaped blades which catch the water

impulsive *adjective* **1.** propelling or having the power to propel **2.** done suddenly

impulsive noise *noun* TELECOM interference on a signal caused by short periods of noise

impure *adjective* CHEM not pure

impurity *noun* CHEM a foreign substance present at a low concentration in a another substance ○ *a filter which removes impurities from drinking water*

IMRT *abbreviation* MED intensity-modulated radiation therapy

In *symbol* CHEM ELEM indium

in. *abbreviation* MEASURE inch

inability *noun* the lack of ability to do something ○ *An inability of the engine to accelerate may be an indication of serious mechanical problems.*

inaccurate *adjective* not correct ○ *He entered an inaccurate password.*

inactivate *verb* to make something unable to act ○ *The ultraviolet component of sunlight inactivates some herbicides.*

inactive *adjective* **1.** not doing anything **2.** (of a system) not switched on, not responding or not being used ○ *At the time of the accident the radar was inactive.* **3.** COMPUT (of a volcano) not erupting or likely to erupt, though not necessarily extinct **4.** CHEM (of a chemical) not reacting with other substances **5.** MED (of a disease) not producing symptoms **6.** BIOL biologically inert

inactive window *noun* COMPUT a window that is still displayed, but not currently being used

inactivity *noun* the state of not being active

inadvertent *adjective* not intended ○ *A safety mechanism prevents inadvertent retraction of the undercarriage while the aircraft is on the ground.*

in alignment *adverb, adjective* correctly aligned

in ascending order *adverb, adjective* in order of number or rank with the smallest or less important at the bottom and the largest or more important at the top

in-band signalling *noun* COMPUT data transmission in which the signal carrying the data is within the bandwidth of the cable or transmission media

inbound *adverb, adjective* moving towards a destination

inbred *adjective* GENETICS resulting from inbreeding

inbreed *verb* GENETICS to cross or mate closely related individuals with each other over several generations

inbreeding *noun* GENETICS the process of mating or crossing between closely related individuals, leading to a reduction in variation. Compare **outbreeding** (NOTE: Inbreeding as a result of self-fertilisation occurs naturally in many plants. In humans, congenital anomalies may occur when parents are closely related.)

inbreeding depression *noun* GENETICS a reduction in variation and vigour arising in an outbreeding population that is repeatedly inbred

inbuilt *adjective* **1.** which is a basic or naturally occurring part of something ○ *an inbuilt instinct for survival* ○ *This software has inbuilt error correction.* **2.** fitted inside or provided as part of something

incandescence *noun* PHYS **1.** the emission of light by an object as a result of its being heated to a high temperature **2.** the light produced by an object heated to a high temperature

incandescent *noun* PHYS emitting light as a consequence of being heated to a high temperature

incandescent lamp *noun* INDUST the most common form of light in the home, usually consisting of a glass bulb containing a wire filament that glows when electricity is passed through it ○ *Incandescent lamps are the least efficient of all electrical lighting systems.*

incapacity *noun* **1.** an inability to do what is needed **2.** not having the necessary power to do something

incentive *noun* something which encourages someone to do something

incentive-based regulation *noun* ENVIRON the use of official measures to affect the economic behaviour of companies and households to achieve environ-

mental goals ○ *Emission taxes are a form of incentive-based regulation.*

inch *noun* a British Imperial System unit of length, also used in the USA, equal to 25.4 millimetres or 2.54 centimetres or 1/12 of a foot. Abbr **in.** (NOTE: The plural is **inches.**)

inches-per-second *noun* COMPUT a measurement of the speed of tape past the read/write heads. Abbr **ips**

incidence *noun* the frequency of occurrence of something ○ *The incidence of structural failure has decreased with the introduction of modern construction materials and techniques.*

incidence rate *noun* MED the number of new cases of a disease during a given period, per thousand of population

incident *noun* an event or happening which interrupts usual activities □ **without incident** without any problems occurring ○ *The research review passed without incident.*

incinerate *verb* ENVIRON to burn a substance such as waste

incineration *noun* ENVIRON the burning of a substance such as waste ○ *Uncontrolled incineration can contribute to atmospheric pollution.* ○ *Controlled incineration of waste is an effective method of disposal.*

incineration ash *noun* ENVIRON a powder left after a substance has been burnt

incineration facility, incineration plant *noun* INDUST an establishment where waste is burnt

incinerator *noun* INDUST a device in which a substance such as waste is burnt

incipient *adjective* in the early stages of development

incipient lethal level *noun* ENVIRON the concentration of toxic substances at which 50% of affected organisms will die

in-circuit emulator *noun* ELEC a circuit that emulates a device or integrated circuit and is inserted into a new or faulty circuit to test if it is working correctly ○ *This in-circuit emulator is used to test the floppy disk controller by emulating a disk drive.*

incisor *noun* DENT a flat sharp-edged tooth in the front of the mouth for cutting and tearing food

inclination *noun* a slope or slant from the horizontal or vertical

incline *verb* to slope or slant from the horizontal or vertical ■ *noun* a slope or slant

include *verb* **1.** to have something as a part ○ *Solid particles in the atmosphere include dust, sand, volcanic ash and atmospheric pollution.* ○ *A fuel system includes tanks, fuel lines, fuel pumps, fuel filters and a carburettor or fuel injection system.* **2.** to add as a part with others ○ *Please include full bibliographical details in your report.*

inclusion *noun* **1.** the state of having or an act of adding something as a part ○ *the inclusion of checks at each stage* **2.** COMPUT a logical operation that uses an IF-THEN structure so that if A is true and if B is true this implies that the AND function of A and B will be true

inclusive *adjective* taking in the extremes in addition to the part in between ○ *The migration takes from February to June inclusive.*

inclusive fitness *noun* BIOL the sum of an organism's Darwinian fitness with the fitness of its relatives

incoming *adjective* referring to signals such as radio waves or solar radiation being received ○ *incoming transmissions* ○ *an incoming signal*

incoming message *noun* COMPUT a message received in a computer

incoming traffic *noun* COMPUT the amount of data or messages received

incompatibility *noun* the state of being incompatible

incompatible *adjective* **1.** having basic differences that prevent effective joint working ○ *Our ideas were incompatible with their outline plans.* **2.** unable to cross-fertilise and produce offspring

incomplete dominance *noun* GENETICS a condition that occurs when neither of a pair of alleles is dominant

incorporate *verb* to include something ○ *Some types of outflow valve incorporate safety valves.*

incorrect *adjective* not correct ○ *If the positioning is incorrect, a warning horn will sound.*

incorrectly *adverb* not correctly or with mistakes ○ *The data was incorrectly keyboarded.*

increase *noun* the act or an instance of becoming greater or more ○ *Decreasing engine rpm results in an increase in the*

rate of descent. Opposite **reduction** ■ *verb* to become greater or more or make something greater or more ○ *As you increase in height, the countryside below you appears to flatten out.* ○ *Efforts are being made to increase productivity.* Opposite **reduce** ► opposite (all senses) **decrease**

increment *noun* **1.** an addition of a set number, usually one, to a register, often for counting purposes ○ *An increment is added to the counter each time a pulse is detected.* **2.** the value of the number added to a register ○ *Increase the increment to three.* ■ *verb* **1.** to add something or to increase a number ○ *The counter is incremented each time an instruction is executed.* **2.** to move forward to the next location **3.** to move a document or card forward to its next preset location for printing or reading

incremental backup *noun* COMPUT a backup procedure that only backs up the files which have changed since the last backup

incubate *verb* **1.** ZOOL to keep eggs warm until the young birds come out, either by an adult bird sitting on them or in an incubator **2.** MED (of a disease caused by microorganisms) to develop until symptoms appear **3.** MICROBIOL to keep microorganisms at a temperature that promotes their growth

incubation *noun* **1.** ZOOL the process of keeping eggs warm until the young birds come out, either by an adult bird sitting on them or by artificial means **2.** MICROBIOL the process of keeping microorganisms at a temperature that matures their growth

incubation period *noun* MED the time during which a virus or bacterium develops in the body after contamination or infection, before the appearance of the symptoms of the disease

incubator *noun* MICROBIOL, MED, AGRIC a container that keeps a constant temperature and controls other environmental conditions (NOTE: Incubators are used for allowing premature babies to grow, hen's eggs to hatch, or microorganisms to develop.)

incur *verb* to experience something unpleasant as a result of an action ○ *incur disapproval* ○ *incur a fine* (NOTE: **incurring** – **incurred**)

indefinite *adjective* **1.** without limits **2.** not exact ○ *an indefinite number of sources*

3. without a clear end or purpose ○ *an indefinite period* ○ *indefinite plans* □ **for an indefinite period of time** for a period of time which may have no end

indehiscent *adjective* BOT referring to seed pods, fruit or capsules that do not open to release seeds when ripe. Compare **dehiscent**

indent COMPUT, PRINTING *noun* a space or series of spaces from the left margin, when starting a line of text ■ *verb* to start a line of text with a space in from the left margin ○ *The first line of the paragraph is indented two spaces.*

indentation *noun* **1.** a hollow in the surface of something **2.** a gap in the edge of something ○ *The indentations of the leaves were typical of the species.* **3.** COMPUT, PRINTING the leaving of a space at the beginning of a line of text

independent *adjective* free from the influence or effects of other people or things ○ *Airspeed is independent of wind and is the same regardless whether the aircraft is flying upwind, downwind or at any angle to the wind.*

independent assortment *noun* GENETICS a principle stating that during meiosis the two variant forms (**alleles**) of a gene are distributed to the gametes independently of the distribution of alleles of other genes, although alleles located on the same chromosome are often inherited together

independently *adverb* without being controlled or connected ○ *In spooling, the printer is acting independently of the keyboard.*

independent power system *noun* ELEC a power generation system that is separate from the mains grid

independent system *noun* a system that can operate by itself

independent variable *noun* a condition that is deliberately manipulated by an experimenter to test response

index *noun* **1.** an alphabetical list of references to page numbers found at the end of a book or long document **2.** a list of terms classified into groups or put in alphabetical order **3.** COMPUT an address to be used that is the result of value added to a start location **4.** a series of guide marks along the edge of a piece of film or a strip of microfilm ■ *verb* to put marks against items, so

that they will be selected and sorted to form an index

indexed address *noun* COMPUT the address of the location to be accessed, which is found in an index register

indexed instruction *noun* COMPUT an instruction that contains an origin and offset that are added to provide the location to be accessed

indexed sequential access method *noun* COMPUT a data retrieval method using a list containing the address of each stored record, where the list is searched and the record retrieved from the address in the list. Abbr **ISAM**

indexed sequential storage *noun* COMPUT a method of storing records in a consecutive order, but in such a way that they can be accessed rapidly

indexing *noun* **1.** COMPUT the use of indexed addressing in software or a computer **2.** COMPUT the process of building and sorting a list of records **3.** the process of making an index for a document or book

index key *noun* COMPUT one field that is used to index a record

index register *noun* COMPUT a computer address register that is added to a reference address to provide the location to be accessed. Abbr **IR**

indicate *verb* **1.** to show something ○ *A lamp on the instrument panel will indicate when the pump is operating.* ○ *The needle indicated zero.* **2.** to point to something **3.** to serve as a sign or symptom of something ○ *Black smoke from the exhaust may indicate a rich mixture or worn piston rings.*

indicated airspeed *noun* AEROSP the airspeed shown on the cockpit or flight-deck instrument. Abbr **IAS**

indication *noun* **1.** the act of showing something ○ *Indication of altitude is given on the altimeter.* **2.** a sign ○ *A drop in engine rpm is an indication of ice forming in the carburettor.*

indicator *noun* **1.** something which shows the state of something else **2.** CHEM a substance which shows that another substance is present **3.** BIOL an organism whose presence or absence in an environment indicates conditions such as oxygen level or the presence of a contaminating substance ○ *Lichens act as indicators for atmospheric pollution.*

indicator chart *noun* COMPUT a graphical representation of the location and use of indicator flags within a program

indicator flag *noun* COMPUT a register or single bit that indicates the state of the processor and its registers, e.g. a carry or overflow

indicator light *noun* a light used to warn or indicate the condition of equipment

indicator species *noun* ENVIRON a species which is very sensitive to particular changes in the environment and can show that environmental changes are taking place

indigenous *adjective* ECOL native to a place ○ *There are six indigenous species of monkey on the island.* ○ *Bluebells are indigenous to the British Isles.*

indigo *noun* PLANTS a tropical plant of the pea family which is a source of blue dye. Genus: *Indigofera*.

indirect address *noun* COMPUT same as **relative address**

indirect addressing *noun* COMPUT a way of addressing data in which the first instruction refers to an address which contains a second address

indium *noun* CHEM ELEM a soft silvery metal, used in alloys, transistors and electroplating (NOTE: The chemical symbol is **In**; the atomic number is **49** and the atomic weight is **114.82**.)

indium phosphide *noun* CHEM a brittle metallic solid used in the manufacture of semiconductors, lasers and solar cells

individual *adjective* existing as a separate thing ○ *The hydraulic braking system consists of a master cylinder with individual brake cylinders at each wheel.* ○ *The individual workstations are all linked to the mainframe.* ■ *noun* BIOL a single organism or item considered as one rather than as a member of a group

individual variation *noun* the range of differences found between individuals within a population

indivisible *adjective* MATHS not capable of being divided by a given number without leaving a mathematical remainder

induce *verb* **1.** to cause something to happen ○ *Unequal deposits on moving parts can induce severe vibration, especially on propellers and helicopter rotors.* **2.** ELEC to generate an electrical current in a coil of wire by electromagnetic effects

induced drag *noun* AEROSP the part of total drag created by lift

COMMENT: Induced drag is created when high-pressure air below a wing rotates around the tip to the low-pressure area above and increases as airspeed decreases and angle of attack increases. The other basic type of drag is parasite drag.

induced failure *noun* the failure of a device due to external effects

induced interference *noun* ELEC electrical noise on a signal due to induced signals from nearby electromagnetic sources

inducer *noun* **1.** BIOL, BIOCHEM a substance which changes the way in which an enzyme acts **2.** GENETICS a substance which activates a structural gene within a cell

inductance *noun* ELEC a measure of the ability of a conductor to bring a voltage into itself when carrying an alternating current, e.g. during short times when the circuit is switched on or off ○ *At low frequencies, the rate of collapse of the magnetic field will be slow and the inductance will be low.*

induction *noun* **1.** MECH ENG the process by which the fuel/air mixture is drawn into the cylinders of an internal combustion engine ○ *The four strokes of the engine are induction, compression, combustion and exhaust.* **2.** ELEC the generation of an electrical current due to electromagnetic effects from a nearby source ○ *A transformer is a static device that changes the amplitude or phase of an alternating voltage or current by electro-magnetic induction.* **3.** BIOL the process of changing the way in which an enzyme acts

induction coil *noun* ELEC ENG a transformer that produces an intermittent high-voltage current from a low-voltage source by means of several wire windings generally around a soft iron core

induction heating *noun* ELEC a process by which the temperature of a metal is increased by an alternating magnetic field which induces an electric current within it

induction motor *noun* ELEC ENG an electric motor in which interactions between alternating currents in its windings create a varying magnetic field and induce a rotor to turn

inductive *adjective* ELEC referring to the production of electrical current in a conductor by a change of magnetic field ○ *One*

side effect of low frequency in an inductive circuit is that excess heat may be produced.

inductive reasoning *noun* the drawing of a general conclusion based on a limited set of observations. Compare **deductive reasoning**

inductor *noun* ELEC an electrical component consisting of a coil of wire used to introduce inductance effects into a circuit by storing energy in its magnetic field

indumentum *noun* BIOL a covering of hairs on plant leaves or stems, or of hairs or feathers on an animal

industrial *adjective* INDUST referring to industries or factories

industrial dereliction *noun* ENVIRON the ugly and neglected condition of a landscape or environment that has been damaged by industrial processes

industrial disease *noun* MED a disease which is caused by the type of work done by a worker, e.g. by dust produced or chemicals used in a factory

industrial effluent *noun* ENVIRON the liquid waste produced by industrial processes

industrialisation, industrialization *noun* INDUST the process of developing industry in a country

industrial melanism *noun* BIOL the increase in the numbers of animals such as moths with dark coloration in places where industries create a lot of black smoke, causing discoloration of surfaces and allowing predators to see and feed on lighter-coloured individuals more easily

industrial sewage *noun* ENVIRON same as **industrial effluent**

industrial waste *noun* ENVIRON the waste produced by industrial processes. Compare **post-consumer waste**

industry *noun* INDUST the factories, companies or processes involved in the manufacturing of products

Industry Standard Architecture *noun* COMPUT a standard used for the 16-bit expansion bus in an IBM PC or compatible. Abbr **ISA**

inequality operator *noun* COMPUT a symbol used to indicate that two variables or quantities are not equal ○ *The C programming language uses the symbol '!=' as its inequality operator.*

inequivalence *noun* COMPUT a logical function whose output is true if the inputs

are not the same, otherwise the output is false

inert *adjective* CHEM referring to a chemical substance or gas that does not react with other chemicals

inert gas *noun* CHEM same as **noble gas**
○ *Inert gases, dust, smoke, salt, volcanic ash, oxygen and nitrogen together constitute 99% of the atmosphere.*

inertia *noun* PHYS the tendency of a body at rest to stay at rest or of a moving body to continue moving in a straight line unless acted on by an outside force

infect *verb* 1. MICROBIOL (*of an organism*) to enter a host organism and cause disease
○ *The new strain has infected many people, and the disease is spreading fast.* ○ *All these plants have been infected by a virus.*
2. MICROBIOL to contaminate something with a microorganism that causes disease
3. COMPUT (*of a computer virus*) to enter a computer and cause problems in normal working

infected computer *noun* COMPUT a computer that carries a virus program

infection *noun* MED 1. the process of a microorganism entering a host organism and causing disease ○ *As a carrier he was spreading infection to other people in the office.* 2. a disease caused by a microorganism ○ *She is susceptible to minor infections.* ○ *West Nile fever is a virus infection transmitted by mosquitoes.*

infectious *adjective* MED referring to a disease that is caused by microorganisms and can be transmitted to other individuals by direct means ○ *This strain of flu is highly infectious.* Compare **contagious**

infectious virus hepatitis *noun* MED hepatitis transmitted by a carrier through food or drink

infective *adjective* MED referring to a disease caused by a microorganism, which can be caught from another person but which cannot always be directly transmitted

infective enteritis *noun* MED enteritis caused by bacteria

infectivity *noun* MED the state of being infective

inference *noun* 1. a deduction of results from data according to specific rules 2. COMPUT a method of deducing a result about confidential information concerning a specific individual by using various data related to groups of people

inference control *noun* COMPUT the process of determining which information may be released without disclosing personal information about a specific individual

inference engine, inference machine *noun* COMPUT a set of rules used in an expert system to deduce goals or results from data

inferential *adjective* obtained by deduction ○ *inferential results*

inferior *adjective* **1.** of lower quality **2.** ASTRON between Earth and the Sun (NOTE: Mercury and Venus are designated as inferior planets.)

inferior figure *noun* MATHS, CHEM (*in mathematical and chemical formulae*) one of the smaller numbers or characters that are printed slightly below normal characters (NOTE: It is used with figures and letters: CO₂.)

inferior gluteal artery *noun* ANAT an artery supplying the buttocks

infertile *adjective* **1.** BOT referring to any organism that is not able to reproduce or produce offspring **2.** ZOOL referring to trees and plants that are not able to produce fruit or seeds **3.** AGRIC referring to soil that is not able to produce good crops

COMMENT: An infertile soil is one which is deficient in plant nutrients. The fertility of a soil at any one time is partly due to its natural makeup, and partly to its condition, which is largely dependent on its management in recent times. Application of fertilisers can raise soil fertility and bad management can decrease it.

infertility *noun* ZOOL the inability to reproduce or have offspring

infest *verb* BIOL (*of pests*) to be present somewhere in large numbers ○ *Plants that have been infested should be dug up and burnt.* ○ *The child's hair was infested with lice.*

infestation *noun* BIOL the presence of large numbers of pests ○ *The crop showed a serious infestation of greenfly.* ○ *The condition is caused by an infestation of lice.*

infiltration *noun* ENVIRON the passing of water into the soil or into a drainage system

infiltration basin *noun* EARTH SCI a depression in the ground where infiltration occurs

infiltration capacity *noun* EARTH SCI the maximum rate at which water is absorbed by soil

infiltration water *noun* ENVIRON the water which passes into the soil or into a drainage system

infinite loop *noun* COMPUT same as **endless loop**

infinitesimal *adjective* MATHS with a value very close to but greater than zero

infinity *noun* **1.** MATHS a very large quantity **2.** OPTICS the distance of an object from a viewer where beams of light from the object would be seen to be parallel, i.e. very far away

infix notation *noun* COMPUT a method of computer programming syntax where operators are embedded inside operands, e.g. C - D or X + Y. Compare **postfix notation**

inflammable *adjective* easily set on fire ○ *Petrol is an inflammable liquid.* Opposite **non-flammable** (NOTE: **Flammable** and **inflammable** mean the same thing. To avoid confusion, it is recommended to use **flammable**.)

inflammation *noun* MED a reaction of the body to injury or infection characterised by swelling, redness, heat and pain

inflate *verb* to blow air into something and thereby increase its size ○ *A sharp pull on the cord will discharge the gas bottle and inflate the life jacket.* Opposite **deflate**

inflation *noun* the act of blowing air into something such as a balloon or a tyre and so increasing its size ○ *Tyre inflation pressures should be maintained within 4% limits.*

inflorescence *noun* BOT a flower or a group of flowers on a stem

COMMENT: There are two types of inflorescence. Indefinite inflorescence is where the branches bearing the flowers continue to grow. Where the main stem ends in a single flower and then stops growing is known as definite inflorescence.

inflow *noun* the action of flowing in ○ *an inflow of effluent into a river*

influence *noun* a power which affects people or things ■ *verb* to have an effect on something or someone ○ *Day length influences plant growth.*

influent *noun* **1.** EARTH SCI a stream or river flowing into a larger river **2.** ECOL an organism which has an important effect on the balance of its community

informatics *noun* COMPUT the science and study of ways and means of information processing and transmission

information *noun* **1.** knowledge presented to a person in a form that can be understood **2.** COMPUT data that have been processed or arranged to provide facts which have a meaning

information bearer channel *noun* COMPUT a communications channel that is able to carry control and message data, usually at a higher rate than a data-only channel

information content *noun* COMPUT a measurement of the amount of information conveyed by the transmission of a symbol or character

information flow control *noun* COMPUT a regulation of access to specific information

information input *noun* COMPUT information received from an input device

information line *noun* COMPUT a line running across the screen which gives the user information about the program being executed or the file being edited

information management system *noun* COMPUT a computer program that allows information to be easily stored, retrieved, searched and updated

information network *noun* COMPUT a number of databases linked together, usually by telephone lines and modems, allowing a large amount of data to be accessed by a wider group of users

information output *noun* COMPUT a display of information on an output device

information processing *noun* COMPUT the process of organizing, processing and extracting information from data

information processor *noun* COMPUT a machine that processes a received signal, according to a program, using stored information, and provides an output (NOTE: This is an example of a computer that is not dealing with mathematical functions.)

information provider *noun* COMPUT a company or user who provides an information source for use in a videotext system, e.g. a company providing weather information or stock market reports. Abbr **IP**

information rate *noun* COMPUT the amount of information content per character multiplied by the number of characters transmitted per second

information retrieval *noun* COMPUT the location of quantities of data stored in a database and production of useful information from the data. Abbr **IR**

information storage *noun* COMPUT the storage of data in a form which allows it to be processed at a later date

information storage and retrieval *noun* COMPUT the techniques involved in storing information and retrieving data from a store. Abbr **ISR**

information structure *noun* COMPUT same as **data structure**

information system *noun* COMPUT a computer system which provides information according to a user's requests

information technology *noun* COMPUT the technology involved in acquiring, storing, processing and distributing information by electronic means. Abbr **IT**

information theory *noun* MATHS the formulae and mathematics concerned with data transmission equipment and signals

information transfer channel *noun* COMPUT a connection between a data transmitter and a receiver

infra- *prefix* below or beneath

infrared, infra-red *adjective* PHYS referring to the range of invisible radiation wavelengths from about 0.7 micrometres to 1 millimetre

infrared astronomy *noun* ASTRON the study of infrared radiation emitted by astronomical objects (NOTE: Infrared sources include cool gas giants and the galactic centre.)

infrared photography *noun* PHOTOGRAPHY photography using an infrared camera, which shows up heat sources and so can be used to take pictures at night

infrared radiation *noun* PHYS long invisible rays, below the visible red end of the colour spectrum, which form part of the warming radiation which the Earth receives from the Sun

infrared rays *plural noun* the long invisible rays below the visible red end of the colour spectrum, that form part of the warming radiation which Earth receives from the Sun. \diamond **infrared radiation**

infrasound *noun* PHYS sound at frequencies below 20Hz (NOTE: Humans cannot hear infrasound but they can feel it as vibration. Elephants use it for communication.)

infrastructure *noun* **1.** the basic framework of a system or organisation **2.** GEOG the basic facilities and systems of a country or city, e.g. roads, pipelines, electricity and

telecommunications networks, schools or hospitals

infrequent *adjective* not happening often
 ○ *In northern Europe, thunderstorms are infrequent in winter time.*

ingest *verb* PHYSIOL to take in or absorb food

ingestion *noun* PHYSIOL the process of taking in or absorbing food

inhabit *verb* ENVIRON to live in a place

inhabitant *noun* ECOL an animal or plant which lives or grows in a place

inhalation *noun* PHYSIOL the act of breathing in. Compare **exhalation**

inhale *verb* PHYSIOL to breathe in ○ *He inhaled some toxic gas fumes and was rushed to hospital.* Compare **exhale**

inherent *adjective* existing as a basic or fundamental characteristic ○ *A boiling point of 100° C is an inherent characteristic of water.*

inherent addressing *noun* COMPUT an instruction that contains all the data required for the address to be accessed with no further operation

inherit *verb* 1. GENETICS to receive a genetically controlled characteristic from a parent ○ *Flower colour is inherited.* ○ *He inherited haemophilia.* 2. COMPUT (*in object-oriented programming*) to acquire the characteristics of another class or data type

inheritance *noun* 1. GENETICS the transfer of genetically controlled characteristics from parent to offspring 2. COMPUT the passing on of the characteristics of one class or data type to another, called its descendant

inherited *adjective* 1. GENETICS relating to a genetically controlled characteristic passed on from parent to offspring 2. COMPUT relating to passing on characteristics of a class or data to another derived class or type of data

inhibit *verb* to prevent or limit the effect of something ○ *Cloud cover inhibits cooling of the Earth's surface at night.*

inhibiting input *noun* COMPUT one input of a gate which blocks the output signal

inhibition *noun* 1. the prevention or limitation of the effect of something ○ *Fuel contains chemicals for the inhibition of fungal growth.* 2. CHEM the reduction in the rate of chemical reaction due to the presence of an inhibitor substance

inhibitor *noun* 1. a device or substance which prevents or limits the effect of something 2. CHEM a substance that slows down a reaction

initial *adjective* being or happening at the beginning

initialisation, initialization *noun* COMPUT the process of initialising ○ *Initialisation is often carried out without the user knowing.*

initialise *verb* COMPUT to set values, parameters or control lines to their initial values, to allow a program or process to be started

initiate *verb* to cause something to start

initiation *noun* the process of causing something to start ○ *the initiation of emergency procedures*

inject *verb* 1. ENG to force or drive a fluid into something ○ *An accelerator pump, operated by the movement of the throttle lever, injects fuel into the choke tube.* 2. MED to inject a liquid into a body using a syringe 3. to introduce something new or stimulating

injection *noun* 1. ENG the forcing of fluid into something ○ *Power output can be boosted to a value over 100% maximum power, by the injection of a water methanol mixture at the compressor inlet or at the combustion chamber inlet.* 2. MED the act of injecting a liquid into a body using a syringe 3. MED a preventative measure against a particular disease ○ *a TB injection* 4. the introduction of something new or stimulating

injector *noun* ENG a device that will force or drive a fluid into something

ink cartridge *noun* COMPUT a plastic module that contains ink for use in bubble-jet or ink-jet printers

ink-jet printer *noun* COMPUT a printer that produces characters by sending a stream of tiny drops of ink onto paper

inland *adjective* not near a sea coast

inland water *noun* a body of water away from a sea coast, e.g. a river, canal or lake

inlet *noun* 1. an opening which allows an intake of something ○ *a turbine inlet* ○ *a combustion chamber inlet* ○ *Air enters the cabin through an inlet.* 2. GEOL the mouth of a small river in a coast or lake

inlet valve *noun* AUTOMOT a valve in a piston engine which allows the fuel/air mixture to enter the cylinder

in-line chip *noun* COMPUT an electronic component with a set of connection pins on a chip arranged in one or two rows

in-line image *noun* COMPUT a graphical image that is part of a webpage

inner *adjective* being further inside or further towards the centre of something ○ *the inner ear*

inner ear *noun* ANAT the part of the ear inside the head containing the vestibule, the cochlea and the semicircular canals

inner loop *noun* COMPUT a loop contained inside another loop

inner planet *noun* ASTRON one of the four planets, Mercury, Venus, Earth and Mars, whose orbits lie closest to the Sun and are within the asteroid belt

innominate artery *noun* ANAT the largest branch of the arch of the aorta, which continues as the right common carotid and right subclavian arteries

innovative technology *noun* ENVIRON new or inventive methods to treat hazardous waste, prevent pollution or conserve energy

inoculate *verb* **1.** IMMUNOL to introduce vaccine into a body in order to stimulate the production of antibodies to a particular organism, giving rise to immunity to the disease ○ *The baby was inoculated against diphtheria.* **2.** MICROBIOL to introduce a microorganism into a plant or a growth medium

inoculation *noun* **1.** IMMUNOL the act of inoculating **2.** MED an injection against a particular disease ○ *a diphtheria inoculation*

inoculum *noun* microscopic airborne spores or other material from an organism that causes disease

inoperative *adjective* not functioning

inorganic *adjective* **1.** referring to a substance which does not come from an animal or a plant ○ *Inorganic substances include acids, alkalis and metals.* **2.** CHEM referring to a substance that does not contain carbon

inorganic acid *noun* CHEM an acid which comes from a mineral

inorganic chemistry *noun* CHEM the branch of chemistry dealing with compounds not including carbon

inorganic fertiliser *noun* AGRIC an artificially synthesised fertiliser

inorganic fungicide *noun* AGRIC a fungicide made from inorganic substances such as sulfur

inorganic herbicide *noun* AGRIC a herbicide made from inorganic substances such as sulfur

inorganic matter *noun* **1.** a substance which does not come from an animal or a plant **2.** CHEM a substance which does not contain carbon

inorganic pesticide *noun* AGRIC a pesticide made from inorganic substances such as sulfur

inorganic waste *noun* substances such as glass, metals, dust or synthetic products disposed of as waste. Compare **organic waste**

input *noun* **1.** something such as energy, electrical power, fertilisers or information, put into a system to achieve a specific result ○ *Pumps require high input current.* ○ *If the number of turns on the secondary winding is greater than the number of turns on the primary, the output voltage from the secondary will be greater than the input voltage to the primary.* **2.** ELECTRONICS the action of transferring information into a computer **3.** COMPUT data or information that is transferred into a computer **4.** electrical signals which are applied to relevant circuits to perform an operation ■ *verb* COMPUT to transfer data or information from outside a computer to its main memory ○ *The data was input via a modem.*

input area *noun* COMPUT a section of main memory that holds data transferred from backing store until it is processed or distributed to other sections. Also called **input section, input storage**

input block *noun* COMPUT a block of data transferred to an input area

input buffer register *noun* COMPUT a temporary store for data from an input device before it is transferred to main or backing store

input device *noun* COMPUT a device such as a keyboard or bar code reader which converts actions or information into a form which a computer can understand and transfers the data to the processor. Also called **input unit**

input lead *noun* COMPUT a lead which connects an input device to a computer

input limited program *noun* COMPUT a program which is not running as fast as it

could, due to limiting input rate from a slower peripheral

input mode *noun* COMPUT a mode in which a computer is receiving data

input/output *noun* COMPUT **1.** the receiving or transmitting of data between a computer and its peripherals and other points outside the system **2.** all data received or transmitted by a computer ▶ abbr I/O

input/output bus *noun* COMPUT a link allowing data and control transfer between a computer and external peripherals

input/output channel *noun* COMPUT the link between a processor and a peripheral allowing data transfer

input/output controller *noun* COMPUT an intelligent device that monitors, directs and controls data flow between a central processing unit and I/O devices

input/output device *noun* COMPUT same as **input/output unit**

input/output interrupt *noun* COMPUT an interrupt signal from a peripheral device or to indicate that an input or output operation is required

input/output unit *noun* COMPUT a peripheral such as a terminal or a workstation which can be used both for inputting and outputting data to a processor. Also called **input/output device**

input port *noun* COMPUT a circuit or connector which allows a computer to receive data from other external devices

input register *noun* COMPUT a temporary store for data received at slow speeds from an I/O unit (NOTE: The data is then transferred at high speed to main memory.)

input routine *noun* COMPUT a short section of code that accepts data from an external device, e.g. reading an entry from a keyboard. Also called **input section**

input section *noun* **1.** same as **input routine** **2.** same as **input area**

input statement *noun* COMPUT a computer programming command that waits for data entry from a port or keyboard

input storage *noun* COMPUT same as **input area**

input unit *noun* same as **input device**

input work queue *noun* COMPUT a list of commands to be carried out in the order they were entered or in order of priority

inquiry *noun* **1.** another spelling of **enquiry** (NOTE: The plural is **inquiries**.) **2.**

the act of asking a question **3.** COMPUT the accessing of data held in a computer system

inquiry/response *noun* COMPUT an interactive computer mode in which a user's commands and inquiries are responded to very quickly

inquiry station *noun* COMPUT a terminal that is used to access and interrogate files stored on a remote computer

in round figures *adverb* in a way that is not totally accurate, but correct to the nearest 10 or 100 ◦ *They have a workforce of 2500 in round figures.*

insanitary *adjective* HEALTH unhygienic ◦ *Cholera spread rapidly because of the insanitary conditions in the town.*

insect *noun* ZOOLOG a small animal with six legs and a body in three parts

COMMENT: Insects form the class Insecta. The body of an insect is divided into three distinct parts: the head, the thorax and the abdomen. The six legs are attached to the thorax and two antennae are on the head.

insect bite *noun* BIOL a sting caused by an insect which punctures the skin and in so doing introduces irritants

insect-borne *adjective* MED referring to infection which is carried and transmitted by insects ◦ *insect-borne viruses* ◦ *Malaria is an insect-borne disease.*

insecticide *noun* AGRIC a substance which is used to kill insects

COMMENT: Natural insecticides produced from plant extracts are regarded as less harmful to the environment than synthetic insecticides which, though effective, may be persistent and kill not only insects but also other larger animals when they get into the food chain. In agriculture, most pesticides are either chlorinated hydrocarbons, organophosphorus compounds or carbamate compounds. Insecticides may be sprayed or dusted on, or used in granular form as seed dressings. In the form of a gas, insecticides are used to fumigate greenhouses and granaries.

insectivore *noun* ZOOLOG an animal that feeds mainly on insects

insectivorous *adjective* ZOOLOG referring to an animal or plant that feeds mainly on insects (NOTE: Pitcher plants and sundews are insectivorous.)

insectivorous plant *noun* BOT a plant such as sundew which attracts insects, traps them and digests them

insect pollination *noun* BOT pollination of a flower by an insect

insect repellent *noun* INDUST a chemical which protects by repelling insects

inselberg *noun* EARTH SCI a steep-sided isolated hill that stands above nearby hills

insemination *noun* the introduction of sperm into the vagina

insert *verb* **1.** to put one thing into another ○ *First insert the system disk in the left slot.* **2.** COMPUT to add new text inside a word or sentence

inserted subroutine *noun* COMPUT a series of instructions that are copied directly into the main program where a call instruction appears or where a user requires

insertion *noun* **1.** the process of putting one thing into another **2.** ANAT the end of a muscle that is attached to a part of the skeleton that moves as a result of a contraction. Compare **origin** **3.** GENETICS the addition of a segment of DNA within a gene sequence

insertion loss *noun* COMPUT attenuation of a signal caused by adding a device into an existing channel or circuit

insertion point *noun* COMPUT a cursor positioned to show where any text typed in will be entered within a document

insert key *noun* COMPUT a key that switches a word-processor or editor program into insert mode rather than overwrite mode. Abbr **Ins key**

insert mode *noun* COMPUT an interactive computer mode used for editing and correcting documents

COMMENT: This is a standard feature on most word-processing packages where the cursor is placed at the required point in the document and any characters typed will be added, with the existing text moving on as necessary.

inshore *adjective* EARTH SCI referring to an area of sea near the coast

in-situ *adjective, adverb* BIOL referring to the study, maintenance or conservation of an organism within its natural surroundings. Compare **ex-situ**

Ins key *abbreviation* COMPUT insert key

insolation *noun* ASTRON the radiation from the Sun

insoluble *adjective* CHEM referring to a substance that cannot be dissolved in liquid

insoluble fibre *noun* BIOL the fibre in bread and cereals, which is not digested, but which swells inside the intestine

inspect *verb* to look at something closely to see if it is in the correct condition or if there are problems

inspection *noun* a careful check to see if something is in the correct condition or if there are problems ○ *The officials have carried out an inspection of the factory to see if waste is being properly managed.*

inspection chamber *noun* ENG a large hole built above a drain, allowing someone to look at the inside of the pipes to see if they are blocked

instability *noun* PHYS a condition in which a body or mass moves easily, and with increasing speed, away from its original position

install *verb* **1.** to put something in position, connect and make ready for use ○ *Most carburettors are installed in a warm position to help against icing.* **2.** to put a machine into an office or factory ○ *The system is easy to install and simple to use.* **3.** COMPUT to set up a new computer system to the user's requirements or to configure a new program to the existing system capabilities

installation *noun* **1.** the act of putting equipment or devices into the position and condition in which they will be used ○ *The installation of the computer took three hours.* **2.** equipment or devices which are installed ○ *In some auxiliary-power-unit installations the air intake area is protected against ice formation.*

installation manual *noun* a booklet showing how a system should be installed

install program *noun* COMPUT a software utility that transfers program code from the distribution disks onto a computer's hard disk and configures the program

instance *noun* **1.** an example which is used to support or contest a statement ○ *Failure to check fuel levels regularly is an instance of bad practice.* **2.** COMPUT an object or duplicate object that has been created

instant *adjective* happening immediately
noun a very short period of time

instantaneous access *noun* COMPUT an extremely short access time to a random access device

instar *noun* INSECTS a developmental stage of insects and other arthropods between two moults

instinct *noun* ZOOL a pattern of behaviour particular to a species and developed in

response to priorities such as survival and reproduction

instinctive *adjective* ZOOLOGICAL natural, rather than thought-out ○ *an instinctive response*

instruct *verb* to give information or knowledge to someone, usually in a formal setting such as a lesson or briefing ○ *The safety officer instructs employees on the use of the breathing equipment.*

instruction *noun* **1.** the act of giving information or knowledge, usually in a formal setting such as a lesson or briefing ○ *Trainees receive first-aid instruction.* **2.** a piece of information on how something should be operated or used ○ *You must follow the instructions.* **3.** COMPUT a word used in a programming language that is understood by the computer to represent an action ○ *The instruction PRINT is used in this BASIC dialect as an operand to display the following data.*

COMMENT: In a high level language the instructions are translated by the compiler or interpreter to a form that is understood by the central processing unit.

instruction address register *noun* COMPUT a register in a central processing unit that contains the location of the next instruction to be processed. Abbr **IAR**

instruction cache *noun* COMPUT a section of high-speed memory which stores the next few instructions to be executed by a processor in order to speed up operation

instruction cycle *noun* COMPUT a sequence of events and their timing that is involved when fetching and executing an instruction stored in memory

instruction decoder *noun* COMPUT **1.** a piece of hardware that converts a machine-code instruction in binary form into actions **2.** a program that decodes instructions in machine code

instruction manual *noun* a book containing information on how something should be operated or used

instruction pipelining *noun* COMPUT the process of beginning to work on a second instruction while still processing the present one, increasing program speed of execution

instruction processor *noun* COMPUT a section of the central processing unit that decodes the instruction and performs the necessary arithmetic and logical functions

instruction register *noun* COMPUT a register in a central processing unit that

stores an instruction during decoding and execution operations. Abbr **IR**

instruction sheet *noun* a piece of paper on which special instructions are written or printed

instructor *noun* EDUC a person who gives information or knowledge, usually in a formal setting such as a lesson or briefing

instrument *noun* ENG a device for recording, measuring or controlling something, especially as part of a control system

instrumentation *noun* ENG a set of specialized instruments for operating a machine or vehicle

instrument error *noun* ENG the difference between indicated instrument value and true value

insufficient *adjective* not enough ○ *insufficient information*

insulate *verb* **1.** to prevent the passing of heat, cold or sound into or out of an area **2.** ELEC to prevent the passing of electricity to where it is not required, especially by using a non-conducting material ○ *Bus bars are insulated from the main structure and are normally provided with some form of protective covering.*

insulating *adjective* providing insulation

insulating tape *noun* ELEC a special adhesive tape which is used to insulate electrical wires ○ *Insulating tape was used to prevent the electrical wires from touching.*

insulation *noun* **1.** the act of preventing the passing of heat, cold, sound or electricity from one area to another **2.** the state of being protected against the passing of heat, cold, sound or electricity from one area to another **3.** a material or substance used to insulate something

insulator *noun* a substance which will insulate, especially one which will not conduct electricity ○ *Wood is a good insulator.*

insulin *noun* BIOCHEM a hormone produced by the islets of Langerhans in the pancreas

COMMENT: Insulin controls the way in which the body converts sugar into energy and regulates the level of sugar in the blood. A lack of insulin caused by diabetes mellitus makes the level of glucose in the blood rise. Insulin injections are regularly used to treat diabetes mellitus, but care has to be taken not to exceed the dose as this will cause hyperinsulinism and hypoglycaemia.

intake *noun* same as **air intake**

intake guide vane *noun* AEROSP a device to direct the flow of air at the air intake of a jet engine

intake lip *noun* AEROSP the rim or edge of the air intake of a jet engine ○ *As sonic speed is approached, the efficiency of the intake begins to fall because of shock waves at the intake lip.*

intake temperature gauge *noun* an instrument to indicate the temperature of air entering a jet engine

integer *noun* MATHS a mathematical term to describe a whole number, which may be positive, negative or zero

integral *adjective* completing the whole or belonging to a whole as a necessary part ○ *Meteorology is an integral part of a flying training course.*

integral calculus *noun* MATHS the application of calculus to determining areas, volumes and lengths

integrated *adjective* COMPUT referring to a system that contains parts organised together to provide a complete system

integrated circuit *noun* COMPUT a circuit where all the active and passive components are formed on one small piece of semiconductor, by means of etching and chemical processes. Abbr **IC**

COMMENT: Integrated circuits can be classified as follows: Small Scale Integration (SSI), 1 to 10 components per IC; Medium Scale Integration (MSI), 10 to 100 components per IC; Large Scale Integration (LSI), 100 to 5000 components per IC; Very Large Scale Integration (VLSI), 5000 to 50 000 components per IC; Ultra Large Scale Integration (ULSI), over 100 000 components per IC.

integrated crop management *noun* AGRIC an approach to growing crops that combines traditional good farm husbandry with reduction in the use of agrochemicals and takes into consideration the impact of farming practices on the environment

integrated data processing *noun* COMPUT an organisational method for the entry and retrieval of data to provide maximum efficiency. Abbr **IDP**

integrated device electronics *noun* COMPUT a popular standard for a hard disk drive controller unit that allows data transfer rates up to 4.1 MBps and can support two hard disk drives on each controller. Abbr **IDE** (NOTE: Enhanced versions of the IDE standard provide flexibility and speed.)

integrated injection logic *noun* COMPUT a type of circuit design able to produce very small, low-power components. Abbr **IIL**

integrated pest management *noun* AGRIC an appropriate combination of different methods of pest control, involving good cultivation practices, use of chemical pesticides, resistant crop varieties and biological control. Abbr **IPM**

integrated pollution control, integrated pollution prevention and control *noun* ENVIRON an approach which looks at all inputs and outputs from a process that is likely to cause pollution and regulates other factors as well as emissions. Abbr **IPC, IPPC**

integrated services digital network *noun* COMPUT full form of **ISDN**

integrated software *noun* COMPUT software such as an operating system or word-processor that is stored in the computer system and has been tailored to the requirements of the system

integration *noun* the process of bringing several operations together ○ *small-scale integration*

integrin *noun* BIOCHEM a cell-surface receptor that is a glycoprotein involved in homeostasis, wound healing, and immune defence mechanisms

integrity *noun* the state of being complete and in good working condition ○ *The engine fire warning system is checked to test its integrity.* ○ *The integrity of an aid used to conduct procedural approaches must be high.*

integument *noun* BIOL an outer protective layer of an organism, e.g. a shell, husk or skin

intelligence *noun* **1.** the ability to reason **2.** COMPUT the ability of a device to carry out processing or run a program

intelligence quotient *noun* the result of an intelligence test shown as the ratio of mental age to the actual age of the person tested, the average being 100. Abbr **IQ**

intelligent *adjective* **1.** able to understand quickly and easily **2.** COMPUT (*of a machine*) capable of limited reasoning facilities, giving it human-like responses

intelligent knowledge-based system *noun* COMPUT software that applies the knowledge, advice and rules defined by an expert in a particular field to a user's data to help solve a problem. Abbr **IKBS**

intend *verb* to have a particular plan, aim or purpose ○ *A battery is intended to supply only limited amounts of power.*

intense *adjective* extreme or strong ○ *intense heat* ○ *intense wind*

intense concentration *noun* very hard or deep concentration

intensification *noun* **1.** the process of becoming stronger or greater **2.** the use of intensive farming methods ○ *Intensification of farming has contributed to soil erosion.*

intensify *verb* **1.** to become stronger or greater **2.** to make something stronger or greater **3.** to use intensive farming methods

intensity *noun* **1.** PHYS a measure of the strength of a signal or the brightness of a light source **2.** ENVIRON the degree or strength of something ○ *high intensity of land use in a small country with a large population* ○ *These plants grow well in low light intensity.*

intensive *adjective* **1.** requiring much effort in a short time ○ *intensive preparation* **2.** AGRIC achieving maximum production from land or animals ○ *intensive agriculture*

intensive agriculture, intensive farming, intensive cultivation *noun* AGRIC a method of farming in which as much use is made of the land as possible by growing crops close together, growing several crops in a year or using large amounts of fertiliser. Opposite **extensive agriculture**. Also called **productive agriculture**

intensive animal breeding *noun* AGRIC a system of raising animals in which livestock are kept indoors and fed on concentrated foodstuffs, with frequent use of drugs to control the diseases which tend to occur under these conditions

intensively *adverb* using intensive farming methods

intention *noun* a course of action planned to be followed ○ *It is not the intention of this chapter to give a detailed description of world weather.* ○ *Our intention is to provide safe, cost-effective flying.*

inter- *prefix* between

interact *verb* to act on each other ○ *Angle of attack and the profile of the wing section interact to produce lift.* ○ *Direct and reflected path signals can interact to cause bending of the localiser and generation of a false glidepath.*

interaction *noun* a relationship between two or more organisms or things

interactive *adjective* **1.** referring to a process involving people reacting to and communicating with other people or situations ○ *an interactive display describing the process of river pollution* **2.** COMPUT allowing communication between a user and a computer, TV or video

Interactive Multimedia Association *noun* COMPUT a professional organisation that covers subjects including authoring languages, formats and intellectual property. Abbr IMA

interactive TV *noun* TELECOM a channel that allows two-way communication between the viewer and broadcasting station (NOTE: This feature often allows the user to choose which programme to watch or to respond directly to questions displayed on-screen.)

interblock *adjective* COMPUT situated between blocks

interblock gap *noun* COMPUT a space between two blocks of stored data. Abbr IBG

interbreed *verb* BIOL to cross animals or plants with different characteristics to produce offspring with distinctive features (NOTE: Individuals from the same species can interbreed, those from different species cannot.)

intercellular *adjective* BIOL taking place or situated between cells

intercept *verb* to stop or interrupt the intended path of something ○ *When a radio transmission is made from a moving platform, there will be a shift in frequency between the transmitted and intercepted radio signals.*

intercharacter spacing *noun* COMPUT a word-processor feature that provides variable spacing between words to create a justified line

interconnect *verb* to connect several devices together or be connected together ○ *The fire extinguishers for each engine are interconnected, so allowing two extinguishers to be used on either engine.*

interconnection *noun* COMPUT a section of connecting material between two devices

intercostal muscle *noun* ANAT a muscle between the ribs of a mammal, used when breathing

interdependence *noun* a state of two or more organisms or processes depending on each other

interdependent *adjective* referring to organisms or things being dependent on each other

interest group *noun* ENVIRON a group of people who are all concerned about the same issue. They may try to influence the opinions of politicians, local officials and business people on this issue.

interface *COMPUT noun* **1.** a point at which one computer system ends and another begins **2.** a circuit, device or port that allows two or more incompatible units to be linked together in a standard communication system, allowing data to be transferred between them **3.** a section of a program which allows transmission of data to another program ■ *verb* **1.** to modify a device by adding a circuit or connector to allow it to conform to a standard communications system **2.** to connect two or more incompatible devices together with a circuit, to allow them to communicate

interfacing *noun* *COMPUT* hardware or software used to interface two computers, programs or devices

interference *noun* **1.** TELECOM the prevention of reception of a clear radio signal **2.** noise on a signal ○ *Certain equipment, such as generators and ignition systems, will cause unwanted radio frequency interference.*

interferon *noun* BIOL a protein that is produced by cells, usually in response to a virus, and then reduces the spread of viruses

interfluve *noun* EARTH SCI the area of land between two rivers

intergalactic *adjective* ASTRON referring to two or more galaxies

intergenerational equity *noun* ENVIRON the fairness of the distribution of the costs and benefits of an environmental policy when they are experienced by different generations

intergeneric *adjective* BIOL involving two or more genera

interglacial period, interglacial *noun* EARTH SCI the period between two Ice Ages when the climate becomes warmer

Intergovernmental Panel on Climate Change *noun* an international group of expert scientists who assess information on climate change

interior *noun* the inside of something ○ *reserves in the interior of the continent* ■ *adjective* situated inside ○ *The interior walls of the intestine.*

interior gateway protocol *noun* *COMPUT* a protocol that distributes information to gateways, now normally called routers, within a particular network. Abbr IGP

interlace *verb* TELECOM to build up an image on a television screen using two passes, each displaying alternate lines

COMMENT: This system uses two picture fields made up of alternate lines to reduce picture flicker effects.

interlaced video *noun* *COMPUT* a video signal made up of two separate fields (NOTE: This is the normal display mode for home video.)

interleaved memory *noun* *COMPUT* two separate banks of memory used together in sequence

interleave factor *noun* *COMPUT* a ratio of sectors skipped between access operations on a hard disk

interleaving *noun* *COMPUT* **1.** a processor dealing with slices or sections of processes alternately, so that they appear to be executed simultaneously **2.** the dividing of data storage into sections so that each can be accessed separately

interlobar artery *noun* ANAT an artery running towards the cortex on each side of a renal pyramid to the glomeruli of the kidneys

interlock *noun* *COMPUT* a security device which is part of the logon prompt and requires a password ■ *verb* **1.** *COMPUT* to prevent a device from performing another task until the present one has been completed **2.** (*of parts of a mechanism*) to connect together so that the movement or operation of one affects others ○ *The two parts interlock to create a solid structure.*

interlude *noun* **1.** a period of time between two events **2.** *COMPUT* a small initial routine at the start of a program that carries out housekeeping tasks

intermediate *adjective* referring to a state or a stage between two others

intermediate access memory *noun* *COMPUT* memory storage that has an access time between that of main memory and disk-based systems. Abbr IAM

intermediate code *noun* *COMPUT* a code used by a computer or assembler dur-

ing the translation of a high-level code to machine code

intermediate file *noun* COMPUT a series of records that contain partially processed data, which will be used at a later date to complete that task

intermediate frequency *noun* ELECTRONICS the frequency that an incoming carrier wave signal is changed to in a heterodyne radio receiver before it is amplified

intermediate host *noun* BIOL a host on which a parasite lives for a time before passing on to another host

intermediate neutron *noun* PHYS a neutron with energy between that of a fast neutron and a thermal neutron

intermediate storage *noun* COMPUT a temporary area of memory for items that are currently being processed

intermediate system to intermediate system *noun* COMPUT an OSI protocol that allows data to be transferred between routers. Abbr **IS-IS**

intermediate technology *noun* TECH the technology between the advanced electronic technology of industrialised countries and the local technology of developing countries

intermediate waste *noun* INDUST waste from a nuclear reactor in the form of sludge or metal parts, which are more radioactive than low-level waste and less radioactive than high-level waste

intermittent *adjective* stopping and starting at intervals *o* *The cycle of induction, compression, combustion and exhaust in the piston engine is intermittent, whereas in the gas turbine each process is continuous.*

intermittent error *noun* an error which apparently occurs randomly in a computer or communications system due to a program fault or noise

intermuscular *adjective* referring to something which is between muscles. Compare **intramuscular**

internal *adjective* on or from the inside of something. Opposite **external**

internal arithmetic *noun* COMPUT arithmetic operations performed by the arithmetic logic unit

internal clock *noun* BIOL same as **biological clock**

internal combustion engine *noun* ENG a type of engine used in motor vehicles, where the fuel is a mixture of petrol

and air burnt in a closed chamber to give energy to the pistons

internal command *noun* COMPUT a command that is part of the operating system, rather than a separate utility program *o* *In MS-DOS, the internal command DIR is used frequently.*

internal font *noun* COMPUT, PRINTING a font that is stored on a ROM in a printer. Also called **resident font**

internal format *noun* COMPUT the way in which data and instructions are represented within a central processing unit or backing store

internal hard disk *noun* COMPUT a hard disk drive mounted inside the main case of a computer

internal iliac artery *noun* ANAT an artery that branches from the aorta in the abdomen and leads to the pelvis

internalise *verb* *o* **to internalise the externality** ENVIRON to bring external factors under the control of the relevant authority

internal language *noun* COMPUT a language used in a computer system that is not under the direct control of the operator

COMMENT: Many compiled languages are translated to an internal language.

internally stored program *noun* COMPUT a computer program code that is stored in a ROM device and does not have to be loaded from backing store

internal maxillary artery *noun* ANAT a branch of the external carotid artery, in the face

internal memory/store *noun* COMPUT a section of RAM and ROM to which the central processing unit is directly connected without the use of an interface, as in external memory devices such as disk drives

internal regulation *noun* BIOL the process by which organisms maintain a constant internal environment

internal resistance *noun* ELEC the resistance exerted within a source of electrical current such as a battery or generator

internal respiration *noun* PHYSIOL the part of respiration concerned with the passage of oxygen from the blood to the tissues and the passage of carbon dioxide from the tissues to the blood

international *adjective* referring to more than one country

International Atomic Energy Agency

noun the agency of the United Nations Organization dealing with all aspects of nuclear energy. Abbr **IAEA**

international candle *noun* MEASURE an obsolete unit of luminous intensity, now replaced by the candela

International Commission on Radiological Protection

noun a group of scientists who try to decide on worldwide safety standards for the nuclear industry by fixing a maximum allowable dose of radiation. Abbr **ICRP**

International Council of Chemical Associations

noun a group of trade associations representing chemical manufacturers worldwide

International Programme on Chemical Safety

noun a collaboration between the World Health Organization and the United Nations Environment Programme, to investigate issues relating to chemical safety. Abbr **IPCS**

international standard atmosphere

noun PHYS a model atmosphere defined in terms of pressure, density and temperature for all heights, with perfect gases and without any form of water or solid matter. Abbr **ISA** (NOTE: It is used in the calibration of instruments and descriptions of aircraft performance.)

International Standards Organisation

noun COMPUT an organisation which creates and regulates standards for many types of computer and networking products. Full form of **ISO**

International Standards Organisation Open System Interconnection

noun COMPUT a standardised ISO network design that is constructed of layers, each with a specific task, allowing different systems to communicate if they conform to the standard. Abbr **ISO/OSI**

Internet *noun* COMPUT an international wide area network that provides file and data transfer together with electronic mail functions for millions of users around the world. ♦ **www**

Internet Activities Board *noun* COMPUT an independent committee that is responsible for the design, engineering and management of the Internet. Abbr **IAB**

Internet address *noun* COMPUT a unique number that identifies the precise location of a particular node on the Internet. Also called **IP address**, **host**

address, **host number** (NOTE: This is a 32-bit number usually written in dotted decimal format. It used by the TCP/IP protocol and is normally of the form '123.33.22.32'. A domain name system is used to convert a domain name, e.g. 'acblack.com' into its full Internet address.)

Internet Architecture Board

noun COMPUT a group that monitors and manages the development of the Internet (NOTE: It includes the IETF and the IRTF.)

Internet Assigned Numbers Authority

noun COMPUT a group that assigns unique identifying numbers to the different protocols and network products used on the Internet. Abbr **IANA**

Internet Engineering Steering Group

noun COMPUT a group that reviews Internet standards and manages the IETF. Abbr **IESG**

Internet Engineering Task Force

noun COMPUT a committee that is part of the IAB and determines Internet standards. Abbr **IETF**

Internet message access protocol

noun COMPUT full form of **IMAP**

Internet protocol

noun COMPUT a part of the TCP/IP standard that defines how data is transferred over a network. Abbr **IP**

Internet protocol address

noun COMPUT a unique 32-bit number that identifies computers that want to connect to a TCP/IP network

Internet protocol next generation

noun COMPUT full form of **IPng**

Internet relay chat

noun COMPUT a system that allows many users to participate in a chat session in which each user can send messages and see the text of any other user. Abbr **IRC** (NOTE: It is part of the Internet Society.)

Internet research task force

noun COMPUT a committee that is part of the IAB and researches new Internet standards before referring them to the IETF for approval. Abbr **IRTF**

Internet service provider

noun COMPUT a company that provides one of the permanent links that make up the Internet and sells connections to private users and companies to allow them to access the Internet. Abbr **ISP**

Internet Society *noun* COMPUT an organisation that looks after maintaining and enhancing the Internet (NOTE: It is not linked to any government or company and

so provides an independent view. It is made up of committees such as the Internet Advisory Board and the Internet Engineering Task Force.)

Internetwork *noun* COMPUT a number of networks connected together using bridges or routers to allow users on one network to access any resource on any other of the connected networks

internode *noun* BOT the part of a plant stem between two adjacent nodes

interoceptor *noun* ANAT a nerve cell that reacts to a change taking place inside the body

interoperability *noun* COMPUT the ability of two devices or computers to exchange information

Interorganisation Programme for the Sound Management of Chemicals *noun* a plan administered by seven participating international organisations, including WHO, to promote the safe use of chemicals. Abbr **IOMC**

interphase *noun* BIOL the period when a cell is not dividing

interplanetary *adjective* ASTRON referring to two or more planets

interpolation *noun* the estimation of a middle value by reference to known values on each side ○ *Spot temperatures at positions other than those printed are obtained by interpolation.*

interpret *verb* **1.** to understand something presented in code or symbolic form ○ *Aircrew must be able to interpret information printed on a contour chart.* **2.** to translate what is said in one language into another

interpretation *noun* an explanation of the meaning or importance of something

interpretative code *noun* COMPUT a code used with an interpretative program

interpretative program *noun* COMPUT a piece of software that translates high level interpretative code into machine code instructions at run-time

interpreted language *noun* COMPUT a programming language that is executed by an interpreter

interpreter *noun* **1.** a person who translates or explains something **2.** COMPUT a piece of software used to translate a user's high-level program into machine code in real time

interrupt *verb* to stop something while it is happening ■ *noun* **1.** TELECOM the stop-

ping of a transmission due to an action at the receiving end of a system **2.** COMPUT a signal that diverts a central processing unit from one task to another which has higher priority, allowing the central processing unit to return to the first task later ○ *This printer port design uses an interrupt line to let the CPU know it is ready to receive data.*

interrupt-driven *adjective* COMPUT working in response to an interrupt

interrupt handler *noun* COMPUT a piece of software that accepts interrupt signals and acts on them, e.g. running a special routine or sending data to a peripheral. Abbr **IH**

interrupt mask *noun* COMPUT a data word in a computer that selects which interrupt lines are to be activated

interrupt request *noun* COMPUT a signal from a device that indicates to the central processing unit that it requires attention. Abbr **IRQ**

intersect *verb (of a line)* to cut across another line ○ *Meridians intersect at the poles and cross the equator at right angles.*

intersection *noun* **1.** a point at which two lines cross each other ○ *The intersection of the drift line and the wind vector gives the drift point.* **2.** MATHS a set containing all the elements that are common to two or more sets **3.** COMPUT a logical function whose output is only true if both its inputs are true

intersexual selection *noun* the selection of a mate where an individual looks for special traits in the opposite sex

interspecific *adjective* BIOL involving two or more species

interspecific competition *noun* ECOL the competition between species for one or more of the same limited resources of food, sunlight, water, soil, nutrients or space

interstellar *adjective* ASTRON referring to two or more stars

interstitial *adjective* ANAT referring to the spaces between parts of something such as the tissue in an organ

interstitial cells *plural noun* ANAT the testosterone-producing cells between the tubules in the testes. Also called **Leydig cells**

interstitial-cell-stimulating hormone *noun* BIOCHEM same as **lutinising hormone**. Abbr **ICSH**

intertidal *adjective* EARTH SCI relating to land that is covered by the sea at high tide and exposed at low tide ○ *intertidal communities*

intertidal zone *noun* EARTH SCI an area of sea water and shore between the high and low water marks ○ *seaweeds of the intertidal zone*

intertropical convergence zone *noun* EARTH SCI the boundary between the trade winds and tropical air masses of the northern and southern hemispheres. Abbr ITCZ

interval *noun* **1.** the amount of space between places or points ○ *The intervals at which contours are drawn depends on the scale of the chart and this interval, known as the vertical interval, is noted on the chart.* **2.** the period of time between two events ○ *A precise interval is essential to obtain correct ignition timing on all cylinders.*

intestinal *adjective* referring to the intestine

intestine *noun* ZOOLOG the digestive canal between the stomach and the anus or cloaca in which food is digested and absorbed (NOTE: In mammals, the small intestine digests and absorbs food from the stomach, and the large intestine then absorbs most of the remaining water.)

intimate *adjective* COMPUT referring to software that operates and interacts closely with hardware in a system

intolerance *noun* MED the inability to eat or drink a particular food, ingredient, or substance, or to take a particular drug, without having an allergic reaction or becoming ill

intra- *prefix* inside or within

intracellular *adjective* BIOL occurring within a cell or cells

intracutaneous injection *noun* MED an injection of a liquid between the layers of skin, e.g. in a test for an allergy

intra-genic *adjective* GENETICS occurring within the same gene sequence

intramuscular *adjective* referring to something which is inside the muscle, as intramuscular fat in meat. Compare **inter-muscular**

intramuscular injection *noun* MED an injection of liquid into a muscle, e.g. for a slow release of a drug

intranet *noun* COMPUT a private network of computers within a company that pro-

vide similar functions to the Internet e.g. electronic mail, newsgroups and the WWW, without the associated security risks of making the information public or linking the company to a public network

intrasexual selection *noun* the selection of a mate where several individuals compete with each other

intraspecific *adjective* BIOL occurring within a species ○ *an intraspecific cross between two cultivars*

intravenous *adjective* MED administered into into a vein

intravenous feeding *noun* MED the process of giving liquid food to a patient by means of a tube inserted into a vein

intravenous injection *noun* MED an injection of liquid into a vein, e.g. for fast release of a drug

intra vitam *adverb* BIOL during life

intrinsic factor *noun* BIOCHEM a protein produced in the gastric glands which reacts with vitamin B12 controls the absorption of extrinsic factor, and which, if lacking, causes pernicious anaemia

intrinsic value *noun* ENVIRON the value placed on the inherent qualities of a species, as opposed to its value to humans

introduce *verb* **1.** to bring something into being or start to use something new ○ *The lab introduced a new rapid method of testing.* **2.** ENVIRON to bring something to a new place ○ *Several of the species of plant now common in Britain were introduced by the Romans.* ○ *Starlings were introduced to the USA in 1891.*

introduction *noun* **1.** the process of bringing something into being or using something new ○ *the introduction of a new rapid testing method* ○ *The death rate from malaria was very high before the introduction of new anti-malarial techniques.* **2.** the bringing of something to a new place ○ *Before the introduction of grey squirrels, the red squirrel was widespread.* **3.** ENVIRON a plant or animal that has been brought to a new place ○ *It is not an indigenous species but a 19th-century introduction.* **4.** the first part of a report, book or talk

introgression *noun* GENETICS the transfer of genes from one species into the gene pool of another as a result of hybridisation

intrusion *noun* EARTH SCI an area of rock which has pushed into other rocks

invade *verb* to arrive in an area in large unwanted numbers ○ *These introduced*

pests could cause serious problems if they invaded our marine environment.

invalid *adjective* not valid ○ *He tried to use an invalid password.* ○ *The message was that the instruction was invalid.* ■ *noun* HEALTH a person who is ill

invalidity *noun* MED the state of having been affected by a disease or medical disorder over a long period

invasion *noun* 1. AGRIC the arrival of large numbers of unwanted organisms into an area ○ *an invasion of weeds* 2. MED the entry of bacteria into a body

inventory *noun* a list of items existing in a place

inverse *adjective* 1. reversed in order or effect ○ *There is an inverse relationship between altitude and temperature: temperature decreases as altitude increases.* 2. COMPUT changing the logical state of a signal or device to its logical opposite ■ *noun* the opposite of something in order or effect ○ *The inverse of true is false.* ○ *The inverse of 1 is 0.*

inversely proportional *adjective* referring to a relationship in which one thing increases as another decreases to the same extent ○ *Temperature is inversely proportional to altitude.*

inverse-square law *noun* PHYS a law stating that a physical quantity varies inversely with the square of the distance from its source (NOTE: Gravitation, electromagnetism, radiation and sound follow this law)

inverse video *noun* TELECOM a television effect created by swapping the background and foreground text display colours

inversion *noun* 1. METEOROL an atmospheric phenomenon in which cold air is nearer the ground than warm air ○ *Smog is smoke or pollution trapped on the surface by an inversion of temperature with little or no wind.* 2. the act of turning something upside down ○ *Inversion of the aircraft in flight may result in fuel stoppage.* 3. COMPUT the changing over of numbers in a binary word, e.g. one to zero, zero to one ○ *The inversion of a binary digit takes place in one's complement.*

COMMENT: Air normally cools at a rate of 6.4°C per 1000 m of altitude. During the night, the ground cools as it loses heat by radiation and the air at ground level becomes cooler than the air above. This thermal inversion can cause smog, when the cooler ground-level air cannot move

because there is no wind and remains trapped with its pollutants between the ground and the warm air above it.

inversion layer *noun* METEOROL a layer of the atmosphere in which the temperature increases as altitude increases

invert *verb* 1. to turn something upside down ○ *A glass tube is sealed at one end, filled with mercury and then inverted so that the open end is immersed in a bowl containing mercury.* 2. COMPUT to change all binary ones to zeros and zeros to ones

invertase *noun* BIOCHEM an enzyme that speeds up the breakdown of sucrose

invertebrate *noun* ZOOLOG an animal that has no backbone. Compare **vertebrate** ■ *adjective* referring to animals that have no backbone ○ *marine invertebrate animals*

inverted file *noun* COMPUT a file with an index entry for every data item

inverter *noun* 1. COMPUT a logical gate that provides inversion facilities 2. ELEC a circuit used to provide alternating current supply from a DC battery source

investigate *verb* to examine or find out about something in great detail ○ *The cause of the blockage must be investigated.*

invisible *adjective* unable to be seen ○ *Oxygen is an invisible gas.*

in vitro *adjective, adverb* BIOL occurring outside a living organism, in laboratory conditions ○ *in vitro experiments* ○ *The tissue was cultured in vitro.*

in vitro fertilisation *noun* BIOTECH the fertilisation of an ovum in laboratory conditions. Abbr **IVF**

in vivo *adjective, adverb* BIOL occurring within or taking place on a living organism ○ *in vivo experiments* ○ *The experiments were carried out in vivo.*

invoke *verb* COMPUT to start or run a program, often a memory resident utility

involucre *noun* BOT a ring of modified leaves (**bracts**) at the base of a flower or flower head

involve *verb* to have to do with something or to include something in a process ○ *Backing up involves copying current working files onto a separate storage disk.*

inward *adjective* directed to or moving towards the inside or interior

inwards *adverb* towards the inside or interior (NOTE: American English is **inward**.)

I/O *abbreviation* COMPUT input/output

I/O bound *noun* COMPUT a processor that is doing very little processing since its time is taken up reading or writing data from a I/O port

I/O buffer *noun* COMPUT a temporary storage area for data waiting to be input or output

I/O bus *noun* COMPUT a set of links allowing data and control signal transfer between a central processing unit and memory or peripheral devices

I/O device *noun* a peripheral such as a terminal that can be used for inputting or outputting data to a processor

iodide *noun* CHEM a salt of hydriodic acid containing the univalent anion ion I^- (NOTE: Silver iodides are used in photography, and sodium and potassium iodides are used in iodised table salt.)

iodine *noun* CHEM ELEM a chemical element. It is essential to the body, especially to the functioning of the thyroid gland, and is found in seaweed. (NOTE: The chemical symbol is **I**; the atomic number is **53** and the atomic weight is **126.90**.)

iodise, iodize *verb* CHEM to treat or impregnate something with iodine

iodoform *noun* CHEM a yellow crystalline compound with a penetrating odour, used as an antiseptic, and in the treatment of minor skin diseases. Formula: CHI_3 .

iodometry *noun* CHEM an analytical process involving the liberation of or reaction with iodine by a substance in order to determine the quantity of the substance present in the sample being analysed

IOMC *abbreviation* Interorganisation Programme for the Sound Management of Chemicals

ion *noun* CHEM an atom or a group of atoms that has obtained an electric charge by gaining or losing one or more electrons (NOTE: Ions with a positive charge are called cations and those with a negative charge are anions.)

COMMENT: It is believed that living organisms, including human beings, react to the presence of ionised particles in the atmosphere. Hot dry winds contain a higher proportion of positive ions than normal and cause headaches and other illnesses. If negative ionised air is introduced into an air-conditioning system, the incidence of headaches and nausea among people working in the building may be reduced.

ion deposition *noun* PRINTING a printing technology that uses a printhead that

deposits ions to create a charged image that attracts the toner

ion drive *noun* ASTRON, AEROSP a type of rocket motor that drives spacecraft with a stream of ions instead of a jet of hot gas as in normal rockets (NOTE: Ion drives are powered by electricity and have been tested in orbit.)

ion engine *noun* AEROSP a theoretical rocket engine that obtains thrust from a stream of high-speed ions (NOTE: The engine would be used only in space because it does not produce enough thrust to escape Earth's gravity.)

ion exchange *noun* CHEM the exchange of ions between a solid and a solution

ion-exchange filter *noun* a water-softening device attached to a water supply to remove nitrates or calcium from the water

ionic crystal *noun* PHYS a crystal composed of ions

ionic product *noun* CHEM water that contains the combination of hydrogen ions and hydrogen-oxide ions H^+OH^- , caused by ionisation

ionic radius *noun* CHEM a measure of the effective radius of an ion in a compound

ionics *noun* PHYS the study of the development and behaviour of solid electrolytes

ionisation, ionization *noun* CHEM **1.** the production of atoms with electric charges **2.** the process of producing ions by heat or radiation ○ *The intensity of ionisation depends on the strength of the ultraviolet radiation and the density of the air.*

ionisation chamber *noun* PHYS a piece of equipment for detecting and measuring ionising radiation (NOTE: It consists of a gas-filled tube with electrodes at each end between which a voltage is maintained.)

ionisation potential *noun* PHYS the energy needed to remove an electron from an atom or molecule and move it infinitely far away

ionise, ionize *verb* CHEM to give an atom an electric charge

ioniser, ionizer *noun* INDUST a machine that increases the concentration of negative ions in the atmosphere of a room, so counteracting the effect of positive ions. Also called **negative ion generator**

ionising radiation *noun* PHYS the radiation that produces atoms with electrical charges as it passes through a medium, e.g. alpha particles or X-rays

ionosphere *noun* METEOROL the part of the atmosphere 50km above the Earth's surface (NOTE: Because the strength of the Sun's radiation varies with latitude, the structure of the ionosphere varies over the surface of the Earth. It is composed of 70% nitrogen, 15% oxygen and 15% helium, in which atoms are ionised by solar radiation.)

COMMENT: The uppermost layer of Earth's atmosphere is where most of the atoms are ionised. Some 350 km above sea level, the ionosphere has high temperatures because high-energy solar photons are captured there, including those in X-ray wavelengths. This prevents radiation which would otherwise be fatal to human and other life from reaching sea level, so that without the ionosphere any life on Earth would have evolved very differently. The ionosphere is also useful for communications and radar, since it is possible to bounce radio signals off it for transmission beyond the visible horizon.

ionospheric *adjective* METEOROL referring to the ionosphere

ionospheric attenuation *noun* PHYS loss of signal strength to the ionosphere

ionospheric refraction *noun* PHYS a change in direction as a wave passes through an ionised layer

ion pump *noun* PHYS a device that removes a gas by ionising the gas atoms and adsorbing these ions

ion tail *noun* ASTRON the ionised portion of the tail of a comet (NOTE: It is synonymous with the gas tail since most gas in comet tails is ionised near the Sun where comet tails are observed.)

I/O port *noun* COMPUT a circuit or connector that provides an input/output channel to another device

ip *abbreviation* COMPUT information provider

IP *abbreviation* COMPUT Internet protocol

IP address *noun* COMPUT same as **Internet address**

IPC *abbreviation* integrated pollution control

IPCC *abbreviation* ENVIRON Intergovernmental Panel on Climate Change

IPCS *abbreviation* International Programme on Chemical Safety

IP datagram *noun* COMPUT a packet of data transferred across a TCP/IP network

IPM *abbreviation* AGRIC integrated pest management

IP multicast *noun* COMPUT a process of sending out one set of data to several recipients simultaneously

IPng *noun* COMPUT a new version of the Internet protocol that allows more computers to connect to the Internet and supports more data traffic. Full form **Internet protocol next generation**. ♦ **IP**

ips *abbreviation* MEASURE inches-per-second

IP spoofing *noun* COMPUT a method of gaining unauthorised access to a computer or network by pretending to be an authorised computer or device (NOTE: Each device on the network has its own unique address and many security systems block or allow access to networks based on the computer's IP address. A hacker needs to find out which IP address is allowed or trusted, then modifies the header information in the data packets from the computer to include this IP address, so gaining access to the target computer. Newer routers and firewalls use a range of techniques to spot this scheme and block the data.)

IQ *abbreviation* BIOL intelligence quotient

Ir *symbol* CHEM ELEM iridium

IR *abbreviation* COMPUT **1.** information retrieval **2.** index register **3.** instruction register

IRC *abbreviation* COMPUT Internet relay chat

IrDA *noun* COMPUT a standard method of transferring information via an infrared light beam, often used to transfer information from a laptop or PDA to a printer or desktop computer. Full form **infrared data association** (NOTE: To use this feature, the computer or printer needs to have an IrDA port.)

iridium *noun* CHEM ELEM a hard, corrosion-resistant, silver-white metal, similar to and occurring with platinum and used in alloys (NOTE: The chemical symbol is **Ir**; the atomic number is **77** and the atomic weight is **192.22**.)

iris *noun* **1.** OPTICS a small hole in a camera between the lens and the film, normally variable in size to adjust the amount of light passing through it to the film **2.** ANAT the coloured part of the eye, which expands and contracts the pupil **3.** BIOL, BOT a plant with coloured flowers and sword-shaped leaves. Genus: *Iris*.

iroko *noun* INDUST an African hardwood tree, formerly widely used but becoming rarer. Latin name: *Milicia excelsa*.

iron *noun* CHEM ELEM a metallic element. It is essential to biological life. (NOTE: The chemical symbol is **Fe**; the atomic number is **26** and atomic weight is **55.85**.)

COMMENT: Iron is an essential part of the red pigment in red blood cells. Lack of iron in haemoglobin results in iron-deficiency anaemia. The metal and alloys made from iron are magnetic. Compass needles made from iron point to magnetic north.

iron chloride *noun* CHEM a compound of iron and chlorine. Formula: FeCl_2 .

iron-deficiency anaemia *noun* MED anaemia caused by lack of iron in red blood cells

iron ore *noun* GEOL a rock that contains iron compounds, and from which iron can be extracted

iron oxide *noun* CHEM same as **ferric oxide**

iron pan *noun* EARTH SCI a layer of deposition in podsol soils

iron pyrites *noun* CHEM same as **pyrite**

iron sulfate, iron sulphate *noun* CHEM a compound of iron, sulfur and oxygen. Formula: $\text{Fe}_2(\text{SO}_4)_3$.

ironworks *noun* INDUST a place where iron is smelted and worked

IRQ *abbreviation* COMPUT interrupt request

irradiance *noun* the amount of radiation received in a specific area

irradiate *verb* **1.** PHYS to subject something to radiation **2.** EARTH SCI to treat food with radiation to prevent it going bad

COMMENT: Food is sometimes irradiated with gamma rays which kill bacteria as a method of preservation. It is not certain that irradiated food is safe for humans to eat, as the effects are not known. In some countries irradiation is only permitted as a treatment of specific foods.

irradiation *noun* **1.** the spread of something from a centre **2.** exposure to radiation, especially ionising radiation **3.** PHYS the use of rays to treat patients or to kill bacteria in food

irradiation dose *noun* PHYS the amount of radiation to which an organism is exposed

irrational number *noun* MATHS a real number that cannot be expressed as an exact ratio of two whole numbers

irregular *adjective* not regular

irrespective *adverb* taking no account of something \circ *irrespective of age* \circ *They noted the warning, but decided to go ahead irrespective.*

irreversible *adjective* referring to a process that cannot be turned back to its original state \circ *an irreversible change*

irreversible reaction *noun* CHEM a chemical reaction that cannot be reversed

irrigate *verb* AGRIC to supply water to land to allow plants to grow, by channels, pipes, sprays or other means

irrigation *noun* AGRIC the process of supplying of water to land to allow plants to grow \circ *irrigation channels* \circ *New areas of land must be brought under irrigation to meet the rising demand for food.*

COMMENT: Irrigation can be carried out using sprinklers or by channelling water along small irrigation canals from reservoirs or rivers. Irrigation can cause salinisation of the soil, as the soil becomes waterlogged and salts rise to the surface. At the surface, the irrigated water rapidly evaporates, leaving the salts behind as a saline crust. Irrigation can also increase the spread of disease. Water insects are easily spread through irrigation canals and reservoirs.

irritability *noun* PHYSIOL same as **sensitivity**

irritant *noun* MED a substance or object that can cause irritation (NOTE: An irritant can have an acute effect on respiration from a single high-level exposure, or chronic effects from repeated low-level exposures.)

irruption *noun* ECOL a very rapid and pervasive increase in the numbers of something, e.g. predators

IRTF *abbreviation* COMPUT Internet research task force

ISA *abbreviation* **1.** COMPUT Industry Standard Architecture **2.** AEROSP international standard atmosphere

ISAM *abbreviation* COMPUT indexed sequential access method

ischium *noun* ANAT the rearmost of the three bones that form each half of the pelvis

ISDN *abbreviation* COMPUT integrated services digital network

IS-IS *abbreviation* COMPUT intermediate system to intermediate system

island *noun* GEOG a piece of land surrounded by water, in a sea, river or lake

island biogeography *noun* ECOL a theory stating that the number of species

on an island or other area results from a dynamic equilibrium between colonisation and extinction

islets of Langerhans *plural noun* ANAT the clusters of cells in the pancreas that secrete the hormones insulin and glucagon

ISO *abbreviation* COMPUT International Standards Organisation

iso- *prefix* equal

isobar *noun* METEOROL a line on a map linking points which are of equal barometric pressure at a given time

isobaric chart *noun* METEOROL a weather map showing the isobars at a given time

isochronous network *noun* COMPUT a network in which all the components on the network run from a common clock so that their timing is uniform

isochronous transmission *noun* COMPUT the transfer of asynchronous data over a synchronous link

isocyanide *noun* CHEM same as **isonitrile**

isoelectric point *noun* CHEM the pH value at which there is no electric force on a molecule in a solution

isoflavone *noun* BIOCHEM an organic compound belonging to a group that occurs in legumes, especially soya bean, that may have positive effects against cancer and heart disease, e.g. genistein

isoflavonoid *noun* BIOCHEM an organic compound belonging to a group that occurs in legumes, especially soya bean, and is converted by bacteria in the intestines into substances having activity similar to that of oestrogen

isogenic, isogenous *adjective* GENETICS with identical genes

isohaline *noun* EARTH SCI a line on a map linking areas of equal salt content

isohyet *noun* METEOROL a line on a map linking points of equal rainfall

isolate *verb* **1.** to separate and keep objects or organisms apart from others ○ *The low-pressure fuel cock isolates the air-frame fuel system from the engine fuel system to enable maintenance and engine removals to be carried out.* **2.** ELEC to separate something from a system **3.** ELEC to insulate something electrically **4.** MED to keep one patient apart from others usually because he or she has a dangerous infectious disease **5.** MICROBIOL to separate a

microorganism from its host or the material on which it grows ○ *Scientists have isolated the bacterium which lives in air-conditioning systems and causes legionnaires' disease.* ○ *Candida is easily isolated from the mouths of healthy adults.*

■ *noun* MICROBIOL a pure culture of a microorganism

isolation *noun* a state or the process of being separated and kept apart from other objects or organisms

isolation hospital *noun* MED a special hospital where patients suffering from dangerous infectious diseases can be isolated

isolation transformer *noun* ELEC a transformer used to isolate equipment from direct connection with the mains electricity supply, in case of voltage spikes

isolation ward *noun* a special ward in a hospital where patients suffering from dangerous infectious diseases can be isolated

isoleucine *noun* BIOCHEM an essential amino acid

isomer *noun* CHEM one of two or more nuclides with the same mass number and atomic number but different energy states and half-lives

isomerism *noun* CHEM the existence of two or more nuclides as isomers

isometric view *noun* COMPUT a drawing that shows all three dimensions of an object in equal proportion ○ *An isometric view does not show any perspective.*

isomorphism *noun* MATHS a one-to-one correspondence between sets such that an operation such as addition or multiplication in one produces the same result as the analogous operation in the other

isonitrile *noun* CHEM a colourless organic compound with an unpleasant smell, containing the group -NC. Also called **isocyanide**

ISO/OSI *abbreviation* COMPUT International Standards Organisation Open System Interconnection

isoprene *noun* CHEM a colourless liquid hydrocarbon that is flammable and may react to give a polymer. Formula: C₅H₈. (NOTE: It is used in synthetic rubber manufacture.)

isotach *noun* METEOROL a line on a map linking points where the wind is blowing at the same speed

isotherm *noun* METEOROL a line on a map linking points of equal temperature

isotonic *adjective* CHEM referring to solutions that exert the same osmotic pressure

isotope *noun* CHEM a form of a chemical element which has the same chemical properties as other forms, but a different atomic mass

COMMENT: Uranium exists in several isotopes: uranium-238 is the commonest and is used in fast breeder reactors because of its property of releasing energy very slowly under normal conditions; uranium-235 is the isotope used in fission, because of its ability to release energy rapidly.

isotopic number *noun* PHYS the difference between the number of neutrons and the number of protons in an atom

isotropic *adjective* CHEM referring to something that has physical properties that do not differ according to direction

isotropy *noun* CHEM the property of a material whereby it has the same properties from different directions (NOTE: Some crystals are anisotropic rather than isotropic because they refract light differently depending on which face the light falls upon. Isotropy is significant in optics and on a larger scale as a property of the universe in general.)

isozyme *noun* BIOCHEM a form of an enzyme that is chemically different from other forms but functions in the same way

ISP *abbreviation* COMPUT Internet service provider

ISR *abbreviation* COMPUT information storage and retrieval

issue *noun* a copy of a publication ○ *The article was in last month's issue of the journal.* ■ *verb* **1.** to give something out officially ○ *issued a warning* ○ *will be issuing security passes* **2.** to arise from somewhere ○ *A dark liquid was issuing from the crack.*

isthmus *noun* EARTH SCI a narrow piece of land linking two larger areas of land

IT *abbreviation* COMPUT information technology

italic *adjective, noun* PRINTING (a character font) in which the characters slope to

the right ○ *The species name is printed in italic font.*

italics *plural noun* PRINTING italic characters ○ *All the footnotes are printed in italics.* ○ *Hit CTRL I to print the text in italics.*

ITCZ *abbreviation* EARTH SCI intertropical convergence zone

item *noun* a single thing among many ○ *An item of data can be a word, a series of figures or a record in a file.*

item size *noun* COMPUT a number of characters or digits in an item of data

iteration *noun* **1.** a repetition **2.** COMPUT the repeated application of a program to solve a problem

iterative process *noun* a process that is continuously repeated until a condition is met

iterative routine, iterate *noun* COMPUT a loop or series of instructions in a program which repeats over and over again until the program is completed

IUCN – The World Conservation Union *noun* ECOL a union of 140 countries that generates scientific knowledge, advice and standards on environmental subjects and monitors the status of species, publishing findings in its Red Lists (NOTE: 'IUCN' stands for the organisation's original name, 'International Union for the Conservation of Nature and Natural Resources', although **World Conservation Union** has largely replaced this title since 1990.)

IV *abbreviation* MED intravenous

IVF *abbreviation* MED in vitro fertilisation

ivory *noun* ZOO a smooth whitish substance forming the tusks of animals such as elephants and walrus, formerly used to make piano keys and ornaments (NOTE: The ban on the trade in ivory was confirmed at the 50th Meeting (2004) of the Standing Committee of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) when it was declared that there would be no sale of ivory until further notice.)

ivory nut *noun* BOT the seed of a South American palm tree, used as a substitute for real ivory

J

J *abbreviation* MEASURE joule

jabber *noun* COMPUT a continuous random signal transmitted by a faulty adapter card or node on a network

jack *noun* **1.** ENG a powered device to lift or move heavy components **2.** ELEC a plug that consists of a single pin

jacket *noun* an outer covering or casing *o a cylinder jacket*

jaggies *plural noun* COMPUT jagged edges which appear along diagonal or curved lines displayed on a computer screen, caused by the size of each pixel

jam *noun* a stoppage in a process or mechanism due to a fault *o a jam in the paper feed* ■ *verb* to stop working because something is causing a blockage *o The recorder is not working because the tape is jammed in the motor.* *o Lightweight copier paper will feed without jamming.*

jar *noun* a glass container

Java *trademark* COMPUT a programming language and program definition used to create small applications to enhance the functionality of a webpage (NOTE: The language is similar to object-oriented languages such as C++ and can run on any compatible platform.)

JavaScript *noun* COMPUT a set of programming commands that can be included within a normal webpage, written using HTML commands (NOTE: When the web browser loads the webpage, it runs the JavaScript commands, usually used to create special effects to a webpage.)

JCL *abbreviation* COMPUT job control language

JD *abbreviation* Julian date

jejunum *noun* ANAT the part of the small intestine between the duodenum and ileum, concerned mainly with absorbing nutrients from digested food

jet *noun* **1.** a strong fast stream of fluid forced out of an opening *o a jet of water*

from a pipe **2.** same as **jet engine** **3.** AEROSP an aircraft which has jet engines

jet engine *noun* AEROSP an engine used on aircraft which produces forward motion by sending out a jet of hot gases backwards *o The jet engine was invented by Frank Whittle in 1941.*

jet fuel *noun* AEROSP same as **kerosene**
jet-powered, jet-propelled *adjective* driven by jet propulsion

jet propulsion *noun* **1.** ENG the act of making something move forward by sending out backwards a jet of hot gases, air or water **2.** AEROSP power that provides thrust for an aircraft by taking in air at the front, mixing it with fuel, burning the mixture and causing expansion of gases

jet stream *noun* **1.** METEOROL a wide belt of fast-moving air occurring at the top limit of the troposphere, about 15km above Earth's surface **2.** AEROSP a flow of gases from a jet engine

jettison *verb* to throw off or release something from a moving aircraft or ship

jitter *noun* COMPUT **1.** a fault where there is rapid small up-and-down movement of characters or pixels on a screen of image bits in a facsimile transmission *o Looking at this screen jitter is giving me a headache.* **2.** a fault in a transmission line that causes some of the data bits being transmitted to be corrupted

JK-flip-flop *noun* ELEC a flip-flop device with two inputs, J and K, and two complementary outputs that are dependent on the inputs

job *noun* a task, set of tasks or work to be processed as a single unit *o The next job to be processed is to sort all the records.*

job control language *noun* COMPUT a set of commands that describe the identification of and resources required by a job that a computer has to process. Abbr **JCL**

job priority *noun* COMPUT the importance of a job compared to others

job statement control *noun* COMPUT the use of instructions and statements to control the actions of the operating system of a computer

join *verb* **1.** to connect or bring things together ◦ *Join the two wires.* ◦ *With a pencil and ruler, join point A to point B.* **2.** to combine two or more pieces of information to produce a single unit of information ■ *noun* **1.** a place at which two or more things are connected **2.** COMPUT a logical function that produces a true output if any input is true

joint *noun* **1.** a place at which two or more things are joined together ◦ *Fuselage frame rings are formed with only one joint.* **2.** ANAT a place at which two bones are connected ■ *adjective* **1.** with two or more things linked together **2.** shared by two or more people ◦ *a joint effort* ◦ *a joint venture* **3.** ANAT referring to a joint in the body ◦ *joint pains*

joint denial *noun* COMPUT a logical function whose output is false if any input is true

Joint Implementation *noun* ENVIRON a set of agreements made between two or more nations under the Framework Convention on Climate Change to help reduce greenhouse gas emissions

joule *noun* MEASURE an SI unit of measurement of energy. Symbol **J**

COMMENT: One joule is the amount of energy used to move one kilogram the distance of one metre, using the force of one newton 4.184 joules equal one calorie.

journal *noun* **1.** a scientific publication **2.** COMPUT a record of all communications to and from a terminal **3.** COMPUT a list of any changes or updates to a file ◦ *The modified records were added to the master file and noted in the journal.*

joystick *noun* COMPUT a device that allows a user to move a cursor around the screen by moving an upright rod connected to an I/O port on the computer

JPEG *noun* COMPUT a standard that defines a way of storing graphic images in a compressed format in a file on disk. Full form **Joint Photographic Experts Group**

jugular vein *noun* ANAT one of several paired veins that pass through the neck to drain blood from the head (NOTE: In humans, on either side of the neck there is

a larger internal vein flanked by an external vein.)

jukebox *noun* COMPUT a CD-ROM drive that can hold several CD-ROM disks and select the correct disk when required

Julian calendar *noun* ASTRON a calendar system with a leap year every four years (NOTE: It is so-called because it was introduced during Julius Caesar's period as ruler of Rome in 46 BC. The Julian calendar ceased to be used between the 16th and 20th centuries as the more accurate Gregorian calendar entered use.)

Julian date *noun* ASTRON a date in years, days and decimals of a day, taken from an arbitrary start date of 465 BC and with the days counted from noon rather than midnight. Abbr **JD** (NOTE: Julian dates occur in astronomical calculation and reckoning. They are unrelated to the Julian calendar.)

jumbo chip *noun* COMPUT an integrated circuit made using the whole of a semiconductor wafer

jump *COMPUT noun* a programming command to end one set of instructions and direct the processor to another section of the program. Also called **jump instruction** ■ *verb* to direct a central processing unit to another section of a program

jumper *noun* ELEC a temporary wire connection on a circuit board

jumper-selectable *noun* ELEC a circuit or device whose options can be selected by positioning various wire connections ◦ *The printer's typeface was jumper-selectable.*

jumping gene *noun* GENETICS same as **transposon**

jump instruction *noun* COMPUT same as **jump**

jump on zero *noun* COMPUT a conditional jump executed if a flag or register is zero

jump operation *noun* COMPUT a situation where the central processing unit is sent from the instruction it is currently executing to another point in the program

junction *noun* a place where two things meet ◦ *the junction of two wires*

junction box *noun* ELEC an electrical unit where a number of wires can be connected together

jungle *noun* ECOL a tropical rainforest (*informal*)

juniper *noun* TREES a small coniferous tree or shrub of the northern hemisphere, with cones that resemble berries. Genus:

Juniperus. (NOTE: *Juniperus communis* is native to the British Isles.)

juniper berry *noun* FOOD INDUST the purple cone of the juniper, used as a flavouring

junk *noun* **1.** useless things **2.** COMPUT information or hardware which is useless or out-of-date or non-functional ■ *verb* COMPUT to get rid of something useless or redundant □ **to junk a file** to erase or delete from storage a file that is no longer used

Jupiter *noun* ASTRON the largest planet of the solar system, 318 times as massive as the Earth and eleven times as large, with an equatorial radius of 72000km (NOTE: Jupiter is a mean distance of 778 million km from the Sun, which it takes 12 years to orbit. Jupiter is accompanied by a thin ring system and a huge array of satellites.)

justify *verb* **1.** COMPUT, PRINTING to change the spacing between words or characters in a document so that the left and right margins are straight **2.** COMPUT to shift the contents of a computer register by a set amount **3.** to argue a logical case for something

juvenile BIOL *noun* a young animal or plant ■ *adjective* referring to an animal, plant, organ or type of behaviour that is not yet adult ○ *The juvenile foliage of eucalyptus is different from its adult foliage.*

juvenile hormone *noun* BIOCHEM a hormone in an insect larva that regulates its development into an adult

juvenile phase *noun* BIOL the period of development of a plant before it flowers or of an animal before it becomes adult

K

k *symbol* 1. PHYS, MEASURE kelvin 2. MEASURE kilo-

K *symbol* CHEM ELEM potassium

kainite *noun* MINERALS a white mineral containing potassium chloride and magnesium sulfate that is a source of potassium

kala-azar *noun* MED a severe infection, occurring in tropical countries

COMMENT: Kala-azar is a form of leishmaniasis, caused by the infection of the intestines and internal organs by a parasite *Leishmania* spread by flies. Symptoms are fever, anaemia, general wasting of the body and swelling of the spleen and liver.

kalium *noun* CHEM same as **potassium**

kaolin *noun* INDUST a fine white clay used for making china, for coating shiny paper and in medicines ○ *Spoil heaps from kaolin workings are bright white.* Also called **china clay**

Karnaugh map *noun* COMPUT a graphical representation of states and conditions in a logic circuit ○ *The prototype was checked for hazards with a Karnaugh map.*

karst *noun* EARTH SCI ground typical of limestone country, with an uneven surface and holes and cracks due to weathering

karyogram *noun* GENETICS a photograph or diagram of the chromosomes of a cell

karyology *noun* GENETICS the study of cell nuclei, especially chromosomes

karyotype *noun* GENETICS the chromosome make-up of a cell, shown as a diagram or as a set of letters and numbers

katabatic wind *noun* METEOROL a cold wind which blows downhill as the ground surface cools at night. Compare **anabatic wind**

katadromous *adjective* MARINE BIOL another spelling of **catadromous**

katadromy *noun* MARINE BIOL another spelling of **catadromy**

Kb *abbreviation* COMPUT kilobyte

Kbit *abbreviation* COMPUT kilobit

Kbps *abbreviation* COMPUT kilobits per second ○ *A fast modem can transfer data at a rate of 33.6Kbps, whereas an ISDN adapter can transfer data at a rate of 64Kbps.*

Kbyte *abbreviation* COMPUT kilobyte

kcal *abbreviation* MEASURE kilocalorie

Kekulé structure *noun* CHEM the representation of a benzene molecule as a hexagonal ring in which single and double bonds alternate, linking six carbon atoms, each of which is bound to one hydrogen atom

kelp *noun* MARINE BIOL a brown seaweed with large leathery fronds. It is a source of iodine and potash.

kelvin *noun* MEASURE, PHYS a base SI unit of measurement of thermodynamic temperature. Symbol **K** (NOTE: 0°C is equal to 273.15K. Temperatures are shown in kelvin without a degree sign: 20K.)

Kelvin scale *noun* MEASURE, PHYS a temperature scale on which zero is the lowest attainable temperature and the triple point of water is defined as 273.16K

Kepler, Johannes (1571–1630) ASTRON a German astronomer who produced three laws describing the motion of the planets around the Sun. He was also a pioneer of optics and calculus.

Kepler's laws *plural noun* ASTRON three mathematical statements describing the movement of the planets in their orbits around the Sun, the first two of which were published in 1609 and the third in 1619

COMMENT: The first law states that the orbit of a planet is an ellipse, with the Sun at one focus. The second states that a line between the Sun and a particular planet sweeps out equal areas in equal times. The line is termed the radius vector. This law means that the nearer a planet is to the Sun, the faster it moves. The third law states that the square of the orbital period of

a planet is proportional to the cube of its distance from the Sun. Neptune is on average 30 times as far from the Sun as Earth, but takes 165 times as long to orbit the Sun. This law means that more distant planets have much longer years. Kepler's laws also apply to the orbits of artificial and natural satellites, binary stars and other celestial objects including comets and asteroids.

keratin *noun* BIOCHEM a fibrous protein that gives strength and elasticity to hair, nails, feathers and hooves

kern *verb* PRINTING to adjust the space between pairs of letters so that they are printed closer together ◦ *We have kerned 'T' and 'o' so they are closer together.*

kernel *noun* **1.** BOT the soft edible part of a nut **2.** BOT the seed and husk of a cereal grain **3.** COMPUT the set of basic essential instruction routines required for any operations in a computer system

COMMENT: Kernel routines are usually hidden from the user. They are used by the operating system for tasks such as loading a program or displaying text on a screen.

kerosene, kerosine *noun* a thin fuel oil made from petroleum ◦ *Kerosene will only burn efficiently at, or close to, a ratio of 15:1.*

Kerr black hole *noun* ASTRON a black hole with rotation but no electric charge

ketone *noun* CHEM an organic compound containing the group -CO- attached to two hydrocarbons

ketose *noun* BIOCHEM a simple sugar

Kevlar *trademark* INDUST a light and very strong composite material ◦ *Kevlar and carbon fibre account for a large percentage of a modern jet airliner's structure.*

key *noun* **1.** COMPUT a button on a keyboard that operates a switch ◦ *There are 64 keys on the keyboard.* **2.** COMPUT an important object or group of characters in a computer system, used to represent an instruction or set of data **3.** COMPUT a special combination of numbers or characters that is used with a cipher to encrypt or decrypt a message ◦ *Type this key into the machine, it will decode the last message.* **4.** COMPUT an identification code or word used for a stored record or data item ◦ *We selected all the records with the word disk in their keys.* **5.** a set of questions to enable something to be identified or classified ◦ *a key for identifying lichens*

keyboard *COMPUT noun* a number of keys fixed together in some order, used to

enter information into a computer or to produce characters on a typewriter ■ *verb* to enter information by using a keyboard ◦ *It was cheaper to have the manuscript keyboarded by another company.*

key click *noun* COMPUT a sound produced by a computer to allow the operator to know that the key pressed has been registered

keyed sequential access method *noun* COMPUT a file structure that allows data to be accessed using key fields or key field content. Abbr **KSAM**

key field *noun* COMPUT a field which identifies entries in a record

key matrix *noun* COMPUT the way in which the keys of a keyboard are arranged as an array of connections

key number *noun* COMPUT a numeric code used to identify which key has been pressed

keypad *noun* COMPUT a group of special keys used for certain applications ◦ *You can use the numeric keypad to enter the figures.*

keystone species *noun* ECOL a species that plays a significant role in helping to maintain the ecosystems that it is part of

keystroke *noun* COMPUT an act of pressing a key ◦ *He keyboards at a rate of 3500 keystrokes per hour.*

keyword *noun* COMPUT **1.** a command word used in a programming language to provide a function ◦ *The BASIC keyword PRINT will display text on the screen.* **2.** an important or informative word in a title or document that describes its contents ◦ *Computer is a keyword in IT.* **3.** a word that is relevant or important to a text

kg *symbol* MEASURE kilogram

kG *symbol* kilogray

kham sin *noun* METEOROL a hot wind that brings dust storms in North Africa

kHz *symbol* MEASURE kilohertz

kidney *noun* ANAT an organ in vertebrates that regulates and filters waste for excretion

kidney dish *noun* MED a shallow kidney-shaped container used in hospitals and doctors' surgeries to hold soiled dressings, fluids, needles, or the instruments needed for a minor procedure

kieselguhr *noun* GEOL same as **diatomaceous earth**

kill *verb* **1.** to make someone or something die ○ *She was given the kidney of a person killed in a car crash.* ○ *Heart attacks kill more people every year.* ○ *Antibodies are formed to kill bacteria.* **2.** COMPUT to erase a file or stop a program during execution ■ **noun** **1.** an act of making someone or something die ○ *Pollutants in water are one of the main causes of fish kills.* **2.** prey which has been killed ○ *The vultures surrounded the remains of the lion's kill.*

kill off *verb* BIOL to kill all the individual members of a species, usually one by one ○ *Dodos were killed off by 18th-century sailors.*

kiln *noun* INDUST a furnace used for making something such as pottery or bricks ○ *The smoke from the brick kilns was dispersed by the prevailing winds.*

kilo *noun* MEASURE same as **kilogram**

kilo- *prefix* **1.** MEASURE one thousand, 10^3 . Symbol **K** **2.** MEASURE, COMPUT (*in computer and electronics applications*) 1024 units, equal to 2^{10} . Symbol **k**

kilobaud *noun* COMPUT a unit of 1000 bits per second

kilobit *noun* COMPUT a unit of 1024 bits of data. Abbr **Kbit**

kilobits per second *noun* COMPUT a measure of the amount of data that a device can transfer each second. Abbr **Kbps**

kilobyte *noun* COMPUT a unit of measurement for high-capacity storage devices equal to 1024 bytes of data. Abbr **Kbyte**. Symbol **Kb**

COMMENT: In computer or electronics applications, 1024 is the strict definition of kilobyte, being equal to a convenient power of two. It can also be taken to equal approximately 1000, even in computing applications. 1 Kb is roughly equal to 1000 output characters in a PC.

kilocalorie *noun* MEASURE a unit of measurement of heat equal to 1000 calories (NOTE: In scientific use, the SI unit **joule** is now more usual. 1 calorie = 4.186 joules.)

kilogram *noun* MEASURE the base unit of mass in the SI system, equal to 1000 grams or 2.2046 pounds. Symbol **kg**. Also called **kilo**

kilogray *noun* MEASURE an SI unit of measurement of absorbed radiation equal to 1000 grays. Symbol **kG**

kilohertz *noun* MEASURE an SI unit of frequency measurement equal to 1000

Hertz or one thousand cycles per second. Symbol **kHz**

kilo instructions per second *noun* COMPUT a measure of power, 1000 computer instructions processed every second. Abbr **KIPS**

kilojoule *noun* MEASURE an SI unit of measurement of energy or heat equal to 1000 joules. Symbol **kJ**

kilometre *noun* a measure of length equal to 1000 metres or 0.621 miles. Symbol **km** (NOTE: The US spelling is **kilometer**.)

kilopascal *noun* MEASURE an SI unit of measurement of pressure equal to 1000 pascals. Symbol **kPa**

kilowatt *noun* MEASURE a unit of measurement of electricity equal to 1000 watts. Symbol **kW**

kilowatt-hour *noun* MEASURE a unit of 1000 watts of electricity used for one hour. Symbol **kWh**

kiloword *noun* COMPUT a unit of measurement of 1024 computer words. Abbr **KW**

kinase *noun* BIOCHEM an enzyme that transfers a phosphate group from ATP

kinematics *noun* BIOL the science of movement, especially of body movements

kinesis *noun* BIOL the movement of a cell or organism in response to the intensity of a stimulus rather than its direction

kinetic *adjective* PHYS referring to motion or something produced by motion

kinetic energy *noun* PHYS energy possessed by an object because of its motion ○ *The greater the velocity of the car, the greater its kinetic energy.* (NOTE: The energy is equal to $1/2mv^2$ where m = mass of the object and v = velocity.)

kinetic heating *noun* AEROSP the heating of an aircraft skin by friction with the air as it moves through it

kinetics *noun* PHYS the scientific study of bodies in motion

kinetic temperature *noun* PHYS the temperature of a material, usually a gas, due to the motion of its particles

kinetic theory *noun* PHYS a theory that explains the behaviour of gases by assuming that heat is a process of energy transfer and that the internal energy of a gas is the sum of the energy of its particles

kingdom *noun* BIOL the largest category in the classification of organisms ○ *The*

largest species in the animal kingdom is the whale.

COMMENT: The different kingdoms are: Kingdom Monera, Kingdom Protista, Kingdom Plantae, Kingdom Fungi and Kingdom Animalia.

kinin *noun* BIOCHEM same as **cytokinin**

KIPS *abbreviation* COMPUT kilo instructions per second

kit *noun* a set of items used for a specific purpose ○ *A physician's kit containing surgical equipment would be available to a qualified doctor assisting crew with major medical problems.*

kJ *abbreviation* MEASURE kilojoule

kludge, kluge *noun* COMPUT (*informal*) **1.** a temporary correction made to a badly written or constructed piece of software or to a keyboarding error **2.** hardware which should be used for demonstration purposes only

km *abbreviation* MEASURE kilometre

knob *noun* **1.** a rounded handle ○ *door knob* **2.** a rounded part that controls something ○ *When the control knob is moved from the central position, the ailerons are moved.*

knock *verb* ENG to make a loud noise as the mixture of petrol and air in a petrol engine explodes, caused when the mixture is not rich enough in petrol

knot *noun* **1.** a structure formed when several strands are joined together or a single strand is looped on itself **2.** BOT a dark area in a piece of wood where a branch formerly grew **3.** MEASURE a unit of speed equal to one nautical mile per hour, approximately 1.85km or 1.15 statute miles per hour ○ *Wind speeds in aviation are usually given in knots.* Abbr **kt**

knowledge-based system *noun* COMPUT a computer system that applies the stored reactions, instructions and knowledge of experts in a particular field to a problem

Köppen classification *noun* METEOROL a standard classification of climate

COMMENT: The classification of climate types was drawn up by Wladimir Köppen in 1900 and has been much modified since then. The classification divides the Earth into five climate types: A, B, C, D and E, according to temperature and rainfall.

Kr *symbol* CHEM ELEM krypton

Krebs cycle *noun* BIOCHEM a series of reactions in which pyruvic acid is broken

down in the presence of oxygen to carbon dioxide. It is the final step in the oxidation of carbohydrates and fats, and occurs in mitochondria. Also called **citric acid cycle**

krill *noun* MARINE BIOL a mass of tiny shrimps that live in the cold seas of the Antarctic and form the basic diet of many sea animals including whales

krotovina *noun* EARTH SCI an animal burrow that has been filled with organic or mineral material from another soil horizon

krypton *noun* CHEM ELEM an inert gas found in very small quantities in the atmosphere (NOTE: The chemical symbol is **Kr**; the atomic number is **36** and atomic weight is **83.80**.)

KSAM *abbreviation* COMPUT keyed sequential access method

K selection *noun* a process of natural selection that leads to a reduction in births when the population of a species approaches the maximum number that its environment can sustain

kt *abbreviation* MEASURE knot

Kuiper, Gerald (1905–73) ASTRON a US astronomer born in the Netherlands who worked in all aspects of planetary astronomy, especially the study of Mars and the Moon. Kuiper is regarded by many as the founder of the present-day scientific study of the solar system.

Kuiper Belt *noun* ASTRON a zone beyond the orbits of Neptune and Pluto, some 30–60AU distant and mainly in the plane of the ecliptic, in which many millions of comets are postulated to exist

kW *abbreviation* MEASURE kilowatt

KW *abbreviation* COMPUT kiloword

kwashiorkor *noun* MED malnutrition of small children, mostly in tropical countries, causing anaemia, wasting of the body and swollen liver (NOTE: It is caused by protein deficiency in the diet, especially where cassava is the staple foodstuff, since the protein content of cassava is almost nil.)

kWh *abbreviation* MEASURE kilowatt-hour

Kyoto Protocol *noun* an international agreement on strategies for coping with climate change signed in December 1997 by the United Nations Framework Convention on Climate Change (UNFCCC)

L

l, L *symbol* MEASURE litre

La *symbol* CHEM ELEM lanthanum

lab *noun* TECH same as **laboratory** (*informal*) ○ *The samples have been returned by the lab.*

label *noun* **1.** COMPUT a word or other symbol used in a computer program to identify a routine or statement ○ *BASIC uses many program labels such as line numbers.* **2.** a piece of information attached to something that gives information about it ○ *pesticide labels* ■ **verb** **1.** to identify something by using a label ○ *Parts are labelled with the manufacturer's name.* **2.** to add identifying words and numbers to a diagram ○ *There is a standard way of labelling the navigation vector.*

labelling *noun* the presentation of information about a product on a label ○ *regulations for food labelling*

labile *adjective* CHEM unstable and readily undergoing chemical or physical change

labium *noun* BOT the lower lip of the flower tube of some plants

laboratory *noun* TECH a room with equipment for scientists to do experimental research and testing ○ *The samples of water have been sent to the laboratory for testing.* ■ *adjective* referring to laboratories ○ *The new drug has passed its laboratory tests.*

laboratory officer *noun* TECH a qualified person in charge of a laboratory

laboratory technician *noun* TECH a person who does practical work in a laboratory and has particular care of equipment

laboratory technique *noun* TECH a method or skill needed to perform experiments in a laboratory

labrum *noun* ZOOLOGY an upper mouthpart found in some arthropods such as insects

lack *noun* the absence or need of something ○ *The engine stopped because of a lack of fuel.*

lacrimal gland, lacrymal gland *noun* ANAT a gland in the eyelids of some vertebrate animals, including humans, that produces tears

lactase *noun* BIOCHEM an enzyme, secreted in the small intestine, that converts milk sugar into glucose and galactose

lactate *verb* BIOL to produce milk as food for young

lactation *noun* BIOL the production of milk as food for young

lactic acid *noun* BIOCHEM a sugar which forms in cells and tissue, and is also present in sour milk, cheese and yoghurt

COMMENT: Lactic acid is produced as the body uses up sugar during exercise. Excessive amounts of lactic acid in the body can produce muscle cramp.

lactose *noun* BIOCHEM a sugar found in milk

lactose intolerance *noun* MED an inability to digest lactose because lactase is absent in the intestine, or because of an allergy to milk, causing diarrhoea

lacunar *adjective* MED, ANAT relating to pits or cavities in tissue, e.g. in bone or cartilage, especially ones that are atypical

lacustrine *adjective* EARTH SCI referring to a lake or pond

laevorotatory *adjective* OPTICS deviating the plane of polarisation of oncoming light to the left or in an anticlockwise direction. Compare **dextrorotatory**

laevulose *noun* BIOCHEM same as **fructose**

lag *verb* **1.** to cover something with an insulating material to protect against cold or to stop heat escaping ○ *Boilers and pipes should be carefully lagged to prevent heat loss.* **2.** to be slower or not as advanced ○ *Public opinion sometimes lags behind scientific discoveries.* ■ *noun* a delay ○ *a time lag* ○ *a lag in supply*

lagging *noun* INDUST the material used to insulate pipes

lagoon *noun* EARTH SCI a shallow part of the sea in the tropics, surrounded or almost surrounded by reefs

lagoonal *adjective* referring to lagoons

lagooning *noun* INDUST the creation of artificial lakes for purifying sewage

lake *noun* **1.** EARTH SCI a large area of fresh water surrounded by land **2.** INDUST a large quantity of liquid produce stored because of overproduction (*informal*) *o a wine lake o a milk lake* *o mountain*

lake bloom *noun* BIOL a mass of algae which develops rapidly in a lake due to eutrophication

lake deposits *plural noun* EARTH SCI deposits of silt on the bed of a lake

Lamarckism *noun* BIOL the theory of Jean Baptiste Lamarck that evolution occurs through the inheritance of characteristics acquired by individual organisms as a response to their environmental conditions

lambert *noun* MEASURE the cgs unit of surface brightness (**luminance**), equal to one lumen per square centimetre

Lambert's law *noun* PHYS a law defining the rate of absorption of all types of radiation, including light, as it travels within a medium

Lambert's projection *noun* EARTH SCI a map projection of the Earth based around two standard parallels of latitude

lamella *noun* FUNGI one of the gills on the underside of the cap of a fungus

lamina *noun* ZOO (in mammals with hooves) one of several layers of sensitive tissue just inside the hard exterior of the hoof

laminar flow *noun* PHYS a flow in a liquid or gas which consists of separate layers flowing at different velocities and not mixing

laminate *noun* a sheet of manufactured material made up of bonded layers *o Direction of the fibres and types of cloth used in the laminate are all very important factors.* *o verb* to make something by using bonded layers of material *o laminated windscreens*

lampblack *noun* INDUST a fine powdery form of carbon that is deposited when organic oils are burned, used as a pigment and in electrodes

lampbrush chromosome *noun* GENETICS an enlarged chromosome covered with fine loops of chromatin that is observed during the initial stage of meiosis

LAN, lan *abbreviation* COMPUT local area network

land *noun* EARTH SCI the solid part of the Earth's surface

land breeze *noun* METEOROL a light wind which blows from the land to the sea, usually during the day when the land is warm

land burial *noun* ENVIRON same as **land disposal**

land clearance *noun* ENVIRON the removal of trees or undergrowth in preparation for ploughing or building

land disposal *noun* ENVIRON the act of depositing waste in a hole in the ground

land erosion control *noun* ENVIRON a method of preventing the soil from being worn away by irrigation, planting or mulching

landfill *noun* ENVIRON **1.** the disposal of waste by putting it into holes in the ground and covering it with earth **2.** same as **landfill site**

landfilling *noun* ENVIRON the practice of disposing of waste by putting it into holes in the ground and covering it with earth

landfill site *noun* ENVIRON an area of land where waste is put into holes in the ground and covered with earth *o The council has decided to use the old gravel pits as a landfill site.* *o Landfill sites can leak pollutants into the ground water.* *o Landfill sites, if properly constructed, can be used to provide gas for fuel.* Also called **landfill**

land improvement *noun* AGRIC the process of making the soil more fertile

landing zone *noun* COMPUT an area of a hard disk which does not carry data (NOTE: The head can come into contact with the disk in this area without damaging the disk or data.)

landline *noun* TELECOM a communications link that uses cable to physically and electrically link two devices

landlocked *adjective* EARTH SCI referring to a place that has no sea coast *o a landlocked country in central Africa*

landmass *noun* EARTH SCI a large area of land *o the continental landmass of the USA*

landrace *noun* ECOL a local variety of plant or animal developed over many thou-

sands of years by farmers selecting for favourable characteristics within a species

land reclamation, land restoration *noun* AGRIC the process of bringing back into productive use a piece of land such as a site that was formerly used for an industrial process

Landsat *noun* AEROSP a US satellite belonging to a set which scan the land surface of the Earth, particularly the vegetation cover

landscape *noun* 1. EARTH SCI the scenery, general shape, structure and features of the surface of an area of land 2. PRINTING the orientation of a page or piece of paper where the longest edge is horizontal. Compare **portrait**

landscape assessment, landscape character assessment *noun* the analysis, description and classification of an area of land, noting the features that contribute to its special character and developing appropriate proposals for its future conservation and management

landslide, landslip *noun* EARTH SCI a sudden fall of large amounts of soil and rocks down the side of a mountain or of waste matter down the side of a spoil heap

land use *noun* ENVIRON the way in which land is used for different purposes such as farming or recreation ○ *a survey of current land use*

language *noun* COMPUT a system of words or symbols which allows communication with computers, e.g. one that allows computer instructions to be entered as words which are easy to understand and then translates them into machine code

COMMENT: There are three main types of computer languages: machine code, assembler and high-level language. The higher the level the language is, the easier it is to program and understand, but the slower it is to execute. The following are the commonest high-level languages: ADA, ALGOL, APL, BASIC, C, C++, COBOL, COMAL, CORAL, FORTH, FORTRAN, LISP, LOGO, PASCAL, PL/1, POP-2, PROLOG and Visual Basic. Assembly language uses mnemonics to represent machine code instructions. Machine code is the lowest level of programming language and consists of basic binary patterns that instruct the processor to perform various tasks.

language processor *noun* COMPUT a program that translates from an assembler or high-level language to machine code

(NOTE: There are three types: assemblers, compilers and interpreters.)

lanolin *noun* PHARM a fat extracted from sheep's wool used in making soaps, skin creams and shampoos

lanthanide *noun* CHEM an element belonging to a series of rare-earth elements with atomic numbers in the range 57 to 71 and in which the f-shell is not completely full

lanthanum *noun* CHEM ELEM a silvery metallic element similar to aluminium belonging to the rare-earth group, used in glass manufacture (NOTE: The chemical symbol is **La**; the atomic number is **139** and the atomic weight is **138.91**.)

LAP *noun* COMPUT a CCITT standard protocol used to start and maintain links over an X.25 network. Full form **link access protocol**

lapis lazuli *noun* MINERALS a deep blue rock, used in making jewellery

lapse *noun* a short period of time which separates two events

lapse rate *noun* EARTH SCI the rate at which temperature changes according to altitude

laptop computer, laptop *noun* COMPUT a computer that is light enough to carry but not so small as to fit in a pocket, usually containing a screen, keyboard and disk drive

large intestine *noun* ANAT the latter part of the vertebrate alimentary canal, extending from ileum to anus and consisting of the caecum, colon and rectum (NOTE: It extracts water from the gut contents to form faeces.)

large-scale *adjective* working with large amounts of data. Compare **small-scale**

large-scale computer *noun* COMPUT a high-powered computer system that can access high capacity memory and backing storage devices as well as multiple users

large-scale integration *noun* COMPUT an integrated circuit with 500 to 10000 components. Abbr **LSI**

larva *noun* ZOO the form of an insect or other animal in the stage of development after the egg has hatched but before the animal becomes adult (NOTE: The plural is **larvae**.)

larval *adjective* ZOO referring to larvae ○ *the larval stage*

larval stage *noun* ZOOLOGY an early stage in the development of an insect or other animal after it has hatched from an egg

larynx *noun* ANATOMY the part of the respiratory tract at the entrance to the windpipe that, in humans and some other vertebrates, contains vocal cords and is the organ of voice production

laser *noun* PHYSICS a device that produces coherent light of a single wavelength in a narrow beam, by exciting a material so that it emits photons of light. Full form **light amplification by stimulated emission of radiation**

laser disc *noun* COMPUTING same as **compact disc**

Lassa fever *noun* MEDICINE a highly infectious and often fatal virus disease found in Central and West Africa

last *adjective* **1.** coming or placed after all the others **2.** most recent ■ *verb* **1.** to continue for a period of time ○ *A gust is a sudden increase in wind speed above the average speed lasting only a few seconds.* **2.** to stay in good or usable condition ○ *A piston engine lasts longer if it is handled carefully and serviced regularly.*

last in first out *noun* COMPUTING a queue system in which the last item stored is the first read ○ *This computer stack uses a last in first out data retrieval method.* Abbr **LIFO**

latch *verb* COMPUTING to set an output state ○ *The output latched high until we reset the computer.*

latency *noun* COMPUTING the time delay between the moment when an instruction is given to a computer and the execution of the instruction or return of a result, e.g. the delay between a request for data and the data being transferred from memory

latent *adjective* present but not yet developed

latent heat *noun* PHYSICS the heat taken in or given out when a solid changes into a liquid or vapour, or when a liquid changes into a vapour at a constant temperature and pressure

latent heat of fusion *noun* the quantity of heat required to convert ice at its melting point into liquid at the same temperature

latent heat of sublimation *noun* the quantity of heat required to convert ice to vapour at the same temperature

latent heat of vaporisation *noun* PHYSICS the quantity of heat required to con-

vert liquid to vapour at the same temperature

lateral *adjective* referring to the side ○ *lateral buds* ○ *Drift is lateral movement caused by wind.*

lateral aspect *noun* ANATOMY a view of the side of part of the body. Also called **lateral view**

lateral moraine *noun* EARTH SCIENCE a deposit of sand and gravel left at the sides of a glacier as it moves forwards

lateral view *noun* ANATOMY same as **lateral aspect**

laterisation, laterization *noun* EARTH SCIENCE the process of weathering tropical soil into hard laterite

laterise, laterize *verb* EARTH SCIENCE to weather tropical soil into hard laterite

laterite *noun* EARTH SCIENCE a hard rock-like clay found in the tropics, formed when latosol dries out (NOTE: When tropical rainforests are cleared, the soil beneath rapidly turns to laterite as nutrients are leached out by rain and the land cannot be cultivated.)

lateritic *adjective* EARTH SCIENCE referring to soil that contains laterite

latex *noun* **1.** BOTANICAL a white fluid from a plant such as poppy, dandelion or rubber tree **2.** BIOLOGY a thick white fluid from a rubber tree, which is treated and processed to make rubber

latitude *noun* EARTH SCIENCE, NAVIGATION an angular distance north or south of the Earth's equator, measured in degrees, minutes and seconds, along a meridian ○ *Parallels of latitude are imaginary circles on the surface of the Earth, their planes being parallel to the plane of the equator.* □ **at a latitude of 46°N** at a position on the Earth's surface which is 46 degrees north of the equator

COMMENT: Together with longitude, latitude is used to indicate an exact position on the Earth's surface. Latitude is measured in degrees, minutes and seconds. The centre of London is latitude 51°30'N, longitude 0°5'W. The lines of latitude are numbered and some of them act as national boundaries: the 49th parallel marks most of the border between the USA and Canada.

latosol *noun* EARTH SCIENCE a type of reddish soft soil found in tropical areas that is characterised by deep weathering and hydrous oxide material

latter *adjective* **1.** referring to the second of two things mentioned earlier. Compare

former 2. referring to something coming at the end ○ *in the latter part of the report* ■ **noun** the second of two things mentioned earlier

lattice *noun* CHEM a regular geometrical arrangement of points or objects in three dimensions, e.g. the atoms in a crystal

laughing gas *noun* CHEM same as **nitrous oxide**

launch *noun* **1.** COMPUT the introduction of a new product into a market ○ *The launch of the new PC has been put back six months.* ○ *The launch date for the network will be September.* **2.** the start of a planned activity ○ *the launch of their public awareness campaign* ■ *verb* **1.** to begin a planned activity, especially by announcing it publicly ○ *to launch a new research initiative* **2.** to put a new product on the market ○ *The new PC was launched at the Computer Show.* ○ *Launching costs for the computer range were calculated at \$250000.* **3.** COMPUT to start or run a program ○ *You launch the word-processor by double-clicking on this icon.*

lauric acid *noun* CHEM a white crystalline fatty acid that is insoluble in water, used in the manufacture of soaps, insecticides and cosmetics. Formula: $C_{12}H_{24}O_2$. Also called **dodecanoic acid**

lava *noun* EARTH SCI molten rock and minerals which flow from an erupting volcano and solidify into various types of igneous rock

lava flow *noun* EARTH SCI a stream of lava moving down the sides of a volcano ○ *Lava flows from the volcano destroyed sugar plantations.*

law *noun* **1.** a rule or set of rules by which a country is governed □ **by law** EARTH SCI legally **2.** a basic principle of science or mathematics

law of gravitation *noun* PHYS a basic principle of physics that any two masses attract each other with a force equal to a constant multiplied by the product of the two masses and divided by the square of the distance between them

lawrencium *noun* CHEM ELEM one of the transuranic elements (NOTE: The chemical symbol is **Lr**; the atomic number is **103** and the atomic weight is **256**.)

layer *noun* **1.** one of several or more horizontal parts ○ *The lowest layer of the atmosphere is called the troposphere.* **2.** a thickness of something ○ *Layers of fluid*

next to the surface over which it is flowing travels more slowly than layers further from the surface. **3.** COMPUT one of the ISO/OSI standards defining the stages a message has to pass through when being transmitted from one computer to another over a local area network **4.** a flat area of a substance under or over another area (NOTE: In geological formations, layers of rock are called **strata**; layers of soil are called **horizons**.) **5.** BOT a stem of a plant which has made roots where it touches the soil ■ *verb* BOT to propagate a plant by bending a stem down until it touches the soil and letting it form roots there

layer cloud *noun* METEOROL a stratus cloud

layout *noun* the way in which things are arranged

lb *symbol* MEASURE pound

LC₅₀ *abbreviation* BIOL lethal concentration 50

LCD *abbreviation* COMPUT liquid crystal display

LCP *abbreviation* COMPUT link control procedure

LD₅₀ *abbreviation* BIOL lethal dose 50%

leach *verb* ENVIRON to be washed out of the soil by water ○ *Excess chemical fertilisers on the surface of the soil leach into rivers and cause pollution.* ○ *Nitrates have leached into ground water and contaminated the water supply.*

leachate *noun* ENVIRON **1.** a substance which is washed out of the soil **2.** a liquid which forms at the bottom of a landfill site

leaching *noun* ENVIRON the process by which a substance is washed out of the soil by water passing through it

leaching field *noun* INDUST an area round a septic tank with pipes which allow the sewage to drain away underground

lead¹ *noun* CHEM ELEM a very heavy soft metallic element (NOTE: The chemical symbol is **Pb**; the atomic number is **82** and the atomic weight is **207.20**.)

COMMENT: Small children are particularly vulnerable to lead pollution, as lead affects brain development. Lead can enter the body through drinking water which has been kept in lead pipes or through paint (children's toys must be painted with lead-free paint). Lead is added to petrol to prevent knocking and give more power, but it causes lead fumes which are toxic and can be avoided by using lead-free petrol. Lead poisoning also occurs in birds, e.g.

swans, which have eaten the lead pellets used by fishermen to weight their lines.

lead² *noun* ELEC ENG an electrical wire or narrow cable ○ *A lead connects the monitor to the computer.*

lead-acid battery, lead-acid accumulator *noun* ELEC a type of battery consisting of lead and lead-oxide plates, surrounded by a sulfuric acid electrolyte

lead-based additive *noun* INDUST same as **fuel additive**

lead dioxide *noun* CHEM a toxic dark brown crystalline substance used in batteries and explosives. Formula: PbO₂.

leaded petrol *noun* INDUST petrol to which a fuel additive such as tetraethyl lead has been added to prevent knocking

leader *noun* a section of magnetic tape that contains no signal, used at the beginning of a reel for identification and to aid the tape machine to pick up the tape

leader stroke *noun* METEOROL the first lightning flash, which makes a path for other flashes to follow

lead-free *adjective* INDUST referring to something such as paint or fuel which has no lead in it ○ *lead-free petrol* ○ *Lead-free fuel is used in most modern piston engines.*

lead in *noun* COMPUT a section of a CD-ROM before the data starts, normally used to store the table of contents

lead monoxide *noun* CHEM a toxic yellow or reddish-yellow substance used in storage batteries, pottery, glass, rubber and pigments. Formula: PbO. Also called **litharge**

lead paint *noun* INDUST a paint containing lead, which makes it more durable, but which is largely forbidden for use, particularly on children's toys and furniture

lead poisoning *noun* MED poisoning caused by taking in lead salts

lead replacement petrol *noun* a lead-free petrol for compulsory use in vehicles that were designed to be used with leaded petrol, introduced as a way of improving air quality and protecting the environment

leaf *noun* 1. BOT a structure growing from a plant stem, with a stalk and a flat blade. It is usually green and carries out photosynthesis. (NOTE: A leaf stalk is called a **petiole**, and a leaf blade is called a **lamina**.) 2. COMPUT a final node in a tree structure

leaf cutting *noun* AGRIC a piece of a leaf, root or stem cut from a living plant and put in soil where it will sprout

leaf litter *noun* BOT dead leaves lying on the floor of a forest

leaf mould *noun* BOT a soft fibrous material formed of decomposed leaves

leak *noun* an escape of liquid or gas from a sealed container ○ *a gas leak* ■ *verb* (of liquid or gas) to escape from a sealed container ○ *Fuel may leak from a fuel tank if the drain plug is not seated correctly.*

leakage *noun* an escape of liquid or gas from a sealed container ○ *Any internal or external leakage of fuel will cause a reduction in the operating period.*

lean *adjective* AUTOMOT referring to a fuel/air mixture in which the ratio of air to fuel is greater than usual ○ *Moving the mixture control lever aft to the lean position reduces the amount of fuel mixing with the air.*

lean-burn engine *noun* INDUST a type of internal combustion engine adapted to use less fuel than other engines, and so release less carbon monoxide and nitrogen oxide into the atmosphere

leap-frog test *noun* COMPUT a memory location test in which a program skips from one location to another random location, writing data then reading and comparing for faults, until all locations have been tested

leap second *noun* an extra second inserted into clock time to allow for the fact that Earth's rotation is less regular than the atomic clocks by which it is measured (NOTE: Leap seconds have to be placed into clock time rather than being taken out of it because Earth's rotation is gradually slowing.)

leap year *noun* a year occurring every four years in which an extra day has to be added because there are 365.25 days in a year (NOTE: The extra day is omitted when the year is a round century not divisible by 400, for extra accuracy.)

learning curve *noun* a graphical description of how someone can acquire knowledge over time

lease *noun* a written contract for letting or renting a piece of equipment for a period against payment of a fee ■ *verb* 1. to let or rent equipment for a period ○ *The company has a policy of only using leased equipment.* 2. to use equipment for a time and

pay a fee ○ *The company leases all its computers.*

leased line *noun* TELECOM a communications channel such as a telephone line which is rented for the exclusive use of the subscriber

least cost design *noun* COMPUT the best money-saving use of space or components ○ *The budget is only £5000 so we need the least cost design for the new circuit.*

least recently used algorithm *noun* COMPUT an algorithm which finds the page of memory that was last accessed before any other and erases it to make room for another page. Abbr **LRU**

least significant bit *noun* COMPUT a binary digit occupying the right hand position of a word and carrying the least power of two in the word usually equal to two raised to zero = 1. Abbr **LSB**

least significant digit *noun* COMPUT a digit which occupies the right hand position in a number and so carries the least power, equal to the number radix raised to zero = 1. Abbr **LSD**

Le Chatelier's principle *noun* CHEM the principle that if a chemical system is in equilibrium, any change to it is offset by compensatory changes that oppose the original change

lecithin *noun* BIOCHEM a constituent of all animal and plant cells, involved in the transport and absorption of fats

Leclanché cell *noun* ELEC a primary cell that has a carbon anode, a zinc cathode and sal ammoniac as the electrolyte

lectin *noun* BIOCHEM a protein found widely in nature, especially in seeds, that belongs to a group that bind to specific carbohydrates and cause clumping of blood cells (NOTE: Lectins might sometimes trigger immune reactions and dietary intolerance. They are used in testing for blood type.)

LED *abbreviation* ELEC light-emitting diode

COMMENT: LED displays are used to display small amounts of information, e.g. in pocket calculators, watches and indicators.

lee *noun* EARTH SCI the side of something which is protected from the wind ○ *The trees in the lee of the hill grow better than those on the windward side.* □ **on the lee side** on the side away from the wind

leeward *adjective* EARTH SCI protected from the wind

left justification *noun* COMPUT the shifting of a binary number to the left hand end of the word containing it

left justify *noun* COMPUT a printing command that makes the left hand margin of the text even

left shift *noun* COMPUT a left arithmetic shift by one bit of data in a word (NOTE: A binary number is doubled for each left shift.)

leg *noun* ANAT a part of the body with which a person or animal walks and stands
COMMENT: The leg is formed of the thigh including the thighbone or femur, the knee including the kneecap or patella, and the lower leg including the tibia and fibula.

legacy *adjective* COMPUT referring to older technology or a previous version of software or hardware that is still supported in new developments to allow existing applications and hardware to still be used

legal *adjective* COMPUT acceptable within language syntax rules

legend *noun* a list explaining the symbols on a chart, map or diagram

legionnaires' disease *noun* MED a bacterial disease similar to pneumonia (NOTE: The bacteria develop in warm, moist areas such as air-conditioning systems and are transmitted through droplets of moisture in the air, often affecting many people at once.)

legume *noun* PLANTS a member of the plant family that produces seeds in pods, e.g. peas and beans. Family: Leguminosae.

COMMENT: There are many species of legume, including trees, and some are particularly valuable because they have root nodules that contain nitrogen-fixing bacteria. Such legumes have special value in maintaining soil fertility and are used in crop rotation. Peas, beans, clover and vetch are all legumes.

leguminous *adjective* BOT referring to a legume

leishmaniasis *noun* MED any of several diseases caused by the parasite *Leishmania*, one form giving disfiguring ulcers, another attacking the liver and bone marrow

length *noun* **1.** a measurement along something's greatest dimension **2.** a piece that is normally measured along its greatest dimension ○ *a length of pipe* **3.** the extent from beginning to end ○ *the length of a book* **4.** the amount of time between

particular points in time **5.** the distance between two points **6.** COMPUT the number of data items in a variable or list

lengthen *verb* to become long or longer or to make something long or longer ○ *The mercury column shortens when cooled and, due to expansion, lengthens when heated.* Opposite **shorten**

lengthways, lengthwise *adjective, adverb* along the length ○ *in a lengthwise direction*

lengthy *adjective* **1.** long ○ *He wrote a lengthy report.* **2.** lasting for a long time

lens *noun* **1.** OPTICS a normally round piece of glass with curved surfaces found in microscopes, telescopes, cameras or spectacles **2.** ANAT the part of the eye that causes light to bend and produce an image on the retina

COMMENT: The lens in the eye is elastic and can change its shape under the influence of the ciliary muscle, to allow the eye to focus on objects at different distances.

lens-shaped cloud *noun* METEOROL a cloud with outwardly curved upper and lower surfaces. Also called **lenticular cloud**

lentic *adjective* EARTH SCI referring to stagnant water

lenticular cloud *noun* METEOROL same as **lens-shaped cloud**

Lepidoptera *noun* ZOOLOG an order of insects that includes butterflies and moths

leptin *noun* BIOCHEM a hormone produced by fat cells that indicates the degree of hunger to the hypothalamus of the brain

lesion *noun* an open wound on the surface of a plant or on the skin of an animal, caused by disease or physical damage

-less *suffix* without

lessen *verb* to make something less or to become less ○ *Clean filters lessen the possibility of blockage.*

lesser circulation *noun* PHYSIOL same as **pulmonary circulation**

lethal *adjective* BIOL causing death ○ *These fumes are lethal if inhaled.*

lethal concentration 50 *noun* ENVIRONMENT the concentration of a pollutant or effluent at which 50% of the test organisms die. Abbr **LC₅₀**

lethal dose 50% *noun* BIOL the dose of a substance which will kill half the organisms which absorb it. Abbr **LD₅₀**

lethal gene *noun* GENETICS a gene which can kill the organism that inherits it

leucine *noun* BIOL an essential amino acid

leucocyte *noun* ANAT a white blood cell

leucoplast *noun* BIOL a tiny colourless sac (**plastid**) in which food is stored inside plant cells

LEV *abbreviation* low-emission vehicle

levee *noun* EARTH SCI (*in the USA*) an embankment built up along the bank of a river to prevent flooding

level *adjective* **1.** □ **level with** at the same height or position as something else ○ *In most light aircraft, the aeroplane will be in a climb if the engine cowling is level with the horizon.* **2.** having a flat, smooth horizontal surface **3.** on a horizontal plane **4.** referring to something with no sudden changes □ **the level tone of an engine** the unchanging sound of an engine ■ *noun* **1.** a position along a vertical axis ○ *ground level* ○ *reference level* ○ *The tropopause is the level at which the lapse rate ceases to be so important.* □ **the fluid level in the reservoir** the point up to which the surface of the fluid reaches **2.** a position on a scale ○ *an advanced level of study* **3.** a relative amount, intensity or concentration ○ *an unsafe level of contamination* ○ *reduced noise levels* ○ *A gas turbine engine has an extremely low vibration level.* **4.** COMPUT a quantity of bits that make up a digital transmitted signal

lever *noun* MECH ENG **1.** a device with a rigid bar balanced on a fixed point, used to transmit force, as in raising a weight at one end by pushing down on the other ○ *Push the lever fully up to activate the brake mechanism.* **2.** a handle used to adjust or operate a mechanism ○ *control lever* ■ *verb* to move something with a lever ○ *The door was stuck and they had to lever it open.*

leverage *noun* the action of a lever pivoting about a point

Lewis acid *noun* CHEM a substance that can form a covalent bond by accepting a pair of electrons from a base

Lewis base *noun* CHEM a substance that can form a covalent bond by donating a pair of electrons to an acid

lexical analysis *noun* COMPUT a stage in program translation when the compiling or translating software replaces program keywords with machine code instructions

ley *noun* AGRIC a field in which crops are grown in rotation with periods when the field is sown with grass for pasture (NOTE:

Leys are an essential part of organic farming.)

Leyden jar *noun* ELEC a historical form of electrostatic capacitor comprising a glass jar coated inside and outside with metal foil with a conducting rod passing through an insulated stopper

Leydig cells *noun* ANAT same as **interstitial cells**

LF *abbreviation* COMPUT line feed

LH2 *abbreviation* INDUST liquid hydrogen

Li *symbol* CHEM ELEM lithium

liana *noun* BOT a climbing plant found in tropical rainforests

lias *noun* EARTH SCI a type of rock formation consisting of shale and limestone

liberation *noun* CHEM the process by which something something such as a gas is freed from combination in a chemical compound during a chemical reaction

library *noun* COMPUT a collection of files, documents, books, records or other materials which can be consulted or borrowed by the public, usually kept in a public place

library function *noun* COMPUT a software routine that a user can easily insert into a program

library routine *noun* COMPUT a routine that can be inserted into a main program and called up when required

libration *noun* ASTRON a real or apparent oscillation in the orbit of one astronomical object, especially as observed in the orbit of the Moon from Earth

lice ZOOL plural of **louse**

licence *noun* the permission given by one manufacturer to another to make copies of products against payment of a fee ○ *The software is manufactured in this country under licence.*

lichen *noun* BOT a complex of two organisms growing in symbiosis, a fungus providing the outer shell and an alga or a cyanobacterium giving the organism its colour. Lichens are often found on the surface of stones or trunks of trees. (NOTE: As they are able to survive in cold or exposed conditions, they provide food for many arctic animals. Many lichens are very sensitive to pollution, especially sulfur dioxide, and act as indicators for atmospheric pollution.)

lidar *noun* a device that uses pulses of laser light to measure the distance between an aircraft and the ground, used to produce

many reference points over an area of land and allow the mapping of large areas such as marshes and river networks to which access might be difficult. Full form **Light Detection and Ranging**

life *noun* **1.** the time from birth to death □ **adult life** the time period during which a person or other organism is an adult **2.** BIOL a state of active metabolism **3.** the state or experience of being alive. ○ *The medicine saved his life.* ○ *Their lives were put at risk by the contamination.* **3.** BIOL living organisms ○ *bird life* ○ *plant life*

life cycle *noun* BIOL all the changes an organism goes through between a specific stage in its development and the same stage in the next generation

life cycle analysis *noun* ENVIRON a review of a product from manufacture to final disposal in order to assess its full impact on the environment

life expectancy *noun* BIOL the number of years a person, animal, or other organism is likely to live

life form *noun* BIOL a living thing, e.g. a plant, animal or microorganism

life history *noun* BIOL all the changes an organism goes through from fertilisation to death

life science *noun* BIOL a science such as biology or botany which studies living organisms

life span *noun* the length of time that an organism lives or a product is useful ○ *Some insects have a life span of only one day.*

lifestyle *noun* PSYCHIAT the way in which a person or group of people live their daily lives, including habits, behaviour and activities

life-support *noun* MED maintenance of vital body functions by a life-support system

life system *noun* ECOL a part of an ecosystem which is formed of a living organism and the parts of the environment which support it

life table *noun* BIOL a chart showing how long a person, animal or plant is likely to live

life-threatening disease *noun* MED a disease which may kill a person or animal

lifetime *noun* **1.** BIOL the time during which an organism is alive ○ *Humans consume tons of sugar in a lifetime.* **2.** ENVIRON the approximate time it would take for the

part of an atmospheric pollutant concentration created by humans to return to its natural level assuming emissions cease ○ *Average lifetimes range from about a week for products such as sulfate aerosols to more than a century for CFCs and carbon dioxide.* **3.** a period of time during which a device is useful or not outdated ○ *This new computer has a four-year lifetime.*

life zone *noun* ECOL a place or area in which the type and number of organisms differ slightly from neighbouring areas because of variations in environmental conditions

LIFO *abbreviation* COMPUT last in first out ○ *This computer stack uses a LIFO data retrieval method.*

lift *noun* **1.** AVIAT a component of the total aerodynamic force acting on an aerofoil which causes an aeroplane to fly ○ *In level flight, a lift force equal to the weight must be produced.* **2.** ENG an electrically operated machine for moving people or goods between the floors of a building (NOTE: The US term is **elevator**.) ■ *verb* to move to a higher position

COMMENT: Bernoulli's principle states that if the speed of a fluid speed increases, its pressure decreases; if its speed decreases, its pressure increases. Wings are shaped so that the high-speed flow of air that passes over the curved upper surface results in a decrease in pressure. Lift is created because of the pressure differential between upper and lower surfaces of the wing. Lift is also created because the angle of attack allows the airflow to strike the underside of the wing.

ligament *noun* ANAT a sheet or band of tough, fibrous connective tissue that connects bones or cartilages at a joint or holds organs in place

ligand *noun* CHEM a molecule, part of a molecule or an ion that is bound to something such as a metal atom or ion, forming a complex

light *noun* **1.** brightness produced by the Sun, the Moon or a lamp **2.** a source of light such as a lamp ○ *Switch off the navigation lights.* **3.** PHYS electromagnetic radiation which can be sensed by the eyes ■ *adjective* **1.** bright because the sun is shining ○ *a light room* ○ *At six o'clock in the morning it was just getting light.* **2.** without much weight ○ *Aluminium is a light metal.* **3.** of little force or requiring little force ○ *a light touch* ○ *a light wind* ○ *The plane had light controls.* **4.** of little

quantity ○ *light rain* ○ *light snow* **5.** of thin consistency ○ *light oil*

light adaptation *noun* PHYSIOL a series of changes in the eye to adapt to an abnormally bright or dim light, or to adapt to normal light after being in darkness. Compare **dark adaptation**

light aircraft *noun* AVIAT a small, single engine aircraft for private not commercial use

light amplification by stimulated emission of radiation *noun* full form of **laser**

light-emitting diode *noun* ELEC a semiconductor diode that emits light when a current is applied, used in clock and calculator displays and as an indicator. Abbr **LED**

light industry *noun* INDUST an industry which makes small or lightweight products

lightning *noun* METEOROL a discharge of electricity between clouds and the Earth, seen as a bright flash and accompanied by the sound of thunder which is heard after a short delay

lightning arrester *noun* ELEC a device that prevents surges of the electrical current which are caused when lightning strikes a building and which can damage equipment

lightning conductor, lightning rod *noun* ELEC a length of metal running down the outside wall of a building to the ground, which acts as a channel for the electric current when lightning strikes the building

light pen *noun* COMPUT a computer accessory in the shape of a pen that contains a light-sensitive device that can detect pixels on a video screen (NOTE: It is often used with suitable software to draw graphics on a screen or position a cursor.)

light pollution *noun* ENVIRON the effect of street or other artificial lighting which makes the sky red or orange at night, and so reduces the visibility of stars

light reflex *noun* PHYSIOL a reaction of the pupil of the eye which changes size according to the amount of light going into the eye

light water *noun* CHEM ordinary water used as a coolant in some types of power station. Compare **heavy water**

light water reactor *noun* INDUST a nuclear reactor which uses ordinary water as a coolant. Abbr **LWR**

light wave *noun* PHYS **1.** a visible wave of electromagnetic radiation that travels from a source of light and is capable of stimulating the retina **2.** any wave of electromagnetic radiation, including ultraviolet and infrared

light year *noun* ASTRON an astronomical unit of distance equal to the space covered by light in a year in a vacuum, equal to 9.3 billion km or 0.3 parsec

lignin *noun* BIOCHEM the material in plant cell walls that makes plants woody and gives them rigidity and strength

lignite *noun* INDUST a type of soft coal with a low carbon content

limb *noun* **1.** ANAT a leg or arm □ **lower limbs** BIOL legs □ **upper limbs** BIOL arms **2.** BOT a main branch of a tree

limbic system *noun* ANAT a system of nerves in the brain, including the hippocampus, the amygdala and the hypothalamus, which are associated with emotions such as fear and anger

lime *noun* **1.** INDUST calcium oxide made from burnt limestone, used to spread on soil to reduce acidity and add calcium **2.** TREES a hardwood tree. Genus: *Tilia*. **3.** TREES a citrus fruit tree, with green fruit similar to, but smaller than, lemons. Latin name: *Citrus aurantifolia*. ■ **verb** AGRIC to treat acid soil by spreading lime on it

lime slurry *noun* INDUST a mixture of lime and water added to hard water to make it softer

limestone *noun* EARTH SCI a common sedimentary rock, formed of calcium minerals and often containing fossilised shells of sea animals. It is porous in its natural state and may form large caves by being weathered by water. It is used in agriculture and building. ○ *carboniferous limestone*

lime treatment *noun* AGRIC same as liming

limewater *noun* CHEM a solution of calcium hydroxide in water

liming *noun* AGRIC the spreading of lime on soil to reduce acidity and add calcium

limit *noun* a furthest point or place beyond which you cannot go ○ *They have set a strict limit on the amount of fish which foreign fishing boats are allowed to catch.* ■ **verb** to set a limit on something ○ *The government has limited the number of barrels of oil to be extracted each day.*

limiter *noun* ELEC a device that removes the part of an input signal that is greater than or less than a predefined limit (NOTE: Limiters are used with audio and video signals to prevent overloading of an amplifier.)

limiting factor *noun* CHEM something that is essential for a chemical reaction to take place and which prevents the reaction or limits its rate of occurrence if it is not present ○ *Oxygen is a limiting factor for combustion.*

limiting factor principle *noun* BIOL a general rule that too much or too little of any abiotic factor can limit or prevent the growth of a population

limiting friction *noun* PHYS friction between two objects before they slip at the limiting point

limiting similarity *noun* ECOL the extent of niche differentiation required for species to coexist

limits *plural noun* COMPUT a predefined maximum range for numbers in a computer

limn- *prefix* EARTH SCI fresh water

limnetic *adjective* EARTH SCI referring to deep fresh water

limnetic zone *noun* EARTH SCI an area of deep water away from the edge of a lake, in which plants cannot live but where phytoplankton can exist

limnic *adjective* EARTH SCI referring to deposits in fresh water

limnology *noun* EARTH SCI the study of river systems and their ecology

limonite *noun* GEOL a brown or yellow hydrated iron oxide ore

lindane *noun* AGRIC an organochlorine pesticide. It is a persistent organic pollutant and has been banned for all agricultural uses in the European Union. Formula: $C_6H_6Cl_6$.

line *noun* **1.** a thin continuous mark as made by a pencil, pen or printer ○ *Draw a line from point A to point B.* **2.** a real or imaginary mark placed in relation to points of reference ○ *An isobar is a line joining points of equal pressure.* **3.** a row of written or printed words ○ *Look at line 4 on page 26.* **4.** TELECOM a telephone connection to another telephone or system ○ *Dial 9 to get an outside line.* **5.** ENG a system of pipes ○ *a fuel line* **6.** COMPUT a physical connection for data transmission **7.** COMPUT one trace by the electron picture beam on a screen or monitor **8.** COMPUT, PRINTING a row of

characters printed on a page or displayed on a computer screen ○ *Each page has 52 lines of text.* ○ *Several lines of manuscript seem to have been missed by the key-boarder.* ○ *Can we insert an extra line of spacing between the paragraphs?* **9.** COMPUT one row of commands or arguments in a computer program ■ **verb** to cover the inside of a container to prevent the contents escaping ○ *Landfill sites may be lined with nylon to prevent leaks of dangerous liquids.*

line adapter *noun* ELECTRONICS an electronic circuit that matches the correct signal voltage and impedance for a particular line

line analyser *noun* ELEC a piece of test equipment that displays the characteristics of a line or the signals carried on the line

linear *adjective* referring to a straight line

linear absorption coefficient *noun* PHYS a measurement of the absorption of a beam of radiation passing through something

linear accelerator *noun* PHYS a machine that makes charged particles travel very fast in straight paths by using alternating high-frequency voltages

linear actuator *noun* ENG an actuator which operates in a straight back and forth manner e.g. to open undercarriage doors

linear equation *noun* MATHS an equation in which none of the variables is raised to a power

linearity *noun* COMPUT the shape of the frequency response curve of a device such as a microphone or A/D converter (NOTE: If the curve is straight, the device is very accurate, but if it is not, the device is introducing frequency distortion.)

linear list *noun* a list that has no free space for new records within its structure

linear molecule *noun* PHYS a molecule in which the atoms are arranged in a line

linear momentum *noun* PHYS same as momentum

linear motor *noun* ENG an electric motor in which there is linear motion between the rotor and stator, producing thrust along a straight line

linear program *noun* COMPUT a computer program that contains no loops or branches

linear programming *noun* COMPUT a method of mathematically breaking down

a problem so that it can be solved by computer

linear scale *noun* MEASURE a horizontal or vertical straight-line scale on an instrument

linear search *noun* a search method which compares each item in a list with the search key until the correct entry is found by starting with the first item and working sequentially towards the end

line breeding *noun* GENETICS the deliberate crossing or mating of closely related individuals in order to retain characteristics of a common ancestor

line busy tone *noun* TELECOM a signal generated to indicate that a connection or telephone line is already in use

line communication *noun* TELECOM a signal transmission using a cable link or telegraph wire

line conditioning *noun* TELECOM the keeping of the quality of data transmissions or signals on a line to a certain standard

line control *noun* TELECOM a special code used to control a communications link

lined landfill *noun* ENVIRON a hole in the ground covered on the inside with nylon sheets to prevent leaks of dangerous liquids from waste deposited there

line driver *noun* ELEC a high power circuit and amplifier used to send signals over a long distance line without too much loss of signal

line editor *noun* COMPUT a piece of software that allows the operator to modify one line of text from a file at a time

line ending *noun* COMPUT a character which shows that a line has ended, instructed by pressing the return key

line feed *noun* COMPUT a control on a printer or computer terminal that moves the cursor down by one line. Abbr **LF**

line flyback *noun* an electron beam returning from the end of one line to the beginning of the next

line frequency *noun* COMPUT the number of times that the picture beam scans a horizontal row of pixels in a monitor

line graph *noun* MATHS a graph in which the variable quantities are connected by straight lines

line in *noun* ELEC an input connection to audio equipment, e.g. an amplifier, that accepts a low voltage audio signal

line length *noun* a number of characters contained in a displayed line (NOTE: On a computer screen this is normally 80 characters. On a printer it is often 132 characters.)

line level *noun* TELECOM an amplitude of a signal transmitted over a cable

line noise *noun* TELECOM unwanted interference on a telephone or communications line that causes errors in a data transmission

line number *noun* COMPUT a number that refers to a line of program code in a computer program

COMMENT: The programming language will sort out the program into order according to line number.

line of latitude *noun* EARTH SCI an imaginary line running round the Earth, linking points at an equal distance from the equator

line of longitude *noun* EARTH SCI an imaginary line on the surface of the Earth running from the North Pole to the South Pole, at right angles to the equator

line of sight *noun* a clear path between sending and receiving antennas. Abbr **LOS**

liner *noun* INDUST material used to line something, e.g. a sheet or bag of nylon or plastic

line spacing *noun* PRINTING the distance between two rows of characters

line spectrum *noun* PHYS a spectrum that appears as a series of distinct parallel lines, produced by a gas emitting light or a gas selectively absorbing light from another source

lingual artery *noun* ANAT an artery which supplies blood to the tongue

lingual vein *noun* ANAT a vein which takes blood away from the tongue

link *noun* COMPUT a connection between two things ○ *To transmit faster, you can use the direct link with the mainframe.* ■ *verb* **1.** to connect two things to each other ○ *The two computers are linked.* **2.** to be related to or associated with something ○ *Health is linked to diet or Health and diet are linked.*

linkage *noun* **1.** MECH ENG a system or series of mechanical connections such as rods, levers and springs **2.** GENETICS the process of two or more genes situated close

together on a chromosome being inherited together

linkage group *noun* GENETICS a set of two or more genes on a chromosome that are usually inherited together

link control procedure *noun* COMPUT a set of rules defining the transmission of data over a channel. Abbr **LCP**

linked list *noun* COMPUT a list of data where each entry carries the address of the next consecutive entry

linked object *noun* COMPUT one piece of data that is referred to in another file or application

linked subroutine *noun* COMPUT a number of computer instructions in a program that can be called at any time, with control being returned on completion to the next instruction in the main program

link-layer protocol *noun* COMPUT within the standard OSI network model defined by the ISO, a layer that sends data packets to a connected device and manages error detection

link trial *noun* COMPUT a test of computer programs so as to see if each module works in conjunction with the others

Linnaean system *noun* BIOL the scientific system of naming organisms devised by the Swedish scientist Carolus Linnaeus (1707–78). See Comment at **binomial classification** (NOTE: Carl von Linné is another form of his name.)

linoleic acid *noun* BIOCHEM one of the two essential fatty acids which cannot be produced in the body by humans and has to be taken in from food such as vegetable oil. Formula: $C_{18}H_{32}O_2$.

linolenic acid *noun* CHEM one of the two essential fatty acids which cannot be produced in the body by humans and has to be taken in from food such as vegetable oil. Formula: $C_{25}H_{30}O_2$. (NOTE: Linolenic acid is also used in paints and in synthetic resin manufacture.)

linseed oil *noun* INDUST an oil that is obtained from the seeds of flax plants, used in paints and inks to help them dry more quickly

Linux trademark COMPUT a popular version of the UNIX operating system originally developed by Linus Torvalds, who then distributed it free of charge over the Internet (NOTE: normally pronounced 'lee-nucks')

lipase *noun* BIOCHEM an enzyme that breaks down fats

lipid *noun* BIOCHEM an organic compound belonging to a group of compounds that are not water-soluble and include animal fat, plant oils and waxes

lipid metabolism *noun* CHEM the set of chemical changes by which lipids are broken down into fatty acids

lipoprotein *noun* BIOCHEM a complex of lipids and proteins involved in transportation of lipids around the body

liposoluble *adjective* BIOCHEM referring to a substance that can be dissolved in fat

liposome *noun* BIOCHEM a microscopic spherical sac bounded by a double layer of lipids, sometimes used to carry a drug to targeted body tissues

LIPS *abbreviation* COMPUT logical inferences per second

liquefaction *noun* PHYS the process of making a solid or gas into liquid

liquefaction of gases *noun* PHYS a change of state from gas to a liquid

liquefied natural gas *noun* INDUST a natural gas, extracted from under ground, that is cooled and transported in containers. Abbr **LNG**

liquefied petroleum gas *noun* INDUST propane or butane or a combination of both produced by refining crude petroleum oil. Abbr **LPG** (NOTE: Liquefied petroleum gas is used for domestic heating and cooking and for powering vehicles.)

liquefy *verb* PHYS to make a gas into liquid or to become liquid

liquid *adjective* PHYS having a consistency like that of water ○ *Liquid oxygen is stored in cylinders.* ■ *noun* a substance with a consistency like water ○ *Water is a liquid, ice is a solid.*

liquid crystal *noun* CHEM a liquid that varies being cloudy or clear according to temperature or applied voltage, used in visual display units

liquid crystal display *noun* COMPUT a screen that uses a liquid crystal material to display information when a voltage is applied. Abbr **LCD**

liquid fertiliser *noun* a solution of a solid fertiliser

liquid hydrocarbon *noun* CHEM an organic compound in liquid form, e.g. kerosene

liquid hydrogen *noun* INDUST an alternative fuel proposed for use in cars and aircraft. Abbr **LH2**

liquid manure *noun* AGRIC a manure consisting of dung and urine in a liquid form (NOTE: Manure in semi-liquid form is **slurry**.)

liquid paraffin *noun* INDUST an oil distilled from petroleum and used as a fuel, lubricant or as a laxative (NOTE: The US term is **mineral oil**.)

LISP *noun* COMPUT a high-level language used mainly in processing lists of instructions or data and in artificial intelligence work. Full form **list processing**

Lissajous figure *noun* PHYS the course of displacement of a point when two or more periodic wave motions are superimposed, commonly used to describe two sinusoidal waves at right angles

list *noun* 1. a set of short pieces of information, each one given on a separate line ○ *a list of endangered species* 2. COMPUT a series of ordered items of data ■ *verb* COMPUT to record, display or print a set of items one above the other □ **to list a program** to display a program line by line in correct order

list box *noun* COMPUT a number of items or options displayed in a list

listeria *noun* MICROBIOL a bacterium found in human and animal faeces, one species of which can cause meningitis if ingested in contaminated food. Genus: *Listeria*.

listing *noun* COMPUT an ordered presentation of program lines

List of Chemicals of Concern *noun* a list of chemicals believed to be produced or used in the UK in substantial amounts and which meet specific criteria for concern relating to risks to the environment and human health. The list is drawn up by the UK Chemicals Stakeholder Forum and is intended for discussion and input.

list processing *noun* COMPUT 1. the computation of a series of items of data such as adding, deleting, sorting or updating entries 2. full form of **LISP**

liter *noun* MEASURE US spelling of **litre**

literal *noun* 1. COMPUT a computer instruction that contains the actual number or address to be used, rather than a label or its location 2. PRINTING a printing error when one character is replaced by another or when two characters are transposed

literal operand *noun* COMPUT an actual number or address to be used rather than a label or its location

lith- *prefix* EARTH SCI stone

litharge *noun* CHEM same as **lead monoxide**

lithium *noun* CHEM ELEM a soft silvery metallic element, the lightest known metal, used in batteries (NOTE: The chemical symbol is **Li**; the atomic number is **3** and the atomic weight is **6.94**.)

lithium-ion battery, lithium battery *noun* ELEC a type of rechargeable battery that provides high output power in a compact and lightweight unit (NOTE: This type of battery is often used in mobile telephones, PDAs and laptop computers. The main advantages of Lithium-Ion batteries are that they are light, powerful, and do not suffer from memory effects.)

lithosere *noun* ECOL a succession of communities growing on rock

lithosol *noun* EARTH SCI soil which forms on the surface of rock, with no clearly different layers

lithosphere *noun* EARTH SCI the Earth's solid surface, together with the molten interior above the core

lithospheric plates *plural noun* EARTH SCI the solid masses of Earth's surface, of the size of continents, which move slowly

litmus *noun* CHEM a dye obtained from lichens which is used to make litmus paper

litmus paper *noun* CHEM paper treated with litmus, used in tests for acidity (NOTE: The paper becomes red when the pH falls below 7, indicating acid, and becomes blue when the pH is above 7, indicating alkaline.)

litmus test *noun* CHEM a test in which litmus is used to find out if something is an acid or a base

litre *noun* MEASURE a measure of capacity equal to 1000cc or 1.76 pints. Symbol **l, L** (NOTE: It is the volume of one kilogram of water at 4°C.)

litter *noun* **1.** ENVIRON rubbish left by people **2.** ZOOL a group of young mammals born to one mother at the same time *o The sow had a litter of ten piglets.* **3.** AGRIC bedding for livestock *o Straw is the best type of litter.* **4.** BIOL same as **leaf litter** ■ **verb** **1.** to lie all over the place *o The valley is littered with huge boulders.* **2.** to leave rubbish in a place **3.** ZOOL to give birth *o Bears litter in early spring.*

littoral *adjective* **1.** EARTH SCI referring to a coast **2.** same as **intertidal** ■ *noun* EARTH SCI a coast

littoral current *noun* EARTH SCI a current which moves along the shore

littoral drift *noun* EARTH SCI a movement of sand as it is carried by the sea along the coastline

littoral zone *noun* EARTH SCI **1.** an area of water at the edge of a lake where plants grow **2.** an area of the sea and shore between the high and low water marks

live *adjective* **1.** BIOL (*of an organism*) carrying out metabolism **2.** ELEC (*of cables*) carrying electricity **3.** EARTH SCI (*of a volcano*) erupting from time to time **4.** in active use ■ *verb* **1.** BIOL to be or remain alive **2.** to exist or make a home *o Animals which live partly in water and partly on land are amphibians.*

live off *verb* BIOL to exist by eating something *o These fish live off the debris which sinks to the bottom of the lake.*

live on *verb* BIOL **1.** to exist by eating something *o Most apes live on berries and roots.* **2.** to exist on the surface of something *o Lice live on the skin of their host.*

liver *noun* ANAT a large gland in the upper part of the abdomen, the main organ for removing harmful substances from the blood (NOTE: For other terms referring to the liver, see words beginning with **hepat-**)

COMMENT: The liver is situated in the top part of the abdomen on the right side of the body next to the stomach. It is the largest gland in the body, weighing almost 2 kg. Blood carrying nutrients from the intestines enters the liver by the hepatic portal vein; the nutrients are removed and the blood returned to the heart through the hepatic vein. The liver is the major detoxicating organ in the body. It destroys harmful organisms in the blood, produces clotting agents, secretes bile, stores glycogen and metabolises proteins, carbohydrates and fats. Diseases affecting the liver include hepatitis and cirrhosis. The symptom of liver disease is often jaundice.

livestock *noun* AGRIC cattle and other farm animals which are reared to produce meat, milk or other products *o Livestock production has increased by 5%.*

live well *noun* a well from which water or oil is being extracted

living environment *noun* BIOL the part of the environment made up of living organisms

LLC *abbreviation* COMPUT logical link control

LLL *abbreviation* COMPUT low-level language

Lloyd's mirror *noun* OPTICS a mirror used to reflect part of a direct light source so that the reflection interferes with the direct source, producing fringes

lm *symbol* PHYS, MEASURE lumen

LNG *abbreviation* INDUST liquefied natural gas

load *noun* **1.** a weight or mass which is supported ○ *The load on the undercarriage decreases as lift increases and, when the aircraft rises into the air, the aircraft is supported by the wings.* **2.** PHYS the force which a structure is subjected to when resisting externally applied forces ○ *The load on the control column is increased when the aircraft is flown out of trim.* **3.**

COMPUT a job or piece of work to be done

4. something that is loaded or transported

5. ELEC the power output of an electrical generator or power plant **6.** the amount of something that a vehicle can carry or a machine can deal with at one time ■ *verb* **1.** to put something into a vehicle or into a piece of equipment **2.** COMPUT to transfer a file or program from disk or tape to main memory **3.** COMPUT to put a disk or tape into a computer, so that it can be run

load and run *noun* COMPUT a computer program that is loaded into main memory and then starts to execute itself automatically

load bearing *adjective* ENG which supports some weight

load-bearing structure *noun* a structure which supports the weight of something

load controller *noun* a device which monitors the output of a generator

loader *noun* COMPUT a program which loads another file or program into computer memory

load factor *noun* stress applied to a structure as a multiple of stress applied in flight under 1g of acceleration due to Earth's gravity ○ *If a structure fails at 10000 pounds load, an aircraft weighing 4000 pounds will reach this load at a load factor of 2.5.*

loading *noun* COMPUT the action of transferring a file or program from disk to memory ○ *Loading can be a long process.*

load sharing *noun* COMPUT the use of more than one computer in a network to even out the work load on each processor

loam *noun* EARTH SCI dark soil, with medium-sized grains of sand, which crumbles easily and is very fertile

loamy *adjective* EARTH SCI referring to soil that is dark, crumbly and fertile

lobby ENVIRON *noun* a group of people trying to influence the opinions of politicians, local officials and businessmen on a particular issue ○ *the road lobby* ○ *a green lobby group* ■ *verb* to ask someone such as a politician or local official to do something on somebody's behalf ○ *They went to lobby their MP about the plan to build houses on the Green Belt.*

lobby group *noun* same as **lobby**

lobe *noun* **1.** PHYS one of two, four or more sub-beams that form a directional radar beam ○ *Any system employing beam sharpening is vulnerable to side lobe generation at the transmitter.* **2.** BOT a rounded part of a divided leaf

local *adjective* **1.** COMPUT referring to a device that is physically attached and close to the controlling computer **2.** COMPUT referring to a variable argument that is only used in a certain section of a computer program or structure **3.** COMPUT referring to a system with limited access **4.** ENVIRON referring to a particular area

local anaesthesia *noun* PHYSIOL, MED loss of feeling in a specific part of the body

local anaesthetic *noun* PHARM a substance which removes the feeling in a specific part of the body only

local area network *noun* COMPUT a network where the various terminals and equipment are all within about 500m of one another and can be interconnected by cables. Abbr LAN. Opposite **wide area network**

local declaration *noun* COMPUT an assignment of a variable that is only valid in a section of a computer program or structure

localised *adjective* restricted in area or influence

localised fire *noun* a fire which has not spread

localiser *noun* AEROSP a component of an aircraft's instrument landing system that provides horizontal guidance to the runway

local printer *noun* COMPUT a printer physically attached to a computer rather than a shared resource available on a network

local variable *noun* COMPUT a variable which can only be accessed by specific routines in a one section of a computer program

locate *verb* **1.** to find the position of something **2.** to position something

location *noun* **1.** a place where something can be found **2.** the process of finding where something is **3.** COMPUT a number or absolute address which specifies the point in memory where a data word can be found and accessed

loch *noun* EARTH SCI (*in Scotland*) a lake

loci *noun* GENETICS plural of locus

lock *noun* a device operated by a key for securing a door, window or lid ■ *verb* **1.** to secure a door by turning a key in the lock ○ *Lock the door before leaving the building.* **2.** to be in or to move into a secure position **3.** to block or stop the movement of something ○ *Anti-skid braking systems units are designed to prevent the brakes locking the wheels during landing.* **4.** COMPUT to prevent access to a system or file

locking pin *noun* ENG a short metal device to prevent a nut from turning

lockjaw *noun* MED same as **tetanus**

lock on *verb* **1.** to search for, find and follow a target with a thin radar beam **2.** COMPUT to synchronise an internal clock with a received signal

lock up *noun* COMPUT a faulty operating state of a computer that cannot be recovered from without switching off the power (NOTE: It can be caused by an infinite program loop or a deadlock.)

locomotion *noun* movement or travel from one place to another

locomotive *adjective* SCI able to move about freely

locus *noun* GENETICS the position of a gene on a chromosome (NOTE: The plural is **loci**.)

locust *noun* ZOOLOGY a flying insect which occurs in subtropical areas, flies in large groups and eats large amounts of vegetation

lude *noun* EARTH SCI a deposit of metallic ore

lodestone *noun* GEOL magnetite or magnetic natural iron oxide, or a piece of this

loess *noun* EARTH SCI a fine fertile soil formed of tiny clay and silt particles deposited by the wind

log *noun* **1.** a full record of a set of actions or events **2.** COMPUT a record of computer processing operations **3.** FORESTRY a large piece of wood cut from the trunk or from a main branch of a tree ■ *verb* **1.** COMPUT to record a series of actions or events □ **to log calls** COMPUT to keep a record of telephone calls **2.** COMPUT to make a connection and start using a remote device such as a network server **3.** to keep a full record of a set of actions or events **4.** to cut down trees for their wood as a commercial activity

logarithm *noun* MATHS the power to which a base must be raised to equal a given number

logarithmic *noun* MATHS referring to logarithms

logarithmic scale *noun* MEASURE a method of measuring using a logarithmic series of numbers (NOTE: It is often used as a scale on the axis of a graph.)

logger *noun* **1.** COMPUT a device which keeps a record of a series of actions **2.** FORESTRY a person whose job is to cut down trees

logging *noun* FORESTRY the commercial activity of cutting down trees

logging residues *plural noun* FORESTRY material left on the ground after cut logs have been removed

logic *noun* **1.** a science which deals with thought and reasoning **2.** MATHS a mathematical treatment of formal logic operations such as AND and OR and their transformation into various circuits **3.** COMPUT a system for deducing results from binary data **4.** COMPUT the components of a computer or digital system

logical *adjective* **1.** referring or according to logic **2.** COMPUT using logic ○ *Logical reasoning can be simulated by an artificial intelligence machine.*

logical channel *noun* COMPUT an electronic circuit between a terminal and a network node in a packet switching system

logical error *noun* COMPUT a fault in a program design causing incorrect branching or operations

logical expression *noun* COMPUT a function made up from a series of logical operators such as AND and OR

logical high *noun* LOGIC a state equal to logic TRUE or 1

logical inferences per second *noun* COMPUT a standard for the measurement of

processing power of an inference engine. Abbr **LIPS**

logical link control *noun* COMPUT an IEEE 802.2 standard defining the protocol for data-link-level transmissions. Abbr **LLC**

logical low *noun* COMPUT a state equal to logic false or 0

logical operator *noun* COMPUT a character or word that describes the logical action it will perform (NOTE: The most common logical operators are AND, NOT, and OR.)

logical unit *noun* COMPUT a set of protocols developed by IBM to allow communication over an SNA network. Abbr **LU** (NOTE: LU1, LU2 and LU3 provide control of the session, LU4 supports communication between the devices and LU6.2 is a peer-to-peer protocol.)

logic circuit *noun* ELECTRONICS an electronic circuit made up of various logical gates, e.g. AND, OR and EXOR

logic gate *noun* ELECTRONICS an electronic circuit that applies a logical operator to an input signal and produces an output

logic level *noun* ELECTRONICS the voltage used to represent a particular logic state

logic map *noun* ELECTRONICS a graphical representation of states and conditions in a logic circuit

logic operation *noun* COMPUT a computer operation or procedure in which a decision is made

logic state *noun* ELECTRONICS one out of two possible levels in a digital circuit, the levels being 1 and 0 or TRUE and FALSE

logic state analyser *noun* ELECTRONICS a piece of test equipment that displays the logic states of a number of components or circuits

logic symbol *noun* COMPUT a graphical symbol used to represent a type of logic function in a diagram

log in *verb* COMPUT to enter various identification data, e.g. a password, usually by means of a terminal, to the central computer before accessing a program or data (NOTE: This is used as a means of making sure that only authorised users can access the computer system.)

LOGO *noun* COMPUT a high-level programming language used mainly for edu-

cational purposes, with graphical commands that are easy to use

log off *verb* COMPUT to enter a symbol or instruction at the end of a computing session to close all files and break the channel between the user's terminal and the main computer

lone pair *noun* CHEM a pair of unshared electrons on an atom in a molecule that are not involved in bonding within that molecule

long-day plant *noun* BOT a plant that flowers as the days get longer in the spring. Compare **short-day plant**

long division *noun* MATHS a method or instance of dividing one number by another in which each step is written out in full

long-grass prairie *noun* EARTH SCI an area in the east of the North American prairies where mainly varieties of tall grasses grow

long integer *noun* COMPUT an integer represented by several bytes of data

longitude *noun* EARTH SCI, NAVIG an angular distance on the Earth's surface, measured east or west from the prime meridian to the meridian passing through a position, expressed in degrees, minutes and seconds

COMMENT: Longitude is measured from Greenwich, just east of London, and, together with latitude, is used to indicate an exact position on the Earth's surface. Longitude is measured in degrees, minutes and seconds. The centre of London is latitude 51°30'N, longitude 0°5'W.

longitudinal *adjective* in a lengthwise direction

longitudinal axis *noun* AEROSP the axis of the aircraft which extends from the nose to the tail

longitudinal redundancy check *noun* COMPUT a check on received blocks of data to detect any errors

longitudinal time code *noun* COMPUT a method of recording a time code signal on a linear audio track along a video tape. Abbr **LTC** (NOTE: The disadvantage of this method is that the code is not readable at slow speeds or when the tape has stopped.)

longitudinal wave *noun* PHYS a wave that is propagated in the same direction as that in which the particles of the medium vibrate

long-lived *adjective* BIOL referring to an animal or plant that lives for a long time

long-range weather forecast *noun* METEOROL a forecast covering a period more than five days ahead

longshore bar *noun* OCEANOGRAPHY a bank of sand submerged at high tide and running parallel with the coast

longshore drift *noun* OCEANOGRAPHY a movement of sand particles along the shore, caused by currents flowing along the shore

long-sightedness *noun* MED same as **hyperopia**

long-term *adjective* lasting for a long time ○ *the long-term effects of grazing on an area of vegetation* ○ *The long-term effects of exposure to radiation from power lines are not yet known.*

long ton *noun* MEASURE same as **ton 1**

long wave *noun* PHYS a radio wave with a wavelength of 1,000 m or more

look ahead *noun* COMPUT the action by some central processing units of fetching instructions and examining them before they are executed in order to speed up operations

lookup table *noun* COMPUT a collection of stored results which can be accessed very rapidly ○ *This is the value of the key pressed, use a lookup table to find its ASCII value.*

loop *COMPUT noun* a procedure or series of instructions in a computer program that are performed again and again until a test shows that a specific condition has been met or until the program is completed ■ *verb* to make a piece of wire or tape into a circle

loopback *noun* COMPUT a diagnostic test that returns the transmitted signal to the sending device after it has passed through a device or across a link

looping *noun* METEOROL a situation in which a column of smoke from a tall chimney is brought down to ground level by air currents and then rises again

Lorentz-Fitzgerald contraction *noun* PHYS the consequence of relativity that causes an object to become shorter as its speed approaches that of light

lo-res *adjective* COMPUT same as **low-resolution** (*informal*)

LOS *abbreviation* line of sight

loss *noun* the state of not having something any more, or of having less of some-

thing ○ *loss of control* ○ *the loss of natural habitats* ○ *loss of amenity value* ○ *hearing loss from noisy working conditions* □ **loss of a signal** disappearance of a signal ○ *The term attenuation means the loss of strength of a radio signal.*

lossless compression *noun* COMPUT image compression techniques that can reduce the number of bits used for each pixel in an image, without losing any information or quality

lossy compression *noun* COMPUT image compression techniques that can reduce the number of bits used for each pixel in an image, but in doing so lose information

lost cluster *noun* COMPUT a number of sectors on a disk whose identification bits have been corrupted (NOTE: The operating system has marked this area of disk as being used by a file, but the data they contain can no longer be identified with a particular file.)

Lotka-Volterra predator-prey model *noun* ECOL a simple mathematical model representing the interaction between predators and their prey

loudness *noun* PHYS the magnitude of the physiological stimulation due to a sound

loudspeaker *noun* ACOUSTICS an electromagnetic device that converts electrical signals into audible noise. Also called **speaker**

lough *noun* EARTH SCI (*in Ireland*) a lake

louse *noun* ZOOLOGY a small wingless insect that sucks blood and lives on the skin as a parasite on animals and humans. There are several types, the commonest being body louse, crab louse and head louse. Some diseases can be transmitted by lice. Genus: *Pediculus*. (NOTE: The plural is **lice**.)

louvre *noun* a thin, horizontal opening for air cooling

low *adjective* **1.** not high or tall ○ *a low building* **2.** below a usual or expected value or amount ○ *The temperature is too low here for oranges to grow.* **3.** not loud **4.** near the bottom or towards the bottom □ **an area of low pressure** an area in which the atmospheric pressure is low and around which the air turns in the same direction as Earth. Also called **cyclone** ■ *noun* METEOROL same as **depression 1** ○ *A series of lows are crossing the North Atlantic towards Ireland.*

low blood pressure *noun* MED a condition where the pressure of the blood is unusually low. Also called **hypotension**

low-calorie diet *noun* MED a diet with few calories which can help a person to lose weight

low-emission vehicle *noun* a vehicle which does not emit much pollution when compared to vehicles with conventional internal combustion engines. Abbr **LEV**

low end *noun* COMPUT hardware or software that is not very powerful or sophisticated and is designed for beginners

lower *adjective* **1.** referring to something that is at a low level or towards the bottom
 ○ *the lower layers of the atmosphere* **2.** referring to something which is below something ○ *Air is cooler high up than at lower levels.* ► opposite **upper** ■ *verb* **1.** to put something in a lower position ○ *lower the barrier* **2.** to reduce something in amount or intensity ○ *lowered the temperature* ○ *lower the pressure* ○ *lowering the statutory limit* □ **to lower the volume** to make a sound less loud

lower atmosphere *noun* METEOROL a layer of the atmosphere in which changes in the weather take place. Also called **troposphere**

lower case *noun* PRINTING small characters such as a, b, c, as opposed to upper case A, B, C

lower limb *noun* ANAT a leg

lower motor neuron *noun* ANAT a neuron which carries motor impulses from the spinal cord to the muscles

lower plants *plural noun* BOT organisms traditionally classed as plants but which do not have a vascular system, e.g. mosses

lowest common denominator *noun* MATHS the lowest multiple shared by all the denominators in a set of fractions

lowest common multiple MATHS the lowest whole number that is divisible without a remainder by all of the members of a set of numbers

low-fat diet *noun* HEALTH a diet with little animal fat e.g. to help skin conditions

low frequency *noun* PHYS a radio frequency of 30 to 300 kilohertz

low-grade *adjective* not of high quality

low-grade ore *noun* EARTH SCI ore which contains a small percentage of metal

low-grade petrol *noun* INDUST petrol which does not contain very much octane

and therefore produces less pollution. Also called **low-octane petrol**

low-input farming, lower input farming *noun* a system of farming based on restricted use of chemical fertilisers, pesticides and herbicides

low-intensity land *noun* AGRIC land on which crops are not intensively cultivated

lowland *noun* EARTH SCI an area of low-lying land as opposed to hills and mountains or highlands

low latitudes *plural noun* GEOG areas near the equator

low-level format *noun* COMPUT a process that defines the physical pattern and arrangement of tracks and sectors on a disk

low-level language *noun* COMPUT a programming language similar to an assembler, in which each instruction has a single equivalent machine code instruction. Abbr **LLL** (NOTE: The language is specific to one system or computer.)

low-level radiation *noun* PHYS radiation from a substance which is slightly radioactive

low-level radioactive waste, low-level waste *noun* waste which is only slightly radioactive and does not cause problems for disposal

low-octane petrol *noun* INDUST same as **low-grade petrol**

low-order digit *noun* MATHS a digit in the position within a number that represents the lowest weighting of the number base ○ *The number 234156 has a low-order digit of 6.*

low production volume chemical *noun* a chemical of which 10–1000 tonnes is sold per year per manufacturer or importer

low-res *adjective* COMPUT same as **low-resolution** (*informal*)

low-resolution *adjective* COMPUT not having a high number of pixels per unit area and so not sharply defined. Also called **lo-res, low-res**

Lowry-Bronsted theory *noun* CHEM a theory that defines an acid as a substance with a tendency to lose a proton

low-sulfur coal, low-sulphur coal *noun* INDUST coal with little sulfur in it, therefore producing less sulfur dioxide when it is burnt

low tide *noun* OCEANOLOG the point when the sea level at the coast is lowest

low-velocity zone *noun* an area below the crust of the Earth where earthquake shock waves travel slowly

low-waste technology *noun* ENVIRON efficient technology which produces little waste

low water *noun* EARTH SCI the point when the level of the sea, a river or other body of water is at its lowest

LPG *abbreviation* CHEM liquefied petroleum gas

LPV chemical *abbreviation* low production volume chemical

Lr *symbol* CHEM ELEM lawrencium

LRU *abbreviation* COMPUT least recently used algorithm

LSB *abbreviation* COMPUT least significant bit

LSD *abbreviation* COMPUT least significant digit

LSI *abbreviation* ELECTRONICS large-scale integration

LTC *abbreviation* COMPUT longitudinal time code

LU *abbreviation* COMPUT logical unit

lubricant *noun* MECH ENG an oily or greasy substance applied to moving parts, e.g. in an engine, to make them run smoothly

lubricate *verb* MECH ENG to oil or to grease moving parts in order to reduce friction ○ *Oil passes through the hollow crankshaft to lubricate the big-end bearings.* ○ *Turbochargers are lubricated by the engine oil system.*

lubricating oil *noun* MECH ENG an oil applied to moving parts as in an engine to make them run smoothly

lubrication *noun* MECH ENG the act or process of covering moving surfaces with oil or grease to reduce friction

lubrication system *noun* MECH ENG a set of tanks, pipes, pumps and filters which together supply oil to moving parts of the engine

lucerne *noun* PLANTS a perennial, drought-resistant, leguminous plant that is rich in protein. It is mainly used either for green feed for animals or for hay or silage. Latin name: *Medicago sativa*. (NOTE: The US name is **alfalfa**.)

COMMENT: Lucerne is the most important forage legume; it is called lucerne in Europe, Oceania and South Africa, and elsewhere it is called alfalfa. Lucerne is perennial, drought-resistant and rich in

protein. It is mainly used for cutting, either for green feed or for hay or silage. It can also be grazed if carefully managed; lucerne is also dried artificially and made into pellets of feed.

luma *noun* COMPUT the black and white parts of an image or video signal, represented by the symbol Y

lumbar artery *noun* ANAT one of four arteries which supply blood to the back muscles and skin

lumber *noun* FORESTRY (*in the USA and Canada*) trees which have been cut down

lumberjack *noun* FORESTRY (*in the USA and Canada*) a person whose job is to cut down trees

lumen *noun* 1. MED an inside width of a passage in the body or of an instrument such as an endoscope 2. MED a hole at the end of an instrument such as an endoscope 3. PHYS, MEASURE an SI unit of light emitted per second. Symbol **lm**

luminance *noun* COMPUT a part of a video signal or image that defines the brightness at each point

luminescence *noun* PHYS light produced by means other than heat, by processes such as phosphorescence, fluorescence or bioluminescence

luminosity *noun* ASTRON the light output of an astronomical object corrected to allow for its distance from Earth, and measured by means of absolute magnitude

luminous *adjective* PHYS giving the visual sensation of light

luminous flux *noun* PHYS a measure of the rate of flow of light from a standard source

luminous intensity *noun* PHYS the amount of light emitted by a source in a particular direction (NOTE: It is measured in candelas.)

lunar *adjective* ASTRON referring to the moon

lunar eclipse *noun* ASTRON a situation when the Earth passes between the Sun and the Moon causing the shadow of the Earth to fall across the Moon, so cutting off its light. Compare **solar eclipse**

lunar month *noun* ASTRON the time between one new moon and the next, a period of about 29.5 days. It is the time the Moon takes to make one complete orbit of Earth.

lunar phase *noun* ASTRON a change in the appearance of the Moon as it moves

from new to full and back again every 29 days (NOTE: The phases are: new moon, first quarter, full moon and last quarter.)

lung *noun* ANAT **1.** the organ of respiration of vertebrates that breathe air **2.** an organ for breathing air in invertebrate animals, positioned in the highly vascular region of the mantle cavity in some terrestrial snails

lush *adjective* BOT referring to vegetation which is thick and green ○ *The cattle were put to graze on the lush grass by the river.* ○ *Lush tropical vegetation rapidly covered the clearing.*

luteinising hormone *noun* BIOCHEM a hormone produced by the pituitary gland. Also called **interstitial-cell-stimulating hormone** (NOTE: In females it stimulates ovaries to release one or more eggs and causes the secretion of progesterone and the formation of the corpus luteum. In males it causes testes to secrete male sex hormones.)

lutetium *noun* CHEM ELEM a silvery-white metallic element in the lanthanide group of the periodic table, used as a catalyst in the nuclear industries (NOTE: The chemical symbol is **Lu**; the atomic number is **71** and the atomic weight is **174.97**.)

lux *noun* MEASURE, PHYS an SI unit of brightness of light shining on a surface. Symbol **lx**

luxon *noun* PHYS an elementary particle such as a photon or a neutrino travelling at the speed of light and therefore possessing no mass

LWR *abbreviation* INDUST light water reactor

lx *symbol* PHYS, MEASURE lux

Lyman series *noun* PHYS a series of lines in the ultraviolet spectrum, caused by excited hydrogen atoms

lymph *noun* PHYSIOL a colourless liquid containing white blood cells, which circulates in the body, carrying waste matter away from tissues to the veins (NOTE: It is an essential part of the body's defence against infection.)

lymphatic system *noun* PHYSIOL a network of vessels through which lymph cir-

culates removing microorganisms and other debris from tissues

lymph node, lymph gland *noun* ANAT a mass of tissue which produces white blood cells and filters waste matter from the lymph as it passes through

lymphocyte *noun* ANAT a white blood cell that forms part of the immune system (NOTE: Lymphocytes produce antibodies to destroy infected and cancerous cells and cause the rejection of foreign tissue.)

lymphotropic *adjective* PHYSIOL stimulating or acting on the lymphatic system

lyophilic *adjective* CHEM referring to a solid that will disperse finely in a colloid forming a stable dispersion and will redisperse following separation from the solvent

lyophilise, lyophilize *verb* FOOD INDUST to preserve food by freezing it rapidly and drying in a vacuum

lyophobic *adjective* CHEM referring to a solid distributed in a colloid that forms an unstable dispersion and that will not redisperse following separation

Lysenkoism *noun* GENETICS a biological doctrine maintaining that characteristics acquired by an organism during its lifetime can be inherited by its offspring (NOTE: This form of neo-Lamarckism, put forward by Trofim Denisovich Lysenko in the 1930s and disputed by most biologists, had an influence over Soviet genetics until the mid-1960s.)

lysine *noun* BIOCHEM an essential amino acid in protein foodstuffs, essential for animal growth

lysis *noun* BIOL the destruction of a cell by disrupting its outer membrane, allowing the cell contents to escape

lysosome *noun* BIOL a membrane-surrounded sac found in some cells that contains enzymes and functions in breaking down and recycling molecules (NOTE: Lysosomes occur in animal cells and in some protists, and are especially important in the immune cells that take in and destroy bacteria.)

M

m *symbol* MEASURE **1.** metre **2.** milli-

M *symbol* MEASURE mega- ■ COMPUT, ELECTRONICS (*in computer and electronic applications*) 1048576, equal to 2^{20}

mA *abbreviation* MEASURE milliamperé

MAB *abbreviation* ENVIRON Man and the Biosphere Programme

MAC¹ COMPUT *noun* a special code transmitted at the same time as a message as proof of its authenticity. Full form **message authentication code** ■ *abbreviation* media access control

MAC² *abbreviation* ENVIRON maximum allowable concentration

macerate *verb* BIOL to make something soft by letting it remain in a liquid for a time

Mach *noun* PHYS a ratio of the speed of an object to the speed of sound in the same atmospheric conditions ○ *Mach 2 equals twice the speed of sound.*

machine *noun* **1.** MECH ENG a device with fixed and moving parts that takes mechanical energy and uses it to do useful work ○ *An electrical circuit carries energy to a machine which can then operate.* **2.** COMPUT a computer, system or processor made of various components connected together to provide a function or to perform a task

machine address *noun* COMPUT same as **absolute address**

machine code *noun* COMPUT a programming language that consists of commands in binary code that can be directly understood by the central processing unit without the need for translation. Also called **machine language**

machine intelligence *noun* COMPUT the design of computer programs and devices that attempt to imitate human intelligence and decision-making functions, providing basic reasoning and other human characteristics

machine language *noun* COMPUT **1.** the way in which machine code is written **2.** same as **machine code**

machine-readable code *noun* COMPUT a set of signs or letters such as bar codes or postcodes that can be read by computers

Mach number *noun* PHYS the speed of an object relative to the speed of sound (NOTE: An aircraft travelling at Mach 2 is going twice as fast as sound.)

mackerel sky *noun* METEOROL a pattern of wavy cirrocumulus or altocumulus cloud with holes which looks like the body markings of mackerel fish

macro *noun* COMPUT a program routine or block of instructions identified by a single word or label

macro- *prefix* large. Opposite **micro-**

macro assembler *noun* COMPUT an assembler program that is able to decode macro instructions. Also called **assembly program**

macrobiotic *adjective* HEALTH referring to a vegetarian diet without artificial additives or preservatives ○ *a macrobiotic diet*

macrobiotics *noun* HEALTH a dietary system based on vegetarian foods without artificial additives or preservatives, especially organically grown whole grains, fruit and vegetables

macroclimate *noun* METEOROL the climate over a large area such as a region or country

macro definition *noun* COMPUT a description of the structure, function and instructions that make up a macro operation

macroelement *noun* COMPUT a number of data items treated as one element

macro instruction *noun* COMPUT one programming instruction that refers to a number of instructions within a routine or macro

macro language *noun* COMPUT a programming language that allows the programmer to define and use macro instructions

macromolecule *noun* CHEM a large molecule such as a protein or a polymer

macronutrient *noun* BIOL a nutrient that an organism uses in very large quantities, e.g. oxygen, carbon, hydrogen, nitrogen, phosphorus, potassium, calcium, magnesium or iron

macroparasite *noun* a parasite which lives on or inside the body of the host but does not multiply, e.g. a worm or insect larva

macrophage *noun* IMMUNOL a large cell that removes foreign material and bacteria from the bloodstream, lymph nodes and other tissues by phagocytosis (NOTE: Macrophages are found in the lymph and connective tissues as well as in the blood.)

macrophyte *noun* BOT a plant that is large enough to be studied without the aid of a microscope

macroplankton *plural noun* BIOL plankton of about 1 mm in length

macroscopic *adjective* BIOL referring to an object or organism that can be seen without the aid of a microscope

macro virus *noun* COMPUT a computer virus that is stored as a macro attached to a document or email message

COMMENT: A macro virus will run when a document is opened. Some viruses are benign, others carry out malicious damage on files and data. The virus will also try and spread to other compatible documents and applications on your computer, so that any new documents you create are also infected. The best way to avoid a macro virus is to regularly run virus detection software that can check and remove viruses attached to documents and new email messages.

macula *noun* **1.** ASTRON same as **sun-spot** **2.** BIOL a change in the colour of a small part of the body without changing the surface as in freckles **3.** ANAT an area of hair cells inside the utricle and saccule of the ear

macula lutea *noun* ANAT a yellow spot on the retina, surrounding the fovea (NOTE: The plural is **maculae**.)

mad cow disease *noun* VET same as **BSE** (*informal*)

magic number *noun* PHYS any of the numbers 2, 8, 20, 28, 50, 82, and 126

(NOTE: Nuclides with these numbers of nucleons are very stable.)

magma *noun* EARTH SCI a molten substance in the Earth's mantle, which escapes as lava during volcanic eruptions and solidifies to form igneous rocks

COMMENT: Magma is formed of silicate materials which include crystals and dissolved gases.

magmatic *adjective* EARTH SCI referring to magma

magnesite *noun* MINERALS a white or colourless magnesium carbonate mineral used in insulation, furnace linings and as a source of magnesium oxide

magnesium *noun* CHEM ELEM a light, silvery-white metallic element that burns with a brilliant white flame (NOTE: It is also found in green vegetables and is essential especially for the correct functioning of human muscles. The chemical symbol is **Mg**; the atomic number is **12** and the atomic weight is **24.31**.)

magnesium carbonate *noun* CHEM a crystalline white salt used in glass making and in indigestion remedies. Formula: $MgCO_3$.

magnesium chloride *noun* CHEM a white or colourless crystalline compound used in fire extinguishers, papermaking, pottery and as a source of magnesium. Formula: $MgCl_2 \cdot 6H_2O$.

magnesium hydroxide *noun* CHEM a white powder used as an indigestion remedy and laxative. Formula: $Mg(OH)_2$.

magnesium oxide *noun* CHEM a white powder used in indigestion remedies and laxatives, fire bricks, electrical insulation, fertilisers and cement. Formula: MgO .

magnesium sulfate, magnesium sulphate *noun* CHEM a magnesium salt which when diluted in water is used as a laxative. Formula: $MgSO_4 \cdot 7H_2O$. Also called **Epsom salts**

magnesium trisilicate *noun* CHEM a magnesium compound used to treat peptic ulcers

magnet *noun* PHYS an object that produces a magnetic field and attracts iron and steel

COMMENT: A freely suspended magnet, uninfluenced by outside forces, will align itself with the Earth's magnetic lines of force, which run from the north magnetic pole to the south magnetic pole.

magnetic *adjective* PHYS referring to a magnet or a magnetic field

magnetic anomaly *noun* PHYS the way in which the local magnetic field differs from the normal magnetic field in a specific area

magnetic attraction *noun* PHYS the power of a body to attract other substances to it

magnetic bearing *noun* NAVIG the angle measured in a clockwise direction of a distant point, relative to magnetic north

magnetic declination *noun* NAVIG the angle of difference between the direction of the North Pole and that of the north magnetic pole. Also called **magnetic variation**

magnetic dip *noun* PHYS the angle of magnetic particles in rocks relative to the centre of the Earth (NOTE: It varies according to whether the rocks lie north or south of the equator.)

magnetic disk *noun* COMPUT a flat circular piece of material coated with a substance, on which signals and data can be stored magnetically

magnetic field *noun* PHYS an area round an object that is under the influence of its magnetic effect ○ *The Earth's magnetic field is concentrated round the two magnetic poles.*

magnetic field strength *noun* PHYS a quantity that indicates the strength of a magnetic field at a point in the direction of the line of force, measured in amperes per metre. Symbol **H**

magnetic flux *noun* MEASURE, PHYS a measure of the strength and extent of a magnetic field per unit area

magnetic flux density *noun* MEASURE, PHYS the strength of a magnetic field at a given point. Also called **magnetic induction** (NOTE: Its units are the tesla or the gauss.)

magnetic head *noun* ELEC an electromagnetic component that converts electrical signals into a magnetic field, allowing them to be stored on a magnetic medium

magnetic induction *noun* PHYS same as **magnetic flux density**

magnetic intensity *noun* PHYS same as **magnetic field strength**

magnetic memory *noun* COMPUT storage that uses a medium that can store data bits as magnetic field changes. Also called **magnetic store**

magnetic mirror *noun* PHYS a device that changes the direction of ions moving in a magnetic field

magnetic moment *noun* PHYS a vector expressing the torque experienced by a magnetic system in a magnetic field

magnetic monopole *noun* PHYS a particle with a single magnetic pole rather than the paired north and south poles of a normal magnet

magnetic north *noun* NAVIG the direction in which the needle of a compass points, as opposed to true north

magnetic polarity *noun* PHYS a method of indicating whether a point is a source or a collector of magnetic flux patterns

magnetic pole *noun* EARTH SCI one of the two poles of the Earth, near to but not identical with the geographical poles, which are the centres of the Earth's magnetic field and to which a compass points

magnetic recording *noun* ELEC the transfer of an electrical signal onto a moving magnetic tape or disk by means of a magnetic field generated by a magnetic head

magnetic resonance imaging *noun* MED a technique that uses electromagnetic radiation to obtain images of invisible parts of a structure or the body's soft tissues. Abbr **MRI** (NOTE: The object is subjected to a powerful magnetic field which allows signals from atomic nuclei to be detected and converted into images by computer.)

magnetic screen *noun* PHYS a metal screen that prevents magnetic fields affecting electronic components ○ *Without the magnetic screen over the power supply unit, the computer just produced garbage.*

magnetic storage *noun* COMPUT a method of storing information as magnetic changes on a sensitive tape or disk, e.g. a floppy disk or hard disk

magnetic store *noun* COMPUT same as **magnetic memory**

magnetic storm *noun* METEOROL a sudden disturbance of Earth's magnetic field which affects compasses and radio and TV waves

magnetic susceptibility *noun* PHYS the relative degree of magnetisation of a substance when subjected to a magnetic field

magnetic tape *noun* TECH a thin ribbon of plastic coated with iron oxide that can store information by becoming magnetised

(NOTE: It was formerly widely used to record sound, video pictures or computer data but is now largely replaced by digital media such as compact discs.)

magnetic variation *noun* NAVIG same as **magnetic declination**

COMMENT: To convert magnetic bearing into true bearing it is necessary to apply magnetic variation at the point at which the bearing was taken.

magnetise *verb* PHYS to convert an object or material into a magnet

magnetism *noun* PHYS **1.** property of attraction possessed by a naturally magnetic substance or by a conductor carrying an electric current (**electromagnet**) **2.** the study of properties associated with magnetic fields

magnetite *noun* MINERALS a common black magnetic mineral made of iron oxide that is a source of iron

magneto *noun* ELEC a device that produces electrical current for distribution to the spark plugs of piston aero-engines

COMMENT: The crankshaft turns the magnetos, which provide the electrical energy to create a spark from the spark plugs. This ensures that the spark plugs work even if the battery and electrical system fail.

magneto-electronics *noun* PHYS same as **spintronics**

magnetograph *noun* PHYS a device for measuring magnetic fields

COMMENT: A network of magnetographs has been installed all over the Earth for decades, yielding huge amounts of data, and versions of these instruments have been sent into orbit and to other planets since the 1960s.

magnetomotive force *noun* SCI a force that produces magnetic flux

magneton *noun* MEASURE the unit of measurement of the magnetic moment of a magnetic field

magneto-optical recording *noun* COMPUT a storage medium that uses an optical disc

COMMENT: An optical disc has a thin layer of magnetic film which is heated by a laser. The magnetic particles are then polarised by a weak magnetic field. Magneto-optical recording has very high capacity (over 600 Mb) and is rewritable.

magnetosphere *noun* EARTH SCI a region surrounding the Earth, extending from about 500 to several thousand kilometres above the surface, in which charged

particles are controlled by the Earth's magnetic field

magnetotactic *adjective* MICROBIOL, PHYSIOL describes a cell or microorganism that is able to orient itself in relation to a magnetic field

magnetron *noun* ENG an electronic valve used to generate microwaves

magnification *noun* OPTICS a measure of increase in size, especially in the apparent size of an image seen through a microscope

magnify *verb* OPTICS **1.** to increase the size of something, especially by using a lens or microscope *o* *It was only after the image was magnified that it was possible to see the flaw.* **2.** to increase the effect of something *o* *The stress level is magnified at times of high work load, for example, preparation for landing.* (NOTE: **magnifying** – **magnified**)

magnitude *noun* **1.** greatness of size, extent, level or strength of a variable *o* *When the surface wind speed reaches this magnitude the term gale is used.* **2.** ASTRON a measure of the brightness of any object in the sky

COMMENT: In astronomy, the basis of the magnitude system is a 100-fold difference in brightness between objects separated by five magnitudes. This means that each magnitude is equivalent to a change of just over 2.5-fold in the amount of light received by an observer. The numbers get smaller as the objects get brighter. The Sun has a magnitude of -26.8 and the full Moon -12.6. The largest telescopes now in use will reach objects below the 25th magnitude and the Hubble Space Telescope can stretch this to about the 31st magnitude.

magnox *noun* INDUST an alloy of magnesium, aluminium and other metals, used to surround uranium fuel rods in a nuclear reactor

magnox power station *noun* INDUST a nuclear power station with a magnox reactor

COMMENT: The first magnox power station was built in the UK in 1956. The safety record has been very good, but magnox power stations are at the end of their commercial life and decommissioning began in 1990.

magnox reactor *noun* INDUST a type of gas-cooled nuclear reactor in which the uranium fuel rods are surrounded with magnox

mail *noun* **1.** a system for sending letters and parcels from one place to another **2.**

letters sent or received **3**. COMPUT electronic messages to and from users of a bulletin board or network. Also called **email mailbox** *noun* COMPUT an electronic storage space with an address in which a user's incoming e-mail messages are stored

mail exchange record *noun* COMPUT information stored in a database that tells a mail system how to deliver a mail message to a particular domain. Abbr **MX record**

mail server *noun* COMPUT a computer that stores incoming mail before sending it to the correct recipient and stores outgoing mail before transferring it to the correct destination server on the Internet

mail transfer agent *noun* COMPUT a software program that manages the way electronic mail messages are transferred over a network. Abbr **MTA**

COMMENT: A user would never normally see mail transfer software and would use an e-mail application (**mail user agent**) to create and read messages. On computers running the Unix operating system and the Internet, the 'sendmail' software is the most popular mail transfer agent.

mail user agent *noun* COMPUT software used to create and read electronic mail messages. Abbr **MUA** (NOTE: This software creates a message in the correct format and standard and passes this to the mail transfer agent that is responsible for transferring the message over the network.)

main *adjective* COMPUT the most important or principal ■ *noun* ENG a principal pipe or cable

mainframe, mainframe computer *noun* COMPUT a large-scale high-power computer system that can handle high-capacity memory and backing storage devices as well as a number of operators simultaneously

main loop *noun* COMPUT a series of instructions performed repeatedly that carry out the main action of a program (NOTE: This loop is often used to wait for user input before processing the event.)

main memory *noun* COMPUT a fast access RAM whose locations can be directly and immediately addressed by the central processor unit ○ *The 16-bit system includes up to 3Mb of main memory.* Also called **main storage**

mains *noun* 1. ENG a system of pipes or cables which bring gas, water or electricity to a house ○ *mains gas* ○ *mains electricity*
2. INDUST the national electricity supply ○

The farm is on the mains but still has its own generator for emergencies.

mains electricity *noun* ELEC a standard domestic electricity supply to consumers

COMMENT: In Europe, this is 240 volts at 50 Hz. In the USA, it is 110 volts at 60 Hz.

mains gas *noun* ENG gas brought to a house by a pipe or cable connected to an extensive system

main storage *noun* COMPUT same as **main memory**

maintenance ration *noun* AGRIC the quantity of food needed to keep a farm animal healthy but not productive

maintenance release *noun* COMPUT a revision to a software program that corrects a minor problem or bug but does not offer any major new features ○ *The maintenance release of the database program, version 2.01, corrects the problem with the margins.*

maintenance routine *noun* COMPUT a software diagnostic tool used by an engineer during preventative maintenance operations

maize *noun* PLANTS a tall cereal crop grown in warm climates, that carries its grains on a large solid core (**cob**) of which there are only one or two per plant. Latin name: *Zea mays*. (NOTE: The US term is **corn**.)

majority *noun* the greater number or larger part. Opposite **minority**

make up water *noun* ENVIRON the water introduced into an irrigation or sewage system to replace water lost by leaking or evaporation

malachite *noun* MINERALS a green rock made of copper carbonate that often has an attractive striped pattern when sectioned and polished and is used for jewellery

malaria *noun* MED a tropical disease caused by the parasite *Plasmodium* which enters the body after a bite from a mosquito

COMMENT: Malaria is a recurrent disease which produces regular periods of shivering, vomiting, sweating and headaches as the parasites develop in the body. The patient also develops anaemia.

malarial *adjective* MED referring to malaria

malarial parasite *noun* MED the plasmodium parasite that causes malaria

malarious *adjective* MED referring to a region where malaria occurs frequently

malathion *noun* AGRIC an organophosphorus insecticide used to kill aphids, mainly on flowers grown in glasshouses

male *adjective* **1.** ZOOLOG referring to an animal that produces sperm **2.** referring to a flower that produces pollen, or a plant that produces such flowers

male connector *noun* ELEC a plug with conducting pins that can be inserted into a female connector to provide an electrical connection

malfunction *noun* a failure to work correctly ○ *The data were lost owing to a software malfunction.* ■ *verb* COMPUT not to work properly ○ *Some of the keys on the keyboard have started to malfunction.*

malfunctioning *adjective* COMPUT not working correctly

malfunction routine *noun* COMPUT a software routine used to find and help diagnose the cause of an error or fault

malic acid *noun* CHEM a colourless crystalline solid found in fruits, particularly apples. Formula: $C_4H_6O_5$.

malignant *adjective* MED likely to lead to death. Opposite **benign**

malignant hypertension *noun* MED dangerously high blood pressure

malignant melanoma *noun* MED a dark cancerous tumour that develops on the skin from a mole, caused by exposure to strong sunlight ○ *Cases of malignant melanoma could rise by between 5 and 7 per cent for each percentage decrease in ozone in the atmosphere.*

malignant tumour *noun* MED a tumour that is cancerous and can reappear or spread into other tissue, even if removed surgically

malleus *noun* ANAT a tiny hammer-shaped bone in the middle ear, one of a set of three that help sound to pass from the eardrum to the inner ear

malnutrition *noun* HEALTH the effect of an inadequate or unhealthy diet

maltase *noun* BIOCHEM an enzyme in the small intestine that converts maltose into glucose

maltose *noun* BIOCHEM a sugar formed by digesting starch or glycogen

mammal *noun* ZOOLOG an animal that gives birth to live young, secretes milk to feed them, keeps a constant body temperature and is covered with hair. Class: Mammalia.

mammary gland *noun* ANAT a large milk-producing gland in female mammals in which a network of ducts and cavities leads to a nipple or teat (NOTE: Mammary glands generally occur in pairs.)

mammoth *noun* ZOOLOG a large extinct mammal that had long curved tusks and a hairy body

man *noun* BIOL **1.** an adult male human being **2.** all human beings considered in contrast to other animals ○ *Man is the only species to have made a global impact on the environment.* ♠ **humankind** (NOTE: This use of 'man' is now regarded as inappropriate in many non-technical contexts.)

MAN *abbreviation* COMPUT metropolitan area network

manage *verb* **1.** to organise something or control the way in which something happens ○ *The department is in charge of managing land resources.* **2.** to succeed in doing something ○ *We managed to prevent further damage occurring.*

management *noun* **1.** the organised use of resources or materials **2.** the people who control an organisation or business

management information system *noun* COMPUT software that allows managers in a company to access and analyse data. Abbr **MIS**

manager *noun* a person who is in charge of an organisation or part of one

Man and the Biosphere Programme *noun* ENVIRON a programme of research and training organised by UNESCO to encourage the sensible use and conservation of the biosphere's resources and to improve relationships between people and their environment

man-caused *adjective* ENVIRON same as **human-caused**

Manchester coding *noun* COMPUT a method of encoding data and timing signals that is used in communications (NOTE: The first half of the bit period indicates the value of the bit (1 or 0) and the second half is used as a timing signal.)

mandatory *adjective* required or ordered by an official organisation or authority

Mandelbrot set *noun* MATHS a mathematical equation that is called recursively to generate a set of values that form a fractal image when plotted

mandible *noun* ANAT **1.** the lower jaw of vertebrates **2.** a biting mouthpart in insects and other invertebrates

mandibular nerve *noun* ANAT a sensory nerve which supplies the teeth in the lower jaw, the temple, the floor of the mouth and the back part of the tongue

mane *noun* ZOOLOG long hair on the head and neck of an animal such as a lion or horse

manganese *noun* CHEM ELEM a metallic trace element. It is essential for biological life and is also used in making steel. (NOTE: The chemical symbol is **Mn**; the atomic number is **25** and the atomic weight is **54.94**.)

mangrove *noun* TREES a salt-tolerant tropical shrub or tree that grows in areas such as river estuaries or tidal marshes that are covered by the sea at high tide

COMMENT: Some mangrove trees produce adventitious roots which take root near the parent tree and form new trees. Others produce seeds which have roots even before they fall from the tree. The result is that mangrove swamps are very thick and spread quickly.

mangrove swamp *noun* ECOL an area that is covered by the sea at high tide where mangroves grow

manhole *noun* ENG a hole in a roadway or pavement leading to a shaft down which an inspector can go to look at the sewers

manifestation *noun* BIOL a sign or indication of something

manifold *noun* ENG a system of pipes for a fluid from single input to multiple output or multiple input to single output ○ *inlet and exhaust manifolds of a piston engine*

manifold pressure *noun* ENG the absolute pressure in the induction system of a piston engine measured in inches of mercury

manipulate *verb* COMPUT to move, edit and change text or data ○ *An image processor captures, displays and manipulates video images.*

manipulation *noun* COMPUT the moving, editing or changing of text or data ○ *The high-speed database management program allows the manipulation of very large amounts of data.*

mankind *noun* BIOL same as **humankind**

man machine interface *noun* COMPUT hardware and software designed to make it easier for users to communicate effectively with a machine. Abbr **MMI**

man-made *adjective* ENVIRON referring to an object made or an event caused by human beings

manner *noun* a way of doing something ○ *Safety checks should be done in the approved manner.*

mannitol *noun* BIOCHEM a clear, sweet-tasting alcohol found in many plants, used as a diuretic and sweetener

manometer *noun* PHYS an apparatus used to measure gas pressure

mantissa *noun* MATHS the fractional part of a number ○ *The mantissa of the number 45.897 is 0.897.*

mantle *noun* EARTH SCI a layer of the interior of the Earth, between the solid crust and the core, formed of magma

manual *noun* **1.** a document containing instructions about the operation of a system or piece of software ○ *The manual is included with the system.* **2.** a document or book containing instructions for doing something, especially carrying out a procedure or operating a machine ■ *adjective* **1.** done by hand **2.** carried out by someone without the help of a machine

manual data processing *noun* the sorting and processing of information without the help of a computer

manual entry, manual input *noun* COMPUT the act of entering data into a computer, by an operator via a keyboard

manually *adverb* COMPUT by hand, not automatically ○ *The paper has to be fed into the printer manually.*

manufacture *verb* **1.** INDUST to make a product using machines **2.** CHEM to produce a chemical naturally ○ *Ozone is constantly being manufactured and destroyed by natural processes in the atmosphere.*

manufacturer *noun* INDUST a person or company that produces machine-made products ○ *The company is a large manufacturer of farm machinery.*

manufacturing *noun* INDUST the production of machine-made products for sale

manufacturing industry *noun* INDUST an industry that takes raw materials and makes them into finished products

manure AGRIC *noun* animal dung used as fertiliser (NOTE: In liquid or semi-liquid form it is called 'slurry'.) ■ *verb* to spread animal dung on land as fertiliser

manure cycle *noun* the process by which waste materials from plants, animals and humans are returned to the soil to restore nutrients

map *noun* **1.** NAVIG a drawing that shows the location of geographical and urban features **2.** COMPUT a diagram representing the internal layout of a computer's memory or communications regions **3.** ASTRON a diagram showing the position of stars **4.** GENETICS same as **genetic map** ■ *verb* **1.** to make a map of a place or area **2.** COMPUT to display how things are connected, related or derived **3.** COMPUT to retrieve data and display it as a map **4.** COMPUT to represent a network directory path on a remote computer with a local drive letter, enabling a user to view the contents of the remote directory by simply typing in the drive letter rather than the often long and complex directory path **5.** COMPUT to represent a network printer connected to another computer on a network with a local printer identifier, so a user can treat the remote network printer as if it is directly connected to their computer **6.** COMPUT to transform a two-dimensional image into a three-dimensional form that can then be rotated or manipulated

maple *noun* TREES a hardwood tree of northern temperate regions, some varieties of which produce sweet sap which is used for making sugar and syrup. Genus: *Acer*.

MAPPS model *noun* ECOL a global biological and geographical model that simulates the potential natural vegetation that will grow at any site in the world. Full form **mapped atmosphere-plant-soil model**

MAR *abbreviation* COMPUT memory address register

marble *noun* EARTH SCI a form of limestone that has been metamorphosed, used especially in building and sculpture as it can be polished to give a flat shiny surface

mare *noun* a circular plain on the surface of the Moon (NOTE: The plural is **maria**.)

margarine *noun* FOOD INDUST a substance made from vegetable fat, which is used instead of butter

margin *noun* **1.** the edge of a place or thing ○ *the eastern margin of the continent* ○ *a leaf margin* **2.** an amount by which an amount or estimate may be different from the one expected without it causing a problem. Also called **margin of error** **3.** PRINTING a blank space around a section of printed text ○ *The left margin and right margin are the two sections of blank paper on either side of the page.* □ **to set the margin** COMPUT to define the width of a margin

4. COMPUT an amount of extra time or space

marginal *adjective* **1.** AGRIC referring to areas of land such as field edges or banks beside roads which are at the edge of cultivated land **2.** BOT referring to a plant which grows at the edge of two types of habitat ○ *marginal pond plants such as irises* **3.** AGRIC referring to land of poor quality which results from bad physical conditions such as poor soil, high rainfall or steep slopes, and where farming is often difficult ○ *Cultivating marginal areas can lead to erosion.* **4.** situated in the spaces around a section of printed text ○ *marginal notes*

mariculture *noun* FISHERY the breeding and keeping of sea fish or shellfish for food in seawater enclosures

marijuana *noun* MED an addictive drug made from the leaves or flowers of the Indian hemp plant

marine *adjective* MARINE BIOL **1.** referring to the sea ○ *seals and other marine mammals* **2.** an animal or plant which lives in the sea

marine biocoenosis *noun* MARINE BIOL a varied community of organisms living in the sea

marine biology *noun* MARINE BIOL the scientific study of sea life

marine disposal *noun* ENVIRON the depositing of waste at sea

marine ecology *noun* ECOL, MARINE BIOL the study of the relationship between organisms that live in the sea and their environment

marine fauna *noun* MARINE BIOL the animals that live in the sea

marine flora *noun* MARINE BIOL the plants that live in the sea

marine life *noun* MARINE BIOL animals and plants which live in the sea

marine park *noun* ENVIRON a natural park created on the bottom of the sea where visitors can go into observation chambers to look at the fish and plant life. Compare **oceanarium**

marine pollution *noun* the harmful effects of human activities such as disposal of waste into the sea on marine organisms and their environment, with resulting hazards to human food and health

marine science *noun* MARINE BIOL, OCEANOLOG a science that studies all aspects of the sea, including its biology, chemistry, geology and physics

marine sediment *noun* OCEANOGR solid particles that fall to the seabed

maritime *adjective* referring to the sea

maritime climate *noun* METEOROL a climate that is modified by the influence of the sea, giving mild winters and warm summers, but with high rainfall

mark *COMPUT noun* **1.** a sign put on a page to show something **2.** a transmitted signal that represents a logical one or true condition ■ *verb* to put a mark on something

marked *adjective* **1.** very noticeable **2.** clear and definite ○ *marked changes in climatic conditions*

marker *noun* **1.** something that acts as an indicator of something such as distance or position **2.** GENETICS same as **genetic marker**

market garden *noun* AGRIC a place for the commercial cultivation of plants, usually vegetables, soft fruit, salad crops and flowers, found near a large urban centre that provides a steady outlet for the sale of its produce

market gardener *noun* AGRIC a person who runs a market garden

market gardening *noun* AGRIC the business of growing vegetables, salad crops and fruit for sale

marl *noun* EARTH SCI a fine soil formed of a mixture of clay and lime, used for making bricks

marram grass *noun* PLANTS a type of grass planted on sand dunes to prevent them being spread by the wind. Latin name: *Ammophila arenaria*.

marrow *noun* ANAT same as **bone marrow**

Mars *noun* ASTRON the fourth planet of the solar system, orbiting the Sun at an average distance of 228 million km in an orbit taking 687 days

COMMENT: Mars is accompanied by two small satellites, Phobos and Deimos. It rotates on its axis in about half an hour longer than the Earth, and has white polar caps reminiscent of the Earth's. But Mars is unlike Earth in several key ways. It is far colder, with about 15°C the warmest summer surface temperature at the equator. It also has far less atmosphere, with a surface pressure of 0.7% that of the Earth, and its atmosphere consists mostly of carbon dioxide, with only small amounts of oxygen, nitrogen, water vapour, argon and other constituents. The planet surface exhibits large extinct volcanoes and erosional features showing that there was once a lot of liquid water on Mars. Mars has

about 10% the mass of the Earth and an equatorial radius half that of the Earth. Over the years, much effort has been expended on searching for life on Mars.

marsh *noun* EARTH SCI an area of permanently wet land and the plants that grow on it (NOTE: Marshes may be fresh water or salt water and tidal or non-tidal. A marsh usually has a soil base, as opposed to a bog or fen, which is composed of peat.)

marsh gas *noun* CHEM same as **methane**

marshland *noun* EARTH SCI land that is covered with marsh

marshy *adjective* EARTH SCI referring to land that is permanently wet

marsupial *noun* ZOOLOG a mammal with a pouch in which its young are carried, e.g. Australian kangaroos and wallabies or South American opossums (NOTE: Marsupials give birth to young at a much earlier stage of development than other mammals so that the young need to be protected in the mother's pouch for some months until they become able to look after themselves.)

Martian *adjective* ASTRON referring to Mars

mascon *noun* ASTRON an area on the surface of the Moon in which the gravity is unusually high

maser *noun* ASTRON the microwave version of a laser (NOTE: Celestial masers of great power are observed by radio astronomers and are the result of microwaves being trapped and amplified in gas clouds.)

mask *noun* **1.** a device to cover the face **2.** *COMPUT* an integrated circuit layout that is used to define the pattern to be etched or doped onto a slice of semiconductor ○ *a mask or stencil is used to transfer the transistor design onto silicon* **3.** *COMPUT* a pattern of binary digits used to select various bits from a binary word (NOTE: A one in the mask retains that bit in the word.) ■ *verb* *COMPUT* to cover an area with something

maskable *adjective* *COMPUT* able to be masked

maskable interrupt *noun* *COMPUT* an interrupt line that can be disabled and ignored by using an interrupt mask

mask bit *noun* *COMPUT* (*in a mask*) one bit used to select the required bit from a word or string

masked ROM *noun* *COMPUT* a read-only memory device that is programmed during

manufacture by depositing metal onto selected regions dictated by the shape of a mask

masking *noun* COMPUT an operation used to select various bits in a word

mask register *noun* COMPUT a storage location in a computer that contains the pattern of bits used as a mask

mass *noun* **1.** PHYS a body of matter **2.** a large quantity or large number

mass action *noun* CHEM a law that describes that the rate of a chemical reaction at a constant temperature is proportional to the active mass of the reactants, so that as the reaction continues, the rate slows down

mass decrement, mass defect *noun* PHYS the amount by which the mass of an isotope is less than the element's mass number

mass driver *noun* ASTRON a device using electromagnetic fields to propel mass to high speeds

COMMENT: Mass drivers have been built on a small scale and fairly detailed engineering proposals have been drawn up for mass drivers that could shift lunar material to space colony sites by means of magnetic levitation. A mass driver would consist essentially of electric coils through which a phased current would pass, accelerating material in metal buckets.

mass extinction *noun* ECOL the disappearance of numerous species in a short period by a force of nature such as climate change or a volcanic eruption ○ *It has been suggested that the mass extinction of the dinosaurs 65 million years ago may have been caused by the impact of a comet or meteorite.*

mass flow *noun* GEOL a slide of sediment down a slope

massive *adjective* very large ○ *In the accident some of the personnel received massive doses of radiation.*

mass number *noun* PHYS the sum total of all the protons and neutrons in the nucleus of an atom

mass production *noun* INDUST the process of manufacturing large quantities of identical products

mass radiography *noun* MED the taking of X-ray photographs of large numbers of people to check for tuberculosis

mass screening *noun* MED the testing of large numbers of people for the presence of a disease

mass spectrometer *noun* CHEM a device used in chemical analysis which separates particles according to their masses

mass spectrum *noun* PHYS a graph of the relative amounts of the chemical constituents of a substance plotted against their mass

mass storage *noun* COMPUT the storage and retrieval of large amounts of data

mass storage system *noun* COMPUT a data storage system that can hold more than one million million bits of data

mass wasting *noun* GEOL a downhill movement of weathered rock, e.g. a landslide

mast *noun* **1.** a vertical pole for a flag or antenna ○ *Ice accretes on the leading edge of the detector mast.* **2.** BOT the small hard fruits that have fallen from a beech tree

mast cell *noun* BIOL a large cell in connective tissue, which carries histamine and reacts to allergens

master *adjective* **1.** main or principal **2.** COMPUT referring to the most important device or person in a system ○ *The master computer controls everything else.* **3.** COMPUT most up-to-date and correct ■ *verb* **1.** to overcome the difficulty of something ○ *It takes practice to master crosswind landings in light aircraft.* **2.** to learn and understand a language or process

master clock *noun* COMPUT a timing signal to which all components in a system are synchronised

master computer *noun* COMPUT a computer in a multiprocessor system that controls the other processors and allocates jobs to them

master control program *noun* COMPUT a piece of software that controls the operations in a system. Abbr **MCP**

master cylinder *noun* MECH ENG a hydraulic cylinder from which pressure is transmitted to smaller slave cylinders

master data *noun* COMPUT reference data which is stored in a master file

master file *noun* COMPUT a set of all the reference data required for an application, which is updated periodically

mastering *noun* COMPUT the process of converting finished data to a master disc

master/master computer system *noun* COMPUT a system in which each processor is a master, dedicated to one task

master/slave computer system

noun COMPUT a system with a master controlling computer and a slave that takes commands from the master

master switch *noun* the most important of a number of switches operating a system

mastoid antrum *noun* ANAT a cavity linking the air cells of the mastoid process with the middle ear

mastoid process *noun* ANAT a part of the vertebrate skull that forms a bony lump behind the ear

mat *noun* COMPUT a plain coloured border that is displayed around an image that is smaller than the window in which it is displayed

match *verb* COMPUT **1.** to search through a database for a similar piece of information **2.** to set a register equal to another

mate *noun* an animal that reproduces sexually with another ■ *verb* to reproduce sexually with another of same species

material *noun* **1.** a substance with a particular quality or used for a specific purpose ○ *waste material* ○ *construction materials* **2.** cloth

maternity *noun* BIOL **1.** the state of being a mother **2.** the identity of a mother ○ *The court had first to establish the child's maternity.* Compare **paternity**

math *noun* US same as **mathematics** (*informal*)

mathematical *adjective* referring to mathematics

mathematical model *noun* MATHS a representation of a system using mathematical ideas and formulae

mathematical subroutine *noun* COMPUT a library routine that carries out standard mathematical functions such as square root, logarithm, cosine or sine

mathematics *noun* the science of the relationship between numbers and their manipulation and organisation to prove facts and theories. Also called **maths**

maths *noun* same as **mathematics** (*informal*) (NOTE: American English is *math*)

maths chip, maths coprocessor *noun* COMPUT a dedicated circuit that can be added to a system to carry out mathematical functions far more rapidly than a standard central processing unit

matrix *noun* **1.** a grid-like arrangement of circuit elements ○ *Oil coolers consist of a*

matrix, divided into sections by baffle plates. **2.** MATHS a grid of numbers, often used to represent the dimensions of an object or its properties arranged in rows and columns ○ *We used a 3 x 3 matrix for the calculations.* **3.** COMPUT an array of connections between logic gates providing a number of possible logical functions **4.** COMPUT the pattern of dots that make up a character on a computer screen or dot-matrix or laser printer

matrix rotation *noun* MATHS the exchanging of rows and columns in an array, equal to rotating by 90°

matrix transform *noun* MATHS a mathematical process used to rotate a line in any direction, which involves multiplying a 4 x 4 transform matrix with the matrix of the line's coordinates

matter *noun* **1.** PHYS a physical substance ○ *organic matter* ○ *Mass is a basic property of matter.* **2.** trouble or difficulty

maturation *noun* BIOL the process of becoming mature or fully developed

maturation lagoon, maturation pond *noun* INDUST a pond used in the final stages of sewage treatment

mature BIOL *adjective* referring to something that is fully developed ■ *verb* to become fully developed

maturing *adjective* BIOL referring to something that is in the process of becoming mature

maturity *noun* BIOL the state of being fully developed

Mauna Loa *noun* EARTH SCI a volcano on the island of Hawaii where scientists have maintained the longest continuous collection of reliable daily atmospheric records

maxilla *noun* ZOOL one of a pair of extra jaws in insects and other arthropods

maxillary antrum *noun* ANAT one of two sinuses behind the cheekbones in the upper jaw of vertebrates

maximise, maximize *verb* **1.** to make something as large as possible. Opposite **minimise** **2.** COMPUT to expand an application icon back to its original display window. Compare **minimise**

maximum *adjective* referring to the greatest possible ○ *maximum effect* ○ *maximum size* Opposite **minimum** ■ *noun* the greatest possible quantity, amount, degree or value ○ *There is a net gain of heat by the Earth until terrestrial radiation balances*

solar radiation when the daily temperature is at its maximum. (NOTE: The plural is **maximums** or **maxima**.)

maximum allowable concentration *noun* ENVIRON the largest amount of a pollutant with which workers are allowed to be in contact in their work environment. Abbr **MAC**

maximum capacity *noun* COMPUT the greatest amount of data that can be stored
maximum–minimum thermometer *noun* a thermometer that shows the highest and lowest temperatures reached since it was last checked, as well as the current temperature

maximum permissible dose *noun* ENVIRON the highest amount of radiation to which a person may safely be exposed

maximum permissible level *noun* ENVIRON the highest amount of radiation that is allowed to be present in an environment

maximum residue level *noun* ENVIRON the maximum amount of a pesticide that can remain in crops or foodstuffs under European Union regulations. Abbr **MRL**

maximum transmission rate *noun* COMPUT the greatest amount of data that can be transmitted every second

maximum users *noun* COMPUT the greatest number of users that a system can support at any one time

maxwell *noun* PHYS the centimetre-gram-second unit of magnetic flux, equal to the flux over one square centimetre perpendicular to a magnetic field of one gauss

mb *abbreviation* MEASURE, PHYS millibar

Mb *abbreviation* MEASURE, COMPUT megabit

MB *abbreviation* MEASURE, COMPUT megabyte

Mbps *abbreviation* MEASURE, COMPUT megabits per second

MBR *abbreviation* COMPUT memory buffer register

Mbyte *abbreviation* MEASURE, COMPUT megabyte

MCP *abbreviation* COMPUT master control program

MCPA *noun* AGRIC a herbicide that kills the most persistent broad-leaved weeds, such as nettles, buttercups, charlock, dock seedlings, plantains and thistles (NOTE: Its

full name is **2-methyl-4chloro-phenoxy-acetic acid**.)

MCPP *abbreviation* AGRIC mecoprop

MDR *abbreviation* COMPUT memory data register

meadow *noun* AGRIC a field of grass and wild plants, sometimes grown for fodder. ◊
water meadow

mean *adjective* 1. referring to something midway between two extremes 2. MATHS referring to an arithmetic mean ◊ *mean daytime temperatures* ■ *noun* 1. something having a position midway between two extremes 2. MATHS same as **arithmetic mean** ■ *verb* 1. to signify something ◊ *Air-speed means the speed of the aircraft in relation to the air around it.* 2. to intend to do something ◊ *I meant to telephone the reservations desk this morning but I forgot.* 3. to result in something ◊ *Installing a new computer network means a lot of problems for everybody.* (NOTE: **meaning** – **meant**)

mean daily temperature *noun* METEOROL the average daily temperature

meander *noun* EARTH SCI a large bend in the course of a river as it nears the sea ■ *verb* (of a river) to follow a winding course

meander belt *noun* EARTH SCI the total width of the area covered by a river which meanders

mean free path *noun* PHYS the average distance travelled by a gas molecule before it hits another molecule or the side of the container

mean free time *noun* PHYS the average time between collisions of gas molecules

mean lethal dose *noun* the dose of a substance that will kill half the organisms which absorb it

means *noun* a way of doing something that brings a result ◊ *A clear window fitted in the reservoir provides a means of checking hydraulic fluid level during servicing.* ◊ *The means of restarting the engine were unorthodox, but successful.* ◻ **a means of transport** a way of getting someone or something from one place to another ◊ *Walking is my only means of transport.*

mean sea level *noun* ENVIRON the level of the sea, measured relative to points on land, with wave movements and tide changes averaged out over a period of time ◊ *Altitude is the vertical distance between a specific point and mean sea level.* Abbr **MSL**

mean solar day *noun* TIME the time between two successive transits of the mean sun across the meridian at noon (NOTE: It is the standard measurement of the 24 hour day.)

mean temperature *noun* an average temperature ○ *The mean temperature for July in this area is 25 °C.*

mean time between failures *noun* COMPUT the average period of time for which a piece of equipment will operate between breakdowns. Abbr **MTBF**

mean time to failure *noun* COMPUT the average period of time for which a device will operate, usually continuously, before failing. Abbr **MTF**

mean time to repair *noun* COMPUT the average period of time required to repair a faulty piece of equipment

measure *noun* **1.** a reference for discovering the dimensions or amount of something ○ *The litre is a measure of capacity.* **2.** a device used for measuring **3.** an amount of something **4.** an action taken to get a result ○ *Stricter safety measures were introduced.* ■ *verb* **1.** to find the dimensions or amount of something ○ *to measure a distance* **2.** to be of a particular size, length or quantity ○ *How much does the pipe measure?*

measurement *noun* **1.** the act of measuring something ○ *Measurement of relative humidity is done using an instrument called a hygrometer.* **2.** a result of measuring, expressed in standard units ○ *The measurements of the room are: height = 4 metres, length = 10 metres, width = 4 metres.*

meat *noun* FOOD animal flesh that is eaten as food

meat-eating animal *noun* ZOO same as **carnivore**

mechanical *adjective* referring to machines ○ *Activation may be electrical or mechanical.*

mechanical actuation *noun* MECH ENG a movement caused by a mechanism such as a rod, arm or lever

mechanical advantage *noun* MECH ENG **1.** the ratio of the output force produced by a machine to the input force **2.** an increase in force gained by using mechanisms such as levers or gears

mechanical engineering *noun* MECH ENG the study of the design, construction

and use of machinery or mechanical structures

mechanical pump *noun* MECH ENG a pump operated by an engine rather than by electrical power

mechanical treatment *noun* ENVIRON the processing of sewage by mechanical means such as agitating or stirring

mechanics *noun* PHYS the study of the action of forces on matter or material systems ■ *plural noun* the way something works ○ *The mechanics of the föhn wind provide a good illustration of the adiabatic process.*

mechanism *noun* **1.** MECH ENG an arrangement of connected parts in a machine or system ○ *the landing gear mechanism* **2.** a physical process ○ *the mechanism by which thunderstorms develop* **3.** a machine or part of a machine **4.** a method of achieving something ○ *a mechanism for receiving feedback from consumers*

mecoprop *noun* AGRIC a commonly used herbicide, mostly used to control weeds in cereal and grass crops, that is found as a contaminant of water. Abbr **MCPP**, **CMPP**

media plural of **medium**

media access control *noun* COMPUT a sublayer within the data-link layer of the OSI network model that provides access to the transmission media. Abbr **MAC**

medial *adjective* BIOL situated near to the central midline of the body or to the centre of an organ. Compare **lateral**

median *noun* STATS the value in a frequency distribution that has equal total frequencies above and below it

median lethal dose *noun* BIOL the dose of a substance that will kill half of a sample of experimental animals within a specified time

medical *adjective* MED **1.** referring to the diagnosis and treatment of disease and injury in humans **2.** referring the treatment of disease in humans that does not involve surgery

medical entomologist *noun* a scientist who studies insects that may carry diseases that affect humans

medical supplies *plural noun* MED consumables used in medical treatment, e.g. drugs, bandages and syringes

medical waste *noun* MED waste from hospitals, clinics or other health care facilities that contains or has come into contact

with diseased tissues or infectious microorganisms

medication *noun* MED **1.** a method of treatment by giving drugs to a patient **2.** a drug or preparation taken to treat a disease or condition

medicinal *adjective* MED **1.** referring to medicine ○ *medicinal properties* **2.** referring to a substance or plant that has healing properties

medicinal herb *noun* MED, BOT a plant that can be used to treat a disease

medicinally *adverb* MED in the treatment of disease ○ *The herb can be used medicinally.*

medicinal spring *noun* MED, EARTH SCI water coming naturally out of the ground which is thought to be beneficial in the treatment of disease

medicine *noun* MED **1.** a drug or preparation taken to treat a disease or condition **2.** the study of diseases and how to cure or prevent them **3.** the study and treatment of diseases that does not involve surgery

medium *adjective* middle or average ○ *a medium-sized computer system* ■ *noun* **1.** PHYS a substance through which something else is transmitted or carried ○ *Tubes convey the cooling medium.* (NOTE: The plural is **mediums** or **media**.) **2.** BIOL a substance in which an organism lives or is grown **3.** COMPUT a physical material that can be used to store data ○ *Computers can store data on a variety of media, including disk, punched card and CD-ROM.* (NOTE: The plural is **mediums** or **media**.)

medium frequency band *noun* PHYS a radio frequency range between 300kHz and 3000kHz. Abbr **MF**. Also called **medium wave**

medium model *noun* COMPUT a memory model of the Intel 80x86 processor family that allows 64Kb of data and up to 1 MB of code

medium-range weather forecast *noun* METEOROL a forecast covering two to five days

medium scale integration *noun* ELEC an integrated circuit with 10 – 500 components. Abbr **MSI**

medium wave *noun* PHYS a radio wave with a wavelength that lies between 100 and 1,000 m

medulla *noun* **1.** ANAT the soft inner part of an organ surrounded by the cortex **2.**

ANAT same as **bone marrow** **3.** BOT same as **pith**

medulla oblongata *noun* ANAT the lowermost part of the vertebrate brain (NOTE: It controls involuntary vital functions such as heartbeat and breathing.)

medullary ray *noun* BOT a band or sheet of connective tissue between the pith and the bark in the stems of some woody plants

meet *noun* COMPUT a logical function whose output is true if both inputs are true

mega- *prefix* **1.** large. Opposite **micro-** **2.** MEASURE one million, 10^6 ○ *megahertz* ○ *megawatt* Symbol **M** **3.** COMPUT (*in computing and electronic applications*) 1048576, equal to 2^{20}

megabit *noun* MEASURE, COMPUT 1048576 bits or 131072 bytes of storage. Abbr **Mb**

megabits per second *noun* MEASURE, COMPUT the number of megabits transmitted every second. Abbr **Mbps**

megabyte *noun* MEASURE, COMPUT 1048576 bytes of storage. Abbr **MB**, **Mbyte**

megadose *noun* MEASURE a large dose ○ *received a megadose of radiation*

megaflops *noun* MEASURE, COMPUT a measure of computing power and speed equal to one million floating point instructions per second. Compare **MFLOPS**

megahertz *noun* MEASURE, PHYS a measure of frequency equal to one million cycles per second. Abbr **MHz**

megalo- *prefix* unusually large. Opposite **micro-**

megapixel display *noun* COMPUT a display adapter and monitor that are capable of displaying over one million pixels (NOTE: This means a resolution of at least 1024 x 1024 pixels.)

megawatt *noun* one million watts ○ *power plants with a capacity larger than 50 megawatts*

meiosis *noun* BIOL the process of cell division that results in four cells (**gametes**) each with only one set of chromosomes from each parent. Compare **mitosis** (NOTE: At meiosis each cell divides into four to produce sperm or ova, each with half the usual number of chromosomes.)

meitnerium *noun* CHEM ELEM an artificially produced radioactive chemical element (NOTE: The chemical symbol is **Mt**; the atomic number is **109** and the atomic weight is **268**.)

melamine *noun* CHEM a white crystalline solid, used for making synthetic resins and tanning leather. Formula: $C_3H_6N_6$.

melanic *adjective* ZOOLOG being unusually dark in appearance ○ *melanic moths*

melanin *noun* ZOOLOG a dark pigment which gives colour to skin and hair

melanism *noun* **1.** MED a condition in which there are abnormal deposits of dark pigment on the skin of an animal **2.** ZOOLOG the condition of being black or very dark in appearance in contrast to the usual coloration of the animal

melanoma *noun* MED † **malignant melanoma**

melatonin *noun* BIOCHEM a hormone secreted by the pineal gland that produces changes in the skin colour of vertebrates and is involved in regulating biorhythms

melt *verb* **1.** PHYS to heat a solid so that it becomes liquid ○ *The gradual rise in air temperature melted the glaciers.* **2.** (of solid) to become liquid after being heated ○ *The gradual rise in air temperature made the glaciers melt.* ♦ **molten**

meltdown *noun* INDUST a point in an accident in a nuclear reactor at which the fuel overheats and the core melts while the nuclear reaction is still in progress

melting point *noun* PHYS the temperature at which a solid turns to liquid ○ *The melting point of ice is 0 °C.*

meltwater *noun* EARTH SCI water from melting ice, especially from a glacier or from winter snow

member *noun* **1.** ENG a main structural unit ○ *A beam is a member that is designed to withstand loading applied at an angle to it, often perpendicular.* **2.** an individual that belongs to a group ○ *Wheat is a member of the grass family.* **3.** COMPUT one object on a page of a multimedia book **4.** COMPUT an individual record or item in a field

membrane *noun* **1.** BIOL a thin layer of tissue that lines or covers an organ ○ *mucous membranes in the nasal cavity* **2.** a thin layer of artificial material ○ *a waterproof membrane*

membrane bone *noun* BIOL bone that develops from tissue and not from cartilage

membranous labyrinth *noun* ANAT a system of fluid-filled structures in the inner ear that are necessary for hearing and balance

memo field *noun* COMPUT a field in a database or text window in an application

that allows a user to add comments or a memo about the entry

memorise *verb* to remember something deliberately

memory *noun* **1.** PHYSIOL the means by which the brain stores information and experiences **2.** COMPUT storage space in a computer system or medium that is capable of retaining data or instructions **3.** a problem with some batteries, e.g. nickel-cadmium batteries, which gradually reduces their ability to retain charge

memory address register *noun* COMPUT a register within the computer that contains the address of the next location to be accessed. Abbr **MAR**

memory bank *noun* COMPUT a number of smaller storage devices connected together to form one large area of memory

memory buffer register *noun* COMPUT a register in a computer that temporarily buffers all inputs and outputs. Abbr **MBR**

memory bus *noun* COMPUT a bus carrying address data between a central processing unit and memory devices

memory chip *noun* COMPUT an electronic component that is able to store binary data

memory cycle *noun* COMPUT a period of time from when the central processing unit reads or writes to a location and the action being performed

memory data register *noun* COMPUT a register in a computer which holds data before it is processed or moved to a memory location. Abbr **MDR**

memory management unit *noun* COMPUT the electronic logic circuits that generate the memory refresh signals and manage the mapping of virtual memory addresses to physical memory locations. Abbr **MMU** (NOTE: The memory management unit is usually integrated into the processor chip.)

memory map *noun* COMPUT a diagram indicating the allocation of address ranges to various memory devices such as RAM, ROM and memory-mapped input/output devices

memory model *noun* COMPUT a method used in a program to address the code and data that is used within that program (NOTE: The memory model defines how much memory is available for code and data. Processors with a segmented

address space can support multiple memory models.)

memory-resident software *noun* COMPUT same as **resident software** ○ *The system can bomb if you set up too many memory-resident programs at the same time.*

mendelevium *noun* CHEM ELEM a synthetic radioactive element obtained by bombardment of einsteinium atoms with helium particles (NOTE: The chemical symbol is **Md**; the atomic number is **101** and the atomic weight is **258**.)

Mendelism *noun* GENETICS the theory of heredity which states that characteristics are transferred from one generation to the next as individual units (**genes**) rather than being mixed together in the offspring

Mendel's laws *plural noun* GENETICS the laws governing heredity

COMMENT: The two laws set out by Gregor Mendel following his experiments growing peas, were (in modern terms): that genes for separate genetic characters assort independently of each other and that the genes for a pair of genetic characters are carried by different gametes.

meninges *plural noun* ANAT the set of three protective membranes around the brain and spinal cord of vertebrates (NOTE: Their names are dura mater, arachnoid and pia mater.)

meniscus *noun* **1.** OPTICS a lens that is concave on one side and convex on the other **2.** PHYS the curved surface of a narrow column of water **3.** ANAT a small plate of cartilage between vertebrae

menopause *noun* BIOL the time when a woman's periods stop and she is no longer fertile (NOTE: It usually occurs between the ages of 45 and 50.)

menstrual *adjective* BIOL referring to menstruation

menstrual cycle *noun* BIOL the period, usually about 28 days, during which a woman ovulates, when the walls of the uterus swell and bleeding takes place if the egg cell has not been fertilised

menstruation *noun* BIOL the bleeding from the uterus which occurs in a woman each month if the egg cell has not been fertilised

menu *noun* COMPUT a list of options or programs available to the user

menu bar *noun* COMPUT a menu displayed on a horizontal line along the top of the screen or window

menu item *noun* COMPUT one of the choices in a menu

menu shortcut *noun* COMPUT a key combination of two or more keys that is the same as selecting a menu option

Mercalli EARTH SCI ▶ **Modified Mercalli scale**

Mercator's projection *noun* a map projection of the Earth onto a cylinder so that all the parallels of latitude are the same length as the equator ○ *It is therefore impossible to represent the poles on Mercator's projection.*

Mercurian *adjective* ASTRON referring to Mercury

mercuric chloride *noun* CHEM same as **mercury (II) chloride**

mercuric oxide *noun* CHEM same as **mercury (II) oxide**

mercuric sulfide, mercuric sulphide *noun* CHEM same as **mercury (II) sulfide**

mercurous chloride *noun* CHEM same as **mercury (I) chloride**

mercury *noun* CHEM ELEM a metal element that is liquid at room temperature. It is used in thermometers, barometers and electric batteries and is poisonous. (NOTE: The chemical symbol is **Hg**; the atomic number is **80** and the atomic weight is **200.59**.)

Mercury *noun* ASTRON the innermost planet of the solar system, orbiting the Sun in 88 days at an average distance of 58 million km

COMMENT: Mercury has the least circular orbit of the major planets, with an eccentricity of 0.2. Mercury is a cratered planet like the Moon without the maria. Mercury has a magnetic field about 1% as strong as the Earth's, indicating a possible metal core, although this seems not to be hot enough to be liquid. Mercury also rotates very slowly, in a special version of captured rotation. Its day of 57 Earth days means that it makes three turns on its axis for every two orbits of the Sun. Mercury has an exceptionally thin atmosphere, dominated by hydrogen and helium. Surface temperatures on Mercury can reach over 400 °C and fall to perhaps -200 °C during the Mercurian night.

mercury barometer *noun* METEOROL a barometer made of a glass tube containing mercury (NOTE: One end of the tube is sealed, the other is open, resting in a bowl of mercury. As the atmospheric pressure changes, so the column of mercury in the tube rises or falls.)

mercury cell *noun* PHYS an electrolytic or dry cell that has an electrode made of mercury

mercury (I) chloride *noun* CHEM a poisonous white compound of mercury and chlorine, used as a moss killer and laxative. Formula: Hg_2Cl_2 . Also called **mercurous chloride**, **calomel**

mercury (II) chloride *noun* CHEM a poisonous compound of mercury and chlorine, used as an antiseptic and wood preservative. Formula: $HgCl_2$. Also called **mercuric chloride**

mercury (II) oxide *noun* CHEM a red or yellow toxic compound of mercury and oxygen, used as pigment. Formula: Hg_2O . Also called **mercuric oxide** (NOTE: Mercury (I) or mercurous oxide, Hg_2O , has never been conclusively proven to exist.)

mercury poisoning *noun* MED poisoning by eating or drinking mercury or mercury compounds, or by inhaling mercury vapour

mercury (II) sulfide, mercury (II) sulphide *noun* CHEM a black or red compound of mercury and sulfur used in pigments such as vermilion. Formula: HgS . Also called **mercuric sulfide**

mercury-vapour lamp *noun* PHYS a lamp that produces ultraviolet radiation by applying an electric current through mercury vapour within a sealed quartz glass bulb

merge *verb* COMPUT to combine two data files while retaining the overall order *o The system automatically merges text and illustrations into the document.*

meridian *noun* EARTH SCI an imaginary circle on the Earth's surface passing through the north and south geographic poles

meridional *adjective* EARTH SCI referring to a meridian

meridional airstream *noun* METEOROL an airstream blowing from north to south or from south to north

meridional *noun* METEOROL a phenomenon of air blowing from north to south or from south to north

meristem *noun* BOT a plant tissue at the tips of stems and roots in which cells are actively dividing

mes- *prefix* same as **meso-** (NOTE: used before vowels)

mesa *noun* EARTH SCI a high plateau in the southwest of the USA, with steep sides and a flat top

mesencephalon *noun* ANAT same as **midbrain**

mesenteric artery *noun* ANAT one of two arteries that supply the small intestine or the transverse colon and rectum

mesenteric ganglion *noun* ANAT a plexus of sympathetic nerve fibres and ganglion cells around the superior mesenteric artery

mesentery *noun, noun* ANAT a membrane in the body cavity that supports the weight of the small intestine

mesh *noun* **1.** a net-like structure **2.** COMPUT a system with two or more possible paths at each interconnection

mesh model *noun* COMPUT a graphical object that is displayed as a mesh created from polygons, which can then be used to shade the object

mesh network *noun* COMPUT a method of connecting several machines together in which each device is directly connected to every other device in the network

mesic *adjective* referring to an organism growing in or an environment characterised by moderate moisture

meso- *prefix* middle

mesobenthos *noun* MARINE BIOL the animals or plants living on the seabed, 250–1000m below the surface

mesoclimate *noun* ECOL the climate over a specific locality such as a hillside or valley, extending no more than a few kilometres in radius

mesoderm *noun* BIOL the middle layer of cells in an embryo (NOTE: It develops into blood, connective tissue, muscle, skin and bone.)

mesoglea, mesogloea *noun* MARINE BIOL a gelatinous layer between the inner and outer tissue layers of coelenterates such as jellyfish

mesohaline *adjective* CHEM referring to water that contains a limited amount of salt

mesomerism *noun* CHEM the property of a chemical compound having different structures by alteration of the covalent bonds

meson *noun* PHYS an elementary particle with a rest mass between that of an electron and a proton, involved in the strong inter-

action (NOTE: A meson consists of a quark and an antiquark.)

mesopause *noun* EARTH SCI a thin cold layer of the Earth's atmosphere between the mesosphere and the thermosphere

mesophyll *noun* BOT the tissue inside a leaf where photosynthesis takes place

mesophyte *noun* BOT a plant that needs a standard amount of water to survive

mesoplankton *plural noun* MARINE BIOL organisms that take the form of plankton for part of their life cycle

mesosaprobic *adjective* BIOL referring to an organism that can survive in moderately polluted water

mesosphere *noun* METEOROL the zone of the Earth's atmosphere between the stratosphere and the thermosphere (NOTE: It lies 50–80km above the surface, with the stratopause at the bottom and the mesopause at the top. The air temperature falls steadily with increasing ascent through the mesosphere.)

mesothelium *noun* ANAT a layer of cells lining a membrane. Compare **endothelium**, **epithelium**

mesotherm *noun* BOT a plant that grows in warm conditions

mesotrophic *adjective* BIOCHEM referring to water that contains a moderate amount of nutrients

mesotrophic lake *noun* EARTH SCI a lake that has a moderate amount of nutrients in its water

message *noun* **1.** a piece of information sent from one person to another **2.** COMPUT a defined amount of information

message authentication code *noun* COMPUT full form of **MAC**

message box *noun* COMPUT a small window that is displayed on screen to warn of an event, condition or error

messenger RNA *noun* GENETICS a type of RNA that transmits information from DNA to the ribosomes where protein synthesis occurs. Abbr **mRNA**

meta- *prefix* **1.** changing **2.** following

metabit *noun* COMPUT an extra identifying bit for each data word

metabolic *adjective* PHYSIOL referring to metabolism

metabolic cycle *noun* BOT a cycle by which plants absorb sunlight, transform it into energy by photosynthesis and create carbon compounds

metabolic pathway *noun* BIOCHEM a series of chemical reactions in the body, controlled by enzymes

metabolic rate *noun* BIOCHEM a measure of how fast the chemical reactions in living cells happen

metabolic waste *noun* BIOCHEM a substance produced by metabolism, e.g. carbon dioxide, which is not needed by the organism which produces it

metabolise *verb* PHYSIOL to break down or build up organic compounds by metabolism ○ *The liver metabolises proteins and carbohydrates.*

metabolism *noun* PHYSIOL the chemical processes of breaking down or building up organic compounds in organisms

COMMENT: Metabolism covers all changes which take place in the body: the building of tissue (anabolism), the breaking down of tissue (catabolism), the conversion of nutrients into tissue, the elimination of waste matter and the action of hormones.

metabolite *noun* BIOCHEM a chemical produced as a result of metabolism

metabolome *noun* PHYSIOL the full complement of molecules of low molecular weight present in cells in a particular physiological or developmental state

metabolomics *noun* PHYSIOL the measurement of the metabolites of low molecular weight in an organism's cells at a specific time under specific environmental conditions

metacarpus *noun* ANAT the part of a hand, or a front foot of an animal, between the wrist and the fingers or toes

metacentric *adjective* GENETICS referring to a chromosome whose centromere is at or near the middle

metacompiler *noun* COMPUT a compiler that is used to create another compiler

metafemale *noun* GENETICS a female organism that has an extra female chromosome

metafile *noun* COMPUT **1.** a file that contains other files ○ *The operating system uses a metafile to hold data that defines where each file is stored on disk.* **2.** a file that defines or contains data about other files

metal *noun* METALL an element or a compound that can conduct heat and electricity

metalanguage *noun* COMPUT a language that describes a programming language

metaldehyde *noun* CHEM a substance used in the form of pellets to kill slugs and snails, or in the form of small blocks to light fires

metal fatigue *noun* METALL the appearance of cracks and weaknesses in metal that has been exposed to a long period of stress

metalimnion *noun* EARTH SCI the middle layer of water in a lake. Also called **thermocline**. Compare **epilimnion**, **hypolimnion**

metallic *adjective* **1.** CHEM referring to metal **2.** referring to something that is like metal, especially in appearance

metallic bond *noun* CHEM a chemical bond in which electrons are shared between atoms and are able to move within the structure (NOTE: Such bonds are characteristic of metals.)

metallic crystal *noun* CHEM a crystal formed by metal atoms in their solid state that can conduct electricity

metallic element *noun* CHEM a chemical element that is a metal

metalloenzyme *noun* BIOL an enzyme containing a bound metal ion incorporated into a protein

metallofullerene *noun* PHYS a fullerene compound containing a metal atom or a metal oxide molecule

metalloid *adjective* CHEM **1.** an element such as silicon that has some properties of a metal and some of a non-metal **2.** like a metal

metal oxide semiconductor *noun* ELEC a production and design method for a certain family of integrated circuits using patterns of metal conductors and oxide deposited onto a semiconductor. Abbr **MOS**

metamale *noun* GENETICS a male organism that has an extra male chromosome

metameric segmentation *noun* ZOOLOG the repetition of identical segments along the length of an organism's body, e.g. in an earthworm. Also called **metamerism**

metamerism *noun* ZOOLOG same as **metameric segmentation**

metamorphic *adjective* EARTH SCI referring to rock that has changed because of external influences such as pressure from other rocks or temperature changes

metamorphism *noun* EARTH SCI the process of forming metamorphic rock

metamorphose *verb* **1.** ZOOLOG (*of an animal*) to change into another form **2.** EARTH SCI (*of rock*) to undergo metamorphism

metamorphosis *noun* ZOOLOG a process of change into a different form, especially the change of a larva into an adult insect

metaphase *noun* BIOL the stage of cell division at which chromosomes line up before the daughter cells separate

metaplasia *noun* BIOL the process that changes healthy tissue into a diseased form such as a cancerous tumour

metapneumovirus *noun* MICROBIOL same as **human metapneumovirus**

metapopulation *noun* ECOL a population belonging to a group of populations of the same species that exchange individuals through migration and recolonise sites in which other metapopulations have become extinct

metastasis *noun* MED the spreading of a malignant disease from one part of the body to another through the bloodstream or the lymph system (NOTE: The plural is **metastases**.)

metatarsal *noun* ANAT a bone of the set found between the toes and ankle

metatarsus *noun* ZOOLOG the part of animal's hind foot between the ankle and toes

metatherian *adjective* ZOOLOG referring to marsupials

metazoan *noun* ZOOLOG an animal whose body consists of cells that are separated into specialised tissues and organs. Group: *Metazoa*. (NOTE: All animals except for sponges and protozoans are classified as metazoans.)

meteor *noun* ASTRON a solid body that enters the Earth's atmosphere from outer space, usually burning up as it does so

meteoric *adjective* ASTRON referring to meteors

meteorite *noun* ASTRON a solid body that falls from outer space onto the Earth's surface

COMMENT: Outer space contains many millions of small solid bodies which sometimes come into contact with Earth. Large meteorites can create craters and form dust clouds when they hit Earth and it is believed that the impact of very large meteorites may have been responsible for major climatic changes in the past.

meteoroid *noun* ASTRON a piece of material in interplanetary space that is too small to be viewed as an asteroid (NOTE: Meteoroids range from dust grain size up to several hundred tonnes.)

meteorological *adjective* METEOROL referring to meteorology or to climate

meteorologist *noun* METEOROL a person who studies, reports and forecasts the weather

meteorology *noun* METEOROL the scientific study of weather and weather conditions ○ *Terrestrial radiation plays an important part in meteorology.*

meter *noun* **1.** a device to measure a physical property such as current, rate of flow or air speed **2.** MEASURE US spelling of **metre** ■ *verb* to count or measure with a meter

methaemoglobin *noun* MED a dark brown substance formed from haemoglobin which develops during illness or following treatment with some drugs (NOTE: Methaemoglobin cannot transport oxygen round the body and so causes cyanosis.)

methaemoglobinaemia *noun* MED the presence of methaemoglobin in the blood

methanation *noun* CHEM the process of converting a mixture into methane

methane *noun* CHEM a colourless flammable gas produced naturally from rotting organic waste, as in landfill sites or animal excreta. Formula: CH₄. (NOTE: It is also found in marshes (**marsh gas**) and coal mines (**fire damp**.)

methane converter *noun* ENVIRON a process that turns into a usable form the gas produced by rotting waste in a landfill site

methane fermentation *noun* BIOCHEM the breaking down of food in the gut of ruminant animals, especially cattle, producing methane which is eliminated from the animal's body

methanisation *noun* CHEM same as **methanation**

methanogenesis *noun* CHEM the generation of methane

methanoic acid *noun* CHEM same as **formic acid**

methanol *noun* CHEM an alcohol manufactured from coal, natural gas or waste wood, which is used as a fuel or solvent. Formula: CH₃OH.

COMMENT: Methanol can be used as a fuel in any type of burner. Its main disadvantage is that it is less efficient than petrol and can cause pollution if it escapes into the environment, as it mixes easily with water. Production of methanol from coal or natural gas does not help fuel conservation, since it depletes Earth's fossil fuel resources.

methicillin-resistant Staphylococcus aureus *noun* MED, MICROBIOL full form of **MRSA**

methionine *noun* BIOCHEM an essential amino acid

method *noun* a particular way of doing something, especially if it is well thought out and systematic ○ *The most common method of displaying radar information is on a cathode ray tube.*

methyl alcohol *noun* CHEM same as **methanol**

methylamine *noun* CHEM a transparent flammable gas derived from ammonia used in medicines, dyes and weedkillers. Formula: CH₃N.

methylate *verb* CHEM to add a methyl group in place of one of the hydrogen atoms in a molecule

methylated spirit *noun* CHEM ethanol with added methanol and violet dye, used as a solvent or fuel (NOTE: The methanol makes it unsuitable for people to drink and the dye serves as a warning.)

methylbenzene *noun* CHEM same as **toluene**

methylene blue *noun* CHEM a blue dye

methylene blue test *noun* CHEM a test to see whether a sample of effluent has the ability to remain in an oxidised condition (NOTE: The effluent is considered stable if it retains the blue colour of the dye throughout the testing period.)

methyl isothiocyanate *noun* CHEM a chemical compound used in the production of soil sterilants. Abbr **MIC**

COMMENT: Methyl isocyanate is very toxic and was the gas which leaked at Bhopal in India in 1984.

metre *noun* MEASURE an SI unit of length ○ *The area is four metres by three.* Symbol **m** (NOTE: The US spelling is **meter**.)

metres per second *noun* MEASURE a system of measuring speed ○ *One metre per second is equal to 2.2 miles per hour.* Abbr **m/s** (NOTE: It is often used to measure wind speed.)

metric system *noun* MEASURE a decimal measuring system, calculated in units of ten, e.g. the SI system

metric ton *noun* MEASURE same as **tonne**

metropolitan area network *noun* COMPUT a network extending over a limited area such as a city

MF band *abbreviation* MEDIA medium frequency band

MFM *abbreviation* ELEC modified frequency modulation

mg *abbreviation* MEASURE milligram

Mg *symbol* CHEM ELEM magnesium

MHC *noun* GENETICS (*in mammals*) a group of genes located next or near to one another that make cells separate and distinguishable from those of other organisms

MHz *abbreviation* MEASURE, PHYS megahertz

MIC *abbreviation* CHEM methyl isothiocyanate

mica *noun* MINERALS, INDUST a silicate mineral that splits into thin transparent flakes. It is used as an insulator in electrical appliances.

micro *noun* COMPUT same as **microcomputer**

micro- *prefix* **1.** very small. Opposite **macro-**, **mega-**, **megalo-** **2.** MEASURE one millionth, 10^{-6} . Symbol μ

microarray *noun* BIOTECH same as **gene chip**

microbalance *noun* MEASURE a device that can weigh very small quantities accurately

microbe *noun* MICROBIOL a microorganism (NOTE: Viruses, bacteria, protozoa and microscopic fungi are informally referred to as microbes.)

microbial *adjective* MICROBIOL referring to microbes

microbial disease *noun* MED a disease caused by a microbe

microbial ecology *noun* MICROBIOL the study of the way in which microbes develop in nature

microbial fermentation *noun* MICROBIOL, BIOCHEM the breaking down of a substance by the action of microbes

microbial insecticide *noun* an insecticide based on fungal, bacterial or other microorganisms that are pathogens of insects, or their toxins

microbiological *adjective* MICROBIOL referring to microbiology

microbiologist *noun* MICROBIOL a scientist who specialises in the study of microorganisms

microbiology *noun* BIOL the scientific study of microorganisms

microcarrier *noun* BIOTECH (*in cell cultures and drug delivery systems*) a microscopic particle to which something is attached

microchip *noun* ELECTRONICS a circuit in which all the active and passive components are formed on one small piece of semiconductor, by means of etching and chemical processes

microcircuit *noun* ELECTRONICS a complex integrated circuit

microclimate *noun* METEOROL, ECOL the climate over a very small area such as a pond, tree, field, or even a leaf

microcode *noun* COMPUT control instructions for an arithmetic logic unit implemented as hardwired software

microcomputer *noun* COMPUT a complete small-scale, cheap and low-powered computer system based around a microprocessor chip with limited memory capacity. Also called **micro**

microcomputer architecture *noun* COMPUT the layout and interconnection of a microcomputer's internal hardware

microcycle *noun* COMPUT a unit of time usually a multiple of the system clock period, used to give the execution time of instructions

microdevice *noun* ELECTRONICS a very small device such as a microprocessor

microelectronics *noun* ELECTRONICS the design and manufacture of electronic circuits with integrated circuits and chips

microenvironment *noun* ECOL same as **microhabitat**

microfauna *noun* **1.** MICROBIOL very small animals which can only be seen with a microscope **2.** ECOL the animals living in a microhabitat

microgram *noun* MEASURE a unit of measurement of weight, equal to one millionth of a gram. Symbol μg

microhabitat *noun* ECOL a single small area such as the bark of a tree, where fauna and/or flora live

micro-hydro system *noun* INDUST a small system that uses water to produce electricity

microinstruction *noun* COMPUT a hard-wired instruction in a microcode that controls the actions of the arithmetic logic unit in a processor

micrometer *noun* MEASURE **1.** an instrument for taking very small measurements such as of the width or thickness of very thin pieces of tissue **2.** US spelling of **micrometre**

micrometre *noun* MEASURE one thousandth of a millimetre. Symbol μm

micromole *noun* MEASURE, CHEM a unit of measurement of the amount of substance equal to one millionth of a mole

micron *noun* MEASURE symbol μ . Former name for **micrometre**

micronutrient *noun* BIOL a nutrient which an organism uses in very small quantities, e.g. iron, zinc or copper

microorganism *noun* MICROBIOL an organism that can only be seen with a microscope (NOTE: Viruses, bacteria, protozoa and fungi are all forms of microorganism.)

microparasite *noun* a parasite which multiplies inside the body of its host, e.g. a virus

microphone *noun* ELEC a device that converts sound waves into electrical signals

microplankton *plural noun* MICROBIOL plankton in the size range 20–200 μm

micropollutant *noun* ENVIRON a pollutant which occurs in very small quantities

microprocessor *noun* COMPUT the central processing unit of a computer, often contained on a single integrated circuit chip

microprocessor architecture *noun* COMPUT the layout of the basic parts of a CPU

microprocessor chip *noun* COMPUT an integrated circuit which contains all the elements of the central processing unit of a computer

microprocessor unit *noun* COMPUT a unit containing the main elements of a microprocessor. Abbr **MPU**

micropropagation *noun* the propagation of plants by cloning a small piece of plant tissue cultured in a growth medium

micropyle *noun* BOT a tiny hole through which a pollen tube enters in order to fertilise a plant ovule and which later allows water uptake when the seed germinates

microscope *noun* BIOL a scientific instrument which makes very small objects appear larger \circ *The tissue was examined under the microscope.* \circ *Under the microscope it was possible to see the chloroplasts.*

COMMENT: In a light microscope the image is magnified by lenses. In an electron microscope the lenses are electromagnets and a beam of electrons is used instead of light, thereby achieving much greater magnifications.

microscopic *adjective* SCI referring to something so small that it can only be seen through a microscope

microscopy *noun* SCI the science of the use of microscopes

microsecond *noun* MEASURE a unit of measurement of time, equal to one millionth of a second. Symbol μs

microtear *noun* MED a minute tear in muscle-fibre tissue, seen in competitive cyclists and other distance athletes

microtherm *noun* BOT a plant which grows in cool regions

microtome *noun* BIOL a device for cutting very thin slices of tissue or other material so they can be examined under a microscope

microtubule *noun* BIOL a tiny tube of protein within a living cell, occurring singly or in groups (NOTE: Microtubules enable the cell to move, maintain its shape and move materials around inside itself.)

microwave *noun* PHYS an electromagnetic wave whose wavelength ranges from 1 mm to 30 cm, used in radar, radio transmissions, and cooking or heating devices

microwave background radiation *noun* PHYS microwave radiation that occurs naturally

mid- *prefix* middle

midbrain *noun* ANAT the middle of the three main divisions of the vertebrate brain. Compare **forebrain**, **hindbrain**

middle ear *noun* ANAT the part of the ear between the eardrum and the inner ear, containing the ossicles

middle lamella *noun* BOT a thin membrane that makes the walls of plant cells stick together, composed of pectin and other polysaccharides

middleware *noun* COMPUT system software that has been customised by a dealer for a particular user

MIDI *abbreviation* COMPUT musical instrument digital interface

mid-latitude desert *noun* EARTH SCI a desert situated between the tropics, e.g. the Gobi Desert or the Turkestan Desert

mid-latitudes *plural noun* EARTH SCI areas halfway between the poles and the equator ○ *In the mid-latitudes, global warming would produce dry hot summers and mild winters.*

midline *noun* ANAT an imaginary line drawn down the middle of the body from the head through the navel to the point between the feet

mid-ocean ridge *noun* OCEANOGRAPHY a ridge running down the middle of an ocean such as the Atlantic, caused by the upward movement of magma

mid-user *noun* COMPUT an operator who retrieves relevant information from a database for a customer or end user

migrant *noun* ZOOLOGY an animal or bird that moves from one place to another according to the season. Compare **nomad**

migrate *verb* 1. ZOOLOGY (of a bird or other animal) to move from one place to another according to the season ○ *As winter approaches, the herds of deer migrate south.* 2. to move to another place ○ *Waste materials may be allowed to migrate from landfill sites into the surrounding soil.*

migration *noun* 1. ZOOLOGY the process of a bird or other animal moving from one place to another according to the season ○ *The islands lie along one of the main migration routes from Siberia to Australia.* (NOTE: Birds such as swallows breed in Northern Europe but fly south for the winter; fish such as salmon and eels spawn in one place, often a river, and then migrate to the sea.) 2. COMPUT the movement of users from one hardware platform to another 3. the process of moving from one place to another

migratory *adjective* ZOOLOGY moving from one place to another according to the season ○ *Estuaries are important feeding grounds for migratory birds, and are also important for the passage of migratory fish such as salmon.*

mildew *noun* FUNGI a disease caused by a fungus which produces a fine powdery film on the surface of an organism

mile *noun* MEASURE an imperial measurement of distance, equal to 1.609 km

mileage *noun* MEASURE a distance measured in miles

milk sugar *noun* BIOCHEM same as **lactose**

milk teeth *plural noun* ANATOMY the first teeth of a human, which are gradually replaced by permanent teeth (NOTE: In other mammals they are called deciduous teeth.)

Milky Way *noun* ASTRONOMY a band of light stretching across the sky and caused by the high concentration of stars in the plane of our galaxy

COMMENT: The Milky Way can be resolved into its constituent stars and other objects by telescope. The name is also applied to the galaxy itself – the only visible galaxy not present in even the most reliable catalogues of nebulae. The Milky Way galaxy seems to be about 20,000 parsecs across, making it a large but not giant galaxy, of about 100 billion stars. The solar system is about 8,500 parsecs from its centre.

mill *noun* INDUSTRY a factory where a substance is crushed to make a powder, especially one for making flour from the dried grains of cereals ■ **verb** to crush a substance to make a powder

millet *noun* PLANTS a cereal crop grown in many of the hot, dry regions of Africa and Asia, where it is a staple food. Genera: especially: *Panicum* or *Eleusine*.

COMMENT: The two most important species are finger millet and bulrush millet. Millet grains are used in various types of food. They can be boiled and eaten like rice, made into flour for porridge, pasta or chapatis, and mixed with wheat flour to make bread. Millets can be malted to make beer. Millets are also grown as forage crops, and the seed is used as a poultry feed.

milli- *prefix* MEASURE one thousandth or 10^{-3} . Symbol **m**

milliampere *noun* MEASURE, ELECTRICITY an electrical measure of current, equal to one thousandth of an ampere. Abbr **mA**

millibar *noun* MEASURE, PHYSICS a unit of pressure equal to one thousandth of a bar or 100 Pa. Symbol **mbar** (NOTE: This unit is often used in meteorology to express atmospheric pressure, standard atmospheric pressure at sea level being 1013.25 millibars.)

milligauss *noun* MEASURE, PHYSICS the cgs unit of magnetic flux density ○ *A person living under a low-voltage power line is exposed to 20 milligauss of radiation.*

milligram *noun* MEASURE a unit of measurement of weight, equal to one thousandth of a gram. Abbr **mg**

millilitre *noun* MEASURE a unit of measurement of liquid equal to one thousandth of a litre. Abbr **ml** (NOTE: The US spelling is **milliliter**.)

millimetre *noun* a unit of measurement of length, equal to one thousandth of a metre. Abbr **mm** (NOTE: The US spelling is **millimeter**.)

millimole *noun* MEASURE, CHEM a unit of measurement of the amount of substance equal to one thousandth of a mole. Abbr **mmol**

milling *noun* **1.** INDUST the process of crushing and grinding mineral ores to separate out the useful materials **2.** the process of grinding cereal grains into flour

million instructions per second *noun* MEASURE, COMPUT a measure of processor speed that defines the number of instructions it can carry out per second. Abbr **MIPS**. Compare **megaflops**

million tonnes of coal equivalent *noun* MEASURE, INDUST a measure of energy from a source that is not coal. Abbr **MTCE**

millisecond *noun* MEASURE a unit of time equal to one thousandth of a second. Abbr **ms**

millisievert *noun* MEASURE a unit of measurement of radiation. Abbr **mSv**

mill race *noun* ENG a channel of water which turns the wheel of a water mill

millwheel *noun* ENG a large wheel with wooden bars that is turned by the force of water

MIMD *noun* COMPUT architecture of a parallel processor that uses a number of arithmetic logic units and memory devices in parallel to provide high speed processing. Full form **multiple instruction stream – multiple data stream**

MIME *noun* COMPUT a standard that defines a way of sending files using electronic mail software. Full form **multipurpose Internet mail extensions**

COMMENT: MIME allows a user to send files over the Internet to another user without having to carry out any other encoding or conversion actions. MIME was developed to get around a problem of many electronic mail systems that could only transmit text stored in a 7-bit data format. Programs,

multimedia, graphics and other files are stored using an 8-bit data format.

mimic *ZOOL noun* an animal which imitates another ○ *Starlings are excellent mimics.* ■ *verb* to imitate another animal ○ *The starling mimicked the call of the thrush.*

mimicry *noun* *ZOOL* a situation where one animal imitates another, often to prevent itself from being attacked

COMMENT: Some animals mimic others which are unpleasant or poisonous so that predators will not try to eat them (Batesian mimicry). Other animals mimic animals which have an unpleasant taste (Mullerian mimicry). In some animals, mimicry is a form of camouflage: insects mimic sticks or leaves so that predators cannot see them clearly.

Minamata disease *noun* *MED* a form of mercury poisoning from eating polluted fish, first identified in Japan

mine *INDUST noun* a hole dug in the ground to extract a mineral ■ *verb* to dig into the ground to extract a mineral

mineral *noun* *CHEM* an inorganic solid substance with a characteristic chemical composition that occurs naturally (NOTE: The names of many minerals end with the suffix **-ite**.)

COMMENT: The most important minerals required by the body are: calcium (found in cheese, milk and green vegetables) which helps the growth of bones and encourages blood clotting; iron (found in bread and liver) which helps produce red blood cells; phosphorus (found in bread and fish) which helps in the growth of bones and the metabolism of fats; and iodine (found in fish) which is essential to the functioning of the thyroid gland.

mineral acid *noun* *CHEM* an inorganic acid

mineral deposit *noun* *EARTH SCI* a deposit of rocks containing useful minerals

mineralisation, mineralization *noun* *CHEM* the breaking down of organic waste into its inorganic chemical components

mineral kingdom *noun* *GEOLOG* a category of all non-living substances such as minerals and rocks

mineral matter *noun* *EARTH SCI* the solid part of the soil composed of stones, sand, silt and clay as opposed to the vegetable matter, formed from dead or decaying plants

mineral nutrient *noun* *BIOL* an inorganic element other than carbon, hydrogen and oxygen that is absorbed by plants from the soil

mineralogy *noun* GEOL the study of minerals and how to find, name and classify them

mineral oil *noun* US **1.** CHEM oil which derives from petroleum and is made up of hydrocarbons **2.** EARTH SCI same as **liquid paraffin** (NOTE: [all senses] The UK term is **liquid paraffin**.)

mineral pitch *noun* MINERALS same as **asphalt**

mineral resources *plural noun* MINERALS the supply of minerals and metals which are available in an area

mineral water *noun* FOOD INDUST water taken from a natural spring for human consumption

mini- *prefix* COMPUT small

miniaturisation *noun* the process of making something very small

minidisk *noun* COMPUT a magnetic disk smaller than the 5.25in. standard, usually 3.5in.

minifloppy *noun* COMPUT a magnetic disk usually measuring 5.25in

minimal *adjective* very small in amount or importance ○ *the minimal area for sampling in which specimens of all species can be found*

minimal area *noun* ECOL the smallest area for sampling in which specimens of all species can be found

minimal tree *noun* COMPUT a tree whose nodes are organised in the optimum way, providing maximum efficiency

minimise, minimize *verb* **1.** to make something as small as possible ○ *We minimised costs by cutting down the number of components.* Opposite **maximise** **2.** COMPUT to shrink an application window to an icon **3.** INDUST to reduce the amount of waste generated during industrial production processes. Opposite **maximise**

minimum *adjective* referring to the smallest possible ○ *the minimum amount required* ○ *minimum requirements* ■ *noun* the smallest or least possible quantity or amount ○ *Fires should be tackled with the minimum of delay.* ○ *Keep the weight to a minimum.* (NOTE: The plural is **minima** or **minimums**.)

minimum lethal dose *noun* the smallest amount of a substance needed to kill an organism

minimum tillage *noun* a method of ploughing in which disturbance of the soil

does not affect the deeper layers. The benefits are conservation of organic matter, leading to a better soil structure and less soil erosion, better soil biodiversity and the use of less energy. The disadvantages include the easier germination of grass seeds. Also called **min-till**. ◇ **no-till agriculture**

minimum viable population *noun* the smallest population which will allow a species to continue to exist and to avoid inbreeding, usually taken to be about 300 individuals. Abbr **MVP**

mining subsidence area *noun* ENVIRON a region in which the ground has subsided because of mines being dug

minimax *noun* COMPUT a method used in artificial intelligence to solve problems

minor axis *noun* MATHS, ASTRON the smallest diameter of an ellipse

minority *noun* the lower quantity or smaller part. Opposite **majority**

minuend *noun* MATHS a number from which another is subtracted

minus *preposition* **1.** reduced by ○ *6 minus 2 equals 4* ($6 - 2 = 4$). **2.** less than ○ *minus forty degrees Celsius* (-40° Celsius)

minus sign *noun* MATHS a sign (-) used to show that a following number is subtracted or is negative. Also called **minus**

minute *noun* **1.** MEASURE, TIME a time period of 60 seconds ○ *There are 60 minutes in one hour.* **2.** a unit of angular measurement equal to one sixtieth of a degree ○ *20 degrees and 20 minutes east* ($20^{\circ} 20'E$). Symbol ' (NOTE: One degree equals 60 minutes.) ■ *adjective* extremely small ○ *minute traces* ○ *Metal fatigue begins as minute cracks, too small to be seen, at the point of maximum stress.*

MIPS *abbreviation* COMPUT million instructions per second. Compare **megaflops**

mirage *noun* OPTICS the apparent presence of a pool of water on a hot surface such as that of a desert or a road (NOTE: It is caused by light being bent and reflected by layers of cooler and warmer air.)

mire *noun* EARTH SCI an area of land saturated with water

mirror *noun* PHYS a device for reflecting light or other radiation ■ *verb* COMPUT **1.** to create an identical copy **2.** to duplicate all disk operations onto a second disk drive that can be used if the first breaks down ○ *There's less chance of losing our data now*

that we have mirrored the server's disk drive.

MIS *abbreviation* COMPUT management information system

miscarry *verb* BIOL same as **abort** 3 (technical)

miscible *adjective* CHEM able to be completely mixed together (NOTE: This term is usually applied to liquids.)

MISD *noun* COMPUT architecture of a parallel computer that has a single ALU and data bus with a number of control units. Full form **multiple instruction stream – single data stream**

missense *noun* GENETICS a mutation in which a gene coding sequence or codon for one amino acid is changed to one that codes for another

mist *noun* 1. METEOROL the visible water vapour, in the form of very fine droplets, in the atmosphere ○ *an early morning mist on the fields* ○ *Mist is thinner than fog.* 2. water vapour that has condensed on a cool surface 3. liquid in the form of a spray ○ *an air/oil mist* ■ *verb* 1. also **mist up** to form a mist on a cool surface ○ *The windows had misted up.* 2. to spray plants with small drops of water to keep them wet

mister *noun* a device for spraying plants with small drops of water to keep them wet

mistral *noun* METEOROL a strong, cold wind from the north which blows down the Rhone valley into the Mediterranean

mist up *verb* to become covered in tiny water droplets of condensation and therefore prevent clear vision through a surface ○ *The windscreen misted up.*

misty *adjective* METEOROL referring to mist ○ *a misty autumn morning* ○ *a misty window*

misuse *verb* to use something wrongly or inappropriately

mite *noun* ZOOLOGY a tiny animal of the spider family which may be free-living in the soil or on stored products, or parasitic on animals or plants

miticide *noun* AGRIC a substance that kills mites

mitochondria *plural noun* BIOL plural of mitochondrion

mitochondrial *adjective* BIOL relating to a mitochondrion or mitochondria

mitochondrial DNA *noun* GENETICS a small circular molecule of DNA found in the mitochondria of a cell (NOTE: Mito-

chondrial DNA is inherited only from a mother.)

mitochondrion *noun* BIOL a tiny rod-shaped structure found in the cytoplasm of a cell that is responsible for cell respiration (NOTE: The plural is **mitochondria**.)

mitosis *noun* BIOL a process of cell division, whereby a cell divides into two identical cells. Compare **meiosis**

mix *verb* to come together or put things together in order to form one mass ○ *Air is mixed with fuel which then flows into the cylinder through the inlet valve.*

mixed *adjective* referring to something made up of different parts or categories

mixed cropping *noun* AGRIC the practice of growing more than one type of plant on the same piece of land at the same time. Opposite **monocropping**

mixed farming *noun* AGRIC the practice of combining arable and dairy farming

mixed fertiliser *noun* AGRIC same as **compound fertiliser**

mixed forest *noun* FORESTRY a forest containing both conifers and broadleaved trees

mixed number *noun* MATHS a figure that consists of a whole number and a fraction, e.g. the figure $2\frac{3}{4}$

mixed race *adjective* (of people) having parents who differ in the physical features usually attributed to ethnic origin

mixed woodland *noun* a wooded area where neither conifers nor broadleaved trees account for more than 75% of the total

mixture *noun* something which is the result of mixing a number of things together

mixture control *noun* AUTOMOT a device for controlling the ratio of fuel to air entering an engine's carburettor or fuel injection system ○ *In order to stop the engine, the mixture control should be moved to the left.*

ml *abbreviation* MEASURE millilitre

mm *abbreviation* MEASURE millimetre

MMI *abbreviation* COMPUT man machine interface

mmol *abbreviation* MEASURE, CHEM millimole

MMU *abbreviation* COMPUT memory management unit (NOTE: The MMU is normally integrated into the processor chip.)

Mn *symbol* CHEM ELEM manganese

mnemonic *noun* COMPUT the shortened form of a word or function that is helpful as a reminder, e.g. INCA for increment register A

Mo *symbol* CHEM ELEM molybdenum

mock-up *noun* INDUST a model of a new product for testing or to show to possible customers

mod *abbreviation* MATHS modulus $\circ 7 \text{ mod } 3 = 1$

modal *adjective* COMPUT **1.** referring to modes \circ *Dialog boxes are normally modal windows.* **2.** (in a graphical user interface) referring to a window that is displayed and does not allow a user to do anything outside it. Compare **nonmodal**

mode *noun* **1.** a particular way of doing something \circ *Texting is a popular mode of communication.* **2.** a particular selected setting for the operation or functioning of equipment \circ *automatic mode* \circ *manual mode* **3.** ENG a letter or number given to various pulse spacing of airborne transponders and ground interrogators \circ *Mode A and mode C for altitude reporting are used in air traffic control.*

model *noun* **1.** a small copy of something to show what it will look like when finished \circ *He showed us a model of the new building.* **2.** a version of a product \circ *The new model B has taken the place of model A.* \circ *This is the latest model.* **3.** a simplified description of a system, often a mathematical one, to make calculation simpler \circ *The description of the weather patterns is a model only which, in reality, is modified greatly by a number of factors.* ■ *adjective* which is a perfect example to be copied \circ *a model agreement* ■ *verb* to make a computerised model of a new product or a system

modem *noun* COMPUT a device that allows data to be sent over telephone lines by converting binary signals from a computer into analog sound signals which can be transmitted over a telephone line. Full form **modulator/demodulator**

COMMENT: The process of converting binary signals to analog by a modem is called modulation. When the signal is received, another modem reverses the process, called DEMODULATION. Both modems must be working according to the same standards.

moder *noun* EARTH SCI humus which is partly acid mor and partly neutral mull

moderate *adjective* **1.** referring to something well within specific limits **2.** referring to the middle of three descriptions of intensity or amount, i.e. light, moderate and severe \circ *moderate humidity* \circ *moderate to severe turbulence* ■ *verb* to become or make something less extreme \circ *The south west wind moderates the climate of the UK.* \circ *As the wind moderated, the aircraft was allowed to take off.*

moderate climate *noun* a climate which is not too hot or too cold

moderated newsgroup *noun* COMPUT a newsgroup in which a moderator reads all the material that has been submitted before it is published in the newsgroup (NOTE: Moderated newsgroups usually have a '-d' after their name.)

moderator *noun* **1.** COMPUT a person responsible for reading messages sent to a mailing list and editing any messages that do not conform to the rules of the list, e.g. by deleting commercial messages **2.** CHEM a substance such as graphite or heavy water which is used to slow down the speed of the neutrons in a nuclear reactor (NOTE: Using a moderator allows fuel enriched with uranium-235 to be used in a reactor.)

modification *noun* an alteration in character or form which is usually an improvement \circ *As a result of the crash, modifications were made to the rudder linkage.*

modified frequency modulation *noun* COMPUT a method of storing data on magnetic media such as a magnetic disk that encodes the data bit according to the state of the previous bit. Abbr **MFM** (NOTE: MFM is more efficient than FM, but less efficient than RLL encoding.)

Modified Mercalli scale *noun* MEASURE, GEOL a scale rising from 1 to 12 used for measuring the damage caused by an earthquake

modifier *noun* COMPUT a programming instruction that alters the normal action of a command

modify *verb* to change or alter something in order to improve it (NOTE: **modifying** – **modified**)

Modula-2 *noun* COMPUT a high-level programming language derived from Pascal that supports modular programming techniques and data abstraction

modular *adjective* formed by connecting several smaller parts together to produce a customised product

modularity *noun* COMPUT the state of being made up from modules ○ *The modularity of the software or hardware allows the system to be changed.*

modular programming *noun* COMPUT the programming of small individually written sections of computer code that can be made to fit into a structured program and can be called up from a main program

modulate *verb* ELEC to change the frequency, amplitude, phase, or other characteristic of an electromagnetic wave

modulated signal *noun* ELEC a constant frequency and amplitude carrier signal that is used in a modulated form to transmit data

modulating signal *noun* ELEC a signal to be transmitted that is used to modulate a carrier

modulation *noun* ELEC a change in a property such as amplitude, frequency or phase of an electromagnetic wave or signal ○ *Pulse modulation is a series of quick, short bursts of energy which are radiated from an antenna which serves both the transmitter and the receiver.*

modulator *noun* ELEC an electronic circuit that varies a carrier signal according to an applied signal

module *noun* **1.** a part that together with other parts makes up another structure or system **2.** COMPUT a small section of a large program that can, if required, function independently as a program in its own right **3.** COMPUT a self-contained piece of hardware that can be connected with other modules to form a new system ○ *A multi-function analog interface module includes analog to digital and digital to analog converters.*

modulo arithmetic *noun* MATHS a branch of arithmetic that uses the remainder of one number when divided by another

modulo-N *noun* MATHS modulo arithmetic using base N

modulus *noun* MATHS a number by which two other numbers can be divided to give the same remainder. Abbr **mod**

Mohorovicic discontinuity, Moho *noun* EARTH SCI a boundary layer in the interior of the Earth between the crust and

the mantle, below which seismic shocks move more rapidly

moiré effect *noun* PHYS a pattern of interference caused by printing with the wrong screen angle

moist *adjective* slightly damp, containing a small amount of water

moist tropical forest *noun* ECOL a tropical forest which receives less rain than other types of tropical forest such as cloud forest

moisture *noun* water or other liquid

moisture meter *noun* MEASURE a device for measuring the amount of water or other liquid which a substance contains

mol *symbol* MEASURE, CHEM mole

molality *noun* CHEM the concentration of a solution, expressed as the number of moles of a dissolved substance (**solute**) in one thousand grams of solvent

molar *adjective* **1.** PHYS (*of physical properties*) measured per mole of a substance **2.** CHEM referring to a solution containing one mole of solute per litre ■ *noun* a large back tooth

molar concentration *noun* CHEM the concentration of a substance measured as the physical quantity divided by the amount in moles

molar conductivity *noun* CHEM the electrical conductivity of an electrolyte that has one mole of a solute dissolved in one litre of solution

molar heat capacity *noun* CHEM the heat required to increase the temperature of one mole of a substance by one kelvin

mold *noun, verb* US spelling of **mould**

mole *noun* **1.** ZOOLOG a small dark-grey mammal which makes tunnels under the ground and eats worms and insects **2.** ANAT a dark raised spot on the skin ○ *She has a large mole on her chin.* **3.** MEASURE an SI unit of measurement of the amount of a substance. Symbol **mol** (NOTE: It is the amount of a substance containing Avogadro's number of atoms or molecules.)

molecular *adjective* CHEM referring to molecules

molecular biology *noun* BIOL the study of the molecules which form the structure of living matter

molecular distillation *noun* CHEM distillation carried out in a vacuum, in which the condenser is very close to the substance

being distilled so that no molecules hit each other before reaching the condenser surface

molecular ecology *noun* ECOL the study of ecological problems using the techniques of molecular biology

molecular formula *noun* CHEM a chemical formula that specifies the numbers of specific atoms in a molecule (NOTE: For example, a molecule of water contains two atoms of hydrogen and one of oxygen and its molecular formula is written H₂O.)

molecular genetics *noun* GENETICS the branch of genetics that studies genes, chromosomes and the transmission of hereditary characteristics at the biochemical level

molecular weight *noun* CHEM the sum of all the atomic weights of the atoms in a molecule

molecular weight unit *noun* PHYS a ratio of the average mass of one molecule of a substance to one twelfth of the mass of an atom of carbon-12

molecule *noun* PHYS the smallest particle into which a substance can be divided without changing its chemical and physical properties ○ *The molecules of a gas move more quickly than the molecules of a liquid.*

mollusc *noun* ZOOL an invertebrate animal with a soft body, a muscular foot on the underside used for movement and, in many species, a protective shell (NOTE: Molluscs are found on land as well as in fresh and salt water. Slugs, snails and shellfish are molluscs. The US spelling is **mollusk**.)

molluscicide *noun* ZOOL a substance used to kill molluscs such as snails

molt *noun, verb* ZOOL US spelling of **moult**

molten *adjective* CHEM, PHYS having become liquid when heated. ◊ **melt**

molten lava *noun* EARTH SCI a liquid rock which flows out of an erupting volcano

molybdenum *noun* CHEM ELEM a metallic trace element. It is essential to biological life and is also used in electric wiring. (NOTE: The chemical symbol is **Mo**; the atomic number is **42** and the atomic weight is **95.94**.)

moment *noun* **1.** a short period of time ○ *It only takes a moment to fill in the log book.* **2.** a point in time □ **at the moment** at

this particular time ○ *He's not in the office at the moment.* **3.** PHYS a product of a quantity and its perpendicular distance from a reference point, giving it a tendency to cause rotation about a point or an axis ○ *A load on the end of a beam creates a bending moment.* ○ *The tailplane provides a pitching moment to keep the aircraft level.*

momentary switch *noun* ELEC a switch that only conducts while it is being pressed

moment of inertia *noun* PHYS the resistance to changes in speed of rotation (NOTE: It is calculated as the sum of the products of the component masses of an object multiplied by the square of their distance from the axis.)

momentum *noun* PHYS a measure of the motion of a body equal to the product of its mass and velocity. Also called **linear momentum**

monadic Boolean operation *noun* COMPUT same as **monadic operation**

monadic Boolean operator *noun* COMPUT same as **monadic operator**

monadic operation *noun* COMPUT an operation that uses one operand to produce one result. Also called **monadic Boolean operation**

monadic operator *noun* COMPUT a logical operator with only one operand ○ *The monadic operator NOT can be used here.*

Also called **monadic Boolean operator**

monatomic *adjective* CHEM same as **monovalent**

monazite *noun* CHEM a phosphate containing cerium and some thorium

monitor *noun* **1.** COMPUT a screen for a computer display **2.** a piece of equipment for showing information or recording a process **3.** COMPUT a system that watches for faults or failures in a circuit ■ *verb* **1.** to check or examine how something is working **2.** to look after and supervise a process or experiment to make sure it is operating correctly ○ *The machine monitors each signal as it is sent out.* ○ *He is monitoring the progress of the trainee programmers.*

monitoring *noun* a process of regular checking on the progress of something ○ *health monitoring* ○ *Scientists have set up a monitoring programme to record the changes in the Sun's radiation.*

monitoring well *noun* ENVIRON a well used to take water quality samples or to measure ground water levels

mono *adjective* ACOUSTICS same as **monophonic**

mono- *prefix* single or one. Opposite **multi-**

monoacidic *adjective* CHEM describes a chemical base or alcohol that has only one hydroxyl group that can react with an acid
monaural, mono *adjective* COMPUT referring to one source of sound or one sound signal. Compare **stereo**

monobasic acid *noun* CHEM an acid with a single replaceable hydrogen atom in each molecule

monochrome *adjective* in one colour, usually shades of grey and black and white

monochrome monitor *noun* COMPUT a computer monitor that displays text and graphics in black, white and shades of grey rather than colours

monocline *noun* EARTH SCI a rock formation where sedimentary rock slopes sharply on one side of a fold

monoclonal antibody *noun* IMMUNOL an antibody produced from a single line or clone of cells

monocoque *noun* MECH ENG a three-dimensional body such as a car or aircraft that has all the strength in the skin and immediately underlying framework (NOTE: There is no internal stiffening as the thickness of the skin gives the strength and stability.)

monocot *noun* BOT same as **monocotyledon** (*informal*)

monocotyledenous *adjective* BOT referring to monocotyledons

monocotyledon *noun* BOT a plant with seeds that have a single cotyledon, e.g. a grass or lily. Compare **dicotyledon**

monocropping, monocrop system, monoculture *noun* AGRIC a system of cultivation in which a single crop plant such as wheat is grown over a large area of land often for several years. Opposite **mixed cropping**

monocular vision *noun* OPHTHALMOL the ability to see with one eye only, so that the sense of distance is impaired

monoculture *noun* AGRIC same as **monocropping**

monocyte *noun* BIOL a large circulating white blood cell with a single well-defined nucleus (NOTE: Monocytes are made in the bone marrow and spleen and clear the

blood of dead cells and foreign particles by ingesting them.)

monoecious *adjective* BOT with male and female flowers on separate plants. Compare **dioecious**

monogamy *noun* ZOOLOG a breeding arrangement where a male and female mate for life. Compare **polygamy**

monogenic *adjective* GENETICS **1.** referring to a characteristic that is controlled by a single gene or a pair of genes **2.** producing offspring that all belong to the same sex

monohybrid *noun* GENETICS a hybrid from parents that differ only in a single pair of genes

monohydrate *noun* CHEM a hydrate that contains one molecule of water per molecule of the salt

monolayer *noun* BIOL a layer of cultured cells that is one cell thick

monolithic driver *noun* COMPUT a driver that has a range of different functions or applications within one program

monomer *noun* CHEM a small organic molecule that can join to others like itself to form a long chain (**polymer**)

monophagous *adjective* BIOL referring to an organism that feeds on only one kind of food. Compare **polyphagous**

monophagy *noun* the practice of feeding on only one kind of food. Compare **polyphagy**

monophonic *adjective* ACOUSTICS recorded or played back through a single channel. Compare **stereophonic**

monophyodont *noun* ZOOLOG an animal that has only one set of teeth in its lifetime

monopodium *noun* BOT the main axis of a tree or plant that produces side branches and continues to grow at the top

monoprogramming system *noun* COMPUT a computer batch processing system that executes one program at a time

monosaccharide *noun* CHEM a sugar such as glucose or fructose that cannot be broken down into simpler units

monosodium glutamate *noun* FOOD INDUST a substance, labelled E621, added to processed food to enhance the flavour. Abbr **MSG** (NOTE: It can cause a bad reaction in some people.)

monosome *noun* GENETICS an isolated chromosome, especially an unpaired X-chromosome

monosomic *adjective* GENETICS referring to an unpaired chromosome, or an organism containing such a feature ○ *a monosomic line*

monospaced font *noun* COMPUT a font in which each character has the same width, making it easy to align tables and columns ○ *In Windows, the monospaced font is called Courier.*

monotreme *noun* a type of mammal that lays eggs but feeds its young on milk in a pouch. The only monotremes are the duck-billed platypus and the spiny anteater.

monovalent *adjective* 1. CHEM with a valency of one 2. IMMUNOL containing only a single type of antibody

monoxide *noun* CHEM a chemical compound made up of atoms of an element combined with a single oxygen atom

monozygotic twins *plural noun* BIOL two offspring born at the same time and from the same ovum, so exactly the same in appearance and sex. Also called **identical twins**. Compare **dizygotic twins**

monsoon *noun* METEOROL 1. a season of wind and heavy rain in tropical countries 2. a wind which blows in opposite directions according to the season, especially the wind blowing north from the Indian Ocean in the summer

monsoon forest *noun* ECOL a tropical rainforest in an area where rain falls during the monsoon season

Monte Carlo method *noun* STATS a statistical analysis technique based on random sampling

month *noun* MEASURE, TIME the time taken for the Moon to orbit Earth

COMMENT: Several types of month are defined for different purposes, including the draconitic month, the time the Moon takes to reappear at the same node of its orbit on the celestial equator, which is the most realistic measure and totals 27.21 days, and the sidereal month of 27.32 days, the time the Moon takes to reappear at the same point in the sky relative to the fixed stars. It differs from the draconitic month because of the motion of the Earth and Moon around the Sun. The anomalistic month of 27.55 days is the total time needed for the Moon's cycle of slowing and speeding up in its orbit as it is carried nearer and farther from the Earth.

Montreal Protocol *noun* an international agreement to control the production and use of chemicals containing bromine and chlorine, such as CFCs, that damage the ozone layer in the atmosphere. It was

signed in 1987 and later updated. Full form **Montreal Protocol on Substances that Deplete the Ozone Layer**

Moon *noun* ASTRON a natural satellite that orbits the Earth every 27 days

COMMENT: The moon always shows the same face to Earth as it rotates on its axis once per lunar month and shines with light reflected from the Sun. As it moves round the Earth, the face of the Moon gradually becomes completely lit by the Sun and is then said to be full. See also lunar phases. The Moon exerts a gravitational pull on Earth and influences the tides. The Moon has a diameter of 3500 km and a surface area about equal to that of Africa. Six US space missions have taken people to the Moon, and three unmanned Soviet missions have returned moon rock to the Earth.

moor *noun* EARTH SCI an area of often high land that is not cultivated, and is formed of acid soil covered with grass and low shrubs such as heather

moorland *noun* EARTH SCI a large area of moor

mor *noun* EARTH SCI a type of humus found in coniferous forests, which is acid and contains few nutrients. Compare **mull**

moraine *noun* EARTH SCI a deposit of gravel and sand left by a glacier (NOTE: There are various types of moraine: ground moraine, which is a deposit left under a glacier; terminal moraine, which is the heap of soil and sand pushed by a glacier and left behind when it melts; and lateral moraines, which are deposits left at the sides of a glacier as it moves forward.)

moral justification *noun* ENVIRON a rationale for nature conservation based on the idea that elements of the environment have a right to exist, independent of what may be beneficial to human beings or what human beings would like to happen

moratorium *noun* ENVIRON a period when everyone agrees to stop a specific activity ○ *They voted to impose a ten-year moratorium on whaling.* ○ *The conference rejected a motion calling for a moratorium on nuclear reprocessing.*

morbidity rate *noun* MED the number of cases of a disease per 100000 of population

mordant *noun* CHEM a chemical that fixes the dyes in textiles, so that the colours do not run or fade (NOTE: Some dyes turn different colours in conjunction with different mordants.)

morgan *noun* MEASURE, GENETICS a unit in which chromosome length is measured

morph *noun* BIOL an organism with a characteristic shape

morphine *noun* PHARM an alkaloid drug derived from opium, used as a sedative and painkiller, which can become addictive

morphing *noun* COMPUT a special effect used in multimedia and video and computer games in which one image gradually turns into another

morphogenesis *noun* BIOL the changes in shape and form of an organism over its lifetime or its evolutionary history

morphology *noun* BIOL the study of the structure and form of living organisms. ϕ

geomorphology

mortality *noun* BIOL the occurrence of death \circ *The population count in spring is always lower than that in the autumn because of winter mortality.*

mortality rate *noun* BIOL same as **death rate**

mortar *noun* INDUST a mixture of sand, cement and water, used to bind bricks together when building a wall

MOS *abbreviation* COMPUT metal oxide semiconductor. ϕ **MOSFET**

mosaic *noun* 1. BOT a disease of plants that makes yellow patterns on the leaves and can seriously affect some crops. It is often caused by viruses. 2. COMPUT a display character used in videotext systems that is made up of small dots

mosaicism *noun* GENETICS the occurrence, within tissue or an individual organism, of genetically distinct cells

Moseley's law *noun* PHYS a law that relates the frequencies of the lines within an X-ray spectrum of an element to the proton number of the element

MOSFET *noun* ELEC a high power and high speed field effect transistor manufactured using MOS techniques. Full form **metal oxide semiconductor field effect transistor**

mosquito *noun* INSECTS an insect which sucks blood and passes viruses or parasites into the bloodstream (NOTE: The plural is **mosquitoes** or **mosquitos**.)

COMMENT: In tropical countries dengue, filariasis, malaria and yellow fever are transmitted by mosquitoes. They breed in water and spread rapidly around lakes or canals created by dams and other irrigation schemes. As irrigation is more widely practised in tropical countries, mosquitoes are

increasing and diseases such as malaria are spreading.

mosquitocide *noun* AGRIC a substance which kills mosquitoes

moss *noun* BOT a very small plant without roots, which grows in damp places and forms mats of vegetation \circ *Sphagnum is a type of moss.*

Mössbauer effect *noun* PHYS the emission or absorption of a gamma ray by a nucleus within a rigid crystal in which the recoil energy is shared between atoms in the crystal (NOTE: It is used in the study of quantum states of nuclei.)

moss peat *noun* AGRIC dried and sterilised peat formed from the remains of mosses, sold in bags for horticultural purposes

most significant bit *noun* COMPUT a bit in a computer word that represents the greatest power of two. Abbr **msb**, **MSB** (NOTE: In an 8-bit word the MSB is in bit position 8 and represents a decimal number of 2 to the power 8, or 128.)

moth *noun* INSECTS an insect similar to a butterfly that is generally active at night. Order: Lepidoptera.

COMMENT: Moths are similar to butterflies, but are dull in colour and fold their wings over their bodies when at rest.

motherboard *noun* COMPUT the main printed circuit board of a system, containing most of the components and connections for expansion boards

mother cell *noun* BIOL same as **parent cell**

mother-of-pearl *noun* ZOOLOG a hard shiny substance, mostly made up of calcium carbonate, which forms the inner layer of some shells such as oyster shells

mother rock *noun* EARTH SCI a main layer of rock

motile *adjective* BIOL able to move independently

motion *noun* 1. a movement 2. the act of moving or changing position or place

motive *adjective* SCI capable of causing or producing motion

motor *noun* MECH ENG a machine which provides power for moving a vehicle or device with moving parts \circ *an electric motor* \circ *a hydraulic motor* (NOTE: Piston or jet power plants for aircraft are referred to as **engines** not motors.)

motor generator *noun* PHYS an electric motor powered by one voltage, linked to an

electric generator to generate a different voltage

motor nerve *noun* ANAT a nerve which carries impulses from the brain and spinal cord to muscles and causes movements. Also called **efferent nerve**

motor neuron *noun* ANAT a neuron that is part of a nerve pathway transmitting impulses from the brain to a muscle or gland

mould *noun* **1.** BIOL a fungus, especially one that produces a fine powdery layer on the surface of an organism **2.** a hollow shape into which liquid or molten material is poured to harden ○ *Moulds are used in the manufacture of plastic components.* ■ *verb* to shape something, often using a mould ○ *Thermo-plastic material become soft when heated and can be moulded again and again.* (NOTE: [all senses] The US spelling is **mold**.)

moult ZOO *noun* an occasion of shedding feathers or hair at a specific period of the year ■ *verb* to shed feathers or hair at a specific period of the year ○ *Most animals moult at the beginning of summer.* (NOTE: The US spelling is **molt**.)

moulting *noun* ZOO the process by which fur or feathers are lost at a specific period of the year

moultng season *noun* ZOO the time of year when feathers or hair are lost

moult plumage *noun* ZOO the small feathers which remain on a bird when it is moulting

mount *verb* **1.** to fix something to a support ○ *A propeller consists of a number of separate blades mounted in a hub.* **2.** COMPUT to insert a disk in a disk drive or inform an operating system that a disk drive is ready to be used ■ *noun* SCI something such as a support or frame to which something else can be fixed

Mount *noun* a mountain. Abbr **Mt** (NOTE: used in the names of specific mountains: *Mount Everest*.)

mountain *noun* EARTH SCI **1.** a natural structure of rock rising very high above the surrounding land surface **2.** a surplus or large amount of something, especially something that is being stored ○ *butter mountain* ○ *fridge mountain* ◇ **lake 2**

mountainous *adjective* EARTH SCI referring to an area of land where there are high mountains

mountain plant *noun* BOT a plant which grows in or comes originally from a mountain region

mountain range *noun* EARTH SCI a series of mountains running in a line for many miles

mountain sheep *noun* AGRIC a sheep belonging to a breed which lives in or comes originally from a mountain region

mountainside *noun* EARTH SCI the sloping side of a mountain

mounted *adjective* fixed to a support (NOTE: an implement without wheels is said to be **mounted**; one which is not supported by a tractor is said to be **trailed**)

mounting *noun* a supporting component or attachment point

mouse *noun* COMPUT a small hand-held input device moved on a flat surface to control the position of a cursor on a computer screen

mouse pointer *noun* COMPUT a small arrow displayed on screen that moves around as the mouse is moved

mouth *noun* **1.** ANAT the part of an animal's body where food is taken in **2.** EARTH SCI a place where a river widens and joins the sea

mouthpart *noun* ZOO a structure close to the mouth of an insect or other arthropod used to gather or chew food

M out of N code *noun* COMPUT a coding system providing error detection by which each valid character which is N bits long must contain M binary 'one' bits

move *verb* to change position, or change the place of something

movement *noun* a change in place or position ○ *The upward movement of the piston compresses the fuel/air mixture.* □ **movement of the crankshaft** the rotation of the crankshaft □ **the downward movement of cool air** the downward flow of cool air

movement file *noun* COMPUT a file which contains recent changes to records, which is then used to update a master file

moving pictures expert group *noun* COMPUT full form of **MPEG**

MP3 *noun* COMPUT a way of encoding digital audio data into a compressed data format that is approximately one twelfth the size of the original without perceptible loss of quality. Full form **MPEG audio level 3**

MPEG *noun* COMPUT a group of developers that have defined a series of standards to improve audio and video quality but at the same time increase data compression so that the audio or video information takes less space but retains its quality. Full form **moving pictures expert group**

COMMENT: MPEG is often used to compress video clips and its derivative standard MPEG audio level 3 (MP3) provides one of the most popular ways of compressing and storing audio information, while JPEG provides a popular way to store compressed still images.

MPPP *noun* COMPUT a communications protocol used with ISDN to link the two B-channels in a standard ISDN adapter to create a transmission channel that can transfer data at a higher speed. Full form **multi-link point to point protocol**

MPU *abbreviation* COMPUT microprocessor unit

MRI *abbreviation* MED magnetic resonance imaging

MRI scanner *noun* MED a scanner that uses magnetic resonance imaging to obtain high-contrast detailed images in any plane of the tissues of the body

MRL *abbreviation* maximum residue level

mRNA *abbreviation* GENETICS messenger RNA

MRSA *noun* MED a bacterium resistant to almost all antibiotics and which can cause life-threatening infection in people recovering from surgery. Full form **methicillin-resistant Staphylococcus aureus**

ms *abbreviation* COMPUT, MEASURE millisecond

m/s *abbreviation* MEASURE metres per second

msb, MSB *abbreviation* COMPUT most significant bit

MSB *abbreviation* COMPUT most significant bit

MSF time format *noun* COMPUT a time format that counts frames per second used by MCI, normally used by CD audio devices in which there are 75 frames per second

MSG *abbreviation* FOOD INDUST monosodium glutamate

MSI *abbreviation* COMPUT medium scale integration

MSL *abbreviation* mean sea level

mSv *symbol* millisievert

Mt *abbreviation* Mount ■ *symbol* CHEM ELEM meitnerium

MTA *abbreviation* COMPUT mail transfer agent

MTBF *abbreviation* COMPUT mean time between failures

MTCE *abbreviation* MEASURE million tonnes of coal equivalent

MTF *abbreviation* COMPUT mean time to failure

MUA *abbreviation* COMPUT mail user agent

mucilage *noun* BIOL slime secreted by some organisms such as seaweeds

mucin *noun* BIOCHEM a glycoprotein that is a constituent of mucus

muck *noun* same as **manure**

mucous cell *noun* BIOL a cell that secretes mucin

mucous membrane *noun* ANAT a membrane that lines internal passages in the body such as the nose or mouth

mucus *noun* 1. BIOL a slimy solution of mucin secreted by vertebrates onto a mucous membrane to provide lubrication
2. a slimy substance secreted by invertebrates

mud *noun* EARTH SCI a thick mixture of soil and water

muddy *adjective* EARTH SCI containing mud, or covered with mud ○ *a muddy field* ○ *muddy boots*

mud flat *noun* EARTH SCI a wide flat area of mud, usually in a river estuary

mudslide *noun* EARTH SCI a large amount of mud that slips down a slope

mud volcano *noun* EARTH SCI a heap of hot mud thrown up round a hot spring

mulch AGRIC *noun* an organic material used to spread over the surface of the soil to prevent evaporation or erosion, e.g. dead leaves or straw ■ *verb* to spread organic material over the surface of the soil to prevent evaporation or erosion

COMMENT: Black plastic sheeting is often used by commercial horticulturists, but the commonest mulches are organic. Apart from preventing evaporation, mulches reduce weed growth and encourage worms.

mull *noun* EARTH SCI a type of humus found in deciduous forests. Compare **mor** (NOTE: It is formed of rotted leaves, is PH neutral and contains many nutrients.)

Mullerian mimicry *noun* ZOOL a form of mimicry where an animal mimics

another animal which has an unpleasant taste

multi- *prefix* many or more than one. Opposite **mono-**

multicast *verb* TELECOM, COMPUT to transmit one message to a group of recipients (NOTE: This could be as simple as sending an email message to a list of addresses or posting a message to a mailing list. It can also refer to more complex transfers such as a teleconference or videoconference in which several users link together by telephone or video link.)

multicellular *adjective* BIOL referring to an organism composed of several or many cells. Compare **unicellular**

multichannel *adjective* ELEC with more than one channel

multicolour *adjective* with several colours

multicrop *verb* AGRIC to grow more than one crop of something on the same piece of land in one year ○ *Wet rice is often multicropped.*

multidimensional array *noun* COMPUT a number of arrays arranged in parallel, providing depth

multidimensional language *noun* COMPUT a programming language that can be represented in a number of ways

multidrop circuit *noun* COMPUT a network allowing communications between a number of terminals and a central computer, but not directly between terminals

multifactorial *adjective* GENETICS referring to inheritance that depends on more than one gene

multifactorial inheritance *noun* GENETICS the control of an inherited characteristic by several genes

multifrequency monitor *noun* COMPUT same as **multisync monitor**

multifunction card *noun* COMPUT an add-on circuit board that provides many features to upgrade a computer

multilayer *noun* COMPUT a printed circuit board that has several layers or interconnecting conduction tracks

multilevel *adjective* COMPUT referring to a signal with a number of possible values (NOTE: Quaternary signals have four levels.)

multilink point to point protocol *noun* COMPUT full form of **MPPP**

multilink system *noun* COMPUT a system where there is more than one connection between two points

multimedia *adjective* COMPUT referring to the combination of sound, graphics, animation, video and text within an application

multimeter *noun* ELEC ENG a piece of equipment that measures several electrical parameters such as current, voltage and resistance

multimode fibre *noun* COMPUT a commonly used type of optic fibre (NOTE: It comprises a glass fibre with a diameter of 50–125µm and can carry several different frequencies of light with a maximum bandwidth of 2.5Gbps. The disadvantage is that, because the fibre is wide, the light disperses quickly and so repeaters need to be installed to boost the signal.)

multipass overlap *noun* COMPUT a system of producing higher quality print from a dot-matrix printer by repeating the line of characters but shifted slightly, so making the dots less noticeable

multiphase program *noun* COMPUT a program that requires more than one fetch operation before execution is complete

multiple *adjective* having many parts or acting in many ways

multiple alleles *plural noun* GENETICS three or more different forms of a gene, of which any two can be present in a normal diploid cell

multiple factor *noun* GENETICS same as **polygene**

multiple precision *noun* COMPUT the use of more than one byte of data for number storage to increase possible precision

multiple star *noun* ASTRON a group of three or more stars, usually with the same gravitational centre, that appears as one star to the unaided eye

multiplex *verb* to combine several messages in the same transmission medium

multiplexed bus *noun* COMPUT a single bus used to carry address, data and control signals at different times

multiplexing *noun* BIOTECH a technique of rapid gene sequencing that uses several pooled samples simultaneously

multiplexor *noun* ELEC ENG a circuit that combines a number of inputs into a smaller number of outputs ○ *A 4 to 1 multiplexor*

combines four inputs into a single output.
Abbr **MUX**

multiplicand *noun* MATHS a number which is multiplied by another number. Compare **multiplier**

multiplication *noun* MATHS a mathematical operation that adds one number to itself a number of times ◦ *The multiplication of 5 by 3 gives 15.*

multiplication sign *noun* MATHS a sign (x) used to show that numbers are multiplied (NOTE: It is spoken as 'times'.)

multiplier *noun* MATHS a number which multiplies another number. Compare **multiplicand**

multiply *verb* MATHS to calculate a specified number of times the value of a number ◦ *4 multiplied by 2 is 8 (4 x 2 = 8).* ◦ *To multiply 20 by 6 is to calculate what is 6 times 20 (6 x 20).* ◦ *To calculate fuel required, multiply the duration of the flight by the consumption of the engine at the required power.*

multiport *adjective* COMPUT referring to a connection with several lines, attaching several terminals to a single line to a single computer

multipolar neuron *noun* BIOL a neuron with several processes

multiprecision *noun* COMPUT the use of more than one data word to represent numbers, increasing the range or precision possible

multiprocessing system *noun* COMPUT a system in which several processing units work together sharing the same memory

multiprocessor *noun* COMPUT a number of processing units acting together or separately but sharing the same area of memory

multiprocessor interleaving *noun* COMPUT an operation where each processor in a multiprocessor system deals with a section of one or more processes

multipurpose *adjective* suitable for many different uses

multipurpose tool *noun* a tool which can be used in many different ways

multiscan monitor *noun* COMPUT same as **multisync monitor**

multi statement line *noun* COMPUT a line from a computer program that contains more than one instruction or statement

multisync monitor *noun* COMPUT a monitor which contains circuitry to lock onto the required scanning frequency of any type of graphics card ◦ *If you want to plug a monitor into PCs with VGA, EGA and MDA adapters, you'll need a multisync monitor.* Also called **multifrequency monitor**, **multiscan monitor**

multitasking, multi-tasking *noun* COMPUT the ability of a computer system to run two or more programs at the same time

COMMENT: Few small systems are capable of simultaneous multitasking, since each program would require its own processor. This is overcome by allocating to each program an amount of processing time, executing each a little at a time so that they will appear to run simultaneously due to the speed of the processor and the relatively short gaps between programs.

multithread *noun* COMPUT a program design using more than one logical path through it, each path being concurrently executed

multi-user system *noun* COMPUT a computer system that can support more than one user at a time ◦ *The program runs on a standalone machine or a multi-user system.*

multivibrator *noun* ELECTRONICS same as **bistable circuit**

muon *noun* PHYS an elementary particle whose mass is about 200 times that of an electron

muscle *noun* ANAT an organ that contracts to make part of the body move

COMMENT: There are three types of muscle: voluntary (striated) muscles, which are attached to bones and move parts of the body when made to do so by the brain; involuntary (smooth) muscles, which move essential organs such as the intestines and bladder; and cardiac muscle, which occurs only in the heart.

muscle fatigue *noun* MED tiredness in the muscles after strenuous exercise

muscle fibre *noun* ANAT a component of muscles

muscle relaxant *noun* PHARM a drug that reduces contractions in the muscles

muscle spasm *noun* BIOL a sudden sharp contraction of a muscle

muscle spindle *noun* BIOL a sensory receptor found along the length of striated muscle fibres

muscle tissue *noun* ANAT the tissue which forms the muscles and which is able to expand and contract

muscle wasting *noun* MED a condition where the muscles lose weight and become thin

mushroom *noun* FUNGI, AGRIC a common edible fungus, often grown commercially

mushroom compost *noun* AGRIC a special growing medium for the commercial production of mushrooms

mushroom spawn *noun* AGRIC a mass of spores of edible mushrooms, used in propagation

musical instrument digital interface *noun* COMPUT a serial interface that connects electronic musical instruments. Abbr **MIDI**

COMMENT: The MIDI interface carries signals from a controller or computer that instructs the different instruments to play notes.

mustard gas *noun* CHEM, MIL an oily liquid that gives off a toxic gas. Formula: $(\text{CH}_2\text{CLCH}_2)_2\text{S}$. (NOTE: It causes severe damage to the lungs and is used in chemical warfare.)

mutable *adjective* GENETICS referring to a gene or organism that has a tendency to mutate

mutagen *noun* GENETICS an agent that causes mutation, e.g. a chemical or radiation

mutagenic *adjective* referring to an agent that causes mutation

mutagenicity *noun* GENETICS the ability of an agent to make genes mutate

mutant GENETICS *adjective* referring to a gene in which a mutation has occurred, or to an organism carrying such a gene ○ *mutant mice* ■ *noun* an organism carrying a gene in which mutation has occurred ○ *New mutants have appeared.* Also called **mutation**

mutate *verb* GENETICS (*of a gene or organism*) to undergo a genetic change that can be inherited ○ *Bacteria can mutate suddenly and become increasingly able to infect.*

mutation *noun* GENETICS 1. a heritable change occurring in a gene 2. same as **mutant**

muton *noun* GENETICS the smallest unit of DNA in which mutation can take place

mutual *adjective* directed and received in equal amount

mutual inductance *noun* ELEC an electromagnetic field in one circuit caused by

a quickly changing magnetic field in another circuit

mutualism *noun* BIOL same as **symbiosis**

mutualist *noun* a species which benefits from symbiosis with another

mutual symbiosis *noun* BIOL a condition where two organisms rely on each other for survival

MUX *abbreviation* COMPUT multiplexor

MVP *abbreviation* minimum viable population

MX record *abbreviation* COMPUT mail exchange record (NOTE: Mail sent to 'smith@acblack.com' will be sent to the 'acblack.com' server by the MX record, the local server then has to send the message to the user 'smith'.)

myc- *prefix* same as **myco-** (NOTE: used before vowels)

mycelium *noun* FUNGI a mass of hyphae which forms the main part of a fungus

myco- *prefix* BIOL fungus or fungal

Mycobacterium *noun* MICROBIOL one of a group of bacteria that includes those which cause leprosy and tuberculosis

mycology *noun* FUNGI the study of fungi

mycoplast, mycoplasma *noun* MICROBIOL a microorganism that lacks rigid cell walls. Genus: *Mycoplasma*. (NOTE: Some species cause respiratory diseases.)

mycorrhiza *noun* BIOL a mutual association of a fungus with the roots of a plant in which the fungus supplies the plant with water and minerals and feeds on the plant's sugars (NOTE: Many different fungi form mycorrhizas, especially with trees, and many plants such as orchids cannot grow without them.)

mycotoxin *noun* a toxic substance produced by a fungus growing on crops in the field or in storage. There are regulations controlling the amount of some mycotoxins such as aflatoxin and ochratoxin permitted in food.

myeloid tissue *noun* ANAT tissue in bone marrow that produces red blood cells

myiasis *noun* ZOOLOG an infestation of animals by the larvae of flies

myo- *prefix* BIOL muscle

myogenic *adjective* ANAT originating in muscle cells without the need for stimulation by nerves (NOTE: The contractions of the heart muscles are myogenic.)

myriapod *noun* ZOOLOGY an arthropod that lives on land, and has a head, a long segmented body and many legs, e.g. a centipede or millipede. Class: Myriapoda.

Myrtaceae *noun* BOTANICAL a family of Australian plants, including eucalyptus

Mysticeti *noun* MARINE BIOLOGY baleen whales, including blue whales and humpbacks

myxomatosis *noun* ZOOLOGY a usually fatal virus disease affecting rabbits, transmitted by fleas

N

n *prefix* MATHS nano- or $\times 10^{-9}$

N *symbol* **1.** CHEM ELEM nitrogen **2.** MEASURE newton

Na *symbol* CHEM ELEM sodium

nacelle *noun* ENG a part of a wind generator that contains the generator and gearbox at the top of the tower

nacreous clouds *plural noun* METEOROL thin clouds, possibly made of ice crystals, which form a layer about 25km above the Earth and look like mother-of-pearl

nadir *noun* ASTRON the point on the celestial sphere opposite the zenith and directly below the observer

NAK *abbreviation* COMPUT negative acknowledgement

name *noun* **1.** a word used to address or refer to a thing or a person **2.** COMPUT a word used to identify an address in machine language

namespace *noun* COMPUT a group of unique names (NOTE: In a small office network the namespace might include 20 users, but on the Internet the namespace runs into hundreds of millions.)

naming services *noun* COMPUT a method of assigning to each user, node or computer on a network a unique name that allows other users to access shared resources over a wide area network

nand circuit *noun* COMPUT an electronic component that performs the NAND function on two inputs

NAND function *noun* MATHS a logical function whose output is false if all inputs are true, and true if any input is false

COMMENT: The NAND function is equivalent to an AND function with a NOT function at the output. The output is 0 only if both inputs are 1; if one input is 1 and the other 0, or if both inputs are 0, then the output is 1.

NAND gate *noun* ELECTRONICS an electronic circuit that provides a NAND function

nano- *prefix* MEASURE 10^{-9} . Symbol **n**

nananalysis *noun* PHYS, CHEM the determination of the atomic structures of materials such as crystals

nanocircuit *noun* ELECTRONICS an electronic and logic circuit that can respond to impulses within nanoseconds. Also called **nanosecond circuit**

nanocrystal *noun* PHYS a crystal with dimensions in the nanometre range

nanogram *noun* one billionth of a gram
nanometer *noun* MEASURE US spelling of **nanometre**

nanometre *noun* ACOUSTICS a unit of measurement of length, equal to one thousand millionth of a metre or 10^{-9} metre. Abbr **nm**

nanomole *noun* MEASURE a unit of measurement of the amount of substance, equal to one thousand millionth or 10^{-9} of a mole. Abbr **nmol**

nanoparticle *noun* CHEM a particle of something such as a metal, polymer, or oxide, with dimensions in the nanometre range

nanoplankton *plural noun* MARINE BIOL plankton in the size range 10–50 μm

nanopore *noun* CHEM a tiny pore in a material used to filter objects such as molecules or DNA strands that are less than several nanometres in diameter

nanoscience *noun* PHYS the study of materials and their behaviour at the level of particles measured in nanometres

nanosecond *noun* MEASURE a unit of measurement of time, equal to one thousand millionth or 10^{-9} of a second. Abbr **ns**

nanosecond circuit *noun* ELECTRONICS same as **nanocircuit**

nanostructure *noun* PHYS an extremely small structure such as a semiconductor or optoelectronic device with dimensions of 0.1–50 nm

nanotechnology *noun* ENG the manipulation of very small components to build microscopic machinery

nanotube *noun* PHYS an extremely thin metallic or semiconducting cylinder, capped at one end, consisting of a rolled-up layer of fullerene-structured carbon atoms

naphthalene *noun* CHEM a strong-smelling, volatile white solid used in the manufacture of explosives, dyes, resins and polyesters. Formula: $C_{10}H_8$. (NOTE: It is derived from coal tar, and gives the familiar smell to moth balls.)

narcotic *noun* PHARM a typically addictive drug, especially one derived from opium (NOTE: Narcotics may reduce pain, induce sleep or stupor and alter mood or behaviour.) ■ *adjective* 1. inducing sleep or stupor 2. PHARM referring to narcotics

narrative *noun* COMPUT a set of explanatory notes or comments to help a user operate a program

narrative statement *noun* COMPUT a statement which sets variables and allocates storage at the start of a program

narrow *adjective* small in width ○ *a narrow beam of electrons*

NASA *abbreviation* US AEROSP National Aeronautics and Space Administration

nasopharynx *noun* ANAT the top part of the pharynx which connects with the nose

nastic response *noun* BOT a response of plants and flowers to a stimulus which is not connected with the direction from which the stimulus comes, e.g. the closing of flowers at night

-nasty *suffix* BOT nastic response

natality *noun* ZOOLOG birth

natality rate *noun* ZOOLOG the number of births per year, expressed per thousand of the population

national *adjective* GEOG referring to a specific country

National Aeronautics and Space Administration *noun* AEROSP US government agency which carries out aviation and space research projects. Abbr **NASA**

National Center for Supercomputing Applications *noun* COMPUT a US organisation that helped define and create

the World Wide Web with its Mosaic Web browser. Abbr **NCSA**

national grid *noun* ELEC same as **electricity grid**

National Nature Reserve *noun* ENVIRON a nationally important example of a type of habitat, established as reserve to protect the most important areas of wildlife habitat and geological formations. Abbr **NNR** (NOTE: There are over 200 National Nature Reserves in England, owned or controlled by English Nature or held by approved bodies such as Wildlife Trusts.)

national park *noun* ENVIRON a large area of land selected because of its scenic, recreational, scientific, or historical importance for special protection from development, and managed by a local government body for recreational use by the public and the benefit of the local community

National Radiological Protection Board *noun* HEALTH an agency that monitors radiation risks to the UK population. Abbr **NRPB**

National Trust *noun* ENVIRON in England, Wales and Northern Ireland, a charitable organisation that preserves historic buildings, gardens, parks, coastline and areas of natural beauty for the benefit of the public

National Vegetation Classification *noun* a systemic scheme for classifying types of vegetation in the United Kingdom, covering all natural, semi-natural and major artificial habitats, including derelict urban sites. Abbr **NVC**

native *adjective* ECOL always having lived, grown or existed in a place ○ *Tigers are native to Asia.*

native breeds *plural noun* breeds which have been developed in a country, and not brought in from other countries

native compiler *noun* COMPUT a compiler that produces code which will run on the same hardware system as the compiler

native element *noun* CHEM an element such as gold or carbon which exists in a pure state in nature

native file format *noun* COMPUT a default file format that is used by an application to store its data on disk

native species *noun* ECOL a species which exists naturally in an area

natron *noun* MINERALS a white, yellow, or grey mineral consisting of hydrated

sodium carbonate, obtained from salt deposits and formerly used in embalming

natural *adjective* 1. referring to nature, or produced by nature not by humans ○ *natural materials* ○ *areas of natural beauty* 2. usual or expected ○ *It's natural to be concerned about what's in the food you eat.*

natural abundance *noun* PHYS the relative amount of a nuclide occurring naturally

natural amenities *plural noun* ENVIRON features of the landscape that are not made by humans and are regarded as contributing to a pleasant environment, e.g. rivers, lakes or moorland

Natural Area *noun* an area of the United Kingdom that is a biogeographical zone with a characteristic association of wildlife and natural features (NOTE: There are both terrestrial and marine Natural Areas, managed by English Nature.)

natural background *noun* ENVIRON the surrounding level of radiation or substances such as arsenic in a specific location

natural binary coded decimal *noun* COMPUT a representation of single decimal digits as a pattern of 4 bits. Abbr **NBCD**

natural childbirth *noun* MED childbirth during which mothers are not given pain-killing drugs but are encouraged to give birth with as little medical assistance as possible

natural disaster *noun* EARTH SCI a phenomenon such as a storm, earthquake or flood that destroys property and kills people and livestock

natural ecosystem *noun* an ecosystem where humans have had no more local influence than native species

natural environment *noun* 1. ECOL same as **natural habitat** 2. ENVIRON the part of the Earth that has not been built or formed by humans. Compare **built environment**

natural evaporation *noun* METEOROL the evaporation of moisture from lakes, rivers or the sea caused by the wind or the sun

natural gas *noun* INDUST a gas often found near petroleum deposits, although it can occur without petroleum, used as a domestic fuel (NOTE: It is mainly formed of methane but also contains small amounts of butane and propane. It contains no sulfur, unlike coal gas, and since it mixes with

air it burns completely, creating very little carbon monoxide.)

natural habitat *noun* ECOL the usual surroundings in which an organism lives in the wild. Also called **natural environment**

natural historian *noun* BIOL, GEOL same as **naturalist**

natural history *noun* BIOL, GEOL the study of living organisms in their natural environments and of the features of the Earth not formed by humans

natural immunity *noun* IMMUNOL immunity from disease inherited by newborn offspring from birth, acquired in the womb or from the mother's milk

natural increase *noun* ZOOLOG an increase in a population when births exceed deaths

natural insecticide *noun* AGRIC an insecticide produced from plant extracts

naturalise, naturalize *verb* ENVIRON to introduce a species into an area where it has not lived or grown before so that it becomes established as part of the ecosystem ○ *Rhododendron ponticum has become naturalised in parts of Britain.*

naturalist *noun* BIOL a person who is interested in and studies the natural environment and its organisms

natural language *noun* COMPUT a language that is used or understood by humans ○ *The expert system can be programmed in a natural language.*

natural logarithm *noun* MATHS a logarithm that has the constant e or 2.718 as a base

natural pollutant *noun* ENVIRON a polluting substance that occurs naturally, e.g. ash from a volcano

natural resource *noun* ENVIRON a naturally occurring material that can be put to use by humans, e.g. wood or oil (*often plural*)

natural science *noun* SCI a science that deals with aspects of the physical world, e.g. biology, chemistry, geology or physics (*often plural*)

natural scientist *noun* SCI a person who specialises in natural science

natural selection *noun* BIOL the process of evolutionary change, by which offspring of organisms with certain characteristics are more able to survive and reproduce than offspring of other organisms, thus gradually changing the composition of a population

natural vegetation *noun* BOT the range of plant communities that exist in the natural environment without being planted or managed by people

nature *noun* 1. the characteristics that make someone or something what they are
 ○ *the nature of the task* 2. ECOL all living organisms and the environments in which they live
 ○ *They try to live in harmony with nature.*

Nature Conservancy Council *noun* ENVIRON a former UK organisation (1973–91) that took official responsibility for the conservation of fauna and flora (NOTE: Now replaced by English Nature, the Countryside Council for Wales and Scottish Natural Heritage.)

nature conservation *noun* ENVIRON the active management of the Earth's natural resources, plants, animals and environment, to ensure that they survive or are appropriately used

nature management *noun* ENVIRON the activity of managing a natural environment to encourage plant and animal life

nature reserve *noun* an area where plants, animals and their environment are protected

nature study *noun* BIOL the study of natural history, especially at primary school

nature trail *noun* ENVIRON a path through the countryside with signs to draw attention to important and interesting features about plants, animals and the environment

nauplius *noun* MARINE BIOL a swimming larva of a crustacean (NOTE: The plural is *nauplii*.)

nautical *adjective* NAUT referring to ships and the sea

nautical mile *noun* MEASURE a unit of measurement of distance, equal to 1.852 km, used at sea and in the air. Abbr **nm**

COMMENT: A nautical mile is the length of an arc on the Earth's surface subtended by an angle of one minute at the centre of the Earth. One knot is equal to one nautical mile per hour.

Nb *symbol* CHEM ELEM niobium

NBCD *abbreviation* COMPUT natural binary coded decimal

NC *abbreviation* COMPUT network computer

NCSA *abbreviation* COMPUT National Center for Supercomputing Applications

Nd *symbol* CHEM ELEM neodymium

Ne *symbol* CHEM ELEM neon

Neandertal man *noun* ANTHROP an extinct subspecies of human being, which populated Europe, North Africa, and western Asia in the early Stone Age

neap tide *noun* EARTH SCI a tide which occurs at the first and last quarters of the Moon, when the difference between high and low water is less than usual. Compare **spring tide**

Nearctic Region *noun* EARTH SCI a biogeographical region, part of Arctogea, comprising North America and Greenland

near-earth object *noun* ASTRON an asteroid or comet that may approach within 28 million miles of Earth's orbit. Abbr **NEO**

nebula *noun* ASTRON a region or cloud of interstellar dust and gas (NOTE: The term originally applied to any non-point source of light from outside the solar system, but is now no longer used to describe galaxies. A wide range of types of nebulae is recognised, including dark and bright types, some dominated by gas and others in which dust is a major component. The plural is *nebulae*)

nebuliser *noun* INDUST same as **atomiser**

necrosis *noun* the death of tissue or cells in an organism

necrotroph *noun* a parasite which only feeds on dead organisms. Compare **biotroph**

nectar *noun* BOT a sweet sugary liquid produced by flowers, which attracts birds or insects which pollinate the flowers

nectary *noun* BOT a plant part that produces nectar, often found at the base of a flower (NOTE: Nectaries are usually in the flowers but may also develop on other plant parts such as the traps of pitcher plants.)

need *noun* something that is necessary or required
 ○ *the need for clean water* □ **in need** EARTH SCI requiring something, especially financial aid or food aid ■ *plural noun* **needs** something that a person must have for their health or well-being
 ○ *nutritional needs* ■ *verb* to require something
 ○ *We need more resources.*

needle *noun* 1. BOT a thin hard leaf of a conifer 2. a thin metal pointer in an instrument
 ○ *The needle on the dial indicated zero.*

needle valve *noun* MECH ENG a valve formed of a tapered needle projecting into a small opening in a tube, usually connected to a float, which provides fine adjustment of fluid flow ◦ *Atmospheric pressure will allow the capsule to expand, causing the needle valve to move into the opening, thus reducing the flow of fuel.*

NEF *abbreviation* ENVIRON noise exposure forecast

negate *verb* MATHS to reverse the sign of a number ◦ *If you negate 23.4, the result is -23.4.*

negation *noun* 1. MATHS the reversal of the sign of a number, e.g. from 5 to -5 2. ELEC a single input gate whose output is equal to the logical inverse of the input

negative *adjective* 1. having a value of less than 0 ◦ *The mechanism enables the propeller to be set to a negative pitch.* Symbol -. Opposite **positive** 2. ELEC referring to an electric charge of the same sign as that of an electron. Symbol - 3. showing refusal ◦ *a negative response* ◦ *a negative answer* 4. PHOTOGRAPHY (*of an image*) showing the light and dark areas of objects the opposite of how they are seen

negative acknowledgement *noun* COMPUT a signal sent by a receiver to indicate that data has been incorrectly or incompletely received. Abbr **NAK**

negative feedback *noun* a situation in which the result of a process inhibits the action which caused the process

negative ion generator *noun* INDUST same as **ioniser**

negative number *noun* MATHS a number which represents the number subtracted from zero, indicated by a minus sign (-) in front of the number

negative pressure *noun* PHYS the condition that exists when less air is supplied to a space than is used up, so the air pressure in that space is less than that in surrounding areas ◦ *Under negative pressure, if an opening exists, air will flow from surrounding areas.*

negative terminal *noun* ELEC the terminal of a battery marked with the symbol - and normally coloured black

negative-true logic *noun* COMPUT the use of a lower voltage level to represent binary 1 than for binary 0

negligible *adjective* small or unimportant to the extent that it is not worth considering ◦ *negligible risk* ◦ *Atmospheric*

attenuation is negligible until the upper end of the UHF (ultra high frequency) band when it increases rapidly.

neighbourhood noise *noun* ENVIRON the general noise from a local source such as a factory which is disturbing to people living in the area

neither-nor function *noun* MATHS a logical function whose output is false if any input is true

nekton *plural noun* MARINE BIOL swimming sea animals such as fish, as opposed to floating or drifting animals such as plankton

nematicide *noun* AGRIC a substance which kills nematodes

nematode *noun* ZOOLOGY a type of roundworm, some of which, e.g. hookworms, are parasites of animals while others, e.g. root knot and cyst nematodes, live in the roots or stems of plants

NEO *abbreviation* ASTRON near-earth object

neo- *prefix* new

neo-Darwinism *noun* BIOL a revised form of Darwin's theory of evolution which accounts for modern genetics and other recent discoveries

neodymium *noun* CHEM ELEM a poisonous silvery-white or yellowish metallic element used in lasers and glass manufacture (NOTE: The chemical symbol is **Nd**; the atomic number is **60** and the atomic weight is **144.24**.)

Neogea *noun* EARTH SCI one of the main biogeographical regions of the Earth, comprising Central and South America together with the islands in the Caribbean

neo-Lamarckism *noun* BIOL the modification of Lamarckism by a theory of the evolution of genetic variation influenced by environmental factors

neon *noun* CHEM ELEM an inert gas found in very small quantities in the atmosphere. It is used in illuminated signs. (NOTE: The chemical symbol is **Ne**; the atomic number is **10** and the atomic weight is **20.18**.)

neonatal *adjective* MED referring to the first few weeks after birth

neonatal death rate *noun* MED a number of newborn babies who die, shown per thousand babies born

neoplasm *noun* MED an abnormal growth of tissue

neoplastic *adjective* MED relating to neoplasms

neoprene *noun* INDUST a synthetic rubbery material, used in waterproof equipment such as wetsuits

neoteny *noun* ZOOLOG the continuing presence of larval features in an adult animal

Neotropical Region *noun* EARTH SCI same as **Neogea**

nephron *noun* ANAT a tiny structure in the kidney through which fluid is filtered

Neptune *noun* ASTRON the eighth planet of the solar system and the last of significant size, being the outermost of the gas giants (NOTE: Neptune has a diameter of 48600km and a mean distance from the Sun of 3AU, and takes 165 years to make one orbit of the Sun.)

neptunium *noun* CHEM ELEM a naturally radioactive element (NOTE: The chemical symbol is **Np**; the atomic number is **93** and the atomic weight is **237.05**.)

NEQ function *noun* MATHS a logical function where the output is true if the inputs are not the same, otherwise the output is false

neritic *adjective* MARINE BIOL referring to an animal or plant which lives in the shallow sea over the continental shelf

neritic facies *noun* EARTH SCI the visual appearance of sedimentary rocks laid down in shallow water, where the ripple marks made by waves are clearly visible

neritic zone *noun* EARTH SCI an area of warm shallow water at the edge of a lake or sea, which is the habitat of plants and other organisms

Nernst heat theorem *noun* PHYS the theory stating that if a chemical change occurs between two crystalline solids at a temperature of zero, the entropy of the resulting substances is the same as that of the initial substances

nerve *noun* ANAT a bundle of fibres in a body which take impulses from one part of the body to another, each fibre being the axon of a nerve cell (NOTE: For other terms referring to nerves, see words beginning with **neur-**.)

COMMENT: Nerves are the fibres along which impulses are carried. Motor nerves or efferent nerves take messages between the central nervous system and muscles, making the muscles move. Sensory nerves or afferent nerves transmit impulses such as sight or pain from the sense organs to the brain.

nerve block *noun* PHARM an act of stopping the function of a nerve by injecting an anaesthetic

nerve cell *noun* BIOL same as **neuron**

nerve centre *noun* ANAT a point at which nerves come together

nerve cord *noun* ANAT a long bundle of nerve tissue that forms a major part of a central nervous system, e.g. the spinal cord in vertebrates

nerve ending *noun* ANAT a terminal at the end of a nerve fibre, where a nerve cell connects with another nerve or with a muscle

nerve fibre *noun* BIOL same as **axon**

nerve gas *noun* MIL a gas which attacks the nervous system

nerve impulse *noun* BIOCHEM an electrochemical impulse which is transmitted by nerve cells

nerve root *noun* ANAT the first part of a nerve as it leaves or joins the spinal column (NOTE: The dorsal nerve root is the entry for a sensory nerve and the ventral nerve root is the exit for a motor nerve.)

nerve tissue *noun* ANAT the tissue that forms nerves, and which is able to transmit the nerve impulses

nervous system *noun* ANAT the network of specialised cells that transmit nerve impulses in most animals

nest *noun* ZOOLOG **1.** a construction built by birds and some fish for their eggs **2.** a construction made by some social insects such as ants and bees for the colony to live in ■ **verb** **1.** ZOOLOG to build a nest **2.** COMPUT to insert a subroutine within a program or another routine **3.** COMPUT to use a routine that calls itself recursively

nest builder *noun* ZOOLOG an animal which builds a nest

nested loop *noun* COMPUT a loop inside another loop in the same program

nest epiphyte *noun* BOT a plant whose aerial roots and stems collect rotting organic matter from which the plant takes nutrients

nesting bird *noun* ZOOLOG a bird which is sitting on its eggs to incubate them

nesting level *noun* COMPUT a number of subroutines within a subroutine

nesting site *noun* ZOOLOG a place where a bird builds or is likely to build a nest

nestling *noun* ZOOLOG a very young bird that has not yet left its nest

net *adjective* referring to the amount remaining after all deductions have been made ■ *noun* COMPUT same as **Internet** (*informal*)

NetBIOS *noun* COMPUT a set of basic operations such as a file sharing and the transfer of data between nodes within a network carried out by a widely used set of commands within application programs, using a system created by IBM ○ *This software uses NetBIOS calls to manage file sharing.* Full form **Network Basic Input Output System**

net primary productivity *noun* BOT the rate at which organic matter is incorporated into plants to produce growth

net productivity *noun* BOT the difference between the amount of organic matter produced by photosynthesis and the amount of organic matter used by plants in their growth

net useful energy *noun* PHYS a usable amount of energy available from an energy source over its lifetime

network *noun* **1.** a complex interconnected group or system of people or things ○ *A network of meteorological stations around the world exchange information.* **2.** a system of lines or channels which cross each other ○ *On a map, meridians of longitude and parallels of latitude form a network of lines called a graticule.* **3.** COMPUT a system made up of a number of points or circuits that are interconnected ■ *verb* to link people or things together in a network ○ *They run a system of networked micros.* ○ *The workstations have been networked together rather than used as standalone systems.*

network adapter *noun* COMPUT an add-in board that connects a computer to a network (NOTE: The board converts the computer's data into electrical signals that are then transmitted along the network cable.)

network address *noun* COMPUT the part of an IP address that defines the main network on which the domain is located (NOTE: For class A networks this is the first byte of the address, for class B networks it is the first two bytes and for class C networks it is the first three bytes. The rest of the IP address forms the host address.)

network administrator *noun* COMPUT a person who is responsible for looking after a network, with responsibilities that

include installing, configuring and maintaining the network

network alert *noun* COMPUT a message sent from the network operating system to the user warning that the network hardware is not working properly

network analysis *noun* COMPUT the study of messages, destinations and routes in a network to provide a better operation

network architecture *noun* COMPUT the way in which a network is constructed, e.g. layers in an OSI system

network computer *noun* COMPUT a computer that is designed to run Java programs and access information using a web browser. Abbr **NC**

COMMENT: A network computer has a small desktop box that does not have a floppy disk drive. Instead it downloads any software it requires from a central server. Network computers are simpler and cheaper than current PCs and Macintosh computers, and are designed to be easier to manage in a large company.

network drive *noun* COMPUT a disk drive that is part of another computer on a network, but it can be used by anyone using the network

networking *noun* COMPUT **1.** the working or organisation of a network **2.** the interconnection of two or more computers either in the same room or different buildings, in the same town or different towns, allowing them to exchange information

COMMENT: Networking allows a machine with a floppy disk drive to use another PC's hard disk when both machines are linked by a cable and are using networking software.

network interface card *noun* COMPUT an add-in board that connects a computer to a network. Abbr **NIC** (NOTE: The board converts the computer's data into electrical signals that are then transmitted along the network cable.)

network layer *noun* COMPUT the third ISO/OSI layer that decides on the route to be used to send a packet of data

network management *noun* COMPUT the organisation, planning, running and upkeep of a network

network news transfer protocol *noun* COMPUT a set of commands used to interact with and control a news server on the Internet or an intranet to allow a news-reader to access news articles. Abbr **NNTP**

network operating system *noun* COMPUT an operating system running on a dedicated server computer that controls

access to the network resources, and manages network links, printing and users.

Abbr **NOS**

network protocol *noun* COMPUT a set of handshaking signals that defines how a workstation sends data over a network without clashing with other data transmissions

network server *noun* COMPUT a computer that runs a network operating system and controls the basic network operations (NOTE: All the workstations in a LAN are connected to the central network server and users log onto a network server.)

network time protocol *noun* COMPUT a protocol that provides an accurate time signal to computers on the Internet based on an atomic clock, which allows local computers to synchronise their clocks. Abbr **NTP**

network topology *noun* COMPUT a layout of machines in a network such as a star network, ring network or bus network that will determine what cabling and interfaces are needed and what possibilities the network can offer

neural *adjective* ANAT referring to a nerve or the nervous system

neural arch *noun* ANAT the curved part of a vertebra, which forms the space through which the spinal cord passes

neural crest *noun* BIOL a ridge of cells in an embryo which forms the nerve cells of the sensory and autonomic ganglia

neural groove *noun* BIOL a groove on the back of an embryo, formed as the neural plate closes to form the neural tube

neural network *noun* COMPUT a system running an artificial intelligence program which attempts to simulate the way the brain works

neural plate *noun* BIOL the thickening of an embryonic disc which folds over to form the neural tube

neural tube *noun* BIOL a tube lined with ectodermal cells running the length of an embryo, which develops into the brain and spinal cord

neural tube defect *noun* MED a congenital defect such as spina bifida which occurs when the edges of the neural tube do not close up properly during development

neurobehavioural *adjective* MED, PSYCHOL relating to the condition of the nervous system and its effects on behaviour

neurodegenerative *adjective* MED relating to a disorder such as Alzheimer's disease or Parkinson's disease that causes nerve degeneration

neuron, neurone *noun* ANAT a cell that transmits nerve impulses. Also called **nerve cell** (NOTE: It usually consists of a cell body, an axon and dendrites.)

neuroprosthesis *noun* MED a prosthetic device that uses brain waves to stimulate muscle contraction

neuroprosthetics *noun* MED the branch of medicine that deals with prosthetic devices that are controlled by brain-wave activity

neurotology *noun* MED the medical study of the nervous system as it affects the ear and hearing loss

neurotoxicity *noun* the capacity to prevent nerve impulses from working

neurotoxin *noun* BIOCHEM a substance which prevents nerve impulses from working, e.g. the poison of a snake or insect

neurotransmitter *noun* BIOCHEM a chemical substance which transmits nerve impulses from one neuron to another

COMMENT: The main neurotransmitters are the catecholamines, adrenaline, noradrenaline, 5-hydroxytryptamine and acetylcholine. Other neurotransmitters such as gamma aminobutyric acid, glutamine and substance P are less common.

neurotrophin *noun* BIOCHEM a protein in the body that encourages the survival and growth of nerve cells

neurovirology *noun* MED the scientific study of viruses such as HIV that occur in brain cells and of the diseases and mental illnesses caused by them

neuston *plural noun* MARINE BIOL organisms such as plankton which float or swim in the surface film of a body of water

neuter *adjective* BIOL neither male nor female

neutraceutical, neutriceutical *noun* same as **functional food**

neutral *adjective* **1.** CHEM referring to the state of being neither acid nor alkali \circ *pH 7 is neutral.* **2.** ELEC referring to an electrical charge that is neither positive nor negative ■ *adjective, noun* **1.** referring to the position of a switch or lever which leaves a system active but not engaged, e.g. an engine gear lever position in which the engine is disconnected from the driven parts **2.** AVIAT referring to the middle position of a control surface providing no aero-

dynamic effect other than that as part of the wing ○ *After a turn, the auto-control will return the ailerons to neutral as the aircraft returns to straight flight.*

neutralisation, neutralization *noun* CHEM a chemical process in which an acid reacts with a base to form a salt and water

neutralise, neutralize *verb* **1.** CHEM to make an acid neutral ○ *Acid in drainage water can be neutralised by limestone.* **2.** CHEM (*of an acid*) to react with a base to form a salt and a water **3.** MED to make a bacterial toxin harmless by combining it with the correct amount of antitoxin **4.** BIO-CHEM to counteract the effect of something

neutral soil *noun* EARTH SCI soil which is neither acid nor alkaline, i.e. where the pH value is neutral

neutrino *noun* PHYS an elementary particle without mass or electric charge whose main property is spin (NOTE: Neutrinos are given off in immense numbers in nuclear reactions and billions of them pour off the Sun.)

neutron *noun* PHYS a particle with no electric charge in the nucleus of an atom. Compare **ion**

neutron excess *noun* PHYS † **isotopic number**

neutron star *noun* ASTRON an object produced by the death of a star weighing 1.4–2.3 solar masses

COMMENT: As soon as there is too little radiation emerging from stars of this mass to prevent their collapse, they shrink until the pressure between neutrons in the star's atomic nuclei will not allow them to become any smaller. Neutron stars are still able to emit energy, as observations of pulsars confirm.

neutrophil *noun* IMMUNOL the commonest type of white blood cell in vertebrates (NOTE: It is responsible for protecting against infections.)

névé *noun* EARTH SCI the spring snow on high mountains which becomes harder and more like ice during the summer

new moon *noun* ASTRON the beginning of a lunar phase, when the Moon's face is not lit by the Sun

newsgroup *noun* COMPUT a feature of the Internet that provides free-for-all discussion forums

new technology *noun* INDUST the range of electronic instruments and devices which have recently been developed and are being introduced into industry

newton *noun* MEASURE, PHYS an SI unit of measurement of force. Abbr **N** (NOTE: 1 newton is the force required to move 1 kilogram at the speed of 1 metre per second.)

Newton, Isaac (1642–1727) an English scientist and philosopher whose influence on astronomy ranged from the highly practical invention of the reflecting telescope to the theoretical insight of the universal theory of gravitation

Newtonian fluid *noun* PHYS a liquid that conforms to Newton's equation in which the amount of strain is proportional to the stress and to time, where the constant of proportionality is called the coefficient of viscosity

Newtonian telescope *noun* ASTRON a reflecting telescope in which mirrors form an image that is viewed through a hole in the side of the telescope

Newton's law of cooling *noun* PHYS a law that describes the rate of transfer of heat from a hot body cooling in air, which is proportional to the temperature difference between the body and the surrounding air

Newton's rings *plural noun* OPTICS a series of alternating bright and dark rings created by the contact of a convex lens with a glass plate

next instruction register *noun* COMPUT a register in a central processing unit that contains the location where the next instruction to be executed is stored. † **register**

nexus *noun* COMPUT a connection point between units in a network

NFE *abbreviation* nitrogen-free extract

NFFO *adjective* referring to technologies which are designed to ensure diversity of power supply, such as hydro power, energy crops and wind power, according to the Non-Fossil Fuel Obligation

NGO *abbreviation* non-governmental organisation

Ni *symbol* CHEM ELEM nickel

niacin *noun* CHEM a vitamin of the vitamin B complex found in milk, meat, liver, kidney, yeast, beans, peas and bread. Formula: $C_6H_5NO_2$. Also called **nicotinic acid** (NOTE: Lack of niacin can cause mental disorders and pellagra.)

nibble, nybble *noun* COMPUT half the length of a standard byte (*informal*) (NOTE: A nibble is usually 4 bits, but can vary according to different micros or people.)

NIC *abbreviation* COMPUT network interface card

NiCad battery *abbreviation* ELEC nickel-cadmium battery

niche *noun* ECOL a place in an ecosystem which a species has adapted to occupy

nickel *noun* CHEM ELEM a metallic element (NOTE: The chemical symbol is **Ni**; the atomic number is **28** and the atomic weight is **58.71**.)

nickel-cadmium battery, nickel-cadmium cell *noun* ELECTRONICS, ELEC a type of rechargeable battery which has a higher storage density than a lead-acid battery. Abbr **NiCad battery**

COMMENT: NiCad batteries unfortunately have one problem called 'memory' which gradually reduces their ability to retain charge. To remove the memory the battery should be conditioned by running it right down so that it has no charge, before re-charging it.

nickel carbonyl *noun* CHEM a colourless liquid formed from nickel, carbon and oxygen, used as a catalyst and in the Mond process to prepare nickel. Formula: $\text{Ni}(\text{CO})_4$.

nickel metal hydride battery *noun* ELEC a type of rechargeable battery which has better charge-carrying ability than a nickel-cadmium battery, is quicker to charge and does not suffer from 'memory'. Abbr **NiMH**

nicotine *noun* CHEM a harmful substance in tobacco. It is used as an insecticide.

nicotinic acid *noun* BIOCHEM same as **niacin**

nictitating membrane *noun* ZOOL a layer of skin underneath the eyelid that birds, reptiles, and some mammals can pull over the eye. Also called **third eyelid**

nid- *prefix* ZOOL nest

nidicolous *adjective* ZOOL referring to a very young bird that is not well developed when it leaves the egg and remains in the nest for some time

nidifugous *adjective* ZOOL referring to a very young bird that is well developed when it leaves the egg and can leave the nest immediately

night soil *noun* AGRIC human excreta, collected and used for fertiliser in some parts of the world

nil *noun* zero

nimbostratus *noun* METEOROL a grey mass of cloud with precipitation in the

form of rain or snow about 1000m above the ground

nimbus *noun* METEOROL a dense dark rain-bearing cloud

NiMH *abbreviation* ELEC nickel metal hydride battery

nine's complement *noun* MATHS a decimal complement, equivalent to the complement of binary one, formed by subtracting each digit in the number from nine.

◊ **ten's complement**

niobium *noun* CHEM ELEM a shiny pale grey superconducting metallic element used in steel alloys (NOTE: The chemical symbol is **Nb**; the atomic number is **41** and the atomic weight is **92.91**.)

nipple *noun* ZOOL the teat through which a baby or young mammal sucks milk

nitrate *noun* CHEM **1.** an ion with the formula NO_3^- . **2.** a chemical compound containing the nitrate ion, e.g. sodium nitrate

COMMENT: Nitrates are a source of nitrogen for plants. They are used as fertilisers but can poison babies if they get into drinking water.

nitrate-sensitive area, nitrate-vulnerable zone *noun* ENVIRON a region of the country where nitrate pollution is likely and where the use of nitrate fertilisers is strictly controlled. Abbr **NSA, NVZ**

nitric *adjective* CHEM referring to a compound containing nitrogen

nitric acid *noun* CHEM a corrosive acid. It is a very reactive oxidising agent, used in making fertilisers, explosives and rocket fuels. Formula: HNO_3 .

nitric oxide *noun* CHEM a gas that is produced by burning at high temperatures, as in forest fires and internal combustion engines. Formula: NO . (NOTE: It converts to nitrogen dioxide in the atmosphere, is a major contributor to photochemical smog and is soluble in water. It contributes to acid rain (nitric acid) deposition, and is important in the catalytic destruction of ozone in the stratosphere.)

nitrification *noun* BIOL the process by which bacteria in the soil break down nitrogen compounds and form nitrates which plants can absorb (NOTE: It is part of the nitrogen cycle.)

nitrification inhibitor *noun* a chemical product used to slow down the release of nitrate in organic manure

nitrifier *noun* a microorganism that is involved in the process of nitrification

nitriſy *verb* CHEM to convert nitrogen or nitrogen compounds into nitrates

nitriſying bacteria *plural noun* CHEM bacteria which convert nitrogen into nitrates

nitrite *noun* CHEM **1.** an ion with the formula NO_2^- **2.** a chemical compound containing the nitrite ion, e.g. sodium nitrite

COMMENT: Nitrites are formed by bacteria from nitrogen as an intermediate stage in the formation of nitrates.

nitro compound *noun* CHEM an organic compound formed of a nitro group ($-\text{NO}_2$) attached to an aromatic ring

nitrogen *noun* CHEM ELEM a chemical element that is the main component of air and an essential part of protein. It is essential to biological life. (NOTE: The chemical symbol is **N**; the atomic number is **7** and the atomic weight is **14.01**.)

COMMENT: Nitrogen is taken into the body by digesting protein-rich foods. Excess nitrogen is excreted in urine. When the intake of nitrogen and the excretion rate are equal, the body is in nitrogen balance or protein balance.

nitrogen compound *noun* CHEM a substance such as a fertiliser containing mostly nitrogen with other elements

nitrogen cycle *noun* BIOL the set of processes by which nitrogen is converted from a gas in the atmosphere to nitrogen-containing substances in soil and living organisms, then converted back to a gas (NOTE: Nitrogen is absorbed into green plants in the form of nitrates, the plants are then eaten by animals and the nitrates are returned to the ecosystem through animals' excreta or when an animal or a plant dies.)

nitrogen deficiency *noun* AGRIC a lack of nitrogen in the soil, found where organic matter is low and resulting in thin, weak growth of plants

nitrogen dioxide *noun* CHEM a brown toxic irritant gas, used in the manufacture of nitric acid and in rocket fuels. Formula: NO_2 . (NOTE: It is one of the pollutants produced by vehicle exhausts.)

nitrogen fertiliser *noun* AGRIC a fertiliser containing mainly nitrogen, e.g. ammonium nitrate

nitrogen fixation *noun* CHEM the process by which nitrogen in the air is converted by bacteria in some plant roots into nitrogen compounds (NOTE: When the

plants die the nitrogen is released into the soil and acts as a fertiliser.)

nitrogen-fixing bacteria *plural noun* CHEM bacteria such as *Rhizobium* in the soil which convert nitrogen in the air into nitrogen compounds by means of the process of nitrogen fixation in plants

nitrogen-fixing plant *noun* BOT a leguminous plant which forms an association with bacteria that convert nitrogen from the air into nitrogen compounds in the soil, e.g. a pea plant

nitrogen-free extract *noun* used in the chemical analysis of animal feeding stuffs, the nitrogen-free extract consists mainly of soluble carbohydrates (sugars) and starch. Abbr **NFE**

nitrogen monoxide *noun* CHEM same as **nitric oxide**

nitrogenous *adjective* CHEM referring to a compound containing nitrogen

nitrogenous fertiliser *noun* a fertilisers such as sulphate of ammonia which is based on nitrogen

nitrogen oxide *noun* CHEM an oxide formed when nitrogen is oxidised, e.g. nitric oxide or nitrogen dioxide. Formula: NO_x .

nitroglycerine *noun* INDUST a colourless thick oily liquid that is flammable and explosive, used in explosives manufacture and angina treatment. Formula: $\text{C}_3\text{H}_5(\text{NO}_3)_3$.

nitrous acid *noun* CHEM a weak acid that can exist only in solution or as salts. Formula: HNO_2 .

nitrous oxide *noun* CHEM a gas with a sweet smell that is one of the major greenhouse gases. Formula: HNO_2 . (NOTE: It is produced by soil cultivation and fertilisation and by burning fossil fuels and biomass.)

nm¹ *abbreviation* MEASURE nautical mile

nm² *abbreviation* MEASURE nanometre

NMI *abbreviation* COMPUT non-maskable interrupt

nmol *abbreviation* MEASURE nanomole

NMR *abbreviation* PHYS nuclear magnetic resonance

NNI *abbreviation* ENVIRON noise and number index

NNR *abbreviation* National Nature Reserve

NNTP *abbreviation* COMPUT network news transfer protocol

no-address operation *noun* COMPUT an instruction which does not require an address within it

NOAEL *noun* the highest concentration of a substance that causes no harm which can be detected by existing testing methods. Full form

no-observed-adverse-effect-level

nobelium *noun* CHEM ELEM a radioactive metallic element produced artificially from curium (NOTE: The chemical symbol is **No**; the atomic number is **102** and the atomic weight is **255**.)

noble gas *noun* CHEM a gas that does not react chemically with other substances (NOTE: The noble gases include helium, neon, argon, krypton, xenon and radon.)

noble metal *noun* METALL a metal such as gold or silver that resists corrosion and does not form compounds with non-metals

nociception *noun* MED the perception of physical pain

node *noun* **1.** COMPUT an interconnection point in a structure or network ◦ *This network has fibre optic connection with nodes up to one kilometre apart.* **2.** BOT a point on the stem of a plant where a leaf is attached

nodule *noun* BOT a small lump found on the roots of leguminous plants such as peas which contains bacteria that can convert nitrogen from the air into nitrogen compounds

noise *noun* ENVIRON unwanted sound, especially a sound that is unpleasant or too loud

noise and number index *noun* MEASURE a way of measuring noise from aircraft. Abbr **NNI**

noise criteria *plural noun* ENVIRON the levels of noise which are acceptable to people who hear them

noise exposure forecast *noun* ENVIRON a forecast of the effect that industrial or aircraft noise will have on people. Abbr **NEF**

noise immunity *noun* ENG the ability of a circuit to ignore or filter out or be protected from noise

noise level *noun* MEASURE the degree of loudness of a noise, taken as a measurement ◦ *The factory has announced plans to keep noise levels down to a minimum.*

noise pollution *noun* ENVIRON annoying or physically dangerous noise to which people are exposed in their work or home

environment and over which they often have no control

noise pollution level *noun* MEASURE the degree of loudness of annoying or physically dangerous noise in a person's environment, taken as a measurement. Abbr **NPL**

noise zone *noun* ENVIRON an area which is classified according to the amount of noise that exists in it

noisy *adjective* ENVIRON **1.** making a loud noise **2.** referring to a place where there is a lot of noise

noisy mode *noun* COMPUT a floating point arithmetic system, in which a digit other than a zero is deliberately added in the least significant position during the normalisation of a floating point number

nomad *noun* an animal that moves from place to place without having a fixed range. Compare **migrant**

nomadism *noun* ZOOLOG a habit of some animals that move from place to place without having a fixed range

nomenclature *noun* **1.** a system for assigning words and symbols to represent numbers or terms **2.** BIOL a system for giving names to organisms ◦ *taxonomic nomenclature*

nominal *adjective* not significant or not important ◦ *a nominal increase in the numbers of sparrows*

non- *prefix* not or no

non-biodegradable *adjective* ENVIRON referring to an object or substance that cannot be decomposed into environmentally safe waste materials by the action of soil bacteria

noncoding *adjective* GENETICS referring to the strand of a double-stranded DNA molecule that acts as a template for the synthesis of messenger RNA

noncombustible *adjective* CHEM not able to react vigorously with oxygen to produce heat and light, seen as a flame

noncompatibility *noun* COMPUT the state of two or more pieces of hardware or software that cannot exchange data or use the same peripherals

non-conductor *noun* PHYS a substance that is not a conductor of heat, electricity or sound

non-contact cooling water *noun* INDUST water used for cooling which does not come into contact with any raw material, product, by-product or waste

non-degradable *adjective* ENVIRON same as **non-biodegradable**

non-degradation *noun* ENVIRON the prevention of the pollution of clean air

non-disposable *adjective* ENVIRON referring to a product that is not thrown away after use, but can be recycled

non-equivalence function *noun* COMPUT a logical function where the output is true if the inputs are not the same, otherwise the output is false. Abbr **NEQ**

non-ferrous *adjective* CHEM not containing iron

non-flammable *adjective* referring to a material that is difficult to set on fire

non-genetically modified *adjective* BIOTECH referring to an organism with a genetic composition that has not been altered by genetic modification

non-governmental organisation *noun* ENVIRON an organisation which is not funded by a government and which works on a local, national or international level, e.g. a pressure group, charity or voluntary agency. Abbr **NGO**

nonhereditary *adjective* GENETICS not transferred or not capable of being transferred genetically from one generation to the next

non-indigenous *adjective* ECOL referring to a plant, animal or person that is not native to a place

noninheritable *adjective* GENETICS not able to be transferred genetically from one generation to the next

non-interlaced *adjective* COMPUT referring to a display system in which the picture electron beam scans each line of the display once during each refresh cycle (NOTE: The beam in an interlaced display scans every alternate line.)

non-maskable interrupt *noun* COMPUT a high priority interrupt signal that cannot be blocked by software and overrides other commands. Abbr **NMI**

non-metal *noun* CHEM a chemical element that lacks the physical and chemical properties of a metal, e.g. carbon or oxygen

nonmetallic material *noun* a substance such as wood, plastic or fabric that is not made of metal

nonmodal *adjective* COMPUT (*in a graphical user interface*) displaying a window but still allowing a user to access other windows that are on-screen

non-native *adjective* ECOL relating to a species that did not originate where it is now found

non-Newtonian fluid *noun* PHYS a fluid that is made up of two different phases and does not conform to the rules of proportionality of a Newtonian fluid

non-nucleated *adjective* BIOL referring to a cell with no nucleus

non-organic *adjective* **1.** CHEM referring to a compound that does not contain carbon **2.** AGRIC referring to crops that are not produced according to guidelines restricting the use of fertilisers and other practices

non-persistent *adjective* ENVIRON referring to a chemical, especially a pesticide, that decomposes quickly after it has been applied so that it does not enter the food chain

non-point source *noun* ENVIRON a source of pollution not associated with a specific discharge point (NOTE: Non-point sources include rainwater and runoff from agricultural land and industrial sites, as well as escaping gases from pipes and fittings.)

non-REM sleep *noun* BIOL same as **slow-wave sleep**

non-renewable *adjective* **1.** ENVIRON not able to be replaced when used up because a supply is limited ○ *non-renewable fuels* **2.** not able to be extended for a longer period ○ *non-renewable contract*

non-renewable energy *noun* INDUST power generated from a resource such as coal or oil that cannot be replaced once it has been used

non-renewable resource *noun* ENVIRON a natural resource which cannot be replaced once it has been used, e.g. coal or oil

non-resistant *adjective* BIOL referring to an organism that is not resistant to a disease, antibiotic, pesticide, herbicide or other agent

non-return valve *noun* ENG a valve which allows a fluid to pass in one direction only ○ *As the piston moves upwards in the cylinder, fluid is drawn in through a non-return valve.*

non-selective herbicide *noun* a chemical herbicide which kills all vegetation

non-selective weedkiller *noun* AGRIC a weedkiller that kills all plants

nonsense *noun* GENETICS a set of three nucleotides (**codon**) in a DNA molecule that does not carry the genetic code for an amino acid but may signal the beginning and end of the synthesis of some protein molecules

non-toxic *adjective* BIOL referring to a substance that is not poisonous or harmful to humans or other organisms or the environment

non-volatile random access memory *noun* COMPUT full form of **NVRAM**

nonylphenol *noun* CHEM a chemical compound that is a product of the breakdown of a surfactant commonly used in detergents and cleaning agents. It is reported to be an endocrine disrupter and is especially toxic to insects and aquatic organisms.

no parity *noun* COMPUT data transmission which does not use a parity bit

NOR function *noun* MATHS a logical function whose output is false if either input is true

COMMENT: The output is 1 only if both inputs are 0. If the two inputs are different or if both are 1, the output is 0.

NOR gate *noun* ELECTRONICS a electronic circuit or chip which performs a NOR function

normal *adjective* referring to something which is usual and expected

normal environmental lapse rate *noun* EARTH SCI the rate at which the temperature of the air falls with height above the Earth (NOTE: This is about 6.4°C per thousand metres, under conditions where there are no upward air currents or wind.)

normal form *noun* COMPUT a method of structuring information in a database to avoid redundancy and improve storage efficiency

normal format *noun* COMPUT a standardised format for data storage

normalisation, normalization *noun* COMPUT the process of normalising data

normalise *verb* COMPUT **1.** to convert data into a form which can be read by a particular computer system **2.** to convert characters into only capitals or only lower case **3.** to store and represent numbers in a pre-agreed form, usually to provide maximum precision ○ *All the new data has been normalised to 10 decimal places.*

normalised form *noun* COMPUT a floating point number that has been normalised so that its mantissa is within a particular range

normal range *noun* the expected range for a result or number, any items outside this range being errors

normal room temperature *noun* ENVIRON the temperature regarded as comfortable for usual daily human activity

norovirus *noun* MICROBIOL, MED a single-stranded RNA virus that is highly contagious and causes gastroenteritis. Family: Caliciviridae.

north *noun* NAVIG **1.** the compass point at 360° towards which the magnetic needle points ○ *flying towards the north* ○ *The wind is blowing from the north.* **2.** same as **magnetic north** ■ *adjective* **1.** NAVIG referring to the compass point 360° **2.** GEOG situated in the north ○ *the north coast of France* ■ *adverb* NAVIG towards the north ○ *The aircraft was heading north.*

North Atlantic Conveyor *noun* EARTH SCI an ocean current system carrying warm surface waters to the North Atlantic, where they cool and drop to a deeper level before flowing south again. Also called **Atlantic Conveyor Belt** (NOTE: Because it transfers heat to the atmosphere, it gives northwestern Europe a more temperate climate than other countries on a similar latitude such as Canada.)

North Atlantic Drift *noun* EARTH SCI a current of warm water flowing north along the east coast of the USA from the Gulf of Mexico, then crossing the Atlantic to northern Europe (NOTE: It is part of the North Atlantic Conveyor.)

North Atlantic Oscillation *noun* METEOROL an atmospheric mass that alternates between the North and South Poles and affects the strength and route of storms crossing the Atlantic from America to Europe as it changes in mass and pressure. Its effects are most obvious in November to April. Abbr **NAO**

north-east *noun* NAVIG the direction between north and east ■ *adjective* **1.** GEOG situated in the north-east ○ *the north-east coast of England* **2.** METEOROL blowing from the north-east ○ *a north-east wind* ■ *adverb* NAVIG towards the north-east ○ *We are heading north-east.*

northerly *adjective* NAVIG to or from the north ○ *The cyclone moved in a northerly*

direction towards the coast. ■ **noun** METEOROL a wind which blows from the north
northern *adjective* GEOG, NAVIG situated in the north or towards the north

northern hemisphere *noun* EARTH SCI the upper half of the Earth

Northern Lights *plural noun* EARTH SCI a spectacular illumination of the sky in the northern hemisphere caused by ionised particles striking the atmosphere. Also called **Aurora Borealis**

north-facing *adjective* directed towards the north ○ *a north-facing slope*

North Pole *noun* GEOG the point which is furthest north on the Earth

North Sea *noun* GEOG the sea to the north of the Netherlands and Germany, east of the UK and west of Scandinavia

North Sea oil *noun* INDUST oil extracted from the rocks under the North Sea

north-west *noun* NAVIG the direction between north and west ■ *adjective* 1. GEOG situated in the north-west ○ *the north-west coast of England* 2. METEOROL blowing from the north-west ○ *a north-west wind* ■ *adverb* NAVIG towards the north-west ○ *We are heading north-west.*

north wind *noun* METEOROL a wind blowing from or coming from the north (NOTE: A wind is named after the direction it comes from.)

NOS *abbreviation* COMPUT network operating system

nose *noun* ANAT the sense organ by which smells are detected

NOT-AND *noun* MATHS equivalent to the NAND function

notation *noun* a method of writing or representing numbers

notebook computer *noun* COMPUT a very small portable computer, usually smaller than a laptop computer, that has a small keyboard and display and can be carried easily

NOT function *noun* MATHS a logical inverse function where the output is true if the input is false

COMMENT: If the input is 1, the output is 0. If the input is 0, the output is 1.

NOT gate *noun* ELECTRONICS an electronic circuit or chip which performs a NOT function

notifiable disease *noun* MED a serious infectious disease of plants, animals or

people that has to be officially reported so that steps can be taken to stop it spreading
notification *noun* the act or an instance of informing someone officially

notify *verb* to inform someone about something officially

no-till agriculture, no-till farming *noun* a system of cultivation in which mechanical disturbance of the soil by ploughing is kept to a minimum to reduce soil erosion. Also called **non-till**. ◇ **minimum tillage**

notocord *noun* ZOOLOG a long flexible column of cells found in vertebrate embryos and in chordates which is a type of backbone

Notogea *noun* EARTH SCI one of the main biogeographical regions of the Earth, comprising Australia, New Zealand and the Pacific Islands

nova *noun* ASTRON a star which exhibits a sudden rapid increase of brightness, short of the massive brightening associated with a supernova (NOTE: The plural is **novae**.)

COMMENT: Novae are old stars prone to sudden brightening and most are seen to erupt only once. A nova can become 5–15 or more magnitudes brighter during an eruption.

noxious *adjective* MED harmful to people or animals

noy *noun* MEASURE a unit of measurement of perceived noise

nozzle *noun* a projecting part with an opening at the end of a pipe, for regulating and directing a flow of fluid

Np *symbol* CHEM ELEM neptunium

NPK *noun* AGRIC nitrogen, phosphorus and potassium, used in different proportions as a fertiliser

NPL *abbreviation* MEASURE noise pollution level

npn transistor *noun* ELECTRONICS a bipolar junction transistor that uses a p-type semiconductor for the base and an n-type for the collector and emitter

NREM sleep *noun* BIOL same as **slow-wave sleep**

NRPB *abbreviation* MED National Radiological Protection Board

ns *abbreviation* MEASURE nanosecond

NSA *abbreviation* ENVIRON nitrate-sensitive area

NSFnet *noun* COMPUT a wide area network developed by the National Science Foundation to replace ARPANET as the

main government-funded network linking together universities and research laboratories (NOTE: NSFnet was a crucial stepping-stone in the development history of the Internet. It was closed down in 1995 and replaced by a commercial high-speed network backbone that formed one of the foundations for the current commercial Internet.)

NTP *abbreviation* COMPUT network time protocol

n-type semiconductor *noun* PHYS a semiconductor material such as silicon which has a substance added to increase the number of negatively charged electrons and thus increase electrical conduction

nucellus *noun* BOT the part in the middle of a plant ovule in which the embryo forms

nuclear *adjective* **1.** referring to a central group **2.** PHYS referring to an atomic nucleus, especially to the production of energy by fission or fusion of nuclei **3.** BIOL referring to a cell nucleus

nuclear accident *noun* an unexpected event in a nuclear power station which results in release of radiation into the environment above permitted safety levels

nuclear bomb *noun* MIL a bomb whose destructive power is produced by nuclear fission or fusion

nuclear contamination *noun* ENVIRON the damage done to an object, person or substance because of contact with nuclear radiation

nuclear energy *noun* **1.** PHYS the energy released during a nuclear reaction, either fission or fusion **2.** INDUST the power created in a nuclear power station by a nuclear reaction which produces heat that warms water, forming steam that runs a turbine to generate electricity

nuclear family *noun* EARTH SCI a family group composed of two parents and their offspring

nuclear fission *noun* PHYS same as atomic fission

nuclear-free *adjective* ENVIRON without nuclear reactors or nuclear weapons ○ *While some countries remain nuclear-free, nuclear reactors supply about 15% of all electricity generated in the world.*

nuclear-free zone *noun* ENVIRON an area in which the use of nuclear reactors or the use of nuclear weapons is not allowed

nuclear fuel *noun* INDUST a substance such as uranium-238 which is fissile and

can be used to create a controlled reaction in a nuclear reactor

nuclear fuel cycle *noun* INDUST a series of processes by which uranium ore is extracted, processed to make uranium oxide, then enriched until it is ready for use in a reactor

nuclear fusion *noun* PHYS the joining together of several atomic nuclei to form a single large nucleus, creating energy, as in a hydrogen bomb

nuclear magnetic resonance *noun* PHYS the energy pulse released by an atomic nucleus exposed to high-frequency radiation in a magnetic field. Abbr **NMR**

nuclear physics *noun* PHYS the study of the structure, forces and behaviour of atomic nuclei

nuclear power *noun* INDUST **1.** the power generated by a nuclear reactor **2.** electricity generated by a nuclear power station

nuclear-powered *adjective* INDUST operated by nuclear power

nuclear power plant, nuclear power station *noun* INDUST a power station in which nuclear reactions are used to provide energy to run turbines which generate electricity

nuclear reaction *noun* PHYS a physical reaction of the nucleus of an atom, which when bombarded by radiation particles creates an isotope

nuclear reactor *noun* INDUST a device which creates heat and energy by starting and controlling atomic fission

nuclear reprocessing plant *noun* INDUST a place where spent nuclear fuel is subjected to chemical processes which produce further useful materials such as plutonium

nuclear waste *noun* ENVIRON the radioactive waste from a nuclear reactor, including spent fuel rods and coolant

nuclear weapon *noun* MIL a bomb or missile whose destructive power is produced by nuclear fission or fusion

nuclear winter *noun* ENVIRON a period expected to follow a nuclear explosion, when there would be no warmth and light because dust particles would obscure the Sun and most life would be affected by radiation

nuclease *noun* BIOCHEM an enzyme that breaks down nucleic acids

nucleating agent *noun* METEOROL a substance such as solid carbon dioxide that is scattered on clouds to make them release rain

nucleic acid *noun* BIOCHEM a complex organic acid, either DNA or RNA, that exists in the nucleus and protoplasm of all cells

nucleoid *noun* MICROBIOL a compact structure seen in bacterial cells and made of DNA

nucleolar *adjective* BIOL relating to a nucleolus or nucleoli

nucleolus *noun* BIOL a small round body inside a cell nucleus (NOTE: It is made of protein and RNA and is involved in making ribosomes and ribosomal RNA.)

nucleon *noun* PHYS a proton or neutron, especially one in an atomic nucleus

nucleonics *noun* PHYS the branch of physics dealing with the study of nucleons and atomic nuclei

nucleophile *noun* CHEM an atom, ion or molecule that acts as an electron donor when forming chemical bonds

nucleophilic addition *noun* CHEM a chemical reaction in which a small molecule is added to an unsaturated organic compound

nucleophilic substitution *noun* CHEM a chemical reaction in which an atom or group of atoms in an organic compound are substituted with a nucleophile

nucleoprotein *noun* BIOCHEM a combination of a protein and a nucleic acid, as in a chromosome

nucleoside *noun* BIOCHEM a purine or pyrimidine base linked to a sugar, especially ribose or deoxyribose

nucleotide *noun* BIOCHEM a nucleoside linked to a phosphate group (NOTE: Nucleosides join together to form the polymers RNA and DNA.)

nucleus *noun* **1.** PHYS the central core of an atom, formed of neutrons and protons **2.** BIOL the central body in a cell, containing DNA and RNA, and controlling the function and characteristics of the cell **3.** a central part or focus round which something gathers

nuclide *noun* PHYS one or more atomic nuclei of the same element, defined by having the same number of protons and neutrons and the same energy content

nué ardente *noun* EARTH SCI a cloud of burning gas that flows downhill during a volcanic eruption

NUL character *noun* COMPUT same as null character

null *noun* an instrument reading of zero

null character *noun* a character which means nothing, usually code 0. Also called **NUL character**

null instruction *noun* COMPUT a program instruction that produces no result

null list *noun* a list which contains nothing

null modem *noun* COMPUT a circuit or cable that allows two computers to communicate via their serial ports *o This cable is configured as a null modem, allowing me to connect these two computers together easily.*

null position *noun* COMPUT the zero position

null string *noun* COMPUT a string that contains no characters

null terminated string *noun* COMPUT a string of characters that has a null character to indicate the end of the string

number *noun* MATHS **1.** a representation of a quantity **2.** a written figure *o Each piece of hardware has a production number. o Please note the reference number of your order. ■ verb* COMPUT **1.** to put a figure on a document *o The pages of the manual are numbered 1 to 196. 2.* to assign digits to a list of items in an ordered manner

number range *noun* COMPUT a set of allowable values

numeral *noun* MATHS a character or symbol which represents a number

numerator *noun* MATHS the part of a common fraction appearing above the line, representing the number of parts of the whole that are being considered

numeric, numerical adjective **1.** MATHS referring to numbers **2.** COMPUT containing only numbers *o a numeric code*

numerical analysis *noun* MATHS the study of ways of solving mathematical problems

numerical keypad *noun* COMPUT a set of ten keys with figures (0–9), included on most computer keyboards as a separate group, used for entering large amounts of data in numeric form

numerical order *noun* an arrangement with the lowest numbers (1, 2, 3 etc.) coming first and higher numbers (25, 26, 27 etc.) coming last

numerical value *noun* the number represented by a character or symbol

numeric array *noun* COMPUT an array containing numbers

numeric operand *noun* COMPUT an operand that only uses numerals

numeric pad *noun* COMPUT same as **numerical keypad**

numerous *adjective* very many ○ *Numerous refinements to the simple actuator will be found in use.*

nursery *noun* AGRIC a place where plants are grown until they are large enough to be planted in their final positions

nut *noun* **1.** MECH ENG a metal ring which screws on a bolt to hold it tight ○ *Turn the nut anticlockwise to loosen it.* **2.** BOT a hard indehiscent fruit with one seed

nutatation *noun* ASTRON an uneven rotation of a spinning object, especially a planet, caused by a temporary change in the position of its axis

nutraceutical, nutraceutical *noun* HEALTH same as **functional food**

nutrient *noun* **1.** BIOL a constituent of food which is necessary to provide energy or to help the body grow, repair and maintain itself, e.g. a protein, fat or vitamin **2.** EARTH SCI a substance that an organism needs to allow it to grow, thrive and reproduce, e.g. carbon, hydrogen, oxygen, nitrogen, phosphorus, potassium, calcium, magnesium or sulfur. Plants obtain their nutrients from the soil, while humans and other animals obtain them from their food, including plants.

nutrient budget *noun* the calculation of the amount of a nutrient taken up by an individual and the amount lost by an individual to the environment

nutrient cycle *noun* BIOL the process in which nutrients from living organisms are transferred into the physical environment and back to the organisms (NOTE: This process is essential for organic life to continue.)

nutrient leaching *noun* the loss of nutrients from the soil caused by water flowing through it, which deprives the soil of nutrients and may pollute water courses

nutrient requirement *noun* BIOL the type and amount of nutrients needed by an organism

nutrient stripping *noun* INDUST the removal of nutrients from sewage to prevent eutrophication of water in reservoirs

nutrigenomics *noun* the study of the way in which genetic and environmental influences act together on an animal, and how this information can be used to boost productivity, health etc.

nutrition *noun* BIOL **1.** the process of taking in the necessary food components to grow and remain healthy. ◇ **soil nutrition** **2.** nourishment or food which an animal eats

nutritional *adjective* BIOL referring to nutrition ○ *the nutritional quality of meat*

nutritional disorder *noun* MED a disorder related to food intake or requirements

nutritional requirement *noun* BIOL the type and amount of food needed by an organism

nutritionist *noun* MED a person who specialises in the study of nutrition and advises on diets

nutritious *adjective* BIOL providing the nutrients that are needed for growth and health

nutritive *adjective* BIOL referring to a substance that provides the necessary components for growth and health ○ *plants grown in a nutritive solution*

nutritive value *noun* BIOL the degree to which a food is valuable in promoting health ○ *The nutritive value of white flour is lower than that of wholemeal flour.*

NVC *abbreviation* National Vegetation Classification

NVRAM *noun* COMPUT memory that can permanently retain information. Full form **non-volatile random access memory**

NVZ *abbreviation* ENVIRON nitrate-vulnerable zone

nybble, nibble *noun* COMPUT half the length of a standard byte (*informal*)

COMMENT: A nybble is normally 4 bits, but can vary according to different micros.

nyct- *prefix* night

nyctinasty *noun* BOT the opening or closing of flowers and leaves at night in response to darkness and falling temperature

nylon *noun* INDUST a tough, elastic synthetic polymer with molecules containing recurring amide groups

nymph *noun* ZOOL an insect at the stage in its development between the larval stage

and adulthood

nymphal *adjective* ZOOL referring to the stage in the development of some insects between the larval stage and adulthood

O

O *symbol* CHEM ELEM oxygen

oak *noun* TREES a deciduous or evergreen hardwood tree of which there are many species. Latin name: *Quercus*.

oak apple, oak gall *noun* BOT a small hard round growth found on oak trees, caused by a parasitic wasp

oasis *noun* EARTH SCI a place in an arid desert where the water table is near the surface and where vegetation can grow. In the oases of the hot desert regions, date palms form an important food supply. (NOTE: The plural is **oases**.)

oasis effect *noun* AGRIC the loss of water from an irrigated area due to hot dry air coming from an unirrigated area nearby

oat *noun* PLANTS a hardy cereal crop grown in most types of soil in cool wet northern temperate regions. Latin name: *Avena sativa*. (NOTE: Oats are regarded as environmentally friendly because they require fewer inputs than other cereals.)

obey *verb* **1.** to do what someone tells you to do **2.** to behave in the way expected or predicted by a physical law

object *noun* **1.** a thing which you can experience physically by touch, sight, or another sense and which has a particular form and dimensions ○ *Any given object will collect more ice when travelling at high speed than at low speed.* **2.** an intention or aim ○ *The object of the briefing is to inform all aircrew of the new procedures.* **3.** COMPUT the data that makes up a particular image or sound **4.** COMPUT a variable used in an expert system within a reasoning operation **5.** COMPUT a piece of data in a statement which is to be operated on by the operator

object code *noun* COMPUT **1.** a binary code which directly operates a central processing unit **2.** program code after it has been translated, compiled or assembled into machine code

object hierarchy *noun* COMPUT an order in which messages are passed from one object to another

objective *noun* **1.** a goal or target to be achieved **2.** ASTRON the light-gathering lens of a refracting telescope ■ *adjective* referring to thoughts based on facts rather than personal feelings ○ *an objective assessment*

object language *noun* COMPUT the language of a program after it has been translated. Compare **source language**

object-oriented *adjective* COMPUT referring to a system or language that uses objects

object-oriented graphics *plural noun* COMPUT graphics which use vector definitions such as lines and curves to describe the shapes of an image rather than pixels in a bit-map image ○ *This object-oriented graphics program lets you move shapes around very easily.*

object-oriented programming *noun* COMPUT a method of programming such as C++ in which each element of the program is treated as an object that can interact with other objects within the program. Abbr **OOP**

object program *noun* COMPUT a computer program in object code form, produced by a compiler or assembler

Object Request Broker *noun* COMPUT the software that links objects together using the CORBA standard. Abbr **ORB**

obligate *adjective* BIOL referring to an organism that exists or develops only in a particular set of circumstances ○ *an obligate parasite* ○ *an obligate anaerobe*

oblique *adjective* MATHS **1.** neither perpendicular nor parallel to another line or plane **2.** not being or containing a right angle or a multiple of a right angle

obliquity *noun* ASTRON the angle between the plane of Earth's equator and

the plane of Earth's orbit around the Sun, approximately 23.5°

obliterative shading, obliterative countershading *noun* ZOOLOGY the grading of the colour of an animal, such as a dark back dark shading towards a light belly, which minimises shapes and gives a flat appearance

oblong *adjective* MATHEMATICS rectangular ○ *an oblong piece of aluminium* ■ *noun* a rectangle

obscure *verb* 1. to make something difficult to see or prevent something from being seen ○ *The ice forming on the window obscured vision.* 2. to make something difficult to realise or understand ○ *The low temperatures in the years after the volcanic eruption obscured the general trend of gradual global warming.* ■ *adjective* not clearly expressed and therefore difficult to understand ○ *an obscure explanation*

observation *noun* the process of watching or studying someone or something carefully to find out information ○ *The type of cloud is established by observation and comparison with cloud photographs.* □ **under observation** being watched carefully

observations *plural noun* SCIENCE the pieces of scientific information gathered by using any of the five human senses, but especially sight ○ *observations of feeding patterns*

observe *verb* 1. to watch or study something carefully to find out information ○ *They observed the birds' behaviour for several weeks.* 2. to obey something such as an agreement or a guideline ○ *We expect everyone to observe the safety guidelines.*

obstruction *noun* something which blocks a path or prevents progress ○ *Ensure the air intakes are free from any debris or obstruction.*

obtain *verb* to acquire something ○ *The probes are positioned in the gas stream in order to obtain an accurate temperature reading.*

obtuse *adjective* MATHEMATICS 1. describes an angle greater than 90° and less than 180° 2. describes a triangle with one internal angle greater than 90°

obvious *adjective* clear and easily seen or understood ○ *an obvious error* ○ *It is obvious that high ground will disturb the smooth horizontal flow of air.*

OC *abbreviation* BIOCHEMISTRY organic carbon

OCCAM *noun* COMPUTING a computer programming language used in large multi-processor or multi-user systems (NOTE: OCCAM is the development language for transputer systems.)

occidental *adjective* EARTH SCIENCE referring to the west

occluded front *noun* METEOROLOGY a weather front where warm and cold air masses meet and mix together, the warm air rising away from the surface of the ground

occlusion *noun* METEOROLOGY the forcing of air upwards from the Earth's surface, as when a cold front overtakes and flows under a warm front

occultation *noun* ASTRONOMY the temporary complete or partial disappearance of a celestial body when another moves between it and an observer

occupational disease *noun* MEDICINE a disease which is caused by the type of work someone does or the conditions in which someone works, e.g. disease caused by dust or chemicals in a factory

occupational exposure *noun* the situation of experiencing a health hazard while at work

occur *verb* to happen or take place ○ *Data loss can occur because of power supply variations.*

OCE COMPUTING same as **open collaboration environment**

ocean *noun* OCEANOGRAPHY any of the major areas of sea of the world (NOTE: The five oceans are: the Atlantic, the Pacific, the Indian, the Arctic and the Antarctic or Southern.)

oceanarium *noun* MARINE BIOLOGY a large saltwater aquarium where marine animals are kept for display

ocean circulation *noun* OCEANOGRAPHY a system of movement of surface water between oceans, caused by wind, temperature or salinity

ocean current *noun* OCEANOGRAPHY a movement of the surface water of an ocean, caused by wind, temperature or salinity

ocean dumping *noun* ENVIRONMENT the discharging of waste, solid, liquid or radioactive, into the ocean, now banned

oceanic *adjective* 1. OCEANOGRAPHY referring to an ocean, especially to deep water beyond the continental shelf 2. MARINE BIOLOGY living in the ocean

oceanic crust *noun* EARTH SCI the part of the Earth's crust beneath the ocean

oceanic trench *noun* EARTH SCI a long deep valley in the floor of the ocean, where two tectonic plates meet, usually associated with volcanic activity

ocean incineration *noun* ENVIRON the burning of toxic waste in special ships at sea, now banned

oceanography *noun* EARTH SCI the study of all the physical aspects of the ocean, including the fauna and flora living there

oceanology *noun* EARTH SCI the study of the geographical distribution of the ocean's economic resources

Ocean Thermal Energy Conversion *noun* INDUST the process whereby the difference in temperature between the upper and lower layers of water in tropical seas is used to generate electricity and fresh water. Abbr **OTEC** (NOTE: Warmer water from the upper layer is converted to steam to drive turbines and then condensed to provide fresh water.)

ocellus *noun* ZOOLOGY a simple eye that can detect light but cannot focus clearly (NOTE: Eyes of this type are found in some insects and other invertebrates.)

ocher *noun* GEOL US spelling of **ochre**

ochre *noun* GEOL a reddish or yellowish oxide of iron used as pigment for paint

OCP *noun* COMPUT (in a multiprocessor system) a processor which decides and performs the arithmetic and logic operations according to the program code. Full form **order code processor**

OCR COMPUT same as **optical character reader** ■ *abbreviation* optical character recognition

octa *noun* MEASURE, METEOROL another spelling of **okta**

octadecanoic acid *noun* CHEM a naturally occurring carboxylic acid, present in fats and oils

octahydrate *noun* CHEM a crystalline compound with eight molecules of water of crystallisation for each molecule of the compound

octal MATHS *adjective* referring to a number system based on eight ■ *noun* same as **octal notation**

octal digit *noun* MATHS a digit between 0 and 7 used in octal notation

octal notation *noun* MATHS a number notation using base 8, with digits 0 to 7. Also called **octal**

COMMENT: In octal notation, the digits used are 0 to 7, so decimal 9 is octal 11.

octal scale *noun* MATHS the power of eight associated with each digit position in a number

octane *noun* CHEM a liquid hydrocarbon that exists in 18 structurally different forms. Formula: C_8H_{18} .

COMMENT: Petrol without the addition of hydrocarbons will make the engine knock. Hydrocarbons, such as octane or aromatic hydrocarbons, or lead tetraethyl can be added to the petrol to give better performance, while increasing the octane rating. Unleaded petrol has a relatively low octane rating and leaded petrol, which contains an antiknock additive, has a high rating. Leaded petrol produces more atmospheric pollution than unleaded.

octane rating, octane number *noun* CHEM a classification of the quality and performance of petrol, according to the amount of hydrocarbon in it

octanoic acid *noun* CHEM a straight-chain fatty acid. Formula: $CH_3(CH_2)_6COOH$. Also called **caprylic acid**

octanol *noun* CHEM a colourless oily aromatic liquid hydrocarbon used in solvents, in perfumes and in organic synthesis. Formula: $C_8H_{17}OH$.

octet *noun* COMPUT same as **8-bit byte**

octoploid *noun* GENETICS referring to a cell nucleus or a plant that has eight haploid sets of chromosomes

ocular *adjective* OPTICS referring to the eye

oculomotor nerve *noun* ANAT the third cranial nerve which controls the eyeballs and eyelids

odd *adjective* referring to a number a little greater or smaller than the approximate number given ○ *There are 100 odd chemical elements.*

odd-even check *noun* COMPUT a method of checking that transmitted binary data has not been corrupted

odd-even nucleus *noun* PHYS a nucleus with an odd number of protons and an even number of neutrons

odd number *noun* MATHS a number which cannot be exactly divided by two, e.g. 1, 3, 5 or 7. Compare **even number**

odd-odd nucleus *noun* PHYS a nucleus with an odd number of protons and an odd number of neutrons

odd parity check *noun* an error checking system in which any series of bits transmitted must have an odd number of binary ones

odd tenth *noun* an odd decimal, e.g. 0.1 or 0.3 ○ *Frequency allocation of localisers in the VHF band is 108–112MHz at odd tenths e.g. 108.1 and 109.3, the even decimals being allocated to VOR facilities.*

odonate *noun* INSECTS an insect with biting mouth parts, large eyes and two pairs of wings, e.g. a dragonfly. Order: Odonata.

Odontoceti *plural noun* MARINE BIOL toothed whales

odor *noun* US spelling of **odour**

odour *noun* a smell, especially an unpleasant smell (NOTE: The US spelling is **odor**.)

ODP *abbreviation* ENVIRON ozone-depleting potential *or* ozone-depletion potential

ODS *abbreviation* ENVIRON ozone-depleting substance

oersted *noun* MEASURE the cgs unit of magnetic field strength, equal to the field strength that would cause a unit magnetic pole to experience a force of one dyne in a vacuum

oesophagus *noun* ANAT the tube down which food passes from the mouth to the stomach

oestrogen *noun* BIOCHEM a steroid hormone belonging to a group of hormones that controls the reproductive cycle and the development of secondary sexual characteristics in female primates (NOTE: The US spelling is **estrogen**.)

oestrous cycle *noun* ZOOLOG the pattern of reproductive activity shown by most female animals, except most primates

oestrus *noun* ZOOLOG one of the periods of the oestrous cycle that occurs in mature female mammals that are not pregnant. In this period ovulation normally occurs and the female is ready to mate. Also called **heat**

offer *verb* **1.** to indicate that something will be given or done if it is wanted **2.** to provide something ○ *The battery offers a short term power capability.*

offline *adverb, adjective* COMPUT **1.** (of a processor, printer or terminal) not connected to a network or central computer,

usually temporarily ○ *Before changing the paper in the printer, switch it off-line.* **2.** (of a peripheral) connected to a network, but not available for use. Opposite **online**

off-line printing *noun* COMPUT a print-out operation that is not supervised by a computer

off-line processing *noun* COMPUT processing by devices not under the control of a central computer

off-line storage *noun* COMPUT a storage facility that is not currently available for access, e.g. a magnetic tape that must first be loaded into the tape machine

offpeak *adjective* INDUST referring to a period during which the consumption of something is low ○ *Offpeak electricity costs less.* ○ *By using thermal storage we can move 50% of electricity demand into offpeak hours.*

offset *noun* COMPUT a quantity added to a number or address to give a final number

offshore *adjective, adverb* EARTH SCI **1.** in sea water near a coast **2.** at a distance from a coast

offshore island *noun* EARTH SCI an island situated up to 12.5 km or 20 miles from a coast

offshore wind *noun* METEOROL a wind which blows from the coast towards the sea

offshore windfarm *noun* a collection of wind turbines for the production of electricity situated in the sea at some distance from a coast

offspring *noun* BIOL a child, the young of an animal, or a descendant of a plant (NOTE: The plural is **offspring**: *The birds usually produce three or four offspring each year.*)

ohm *noun* ELEC, MEASURE the SI unit of measurement of electrical resistance. Symbol **Ω**;

Ohm's law *noun* ELEC the physical principle that an electric current is directly proportional to the voltage and inversely proportional to the resistance

oil *noun* **1.** CHEM a liquid compound which does not mix with water, occurring as vegetable or animal oils, essential volatile oils and mineral oils **2.** INDUST mineral oil extracted from underground deposits, used to make petrol and other petroleum products

COMMENT: Oil is made up of different types of hydrocarbon together with sulfur compounds, and usually occurs in combi-

nation with natural gas or water. When these are removed it is called crude oil or crude petroleum. Refined crude oil gives products such as petrol, LPG, diesel oil, paraffin wax and tar. Crude oil is found in geological deposits, mainly in the Middle East, in the North Sea, Central America and Asia.

oil-bearing *adjective* EARTH SCI referring to rock, sand or shale that contains oil

oil coke *noun* INDUST coke resulting from the processing of oil

oil crop *noun* a crop grown for extraction of the oil in its seeds, e.g. sunflower or oilseed rape

oil-eating bacteria *plural noun* MICROBIOL bacteria which can consume and destroy oil

oil-exporting country *noun* INDUST a country which produces enough oil from underground deposits for its own use and to sell to other countries

oilfield *noun* EARTH SCI an area of rock under which lie one or more pools of oil that can be extracted ○ *The search is on for new oilfields to replace fields which have been exhausted.*

oil-fired *adjective* INDUST using oil as fuel ○ *oil-fired central heating*

oil gland *noun* BOT, ZOOL a gland that secretes oil

oil-importing country *noun* INDUST a country which buys the fuel and industrial oil it uses from other countries

oil industry *noun* INDUST an industry which extracts and processes oil

oil installation *noun* INDUST a plant for processing and handling oil

oil platform *noun* INDUST a large construction which is positioned over an oil well in the sea, containing living quarters for workers and pumping and drilling equipment

oil pollution *noun* ENVIRON damage to an area caused by oil, e.g. pollution of the sea by oil from a damaged oil tanker

oil pool *noun* EARTH SCI a reservoir of oil found under rock

oil regeneration plant *noun* INDUST a place where waste oil is reprocessed into high-grade oil

oil rig *noun* INDUST a large metal construction containing the drilling and pumping equipment for an oil well

oil sand *noun* EARTH SCI a geological formation of sand or sandstone containing

bitumen, which can be extracted and processed to give oil

oilseed rape *noun* PLANTS a plant of the cabbage family with bright yellow flowers, grown to provide an edible oil and animal feed from the processed seeds. Latin name: *Brassica napus*. Also called **rape** (NOTE: Oil produced from oilseed rape is often called 'vegetable oil').

oilseeds *plural noun* crops grown for the oil extracted from their seeds, e.g. oilseed rape or linseed

oil shale *noun* EARTH SCI a geological formation of sedimentary rocks containing oil or bitumen which can be extracted by crushing and heating the rock

oil slick *noun* ENVIRON oil which has escaped into water and floats on the surface

oil spill *noun* ENVIRON an escape of oil into the environment, especially from a damaged ship, vehicle or pipeline

oil tanker *noun* INDUST a large ship specially constructed for carrying oil

oil well INDUST a shaft drilled into the ground through which oil is extracted

oily *adjective* 1. containing oil 2. soaked in or covered with oil

okta, octa *noun* MEASURE, METEOROL a unit of visible sky equal to one eighth of total area visible to the horizon

COMMENT: To measure cloud cover, the sky is divided into imaginary sections, each covering one eighth of the total. A cloudless sky is 'zero oktas' and a sky which is completely covered with clouds is 'eight oktas'.

olefin, olefine *noun* CHEM an aliphatic hydrocarbon

oleic acid *noun* CHEM a colourless oily liquid obtained from animal and vegetable fats, used in the manufacture of soap, ointments, cosmetics and lubricating oils. Formula: $C_{18}H_{34}O_2$.

oleo *noun* AEROSP the telescopic strut in undercarriage which absorbs impact loads on landing ○ *A safety switch is fitted in such a way to the oleo, that when the oleo is compressed on the ground, the 'undercarriage up' selection cannot be operated.* (NOTE: short for **oleo-pneumatic**)

oleum *noun* CHEM sulfur trioxide dissolved in sulfuric acid

olfaction *noun* PHYSIOL the act of smelling

olfactory *adjective* PHYSIOL referring to the sense of smell

olfactory nerve *noun* ANAT the first cranial nerve which controls the sense of smell

oligo- *prefix* few or little

oligochaete *noun* ZOOLOGY a worm such as an earthworm without a specialised head and with tiny bristles occurring singly along the length of its body. Class: Oligochaeta.

oligohaline *adjective* CHEM (of water) having traces of salt. \diamond mesohaline, polyhaline

oligosaprobic *adjective* BIOL referring to an organism that is unable to survive in polluted water

oligotrophic *adjective* CHEM (of water) referring to water that contains few nutrients. \diamond dystrophic, eutrophic, mesotrophic

oligotrophic lake *noun* EARTH SCI a lake which has a balance between decaying vegetation and living organisms, where the lowest layer of water never loses its oxygen and where the water contains few nutrients but sustains a fish population (NOTE: This situation is typical of a young lake. Over a period of time the lake will eutrophy and become richer in nutrients and also in algae.)

olive *noun* TREES a Mediterranean tree with small yellowish-green edible fruit from which an edible oil can be produced. Latin name: *Olea europaea*.

olivine *noun* MINERALS an olive-green mineral belonging to a group consisting of crystalline magnesium iron silicate

OM *abbreviation* organic matter

ombrogenous *adjective* EARTH SCI referring to an area of land, such as a bog, or a plant that receives water only from rain and is therefore low in nutrients

omit *verb* to leave something out (NOTE: omitting – omitted)

omnivore *noun* ZOOLOGY an animal that eats both plant and animal foods (NOTE: Humans and pigs are examples of omnivores.)

omnivorous *adjective* ZOOLOGY referring to an animal that eats both plant and animal foods

OMR *abbreviation* COMPUT 1. optical mark reader 2. optical mark recognition

on-board *adjective* COMPUT contained on a motherboard or main printed circuit board

on-chip *adjective* COMPUT constructed on a chip \circ *The processor uses on-chip bootstrap software to allow programs to be loaded rapidly.*

on-chip cache *noun* COMPUT a cache memory and controller circuitry built into a processor chip

oncogene *noun* GENETICS a gene that can cause a cell to become cancerous

oncogenic *adjective* MED referring to or causing the formation of a cancerous tumour

oncology *noun* MED the scientific study of tumours

one element *noun* MATHS a logical function that produces a true output if any input is true

one for one *noun* COMPUT a programming language, usually an assembler, that produces one machine code instruction for each instruction or command word in the language

COMMENT: Compilers and interpreters are usually used for translating high-level languages which use more than one machine code instruction for each high-level instruction.

one-level address *noun* COMPUT a storage address that directly, without any modification, accesses a location or device

one-level code *noun* COMPUT a binary code which directly operates the CPU, using only absolute addresses and values (NOTE: This is the final form of a program after a compiler or assembler pass.)

one-level store *noun* COMPUT an organisation of storage in which each different type of storage device is treated as if it were the same

1-metre measure *noun* a ruler that is 1 metre long

one-pass assembler *noun* COMPUT an assembler program that translates the source code in one action

one's complement *noun* COMPUT the inverse of a binary number \circ *The one's complement of 10011 is 01100.*

one to zero ratio *noun* COMPUT a ratio between the amplitude of a binary one and zero output

onion skin architecture *noun* COMPUT the design of a computer system in layers, according to function or priority \circ *The onion skin architecture of this computer is made up of a kernel at the centre, an oper-*

ating system, a low-level language and then the user's program.

onium ion *noun* CHEM a positively charged ion (**cation**) such as the ammonium ion, formed by attaching a proton to a neutral compound

online *adverb, adjective* COMPUT connected to and under the control of a central processing unit ○ *The terminal is on-line to the mainframe.*

on local *adjective* COMPUT (*of a terminal*) not working with a central processing unit, but being used as a stand-alone terminal

onshore *adjective, adverb* EARTH SCI **1.** situated on land ○ *onshore oil and gas exploration* **2.** towards the coast ○ *an onshore breeze*

onshore oil installation *noun* INDUST a plant for processing and handling oil, built on land

onshore wind *noun* METEOROL a wind which blows from the sea towards the coast

ontogeny *noun* BIOL the development of a living organism from its earliest stage to maturity

oocyte *noun* BIOL a cell that develops into a female reproductive cell or egg

oogenesis *noun* BIOL the formation and development of female reproductive cells or eggs

OOP *abbreviation* COMPUT object-oriented programming

oospore *noun* BIOL a fertilised female reproductive cell in fungi and algae

ooze, ooze mud *noun* EARTH SCI soft mud, especially at the bottom of a lake or the sea ■ *verb (of liquid)* to flow slowly

op *noun* same as **operation** (*informal*)

opacity *noun* the characteristic of not allowing light or other rays to pass through ○ *Sometimes it is possible to estimate the depth and opacity of the layer of mist or fog from ground observations.*

opaque *adjective* referring to something that does not allow light or other rays to pass through it

op code *noun* COMPUT same as **operating code** (*informal*)

open *verb* **1.** to take a cover off something or to make a door open ○ *Open the disk drive door.* ○ *Open the top of the computer by lifting here.* **2.** COMPUT to prepare a file before accessing, editing or carrying out other transactions on stored records ○ *You*

cannot access the data unless the file has been opened.

open-air *adjective* ENVIRON referring to the environment outside buildings

open architecture *noun* COMPUT a computer with a published expansion interface that has been designed to allow add-on hardware to be plugged in

open burner *noun* ENVIRON an outdoor site where waste such as automobile tyres or rags is destroyed by fire, thereby causing atmospheric pollution

open burning *noun* ENVIRON the burning of waste matter in the open air, creating pollution with smoke

open-cast mining *noun* INDUST a form of mining in which the mineral is dug from the surface instead of from under the ground. Also called **open-cut mining**

COMMENT: In open-cast mining the top layer of soil and rock is pushed away from the surface of the ground to expose the mineral without digging underground, destroying the natural vegetation of the mined area and its surroundings. Unless the site is filled in and replanted when mining is completed the whole area remains devastated.

open chain *noun* CHEM a string of atoms in a molecule that is open-ended and not joined in a ring

open collaboration environment *noun* COMPUT a set of standards that allow networked Macintosh users to share objects and files. Abbr **OCE**

open country, open land *noun* **1.** an area of land that does not have many trees or high mountains **2.** any area of land that is mountain, moor, heath or down or is registered as common land

open-cut mining *noun* INDUST same as **open-cast mining**

open dump *noun* ENVIRON a place where waste is left on the ground and not buried in a hole

open fracture *noun* MED a bone fracture in which a broken bone pierces the skin or comes into contact with an open wound

opening *noun* a space which acts as a passage through which something or somebody can go ○ *an inlet valve opening*

open shortest path first *noun* COMPUT a protocol used with a TCP/IP network that will send packets of data on a route that has the least amount of traffic. Abbr **OSPF**

open system *noun* COMPUT 1. a non-proprietary system that is not under the control of one company 2. a system that is constructed in such a way that different operating systems can work together

Open System Interconnection *noun* COMPUT a standardised ISO network that is constructed in layered form, with each layer having a specific task, allowing different systems to communicate if they conform to the standard. Abbr **OSI** (NOTE: The seven layers are Physical, Data Link, Network, Transport, Session, Presentation, and Application.)

operand *noun* COMPUT data in a computer instruction that is to be operated on by an operator ○ *In the instruction ADD 74, the operator ADD will add the operand 74 to the accumulator.*

operate *verb* 1. to control the working of something ○ *The control column operates the ailerons and elevators.* ○ *The flaps are operated by a switch.* 2. MED to perform a surgical procedure, by cutting into the body ○ *The surgeon operated on the patient.* 3. COMPUT to work or to make a machine work ○ *Do you know how to operate this equipment?* ○ *It operates like this.*

operating code *noun* COMPUT the part of the machine code instruction that defines the action to be performed. Also called **op code**

operating costs *plural noun* INDUST the amount of money required to keep a machine, factory or business working

operating jack *noun* ENG a device which converts rotary motion into linear or reciprocating motion in order to move heavy control surfaces

operating system *noun* COMPUT a set of basic software that controls the running of the hardware and the management of data files, without the user having to operate it. Also called **op sys**

operation *noun* 1. an action or set of actions taken to make something work ○ *The operation of the ignition system is quite simple.* 2. an organised activity designed to achieve something ○ *The clean-up operation after the oil spill lasted for months.* 3. MATHS a procedure such as addition or subtraction 4. MED a surgical intervention ○ *He underwent a brain operation last year.*

operational *adjective* 1. working ○ *The system is not yet fully operational.* 2. referring to the way a machine works

operational definition *noun* a term or concept that is defined in a precise, measurable way for a specific investigation

operational information *noun* information about the normal operations of a system

operation cycle *noun* COMPUT a section of a machine cycle during which an instruction is executed

operation decoder *noun* COMPUT a hardware device that converts a machine-code instruction in binary form into actions

operation field *noun* COMPUT a part of an assembly language statement that contains the mnemonic or symbol for the operating code

operation register *noun* COMPUT a register that contains the operating code during its execution

operator *noun* 1. COMPUT a person who makes a machine or process work 2. COMPUT, MATHS a character, symbol or word that defines a function or operation ○ *x is the multiplication operator.*

operator overloading *noun* COMPUT the assigning of more than one function to a particular operator (NOTE: The function often depends on the type of data being operated on and is used in the C++ and ADA programming languages.)

operator precedence *noun* MATHS an order in which a number of mathematical operations will be carried out

operator procedure *noun* COMPUT a set of actions that an operator has to carry out to work a machine or process

operon *noun* GENETICS a segment of a chromosome containing genes that specify the structure of a specific protein together with genes that regulate its manufacture (NOTE: Operons are relatively simple units of genetic control and are found only in bacteria.)

ophthalmic *adjective* OPHTHALMOL referring to the eye

ophthalmic nerve *noun* ANAT a branch of the trigeminal nerve, supplying the eyeball, the upper eyelid, the brow and one side of the scalp

ophthalmic optician, ophthalmic practitioner *noun* OPHTHALMOL a qualified

person who specialises in testing eyes and prescribing lenses

ophthalmic surgeon *noun* OPHTHALMOL a surgeon who specialises in surgery to treat eye disorders

opportunist, opportunistic *adjective* BIOL referring to an organism that quickly colonises an available habitat

opportunity *noun* a chance or situation where something can be done successfully

opposite *adjective* **1.** situated or placed directly across from something **2.** BOT referring to leaves that occur in pairs, one pair at each node **3.** completely different or reverse ◦ *For every action there is an equal and opposite reaction.* **4.** MATHS describes the side of a triangle facing an angle **5.** MATHS describes sides or angles in an even-sided polygon that face each other ■ *noun* something completely different from something else ◊ **going in opposite directions** **1.** (of two things) moving away from each other **2.** (of two things) moving towards each other

opposition *noun* ASTRON the position of two astronomical objects that are directly opposite each other on the celestial sphere

op register *noun* COMPUT a register that contains the operating code for the instruction that is being executed

op sys *noun* same as **operating system** (informal)

optic *adjective* ANAT referring to the eye or to sight

optical *adjective* **1.** OPTICS referring to or making use of light ◦ *An optical reader uses a light beam to scan characters, patterns or lines.* **2.** ANAT referring to the eye or to sight

optical activity *noun* CHEM the ability of a substance to rotate the plane of polarised light passing through it

optical axis *noun* ASTRON the centre line of a telescope or other optical instrument, joining the main mirror or lens to its focal point

optical character reader *noun* COMPUT a device for inputting text into a computer, which recognises written or printed characters and converts them to machine-readable code. Abbr **OCR**

optical character recognition *noun* COMPUT a process that allows characters to be recognised optically and converted into machine-readable code that can be input

into a computer, using an optical character reader. Abbr **OCR**

COMMENT: There are two OCR fonts in common use: OCR-A, which is easy for scanners to read, and OCR-B, which is easier for people to read than the OCR-A font.

optical data link *noun* COMPUT a connection between two devices to allow the transmission of data using light, either via line-of-sight or using fibre optics

optical disk *noun* COMPUT a disk that contains binary data in the form of small holes in a metal layer under the surface which are read with a laser beam (NOTE: Examples are a WORM (write once, read many times memory) disk which can be programmed once, or a compact disc (CD) which is programmed at manufacture.)

optical double star *noun* ASTRON a pair of stars that appear close together when observed from Earth but are a long way apart on the same line of sight

optical fibre *noun* COMPUT a fine strand of glass or plastic protected by a surrounding material, which is used for the convenient transmission of light signals

optical glass *noun* OPTICS glass of high refractive quality suitable for use in lenses

optical illusion *noun* OPTICS something which is seen wrongly so that it appears to be something else

optical mark reader *noun* COMPUT a device that can recognise marks or lines on a special forms, e.g. an order form or a reply to a questionnaire, and convert them into a form a computer can process. Abbr **OMR**

optical mark recognition *noun* COMPUT a process that allows marks or lines on forms such as an order form or a questionnaire to be recognised by an optical mark reader and input into a computer. Abbr **OMR**

optical microscope *noun* OPTICS a device that uses optical lenses to magnify a tiny object

optical mouse *noun* COMPUT a pointing device that is operated by moving it across a mat on which is printed a grid of lines (NOTE: As the mouse is moved, two light sensors count the number of lines that have been passed to produce a measure of the distance and direction of travel.)

optical scanner *noun* COMPUT same as **bar-code reader**

optical telescope *noun* OPTICS a device that uses optical lenses and mirrors to magnify distant objects

optic chiasma *noun* ANAT a structure formed where some of the optic nerves from each eye partially cross each other in the hypothalamus

optic disc *noun* ANAT a point on the retina where the optic nerve starts. Also called **optic papilla**

optician *noun* OPHTHALMOL a person who is trained to examine people's eyes and prescribe lenses to correct poor sight

optic nerve *noun* ANAT the second cranial nerve which transmits the sensation of sight from the eye to the brain

optic neuritis *noun* MED an inflammation of the optic nerve, which makes objects appear blurred

optic radiation *noun* ANAT a nerve tract which takes an optic impulse from the optic tract to the visual cortex

optics *noun* PHYS the study of light rays and sight

optic tract *noun* ANAT a nerve tract which takes an optic nerve from the optic chiasma to the optic radiation

optimisation, optimization *noun* the process of making something as efficient as possible

optimise, optimize *verb* to make something as efficient as possible

optimised code *noun* COMPUT a program that has been passed through an optimiser to remove any inefficient code or statements

optimiser, optimizer *noun* COMPUT a program which adapts another program to run more efficiently

optimising compiler *noun* COMPUT a compiler that analyses the machine code it produces in order to improve the speed or efficiency of the code

optimum *adjective* referring to the point at which the condition or amount of something is the best ○ *The optimum altitude for jet aircraft is higher than that for piston engine aircraft.* ■ *noun* the point at which the condition or amount of something is best ○ *Generally speaking, engine output is at its optimum at cruising speed.*

optimum code *noun* COMPUT a coding system that provides the fastest access and retrieval time for stored data items

optimum sustainable population *noun* the number of individuals that are needed to maintain the existence of the species

optoelectronics *noun* ELEC ENG the branch of electronics dealing with devices that generate, modulate, transmit and sense electromagnetic radiation in the visible-light, infrared and ultraviolet ranges

oral *adjective* ANAT referring to the mouth, or to speech

orally *adverb* BIOL by the mouth ○ *The medication cannot be taken orally.*

ORB *abbreviation* COMPUT Object Request Broker

orbit *noun* ASTRON the curved path of a planet or satellite around another astronomical object ■ *verb* to go round a astronomical object in a curved path

orbital *adjective* ASTRON referring to the movement of an object around something

orbital velocity *noun* ASTRON the velocity of a body at a particular point in its orbit (NOTE: The Earth moves about the Sun at an average 30km per second, while the Moon moves at only about 1km per second around the Earth.)

orbiter *noun* ASTRON a spacecraft or satellite designed to orbit an astronomical object but not to land on it

order *noun* 1. a sequence of occurrence ○ *The firing order of sparking plugs in a piston engine is 1,3, 4, 2.* □ **in the order of** approximately □ **in order to** for the purpose of 2. a command or instruction 3. BIOL a classification of animals or plants, formed of several families (NOTE: Orders of animals have names ending in **-a**; orders of plants have names ending in **-ales**.) ■ *verb* 1. to direct or instruct someone to do something or that something be done or brought 2. to sort things into a particular sequence

ordered list *noun* COMPUT a list of data items which has been sorted into an order

order of reaction *noun* CHEM a way of classifying chemical reactions according to the concentration of a part of the reaction

ordinal number *noun* MATHS a number used to show the relative position of somebody or something in a sequence, e.g. 'first', 'sixth', or '29th'

ore *noun* EARTH SCI a mineral found in the ground containing a metal which can be extracted from it ○ *Iron ore deposits were*

found in the mountains. ○ *The ore is heated to a high temperature to extract the metal.*

ore-bearing *adjective* EARTH SCI referring to rock that contains ore

ore body *noun* EARTH SCI a mass of ore that can be dug and processed

OR function *noun* MATHS a logical function that produces a true output if any input is true

COMMENT: The result of the OR function will be 1 if either or both inputs are 1; if both inputs are 0, then the result is 0.

organ *noun* BIOL a part of an organism that is distinct from other parts and has a particular function, e.g. an eye or a flower

organ culture *noun* MED the storing of an organ removed from someone's body in an artificial environment

organelle *noun* BIOL a specialised structure within a cell, e.g. a mitochondrion or nucleus

organic *adjective* **1.** CHEM referring to a compound containing carbon **2.** AGRIC referring to food produced using only a restricted number of permitted pesticides and fertilisers, or to the production of such food **3.** ANAT referring to organs in the body

COMMENT: Organic is a term that is used loosely in the media and elsewhere to mean 'natural' or 'wholesome' with reference to food. In fact, in the UK organic food can only be labelled as such if it meets various official criteria controlling the way in which it has been produced.

organic acids *plural noun* ALTERN MED acids that come from plants, taken to stimulate the production of urine

organic agriculture *noun* same as **organic farming**

organically *adverb* AGRIC using only a restricted number of permitted pesticides and fertilisers in growing a crop

organic carbon *noun* BIOCHEM carbon that comes from an animal or plant. Abbr **OC**

organic chemistry *noun* CHEM a branch of chemistry dealing with compounds that contain carbon

organic compound *noun* CHEM a compound that contains carbon

organic disorder *noun* MED a disorder caused by changes in body tissue or in an organ

organic farming *noun* AGRIC a method of farming which does not involve the use of artificial fertilisers or pesticides ○

Organic farming may become more economic than conventional farming.

organic fertiliser *noun* AGRIC a fertiliser made from dead or decaying plant matter or animal wastes, e.g. leaf mould, farmyard manure or bone meal

organic material, organic matter *noun* carbon-based material derived from organisms, e.g. decomposed plant material or animal dung

organic matter *noun* **1.** a combination found in soil of plant material that is decomposing, microorganisms such as fungi, and humus. Also called **soil organic matter** **2.** BIOL, CHEM same as **organic material**

organics *noun* ENVIRON **1.** the practice of managing the land and growing food according to organic principles **2.** organic material of all types including waste

organic waste *noun* substances consisting of material containing carbon compounds and disposed of as waste, e.g. plant or animal remains. Compare **inorganic waste**

organise, organize *verb* **1.** to arrange something into a system ○ *Organise your notes so that you can find things easily.* **2.** to plan something ○ *organised a conference*

organism *noun* BIOL any individual life form that is able to reproduce and grow, e.g. a plant, animal or microorganism

organochlorine *noun* **1.** CHEM a chlorinated hydrocarbon **2.** CHEM, AGRIC a chemical compound containing chlorine, used as an insecticide

COMMENT: Organochlorine insecticides are very persistent, with a long half-life of up to 15 years. Chlorinated hydrocarbon insecticides can enter the food chain and kill small animals and birds which feed on insects.

organ of reproduction *noun* ANAT same as **reproductive organ**

organometallic compound *noun* CHEM organic compound that includes a carbon-metal bond

organophosphate *noun* **1.** CHEM an organic compound that contains phosphate groups **2.** AGRIC a synthetic insecticide that attacks the nervous system, e.g. chlorpyrifos

COMMENT: Organophosphates are not as persistent as organochlorines and do not enter the food chain. They are, however, very toxic and need to be handled carefully, as breathing in their vapour may be fatal.

organophosphorous *adjective* CHEM (of an organic compound) containing phosphate groups

organophosphorous insecticide *noun* AGRIC same as **organophosphate**

organophosphorus compound *noun* an organic compound containing phosphorus

organotherapy *noun* MED the treatment of a disease by using an extract from the organ of an animal, e.g. using liver extract to treat anaemia

organo-tin paint *noun* INDUST a toxic paint based on tin that is used on ships' hulls to prevent the growth of marine organisms

organ transplant *noun* MED the removal of an organ from one person and insertion of it into another

orgasm *noun* PHYSIOL the climax of sexual excitement, characterised by contraction of the muscles of the genitals and pleasurable sensations, usually accompanied by ejaculation in males

OR gate *noun* ELECTRONICS an electronic circuit that provides the OR function

oriental *adjective* EARTH SCI referring to the east

Oriental Region *noun* EARTH SCI a biogeographical region, part of Arctogea, comprising South and Southeast Asia, Indonesia and the Philippines

orientate *verb* NAVIG to locate something in relation to a compass direction ○ *The first step in map reading is to orientate the chart by relating the direction of land features to their representation on the chart.*

orientation *noun* NAVIG **1.** a position in relation to a compass direction **2.** the process of locating something in relation to a compass direction

orifice *noun* an opening, mouth or vent ○ *The liquid expands and builds up a pressure differential across an orifice which leads to the expansion chamber.*

origin *noun* **1.** a point where something starts or comes from ○ *the origin of life* ○ *An air mass takes on the characteristics of its place of origin.* **2.** ANAT the end of muscle that is attached to a part of the skeleton that does not move as a result of a contraction. Compare **insertion** **3.** ANAT the point where a nerve or blood vessel begins **4.** GEOG a base from which a map projection is drawn ○ *The value of convergence used is correct at the parallel of origin.* ♦ **centre**

of origin **5.** COMPUT a position on a display screen to which all coordinates are referenced, usually the top left hand corner of the screen **6.** COMPUT the location in memory at which the first instruction of a program is stored

original *noun* COMPUT a master data disk, from which a copy can be made

originate *verb* to come or bring something into being ○ *Tropical revolving storms originate within 5–15° of the equator.* ○ *Aircraft fires after an emergency landing often originate in the wing area.*

origination *noun* the work involved in creating something

ornamental *adjective* **1.** for use as decoration **2.** referring to a plant that is grown for its appearance rather than for food or other use ■ *noun* an ornamental plant, e.g. a rose or orchid

ornithine *noun* BIOCHEM an amino acid made in the liver during the formation of urea

ornithological *adjective* ZOOLOG referring to ornithology

ornithologist *noun* ZOOLOG a scientist who studies birds

ornithology *noun* ZOOLOG the study of birds

orographic effect *noun* METEOROL an atmospheric disturbance that is caused by, or relating to, the existence of mountains or other high land

orphan *noun* PRINTING the first line of a paragraph of text printed alone at the bottom of a column, with the rest of the paragraph at the top of the next column

orphan site *noun* ENVIRON an area of contaminated land for which both polluter and owner reject responsibility

orthophosphoric acid *noun* CHEM same as **phosphoric acid**

orthopteran *noun* INSECTS a member of the group of generally large, winged insects that includes cockroaches, mantises, locusts and crickets. Order: Orthoptera. (NOTE: They are often good runners and jumpers, but many are flightless.)

orthotropism *noun* BOT growth directly towards or away from a stimulus

Os *symbol* CHEM ELEM osmium

OS *abbreviation* COMPUT operating system

oscillate *verb* **1.** to move regularly between extremes **2.** ELEC (of electrical

current) to increase or decrease regularly, producing oscillations

oscillation *noun* ELEC a regular movement from side to side

oscillator *noun* ELECTRONICS an electronic circuit that produces a pulse or a signal at a particular frequency ○ *The local oscillator replicates the radio frequency of the frequency generator at the transmitter.*

oscilloscope *noun* PHYS a device that uses a cathode ray tube to produce a visual record of an electrical current on a fluorescent screen

OSI *abbreviation* COMPUT Open System Interconnection

-osis *suffix* MED disease

osmiridium *noun* METALL a very hard natural alloy of osmium and iridium, often also containing platinum and other metals

osmium *noun* CHEM ELEM a hard white metallic element with a very strong smell, used as a catalyst (NOTE: It is the densest known element. The chemical symbol is **Os**; the atomic number is **76** and the atomic weight is **190.2**.)

osmoreceptor *noun* ANAT a cell in the hypothalamus which checks the level of osmotic pressure in the blood and regulates the amount of water in the blood

osmoregulation *noun* PHYSIOL same as **osmotic regulation**

osmosis *noun* CHEM the movement of molecules of a solvent from a solution of one concentration to a solution of a higher concentration through a semi-permeable membrane until the two solutions balance in concentration

osmotic pressure *noun* PHYS the pressure required to prevent the flow of a solvent into a solution through a semi-permeable membrane

osmotic regulation *noun* BIOL the control of osmotic pressure within cells and simple organisms, by which they maintain a balance between the fluid inside them and that outside in their environment. Also called **osmoregulation**

OSPF *abbreviation* COMPUT open shortest path first

ossicle *noun* ANAT a small bone

osteo- *prefix* ANAT bone

osteomalacia *noun* MED a condition where the bones become soft because of lack of calcium or phosphate

osteopathy *noun* MED **1.** a way of treating diseases and disorders by massage and manipulation of bones and joints **2.** any disease of bone

osteophony *noun* BIOL conduction of sound waves to the inner ear through the bones of the skull

osteoporosis *noun* MED a condition in which the bones become thin, porous and brittle, owing to low levels of oestrogen, lack of calcium and lack of physical exercise

OTEC *abbreviation* METEOROL Ocean Thermal Energy Conversion

otic ganglion *noun* ANAT a ganglion associated with the mandibular nerve where it leaves the skull

Otto cycle *noun* PHYS a repeating sequence of processes that convert heat into work, e.g. the four-stroke engine cycle of suction, compression, ignition, and expulsion

outage *noun* ELEC the time during which a system is not operational

outbreak *noun* **1.** the sudden start of something ○ *an outbreak of disease* ○ *Showers are local outbreaks of precipitation from detached cumulus or cumulonimbus.* **2.** MED a series of cases of a disease which start suddenly ○ *a typhoid outbreak*

outbreeding *noun* **1.** BIOL breeding between individuals that are not related **2.** BOT fertilisation between two or more separate plants, rather than within a flower or between flowers of the same plant ○ *Outbreeding occurs in broad beans.* ▶ compare **inbreeding**

outcompete *verb* ECOL to be more successful than other organisms of the same or different species in obtaining access to the same limited resources such as food, light or a mate

outcrop EARTH SCI *noun* an area of rock that stands out above the surface of the soil
 ■ *verb (of rock)* to stand out above the surface of the soil

outer *adjective* furthest away from the centre ○ *The outer coating of the seed is very hard.*

outer ear *noun* ANAT the ear on the outside of the head together with the passage leading to the eardrum

outer space *noun* ASTRON an area outside Earth's atmosphere in which the Sun, stars and planets move

outfall *noun* ENVIRON a pipe from which sewage, either raw or treated, flows into a river, lake or the sea. Also called **outfall sewer**

outflow *noun* a flow in an outward direction ○ *The outflow valve is controlled by the cabin pressure controller.*

outlet *noun* **1.** a passage or pipe through which something can leave ○ *a water outlet* **2.** ELEC a connection or point in a circuit or network where a signal or data can be accessed

outlier *noun* **1.** ECOL an organism that occurs naturally some distance away from the principal area in which its species is found **2.** EARTH SCI an area in which younger rocks are completely surrounded by older rocks

outline *noun* **1.** a line around the shape of something ○ *Warning labels have a solid red outline.* **2.** a shape ○ *At low level, features are most easily recognised from their outline in elevation.* ○ *Cumulus cloud has detached domes or towers which are generally dense and have sharp outlines.* **3.** a summary ○ *an outline of the latest research results* **4.** a line that shows the external shape of something ○ *The drawing shows the outline of the coast.* ■ **verb** **1.** to form or draw round the shape of something ○ *The additional material is outlined in red.* **2.** to explain something simply and briefly ○ *The changes in conditions are outlined in the next paragraph.*

outline flowchart *noun* COMPUT a flowchart of the main features, steps and decisions in a program or system

outline font *noun* COMPUT a printer or display font stored as a set of outlines that mathematically describe the shape of each character

output *noun* **1.** the product of a process ○ *Air density will affect the output of the engine.* **2.** COMPUT information or data that is transferred from a central processing unit or the main memory to another device such as a monitor, printer or secondary storage device **3.** COMPUT the action of transferring information or data from a store to a user ■ **verb** COMPUT to transfer data from a computer to a monitor or printer ○ *Finished documents can be output to the laser printer.*

output area, output block *noun* COMPUT a section of memory that contains data to be transferred to an output device

output-bound *adjective* COMPUT unable to function at normal speed because of a slower peripheral

output buffer register *noun* COMPUT a temporary store for data that is waiting to be output

output device *noun* COMPUT a device such as a monitor or printer that allows information to be displayed

output file *noun* COMPUT a set of records that have been completely processed according to various parameters

output formatter *noun* COMPUT **1.** a piece of software used to format data or programs and output them so that they are compatible with another sort of storage medium **2.** a part of a word processor program that formats text according to embedded commands

output-limited *adjective* COMPUT same as **output-bound**

output mode *noun* COMPUT a computer mode in which data is moved from internal storage or the central processing unit to external devices

output port *noun* COMPUT a circuit or connector that allows a computer to output or transmit data to another machine or device

output register *noun* COMPUT a register that stores data to be output until the receiver is ready or the channel is free

output stream *noun* COMPUT a communications channel carrying data output to a peripheral

outward *adjective* moving away from the centre or starting point ○ *The piston draws fluid into the cylinders on the outward stroke and expels fluid into the system on the inward stroke.* Opposite **inward** ■ **adverb** US same as **outwards**

outwards *adverb* away from the centre or starting point ○ *The door opens outwards.* (NOTE: The US term is **outward**)

outwash *noun* EARTH SCI the water which flows from a melting glacier and creates deposits of silt

outwash deposit, outwash fan *noun* EARTH SCI a silt deposit formed by a melting glacier

OV *abbreviation* COMPUT overflow

ova ZOOL plural of **ovum**

oval *adjective* shaped like an egg

oval window *noun* ANAT a membrane-covered opening between the middle

ear and the inner ear that transmits sound vibrations

ovary *noun* **1.** ANAT one of two organs in a woman or female animal that produce ova or egg cells and secrete the female hormone oestrogen **2.** BOT the part of a flower that contains the ovules, at the base of a carpel

over- *prefix* **1.** above **2.** excessively

overall *adjective* including everything ○ *The total aerodynamic losses result in an overall turbine efficiency of 92%.* ■ *adverb* generally ○ *Overall, the test was a success.* ■ *noun* a one-piece item of protective clothing

overalls *plural noun* protective trousers with a bib and straps over the shoulders ○ *Wear overalls to protect your clothes.*

overburden *noun* **1.** EARTH SCI in strip mining, the soil and rock lying on top of a layer of coal **2.** a mineral which is dug away from the surface of the land to expose the coal or mineral below

overburden pressure *noun* EARTH SCI the force of the soil or rock pressing down onto a coal seam or mineral vein

overcome *verb* **1.** to fight something and win ○ *They failed to overcome public opposition to the construction of a nuclear power station.* **2.** MED to make someone lose consciousness ○ *Two people were overcome by smoke in the fire.*

overcropping *noun* AGRIC the practice of growing too many crops on poor soil, which has the effect of greatly reducing soil fertility

overcultivated *adjective* AGRIC referring to land that has been too intensively cultivated and has reduced fertility

overexploit *verb* ENVIRON **1.** to work mineral deposits or use other resources in an uncontrolled way until there is very little left **2.** to cultivate soil too intensely

overexploitation *noun* ENVIRON the uncontrolled use of natural resources until there is very little left ○ *Overexploitation has reduced herring stocks by half.*

overfish *verb* FISHERY to catch so many fish that the fish do not reproduce quickly enough and become rare

overfishing *noun* FISHERY the practice of catching so many fish that the fish do not reproduce quickly enough and become rare ○ *Herring stocks have been reduced by overfishing.*

overflow *noun* **1.** excess liquid that flows over the edge of a container **2.** COMPUT a mathematical result that is greater than the limits of the computer's number storage system **3.** a situation in a network when the number of transmissions is greater than the line capacity and they are transferred by another route. Abbr **OV** ■ *verb* to flow over the edge of a container ○ *The floods made the reservoir overflow.* ○ *The river overflowed its banks and flooded hundred of hectares of farmland.*

overflow bit, overflow flag, overflow indicator *noun* COMPUT a single bit in a word that is set to 1 if a mathematical overflow has occurred

overflow pipe *noun* a pipe attached to the top of a container to channel away excess liquid

overgraze *verb* AGRIC to graze a pasture so much that it loses nutrients and is no longer able enough to provide food for livestock

overgrazing *noun* AGRIC the practice of grazing a pasture so much that it loses nutrients and is no longer able to provide food for livestock ○ *Overgrazing has led to soil erosion and desertification.*

overhaul *verb* to take apart and examine something carefully in order to repair, clean or adjust it ○ *To overhaul the whole system will take a couple of days.* ■ *noun* the act of taking something such as a machine or engine apart in order to repair, clean or adjust it ○ *The moving parts require periodic overhaul.*

overheat *verb* to get too hot ○ *An acceleration/deceleration control is fitted to prevent the turbine assembly from overheating during acceleration.*

overland flow *noun* EARTH SCI a movement of rainwater or water melting from snow or ice over the surface of the ground in a broad thin layer

overlap *noun* a part of one thing covering something else ■ *verb* **1.** to have an area or range in common with something else **2.** to cover part of something else ○ *The maps overlap each other at the edges by three centimetres.* (NOTE: **overlapping** – **overlapped**)

overlay *noun* COMPUT a small section of a program loaded into memory only when required (NOTE: This is done when the entire program is bigger than the main memory capacity of a computer.)

overload *noun* an excessive amount of work or electricity ○ *Resettable circuit protective devices should be designed so that when an overload or circuit fault exists, they will open the circuit.* ■ **verb** **1.** to load a device or system such as an electrical circuit with too much work ○ *Prevent overloading of the pumps.* **2.** to load something too heavily ○ *The aircraft failed to gain height after take-off because it was overloaded.*

overproduction *noun* INDUST the production of more of something than is wanted or needed

override *verb* to take over control of the operation of an automatic device or system ○ *A circuit-protective device must not be of a type which can be overridden manually.* (NOTE: **overriding** – **overrode** – **overridden**)

overscan *noun* COMPUT **1.** a faulty or badly adjusted monitor in which the displayed image runs off the edge of the screen **2.** display equipment in which the picture beam scans past the screen boundaries to ensure that the image fills the screen

overstorey *noun* FORESTRY the topmost vegetation layer in a forest, formed by the tallest trees. Also called **overwood**

overtone *noun* ACOUSTICS a higher musical note produced at the same time as the basic note, affecting the overall sound quality

overuse *noun* the excessive use of something ○ *The overuse of pesticides is contaminating the rivers.* ■ **verb** to use something too much ○ *Farmers are warned against overusing synthetic fertilisers.*

over-voltage protection *noun* ELEC a safety device that prevents a power supply voltage exceeding certain specified limits

overwinter *verb* **1.** ZOOLOG to spend winter in a particular place ○ *The herds overwinter on the southern plains.* **2.** BIOL to remain alive though the winter ○ *Many plants will not overwinter in areas that have frost.*

overwood *noun* FORESTRY same as **overstorey**

overwrite *verb* COMPUT to write data to a location and, in doing so, to destroy any data already contained in that location ○ *The latest data input has overwritten the old information.*

ovicide *noun* AGRIC a substance, especially an insecticide, that kills eggs

oviduct *noun* ANAT a tube that transports eggs from the ovary to the uterus in mammals or in birds and reptiles secretes the eggshell and conveys the egg to the outside (NOTE: In mammals it is also called the fallopian tube.)

oviparity *noun* ZOOLOG animal reproduction in which a female lays eggs before or after fertilisation, as occurs in some fish and birds

oviparous *adjective* ZOOLOG referring to an animal that carries and lays eggs. Compare **viviparous**

ovipositor *noun* ZOOLOG a tube used for egg-laying (NOTE: It is present in turtles, some fish and many female insects.)

ovoviviparity *noun* ZOOLOG animal reproduction in which a female carries eggs within her body, where they hatch and the embryo stays protected (NOTE: It occurs in some reptiles and fish.)

ovulate *verb* PHYSIOL to release an ovum from the mature ovarian follicle into the fallopian tube

ovulation *noun* PHYSIOL the release of an ovum from the mature ovarian follicle into the fallopian tube

ovule *noun* BIOL an immature egg or an unfertilised seed

ovum *noun* BIOL a female egg cell which, when fertilised by a spermatozoon, begins to develop into an embryo (NOTE: The plural is **ova**. For other terms referring to ova, see words beginning with **oo-**.)

COMMENT: At regular intervals (in the human female, once a month) ova, or unfertilised eggs, leave the ovaries and move down the fallopian tubes to the uterus. At the point where the fallopian tubes join the uterus an ovum may be fertilised by a sperm cell.

oxalic acid *noun* CHEM a colourless poisonous acid. Formula: $H_2C_2O_4$.

ox-bow lake *noun* EARTH SCI a curved lake formed when a large curve of a river becomes cut off from the main body of the river by silt

oxidant *noun* CHEM same as **oxidising agent**

oxidase *noun* CHEM an enzyme which encourages oxidation by removing hydrogen

oxidation *noun* CHEM a chemical reaction in which a substance combines with oxygen with loss of electrons

oxidation ditch, oxidation pond *noun* a ditch or pond where sewage is purified by allowing biochemical reactions to take place in it over a period of time

oxidation-reduction *noun* CHEM a reversible chemical reaction between two substances where one is oxidised and the other is reduced

oxide *noun* CHEM a chemical compound of oxygen

COMMENT: Carbon compounds form oxides when metabolised with oxygen in the body, ultimately producing carbon dioxide.

oxidisability, oxidizability *noun* CHEM the ability of a substance to oxidise

oxidisable matter *noun* CHEM a substance that can oxidise

oxidise, oxidize *verb* to form an oxide by the reaction of oxygen with another chemical substance ○ *Over a period of time, the metal is oxidised by contact with air.*

oxidising agent *noun* CHEM a substance that forms an oxide with another substance

oxidising atmosphere *noun* CHEM a mixture of gases that contains oxygen and converts elements into oxides through chemical reactions

oxo process *noun* CHEM a method of manufacturing aldehydes in which a mixture of carbon monoxide, hydrogen and alkenes are passed over a catalyst at high pressure and temperature

oxychlorination *noun* INDUST the process of neutralising bacteria in water intended for drinking

oxygen *noun* CHEM ELEM a colourless, odourless gas, essential to human life, constituting 21% by volume of the Earth's atmosphere ○ *Our bodies obtain oxygen through the lungs in respiration.* (NOTE: The chemical symbol is **O**; the atomic number is **8** and the atomic weight is **16.00**.)

COMMENT: Oxygen is an important constituent of living matter, as well as water and air. It is formed by plants from carbon dioxide in the atmosphere during photosynthesis and released back into the air. Oxygen is absorbed from the air into the bloodstream through the lungs and is carried to the tissues along the arteries. It is essential to normal metabolism.

oxygen absorbent *adjective* CHEM able to take up oxygen

oxygenate *verb* **1.** MED to treat blood with oxygen **2.** CHEM to become filled with oxygen

oxygenation *noun* CHEM the process of becoming filled with oxygen

oxygen debt *noun* PHYSIOL the amount of oxygen needed to replenish the body's oxygen stores after they become depleted by exercise such as running

oxygen sink *noun* BOT a part of a plant which stores oxygen

oxyhaemoglobin *noun* BIOCHEM a compound of haemoglobin and oxygen, which carries oxygen in arterial blood from the lungs to the tissues

oxyntic cell *noun* BIOL a cell in the gastric gland which secretes hydrochloric acid. Also called **parietal cell**

oxyphyte *noun* BOT a plant which lives on acid soil

oxytocin *noun* BIOCHEM a hormone produced by the pituitary gland, which controls the contractions of the uterus and encourages the flow of milk

COMMENT: An extract of oxytocin is sometimes used as an injection to start contractions of the uterus in childbirth.

ozone *noun* EARTH SCI poisonous form of oxygen found naturally in the atmosphere, which is toxic to humans at concentrations above 0.1 parts per million. Formula: O₃.

COMMENT: Ozone is created in the stratosphere by the effect of ultraviolet radiation from the Sun on oxygen. Ozone then splits and becomes oxygen again as part of a continuous cycle of chemical change. It is destroyed by reaction with nitric oxide (created by burning fossil fuel) or water or chlorine compounds (from chlorofluorocarbons used in aerosols and packaging). The reduction of ozone in the stratosphere by any of these reactions creates a thin area or 'hole' in the ozone layer.

ozone-depleting substance *noun* ENVIRON a substance that is known to have unfavourable effects on the ozone layer in the atmosphere. Abbr **ODS**

ozone depletion *noun* ENVIRON the loss of ozone from the atmosphere

ozone-depletion potential, ozone-depleting potential *noun* ENVIRON a measurement of the effect of a substance on reducing the amount of ozone in the atmosphere. Abbr **ODP**

ozone-friendly *adjective* ENVIRON not harmful to the ozone layer in the atmosphere

ozone hole *noun* ENVIRON a thin part in the ozone layer in the atmosphere, which forms over Antarctica each year at the end of winter

ozone layer *noun* METEOROL the layer of ozone in the atmosphere between 20 and 50km above the surface of the Earth

COMMENT: The ozone layer in the stratosphere acts as a protection against the harmful effects of the Sun's radiation, and the destruction or reduction of the layer has the effect of allowing more radiation to pass through the atmosphere with harmful results such as skin cancer in humans. The first ozone hole was detected over Antarctica.

ozone monitoring device *noun* ENVIRON a device which measures the levels of ozone in the atmosphere

ozone precursor *noun* a chemical which contributes to the formation of ozone, e.g. nitrogen oxide

ozonise, ozonize *verb* CHEM **1.** to convert oxygen into ozone **2.** to treat a substance with ozone

ozonosphere *noun* METEOROL same as ozone layer

P

p *abbreviation* MEASURE pico-

P *abbreviation* MEASURE peta- ■ *symbol* CHEM phosphorus

Pa *symbol* MEASURE, PHYS pascal

pachytene *noun* BIOL the third stage of meiosis, during which the paired chromosomes become shorter and thicker and divide into four chromatids

pack *noun* **1.** ZOOLOG a group of predatory animals which live and hunt together (NOTE: **Pack** is especially used of animals of the dog family such as wolves, but also of other animals such as killer whales.) **2.** INDUST a detachable system ○ *Circuit packs consist of basic decision-making elements, referred to as logic gates, each performing combinational operations.* ○ *A power pack system is one in which most of the major components, with the exception of the actuators and, in some systems, the pumps, are included in a self-contained unit.* ■ *verb* **1.** to put things into a container for selling or sending ○ *to pack goods into cartons* ○ *The diskettes are packed in plastic wrappers.* ○ *The computer is packed in expanded polystyrene before being shipped.* **2.** COMPUT to store a quantity of data in a reduced form, often by representing several characters of data with one stored character

package *noun* an object or set of objects wrapped in a covering

packaged *adjective* referring to items wrapped in a covering

packaging *noun* INDUST the set of coverings used to wrap an object, especially a product that is going to be transported, displayed and sold (NOTE: Packaging may be paper, cardboard, plastic, polystyrene or some other material.)

packaging material *noun* a type of covering such as paper or plastic used to wrap an object, especially a product that is going to be transported, displayed and sold

○ *Many of the packaging materials we used to throw away may now be re-used or recycled to save energy and raw materials.*

packed decimal *noun* COMPUT a decimal digit stored in a small space, by using only four bits for each digit

packed format *noun* COMPUT a format in which two binary coded decimal digits are stored within one computer word or a byte, usually achieved by removing the check or a parity bit

packet *noun* COMPUT a group of data bits which can be transmitted as a group from one node to another over a network

packet assembler/disassembler *noun* COMPUT a dedicated computer which converts serial data from asynchronous terminals to a form that can be transmitted along a synchronous packet switched network. Abbr **PAD**

packet Internet groper COMPUT full form of **PING**

packet switching *noun* COMPUT a method of sending data across a wide area network in small packets, which are then reassembled in correct order at the receiving end

packet switching service *noun* COMPUT a commercial data transmission service that sends data over its wide area network using packet switching. Abbr **PSS**

pack ice *noun* EARTH SCI a large area of ice floating at sea consisting of a mixture of ice of various sizes and ages crushed together so that there is little or no open water

packing *noun* **1.** INDUST the action of putting goods into boxes and wrapping them for shipping ○ *What is the cost of the packing?* ○ *Packing is included in the price.* **2.** INDUST material used to protect goods ○ *sealed in airtight packing* **3.** COMPUT the inclusion of large amounts of data in a small area of storage. Opposite **pad-**

ding 4. COMPUT a number of bits that can be stored in a unit area on a magnetic disk or tape

pad *noun* COMPUT same as **keypad** ■ *verb* **1.** COMPUT to fill something out **2.** to cushion something

PAD *abbreviation* COMPUT packet assembler/disassembler

pad character *noun* COMPUT an extra character added to a string, packet or file until it is a required size

padding *noun* COMPUT the addition of characters or digits to fill out a string or packet until it is the right length. Opposite **packing**

paddy, padi *noun* AGRIC a rice crop growing in shallow water ○ *Paddies can be breeding grounds for mosquitoes.*

page *noun* **1.** a sheet of paper **2.** COMPUT an amount of text, displayed on a computer monitor or screen **3.** COMPUT a section of main store, which contains data or programs **4.** COMPUT one section of a main program which can be loaded into main memory when required ■ *verb* **1.** to make up a text into pages **2.** COMPUT to divide a computer backing store into sections to allow long programs to be executed in a small main memory

paged address *noun* COMPUT an actual physical memory address that is calculated from a logical address and its page address

page description programming language *noun* COMPUT a programming language that accepts commands to define the size, position and type style for text or graphics on a page

paged-memory management unit *noun* COMPUT an electronic logic circuit that manages the translation between logical addresses that refer to a particular page and the actual physical address that is being referenced

paged-memory scheme *noun* COMPUT a way of dividing memory into small blocks called pages which are then allocated a page number

page printer *noun* COMPUT a printer, usually a laser printer, which composes one page of text within memory and then prints it in one pass

pagination *noun* COMPUT the process of dividing text into pages

paging *noun* COMPUT a virtual memory technique of splitting main memory into small blocks called **pages** which are allo-

cated an address and which can be called up when required

COMMENT: A virtual memory management system stores data as pages in memory to provide an apparently larger capacity main memory by storing unused pages in backing store, copying them into main memory only when required.

paging algorithm *noun* COMPUT a formula by which the memory management allocates memory to pages, also covering the transfer from backing storage to main memory in the most efficient way

PAH *abbreviation* CHEM polycyclic aromatic hydrocarbon

paint *noun* **1.** a liquid substance put on a surface to give it colour or to protect it **2.** COMPUT colour and pattern used to fill an area ■ *verb* COMPUT (*in a graphics program*) to fill an enclosed graphics shape with a colour

pain threshold *noun* PHYSIOL the point at which a person cannot bear pain without a significant reaction □ **to have a low or a high pain threshold** to be unable to bear much pain *or* considerable pain

pair *noun* a set of two matched items, similar in appearance and function ○ *A brake control valve usually contains four elements, one pair for the brakes on each side, to provide duplicated control.*

paired register *noun* COMPUT a basic word size register used with another as one large word size register, often for storing address words ○ *The 8-bit CPU uses a paired register to provide a 16-bit address register.*

PAL *abbreviation* COMPUT phase alternation line

Palaeartic Region *noun* EARTH SCI a biogeographical region, part of Arctogea covering Europe, North Asia and North Africa

palaeo- *prefix* ancient or prehistoric (NOTE: The US spelling is **paleo-**.)

palaeobotany *noun* BOT the study of fossil plants

palaeoclimatology *noun* METEOROL the scientific study of the climate of the geological past

palaeoecology *noun* ECOL the study of the ecology of fossils

palaeomagnetism *noun* EARTH SCI the study of the magnetism of ancient rocks

COMMENT: Rocks indicate the direction and therefore the position of the magnetic pole, which slowly changes its position over thou-

sands of years, at the time the rocks were formed.

palaeontology *noun* BIOL the study of fossil organisms

palaeozoology *noun* ZOOL the study of fossil animals

paleo- *prefix* US spelling of **palaeo-**

palette *noun* COMPUT a range of colours which can be used on a printer or computer display

palindrome *noun* GENETICS a segment of DNA in which nucleotide sequences in complementary strands are the same when read from opposite ends of the segment, e.g. the sequences GGTACC and CCATGG

palladium *noun* CHEM ELEM a shiny metallic element that resembles platinum used as a catalyst and in electrical contacts, jewellery, dental fillings and medical instruments (NOTE: The chemical symbol is **Pd**; the atomic number is **46** and the atomic weight is **106.40**.)

palm *noun* **1.** TREES a large tropical plant like a tree with branching divided leaves, that produces fruits which give oil and other foodstuffs **2.** ANAT the inner surface of the hand or the underside of a mammal's forefoot that is often in contact with the ground

palmate *adjective* BOT referring to leaves that split from a central part like the fingers on a hand. Also called **digitate**

palmitic acid *noun* CHEM a waxy solid derived from plant and animal fats and oils and used in making soap and candles and as a food additive. Formula: $C_{15}H_{31}COOH$.

palm kernel oil *noun* FOOD INDUST a vegetable oil produced from the kernels of the oil palm nut

palmtop *noun* COMPUT a personal computer that is small enough to be held in one hand and operated with the other \circ *This palmtop has a tiny keyboard and twenty-line LCD screen.*

palp *noun* ZOOL a sensory appendage near the mouth of many invertebrate animals

paludism *noun* MED same as **malaria**

palynology *noun* BOT the scientific study of pollen, especially of pollen found in peat and coal deposits

pampas *noun* EARTH SCI a wide area of grassy plains found in South America

pampas grass *noun* PLANTS a type of tall feathery grass found on the plains of South America and grown elsewhere for

ornament. Latin name: *Cortaderia Selloana*.

pan *verb* **1.** COMPUT (*in computer graphics*) to move a viewing window smoothly across an image that is too wide to display all at once **2.** COMPUT (*in MIDI or sound*) to adjust the balance of a sound between the two stereo channels **3.** INDUST to search for precious minerals such as gold by passing sandy deposits through a sieve in running water, allowing the smaller particles to be washed away

PAN *abbreviation* CHEM peroxyacetyl nitrate

pan- *prefix* affecting everything or everywhere

pancreas *noun* ANAT a large gland next to the stomach that secretes digestive enzymes and also the hormones involved in regulating sugars in the blood

pancreatic juice *noun* PHYSIOL a watery alkaline secretion from the pancreas that contains digestive enzymes that break down food in the small intestine

pandemic *adjective, noun* MED referring to an epidemic disease which affects many parts of the world. \diamond **endemic, epidemic**

panel *noun* **1.** a flat, often rectangular piece of a construction \circ *Access to the engine compartment is normally via hinged cowling panels.* **2.** a board with switches, dials, control knobs or similar features for indicating performance \circ *an instrument panel*

panemone *noun* ENG a type of windmill in which flat surfaces spin round a vertical axis

Pangaea *noun* EARTH SCI an ancient continent thought to have contained all Earth's land mass before it gradually broke up into pieces that drifted apart

panicle *noun* BOT a flower head (**inflorescence**) with many branches that carry small flowers, e.g. the flower head of a rice plant

pantothenic acid *noun* BIOCHEM a vitamin of the vitamin B complex, found in liver, yeast and eggs

papain *noun* BIOCHEM an enzyme found in the juice of the papaya, used as a meat tenderiser and in medicine to help wounds to heal

paper *noun* INDUST a substance made from the pulp of wood, rags or fibre rolled flat into sheets, used for writing on, printing, wrapping objects and other purposes

paper chromatography *noun* CHEM chromatography that uses a strip of paper as the porous medium

paper feed *noun* COMPUT a mechanism that moves paper through a printer

paper pulp *noun* INDUST a wet mixture of pulverized of wood, rags or fibre from which paper is made

para- *prefix* **1.** similar to **2.** changed or beyond

paraben *noun* ENVIRON a chemical used in toiletries and as a food preservative (NOTE: It is reported as a possible cause of reproductive or developmental problems because its action is similar to that of the hormone oestrogen.)

parabola *noun* MATHS one of the conic sections, a curve formed by the intersection of a cone with a plane parallel to its side (NOTE: Parabolic sections have the property of being able to bring light to a focus at a single point, so that telescope makers aspire to create parabolic optical surfaces.)

parabolic *adjective* MATHS referring to a parabola

paraffin *noun* **1.** CHEM a saturated aliphatic hydrocarbon **2.** INDUST same as **paraffin oil**

paraffin oil *noun* INDUST oil produced from petroleum, used as a fuel in aircraft engines, for domestic heating and lighting, and as a solvent

paraffin wax *noun* INDUST a white insoluble solid which melts at between 50 and 60°C, used to make candles, as a water-proofing and as the base of some ointments

paragraph *noun* COMPUT **1.** a section of text between two return characters **2.** a 16-byte section of memory which starts at a hexadecimal address that can be evenly divided by 16

parallax *noun* PHYS, ASTRON the change in apparent position of an object caused by movement on the part of the observer

parallel *adjective* **1.** (of lines, planes or curved surfaces, routes or roads) side by side and having the same distance between them at every point □ **in parallel** (of electrical circuits) arranged so as to join at common points at each end rather than to each other in sequence ○ *When batteries are connected in parallel, voltage remains constant but capacity increase.* **2.** COMPUT (of a computer system) in which two or more processors operate simultaneously on one or more items of data **3.** COMPUT

transmitting two or more bits of a word over separate lines at the same time ■ *noun* **1.** a line which is parallel to another **2.** EARTH SCI same as **parallel of latitude** **3.** GEOG a line representing a parallel on a map or chart

COMMENT: The parallels are numbered upwards from the equator and some of them act as national boundaries: the 49th parallel marks most of the border between the USA and Canada.

parallel adder *noun* COMPUT a number of adders joined together, allowing several digits to be added at once

parallel circuit *noun* ELEC an electric circuit in which all the components are connected directly to the voltage supply, so each component receives a fraction of the current

parallel computer *noun* COMPUT a computer with one or more logic or arithmetic units, allowing parallel processing

parallel connection *noun* COMPUT a connector on a computer allowing parallel data to be transferred ○ *Their transmission rate is 60000bps through parallel connection.*

parallel data transmission *noun* COMPUT the transmission of bits of data simultaneously along a number of data lines

parallel input/output *noun* COMPUT data input or output from a computer in a parallel form. Abbr **PIO**

parallel input/parallel output *noun* COMPUT a device that can accept and transmit parallel data. Abbr **PIPO**

parallel input/serial output *noun* COMPUT a device that can accept parallel data and transmit serial data. Abbr **PISO**

parallel of latitude *noun* EARTH SCI **1.** an angular distance north or south of the Earth's equator, measured in degrees, minutes and seconds, along a meridian **2.** an imaginary line running round the Earth, linking points at an equal distance from the equator. Also called **parallel**

parallelogram *noun* MATHS a four-sided figure in which both pairs of opposite sides are parallel to each other and of equal length and the opposite angles are equal

parallelogram of forces *noun* MATHS a graphical method of finding the resultant force from two separate forces by drawing the two forces as two sides of a parallelogram, with the diagonal equal to the resultant force

parallelogram of vectors *noun* MATHS a graphical method of finding the resultant vector from two separate vectors by drawing the two vectors as two sides of a parallelogram, with the diagonal equal to the resultant vector

parallel printer *noun* COMPUT a printer that is connected to a computer via a parallel interface and accepts character data in parallel form

parallel running *noun* COMPUT the process of running old and new computer systems together to allow the new system to be checked before it becomes the only system used

paramagnetic *adjective* PHYS describes a substance that is weakly magnetised so that it will lie parallel to a magnetic field. The phenomenon results from the presence of unpaired electrons in the atoms of the substance, which cause the atoms to act as tiny magnets when a magnetic field is applied.

paramagnetism *noun* PHYS the phenomenon of small changes in the magnetic behaviour of a substance varying with temperature

parameter *noun* **1.** a factor that defines the limits or actions of something ○ *The X parameter defines the number of characters displayed across a screen.* ○ *The size of the array is set with this parameter.* **2.** a variable quantity or value for which a measurement is attempted, e.g. mean height

parameterisation, parameterization *noun* COMPUT the action of setting parameters for software

parameter passing *noun* COMPUT a value passed to a routine or program when it is called

parametric equation *noun* MATHS a mathematical equation in which the coordinates of points are expressed in terms of independent parameters

parametric subroutine *noun* COMPUT a subroutine that uses parameters to define its limits or actions

parapatric speciation *noun* the development of new species in areas which are next to each other and so not completely isolated

paraquat *noun* AGRIC a herbicide that destroys a wide range of plants by killing their foliage and becomes inert on contact with the soil

parasexual *adjective* FUNGI referring to reproduction in some fungi in which the recombination of parental chromosomes takes place without the usual formation of sex cells (**meiosis**)

parasite *noun* BIOL a plant or animal which lives on or inside another organism, the host, and derives its nourishment and other needs from it ○ *a water-borne parasite*

COMMENT: The commonest parasites affecting animals are lice on the skin and various types of worms in the intestines. Many diseases of humans such as malaria and amoebic dysentery are caused by infestation with parasites. Viruses are parasites on animals, plants and even on bacteria.

parasitic *adjective* BIOL referring to animal or plant parasites ○ *a parasitic worm* ○ *Dodder is a parasitic plant.*

parasitic disease *noun* MED a disease caused by a parasite

parasiticide *noun* BIOL a substance that kills parasites

parasitise, parasitize *verb* BIOL to live as a parasite on another organism ○ *Sheep are parasitised by flukes.*

parasitism *noun* BIOL a state in which one organism, the parasite, lives on or inside another organism, the host, and derives its nourishment and other needs from it

parasitoid *noun* BIOL an organism that is a parasite only at one stage in its development

parasitoidism *noun* the state of being a parasite only at one stage of development, as when an insect lays eggs inside the body of a host

parasitology *noun* BIOL the scientific study of parasites

parasympathetic nervous system *noun* ANAT the parts of the autonomic nervous system that affects involuntary functions such as pupil diameter in response to light and muscle constriction in the alimentary canal

parathyroid gland *noun* ANAT one of four small glands, found in or near the thyroid gland, that secrete parathyroid hormone, which controls the laying down of minerals in bone

parcel *noun* **1.** a package **2.** a plot of land **3.** FORESTRY a quantity of wood, either growing in a forest or cut down, which is sold

parcel of air *noun* METEOROL a large mass of air

parenchyma *noun* BIOL a soft unspecialised tissue in between the essential organs of plants and some lower animals

parent *noun* BIOL a male or female that has produced offspring

parental *adjective* BIOL referring to a parent

parent cell *noun* BIOL an original cell which splits into daughter cells by mitosis. Also called **mother cell**

parent directory *noun* COMPUT the directory above a sub-directory

parenteral *adjective* MED referring to a drug which is not swallowed but is given in the form of injections or suppositories

parenteral nutrition, parenteral feeding *noun* MED the feeding of a patient by means other than by mouth, e.g. by giving injections of glucose

parent plant *noun* BOT a plant from which others are produced

parent rock *noun* EARTH SCI same as **mother rock**

parhelic circle *noun* ASTRON a luminous horizontal band passing through the Sun that is caused by the Sun's rays reflecting off ice crystals in the atmosphere

parhelion *noun* ASTRON a bright coloured spot near the Sun caused by ice crystals in the atmosphere diffracting light (NOTE: Parhelions are often observed in pairs.)

parietal cell *noun* BIOL same as **oxyntic cell**

parity bit *noun* COMPUT an extra bit added to a data word as a parity check

parity check *noun* COMPUT a method of checking for errors or corruption of transmitted binary data

park *noun* ENVIRON an area of open land used as a place of recreation ■ *verb* COMPUT to move the read/write head of a hard disk drive over a point on the disk where no data is stored ○ *When parked, the disk head will not damage any data if it touches the disk surface.*

parkland *noun* grazed grassland or heathland with large individual trees or small groups of large trees, usually part of a designed and managed landscape

parse *verb* COMPUT to break down high-level language code into its constitu-

ent parts when translating into machine code

parsec *noun* ASTRON, MEASURE the distance at which a star would have a parallax of one second, equal to 3.26 light years, 31 trillion km or 206000AU (NOTE: A parsec is the standard measure of distances in the universe beyond the solar system.)

part *noun* one of the sections which make up a whole

parthenocarp *noun* BOT the production of seedless fruits without fertilisation having taken place

parthenogenesis *noun* BIOL a form of reproduction in which an unfertilised ovum develops into an individual

partial *adjective* completing or constituting only part of something

partial carry *noun* COMPUT the temporary storage of all carries generated by parallel adders rather than a direct transfer

partial cut *noun* FORESTRY a method of foresting where only some trees are felled, leaving others standing to seed the area which has been left clear

partial eclipse *noun* ASTRON an eclipse where only part of the Sun or Moon is hidden

partial pressure *noun* PHYS the pressure that one gas in a mixture of gases would exert if the other gases were removed

partial RAM *noun* COMPUT a RAM chip in which only one area of the chip functions correctly

partial vision *noun* OPHTHALMOL the condition of being able to see only part of the total field of vision

particle *noun* 1. a very small piece of a substance ○ *soil particles* ○ *Particles of volcanic ash were carried into the upper atmosphere.* 2. PHYS † **elementary particle**

particle accelerator *noun* PHYS in particle physics note a device used to increase the velocity of elementary particles

particle bombardment *noun* BIOTECH a technique for inserting DNA from one organism into another by bombarding cell cultures with metal particles coated with DNA

particle physics *noun* PHYS the study of elementary particles (NOTE: It often involves the use of large high-energy apparatus such as particle accelerators to produce particles that can be studied.)

particulate *noun* ENVIRON a tiny solid piece of a substance

COMMENT: The finest particulates in the air are the most dangerous pollutants as they are easily inhaled into the bronchioles in the lungs. Fine particulates from volcanic eruptions can enter the stratosphere and have a cooling effect by preventing the heat from the Sun reaching the Earth's surface, i.e. the opposite of the greenhouse effect.

particulate inheritance *noun* GENETICS a theory stated by Mendel that parental genes do not mix together in offspring but retain their characteristics from generation to generation

particulate matter *noun* any matter in the atmosphere except water, including dust particles, pollen or particles produced by internal combustion engines. Abbr **PM**

partition *COMPUT noun* **1.** an area of a hard disk that is treated as a logical drive and can be accessed as a separate drive ○ *I defined two partitions on this hard disk called drive C: and D:*. **2.** a section of computer memory set aside as foreground or background memory ■ *verb* **1.** to divide a hard disk into two or more logical drives that can be accessed as separate drives **2.** to divide a large file or block into several smaller units which can be accessed and handled more easily

parts per billion *noun* CHEM a measure of the concentration of a substance in a gas, liquid or solid. Abbr **ppb**

parts per million *noun* a measure of the concentration of a substance in a gas, liquid or solid. Abbr **ppm**

parturition *noun* the act of giving birth to offspring, when the foetus leaves the uterus, called by different names according to the animal

parvovirus *noun* any of a group of viruses that have a single strand of DNA, especially those causing disease in mammals

pascal *noun* MEASURE, PHYS an SI unit of pressure. Symbol **Pa**

PASCAL *COMPUT* a high-level structured programming language used both on micros and for teaching programming

pass *noun* *COMPUT* **1.** the execution of a loop, once **2.** a single operation **3.** the action of moving the whole length of a magnetic tape over the read/write heads

passage *noun* **1.** EARTH SCI a long narrow channel or corridor **2.** a movement from one place to another

passerine *noun* ZOOLOGY a bird belonging to an order of birds which typically come to rest on branches. Order: Passeriformes. ■ *adjective* referring to a passerine

passive *adjective* **1.** not actively participating. Opposite **active** **2.** receiving an action but taking no action ○ *In primary radar systems, the target is passive.*

passive margin *noun* EARTH SCI an area at the edge of a continental mass where there is no volcanic activity

passive smoking *noun* a situation in which someone breathes in tobacco smoke from the atmosphere around them. This process may cause lung cancer.

passive state *noun* the state of a system or device when it is switched on or 'live' but is not reacting to any input

password *noun* *COMPUT* a word or series of characters which identifies a user who can then access a system ○ *The user has to key in the password before being able to access the database.*

paste *verb* *COMPUT* to insert into a file text or graphics that has been copied or cut

pasteurisation, pasteurization *noun* FOOD INDUST the heating of food or food products for a specific period to destroy bacteria

COMMENT: Pasteurisation is carried out by heating food for a short time at a lower temperature than that used for sterilisation. The two methods used are heating to 72°C for fifteen seconds (the high-temperature-short-time method) or to 65°C for half an hour, and then cooling rapidly. This has the effect of killing tuberculosis bacteria.

pasteurise, pasteurize *verb* FOOD INDUST to kill bacteria in food by heating it

pastoral *adjective* AGRIC referring to land available for pasture

pasture *AGRIC noun* land covered with grass or other small plants, used by farmers as a feeding place for animals ○ *a mixture of pasture and woodland* ○ *Their cows are on summer pastures high in the mountains.*

■ *verb* to put animals onto land covered with grass or other small plants ○ *Their cows are pastured in fields high in the mountains.*

pastureland *noun* AGRIC land covered with grass or other small plants, used by farmers as a feeding place for animals

pasture management *noun* AGRIC the control of pasture by grazing, cutting, reseeding and similar techniques

patch *noun* COMPUT a small correction made to software by the user, on the instructions of the software publisher

patch cord *noun* TELECOM a short cable with a connector at each end, used to make an electrical connection on a patch panel

patch dynamics *noun* ECOL a process in which the disturbance of a community creates gaps which are then colonised by the same or another species

patch panel *noun* TELECOM a set of electrical terminals that can be interconnected using short patch cords, allowing quick and simple re-configuration of a network

patent *noun* an official confirmation that you have the sole right to make or sell a new invention. \diamond **copyright**

paternity *noun* BIOL **1.** the state of being a father **2.** the identity of a father \circ *The court had first to establish the child's paternity.* Compare **maternity**

path *noun* **1.** a way from one place to another, especially one travelled on foot **2.** a way to achieve something **3.** COMPUT a possible route or sequence of events or instructions within the execution of a program **4.** COMPUT the route from one point in a communications network to another

patho- *prefix* BIOL disease

pathogen *noun* BIOL an agent, usually a microorganism, that causes a disease

pathogenesis *noun* BIOL the origin, production or development of a disease

pathogenetic *adjective* BIOL referring to pathogenesis

pathogenic *adjective* BIOL able to cause or produce a disease

pathogenic bacterium *noun* MICRO-BIOL a bacterium responsible for causing a disease

pathogenicity *noun* MED the ability of a pathogen to cause a disease

pathogenic organism *noun* BIOL an organism responsible for causing a disease

pathological *adjective* BIOL **1.** referring to a disease **2.** caused by a disease **3.** indicating a disease

pathological report *noun* MED a report on tests carried out to find the cause of a disease that someone has

pathological waste *noun* MED waste, e.g. from a hospital, which may contain pathogens and which could cause disease

pathologist *noun* MED **1.** a scientist who specialises in the study of diseases **2.** a per-

son who checks tissue and other samples for evidence of disease **3.** a doctor who examines dead bodies to find out the cause of death

pathology *noun* MED the study of diseases and the changes in structure and function which diseases can cause

pathology report *noun* MED a report on tests carried out to find the cause of a disease that someone has

pattern *noun* **1.** a series of regular lines or shapes which are repeated again and again **2.** a form or method which shows particular, consistent characteristics

pattern palette *noun* COMPUT a range of predefined patterns that can be used to fill an area of an image

pattern recognition *noun* COMPUT an algorithm or program function that can identify a shape from something such as a video camera

Pauli exclusion principle *noun* PHYS same as **exclusion principle**

Pb *symbol* CHEM ELEM lead

PB *abbreviation* COMPUT petabyte

PBB *abbreviation* CHEM polybrominated biphenyl

p-block element *noun* CHEM an element that has an electron configuration with occupied p levels

PC *noun* COMPUT same as **personal computer**

PCB *abbreviation* **1.** CHEM polychlorinated biphenyl **2.** COMPUT printed circuit board

PC-compatible *noun* COMPUT a computer that is compatible with an IBM PC

p-channel metal oxide semiconductor *noun* ELECTRONICS full form of **PMOS**

PCI *noun* COMPUT a specification produced by Intel defining a type of fast local bus that allows high-speed data transfer between the processor and the PCI-compatible expansion cards. Full form **peripheral component interconnect**

PCL *abbreviation* COMPUT printer control language

PCM *abbreviation* COMPUT pulse-code modulation

PCMCIA *noun* COMPUT a specification for add-in expansion cards that are the size of a credit card with a connector at one end. Full form **Personal Computer Memory Card International Association**

PCOS *abbreviation* MED polycystic ovarian syndrome

PCR *abbreviation* BIOTECH polymerase chain reaction

PCS *abbreviation* COMPUT personal communications services

PCU *noun* COMPUT same as **peripheral control unit**

Pd *symbol* CHEM ELEM palladium

PD *abbreviation* COMPUT public domain

PDA *abbreviation* COMPUT personal digital assistant

PDN *abbreviation* COMPUT public data network

PE *abbreviation* production efficiency

peak *noun* **1.** EARTH SCI the top of a mountain **2.** the highest point of something
 ○ *The intensity of solar radiation reaches a peak around noon.* □ **time of peak demand** one of the times when something is being used most ■ *verb* to reach the highest point

peak output *noun* the highest output

peak period *noun* INDUST the time of the day when most electricity or other power is being used

peak value *noun* a maximum value

peat *noun* EARTH SCI the accumulated partly decayed mosses and other plants which form the soil of a bog, often forming a deep layer

peat bog *noun* EARTH SCI an area of wet acidic land, low in nutrients, in which peat has formed

peat-free compost *noun* material in which plants can be grown in pots that does not contain peat ○ *Coir fibre from coconut shells can be used as a peat-free compost.*

peatland *noun* EARTH SCI an area of land covered with peat bog

peaty *adjective* EARTH SCI containing peat ○ *peaty soil* ○ *peaty water*

pebble *noun* EARTH SCI a small, often rounded piece of rock, less than 64mm in diameter

pebble beach *noun* EARTH SCI a beach covered with small stones

pectin *noun* BIOCHEM a sticky mixture of various polysaccharides found in plant cell walls

pectoral fin *noun* ZOOLOG either of a pair of fins of a fish located either directly behind the gill openings or below them

pectoral girdle *noun* ZOOLOG the part of the skeleton of a vertebrate animal to

which the forelimbs are attached and which provides support for the forelimbs

pedal *noun* MECH ENG a foot-operated lever

pedestrian *noun* a person who travels by walking

pedestrianisation, pedestrianization *noun* ENVIRON the process of making part of a town into an area where only people who are walking are allowed

pedestrianise, pedestrianize *verb* ENVIRON to make part of a town into an area where only people who are walking are allowed

pedicel *noun* BOT a stalk that carries a single flower within a flower head (**inflorescence**)

pedigree GENETICS *noun* **1.** the line of ancestors of an individual animal or person **2.** a document that records the line of ancestors of a person or animal ■ *adjective* descended from a line of animals whose pedigree has been recorded over several generations ○ *a pedigree dog*

pedologist *noun* a scientist who specialises in the study of the soil

peduncle *noun* ZOOLOG a stalk-like structure such as that attaching a polyp to the rock on which it lives

peer *noun* COMPUT either of two similar devices operating on the same network protocol level

peer-to-peer network *noun* COMPUT a local area network in which there is no central dedicated server but each computer in the network shares the jobs ○ *We have linked the four PCs in our small office using a peer-to-peer network.*

pel *abbreviation* COMPUT picture element. ◇ **pixel**

pelagic *adjective* OCEANOLOG referring to the top and middle layers of sea water. Compare **demersal**

pelagic deposits *plural noun* OCEANOLOG material that has fallen to the sea floor

pelagic organism *noun* MARINE BIOL an organism that lives in open water in the sea away from the seabed or the shore

pelagic sediment *noun* OCEANOLOG ▶ **pelagic deposits**

pelagic zone *noun* OCEANOLOG the part of the sea that is not near the shore and not immediately above the seabed

Pelton wheel *noun* ENG a type of water turbine that has specially shaped buckets

attached to the edge of a wheel which are struck by a jet of water

pelvic *adjective* ANAT referring to the pelvis

pelvis *noun* ANAT **1.** (in vertebrates) the cavity formed by the hip bones and the base of the backbone **2.** a cup-shaped anatomical cavity such as the region of the kidney that collects urine before it is passed into the ureter

pen computer *noun* COMPUT a type of computer that uses a pen instead of a keyboard for input (NOTE: The computer has a touch-sensitive screen and uses handwriting recognition software to interpret the commands written on the screen with the pen.)

peneplain *noun* EARTH SCI a plain formed after mountains have been completely eroded

penetrance *noun* GENETICS the frequency with which an inherited characteristic such as a genetic disease occurs among individuals that carry the gene or genes for it

penetrant *adjective* forcing or obtaining entry into an area or substance ○ *Penetrant dye inspection is a non-destructive test used mainly for the detection of defects open to the surface.*

penetrate *verb* to enter something by making a way through it

penetration *noun* the act of making a way into or through something ○ *Long-range radars suffer little weather interference and have good cloud penetration characteristics.*

penicillin *noun* PHARM an antibiotic, originally produced from a fungus, that controls bacterial and fungal infections (NOTE: Penicillin and the related family of drugs have names ending in **-cillin**: amoxycillin.)

Penicillium *noun* PHARM the genus of fungus from which penicillin is derived

peninsula *noun* EARTH SCI a long narrow piece of land, surrounded on three sides by sea

peninsular *adjective* EARTH SCI referring to a peninsula

penis *noun* ANAT the male genital organ through which sperm enters the female during copulation (NOTE: It is also the means by which humans and many other mammals pass urine.)

pentad *noun* METEOROL a five-day period (NOTE: This term is used especially in meteorological forecasting and recording.)

pentahydrate *noun* CHEM a crystalline compound with five molecules of water of crystallisation for each molecule of the compound

pentane *noun* CHEM an organic hydrocarbon with five carbon atoms in each molecule, used as a solvent. Formula: C₅H₁₂.

pentanoic acid *noun* CHEM an isomer of valeric acid. Formula: CH₃(CH₂)₃COOH.

pentavalent *adjective* CHEM with a valency of five

pentyl group *noun* CHEM a group of compounds with the basic structure CH₃CH₂CH₂CH[[SUB]2CH₂-

pepsin *noun* BIOCHEM an enzyme in the stomach which breaks down the proteins in food

peptic *adjective* referring to digestion or to the digestive system

peptide *noun* BIOCHEM a molecule made up of two or more amino acids

per *preposition* **1.** for each or every ○ *a speed of a hundred feet per second* ○ *the recommended daily dose per person* **2.** out of each or every ○ *The rate of imperfect items is about twenty-five per thousand.*

per annum *adverb* for or in every year ○ *245000 sq km of land per annum is cleared of trees.*

per capita *adverb, adjective* of or for each person

perceived noise level *noun* ACOUSTICS a measurement of the loudness of a sound as heard by the human ear. Abbr PNL

perceived noise level in decibels *noun* ACOUSTICS a measurement of sound pressure in decibels. Abbr PNdB

per cent *adverb, adjective* MATHS out of each hundred ○ *Only one per cent (1%) of all prosecutions for water pollution were successful.* Symbol %

percentage *noun* **1.** MATHS the proportion or rate equivalent to a total divided by a hundred ○ *Some 20% of those who caught the virus died, a much higher percentage than expected.* **2.** an inexact proportion or amount ○ *Developing countries possess the largest percentage of the world's rainforest.*

percentage point *noun* MATHS one per cent

percentile *noun* MATHS, MEASURE one of a series of 99 figures below which a particular percentage of the total falls

percolate *verb* PHYS to move slowly through a quantity of solid particles ○ *Water percolates through the soil.*

percolating filter *noun* INDUST a filter bed through which liquid sewage is passed to purify it. Also called **trickling filter**

percutaneous absorption *noun* PHYSIOL the absorption of a substance through the skin

perennial *adjective* lasting for many years ■ *noun* BOT a plant that lives for a long time, flowering, often annually, without dying (NOTE: In herbaceous perennials the parts above ground die back in winter, but the plant persists under the ground and produces new shoots in the spring. In woody perennials, permanent stems remain above the ground in the winter.)

perennial agriculture *noun* AGRIC a system of agriculture in regions where there is no winter and several crops can be grown on the same land each year

perfect *adjective* completely correct, with no mistakes ○ *We check each batch to make sure it is perfect.* ■ *verb* to make something that is completely free from errors or problems as possible ○ *He perfected the process for making high grade steel.*

perfect gas *noun* PHYS same as **ideal gas**

perfluorocarbons *plural noun* CHEM a group of synthetic chemical compounds that are potent greenhouse gases. Abbr **PFCs**

perforation *noun* a small hole usually forming a line on a sheet of paper or continuous stationery, to help when tearing

perform *verb* **1.** to carry out an action or role ○ *to perform a biological experiment* ○ *The kidneys perform the function of eliminating nitrogenous waste.* **2.** COMPUT to operate in a particular way ○ *The machine is now performing satisfactorily.*

performance *noun* the way in which someone or something works □ **as a measure of the system's performance** COMPUT as a way of judging if the system is working well

performance test *noun* a record of growth rate in an individual animal over a

given period of time, when fed on a standard ration. Performance testing gives the breeder a better chance of identifying genetically superior animals.

per head *adverb* for each person ○ *Average annual consumption has increased to 29 litres per head.* Also called **per capita**

per hour *adverb* in each hour ○ *We can complete five batches per hour.*

perianth *noun* BOT the outer parts of a flower, made up of a calyx, corolla or both

pericarp *noun* BOT the part of a fruit that encloses the seed or seeds

perigee *noun* ASTRON the point in the orbit of a planet, satellite or other body orbiting Earth where it is closest to Earth

perihelion *noun* ASTRON the point in the orbit of a planet or other body orbiting the Sun where it is closest to the Sun

perilune *noun* ASTRON the point in the orbit of a planet or other body orbiting the Moon where it is the closest to the Moon

perilymph *noun* ANAT a liquid occurring between the bony labyrinth and membranous labyrinth of the inner ear

perimeter *noun* MATHS a curve enclosing an area on a plane, or the length of such a curve

period *noun* **1.** a length of time ○ *a 24 hour period* ○ *a period of 3 minutes* **2.** GEOL an interval of geological time, the subdivision of an era and itself divided into epochs ○ *the Cretaceous period*

periodic *adjective* **1.** happening from time to time ○ *a periodic review of the company's performance* **2.** occurring regularly ○ *The clock signal is periodic.*

periodically *adverb* from time to time

periodic table *noun* CHEM a table of elements listed according to their atomic mass and arranged in groups to show similarities in chemical properties between elements

peripheral *adjective* **1.** occurring at the edge **2.** which is not essential or which is attached to something else ■ *noun* COMPUT an item of hardware such as a terminal, printer or monitor that allows communication with a main computer system but is not directly operated by the system ○ *Peripherals such as disk drives or printers allow data transfer and are controlled by a system, but contain independent circuits for their operation.*

peripheral component interconnect *noun* COMPUT a high-speed local bus that runs at 33 MHz and is most often used

in personal computers for network or graphics adapters. Abbr **PCI**

peripheral control unit *noun* COMPUT a device that converts the input/output signals and instructions from a computer to a form and protocol that a peripheral will understand. Abbr **PCU**

peripheral interface adapter *noun* COMPUT a circuit that allows a computer to communicate with a peripheral by providing serial and parallel ports and other handshaking signals required to interface the peripheral. Abbr **PIA**

peripheral nerve *noun* ANAT a motor or sensory nerve that branches from the brain and spinal cord

peripheral nervous system *noun* ANAT all the nerves in different parts of the body that are linked and governed by the central nervous system. Abbr **PNS**

peripheral processing unit *noun* COMPUT a device used for input, output or storage which is controlled by the central processing unit. Abbr **PPU**

periphyton *noun* BIOL a dense mass of strands of algal growth that covers the water surface between emerging aquatic plants

periscope *noun* OPTICS a long tubular optical instrument through which someone can see objects that are out of the direct line of sight (NOTE: It is often used on a submarine to look above the water surface.)

perissodactyl *noun* ZOO any of the large hoofed mammals that walk on their toes of which there is an odd number. Order: Perissodactyla. (NOTE: Horses, rhinoceroses, and tapirs are perissodactyls.)

Perl *noun* COMPUT an interpreted programming language used to create CGI scripts that can process forms or carry out functions on a web server to enhance a website ○ *If you want to add a search engine to your website, you will need to write a Perl program.* Full form **practical extraction and report language** (NOTE: It is usually used under Unix.)

permaculture *noun* AGRIC a system of permanent agriculture, which involves carefully designing human habitats and food production systems

permafrost *noun* GEOL ground that is permanently frozen, as in the Arctic regions (NOTE: Although the top layer of

soil melts and softens in the summer the soil beneath remains frozen.)

permanent *adjective* lasting or remaining without change

permanent deformation *noun* ENG damage to a structure which must be repaired by replacing the damaged part

permanent dynamic memory *noun* COMPUT a storage medium that retains data even when power is removed

permanent file *noun* COMPUT a data file that is stored in a backing storage device such as a disk drive

permanent grassland *noun* AGRIC land that remains as grassland for a long time and is not ploughed

permanent hardness *noun* the hardness of water, caused by calcium and magnesium, which remains even after the water has been boiled

permanently *adverb* in a way which will last for a long time ○ *The production number is permanently engraved on the back of the computer casing.*

permanent magnet *noun* PHYS a metal component that always has a magnetic influence

permanent memory *noun* COMPUT a computer memory that retains data even when power is removed. Compare **non-volatile memory**

permanent pasture *noun* AGRIC same as **permanent grassland**

permanent teeth *plural noun* DENT (*in mammals*) the second set of teeth, which are used during the adult lifetime. Compare **milk teeth**

permanent wilting point *noun* BOT the soil water content below which plants wilt and are unable to recover

permeability *noun* 1. EARTH SCI the ability of a rock to allow water to pass through it 2. PHYS the ability of a membrane to allow fluid or chemical substances to pass through it

permeable *adjective* EARTH SCI, PHYS with a degree of permeability (NOTE: The US term is **pervious**.)

permission *noun* COMPUT authorisation given to a particular user to access a shared resource or area of disk

permittivity *noun* ELEC a measure of how well a non-conducting material retains electrical energy when placed in an electric field

permutation *noun* **1.** one of a number of different ways in which something can be arranged ○ *The cipher system is very secure since there are so many possible permutations for the key.* **2.** MATHS an ordered arrangement of elements from a set

peroxide *noun* CHEM a chemical compound that contains two oxygen atoms bound together (NOTE: Hydrogen peroxide is commonly used as a bleach.)

peroxyacetyl nitrate *noun* ENVIRON a substance contained in photochemical smog, which is extremely harmful to plants. Abbr **PAN**

perpendicular *adjective* MATHS at right angles or 90° to a base or a line ○ *The vertical grid lines are perpendicular to the horizontal ones.*

persist *verb* **1.** to continue to exist ○ *Snow cover tends to persist on north-facing slopes of mountains.* **2.** (of a chemical compound) to remain active without breaking down in the environment for a period of time ○ *The chemical persists in the soil.* **3.** (of a plant) to grow for several seasons **4.** to remain active for a period of time ○ *Some substances persist in toxic forms in the air for weeks.* **5.** to continue doing something ○ *He persisted with his request until it was granted.*

persistence *noun* **1.** the ability to persist ○ *The persistence and movement of cols is governed by the movement of the adjacent pressure systems.* **2.** the action or quality of continuing without giving up ○ *He managed to overcome his difficulties through persistence and hard work.* **3.** ENVIRON the ability of a chemical to remain active without breaking down in the environment for a period of time **4.** (of a plant) the ability to grow for several seasons **5.** COMPUT the length of time that a screen will continue to display an image after the picture beam has stopped tracing it on the screen ○ *Slow scan rate monitors need long persistence phosphor to prevent the image flickering.*

persistent *adjective* **1.** continuing for some time ○ *persistent flickering of the screen* **2.** remaining active without breaking down for some time ○ *persistent chemicals* **3.** growing for several seasons ○ *persistent species*

persistent insecticide, persistent pesticide *noun* ENVIRON a chemical compound used to kill insect or other pests that remains without breaking down in the soil

or in the body of an animal and is passed from animal to animal through the food chain

person *noun* a human being

personal *adjective* **1.** referring to one person ○ *a personal opinion* **2.** referring to direct relationships between people ○ *The information came through a personal contact.*

personal communication *noun* information given by one person directly to another

personal communications services *plural noun* COMPUT a range of wireless communication systems that allow computers to exchange data with other devices. Abbr **PCS**

personal computer *noun* COMPUT a low-cost microcomputer intended mainly for home and light business use. Abbr **PC**

personal digital assistant *noun* COMPUT a lightweight palmtop computer that provides the basic functions of a diary, notepad, address-book and to-do list together with fax or modem communications. Abbr **PDA**

personal identification device (PID) *noun* COMPUT full form of **PID**

personal identification number (PIN) *noun* COMPUT full form of **PIN**

personalised medicine *noun* MED the prevention, detection, and treatment of disease taking into account a person's unique genetic profile

perspective *noun* OPTICS an appearance of depth in an image in which objects that are further away from the viewer appear smaller

perspective correction *noun* COMPUT a method that is used to change the size and shape of an object to give the impression of depth and distance

Perspex *trademark* INDUST a robust transparent plastic that can be used as a substitute for glass

PERT *noun* COMPUT the definition of tasks or jobs and the time each requires, arranged in order to achieve a goal. Full form **program evaluation and review technique**

pervious *adjective* US EARTH SCI, PHYS same as **permeable**

pest *noun* BIOL an organism that carries disease or harms plants or animals ○ *a spray to remove insect pests*

pest control *noun* AGRIC the process of keeping down the number of pests by various methods

pesticide *noun* AGRIC a chemical compound used to kill pests such as insects, other animals, fungi or weeds

pesticide residue *noun* ENVIRON the amount of a pesticide that remains in the environment after application

pesticide tax *noun* a proposed tax to restrict the use of pesticides

PET *abbreviation* CHEM polyethylene terephthalate

peta- *prefix* MEASURE one quadrillion, 10^{15} . Symbol **P**

petabyte *noun* COMPUT one quadrillion bytes. Abbr **PB**

petal *noun* BOT a single part of the corolla of a flower ○ *A buttercup flower has yellow petals.*

petiole *noun* BOT the stalk of a leaf

petri dish *noun* BIOL a small glass or plastic dish with a lid, in which a culture is grown

petrification *noun* EARTH SCI the process of turning a substance into stone

petrified forest *noun* EARTH SCI remains of trees that have been petrified and are found in rocks

petrify *verb* EARTH SCI to turn a substance into stone

petrochemical *noun* CHEM a chemical derived from petroleum or natural gas

petrochemical industry *noun* INDUST an industry that processes petroleum or natural gas and produces petrochemicals

petrochemistry *noun* 1. CHEM the scientific study of the chemical composition of petroleum and substances derived from it 2. EARTH SCI the scientific study of the chemical composition of rocks

petrol *noun* CHEM, INDUST a liquid made from petroleum, used as a fuel in internal combustion engines ○ *We are looking for a car with a low petrol consumption.* (NOTE: The US term is **gasoline**.)

COMMENT: In a petrol engine the petrol is mixed with air making it more combustible. It is then sprayed or injected into the cylinders, where it is ignited by an electric spark. Petrol is made of a mixture of several hydrocarbons such as butane and benzene. It also contains additives, in particular tetraethyl lead, which prevent an engine from knocking. The use of petrol in vehicle engines is responsible for a high level of pollutants in the atmosphere, as the

engines emit carbon monoxide and various lead compounds.

petrol engine *noun* AUTOMOT an engine which uses petrol as a fuel

petrol-engined *adjective* AUTOMOT referring to a motor vehicle which uses petrol as a fuel

petroleum *noun* EARTH SCI oil that is extracted from the ground

COMMENT: Petroleum is made up of varying types of hydrocarbon together with sulphur compounds. It usually occurs in combination with natural gas or water, and when these are removed it is called crude oil or crude petroleum. Refined crude petroleum gives various products such as petrol, diesel oil, paraffin wax and tar. Crude petroleum is found in geological deposits, mainly in the Middle East, the North Sea, Central America and Asia.

petroleum derivative *noun* INDUST a substance or product made from petroleum

petroleum-exporting country *noun* INDUST a country that produces enough petroleum for its own use and to sell to other countries

petroleum gas *noun* INDUST a natural gas occurring in combination with petroleum

petroleum industry *noun* INDUST an industry which makes products such as petrol, soap or paint from crude petroleum

petroleum products *plural noun* INDUST products such as petrol, soap or paint which are made from crude petroleum

petrology *noun* EARTH SCI the study of rocks and minerals (NOTE: Petrology has no direct connection with **petrol**.)

PFBC *abbreviation* INDUST pressurised fluidised-bed combustion

PFCs *abbreviation* CHEM perfluorocarbons

PGP *abbreviation* COMPUT pretty good privacy

PGR *abbreviation* plant growth regulator

pH *noun* CHEM a measure of the acidity of a solution, determined as the negative logarithm of the hydrogen ion concentration, on a scale from 0 to 14 ○ *soil pH* (NOTE: A pH less than 7 is acid, and a pH more than 7 is alkaline.)

COMMENT: A pH value of 7 is neutral, the same as that of pure water. Lower values indicate increasing acidity and higher values indicate increasing alkalinity: 0 is most acid and 14 is most alkaline. Acid rain has been known to have a pH of 2 or less, making it as acid as lemon juice. Most

freshwater fish cannot survive even slightly acid conditions. Salmon and trout cannot stand a pH value of 6 and only pike can survive in water at less than pH 4.

Phaeophyta *plural noun* MARINE BIOL brown algae, e.g. brown seaweed

-phage *suffix* BIOL eating

phago- *prefix* BIOL eating

phagocyte *noun* BIOL a cell that can surround and destroy other cells such as bacteria, e.g. a white blood cell

phagocytic *adjective* BIOL referring to phagocytes

phagocytosis *noun* PHYSIOL the engulfing of foreign particles or other cells by phagocytes such as white blood cells

phalanx *noun* 1. ANAT a finger or toe bone of a vertebrate (NOTE: The plural is **phalanges**.) 2. a plant species that invades a community as a dense mass. Compare **guerrilla**

pharm *verb* BIOTECH, PHARM to produce proteins that have medicinal value in the milk of genetically modified cows and sheep

pharmaceutical *adjective* PHARM referring to pharmacy or drugs

pharmacist *noun* PHARM a trained person who is qualified to prepare medicines according to the instructions on a doctor's prescription

pharmacogenomics *noun* GENETICS the study of the effect an individual's genetic makeup has on his or her response to drug treatments

pharmacology *noun* MED the study of drugs or medicines and their actions, properties and characteristics

pharmacy *noun* PHARM 1. the study of the making and dispensing of drugs 2. a shop or department in a hospital where drugs are prepared

pharming *noun* the production of proteins that have medicinal value in genetically modified livestock or crops

pharynx *noun* ANAT the part of the throat between the mouth and the oesophagus

phase *noun* 1. a stage or part of a larger process ○ *the vegetative phase* ○ *A result may occur during any phase of the experiment.* 2. ELEC a relationship between the voltage and current waveforms

phase alternation line *noun* TELECOM a standard for television transmission and reception that uses a 625-line picture transmitted at 25 frames per second. Abbr **PAL**

(NOTE: PAL provides a clearer image than NTSC and is used in most of Europe, except for France.)

phase angle *noun* the difference between two periodic phenomena expressed as an angle

phased change-over *noun* COMPUT the gradual introduction of a new device as the old one is used less and less

phase in *verb* to introduce something gradually

phase of the Moon *noun* ASTRON one of various stages which the Moon's face appears to pass through every 29 days (NOTE: They are first quarter, full moon, last quarter and new moon.)

phellem *noun* BOT same as **cork**

phellogen *noun* BOT same as **cork cambium**

phenol *noun* CHEM a strong disinfectant for external use

phenology *noun* ECOL the effect of climate on annually recurring phenomena such as animal migration or plant flowering

phenomenon *noun* an event that exists and is experienced ○ *Chemical reactions in the atmosphere generate phenomena such as acid rain and photochemical smog.* (NOTE: The plural is **phenomena**.)

phenotype *noun* GENETICS the physical characteristics of an organism, produced by its genes. Compare **genotype**

phenotypic *adjective* relating to a phenotype

phenotypic plasticity *noun* GENETICS the ability of a phenotype to vary as a result of environmental influences on its genetic makeup

phenylalanine *noun* BIOCHEM an essential amino acid

phenyl group *noun* CHEM a hydrocarbon group with the basic structure C₆H₅ (NOTE: Phenyl groups are derived from benzene.)

pheromone *noun* BIOCHEM a chemical substance produced and released into the environment by an animal, influencing the behaviour of another individual of the same species ○ *Some insects produce pheromones to attract mates.*

pH factor *noun* CHEM † pH

phial *noun* PHARM a small medicine bottle

PHIGS *noun* COMPUT a standard application interface between software and a

graphics adapter that uses a set of standard commands to draw and manipulate 2D and 3D images. Full form **programmer's hierarchical interactive graphics standard**
-philia *suffix* attraction towards or liking for something

philoprogenitive *adjective* BIOL referring to an organism that produces many offspring

phloem *noun* BOT the vascular tissue in a plant that is formed of living cells and conducts organic substances from the leaves to the rest of the plant. \diamond **xylem**

pH meter *noun* CHEM a device for measuring pH

phone *noun* TELECOM same as **telephone**

phoneme *noun* COMPUT one small sound, several of which may make up a spoken word (NOTE: Phonemes can be used to analyse voice input to recognise words or to produce speech by playing back a sequence of them.)

Phong shading *noun* COMPUT the most complex method of applying shading to a three-dimensional scene create the smoothest shading effects

phono connector *noun* COMPUT a plug and socket standard used to connect audio and video devices. Also called **RCA connector**

phosgene *noun* CHEM a very poisonous gas, used in the manufacture of pesticides, plastics and dyes, and as a chemical weapon in World War I. Formula: COCl_2 .

phosphate *noun* CHEM a salt of phosphoric acid which is formed naturally by weathering of rocks

COMMENT: Natural organic phosphates are provided by guano and fishmeal, otherwise phosphates are mined. Artificially produced phosphates are used in agriculture and are known as superphosphates because they are highly concentrated. Phosphates escape into water from sewage, especially waste water containing detergents, and encourage the growth of algae by eutrophication.

phosphine *noun* CHEM a flammable gas that smells of fish, used as a pesticide. Formula: PH_3 .

phospholipid *noun* BIOCHEM a phosphorus-containing fat molecule that is an important component of double cell membranes

phosphor *noun* CHEM a substance that produces light when excited by some form of energy, usually an electron beam, and is

used for coating the inside of a cathode ray tube

COMMENT: A thin layer of phosphor is arranged in a pattern of small dots on the inside of a television screen. These dots produce an image when scanned by the picture beam.

phosphor coating *noun* ELEC a thin layer of phosphor on the inside of a cathode ray tube

phosphor dot *noun* ELEC a dot of red, green or blue phosphor arranged with others in a pattern on a colour television screen

phosphor efficiency *noun* PHYS a measure of the amount of light produced in proportion to the energy received from an electron beam

phosphorescence *noun* CHEM the production of light with no heat (NOTE: It is either caused by oxidation of phosphorus as in sea water or generated by some animals such as glow-worms.)

phosphorescent *adjective* CHEM producing light without producing heat

phosphoric acid *noun* CHEM an acid that forms phosphates. Also called **orthophosphoric acid**

phosphor triad *noun* ELEC a group of three phosphor dots (representing red, green and blue) that together form a single pixel on a colour screen

phosphorus *noun* CHEM ELEM a chemical element that is essential to biological life (NOTE: The chemical symbol is **P**; the atomic number is **15** and the atomic weight is **30.97**.)

COMMENT: Phosphorus is an essential part of bones, nerve tissue, DNA and RNA and is important in many biochemical processes, although in its pure form it is highly toxic. When an organism dies the phosphorus contained in its tissues returns to the soil and is taken up by plants in the phosphorus cycle.

phosphorus (III) bromide *noun* CHEM a colourless liquid. Formula: PBr_3 .

phosphorus (V) bromide *noun* CHEM a yellow crystalline solid that sublimes easily. Formula: PBr_5 .

phosphorus (III) chloride *noun* CHEM a colourless liquid. Formula: PCl_3 .

phosphorus (V) chloride *noun* CHEM a white solid that sublimes easily. Formula: PCl_5 .

phosphorus cycle *noun* BIOL a cycle by which phosphorus atoms are circulated through living organisms

phosphorus (III) oxide *noun* CHEM a white, waxy solid that dissolves in cold water and reacts with hot water and oxidises in air to phosphorus (V) oxide. Formula: P_2O_3 .

phosphorus (V) oxide *noun* CHEM a white powder that is soluble in organic solvents and is used as a drying agent for gases, combining with water to form phosphoric acid. Formula: P_2O_5 .

phot- *prefix* PHYS same as **photo-** (NOTE: used before vowels)

photo- *prefix* PHYS light

photoautotrophic *adjective* BIOL using light energy to create a source of food

photocell *noun* PHYS same as **photoelectric cell**

photochemical *adjective* CHEM referring to a chemical reaction that is caused by light ○ *Gases rise into the upper atmosphere and undergo photochemical change.*

photochemical oxidant *noun* CHEM a substance which is produced by a chemical reaction with light, e.g. ozone

photochemical pollution *noun* ENVIRON pollution caused by the action of light on chemicals in the lower atmosphere

COMMENT: When the atmosphere near ground level is polluted with nitrogen oxides from burning fossil fuels together with hydrocarbons, ultraviolet light from the Sun sets off a series of reactions that result in photochemical pollution, containing, among other substances, ozone.

photochemical reaction *noun* PHYS a chemical reaction started by the absorption of light (NOTE: Photosynthesis and photochemical smog are examples of such a reaction.)

photochemical smog *noun* ENVIRON air pollution caused by the effect of strong sunlight on nitrogen dioxide and hydrocarbons emitted by motor vehicles, creating a harmful haze of minute droplets in the air

photochemistry *noun* CHEM the study of chemical changes brought about by light and other forms of radiation

photochromism *noun* PHYS a change in the colour of something caused by light

photoconverter *noun* ELEC a device that converts energy from light into electric energy

photodecomposition *noun* CHEM the breaking down of a substance by the action of light

photodrive *adjective* CHEM, PHYS describes a physical or chemical reaction initiated by the absorption of photons

photoelectric cell *noun* ELEC a cell in which light falling on the cell is converted to electricity

photoelectric effect *noun* PHYS the production of electrons from a substance, caused by light or other electromagnetic radiation. Also called **photoemission**

photoelectron *noun* PHYS an electron emitted from a substance that has been struck by a photon of electromagnetic radiation

photoemission *noun* PHYS same as **photoelectric effect**

photogenic *adjective* 1. PHYS produced by the action of light 2. BIOL referring to an organism producing light

photograph *noun* a picture taken with a camera, using the chemical action of light on sensitive film

photography *noun* TECH the process of taking pictures with a camera

photoionisation, photoionisation *noun* PHYS the removal of one or more electrons from an atom or molecule when it absorbs a photon of electromagnetic radiation, especially visible or ultraviolet light

photoluminescence *noun* PHYS the emission of light from a substance that has absorbed electromagnetic radiation

photolysis *noun* CHEM the breakdown of a chemical by light or other electromagnetic radiation

photometer *noun* PHYS an instrument for measuring the luminous intensity of light sources by comparison with a standard source

photometry *noun* PHYS the measurement of the luminous intensity of a source of visible light

photomultiplier *noun* PHYS a device that uses electronics to increase the intensity of incoming light (NOTE: Photomultipliers use materials that emit electrons when light falls on them (the photoelectric effect) and an electronic 'cascade' to increase the number of electrons before they are counted by a sensor.)

photon *noun* PHYS the elementary particle of electromagnetic radiation (NOTE: Radiation can be thought of as a particle or as a wave, and the shorter the wavelength

of the radiation the more energetic the equivalent photon.)

photonastic *adjective* BOT referring to photonasty

photonasty *noun* BOT a response of plants to light without movement towards the light source

photonics *noun* PHYS the scientific study of the properties and applications of light and other forms of radiant energy, including the generation of energy and information processing

photo-oxidant *noun* CHEM a chemical compound produced by the action of sunlight on nitrogen oxides and hydrocarbons

photo-oxidation *noun* CHEM a change in the chemical constitution of a compound by the action of sunlight ○ *Photo-oxidation breaks down polluted air and converts the gases to sulfur dioxide.*

photoperiod *noun* BIOL the period in every 24 hours when an organism is exposed to daylight ○ *Short-day plants require a photoperiod of less than 12 hours for flowering.* (NOTE: Photoperiod has an effect on activities such as flowering and mating.)

photoperiodicity *noun* BIOL the degree to which plants and animals react to changes in the length of the period of daylight from summer to winter

photoperiodism *noun* BIOL the response of an organism in its growth and behaviour to the amount of daylight it receives in every 24 hours

photophilic, photophilous *adjective* BIOL referring to an organism that grows best in strong light

photophosphorylation *noun* BIO-CHEM a key process in photosynthesis in which energy from light is stored in the form of chemical bonds

photoreceptor *noun* ZOOLOG a structure that can detect light

photoresist *noun* ELECTRONICS a chemical or material that hardens into an etch-resistant material when light is shone on it

photorespiration *noun* BOT a reaction that occurs in plants, alongside photosynthesis, in which the plant fixes oxygen from the air and loses carbon dioxide (NOTE: Photorespiration reduces the production of sugars by photosynthesis. Some crop plants have been bred to reduce their photorespiration rate.)

photosensitive *adjective* 1. PHYS sensitive to light 2. BIOL stimulated by light

photosensitivity *noun* PHYS, BIOL the state of being sensitive to or stimulated by light

photosynthesis *noun* BOT the process by which green plants convert carbon dioxide and water into sugar and oxygen using sunlight as energy

photosynthesise, photosynthesize *verb* BOT to carry out photosynthesis ○ *Acid rain falling on trees reduces their ability to photosynthesise.*

photosynthetic *adjective* referring to photosynthesis

photosynthetic capacity *noun* the calculation of the efficiency of conversion of solar energy by photosynthesis

photosynthetic pigment *noun* BOT a pigment that traps light energy during photosynthesis (NOTE: The main photosynthetic pigments in green plants are chlorophylls.)

phototaxis *noun* BIOL a movement of all or part of an organism in response to light either towards or away from it

phototroph *noun* BIOL an organism that obtains its energy from sunlight

phototrophic *adjective* BIOL obtaining energy from sunlight (NOTE: Plants are phototrophic.)

phototropic *adjective* BIOL referring to a plant or a cell that turns or grows towards or away from light

phototropism *noun* BOT the response of plants or cells to light by turning or growing towards or away from it (NOTE: Most plant shoots show positive phototropism, i.e. they grow towards the light.)

photovoltaic *adjective* ELEC converting the energy from electromagnetic radiation such as light into electricity

photovoltaic cell *noun* ELEC a device that converts the energy from light into electricity. Also called **photovoltaic, photovoltaic panel** (NOTE: As light strikes the cell the electrons in it become mobile and create electricity.)

photovoltaic effect *noun* ELEC an effect that causes a voltage to develop where two different materials meet when they are exposed to light

photovoltaic panel *noun* ELEC same as **photovoltaic cell**

phreatic *adjective* EARTH SCI referring to the water table

phreatic gas *noun* EARTH SCI a gas produced when water comes into contact with magma

phreatic water *noun* EARTH SCI the water in the layers of soil beneath the water table

phreatophyte *noun* BOT a plant whose roots go down into the water table

phrenic nerve *noun* ANAT a nerve that controls the muscles in the diaphragm

pH test *noun* CHEM a test to see how acid or alkaline a solution is

phthalate *noun* a chemical compound used to soften plastics and in many toiletries (NOTE: It is reported as a possible cause of reproductive or developmental problems because its action is similar to that of the hormone oestrogen.)

phthalic acid *noun* CHEM a colourless soluble crystalline acid used in dyes, perfumes, medicines and synthetic textiles. Formula: $C_6H_4(CO_2H)[[SUB]2]$.

phycology *noun* BIOL the scientific study of algae

phylogenesis, phylogeny *noun* BIOL the evolutionary history of an organism or group of organisms

phylum *noun* BIOL a major subdivision in the classification of organisms, below kingdom (NOTE: The plural is **phyla**.)

physical *adjective* **1.** PHYS referring to matter and energy or the sciences dealing with them, especially physics **2.** BIOL referring to the body rather than the mind ○ *physical discomfort* ○ *describe its physical appearance* **3.** being touched or able to be touched or felt ○ *physical contact*

physical address *noun* COMPUT a memory address that corresponds to a hardware memory location in a memory device

physical change *noun* PHYS a process that alters one or more physical properties of an element or compound without altering its chemical composition

physical chemistry *noun* CHEM the study of how the physical attributes of substances are related to their chemical properties and reactions

physical fitness *noun* HEALTH the state of health of the body, especially as related to exercise

physical geography *noun* EARTH SCI the study of the physical features of the Earth's surface, and of their development and how they are related to the core beneath

physical layer *noun* COMPUT the lowest ISO/OSI standard network layer that defines rules for bit rate, power and medium for signal transmission

physically *adverb* BIOL by means of or with respect to the body ○ *An organism adapts physically to changes in temperature.*

physical medicine *noun* MED a branch of medicine which deals with physical disabilities or with the treatment of disorders after they have been diagnosed

physical memory *noun* COMPUT the memory fitted in a computer. Compare **virtual memory**

physical science *noun* a science that studies nonliving things, e.g. physics and chemistry

physics *noun* PHYS the scientific study of matter, including electricity, radiation, magnetism and other phenomena that do not change the chemical composition of matter

physio- *prefix* **1.** PHYSIOL physiology **2.** BIOL, PHYS physical

physiological *adjective* PHYSIOL referring to physiology

physiological ecology *noun* ECOL the study of the physiology of an individual and the effects on function and behaviour in its habitat

physiological specialisation *noun* BIOL a phenomenon whereby some members of a population look identical but differ biochemically

physiologist *noun* PHYSIOL a scientist who specialises in the study of the functions of living organisms

physiology *noun* BIOL the scientific study of the functions of living organisms

phyto- *prefix* BOT plant

phytoaccumulation *noun* ENVIRON same as **phytoextraction**

phytobenthos *noun* BOT the plants that live on the bottom of the sea, lake or river

phytochemical *noun* BIOCHEM a substance occurring naturally in a plant ■ *adjective* referring to phytochemistry

phytochemistry *noun* BIOCHEM, BOT the study of the chemistry of substances found in plants

phytochrome *noun* BIOCHEM, BOT a pigment molecule in plants which is sensitive to slight changes in day length and controls the plant's growth timetable

phytoextraction *noun* ENVIRON the absorption by plants of metal contaminants through their roots and subsequent storage in their upper parts, allowing the decontamination of land

phytogeography *noun* BOT the study of plants and their geographical distribution

phytome *noun* BOT a plant community

phytonutrient *noun* BIOCHEM a substance in plants that is beneficial to human health, e.g. a vitamin or antioxidant

phytophagous *adjective* ZOOL referring to an animal that eats plants

phytoplankter *noun* BOT a single microscopic plant that floats in the sea or in a lake

phytoplankton *plural noun* BOT microscopic plants that float in the sea or in a lake (NOTE: Phytoplankton, formed mainly of diatoms and using the sunlight in the surface layers of the water to photosynthesise, are the basis of the food chain of almost all aquatic animals.)

phytoplankton bloom *noun* BOT a large mass of plankton that develops regularly at different periods of the year and floats on the surface of the sea or of a lake

phytoplanktonic *adjective* BOT referring to phytoplankton

phytoremediation *noun* ENVIRON the decontamination of land by growing plants to absorb heavy metals or other soil contaminants

phytosociology *noun* the branch of ecology concerned with the identification, analysis, and classification of the species composition of plant communities or plant associations

phytostabilisation, phytostabilization *noun* ENVIRON the use of plants to trap soil contaminants in their roots and prevent them from polluting ground water

phytotoxic *adjective* BOT, CHEM poisonous to plants

phytotoxicant *noun* BOT, CHEM a substance that is phytotoxic

phytotoxin *noun* BOT, CHEM a poisonous substance produced by a plant

pi *noun* MATHS the ratio of the circumference of a circle to its diameter. Symbol **π**; (NOTE: Its approximate value is 3.14159.)

PIA *abbreviation* COMPUT peripheral interface adapter

PIC *abbreviation* CHEM product of incomplete combustion

pica *noun* PRINTING a size of typeface equal to 0.422cm or ten characters to the inch

PICK *noun* COMPUT a multiuser, multi-tasking operating system that runs on mainframe, mini or PC computers

pico- *prefix* MEASURE one millionth, 10^{-12} . Symbol **p**

picogram *noun* one trillionth of a gram

picomole *noun* MEASURE a unit of measurement of the amount of a substance, equal to one millionth of a mole. Symbol **pmol**

picosecond *noun* MEASURE one millionth of a second. Abbr **ps**

picric acid *noun* CHEM a poisonous yellow crystalline acid used in disinfectants, dyes and high explosives. Formula: $C_6H_3N_3O_7$.

picture *noun* a printed or drawn image of an object or scene \circ *This picture shows the new design.* \blacksquare *verb* to visualise an object or scene \circ *Try to picture the layout before starting to draw it in.*

picture beam *noun* COMPUT a moving electron beam that produces an image on a cathode ray tube screen by illuminating the phosphor coating and by varying its intensity according to the received signal

picture element *noun* COMPUT same as **pixel**

picture object *noun* COMPUT an image created with a vector drawing package and stored as vectors rather than as a bitmap

PID *noun* COMPUT a device such as a bank card connected with or inserted into a system to identify or provide authorisation for a user. Full form **personal identification device**

pie chart *noun* MATHS a diagram in which ratios are shown as slices of a circle \circ *The memory allocation is shown on this pie chart.*

piezometer *noun* PHYS an instrument for measuring the pressure of a liquid

COMMENT: To measure the pressure of water in the ground, a tube is inserted into the soil and readings are taken from it.

piezometric, piezometrical *adjective* PHYS referring to the level reached by water under its own pressure in a borehole or in a piezometer

piggyback *verb* ELEC to connect two integrated circuits in parallel, one on top of the other to save space ○ *Piggyback those two memory chips to boost the memory capacity.*

piggyback entry *noun* COMPUT an unauthorised access to a computer system gained by using an authorised user's password or terminal

piggybacking *noun* COMPUT the use of transmitted messages to carry acknowledgements from a message that has been received earlier

pig iron *noun* INDUST an impure form of iron produced in a blast furnace and used to make purer forms of iron or steel

pigment *noun* BIOCHEM a substance that gives colour to a part of an organism, e.g. melanin in animals or chlorophyll in plants

COMMENT: The human body contains many substances that control colour: melanin gives dark colour to the skin and hair, bilirubin gives a yellow colour to bile and urine, haemoglobin gives blood a red colour. In plants, chlorophyll gives leaves their green colour and anthocyanin produces blue to purple coloration.

pigmentary *adjective* BIOL referring to or producing pigment

pigmentation *noun* BIOL the colouring of an animal's body, especially that produced by deposits of pigment

pigment cell *noun* ANAT a cell in an organism that contains pigment

pileus *noun* 1. MARINE BIOL the domed or bell-shaped part of the body of a jellyfish 2. FUNGI the cap of a mushroom or toadstool

piliferous layer *noun* BOT the part of the epidermis of a plant's root that produces root hair cells

pilot *adjective* used as a test, which if successful will then be expanded into a full operation ○ *The pilot factory has been built to test the new production process.* ■ *verb* to test something with a view to expansion ○ *They are piloting the new system in the south-east.*

PILOT *noun* COMPUT a computer programming language that uses a text-based format and is mainly used in computer-aided learning

pilot project *noun* a small-scale project carried out to see whether a large-scale project will work ○ *They are running a pilot project in the area for three months before deciding on the next stage.*

pin *noun* 1. a short, usually cylindrical metal rod 2. ELEC one of several short pieces of wire attached to an integrated circuit package that allows the circuit to be connected to a circuit board 3. ELEC a projecting part of a plug which fits into a hole in a socket ○ *Use a three-pin plug to connect the printer to the mains.*

PIN *noun* COMPUT a unique sequence of digits that identifies the user. Full form **personal identification number**

COMMENT: A PIN is commonly used in automatic cash machines in banks, along with a card that allows the user to be identified.

pincer *noun* MARINE BIOL a large jointed front claw of some crustaceans and arachnids such as the lobster and scorpion, used for grasping things

pin-compatible *adjective* ELECTRONICS referring to an electronic chip that can directly replace another because the arrangement of the pins is the same and they carry the same signals ○ *It's easy to upgrade the processor because the new one is pin-compatible.*

pincushion distortion *noun* OPTICS a fault in a monitor that causes a distortion of an image in which the edges curve in towards the centre

pine *noun* TREES an evergreen coniferous tree. Genus: *Pinus*. ○ *The north of the country is covered with forests of pine.*

pineal gland *noun* ANAT a tiny gland within the brain that secretes the hormone melatonin into the bloodstream

pine cone *noun* BOT a hard scaly structure bearing the seeds of a pine tree

pine forest *noun* a large wooded area containing mainly pines

pine oil *noun* INDUST an essential oil obtained from pines

pine tar *noun* INDUST a brown or black sticky substance derived from the wood of pines and used in medicines, soap and paint

pinewood *noun* BOT a wooded area containing mainly pines

PING *noun* COMPUT a software utility that will test all the nodes on a network or Internet to ensure that they are working correctly. Full form **packet Internet groper**

pinna *noun* **1.** ZOOL a thin, flat, tapering body part such as a feather or fin **2.** BOT one of the small leaves on a pinnate leaf

pinnate *adjective* BOT with small leaves arranged on each side of a central stalk

pinout *noun* ELECTRONICS a description of the position of all the pins on an integrated circuit together with their function and signal

pinpoint AEROSP *noun* a visual observation of the precise position of an aircraft ■ *verb* **1.** to find the precise position of something **2.** to identify something accurately ○ *to pinpoint a problem*

pinworm *noun* a thin parasitic worm *Enterobius*, which infests the large intestine. Also called **threadworm**

PIO *abbreviation* COMPUT parallel input/output

pipe *noun* **1.** ENG a hollow cylinder or tube down which a fluid or gas can flow ○ *a delivery pipe* ○ *an exhaust pipe* **2.** COMPUT a symbol, usually (|), that tells the operating system to send the output of one command to another command instead of displaying it

pipe drain *noun* ENG an underground drain made of lengths of tiles linked together (NOTE: Pipe drains may be made of clay, concrete or plastic pipes.)

pipeline *noun* **1.** ENG a long tube through which a fluid or gas flows from one place to another **2.** COMPUT a central processing unit or arithmetic logic unit that is constructed in blocks and executes instructions in steps, each block dealing with one part of the instruction, so speeding up program execution. Also called **pipeline computer** ■ *verb* COMPUT **1.** to schedule inputs to arrive at the microprocessor when nothing else is happening, so increasing apparent speed **2.** to execute several instructions in parallel to increase performance

pipette *noun* SCI a thin glass tube used in the laboratory for taking or measuring samples of liquid

PIPO *abbreviation* COMPUT parallel input/parallel output

piracy *noun* the unauthorised copying of patented inventions or copyright works

pirate *noun* COMPUT a person who copies a patented invention or a copyright work and sells it ○ *The company is trying to take the software pirates to court.* ■ *verb* to manufacture copies of an original copyrighted work illegally

pisciculture *noun* FISHERY the breeding of edible fish in special pools for sale as food

PISO *abbreviation* COMPUT parallel input/serial output

pistil *noun* BOT the female reproductive part of a flower, made up of the ovary, the style and the stigma

piston *noun* ENG a solid cylinder that fits into a larger cylinder and moves under fluid pressure, as in petrol and diesel engines, or compresses fluids, as in pumps and compressors

piston engine *noun* ENG a petrol or diesel engine in which pistons are moved by combustion of fuel, this reciprocating movement producing rotating movement

piston ring *noun* ENG one of the metal rings that seal the space between the piston and the cylinder wall ○ *There should be a loose fit between the cylinder and the piston, the difference being taken up by the piston rings.*

pit *noun* **1.** INDUST a large hole in the ground, e.g. for burying or planting something **2.** INDUST an area of land from which minerals, especially coal, are removed, and the buildings associated with the activity. Also called **mine** **3.** a small indentation in a surface **4.** COMPUT a bump or impression on the surface of an optical disk that represents a bit of data

pitch *noun* **1.** ACOUSTICS the frequency of a sound (NOTE: A low-pitched sound has a low frequency and a high-pitched sound has a high frequency.) **2.** AEROSP a nose up/down movement of an aircraft about its lateral axis ○ *If the control column is moved forward or aft, the pitch attitude of the aircraft changes.* **3.** CHEM a dark sticky substance obtained from tar, used to make objects watertight **4.** ENG the angle of the blades of a wind or water turbine in relation to the flow of wind or water ■ *verb* AEROSP (*of aircraft*) to move about the lateral axis ○ *Move the yoke fore and aft to pitch down and up.*

pitchblende *noun* MINERALS a form of the mineral uraninite, which is a source of uranium and radium

pith *noun* BOT the tissue found in the centre of plant stems. Also called **medulla**

pitot, Pitot tube *noun* PHYS an open-ended tube used to measure the speed of flow of a fluid

pitted *adjective* with small indentations ○ *a pitted surface*

pituitary gland *noun* ANAT a gland at the base of the brain that produces hormones that control other glands and influence many body functions

COMMENT: The pituitary gland is about the size of a pea and hangs down from the base of the brain. The front lobe of the gland secretes several hormones that stimulate the adrenal and thyroid glands, and stimulate the production of sex hormones, melanin and milk. The posterior lobe of the gland secretes oxytocin. The pituitary gland is the most important gland in the body because the hormones it secretes control the functioning of the other glands.

pivot *noun* ENG a short rod on which another part rotates ■ *verb* to turn on a point ○ *The rocker arm pivots on a bearing and opens the valve.*

pixel *noun* COMPUT the smallest single unit or point of a display whose colour or brightness can be controlled. Also called **picture element**

COMMENT: In high-resolution display systems the colour or brightness of a single pixel can be controlled. In low-resolution systems a group of pixels are controlled at the same time.

pK *noun* CHEM a measure of how readily an acid dissociates, calculated as the negative logarithm of its dissociation constant K

PLA *noun* COMPUT same as **programmable logic array**

place *noun* 1. a space or area ○ *Greenwich is a place on the 0° meridian.* 2. a position ○ *a decimal place* 3. □ **in place of** instead of ■ *verb* to put something in position ○ *Place the symbols at the bottom of the chart.*

placebo *noun* MED a liquid or tablet that appears to be a drug but has no medicinal substance in it

COMMENT: Placebos may be given to patients who have imagined illnesses. Placebos can also help in treating real disorders by stimulating the patient's psychological will to be cured. Placebos are also used on control groups in tests of new drugs (placebo-controlled studies).

placebo effect *noun* MED the apparently beneficial effect of telling patients that they are having treatment, even if this is not true, that arises from a desire for the treatment to be effective

placenta *noun* ANAT the tissue which grows inside the uterus in mammals during pregnancy and links the baby to the mother

COMMENT: The vascular system of the foetus is not directly connected to that of the mother. The placenta allows an exchange of oxygen and nutrients between the mother to the foetus, to which she is linked by the umbilical cord. It stops functioning when the baby breathes for the first time and then passes out of the uterus as the afterbirth.

placental *adjective* ANAT referring to the placenta

placental mammal *noun* ZOO same as **eutherian** (NOTE: All mammals are placental except for monotremes and marsupials.)

plagioclimax *noun* ECOL a stage in the development of a plant ecosystem where the system is kept stable by human intervention, as in managed woodlands

plagiosere *noun* ECOL a succession of plants that takes a new course because of the effect of a biotic factor

plague *noun* 1. MED an infectious disease that occurs in epidemics which kill many organisms 2. AGRIC a widespread infestation by a pest ○ *A plague of locusts has invaded the region and is destroying crops.*

plain EARTH SCI *noun* a level area of land with few trees ■ *plural noun* **plains** a large area of flat country with few trees, especially in the middle of North America

plain old telephone service *noun* TELECOM full form of **POTS**

plaintext *noun* COMPUT text or information that has not been encrypted or coded ○ *The messages were sent as plaintext by telephone.*

plan *noun* 1. an organised way of doing something 2. a drawing that shows how something is arranged or how something will be built ■ *verb* to organise carefully how something should be done

PLAN *noun* COMPUT a low-level programming language

planar *noun* 1. ELECTRONICS a method of producing integrated circuits by diffusing chemicals into a slice of silicon to create the different components 2. COMPUT a set of graphical objects or images arranged on the same plane

Planck, Max (1858–1947) PHYS a German physicist who set out quantum theory in work first published in 1900. He also set out the formula for the energy distribution in the spectrum of a black body.

Planck's constant *noun* PHYS a basic physical constant equal to the energy of a

photon divided by its frequency (NOTE: Its approximate value is 6.6261×10^{-34} joule seconds.)

Planck's radiation law *noun* PHYS a physical law that describes the energy radiated from a black body per unit area per unit time per unit wavelength at a particular temperature

plane *noun, noun* MATHS an imaginary surface containing all the straight lines that connect any two points on it ○ *The planes of parallels of latitude are parallel to the plane of the equator.* ■ *noun* 1. same as **aeroplane** 2. COMPUT one layer of an image that can be manipulated independently within a graphics program 3. TREES a deciduous hardwood tree, frequently grown in towns because of its resistance to air pollution. Genus: *Platanus*.

planet *noun* ASTRON a large body in the solar system, e.g. Earth, Mars or Mercury

COMMENT: Planets are aggregations of material formed in the early days of the solar system. There is direct knowledge of only the nine planets of the solar system. It seems from close observation of their proper motions that other nearby stars may have large planets much bigger than Jupiter, the largest planet in the solar system, although this method does not allow smaller planets to be detected. But it is not known how often planets might form near other stars.

planetary *adjective* ASTRON referring to a planet

planisphere *noun* ASTRON a representation on a flat surface of a map of the night sky as seen from one location at a point in time

plankter *noun* BIOL a single microscopic animal or plant that lives and drifts in water (NOTE: The plural is **plankton**.)

planktivorous *adjective* ZOO referring to an animal that eats plankton

plankton *plural noun* BIOL the microscopic animals and plants that drift near the surface of the water, belonging to two groups: zooplankton, which are microscopic animals, and phytoplankton, which are microscopic plants capable of photosynthesis (NOTE: A single organism is a **plankter**.)

planktonic *adjective* BIOL referring to plankton ○ *Blooms are population explosions of planktonic plants.*

planogamete *noun* GENETICS a gamete that is capable of moving, e.g. a spermatozoon

plant *noun* 1. BOT an organism containing chlorophyll with which it carries out photosynthesis 2. INDUST a very large factory or industrial site ○ *A nuclear power plant is to be built near the town.* 3. large heavy equipment and vehicles ■ *verb* 1. AGRIC to put plants in the ground ○ *to plant a crop of rice* 2. COMPUT to store a result in memory for later use

plantation *noun* 1. AGRIC an estate, especially in the tropics, on which large-scale production of cash crops takes place (NOTE: Plantations specialise in the production of a single crop such as cocoa, coffee, cotton, tea or rubber.) 2. FORESTRY an area of land planted with trees for commercial purposes. Also called **plantation forest** (NOTE: Plantations of conifers are sometimes informally called **forests**.)

plant biology *noun* BOT the study of the structure and functions of plants

plant breeder *noun* AGRIC a person who produces new forms of ornamental or crop plants

plant breeding *noun* AGRIC the practice of producing new forms of ornamental and crop plants by artificial selection

plant community *noun* ECOL a group of plants growing together in an area

plant cover *noun* ECOL the percentage of an area occupied by plants ○ *Plant cover at these altitudes is sparse.*

plant-eater *noun* ZOO same as **herbivore**

plant ecology *noun* ECOL the study of the relationship between plants and their environment

plant-feeder *noun* ZOO same as **herbivore**

plant genetic resources *plural noun* ECOL the gene pool of plants, especially of plants regarded as of value to humans for food or pharmaceuticals

plant growth regulator *noun* a chemical treatment which slows the growth of plants, used in low-maintenance areas such as roadside verges. Abbr **PGR**

plant hormone *noun* BOT a hormone that affects plant growth

plant kingdom *noun* BOT the category of all organisms classified as plants

plant nutrient *noun* BIOCHEM a mineral whose presence is essential for the healthy growth of plants

plant physiology *noun* BOT the study of the functions of plants

plant plankton *plural noun* BOT same as **phytoplankton**

plant population *noun* ECOL the number of plants found in a particular area

plant science *noun* BOT the scientific study of plants

plant scientist *noun* BOT a scientist who studies plants

plant sociology *noun* ECOL the study of communities of plants

plaque *noun* **1.** MICROBIOL a clear area in a bacterial or cell culture that has been caused by a virus destroying the cells **2.** DENT a deposit of saliva, mucus, bacteria and food on the teeth

plasma *noun* **1.** ANAT the yellow watery liquid in which the blood or lymphatic cells float ○ *The accident victim was given plasma.* **2.** PHYS a form of ionised atomic material that is common where large amounts of energy are available, as in the atmospheres of stars or in Earth's outer atmosphere

COMMENT: If blood does not clot it separates into blood cells and plasma, which is formed of water and proteins, including the clotting agent fibrinogen. If blood clots, the blood cells separate from serum, which is a watery liquid similar to plasma, but not containing fibrinogen. Dried plasma can be kept for a long time, and is used, after water has been added, for transfusions.

plasma cell *noun* ANAT a white blood cell (**lymphocyte**) that produces a specific type of antibody

plasma display *noun* COMPUT a thin display screen using the electroluminescent properties of some gases to display text, usually used in small portable computers

plasmagene *noun* GENETICS a particle found in cytoplasm that can replicate itself and is thought to be able to pass on hereditary characteristics in the same way as a chromosomal gene

plasma membrane *noun* BIOL same as **cell membrane**

plasma protein *noun* BIOCHEM protein in plasma such as albumin, gamma globulin or fibrinogen

plasmid *noun* GENETICS a small circle of DNA that replicates itself (NOTE: Plasmids are mainly found in bacterial cells and are used in genetic modification, as they can

be transmitted between bacteria of the same and different species.)

Plasmodium *noun* MED a genus of parasite that infests red blood cells and causes malaria

plasmolysis *noun* BIOL the shrinking of the cell contents away from the cell wall when a plant or bacterial cell loses water

plasmon *noun* GENETICS all the genetic material in the cytoplasm of a cell

plaster of Paris *noun* INDUST a white powder, calcium sulfate, that forms a rapidly hardening paste when mixed with water and is used in sculpture, plaster casts for broken limbs, and in the collection of delicate fossils

plastic *noun* INDUST an artificial, usually organic, material made from petroleum and used to make many objects ■ *adjective* **1.** PHYS able to take on different shapes when under stress and not returning to its original shape when the stress is removed **2.** INDUST made of plastic

COMMENT: Plastics are moulded by heating a substance under pressure and they retain their shape after being formed. Thermoplastics are heated while being shaped and can be heated and shaped again for re-use. Thermosetting plastics are heated while being shaped but cannot be reheated for recycling. Waste plastics containing chlorine can produce hydrogen chloride when incinerated. Plastics formed from ethylene or propylene (i.e. polyethylene and polypropylene) are not degradable and must be recycled or destroyed by incineration.

plastic foam *noun* same as **foam plastic**
plasticiser, plasticizer *noun* a substance, usually a synthetic organic chemical, that is added to a material to make it more flexible

plasticity *noun* variability in the growth of a plant in response to differences in the supply of resources

plastid *noun* BIOL a structure (**organelle**) found in green plant cells that contains pigment, ribosomes and DNA and is important in food synthesis and storage

plate *noun* **1.** a smooth, flat rigid object with the same thickness all over **2.** EARTH SCI same as **tectonic plate** **3.** ELEC an electrode in a battery

plateau *noun* EARTH SCI an area of high flat land (NOTE: The plural is **plateaux**.)

platelet *noun* ANAT a tiny colourless circular structure in the blood (NOTE: Platelets are present in large numbers and are essential for blood clotting.)

plate tectonics *noun* EARTH SCI the mechanism that drives continental drift on the Earth, whereby large sections of the Earth's crust move relative to each other

platform *noun* COMPUT a standard type of hardware that makes up a particular range of computers ○ *This software will only work on the IBM PC platform.*

platform-independent *adjective* COMPUT (*of software or a network*) able to work with or connect to different types of incompatible hardware

platinic chloride *noun* CHEM same as **chloroplatinic acid**

platinum *noun* CHEM ELEM a rare metallic element that does not corrode (NOTE: The chemical symbol is **Pt**; atomic number is **78** and the atomic weight is **195.09**.)

platinum black *noun* CHEM a fine black powdery form of platinum used as a catalyst

platinum metal *noun* CHEM ELEM platinum or any of the metals chemically related to it (NOTE: The other platinum metals are iridium, osmium, palladium, rhodium and ruthenium.)

platter *noun* COMPUT one disk within a hard disk drive

COMMENT: The disks are made of metal or glass and coated with a magnetic compound. Each platter has a read/write head that moves across its surface to access stored data.

platyhelminth *noun* ZOOLOGY same as **flatworm**

playback head *noun* ELEC a transducer that reads signals recorded on a storage medium and usually converts them to an electrical signal

playback rate scale factor *noun* COMPUT **1.** a sound played back at a different rate, directed by another application, to create a special effect **2.** the point at which video playback is no longer smooth and appears jerky owing to missed frames

pleiotropic *adjective* GENETICS referring to a gene that affects two or more apparently unrelated characteristics of an organism

pleiotropism *noun* GENETICS the control of two or more apparently unrelated characteristics of an organism by a single gene

pleura *noun* ANAT a thin transparent membrane that covers the lungs and folds back to form a lining for the chest cavity

(NOTE: It secretes a fluid that acts as a lubricant as the lungs expand and contract during breathing. The plural is **pleurae**.)

plexus *noun* ANAT a network of nerves, blood vessels or lymph vessels

ploidy *noun* GENETICS the number of chromosome sets in a cell

plot *noun* MATHS, NAVIG a graph or chart that shows a relation between two sets of numbers as a series of points joined by a line ○ *a plot of applied stress and resulting strain* ■ *verb* MATHS, NAVIG to calculate and mark a line on a graph or chart □ **to plot a course** to calculate and draw the desired route of an aircraft or ship on a chart

plotter *noun* COMPUT a device peripheral that draws straight lines between two coordinates (NOTE: Plotters plot curved lines as a number of short straight lines.)

plug *noun* **1.** a device that fits into a hole to prevent liquid flowing out of a container ○ *the oil drain plug* **2.** ELEC a device for making an electrical connection ○ *The printer is supplied with a plug.* ◇ **spark plug** **3.** EARTH SCI a round block of igneous rock forming the central vent of an old volcanic opening ■ *verb* to fill a hole with something so that fluid cannot escape

plug-compatible *adjective* COMPUT (*of equipment*) able to work with several different types of computer, so long as they have the correct type of connector

plumage *noun* the feathers of a bird

plumbism *noun* MED lead poisoning caused by taking in lead salts

plume *noun* **1.** INDUST a tall cloud of smoke or gas escaping from a factory chimney ○ *a gas plume* **2.** EARTH SCI a tall cloud of smoke or gas escaping from a volcano **3.** EARTH SCI a cloud of powdered snow blowing from a mountain crest **4.** ZOOLOGY a large feather

plumule *noun* BOT the tiny structure in a plant embryo from which a shoot will develop

plunger *noun* ENG a machine part such as a piston that operates with a thrusting or plunging movement ○ *A flow indicator valve comprises a body, a spring-loaded plunger connected to an actuator arm, and a micro-switch.*

plus *preposition* with the addition of ○ *At the selected decision height plus 50 feet, an aural alert chime sounds.* ○ *Four plus four equals eight (4 + 4 = 8).*

plus sign *noun* MATHS same as **addition sign**

Pluto *noun* ASTRON the smallest and most distant planet of the solar system, reclassified as a dwarf planet in 2006

COMMENT: From Pluto's density, it appears to be made of a mix of rock and ice. Pluto's mean distance from the Sun is 39AU. It takes 248 years to orbit the Sun.

plutonium *noun* CHEM ELEM a toxic and carcinogenic radioactive element extracted from uranium ore (NOTE: The chemical symbol is **Pu**; the atomic number is **94** and the atomic weight is **244**.)

plutonium-239 *noun* CHEM an isotope of plutonium which is formed from uranium-238 and is used as a fuel in nuclear reactors (NOTE: It has a half-life of 24360 years.)

PM *abbreviation* particulate matter

pmol *symbol* CHEM picomole

PMOS *noun* ELECTRONICS a metal oxide semiconductor transistor that conducts via a small region of p-type semiconductor. Full form **p-channel metal oxide semiconductor**

PNdB *abbreviation* ACOUSTICS perceived noise level in decibels

pneum- *prefix* same as **pneumo-** (NOTE: used before vowels)

pneumatic *adjective* PHYS, ENG referring to air under pressure ○ *High-pressure pneumatic systems are generally fitted on the older types of piston-engine aircraft to operate the landing gear, wing flaps and wheel brakes.*

pneumatically *adverb* PHYS, ENG by using air under pressure ○ *The doors are hydraulically or pneumatically opened.*

pneumo- *prefix* air, the lungs or breathing

pneumoconiosis *noun* MED a lung disease in which fibrous tissue forms in the lungs because the patient has inhaled particles of stone or dust over a long period

pneumogastric nerve *noun* ANAT the tenth cranial nerve, which controls swallowing and nerve fibres in the heart and chest. Also called **vagus**

PNL *abbreviation* ACOUSTICS perceived noise level

pnp transistor *noun* ELECTRONICS a layout of a bipolar transistor whose collector and emitter are of p-type semiconductor and whose base is n-type semiconductor

PNS *abbreviation* ANAT peripheral nervous system

Po *symbol* CHEM ELEM polonium

Poaceae *noun* BOT the grasses, which is a very large family of plants including bamboo and cereals such as wheat and maize. Former name **Gramineae**

pod *noun* **1.** BOT a container for several seeds, e.g. a pea pod or bean pod **2.** ZOOLOG a small group of whales, dolphins, or seals **3.** AEROSP a detachable compartment on a spacecraft

podsol, podzol *noun* EARTH SCI a type of acid soil where organic matter and mineral elements have been leached from the light-coloured top layer into a darker lower layer through which water does not flow and which contains little organic matter

COMMENT: On the whole podsol soils make poor agricultural soils, owing to their low nutrient status and the frequent presence of an iron pan. Large areas of the coniferous forest regions of Canada and Russia are covered with podsol.

podsollic, podzolic *adjective* EARTH SCI referring to podsol

podsollic soil *noun* EARTH SCI a soil that has formed a podsol

podsolisation, podsolization *noun* EARTH SCI the process by which a podsol forms

podsolised soil, podsolized soil *noun* EARTH SCI same as **podsollic soil**

poikilo- *prefix* irregular or varied

poikilosmotic *adjective* MARINE BIOL referring to an aquatic animal whose body fluids change by osmosis depending on the composition of the surrounding water

poikilotherm *noun* ZOOLOG same as **ectotherm**

point *noun* **1.** a particular figure on a scale ○ *The melting point of ice is 0 °C (Celsius).* **2.** COMPUT a place or position **3.** the sharp end of something **4.** an object or aim in doing something

pointer *noun* **1.** a piece of helpful advice ○ *some useful pointers on writing up experiments* **2.** an indication of how something will develop ○ *a pointer to future research priorities* **3.** COMPUT a graphical symbol used to indicate the position of a cursor on a computer display ○ *Desktop publishing on a PC is greatly helped by the use of a pointer and mouse.* **4.** COMPUT a variable in a computer program that contains the address to a data item or instruction ○

Increment the contents of the pointer to the address of the next instruction.

pointer file *noun* COMPUT a file of pointers referring to large amounts of stored data

pointing device *noun* COMPUT an input device that controls the position of a cursor on screen as it is moved by the user. ϕ **mouse**

point mutation *noun* GENETICS a mutation that involves a change in a single base or base pair of the nucleotides in a gene sequence

point of presence *noun* COMPUT a telephone access number for a service provider that can be used to connect to the Internet via a modem. Abbr **POP**

point out *verb* 1. to show someone something 2. to make someone aware of a piece of information

point quadrat *noun* BOT a device for measuring the leaf cover of ground, comprising a frame with many holes in it which is placed over a quadrat and rods are passed through the holes (NOTE: The number of leaves which they touch are then counted.)

point size *noun* PRINTING a unit of measure equal to 1/72 inch, used to measure type or text

point source *noun* ENVIRON, PHYS a discharge of a pollutant or radiant energy from a single place, e.g. a pipe, ship or installation. Compare **non-point source**

point to point protocol *noun* COMPUT a protocol that supports a network link over an asynchronous, modem connection. Abbr **PPP** (NOTE: It is normally used to provide data transfer between a user's computer and a remote server on the Internet using the TCP/IP network protocol.)

point-to-point tunneling protocol *noun* COMPUT full form of **PPTP**

poison *noun* MED a substance which can kill or harm a person or animal when eaten, drunk, breathed in or touched ■ *verb* to expose an organism to a poison \circ *They were poisoned by toxic fumes.*

poisoning *noun* MED the act of killing or harming an organism with a poison

poisonous *adjective* MED containing poison \circ *a poisonous gas* \circ *Some fungi are good to eat and some are poisonous.*

POL *abbreviation* COMPUT problem-oriented language

polar *adjective* 1. EARTH SCI referring to the North Pole or South Pole \circ *polar air* \circ *a polar region* 2. PHYS referring to the poles of an electrical device or of a magnet \circ *Bar magnets attract each other because of polar differences.*

polar body *noun* GENETICS a cell with a nucleus but little cytoplasm that is produced along with an oocyte in meiosis and later discarded

polar diameter *noun* EARTH SCI the distance from one pole, passing through the centre of the earth, to the other pole \circ *The Earth's polar diameter is shorter than its average equatorial diameter.*

polar ice cap *noun* EARTH SCI a large area of thick ice covering the regions around the North or South Pole, which is slowly disappearing as the Earth warms

polarimeter *noun* OPTICS a device for measuring the rotation of the plane of polarised light as it passes through a substance, usually a liquid or solution

polarisation, polarization *noun* 1. PHYS a characteristic of light or radio or other electromagnetic waves in which the waves are aligned in one direction and show different properties in different directions \circ *The antenna must have the same effective length and the same polarisation as the transmitter.* 2. ELEC a partial or complete polar separation of positive and negative electric charge

polarise, polarize *verb* 1. (*of broadcast signal waveforms*) to align in one plane 2. ELEC to separate positive and negative electric charges

polarised plug *noun* ELEC a plug which has a feature, usually a peg or a special shape, allowing it to be inserted into a socket only in one way

polarity *noun* ELEC the direction of flow of flux or current in an object \circ *During discharge, when the polarity of the supply changes, the stored energy is returned to the supply.*

polarity test *noun* ELEC a check to see which electrical terminal is positive and which negative

polarography *noun* CHEM a technique for studying ions in solution by comparing the strength of electric currents passing through the solution during electrolysis and the electric potential needed to produce them

Polaroid *trademark* a specially treated transparent plastic film that produces polarised light on transmission and is used for the reduction of glare in sunglasses and other applications

polar vortex *noun* METEOROL same as **circumpolar vortex**

pole *noun* **1.** a long, rounded piece of wood or metal **2.** one of two opposite points on an axis **3.** PHYS one of the two ends of a magnet that show magnetic attraction **4.** EARTH SCI the extreme north or south point of the Earth's axis ○ *A meridian is a line joining pole to pole.* **5.** ELEC a terminal of a battery ○ *a negative pole* ○ *a positive pole*

Polish notation *noun* MATHS † **reverse Polish notation**

poll *noun* a survey that asks people's opinions about something ■ *verb* COMPUT (*of a computer*) to determine the state of a peripheral in a network

pollard FORESTRY *noun* a tree of which the branches have been cut back to a height of about 2m above the ground ■ *verb* to cut back the branches on a tree every year or every few years to a height of about 2m above the ground

COMMENT: Pollarding allows new shoots to grow, but high enough above the ground to prevent them from being eaten by animals. Willow trees are often pollarded.

polled interrupt *noun* COMPUT an interrupt signal determined by polling devices

pollen *noun* BOT the mass of small grains in the anthers of flowers which contain the male gametes

pollen analysis *noun* BOT same as **palynology**

pollen count *noun* ENVIRON a measurement of the amount of pollen in a sample of air (NOTE: A high pollen count is bad for people who have hay fever.)

pollen sac *noun* BOT a hollow structure in which pollen is produced in a flower

pollen tube *noun* BOT a hollow tube that grows out of a pollen grain and carries the pollen nucleus to the egg cell through the micropyle

pollinate *verb* BOT to transfer pollen from the anther to the stigma in a flower

pollination *noun* BOT the action of pollinating a flower (NOTE: There is no English noun 'pollinisation'.)

pollinator *noun* BOT **1.** an organism which helps pollinate a plant, e.g. a bee or

bird ○ *Birds are pollinators for many types of tropical plant.* **2.** a plant from which pollen is transferred by bees to pollinate another plant, especially a fruit tree, that is not self-fertile ○ *Some apple and pear trees need to be planted with pollinators.*

polling *noun* COMPUT a system of communication between a controlling computer and a number of networked terminals in which the computer checks each terminal in turn to see if it is ready to receive or transmit data, and takes the required action (NOTE: The polling system differs from other communications systems in that the computer asks the terminals to transmit or receive, not the other way round.)

pollinosis *noun* MED inflammation of the nose and eyes caused by an allergic reaction to pollen, fungal spores or dust in the atmosphere. Also called **hay fever**

pollutant *noun* ENVIRON **1.** a substance that causes pollution **2.** noise, smell or another unwanted occurrence that affects a person's surroundings unfavourably

pollute *verb* ENVIRON to discharge harmful substances in unusually high concentrations into the environment ○ *Polluting gases react with the sun's rays.* ○ *Polluted soil must be removed and buried.*

polluter *noun* ENVIRON a person or company that causes pollution

polluter-pays principle *noun* ENVIRON the principle that, if pollution occurs, the person or company responsible should be required to pay for the consequences of the pollution and for avoiding it in future. Abbr PPP. † **user-pays principle**

polluting agent *noun* ENVIRON a substance that causes pollution

pollution *noun* **1.** ENVIRON the presence of unusually high concentrations of harmful substances or radioactivity in the environment, as a result of human activity or a natural process such as a volcanic eruption ○ *In terms of pollution, gas is by far the cleanest fuel.* ○ *Pollution of the atmosphere has increased over the last 50 years.* ○ *Soil pollution round mines poses a problem for land reclamation.* **2.** the unwanted presence of something such as noise or artificial light

pollution charges *plural noun* ENVIRON the costs of repairing or stopping environmental pollution

pollution control, pollution prevention *noun* ENVIRON the activity of taking

measures to limit the human activities that produce pollution

polonium *noun* CHEM ELEM a natural radioactive element (NOTE: The chemical symbol is **Po**; the atomic number is **84** and the atomic weight is **209**.)

poly- *prefix* many

polyamide *noun* CHEM a synthetic polymer with recurring amide groups, e.g. nylon

polyandry *noun* a breeding arrangement in which a female has several mates

polyatomic ion *noun* CHEM an ion containing two or more elements chemically combined

polybrominated biphenyl *noun* CHEM a highly toxic aromatic compound containing benzene and bromine. It is used in plastics, electrical equipment and fire-retardant materials and is either banned or very restricted in use in many countries. Abbr **PBB**

polychaete *noun* MARINE BIOL a marine worm with a segmented body on each of which is a pair of bristly extensions used in swimming. Class: Polychaeta.

polychlorinated biphenyl, polychlorobiphenyl *noun* CHEM one of a group of compounds produced by chlorination of biphenyl. Abbr **PCB**

COMMENT: PCBs are stable compounds and formerly were extensively used in electrical fittings and paints. Although they are no longer manufactured they are extremely persistent and remain in large quantities in landfill sites. They are not water-soluble and float on the surface of water where they are eaten by aquatic animals and so enter the food chain. PCBs are fat-soluble, and are therefore easy to take into the system, but difficult to excrete.

polyclone *noun* GENETICS a clone derived from groups of cells of different ancestry or genetic make-up

polycondensed plastic *noun* INDUST a type of plastic which can be recycled, e.g. nylon

polycrystalline silicon *noun* INDUST silicon used to manufacture photovoltaic panels

polyculture *noun* AGRIC the rearing or growing of more than one species of plant or animal on the same area of land at the same time

polycyclic *adjective* ZOO (of snail shells) making two or more complete whorls

polycyclic aromatic hydrocarbon *noun* CHEM one of a group of chemical compounds which are carcinogenic. Abbr **PAH**

polycystic ovarian syndrome *noun* MED a hormonal disorder in women characterised by enlarged ovaries containing numerous small painless cysts, infertility, excessive hair growth and acne

polyester *noun* INDUST a synthetic polymer in which monomers are linked by the chemical group $-COO-$ (NOTE: It is used in resins, plastics, textiles and fibres.)

polyethylene *noun* CHEM same as **polythene**

polyethylene terephthalate *noun* INDUST a type of plastic that can be recycled, used to make artificial fibres and plastic bottles. Abbr **PET**

polygamy *noun* ZOO a breeding arrangement in which a male has several mates. Compare **monogamy**

polygene *noun* GENETICS one of a set of genes of which the whole set collectively determines a characteristic such as height

polygon *noun* MATHS a shape with three or more sides

polygon mesh model *noun* COMPUT same as **wire frame model**

polyhaline *adjective* CHEM (of water) containing almost as much salt as sea water. Compare **mesohaline**, **oligohaline**

polyhydric alcohol *noun* CHEM alcohol that includes more than one $-OH$ group within its molecules

polymer *noun* CHEM a natural or artificial chemical compound whose large molecules are made up of smaller molecules combined in repeated groups

polymerase chain reaction *noun* BIOTECH a technique used to produce a large number of copies of a sequence of DNA. Abbr **PCR**

polymerisation, polymerization *noun* CHEM a chemical reaction or process in which a polymer is formed

polymorph *noun* BIOL an organism, part of an organism, protein, or chemical compound that is found in different forms

polymorphic *adjective* BIOL existing in different forms

polymorphism *noun* BIOL 1. the existence of different forms during the life cycle of an organism, as in the example of a butterfly, which exists as a caterpillar, then a

pupa, before becoming a butterfly **2.** the existence of different forms of an organism in a social system, as in the example of bees, which exist as workers, queens and drones

polymorphous *adjective* BIOL same as **polymorphic**

polynomial *noun* **1.** MATHS a mathematical expression consisting of the sum of a number of terms, each of which contains a constant and variables raised to a positive integral power **2.** BIOL a taxonomic name of a plant or animal that has more than two terms, e.g. one giving a genus, species, and subspecies

polynomial code *noun* COMPUT an error detection system that uses a set of mathematical rules applied to the message before it is transmitted and again when it is received to reproduce the original message

polynucleotide *noun* BIOCHEM a chain of nucleotides, as found in DNA and RNA

polynyas *noun* EARTH SCI in a frozen sea, an area of water that is not frozen, created by local water currents in northern oceans

polyp *noun* MARINE BIOL a water animal that does not swim about, e.g. a sea anemone

polypeptide *noun* BIOCHEM a long chain of amino acids found in protein molecules

polyphagous *adjective* ZOOL referring to an organism that eats more than one type of food. Compare **monophagous**

polyphagy *noun* the practice of eating more than one type of food. Compare **monophagy**

polyphony *noun* COMPUT a device that can play more than one musical note at a time

polyploid *adjective* BIOL referring to an organism with more than two identical sets of chromosomes in each cell nucleus ◦ *Triploids and tetraploids are polyploids with three and four times the haploid number of chromosomes, respectively.*

polypropylene *noun* INDUST a type of plastic used to make artificial fibres, bottles, pipes, and other articles, which is not degradable and must be recycled or destroyed by incineration

polysaccharide *noun* CHEM a complex sugar composed of simple sugar molecules linked into a branched or chain structure (NOTE: Cellulose and starch are polysaccharides.)

polysaprobe *noun* BIOL an organism which can survive in heavily polluted water

polysaprobic *adjective* BIOL referring to organisms that can survive in heavily polluted water

polysomic *adjective* GENETICS referring to a diploid cell in which some chromosomes occur more than twice

polystyrene *noun* INDUST a type of plastic which can be made into hard lightweight foam by blowing air or gas into it, used as an insulating and packaging material

polytene GENETICS *adjective* referring to a giant chromosome formed from multiple strands of DNA ■ *noun* a polytene chromosome (NOTE: Polytenes found in drosophila fruit flies are useful in genetic research.)

polytetrafluoroethene *noun* INDUST a durable, nonflammable thermoplastic substance with good chemical resistance, used for coating metals for nonstick cookware

polythene *noun* INDUST a type of plastic used to make artificial fibres, packaging, boxes and other articles

polyunsaturated fat *noun* BIOCHEM a fatty acid capable of absorbing more hydrogen, typically found in vegetable and fish oils

polyurethane *noun* CHEM a tough flexible synthetic polymer, used in resins, varnish, glue, foams and fibres

polyvinyl chloride *noun* INDUST full form of **PVC**

pome *noun* BOT a fruit with a core containing the seeds enclosed in a fleshy part that develops from the receptacle of a flower and not from the ovary (NOTE: The fruit of apples and pears are pomes.)

pomology *noun* BOT the study of fruit cultivation

pond *noun* EARTH SCI a small area of still water formed artificially or naturally

ponding *noun* EARTH SCI the formation of a small pool of liquid

pond life *noun* ECOL the community of organisms that live in a pond

pondweed *noun* BOT a small plant that grows in a pond

pons *noun* ANAT a pale zone of nerve fibres on the surface of the brain stem, connecting the two hemispheres of the cerebellum

pool *noun* **1.** EARTH SCI a small area of still water, especially one formed naturally **2.** EARTH SCI an area of oil or gas which collects in porous sedimentary rock **3.** a group or combination of things or people. ◊ **gene pool**

pop *verb* COMPUT (*in an instruction to a computer*) to read and remove the last piece of data from a stack

POP *abbreviation* COMPUT point of presence

POP 2 *noun* COMPUT a high level programming language used for list processing applications

POP 3 *noun* COMPUT a system used to transfer electronic mail messages between a user's computer and a server such as one at an ISP. Full form **post office protocol 3**

pop-down menu, pop-up menu *noun* COMPUT a menu that can be displayed on the screen at any time by pressing the appropriate key, usually displayed over material already on the screen

popliteal artery *noun* ANAT an artery which branches from the femoral artery behind the knee and leads into the tibial arteries

poppet valve *noun* ENG an intake or exhaust valve of a piston engine, operated by springs and cams

populate *verb* **1.** ECOL to fill an area with organisms ◊ *Starlings soon populated the whole eastern seaboard of the USA.* **2.** COMPUT to fill the sockets on a printed circuit board with components

population *noun* **1.** a number of people living in a country or town ◊ *The government has decided to screen the whole population of the area.* ◊ *Population growth is a major threat to conservation efforts.* **2.** ECOL a number of individuals of the same species living and breeding in a specific area ◊ *The fish population has been severely reduced.*

population age structure *noun* ENVIRON the numbers of individuals of each age in a population

population control *noun* ENVIRON the process of limiting the number of individuals living in a specific area

population cycle *noun* ECOL a series of regular changes in the population of a species, usually a cycle in which the population gradually increases and then falls away again

population decrease *noun* ECOL a reduction in the number of individuals living in a specific area

population density *noun* ECOL the number of individuals living in a specific area

population dispersion *noun* ECOL the spreading out of the members of a population over an area

population dynamics *noun* ECOL the study of changes in the number of individuals living in a specific area

population ecology *noun* ECOL the study of the factors determining abundance and fluctuations in the population of a species

population equilibrium *noun* ECOL a situation in which the population stays at the same level, because the number of deaths is the same as the number of births

population explosion *noun* ECOL a rapid increase in the number of individuals in a population

population genetics *noun* GENETICS the study of how genes behave in the organisms of a community during evolution

population growth *noun* ECOL an increase in the size of a population

population inversion *noun* PHYS the condition in which a higher energy state has more electrons than a lower energy state

population momentum *noun* ECOL a continuation of population growth for several generations after the population has achieved the ability to replace itself

population pyramid *noun* ECOL a graphical representation showing the distribution of a population according to age, sex or other characteristics

population transfer *noun* ECOL a movement of individuals from one place to another

pore *noun* **1.** ANAT a tiny hole in the skin through which sweat passes **2.** EARTH SCI a tiny space in a rock formation or in the soil **3.** BOT same as **stoma**

porosity *noun* PHYS the degree to which a substance is porous ◊ *Clay has a lower porosity than lighter soils.*

porous *adjective* **1.** referring to a substance with many holes or spaces **2.** referring to rock which has many small pores in

it and can absorb water (NOTE: Porous rock is not necessarily permeable.)

porphyrin *noun* BIOCHEM a metal-containing pigment with a ring-like molecular structure (NOTE: Haemoglobin is an important porphyrin in many animals.)

port *noun* COMPUT a socket or physical connection allowing data transfer between a computer's internal communications channel and another external device

portable *adjective* **1.** capable of being carried in the hands ○ *a portable fire extinguisher* ○ *An aneroid barometer is a more portable device than a mercury barometer.*

2. COMPUT (*of hardware, software or data files*) able to be used on a range of different computers ■ *noun* COMPUT a compact self-contained computer that can be carried around and used either with a battery pack or mains power supply

portable operating system interface *noun* COMPUT full form of **POSIX**

portal vein *noun* ANAT a vein that takes blood from the stomach, pancreas, intestines and spleen to the liver

portrait *adjective* PRINTING the orientation of a page or piece of paper so that the longest edge is vertical. Compare **landscape**

port replicator *noun* COMPUT a version of a docking station that allows a laptop computer to be connected to duplicate the connection ports on the back of the laptop (NOTE: This allows a user to keep a mouse, power cable and printer connected to the port replicator and easily insert the laptop to use these ports without having to plug in cables each time the machine is used.)

position *noun* **1.** a place or location ○ *The prime meridian and the equator are the axes of the system of latitude and longitude which is used for expressing position on the globe.* **2.** a setting of a control ○ *the neutral position* ■ *verb* to place something somewhere ○ *The magnetic compass is positioned away from magnetic sources.*

position effect *noun* GENETICS a change in the expression of a gene that occurs if its location on the chromosome changes

positive *adjective* **1.** MATHS having a value of more than 0. Symbol +. Opposite **negative** **2.** PHOTOGRAPHY (*of an image*) showing the light and dark areas of objects as they are seen **3.** ELEC referring to an electrical voltage greater than zero

positive display *noun* COMPUT a display of text and graphics as black on a white background to imitate a printed page

positive feedback *noun* a situation where the result of a process stimulates the process which caused it

positive logic *noun* ELECTRONICS a logic system in which a logical one is represented by a positive voltage level, and a logical zero represented by a zero or negative voltage level

positive presentation *noun* COMPUT a screen image that is coloured on a white background

positive pressure *noun* PHYS the condition that exists when more air is supplied to a space than is used up, so the air pressure in that space is greater than that in the surrounding area ○ *Under positive pressure, if an opening exists, air will flow from the positively pressurised space into surrounding areas.*

positive response *noun* a communication signal that indicates correct reception of a message

positive terminal *noun* ELEC a terminal of a battery marked with the symbol +

positron *noun* PHYS a particle identical to an electron but bearing a positive rather than a negative electric charge

POSIX *noun* COMPUT an IEEE standard that defines a set of services provided by an operating system. Full form **portable operating system interface** (NOTE: Software that works to the POSIX standard can be easily ported between hardware platforms.)

possibility *noun* **1.** a chance occurrence ○ *The guidelines are designed to prevent the possibility of laboratory accidents.* ○ *We cannot rule out the possibility of error.* **2.** an available choice ○ *Several possibilities are open to us.*

post *verb* COMPUT **1.** to enter data into a record in a file **2.** to publish text online or in an Internet location

POST *abbreviation* COMPUT power-on self test

post- *prefix* after or later

postbyte *noun* COMPUT (*in a program instruction*) the data byte following the op code that defines the register to be used

postclimax *noun* ECOL a climax community that still exists in a place where the environmental conditions are no longer suitable for it

post-consumer waste *noun* ENVIRON any material that has been used by someone and then thrown away. Abbr **PCW**. Compare **industrial waste**

posterior aspect *noun* BIOL a view of the back of the body, or of the back of part of the body

postfix *noun* COMPUT a word or letter written after another

postfix notation *noun* MATHS a logical way of writing mathematical operations, so that the operator appears after the operands, thus removing the need for brackets
 ◦ *Normal notation is: $(x-y) + z$, but postfix notation is: $xy - z +$.*

postnatal *adjective* MED relating to an infant immediately after birth

post office *noun* COMPUT a central store for the messages for users on a local area network

post office protocol 3 *noun* COMPUT full form of **POP 3**

postsynaptic axon *noun* ANAT a nerve that receives messages at a synapse. Compare **presynaptic axon**

posttranscriptional *adjective* GENETICS referring to processes or components that carry out genetic instructions only after the stage of transcription of a gene or genes

posttranslational *adjective* GENETICS referring to processes or components that carry out genetic instructions only after translation of RNA to protein

potamology *noun* EARTH SCI the scientific study of rivers

potamoplankton *plural noun* BIOL plankton that live in rivers

potamous *adjective* ZOOZ referring to animals that live in rivers

potash *noun* CHEM any potassium salt (NOTE: Potash salts are crude minerals and contain much sodium chloride.)

potash fertiliser *noun* AGRIC a fertiliser based on potassium, e.g. potassium sulfate

potassium *noun* CHEM ELEM a soft metallic element, essential to biological life (NOTE: The chemical symbol is **K**; the atomic number is **19** and the atomic weight is **39.10**.)

COMMENT: Potassium is one of the three major soil nutrients needed by growing plants. The others are nitrogen and phosphorus.

potassium bicarbonate *noun* CHEM same as **potassium hydrogen carbonate**

potassium bitartrate *noun* CHEM a white powder or crystalline compound used as a rising agent in baking. Formula: $\text{KHC}_4\text{H}_4\text{O}_6$.

potassium bromide *noun* CHEM a white crystalline compound, used in lithography, medicine, photography and the manufacture of soap. Formula: KBr .

potassium carbonate *noun* CHEM a white salt used in brewing and in the manufacture of ceramics, explosives, fertilisers, glass and soap. Formula: K_2CO_3 .

potassium chloride *noun* CHEM a colourless crystalline salt used as a fertiliser and in photography and medicine. Formula: KCl .

potassium cyanide *noun* CHEM a very poisonous white crystalline salt used in the extraction of gold and silver from ore, in photography and as an insecticide. Formula: KCN .

potassium hydrogen carbonate *noun* CHEM a white powder or granular compound used in baking powder and as an antacid. Formula: KHCO_3 .

potassium hydroxide *noun* CHEM a caustic and poisonous white solid, used in making soap, detergents, liquid shampoos and matches. Formula: KOH .

potassium iodide *noun* CHEM a white crystalline compound with a salty taste, used in medicine and photography and added to table salt. Formula: KI .

potassium manganate (VII) *noun* CHEM same as **potassium permanganate**

potassium nitrate *noun* CHEM a white crystalline salt, used as a fertiliser and meat preservative and in fireworks, explosives and matches. Formula: KNO_3 .

potassium permanganate *noun* CHEM a purple-coloured salt that is soluble in water, used as a disinfectant. Formula: KMnO_4 . Also called **potassium manganate (VII)**, **primary alcohol**

potassium sulfate, **potassium sulphate** *noun* CHEM a white crystalline powder that is soluble in water. Formula: K_2SO_4 . Also called **sulfate of potash**

potent *adjective* having a strong effect ◦ *a potent drug*

potential *adjective* capable of being, but not yet in existence ◦ *A designated fire zone is a region where a potential fire risk may exist.* ■ *noun* 1. ELEC voltage ◦ *charged to a high potential* 2. ELEC the

ability of energy to carry out work, by transformation **3. PHYS** **electric potential**
potential difference *noun* ELEC the voltage difference between two points in a circuit

potential divider *noun* ELEC same as **voltage divider**

potential energy *noun* PHYS the energy of an object because of its position or due to its being stretched or compressed (NOTE: The energy is equal to mgh where m =mass of the object, g =acceleration of gravity and h =height.)

potential evapotranspiration rate *noun* EARTH SCI the amount of water transpired from a site assuming that there is no soil water limitation and complete vegetation cover

potentially renewable resources *plural noun* resources that could be replaced by natural environmental processes if they are depleted

potentiate *verb* BIOCHEM (of two substances) to increase each other's toxic effects

potentiation *noun* BIOCHEM the degree of probable increased damage caused by the combined action of toxic substances compared with their individual effects

potentiometer *noun* ELEC ENG a device for measuring an unknown potential difference or electromotive force without drawing current by comparing it against a known standard

POTS *noun* TELECOM a standard telephone line without any special features such as call waiting or forwarding and without high-speed digital access. Full form **plain old telephone service**

pound *noun* MEASURE a measure of weight, equal to 16 ounces or 453.592 grams. Symbol **lb**

powder *noun* a substance made of ground or otherwise finely dispersed solid particles *o* *Dry chemical fire-extinguishers contain a non-toxic powder.*

powdered *adjective* crushed to a fine dry dust

powder metallurgy *noun* METALL the technique of producing solid objects from powdered metals or carbides by compressing or heating them without melting them

powdery *adjective* having the texture or appearance of powder *o* *The fungus forms as a powdery layer on leaves.*

power *noun* **1.** ENG the energy, especially electricity, which makes a machine or device operate **2.** ELEC a unit of energy equal to the product of voltage and current, measured in watts **3.** MATHS the number of times a number is to be multiplied by itself *o* *5 to the power 2 is equal to 25.* (NOTE: It is written as a small figure in superscript: **10⁵**: say 'ten to the power five') **■ verb** ENG to provide electrical or mechanical energy to a device *o* *The monitor is powered from a supply in the main PC.*

power cable *noun* INDUST a wire carried across the countryside on pylons along which electric current travels from the power station where it was generated

power down *noun* ELEC to turn off the electricity supply to a device

-powered *suffix* INDUST operated by a particular type of energy *o* *a wind-powered pump*

power failure *noun* **1.** ENG a loss of engine power **2.** INDUST a loss of electrical power supply

power line *noun* INDUST same as **power cable**

power loss *noun* ELEC the amount of power lost in transmission or due to connection equipment

power management *noun* COMPUT software built into laptop computers and some desktop PCs and monitors that will automatically turn off components that are not being used in order to save energy

power monitor *noun* ELEC a circuit that shuts off the electricity supply if it is faulty or likely to damage equipment

power off *noun* ELEC the switching off or disconnecting of an electrical device from its power supply

power on *noun* ELEC an indication that a voltage is being supplied to a piece of electrical equipment

power-on reset *noun* COMPUT the automatic reset of a computer to a known initial state immediately after power is applied

power-on self test *noun* COMPUT a series of hardware tests that a computer carries out when it is first switched on. Abbr **POST**

power pack *noun* ELEC a self-contained box that will provide a voltage and current supply for a circuit

power raising *noun* INDUST the action of starting up a power station

power station, power plant *noun* INDUST a building with machines that make electricity

COMMENT: A power plant makes electricity by using steam to turn turbines which themselves drive generators. High-pressure steam is heated by burning coal, oil or natural gas, or by energy from a nuclear reactor. The steam passes over the turbines as a high-pressure jet, making the turbines rotate. The steam is produced from fresh water which is heated in a boiler, then passed through the furnace again to be superheated. Superheated steam drives the first turbine and then is returned to the boiler again for reheating and then passing over the second and third turbines. The steam is then condensed into water which then passes back through the system again. Although the steam used in power plants is heated several times and is condensed into reusable water at the end of the cycle, much of the energy generated to heat the water and create steam is not translated into electric power and is therefore wasted.

power supply *noun* ELEC **1.** an electrical circuit that provides certain direct current voltage and current levels from an alternating current source for use in other electrical circuits ○ *If the power supply from the amplifier to the gauge fails, the needle slowly falls to zero.* **2.** same as **power supply unit**

power supply unit, power supply *noun* ELEC a device that regulates, smooths and reduces the mains voltage level for use in low power electronic circuits. Abbr **PSU**. Also called **power supply**

power surge *noun* ELEC a sudden increase in the flow of electricity

power transient *noun* ELEC a very short duration voltage pulse or spike

power up *verb* ELEC to switch on or apply a voltage to a electrical device

ppb *abbreviation* MEASURE parts per billion

ppm *abbreviation* MEASURE parts per million

PPP *abbreviation* **1.** COMPUT point to point protocol **2.** ENVIRON polluter-pays principle

PPTP *noun* COMPUT a protocol that allows a standard local area network protocol to be sent over the Internet in a transparent manner without the user or operating system noticing. Full form **point-to-point tunneling protocol**

PPU *abbreviation* COMPUT peripheral processing unit

Pr *symbol* CHEM ELEM praseodymium

practical extraction and report language *noun* COMPUT full form of **Perl**
○ *If you want to add a search engine to your website, you will need to write a Perl program.* (NOTE: It is usually used under Unix.)

prairie *noun* EARTH SCI a large area of grass-covered plains in North America, mainly without trees (NOTE: The prairies of the United States and Canada are responsible for most of North America's wheat production. In Europe and Asia, the equivalent term is **steppe**.)

praseodymium *noun* CHEM ELEM a soft silvery metallic element, used in alloys, arc lights and colouring for glass (NOTE: The chemical symbol is **Pr**; the atomic number is **59** and the atomic weight is **140.91**.)

pre- *prefix* COMPUT before or in front of

pre-amplifier *noun* ELECTRONICS an electronic circuit which amplifies a signal to a particular level before it is fed to an amplifier for output

prebiotic *noun* BIOL, ALTERN MED a dietary supplement in the form of nondigestible carbohydrate that favours the growth of desirable microflora in the large bowel

precautionary approach, precautionary principle *noun* ENVIRON a decision-making policy to take action to prevent possible environmental damage even before there is scientific evidence that damage will certainly occur

precede *verb* to come before something
○ *This instruction cancels the instruction which precedes it.*

precedence *noun* COMPUT a set of computational rules defining the order in which mathematical operations are calculated (NOTE: Usually multiplications are done first, followed by divisions, additions and finally subtractions.)

precession *noun* ASTRON the tendency of the Earth's axis to wobble in space over a period of 23 000 years (NOTE: The Earth's precession is one of the factors that results in the planet receiving different amounts of solar energy over long periods.)

precipitant *noun* CHEM a substance added to a solution to make solid dissolved particles separate from it

precipitate CHEM *noun* the mass of solid particles that separate from a solution during a chemical reaction ■ *verb* to make

solid dissolved particles separate from a solution

precipitation *noun* **1.** METEOROL water which falls from clouds as rain, snow or hail ○ *Annual precipitation is high in the mountain areas.* **2.** CHEM the action of forming solid particles in a solution

precipitation interference *noun* interference to signals caused by rain, snow or hail

precipitation scavenging *noun* ENVIRON the removal of particles of polluting substances from the air in the form of acid rain

precipitation tank *noun* INDUST a sewage tank in which a chemical is added to the sewage before it passes to the sedimentation tanks

precise *adjective* exact or accurate

precision *noun* the accuracy to which a calculation is performed, indicated as a specific number of significant figures

precompiled code *noun* COMPUT a code that is output from a compiler, ready to be executed

precondition *verb* COMPUT to condition data before it is processed

precursor *noun* CHEM, BIOL a substance or cell from which another substance or cell is developed ○ *The biggest share of ozone precursors comes from emissions from vehicles.*

predation *noun* ZOOLOG the killing and eating of other animals

predator *noun* ZOOLOG an animal that kills and eats other animals ○ *The larvae are predators of aphids.* Opposite **prey**

predatory *adjective* ZOOLOG referring to a predator ○ *predatory animals such as lions and tigers*

predefined *adjective* defined in advance

predicate *noun* COMPUT a function or statement used in rule-based programs such as expert systems

predictive agriculture *noun* same as **intensive agriculture**

predominance *noun* the condition of being more powerful than others

predominant *adjective* **1.** more powerful than others ○ *The predominant airstream is from the west.* **2.** most common ○ *The predominant hair colour in this population is black.*

predominate *verb* **1.** to be more powerful than others **2.** to be more common than

others ○ *A cold northerly airstream predominates during the winter.*

preemptive multitasking *noun* COMPUT a form of multitasking in which the operating system executes a program for a period of time then passes control to the next program, so preventing any one program using all the processor time

preferendum *noun* ECOL the area where a species flourishes best

pre-fetch *noun* COMPUT a short temporary queue where instructions for a central processing unit are stored before being processed, increasing the speed of execution

prefix *noun* **1.** a part of word added at the beginning of a word to alter the meaning ○ *Pre- is a prefix meaning 'before'.* **2.** COMPUT a code, instruction or character at the beginning of a message or instruction

prefix notation *noun* MATHS a logical way of writing mathematical operations, so that the operator appears before the operands, removing the need for brackets ○ *Normal notation is $(x-y) + z$, but prefix notation is $-xy + z$.*

pregnancy *noun* BIOL the time between fertilisation and birth when the developing offspring grows inside the mother's body

pre-ignition *noun* AUTOMOT the ignition of the fuel/air mixture in the combustion chamber, occurring before the spark ○ *Pre-ignition is often caused by a hot spot in the combustion chamber which ignites the mixture.*

pre-imaging *noun* COMPUT the generation of one frame of an animation or video in a memory buffer before it is transferred on-screen for display

premolar *noun* DENT a chewing tooth between the canines and the molars in each jaw

preparation *noun* the act or a process of getting something ready

prepotent *adjective* GENETICS effective in conferring genetic characteristics or in fertilisation

preprocess *verb* COMPUT to carry out initial organisation and simple processing of data

preprocessor *noun* COMPUT **1.** a piece of software that partly processes or prepares data before it is compiled or translated **2.** a small computer that carries out some initial processing of raw data before passing it to the main computer

preprogrammed *adjective* COMPUT referring to a chip that has been programmed during manufacture to perform one function

presbyopia *noun* OPHTHALMOL a reduction in the eye's ability to focus with age

prescan *noun* COMPUT a quick, low-resolution scan to allow re-positioning of the original or delimitation of an area that is to be scanned at a higher resolution

prescribe *verb* to set something down as a rule or a guide

prescribed procedure *noun* an agreed or accepted pattern of doing something

presentation layer *noun* COMPUT the sixth ISO/OSI standard network layer that agrees on formats, codes and requests for start and end of a connection

preservation *noun* the process of protecting something from damage or decay ○ *the preservation of herbarium specimens* ○ *Food preservation allows some types of perishable food to be eaten during the winter when fresh food is not available.*

preservative *noun* FOOD INDUST a substance added to food to preserve it by slowing natural decay caused by microorganisms (NOTE: In the EU, preservatives are given E numbers E200 – E297.)

preserve *verb* ENVIRON, FOOD INDUST to protect something from damage or decay

preset *verb* COMPUT to set something in advance ○ *The printer was preset with new page parameters.*

press *verb* to push something with the fingers ○ *To end the program press ESCAPE.*

pressure *noun* **1.** the physical action of squeezing or forcing **2.** PHYS the force of something on its surroundings ○ *population pressure* □ **pressure of numbers** too many of something ○ *The park is suffering from pressure of numbers – it's too popular with visitors.* **3.** strong influence to make someone take or change an action

pressure altimeter *noun* AVIAT an altimeter which operates using atmospheric pressure (NOTE: The altitude indicated by a pressure altimeter is the height of the altimeter above the level of the pressure set on the sub-scale.)

pressure gauge *noun* PHYS a device used for measuring the pressure of a gas or liquid

pressure gradient *noun* METEOROL a change in atmospheric pressure from one

place to another on the ground (NOTE: It is shown on a map by isobars.)

pressure group *noun* a group that tries to influence governments and public opinion on a specific issue ○ *The environmental association set up a pressure group to lobby parliament.*

pressure pattern *noun* METEOROL a series of changes in pressure areas which take place regularly, e.g. every year

pressure vessel *noun* INDUST a container that houses the core, coolant and moderator in a nuclear reactor

pressurise, pressurize *verb* PHYS to increase the atmospheric pressure in a container

pressurised fluidised-bed combustion *noun* INDUST an economic method of burning low-grade coal in a furnace in which air is blown upwards through the burning fuel. Abbr **PFBC**

pressurised water reactor *noun* INDUST a type of nuclear reactor in which water is heated to steam under high pressure to turn turbines to generate electricity. Abbr **PWR**

prestore *verb* COMPUT to store data in memory before it is processed

presumptive address *noun* COMPUT an initial address in a program, used as a reference for others

presumptive instruction *noun* COMPUT an unmodified program instruction which is processed to obtain the instruction to be executed

presynaptic axon *noun* ANAT a nerve that transmits messages across a synapse. Compare **postsynaptic axon**

pretty good privacy *noun* COMPUT an encryption system developed to allow anyone to protect the contents of his or her e-mail messages from unauthorised readers. Abbr **PGP** (NOTE: This system is often used when sending credit card or payment details over the Internet.)

prevailing wind *noun* METEOROL the wind direction that is most frequent in a specific place ○ *The prevailing wind is from the south.*

prevalence *noun* frequency of occurrence ○ *the prevalence of malaria in some tropical countries* ○ *the prevalence of cases of malnutrition in large towns*

prevalent *adjective* occurring frequently ○ *a fungus which is more prevalent in*

deciduous forests ○ *The disease is prevalent in some African countries.*

prevent *verb* to stop something happening

prevention *noun* an act or process of stopping something from happening

preventive maintenance *noun* ENG regular inspection and cleaning of a system to prevent faults occurring

preventive medicine *noun* MED the practice of taking measures to prevent the occurrence of diseases

prey *noun* ZOOL an animal which is killed and eaten by another ○ *Small mammals are the prey of owls.* Opposite **predator**

prey on *verb* ZOOL to kill and eat another animal ○ *Water snakes prey on frogs and small fish.*

primary *adjective* first, basic or most important

primary alcohol *noun* CHEM same as **potassium permanganate**

primary cell *noun* ELEC an apparatus that generates electricity by means of an irreversible chemical reaction (NOTE: A primary cell is not rechargeable.)

primary channel *noun* COMPUT a channel that carries the data transmission between two devices

primary colour *noun* one of the three main colours in the spectrum, red, green and blue, from which other colours are formed

primary commodity *noun* a basic raw material or food

primary consumer *noun* ECOL an animal that eats plants, which are producers in the food chain. ◊ **secondary consumer**

primary coolant *noun* INDUST a substance used to cool a nuclear reactor, which then passes to a heat exchanger to transfer its heat to another coolant which is used to turn the turbines

primary energy *noun* INDUST the power required to produce other forms of energy such as heat or electricity

primary forest *noun* ENVIRON a forest which originally covered a region before changes in the environment brought about by human activity

primary industry *noun* INDUST an industry dealing with raw materials such as coal, food, farm produce or wood

primary key *noun* COMPUT a unique identifying word that selects one entry from a database

primary mineral *noun* EARTH SCI a mineral formed initially from cooling magma, which has remained unchanged

primary particulates *plural noun* ENVIRON particles of matter sent into the air from fires, industrial processes, vehicle emissions, especially diesel, volcanic eruptions, sandstorms and similar phenomena

primary producer *noun* an organism which takes energy from outside an ecosystem and channels it into the system, e.g. a green plant (NOTE: Primary producers are the first level in the food chain and are eaten by herbivores, which are secondary producers.)

primary product *noun* a product which is a basic raw material, e.g. wood, milk or fish

primary production *noun* ECOL the amount of organic matter formed by photosynthesis

primary productivity *noun* 1. BOT the rate at which plants produce organic matter through photosynthesis 2. ECOL the amount of organic matter produced in a specific area over a specific period, e.g. the yield of a crop during a growing season

primary sere *noun* ECOL the first plant community that develops on ground such as cooled lava from a volcano where no plants have grown before

primary storage *noun* COMPUT 1. a small fast-access internal memory of a system that contains the program currently being executed 2. the main internal memory of a system

primary succession *noun* ECOL an ecological community that develops in a place where nothing has lived before

primary treatment *noun* INDUST the first stage in a treatment. In primary treatment of sewage, suspended solids are removed.

primate *noun* ZOOL a mammal such as a monkey, ape or human being

COMMENT: Primates are the highest order of animals, with brains which are proportionately larger for their size than those of other animals.

prime *adjective* first □ **of prime importance** very important ■ *verb* MECH ENG to pump fuel spray into a piston engine inlet

manifold to make starting a cold engine easier

prime meridian *noun* GEOG a line of longitude situated at 0° and passing through Greenwich, England

prime number *noun* MATHS a number, which, if there is to be no remainder, is only divisible by itself and 1, e.g. 13, 17, 19, 23, 29

primer *noun* **1.** INDUST a protective substance which is applied to a metal or wood surface before painting ○ *Interior metal finishing is done with dust shedding gloss paint over a primer.* **2.** MECH ENG a small hand-operated pump used to spray fuel into the piston engine inlet manifold to make starting a cold engine easier

prime vertical *noun* ASTRON the imaginary circle around the Earth that goes through the highest point of the celestial sphere directly above an observer and crosses the horizon at east and west

primitive *adjective* **1.** referring to very early or prehistoric times **2.** BIOL referring to an early stage in an organism's development **3.** COMPUT (*in programming*) referring to a basic routine that can be used to create more complex routines **4.** COMPUT (*in graphics*) referring to a simple shape such as circle, square, line or curve that is used to create more complex shapes

primitive area *noun* ENVIRON an area of undeveloped land such as a forest that is protected as a national park or reserve

primitive rock *noun* EARTH SCI a rock formed in or before the Palaeozoic era

primordial *adjective* in a very early stage of development

primordium *noun* BIOL a tissue or organ at its earliest stage of development

principal *adjective* most important

principle *noun* a theory, rule or natural or scientific law

print *noun* characters made in ink on a surface ■ *verb* COMPUT to put letters characters in ink on a surface ○ *a printed agreement* ○ *printed regulations* ○ *The printer prints at 60 characters per second.*

printed circuit board *noun* COMPUT a flat insulating material that has conducting tracks of metal printed or etched onto its surface, which complete a circuit when components are mounted on it. Abbr **PCB**

printer *noun* COMPUT a device that converts input data in an electrical form into a printed readable form

printer buffer *noun* COMPUT a temporary store for character data waiting to be printed, used to free the computer before the printing is completed, making the operation faster

printer control language *noun* COMPUT a standard set of commands, defined by Hewlett Packard, that allow a computer to control a printer. Abbr **PCL**

printer emulation *noun* COMPUT a printer that is able to interpret the standard set of commands used to control another brand of printer

printer port *noun* COMPUT an output port of a computer with a standard connector to which a printer is connected to receive character data, either serial or parallel

printing *noun* **1.** COMPUT the action of printing out text stored in a computer **2.** PRINTING the process of making books, newspapers and other printed products

print job *noun* COMPUT a file in a print queue that contains all the characters and printer control codes needed to print one document or page

print preview *noun* COMPUT a function of a software product that lets the user see how a page will appear when printed

print queue *noun* COMPUT an area of memory that stores print jobs ready to send to the printer when it has finished its current work

print server *noun* COMPUT a computer in a network that is dedicated to managing print queues and printers

print style *noun* COMPUT a typeface used on a printer or for a specific document

prion *noun* BIOL a variant form of a protein found in the brains of mammals and causing diseases such as scrapie in sheep, BSE in cattle and variant CJD in humans

priority *noun* COMPUT the importance of a device or software routine in a computer system ○ *The operating system has priority over the application when disk space is allocated.*

priority interrupt *noun* COMPUT a signal to a computer that takes precedence over any other task

priority scheduler *noun* COMPUT a system that organises tasks into correct processing priority to improve performance

prism *noun* OPTICS triangular-sectioned glass cylinder that can be used to split light into its spectral components or to recom-

bine it once divided, because of the differential rate at which glass refracts light of different wavelengths (NOTE: In astronomical equipment diffraction gratings have largely replaced prisms.)

privileged account *noun* COMPUT a computer account that allows special programs or access to sensitive system data ○ *The system manager can access anyone else's account from his privileged account.*

privileged instruction *noun* COMPUT a command that can only be executed via a privileged account, e.g. delete another account, set up a new user or examine passwords

privileged mode *noun* COMPUT a mode of an Intel 80286 processor that is in protected mode and allows a program to modify vital parts of the operating environment

probability *noun* a statistical assessment of how likely something is ○ *It is important to identify the most significant threats to the population and what actions might be taken to reduce the probability of extinction.*

probe *noun* a device inserted into something to investigate the inside or to obtain information ■ *verb* to investigate the inside of something

problem *noun* **1.** COMPUT a malfunction or fault **2.** MATHS a mathematical question

problem definition *noun* COMPUT the clear explanation, in logical steps, of a problem that is to be solved

problem-orientated language *noun* COMPUT a high-level programming language that allows some problems to be expressed easily. Abbr **POL**

proboscis *noun* ZOO **1.** a long tube that forms the mouthparts in butterflies and some other insects **2.** an elephant's trunk

procedural *adjective* referring to procedure

procedural language *noun* COMPUT a high-level programming language in which the programmer enters the actions required to achieve the result wanted

procedure *noun* **1.** a method or way of doing something, especially the usual or expected way ○ *You should use this procedure to retrieve lost files.* ○ *The procedure is given in the manual.* **2.** COMPUT a small section of computer instruction code that provides a frequently used function and can be called upon from a main program ○ *This procedure sorts all the files into*

alphabetical order, you can call it from the main program by the instruction SORT.

procedure-orientated language *noun* COMPUT a high-level programming language that allows procedures to be programmed easily

process *noun* a series of actions or changes that achieve a particular result ○ *the cooling process* ■ *verb* **1.** to deal with something in a particular way ○ *The applications for permits have still to be processed.* ○ *The core samples are being processed by the laboratory.* **2.** INDUST to produce something by treating a raw material in a factory **3.** CHEM to make a substance undergo a chemical reaction **4.** COMPUT to carry out a number of tasks to produce a result such as sorting data or finding the solution to a problem ○ *We processed the new data.* ○ *Processing all the information will take a long time.* **5.** to examine or to test samples

process bound *adjective* COMPUT referring to a program that spends more time executing instructions and using the central processing unit than in input/output operations

process chemical *noun* INDUST a chemical that is manufactured by an industrial process

process control system *noun* COMPUT a system with complete input and output modules, a central processing unit with memory and a program, usually stored in ROM, and control and feedback devices such as A/D and D/A converters that completely monitors, manages and regulates a process

processing *noun* **1.** the activity of treating a raw material in a factory to make it into something different **2.** COMPUT the use of a computer to solve a problem or organise data ○ *Page processing time depends on the complexity of a given page.*

processor *noun* COMPUT a hardware or software device that is able to manipulate or modify data according to instructions

produce *verb* to make something using materials contained within itself or taken from the outside world ○ *a factory producing agricultural machinery* ○ *a drug which increases the amount of milk produced by cows* ■ *noun* what is produced ○ *a stall selling fruit and other farm produce*

producer *noun* **1.** a person or company that produces something. Compare **con-**

sumer 2. BIOL an organism that takes energy from outside an ecosystem and channels it into the system, e.g. green plants (**primary producers**) and herbivores (**secondary producers**) (NOTE: Producers are the first level in the food chain.)

producer gas *noun* INDUST same as **air gas**

product *noun* **1.** MATHS the result after multiplication **2.** CHEM something that is produced by manufacture or in a chemical reaction **3.** the result or effect of a process

production *noun* **1.** the act of manufacturing or producing something **2.** BIOL the amount of heat or energy produced by the biomass in an area

production ecology *noun* ECOL the study of groups of organisms from the point of view of the food which they produce

production efficiency *noun* the amount of energy which is taken into the biomass after consumption. Abbr **PE**

production line *noun* INDUST a system of manufacturing a product in which the item moves slowly through a factory with new pieces being added to it as it goes along

production platform *noun* INDUST an oil rig in the sea where oil from several wells is collected

production ration *noun* AGRIC the quantity of food needed to make a farm animal produce meat, milk or eggs, which is always more than the basic maintenance ration

production residue *noun* the waste left after a production process

productive *adjective* **1.** producing a lot of something that can be used or sold *o* *highly efficient and productive forms* *o* *making productive use of waste ground* **2.** giving a good outcome *o* *a productive collaboration*

productive soil *noun* AGRIC soil which is very fertile and produces large crops

productivity *noun* the rate at which something is produced *o* *With new strains of rice, productivity per hectare can be increased.*

product of incomplete combustion *noun* CHEM a compound formed when combustion does not destroy all the material being incinerated. Abbr **PIC**

proenzyme *noun* MICROBIOL a biologically inactive substance that is the precursor of an enzyme. Also called **zymogen**

profession *noun* ECOL all the chemical, physical and biological characters that determine the position of an organism or species in an ecosystem (NOTE: Examples are 'aquatic predator' or 'terrestrial herbivore'.)

profundal zone *noun* EARTH SCI an area of water in a lake below the limnetic zone

progeny *noun* BIOL the young or children produced by any living thing

progeny test *noun* the evaluation of the breeding value of an animal or plant variety by examining the performance of its progeny

progesterone *noun* BIOCHEM a female sex hormone produced by the corpus luteum of the ovary to prepare the lining of the womb for a fertilised ovum. Formula: $C_{21}H_{30}O_2$.

program *noun* **1.** COMPUT a complete set of instructions which direct a computer to carry out a particular task **2.** US spelling of **programme** ■ *verb* **1.** COMPUT to write or prepare a set of instructions which direct a computer to perform a particular task **2.** US spelling of **programme**

program branch *noun* COMPUT one or more paths that can be followed after a conditional statement

program compatibility *noun* COMPUT the ability of two pieces of software to function correctly together

program compilation *noun* COMPUT the translation of an encoded source program into machine code

program crash *noun* COMPUT the unexpected failure of a program due to a programming error or a hardware fault

program development *noun* COMPUT all the operations involved in creating a computer program from first ideas, initial writing and debugging to the final product

program execution *noun* COMPUT the process of instructing a processor to execute in sequence the instructions in a program

program file *noun* COMPUT a file containing a program rather than data

program flowchart *noun* COMPUT a diagram that graphically describes the various steps in a program

program instruction *noun* COMPUT a single word or expression that represents one operation (NOTE: In a high level program each program instruction can consist of a number of low level machine code instructions.)

programmable *adjective* COMPUT able to accept and store instructions then execute them

programmable interrupt controller *noun* COMPUT a circuit or chip that can be programmed to ignore specific interrupts, accept only high priority interrupts and select the priority of interrupts

programmable logic array, programmable logic device *noun* COMPUT an integrated circuit that can be permanently programmed to perform logic operations on data using a matrix of links between input and output pins. Abbr **PLA, PLD**

COMMENT: A programmable logic array consists of a large matrix of paths between input and output pins, with logic gates and a fusible link at each connection point which can be broken or left to conduct when programming to define a function from input to output.

programmable memory *noun* COMPUT an electronic device in which data can be stored. Abbr **PROM**

programmable read-only memory *noun* COMPUT a memory integrated circuit that can be programmed with data by a user. Abbr **PROM** (NOTE: Some PROMs provide permanent storage, others such as EPROMs are erasable.)

programme *noun* a planned course of action ○ a *research programme* ■ *verb* **1.** to analyse or plan something ○ *The review is programmed to take place next month.* **2.** to make an organism behave in a particular way ○ *Some plants are naturally programmed to respond to day length.*

programmer *noun* COMPUT **1.** a person who is capable of designing and writing a working program ○ *The programmer is still working on the new software.* **2.** a device that allows data to be written into a programmable read only memory

programmer's hierarchical interactive graphics standard *noun* COMPUT full form of **PHIGS**

programming *noun* COMPUT **1.** the writing of programs for computers **2.** the writing of data into a PROM device

programming language *noun* COMPUT a set of rules and vocabulary that

allows users to write a series of instructions to define a particular task, which will then be translated to a form that is understood by the computer

COMMENT: Programming languages are grouped into different levels. The high-level languages such as BASIC and PASCAL are easy to understand and use, but offer slow execution time since each instruction is made up of a number of machine code instructions. Low-level languages such as assembler are more complex to read and program in but offer faster execution time.

program register *noun* COMPUT a register in a central processing unit that contains an instruction during decoding and execution operations

program report generator *noun* COMPUT a piece of software that allows users to create reports from files, databases and other stored data

program run *noun* COMPUT the execution of the instructions in a program in the correct order

program segment *noun* COMPUT a section of a main program that can be executed in its own right, without the rest of the main program being required

program stack *noun* COMPUT a section of memory reserved for storing temporary system or program data

program status word *noun* COMPUT a word which contains a number of status bits such as carry flag, zero flag or overflow bit. Abbr **PSW**

program testing *noun* COMPUT the testing of a new program with test data to ensure that it functions correctly

progression *noun* a continuous series or sequence ○ *The instruments are checked in logical progression from left to right.*

progressive *adjective* (of movement) gradual ○ *progressive deterioration of muscle function* ○ *Throttle movements should be kept to a minimum and be smooth and progressive.*

prohibit *verb* **1.** to say that something should not be done ○ *prohibit the use of CFCs in aerosols* ○ *Smoking is prohibited in this area.* **2.** to prevent something from happening ○ *The persistence of DDT prohibits its general use for malaria control.*

project *noun* a plan or scheme of work ○ *a land reclamation project* ■ *verb* **1.** to stick out ○ *The groyne's project into the sea.* **2.** to estimate something in the future from current information ○ *Research costs are*

projected to rise sharply. **3.** to make an image appear on a surface

projectile *adjective* **1.** moving forwards with force **2.** ZOOL able to push suddenly forward, as are the jaws of some fish or the mouthparts of a dragonfly larva ■ *noun* an object that is thrown or moves with force

projection *noun* **1.** a part that sticks out **2.** an estimate or assessment of something that will happen in the future **3.** the production of an image on a surface **4.** GEOG a technique for making a map

prokaryote *noun* BIOL a simple organism such as a bacterium whose DNA is not contained within a nucleus. Compare **eukaryote**

prokaryotic *adjective* BIOL referring to prokaryotes

prolactin *noun* BIOCHEM a hormone produced by the pituitary gland that stimulates milk production after childbirth

proline *noun* BIOCHEM an amino acid found in many proteins, especially collagen. Formula: $C_5H_9NO_2$.

PROLOG *noun* COMPUT a high-level programming language using logical operations for artificial intelligence and data retrieval applications. Full form **programming in logic**

prolong *verb* to increase the duration or time of something, sometimes unnecessarily ○ *to prolong the life of an engine*

prolonged *adjective* lasting for a long time ○ *prolonged drought*

PROM COMPUT **1.** same as **programmable memory** **2.** same as **programmable read-only memory**

promethium *noun* CHEM ELEM a radioactive metallic element used in phosphorescent paints and as an X-ray source (NOTE: The chemical symbol is **Pm**; the atomic number is **61** and the atomic weight is **145**.)

prominence *noun* ASTRON a visible stream of glowing gas that shoots out from the Sun, seen in the upper chromosphere and lower corona (NOTE: Prominences are visible at the rim of the Sun during an eclipse.)

promontory *noun* EARTH SCI an area of high land which projects into the sea

promote *verb* to encourage or enable something to take place ○ *Growth-promoting hormones are used to increase the weight of beef cattle.*

promoter *noun* **1.** CHEM a substance that increases the activity of a catalyst **2.** GENETICS a gene that controls the expression of structural genes. Also called **promoter gene**

promoter gene *noun* GENETICS same as **promoter 2**

promotion *noun* the activity of encouraging or enabling something to take place ○ *the promotion of recycling schemes*

prompt *noun* COMPUT a message or character displayed to remind the user that an input is expected ○ *The prompt READY indicates that the system is available to receive instructions.*

proof *noun* MATHS the series of logical stages used to establish whether a mathematical or philosophical proposition is valid

propagate *verb* **1.** BIOL to reproduce **2.** AGRIC to produce new plants by a technique such as taking cuttings, grafting, budding or layering ○ *fuschias propagated from cuttings* **3.** COMPUT to travel or spread

propagated error *noun* COMPUT one error in a process that has affected later operations

propagation *noun* **1.** AGRIC the production of new plants ○ *propagation by runners* ◇ **vegetative propagation** **2.** ELEC the transmission of radio waves ○ *The speed of propagation of radio waves is slower over land than sea.*

propagation delay *noun* COMPUT **1.** the time taken for an output to appear in a logic gate after the input is applied **2.** the time taken for a data bit to travel over a network from the source to the destination

propagator *noun* BOT a closed but transparent container in which seed can be sown or cuttings grown in a moist, warm atmosphere

propanal *noun* CHEM a colourless liquid aldehyde. Formula: C_2H_5CHO .

propane *noun* INDUST a gas found in petroleum, which is sold commercially in liquid form under pressure as LPG

propel *verb* to cause something to move, especially at speed ○ *Fronts are propelled by the wind behind them.*

propellant *noun* INDUST **1.** a gas used in an aerosol can to make the spray come out **2.** a substance used to make something move forwards, e.g. rocket fuel

propeller *noun* AEROSP a rotating shaft with blades which, together with the engine, moves an aircraft through the air

propeller blade *noun* AEROSP one of the elements of a propeller which generate lift when the unit is turning

propelling nozzle *noun* the extreme rear part of a jet engine where the jet exhaust enters the atmosphere

propene *noun* CHEM same as **propylene**

propenoic acid *noun* CHEM same as **acrylic acid**

propenonitrile *noun* CHEM same as **acrylonitrile**

proper fraction *noun* MATHS a fraction in which the value of the numerator is less than the value of the denominator, e.g. $\frac{3}{10}$ and $\frac{26}{32}$;

property *noun* **1.** a distinctive characteristic of something *o* *We use the energy-producing properties of uranium isotopes in nuclear reactors.* **2.** something which belongs to someone *o* *The institute is the property of a large corporation.* *o* *Inventions are regarded as intellectual property.* **3.** land and buildings

prophage *noun* GENETICS a dormant form of a virus that infects bacteria (**bacteriophage**) that has integrated its genetic material into its host or replicates without harm to the host

prophase *noun* BIOL the first stage of cell division, when the nuclear membrane vanishes and the chromosomes can be seen

prophylactic *adjective* MED referring to an activity that helps to prevent the development of disease or infection

prophylaxis *noun* MED the practice of taking of measures to prevent disease or infection

proportion *noun* **1.** a part of the whole compared with another part *o* *a small proportion* **2.** \square **in proportion to** directly related to *o* *The force required to move the control column is in proportion to the force being exerted by the control surface.*

proportional *adjective* **1.** comparable **2.** related to something by a constant ratio *o* *The wind blows along contours with low values on the left, and the speed is directly proportional to the contour gradient.*

proposition *noun* MATHS a statement or theorem to be demonstrated

proprietary file format *noun* COMPUT a method of storing data devised by a com-

pany for its products and incompatible with other products

propulsion *noun* the act or an instance of pushing or driving forwards

propulsive *adjective* pushing or driving *o* *The propeller is a means of converting engine power into a propulsive force called thrust.*

propylene *noun* INDUST a substance obtained from petroleum, used in the manufacture of plastics and chemicals. Formula: C_3H_6 .

prostaglandin *noun* a hormone that is used to make oestrus happen in many animals at the same time and to start the birth process or abortion

prosthetic group *noun* BIOCHEM the nonprotein part of a conjugated protein, e.g. the lipid group in a lipoprotein

protactinium *noun* CHEM ELEM a poisonous radioactive metallic element derived from uranium ores (NOTE: The chemical symbol is **Pa**; the atomic number is **91** and the atomic weight is **231.04**.)

protease *noun* BIOCHEM a digestive enzyme which breaks down proteins in food

protect *verb* to stop something being damaged or harmed

protected *adjective* ENVIRON referring to a species that has been legally identified as in danger of extinction, or an area of sea or land that has special value for the maintenance of biological diversity and natural resources

protected field *noun* COMPUT storage or a display area that cannot be altered by the user

protected location *noun* COMPUT a memory location that cannot be altered or accessed without authorisation

protected storage *noun* COMPUT a section of memory that cannot be altered

protection *noun* the act or an instance of keeping something from harm, injury or damage

protection master *noun* a spare copy of a master film or tape

protective *adjective* intended or able to keep something else from harm, injury or damage

protective coloration *noun* ZOOLOG a pattern of colouring that protects an animal from attack

protein *noun* BIOCHEM a nitrogen compound formed by the condensation of amino acids that is present in and is an essential part of living cells

COMMENT: Proteins are necessary for the growth and repair of the body's tissue. They are mainly formed of carbon, nitrogen and oxygen in various combinations as amino acids. Foods such as beans, meat, eggs, fish and milk are rich in protein.

protein balance *noun* PHYSIOL a situation when the nitrogen intake in protein is equal to the excretion rate in urine

protein deficiency *noun* HEALTH a lack of enough proteins in the diet

protein engineering *noun* BIOTECH the process of changing the sequence of a gene coding for a protein in order to bring about desirable changes in function

proteolysis *noun* PHYSIOL the breaking down of proteins in food by digestive enzymes

proteolytic *adjective* PHYSIOL referring to proteolysis ○ *a proteolytic enzyme*

prothallus *noun* BOT a tiny green structure that produces the sex cells of ferns and related plants

prothrombin *noun* BIOCHEM a protein in blood which helps it to coagulate and which needs vitamin K to be effective

protist *noun* BIOL an organism belonging to an older system of classification that includes protozoans, bacteria, and single-celled algae and fungi. Kingdom: *Protista*.

protium *noun* CHEM the commonest light isotope of hydrogen

proto- *prefix* first

protocol *noun* COMPUT a set of pre-agreed signals, codes and rules to be used for data exchange between systems

protocol stack *noun* COMPUT the separate parts of a protocol, each with a different function, that work together to provide a complete set of network functions

proton *noun* PHYS a particle with a positive charge and with mass almost identical to that of a neutron, found in the nucleus of an atom

protonic acid *noun* CHEM a compound that frees solvated hydrogen ions from a polar solvent

proton number *noun* PHYS same as **atomic number**

proto-oncogene *noun* GENETICS a gene that may mutate or be activated by a can-

cer-causing virus to become a cancer-causing gene

protoplasm *noun* BIOL a substance like a jelly which makes up the largest part of each cell

protoplasmic *adjective* BIOL referring to protoplasm

protoplast *noun* BIOL a basic cell unit in a plant formed of a nucleus and protoplasm

prototype *noun* COMPUT the first working model of a device or program, which is then tested and adapted to improve it

prototyping *noun* COMPUT the construction of a prototype

protozoan *noun* MICROBIOL a single-celled organism that is able to move and feeds on organic nitrogen and carbon compounds (NOTE: Protozoans are now regarded as part of the kingdom *Protoctista*.)

protractor *noun* 1. MATHS an instrument shaped like a semicircle marked with the degrees of a circle, used to measure or mark out angles 2. ANAT a muscle with the function of extending a body part

prove *verb* 1. to show that something is true ○ *The pilot proved that he was not at fault.* 2. to be discovered to have a particular quality ○ *Dry chemical extinguishers are used primarily for electrical fires and have also proved effective on liquid fires.*

proventriculus *noun* ZOOLOG the gizzard of birds, or the thick-walled stomach of insects and crustaceans

province *noun* a biogeographical area within a region that is defined by the plants and animals that inhabit it

provirus *noun* MICROBIOL a form of a virus that integrates into the genetic material of the host and is passed on from one generation to the next

proximal *adjective* BIOL nearer to the centre or point of attachment. Compare **distal**

proximity *noun* nearness in space or time ○ *The two aircraft were in close proximity.*

prussic acid *noun* CHEM same as **hydrocyanic acid**

pS *abbreviation* MEASURE, COMPUT picosecond

PSA *abbreviation* BIOCHEM, MED prostate-specific antigen

PSA test *noun* MED a test for prostate cancer that detects the presence in the blood of a protein produced by prostate cells

pseudo- *prefix* similar to something, but not the same

pseudocarp *noun* BOT a fruit such as a strawberry formed by fusion of the ripened ovary with another structure, usually the receptacle

pseudogene *noun* GENETICS a nonfunctional DNA sequence that resembles the sequence of a functional gene

pseudohalogen *noun* CHEM a group of simple inorganic compounds that resemble halogens

pseudo-instruction *noun* COMPUT (*in an assembly language program*) a label that represents a number of instructions

pseudo-operation *noun* COMPUT (*in an assembler program*) a command that controls the assembler rather than producing machine code

pseudoparenchyma *noun* FUNGI a mass of interwoven hyphae

pseudopodium *noun* ZOOL a temporary bulge in part of the cell wall of a protozoan that helps it to move around and capture its food

pseudo-random *adjective* COMPUT referring to a generated sequence that appears random but is repeated over a long period

PSS *abbreviation* COMPUT packet switching service

PSU *abbreviation* ELEC power supply unit
COMMENT: A PSU will regulate, smooth and step down a higher voltage supply for use in small pieces of electronic equipment.

psych- *prefix* PSYCHIAT same as **psycho-** (NOTE: use before vowels)

psychiatric *adjective* PSYCHIAT referring to psychiatry ○ *psychiatric treatment*

psychiatrist *noun* PSYCHIAT a doctor who specialises in the diagnosis and treatment of patients with mental disorders

psychiatry *noun* PSYCHIAT a branch of medicine concerned with the diagnosis and treatment of mental disorders

psycho- *prefix* PSYCHIAT the mind

psychoanalysis *noun* PSYCHIAT treatment of mental disorder in which a specialist talks to the patient about the past events which might have caused it

psychoanalyst *noun* PSYCHIAT a specialist in psychoanalysis

psychoanalytic, psychoanalytical *adjective* PSYCHIAT referring to psychoanalysis

psychogenic, psychogenetic, psychogenous *adjective* PSYCHIAT (*of an illness*) starting in the mind, rather than in a physical state

psychological *adjective* 1. referring to psychology 2. caused by a mental state

psychological dependence *noun* HEALTH a state where a person is addicted to a drug such as cannabis but does not suffer physical effects if they stop taking it

psychology *noun* the study of human behaviour and mental processes

psychometrics *noun* a way of measuring intelligence and personality where the result is shown as a number on a scale

Pt *symbol* CHEM ELEM platinum

pteridophyte *noun* BOT a plant that does not produce flowers or seeds and reproduces by means of spores, e.g. ferns or some mosses. Division: *Pteridophyta*.

p-type conductivity *noun* PHYS conduction within a p-type semiconductor provided by positively charged holes where there were once electrons

p-type semiconductor *noun* PHYS a semiconductor material such as silicon which has an impurity added to remove some electrons, creating positively charged holes which can carry electrical charge

Pu *symbol* CHEM ELEM plutonium

puberty *noun* PHYSIOL the human process of becoming sexually mature, marked by the development of secondary sex characteristics and, in girls, by the start of menstruation

pubes ANAT plural of **pubis**

pubic *adjective* ANAT referring to or located near the pubes

pubis *noun* ANAT one of a pair of bones that form the lower front section of each hipbone and are joined at the front of the pelvis

public *adjective* concerning or available to all people in general

public data network *noun* COMPUT, TELECOM a data transmission service for the public, e.g. the main telephone system in a country. Abbr **PDN**

public domain *noun* the condition of not being protected by copyright and available to all people in general ○ *The information is now in the public domain.*

public enquiry /'pʌblɪk ɪŋ'kwairi/ *noun* 1. a set of official meetings that members of the public may attend to investigate

why something happened or whether something should happen in future ○ *They called for a public enquiry on the road plans.* **2.** a request for information to an organisation made by a member of the public

public key encryption *noun* COMPUT a method of encrypting data that uses one key to encrypt the data and another different key to decrypt the data

puddingstone *noun* EARTH SCI a type of stone which is formed from other stones fused together

puff *noun* GENETICS an enlarged region on a chromosome where RNA synthesis is taking place

pull *verb* COMPUT to remove data from a stack. Compare **push**

pull-down menu *noun* COMPUT a set of options that are displayed below the relevant entry on a menu bar ○ *The pull-down menu is viewed by clicking on the menu bar at the top of the screen.* Compare **pop-down menu**

pulmonary *adjective* ANAT referring to the lungs

pulmonary anthrax *noun* MED a form of pneumonia caused by inhaling anthrax bacteria

pulmonary artery *noun* ANAT either of the two arteries that take blood from the right side of the heart to the lungs to collect oxygen

pulmonary circulation *noun* PHYSIOL the circulation of blood from the heart through the pulmonary arteries to the lungs for oxygenation and back to the heart through the pulmonary veins. Also called **lesser circulation**

pulmonary valve *noun* ANAT a valve at the opening of the pulmonary artery

pulmonary vein *noun* ANAT one of the four veins that carry oxygenated blood from the lungs back to the left atrium of the heart (NOTE: The pulmonary veins are the only veins that carry oxygenated blood.)

pulp *noun* **1.** the soft inside of a fruit or vegetable **2.** a thick soft substance made by crushing ○ *wood pulp*

pulpwood *noun* INDUST a softwood used for making paper

pulsar *noun* ASTRON a small dense star that emits brief intense bursts of visible radiation, radio waves and X-rays (NOTE: Pulsars are believed to be rapidly rotating neutron stars.)

pulse *noun* **1.** ELEC a short burst of current or voltage **2.** PHYSIOL a pressure wave that can be felt in an artery each time the heart beats to pump blood ○ *Her pulse is very irregular.* (NOTE: The average adult pulse is about 72 beats per minute.) □ **to take or feel someone's pulse** BIOL to place fingers on an artery to feel the pulse and count the number of beats per minute **3.** any regular recurring variation in quantity **4.** PLANTS a leguminous plant that produces seeds eaten as food, e.g. a bean or pea ○ *Pulses provide a large amount of protein.* ■ *verb* ELEC to apply a short-duration voltage level to a circuit ○ *We pulsed the input but it still would not work.*

COMMENT: Electric pulses can be used to transmit information, as the binary digits 0 and 1 correspond to 'no pulse' and 'pulse'. The voltage level used to distinguish the binary digits is often zero, for the digit 0, and 5 or 12 volts, for the digit 1, with the pulse width depending on transmission rate.

pulse-code modulation *noun* COMPUT a way of storing sounds in an accurate, compact format that is used by high-end sound cards. Abbr **PCM**

pulse-dialling *noun* TELECOM telephone dialling that dials a telephone number by sending a series of pulses along the line (NOTE: Pulse-dialling takes longer to dial than the tone-dialling system.)

pulse oximetry *noun* MED a method of measuring the oxygen content of arterial blood

pulse point *noun* MED a place on the body where the pulse can be easily taken

pulse pressure *noun* MED the difference between the diastolic and systolic pressure

pulse stream, pulse train *noun* ELEC a continuous series of similar pulses

pulverisation, pulverization *noun* INDUST a stage in the treatment of waste where it is reduced to small particles

pulverise, pulverize *verb* INDUST to reduce something to small particles

pumice, pumice stone *noun* EARTH SCI a light glass-like substance formed from foam at the edge of a lava flow

pump *noun* MECH ENG a machine which forces liquid or air into or out of something ○ *a water pump* ○ *a bicycle pump* ■ *verb* to force liquid or air into or out of something

pumped-storage system *noun* INDUST a hydroelectric system in which electricity is generated at times of peak

demand and water is pumped up to a high reservoir during offpeak periods

COMMENT: A pumped-storage turbine acts as an electricity generator when water pressure is high and becomes a water pump when water pressure is low, pumping water back up to the reservoir.

pumping station *noun* INDUST an installation where water, sewage or gas is pumped along a pipe or out of the ground, up to a storage tank

pupa *noun* INSECTS a stage in the development of some insects such as butterflies when the larva becomes encased in a hard shell (NOTE: The plural is **pupae**.)

pupal *adjective* INSECTS referring to a pupa

pupate *verb* INSECTS (*of an insect*) to move from the larval to the pupal stage

pupil *noun* ANAT the circular opening at the centre of the iris through which light enters the eye (NOTE: It becomes larger in dim light and smaller in bright light.)

pure *adjective* uncontaminated or unmixed ○ *Magnesium does not possess sufficient strength in its pure state for structural uses.*

pure alcohol *noun* CHEM **1.** a colourless liquid which is the basis of alcohols that are drunk, e.g. whisky, gin or vodka, and which is also used in medicines and as a disinfectant **2.** alcohol with 5% water. Also called **ethyl alcohol**, **ethanol**

pure aluminium *noun* METALL aluminium which has not been combined with any other metal to create an aluminium alloy

purebred *adjective* ZOOL referring to an animal which is the offspring of parents which are themselves the offspring of parents of the same breed

pure strain *noun* BOT a group of plants bred by self-fertilisation whose characteristics remain always the same

pure tone *noun* ACOUSTICS a sound formed of a single frequency containing no harmonics

purge *verb* **1.** to flush a system with a liquid or gas to clean it **2.** COMPUT to remove unnecessary or out-of-date data from a file or disk ○ *Each month, I purge the disk of all the old email messages.*

purification *noun* the action of making something pure or of removing impurities ○ *Activated sludge speeds up the process of purification.*

purification plant *noun* INDUST an installation where impurities are removed from water

purify *verb* to make something pure or remove impurities from something

purine *noun* BIOCHEM a chemical belonging to a group derived from uric acid that includes the bases adenine and guanine found in DNA and RNA

purity *noun* the state of being pure

purpose *noun* a function or use ○ *The purpose of the engine is to convert heat energy to mechanical energy.*

pus *noun* PHYSIOL the thick, yellowish-white fluid that forms in infected tissue and consists of white blood cells, tissue debris and bacteria

push *verb* to press something or to move something by pressing on it

pushbutton *adjective* activated by pressing on a button

push instruction, push operation *noun* COMPUT a computer instruction that stores data on a LIFO list or stack

pushrod *noun* MECH ENG a steel or aluminium rod that moves a rocker arm (*in a valve mechanism*) ○ *The camshaft operates the pushrod.*

push-up list, push-up stack *noun* COMPUT a temporary storage queue system where the last item added is at the bottom of the list

putrefaction *noun* BIOL the decomposition of dead organic substances by bacteria

putrefy *verb* BIOL to decompose or rot

putrescibility *noun* ENVIRON the ability of waste matter to decompose or rot

putrescible *adjective* ENVIRON referring to waste matter that can decompose or rot

PV *abbreviation* ELEC photovoltaic

PVC *noun* CHEM a type of plastic that is not biodegradable, used for floor coverings, clothes, shoes, pipes, etc. Full form **polyvinylchloride**

PWR *abbreviation* INDUST pressurised water reactor

pylon *noun* **1.** ELEC a tall metal structure that supports electricity cables **2.** AEROSP the structure on the wing of an aircraft that supports an engine

pyloric antrum *noun* ANAT a space at the bottom of the stomach, before the pyloric sphincter

pyr- *prefix* same as **pyro-** (NOTE: used before vowels)

pyramid *noun* **1.** MATHS a solid of which each side is a triangle, with either a square or triangular base **2.** ECOL same as **pyramid of biomass**

pyramid of biomass *noun* ECOL a graphical representation of the different amounts of biomass at each trophic level, with the highest biomass at producer level and the lowest at secondary consumer level (NOTE: The biomass at each level is about 10% of that of the level beneath.)

pyramid of energy *noun* ECOL a graphical representation of the amounts of energy consumed at each trophic level

pyramid of numbers *noun* ECOL a graphical representation of the structure of an ecosystem in terms of what eats what (NOTE: The base is composed of producer organisms, usually plants, then herbivores, then carnivores.)

pyrenocarp *noun* BOT same as **drupe**

pyrethrum *noun* AGRIC an organic pesticide, developed from a form of chrysanthemum, which is not very toxic and is not persistent

pyridine *noun* CHEM a poisonous flammable liquid with an unpleasant smell used in the manufacture of chemicals, drugs and paints, and in textile dyeing. Formula: C_5H_5N . (NOTE: It occurs naturally in bone oil and coal tar.)

pyridoxine *noun* BIOCHEM vitamin B_6

COMMENT: Pyridoxine is present in meat, cereals and treacle. Lack of pyridoxine causes vomiting and convulsions in babies.

pyrimidine *noun* BIOCHEM a chemical belonging to a group derived from pyrimidine that includes the bases cytosine,

thymine, and uracil found in RNA and DNA

pyrite, pyrites *noun* EARTH SCI a gold-coloured form of iron sulfide. Formula: Fe_2S .

pyro- *prefix* burning

pyroclastic flow *noun* the flow of lava from a volcano

pyrolysis *noun* CHEM the decomposition or conversion of one substance into another by heat

pyrometry *noun* PHYS the measurement of high temperatures using a pyrometer

pyrophoric *adjective* CHEM **1.** igniting spontaneously in air **2.** giving off sparks when struck

pyrotechnic *adjective* CHEM relating to fireworks

pyrorole *noun* CHEM a colourless toxic liquid with a ring-like molecular structure found in biological substances such as chlorophyll, haemoglobin and bile pigments. Formula: C_4H_5N .

pyruvate *noun* CHEM a chemical compound derived from pyruvic acid. It is a salt or ester of this acid.

pyruvic acid *noun* CHEM a chemical formed in living cells when carbohydrates and proteins are metabolised. Formula: $C_3H_4O_3$.

Pythagoras ASTRON a Greek philosopher (6thC.BC) remembered mainly for his theorem about the properties of right-angled triangles. He was an adherent of the idea that the Earth is round. His religious and mathematical school produced ideas about the relative distance of objects from the Earth, based on their relative velocities across the sky.

Q

Q *noun* MEASURE, PHYS unit of energy equal to 10^{18} Btu

QAM *abbreviation* COMPUT quadrature amplitude modulation

QBE *abbreviation* COMPUT query by example ○ *In most QBE databases, the query form looks like the record format in the database and retrieving data is as easy as filling in a form.*

QISAM *abbreviation* COMPUT queued indexed sequential access method

QSAM *abbreviation* COMPUT queued sequential access method

QSO *abbreviation* ASTRON quasi-stellar object

quad *noun* MEASURE, PHYS a unit of energy equal to 10^{15} Btu

quadbit *noun* COMPUT four bits that are used by modems to increase transmission rates when using quadrature amplitude modulation

quad density *noun* COMPUT four bits of data stored in the usual place of one

quadr- *prefix* four

quadrant *noun* **1.** MATHS a quarter of a circle **2.** NAVIG a device for measuring the height of stars, formerly used in calculating direction at sea

quadrantal *adjective* **1.** MATHS referring to a quarter of a circle **2.** NAVIG referring to a quadrant

quadrantal error *noun* TELECOM a radio signal error caused by the metal structure of the receiving aircraft

quadrantal height *noun* NAVIG a flight level in each of the compass quadrants designed to provide safe separation for aircraft heading towards each other

quadrat *noun* MEASURE, ECOL an area of land measuring one square metre, chosen as a sample for research on plant populations ○ *The vegetation of the area was sampled using quadrats.*

quadratic equation *noun* MATHS an equation in which one or more terms are raised to the power of two but no higher

quadrature amplitude modulation *noun* COMPUT a data encoding method used by high-speed modems, transmitting at rates above 2400bps. Abbr **QAM** (NOTE: QAM combines amplitude modulation and phase modulation to increase the data transmission rate.)

quadrilateral *noun* MATHS a two-dimensional geometric figure with four sides

quadruplex *noun* ELEC a set of four signals combined into a single signal

quake *noun* EARTH SCI same as **earthquake** (*informal*)

qualitative *adjective* referring to quality

qualitative analysis *noun* CHEM an analysis of what is present in a sample without reference to its quantities

qualitative data *plural noun* non-numerical records of variables kept during experiments

qualitative inheritance *noun* GENETICS the inheritance of a major characteristic that distinguishes individual specimens of a species

quality *noun* how good or bad something is ■ *adjective* of a high standard ○ *a quality product*

quality assurance *noun* INDUST the system of procedures used in checking that the quality of a product is good

quality control *noun* INDUST the process of checking that the quality of a product is good

quantifiable *adjective* able to be shown in figures ○ *The effect of the change in the waste disposal systems is not easily quantifiable.*

quantifier *noun* MATHS a sign or symbol that indicates the quantity or range of a predicate

quantify *verb* to state something as a quantity or in figures ○ *to quantify the effect of the new legislation on pollution levels* ○ *The environmental benefits are difficult to quantify.*

quantisation, quantization *noun* **1.** PHYS the division of the energy of a system into separate small amounts (**quanta**) **2.** ELEC the conversion of an analog signal to a numerical representation

quantisation error *noun* ELEC an error in converting an analog signal into a numerical form due to limited accuracy or a rapidly changing signal

quantise, quantize *verb* **1.** PHYS to divide the energy of a system into separate small amounts (**quanta**) **2.** ELEC to convert an analog signal into a numerical representation ○ *The input signal is quantised by an analog to digital converter.*

quantiser, quantizer *noun* ELEC a device used to convert an analog input signal to a numerical form that can be processed by a computer

quantising noise *noun* ELEC a noise on a signal due to inaccuracies in the quantising process

quantitative *adjective* referring to quantity

quantitative analysis *noun* CHEM an analysis of the quantity of a substance present in a sample

quantitative data *plural noun* numerical records of variables kept during experiments

quantitative inheritance *noun* GENETICS the inheritance of a characteristic that can vary slightly from specimen to specimen in a species

quantity *noun* **1.** an amount or number of items ○ *He bought a large quantity of spare parts.* **2.** a large amount ○ *The company offers a discount for quantity.* ○ *He bought a large quantity of spare parts.*

quantum *noun* **1.** PHYS the smallest amount of a property of a system that can change (NOTE: The plural is **quanta**.) **2.** COMPUT a packet of data that is the result of a signal being quantised

quantum bit *noun* PHYS full form of **qubit**

quantum computer *noun* COMPUT a computer that uses the quantum mechanical properties of elementary particles such as photons for transferring, processing and storing information

quantum dot *noun* PHYS a small crystal containing a few hundred to several million atoms that has specific quantum-mechanical characteristics

quantum electrodynamics *noun* PHYS a quantum field theory that describes the properties of electromagnetic radiation and how it interacts with electrically charged particles

quantum field theory *noun* PHYS a quantum theory that assumes that elementary particles interact through the influence of fields around them

quantum foam *noun* an extremely tiny hypothetical region of space-time in which numerous particles are formed and destroyed. Also called **space-time foam**

quantum Hall effect PHYS same as **Hall effect**

quantum mechanics *noun* PHYS the study of how atoms and elementary particles such as electrons interact, based on quantum theory

quantum number *noun* PHYS one of the set of whole or half numbers that describe the properties and energy states of an elementary particle such as an electron or system

quantum theory, quantum theory of radiation *noun* PHYS a theory developed by a Danish physicist Neils Bohr (1885–1962) which states that at the smallest scale, energy exists in discontinuous ‘lumps’ or quanta rather than being infinitely divisible (NOTE: Thus lines in the spectra of stars mark the quantum of energy separating two different energy levels of a particular electron in an atom, the energy of the transition being given by Planck’s constant, h , multiplied by the frequency of the spectral line.)

quantum well *noun* PHYS a thin layer of material with a high density of electrons whose potential energy is less than the surrounding layers and whose motion is restricted to one dimension, often used in laser and semiconducting applications

quarantine MED, VET *noun* the period when an animal, person, plant or ship just arrived in a country is kept separate in case it carries a serious disease, to allow the disease time to develop and so be detected ■ *verb* to put a person, animal or ship in quarantine

quark *noun* PHYS an elementary particle that forms part of a hadron or a meson

(NOTE: There are six 'flavours' or types of quark, each of which occurs in three 'colours'.)

quarry *INDUST noun* a place where rock is removed from the ground for commercial purposes ■ *verb* to remove rock from the ground for commercial purposes

quarter *noun* **MATHS** one fourth of something (1/4 or 25%) ○ *The fuel tank is only a quarter full.*

quartile *noun* **STATS** one of three figures below which 25%, 50% and 75% of a total falls

quartz *noun* **EARTH SCI** a mineral form of silica, often found as crystals in igneous rocks (NOTE: Pure quartz is known as rock crystal.)

quartz clock, quartz crystal clock *noun* **TECH** a small slice of a quartz crystal which vibrates at a specific frequency when an electrical voltage is supplied, used as a very accurate clock signal for computers and other high precision timing applications

quasar *noun* **ASTRON** a compact object in space that emits huge amounts of energy, sometimes equal to the energy output of an entire galaxy. Also called **quasi-stellar object** (NOTE: Quasars usually have a large red shift which indicates extreme remoteness.)

quasi- *prefix* almost ○ *a quasi-official body*

quasi-instruction *noun* **COMPUT** (*in an assembly program*) a label which represents a number of instructions

quasi-stellar object *noun* **ASTRON** same as **quasar**

quaternary *adjective* **1.** consisting of four parts **2.** **COMPUT** referring to four bits, levels or objects

quaternary ammonium compound *noun* **CHEM** a chemical whose structure is similar to that of an ammonium compound but in which organic groups replace the four hydrogen atoms

Quaternary period *noun* **EARTH SCI** the geological period which is still currently in existence

qubit *noun* **COMPUT** an elementary particle such as an electron or photon that can store data and perform computational tasks within a quantum computer's processor and memory

queen *noun* **INSECTS** a large, fully developed female that lays eggs in a colony of social insects, e.g. bees or ants

quench *verb* **1.** to extinguish a flame or a light **2.** **CHEM** to cool a metal rapidly by placing it in liquid, in order to make it harder or softer depending on the metal

quench layer *noun* **AUTOMOT** a deposit of unburnt hydrocarbons on the walls of cylinders in an internal combustion engine

query *noun* a question arising from doubt or uncertainty about something ○ *a query on the validity of the experimental method* ■ *verb* to suggest that something may be wrong

query by example *noun* **COMPUT** a simple language used to retrieve information from a database management system by, usually, entering a query with known values, which is then matched with the database and used to retrieve the correct data. Abbr **QBE**

queue *noun* **1.** a line of people or vehicles waiting one behind the other ○ *to form a queue or to join a queue* **2.** a series of documents such as orders or application forms which are dealt with in order **3.** **COMPUT** a list of data or tasks that are waiting to be processed ■ *verb* **COMPUT** to add more data or tasks to the end of a queue

queued access method *noun* **COMPUT** a programming method that minimises input/output delays by ensuring that data transferred between software and an input/output device is synchronised with that device

queued indexed sequential access method *noun* **COMPUT** an indexed sequential file that is read item by item into a buffer. Abbr **QISAM**

queued sequential access method *noun* **COMPUT** a queue of blocks waiting to be processed, which are retrieved using a sequential access method. Abbr **QSAM**

quick-freeze *verb* **FOOD INDUST** to preserve food products by freezing them rapidly

quicklime *noun* **AGRIC, INDUST** a calcium compound made from burnt limestone (NOTE: It is used in the composition of cement and in many industrial processes.)

quicksilver *noun* **CHEM** same as **mercury**

quicksort *noun* **COMPUT** a very rapid file sorting and ordering method

quiescent *adjective* **1.** EARTH SCI referring to a volcano that is not active **2.** BOT referring to a seed that is not germinating because the conditions for germination are unsatisfactory **3.** COMPUT (*of a process, circuit or device*) not receiving an input signal

QuikClot MED a trademark for a granular material that, when poured directly into a wound, absorbs water from the blood, thereby concentrating blood-clotting protein factors

quinine *noun* PHARM an alkaloid drug made from the bark of a South American tree, the cinchona, formerly used to treat the fever symptoms of malaria

quintet *noun* **1.** a group of five things **2.** COMPUT a byte made up of five bits

quit *verb* COMPUT to leave a system or a program ○ *Do not forget to save your text before you quit the system.*

quota *noun* a fixed amount of something which is allowed ○ *A quota has been imposed on the fishing of herring.*

quota system *noun* a system where imports or supplies are regulated by fixing maximum or minimum amounts

quotidian *adjective* recurring daily

quotient *noun* MATHS the result when one number is divided by another

COMMENT: When one number is divided by another, the answer is made up of a quotient and a remainder, the fractional part. So 16 divided by 4 is equal to a quotient of 4 and zero remainder, and 16 divided by 5 is equal to a quotient of 3 and a remainder of 1.

R

R *symbol* MEASURE, PHYS roentgen

Ra *symbol* CHEM ELEM radium

race *noun* **1.** BIOL a group of individuals within a species that are distinct, especially physiologically or ecologically, from other members of the species. ♢ **landrace** □ **the human race** all people **2.** COMPUT an error condition in a digital circuit, in which the state or output of the circuit is very dependent on the exact timing between the input signals (NOTE: Faulty output is due to unequal propagation delays on the separate input signals at a gate.)

raceme *noun* BOT an inflorescence in which flowers are borne on individual stalks on a main flower stem with the youngest flowers at the top of the main stalk

racemic mixture *noun* CHEM a chemical compound that neither deflects nor absorbs light passing through it because it consists of a mixture of dextrorotatory and laevorotatory isomers

racemisation *noun* CHEM the process of turning an optically active compound or mixture into a racemic one that has no optical properties

racemose inflorescence *noun* BOT a pyramidal or flat-topped flower head with the youngest flowers developing nearest the tip of the main stem or main side branches

rachis *noun* BOT the main stem that supports an inflorescence or a compound leaf

rack *noun* **1.** a storage unit consisting of shelves, compartments or bars for hanging things **2.** COMPUT a metal supporting frame for electronic circuit boards and peripheral devices such as disk drives

rack-mounted *adjective* COMPUT referring to a system consisting of removable circuit boards in a supporting frame

rad *noun* MEASURE, PHYS a former unit of measurement of absorbed radiation dose (NOTE: The gray is now used for 100 rad.)

radar *noun* PHYS a method of detecting distant objects and establishing their position, velocity or other characteristics by analysis of radio waves reflected from their surfaces. Full form **radio detection and ranging**

COMMENT: Radar can detect storm clouds and is used in meteorology as well as by aircraft to avoid flying through storm clouds.

radar beam *noun* PHYS a shaft of radar waves directed towards a distant point

radial *adjective* referring to lines of radius having a common centre

radial artery *noun* ANAT an artery which branches from the brachial artery, running near the radius, from the elbow to the palm of the hand

radial engine *noun* MECH ENG an engine in which the pistons are arranged like the spokes of a wheel

radial nerve *noun* ANAT the main motor nerve of the arm

radial pulse *noun* MED the main pulse in the wrist, taken near the outer edge of the forearm, just above the wrist

radial transfer *noun* COMPUT data transfer between two peripherals or programs that are on different layers of a structured system such as an ISO/OSI system

radian *noun* MATHS a unit of measure of angles

radiant *adjective* PHYS sent out in the form of rays

radiant flux *noun* PHYS the flow rate of radiant energy

radiant heat *noun* PHYS heat which is transmitted by infrared rays from hot bodies (NOTE: An electric fire sends out radiant heat from a hot wire coil.)

radiant heat transfer *noun* PHYS the transfer of heat that occurs when there is a

large difference between the temperatures of two surfaces that are exposed to each other but are not touching

radiate *verb* **1.** to spread out in all directions from a central point **2.** PHYS to send out rays ○ *Heat radiates from the body.* ○ *Beta rays are radiated from a radioactive isotope.*

radiation *noun* **1.** the process or state of spreading out in all directions from a central point **2.** PHYS the waves of energy which are given off when heat is transferred **3.** PHYS the waves of energy which are given off by a radioactive substance

COMMENT: Prolonged exposure to ionising radiation from various sources can be harmful. Nuclear radiation from fallout from nuclear weapons or from power stations, background radiation from substances naturally present in the soil or exposure to X-rays, either as a patient being treated or as a radiographer, can cause radiation sickness. First symptoms of the sickness are diarrhoea and vomiting, but radiation can also be followed by skin burns and loss of hair. Massive exposure to radiation can kill quickly and any person exposed to radiation is more likely to develop some types of cancer than other members of the population. The main radioactive pollutants are strontium-90, caesium-137, iodine-131 and plutonium-239.

radiation burn *noun* MED a burn on the skin caused by exposure to a radioactive substance

radiation carcinogenesis *noun* MED the formation of cancer in tissue caused by exposure to a radioactive agent

radiation enteritis *noun* MED enteritis caused by exposure to X-rays

radiation fog *noun* METEOROL a fog that forms when the air just above ground level is cooled as the land surface immediately beneath it cools at night due to radiation of heat

radiation injury *noun* MED an injury caused by exposure to a radioactive agent

radiation ionisation *noun* PHYS same as ionising radiation

radiation pollution *noun* ENVIRON the contamination of the environment by radiation from a radioactive agent

radiation sickness *noun* MED an illness caused by exposure to a radioactive agent

radiation unit *noun* PHYS a measure of the radiation activity of a radio-isotope, given in disintegrations per second. Former name **curie**

radiation zone *noun* ENVIRON an area that is contaminated by radiation and which people are not allowed to enter

radiative forcing *noun* EARTH SCI a change in balance between incoming solar radiation and outgoing infrared radiation

radiator *noun* ENG a liquid-to-air heat exchanger that transfers engine heat to the outside air ○ *Anti-icing additives are used in radiator coolants.*

radical *adjective* MATHS referring to a mathematical root of another number or quantity ■ *noun* **1.** MATHS a mathematical root of another number or quantity **2.** CHEM same as **free radical**

radicle *noun* BOT the tiny structure in a plant embryo from which the root will develop

radii *noun* MATHS plural of **radius**

radio *noun* PHYS wireless transmission through space of electromagnetic waves in the approximate frequency range 10 kHz to 300000 MHz

radio- *prefix* PHYS **1.** radiation **2.** radioactive substances

radioactive *adjective* PHYS referring to a substance whose nucleus disintegrates and gives off energy in the form of radiation that can pass through other substances

COMMENT: The most common naturally radioactive substances are radium and uranium. Other substances can be made radioactive for industrial or medical purposes by making their nuclei unstable, so forming radioactive isotopes. Radioactive wastes are classified as low-level, i.e. not considered to be very dangerous, intermediate and high-level, i.e. emitting dangerous levels of radiation.

radioactive decay *noun* PHYS a gradual disintegration of the nucleus of radioactive matter

radioactive isotope *noun* PHYS a natural or artificial isotope which gives off radiation

radioactive series *noun* PHYS a series of related radioactive nuclides, each of which decays into the next by emitting an elementary particle until a stable nuclide results

radioactive waste *noun* INDUST used radioactive materials produced by nuclear power stations, industrial plants, hospitals and other installations

radioactive waste conditioning *noun* INDUST the processing of radioactive

waste to use it again or to make it safe for disposal

radioactive waste isolation *noun* keeping radioactive waste separate so that it does not contaminate other things

radioactivity *noun* PHYS the energy in the form of radiation emitted by a radioactive substance

radio altimeter *noun* AVIAT an altimeter that operates using a radio signal directed vertically downwards, giving height above ground level

radio astronomy *noun* ASTRON a branch of astronomy that deals with the detection and analysis of radio waves emitted from objects in space

radiobiologist *noun* BIOL a scientist who specialises in radiobiology

radiobiology *noun* BIOL the scientific study of radiation and its effects on living things

radio button *noun* COMPUT a circle displayed beside an option on screen that, when selected, has a dark centre (NOTE: Only one radio button can be selected at one time.)

radiocarbon *noun* PHYS a radioactive isotope of carbon with an atomic number of 14

radiocarbon dating *noun* PHYS the process of determining the age of an object by assessing the amount of radiocarbon that has decayed

radiodermatitis *noun* MED an inflammation of the skin caused by exposure to a radioactive agent

radio detection and ranging *noun* full form of **radar**

radio frequency *noun* PHYS the electromagnetic spectrum that lies in the frequency range 10 KHz–3000GHz. Abbr **RF, R/F**

radio galaxy *noun* ASTRON a galaxy that emits waves in the radio frequency

radiogenic heat *noun* PHYS the heat generated by the decay of a radioactive substance

radiograph *noun* MED a X-ray photograph

radiographer *noun* MED a person specially trained to operate a machine to take X-ray photographs

radiography *noun* MED the examination of the internal parts of a patient by taking X-ray photographs

radio horizon *noun* PHYS a line along which direct rays from a radio frequency transmitter become tangential to the Earth's surface

radioisotope *noun* CHEM a radioactive isotope of a chemical element

COMMENT: Radioisotopes are used in medicine to provide radiation for radiation treatment. They are also used to check how organs function or if they are diseased, e.g. radioisotopes of iodine are used to investigate thyroid activity.

radiologist *noun* MED a doctor who specialises in radiology

radiology *noun* MED the use of radiation to diagnose disorders, as in the use of X-rays or radioactive tracers, or to treat diseases such as cancer

radio-opaque dye *noun* MED a liquid which is introduced into soft organs such as kidneys so that they show up clearly on an X-ray photograph

radiopaque *adjective* PHYS opaque to or blocking the passage of X-rays and other forms of electromagnetic radiation

radioresistant *adjective* MED resistant to the effects of radiant energy

radio scintillation *noun* ASTRON the series of fluctuations in the strength of star signals caused by fluctuations in solar wind

radioscopy *noun* MED the examination of an X-ray photograph on a fluorescent screen

radiosensitive *adjective* MED (*of a cancer cell*) sensitive to radiation and able to be treated by radiotherapy

radiosensitivity *noun* MED the sensitivity of a cancer cell to treatment by radiation

radiosonde *noun* METEOROL a radio transmitter sent into the atmosphere attached to a balloon to take readings such as altitude, pressure and temperature

radiotelephony *noun* TELECOM the transmission of speech by radio. Abbr **R/T**

radio telescope *noun* ASTRON a telescope used to receive incoming radiation from the sky

radiotherapy *noun* MED the treatment of a disease such as cancer by exposing the affected part to radioactive rays such as X-rays or gamma rays

radio wave *noun* PHYS a type of electromagnetic radiation of relatively low frequency

radium *noun* CHEM ELEM a naturally radioactive metallic element (NOTE: The chemical symbol is **Ra**; atomic number is **88** and the atomic weight is **226**.)

radius *noun* **1.** MATHS a line drawn from a point on the circumference of a circle to the centre point, or the length of this **2.** ANAT the smaller of the two bones in an arm or foreleg

radius of curvature *noun* MATHS the radius of a circle whose curvature matches that of a curve at some given point

radius of gyration *noun* PHYS the distance from the axis of rotation in a rotating object where the mass of the object could be located without changing its moment of inertia

radius vector *noun* ASTRON a line connecting the centre of one astronomical object and that of another in orbit around it

radix *noun* MATHS the value of the base of the number system being used ○ *The hexadecimal system has a radix of 16.*

radix complement *noun* MATHS † **ten's complement, two's complement**

radix notation *noun* MATHS a system of numbers based on a particular radix

radix point *noun* MATHS a dot which indicates the division between a whole unit and its fractional parts

radon *noun* CHEM ELEM an inert naturally radioactive gas formed by the radioactive decay of radium that occurs naturally in soil, in construction materials and ground water. It can seep into houses and cause radiation sickness. (NOTE: The chemical symbol is **Rn**; the atomic number is **86** and the atomic weight is **222**.)

radon decay products *plural noun* CHEM substances that can be breathed into the lungs where they continue to release radiation as they decay further

radula *noun* ZOOLOG the feeding structure of slugs and snails, consisting of a ribbon-shaped tongue covered in tiny teeth which rasp off small particles of food

raffinate *noun* CHEM the part of a liquid mixture that remains after the extraction of other substances dissolved in it

ragged left *noun* PRINTING a printed text with a flush right-hand margin and uneven left-hand margin

ragged right *noun* PRINTING a printed text with a flush left-hand margin and uneven right-hand margin

RAID *abbreviation* COMPUT redundant array of inexpensive disks

rain *noun* **1.** METEOROL water that falls from clouds as small drops **2.** a period of wet weather ■ *plural noun rains* METEOROL in some countries, repeated heavy falls of rain during a season of the year

rain-bearing cloud *noun* METEOROL same as **raincloud**

rainbow *noun* METEOROL a natural phenomenon that occurs when light strikes water droplets, especially when sunlight hits rain or spray from a waterfall, creating a semicircle of rings of each of the colours of the spectrum

raincloud *noun* METEOROL a cloud that carries moisture in droplet form which can fall as rain

raindrop *noun* METEOROL a drop of water that falls from a cloud

rainfall *noun* METEOROL the amount of water that falls as rain on an area over a period of time ○ *an area of high/low rainfall*

rainforest *noun* EARTH SCI a thick tropical forest which grows in regions where the rainfall is very high

rainmaking *noun* METEOROL the attempt to create rain by releasing crystals of salt, carbon dioxide and other substances into clouds

rainout *noun* METEOROL a process whereby particles in the atmosphere act as centres round which water can form drops which then fall as rain. Compare **washout**

rain shadow *noun* METEOROL a reduction in rainfall on the lee side of a mountain

rainstorm *noun* METEOROL a period of heavy rain accompanied by wind

rainwash *noun* EARTH SCI the erosion of soil by rain

rainwater *noun* METEOROL the water which falls as rain from clouds

rainy *adjective* METEOROL characterised by a lot of rain

rainy season *noun* METEOROL the period in some countries when a lot of rain falls. Also called **wet season**

raise *verb* **1.** to increase something **2.** to make something higher **3.** AGRIC to make plants germinate and nurture them as seedlings ○ *The plants are raised from seed.* **4.** AGRIC to breed and keep livestock

raised beach *noun* EARTH SCI a beach of sand left higher than sea level because the level of the sea has fallen

raised bog *noun* EARTH SCI a bog where the dead moss has accumulated without decomposing, so raising the level of the bog above the surrounding land

ram *noun* **1.** AEROSP an increase in air pressure caused by the forward speed of an aircraft **2.** ZOOL a male sheep

RAM *noun* COMPUT memory that allows access to any location in any order, without having to access the rest first. Full form **random access memory**. Compare **SAM**

COMMENT: Dynamic RAM which uses a capacitor to store a bit of data as a charge needs to have each location refreshed from time to time to retain the data. However it is very fast and can contain more data per unit area than static RAM, which uses a latch to store the state of a bit. It has the advantage of not requiring to be refreshed to retain its data, and will keep data for as long as power is supplied.

ram air *noun* AEROSP an airflow created by the movement of an aircraft, which is used to cool, ventilate or drive turbines ○ *Oil cooling may be achieved by using ram air or fuel.*

Raman effect *noun* PHYS the change in wavelength and phase of monochromatic light as it travels through a transparent substance (NOTE: It is used in Raman spectroscopy to study molecular structures.)

RAM cache *noun* COMPUT a section of high-speed RAM that is used to buffer data transfers between the faster processor and a slower disk drive

RAM chip *noun* COMPUT a chip that stores data, allowing random access

RAM disk *noun* COMPUT a section of RAM that is made to look like and behave as a high-speed disk drive, using special software

ramet *noun* BIOL a single cloned organism such as one produced by tissue culture

ram pump *noun* ENG a water pumping device that is powered by falling water

RAM refresh rate *noun* COMPUT the number of times every second that the data in a dynamic RAM chip has to be read and rewritten

ranch *noun* AGRIC a large farm, specialising in raising cattle, sheep or horses

R & D *abbreviation* INDUST research and development

R & D department *noun* a department in a company that investigates new products, discoveries and techniques

random *adjective* not specially selected ○ **at random** EARTH SCI not using a particular method or pattern

random access *noun* COMPUT the ability to access immediately memory locations in any order ○ *Disk drives are random access, magnetic tape is sequential access memory.*

random access memory *noun* COMPUT full form of **RAM**

random number *noun* MATHS a number which cannot be predicted

random number generator *noun* COMPUT a program which generates random numbers, used in lotteries, games and sampling

random process *noun* COMPUT a system whose output cannot be related to its input or internal structure. Also called **direct access**

random sample *noun* a sample for testing taken without any special selection

random segregation *noun* GENETICS a principle stating that during meiosis the two separated partners of a chromosome pair are distributed randomly to the reproductive cells **gametes**, so that each gamete has the same chance of receiving either chromosome

Raney nickel *noun* METALL a form of the metal nickel, used as a catalyst

range *noun* **1.** a series of different but similar things ○ *a range of books on biology* **2.** the difference between the lowest and highest values in a series of data ○ *The temperature range is over 50°C.* **3.** a set of allowed values between a maximum and minimum **4.** an area within two or more points ○ *The geographical range of the plant is from the Arctic Circle to southern Europe.* **5.** AGRIC a large area of grass-covered farmland used for raising cattle or sheep **6.** EARTH SCI a group of mountains ■ **verb** **1.** to vary between limits ○ *The temperature ranges from 13°C to 18°C in that month.* **2.** PRINTING to put text in order to one side □ **range left or right** to move text to align it to the left or right margin, or to move the contents of a word to the left or right edge **3.** to include many things ○ *The lecture ranged over the whole area of medical and agricultural genetic modification.* **4.** to move over a wide area

ranger *noun* FORESTRY a person in charge of the management and protection of a forest, park or reserve

rank *verb* COMPUT to sort data into an order, usually according to size or importance

Rankine scale *noun* PHYS an absolute temperature scale in which each degree is equal to 1° F, with zero at -459.67° F and the boiling point of water at 671.67° F

Raoult's law *noun* CHEM a law that states that the partial vapour pressure of a solvent is proportional to its mole fraction (NOTE: If a solution follows this law, it is usually described as an ideal solution.)

rape, rapeseed *noun* PLANTS same as **oilseed rape**

rapid *adjective* acting, moving or changing quickly

rapid access *noun* COMPUT a device or memory whose access time is very short

rapid access memory *noun* a storage location that can be read from or written to very quickly

rapids *plural noun* EARTH SCI a part of a river where water flows rapidly over large rocks

raptor *noun* ZOO a bird of prey

raptorial *adjective* ZOO referring to raptors

rare *adjective* **1.** not common **2.** ENVIRON (*of a species*) existing only in small local populations **3.** EARTH SCI (*of air*) not containing much oxygen, especially at high altitudes

rare earth, rare-earth element *noun* CHEM ELEM a member of the lanthanide series of the periodic table, which contains fifteen chemically similar elements with atomic numbers between 57 and 71

rare gas *noun* CHEM same as **noble gas**

rarity *noun* the state of being rare

COMMENT: Species of animals and plants are classified internationally into several degrees of rarity. Rare means that a species is not numerous and is confined to small local populations, but is not necessarily likely to become extinct. Vulnerable means that a species has a small population and that population is declining. Endangered means that a species has such a small population that it is likely to become extinct.

raster graphics *plural noun* COMPUT graphics in which the picture is built up in lines across the screen or page

raster image processor *noun* COMPUT a raster that translates software instructions into an image or complete page which is then printed by the printer ○ *An electronic page can be converted to a printer-readable video image by an on-board raster image processor.* Abbr **RIP**

raster scan *noun* COMPUT one sweep of the picture beam horizontally across the front of a screen

rate *noun* **1.** an amount or proportion of something compared to something else □ **the rate of population growth** the increase in population in an area divided by the initial population **2.** the speed at which something moves or changes compared with another measurable quantity such as time ○ *the rate of descent of the aircraft* **3.** the number of times something happens **4.** COMPUT a quantity of data or tasks that can be processed in a set time ○ *The processor's instruction execution rate is better than the older version.* ■ *verb* to evaluate how good something is or how large something is

rate constant *noun* CHEM the proportionality constant in the equation that relates the rate of a chemical reaction to the concentrations of its reactants

rate-determining step *noun* CHEM the slowest part of a chemical reaction that determines the overall rate of the reaction

rated throughput *noun* the maximum throughput of a device that will still meet original specifications

rate of natural increase *noun* the difference between the crude birth rate and the death rate

rate of population growth *noun* the increase in population in a specific area divided by the initial population

rating *noun* a classification according to a scale

ratio *noun* MATHS a relationship between two quantities expressed as the quotient of one divided by the other ○ *The air/fuel ratio is 15:1.* ○ *Chart scale is the ratio of the chart distance to Earth distance.* (NOTE: The ratio of 7 to 4 is written 7:4 or 7/4.)

rational number *noun* MATHS a number that can be written as the ratio of two whole numbers ○ *24 over 7 is a rational number.* ○ *0.333 can be written as the rational number 1/3.*

raw *adjective* **1.** FOOD INDUST (of food) uncooked **2.** (of a substance) unprocessed or unrefined **3.** INDUST (of sewage, water or waste) untreated

raw data *noun* COMPUT **1.** data which have to be processed to provide useful information to the user **2.** pieces of information which have not been input into a computer system for analysis

raw material *noun* INDUST a substance which is used to manufacture something, e.g. ore for making metals or wood for making furniture

raw sewage *noun* INDUST sewage which has not been treated in a sewage farm ○ *The regulations prevent the discharge of raw sewage.*

raw sludge *noun* INDUST the solid part of sewage before it is treated, which falls to the bottom of a sedimentation tank

ray *noun* **1.** PHYS a line of light, radiation or heat **2.** ZOOL an arm of a starfish **3.** BOT a distinct radial band of tissue in the stem of a plant **4.** same as **ray floret**

ray floret *noun* BOT a long thin part among those around a flower head of a plant belonging to the Compositae such as a daisy or sunflower. Compare **disc floret**

rayon *noun* TEXTILES a synthetic textile fibre made from cellulose, often regarded as artificial silk

ray tracing *noun* COMPUT a method of creating life-like computer-generated graphics which correctly show shadows and highlights on an object as if coming from a light source

Rb *symbol* CHEM ELEM rubidium

RBE *abbreviation* BIOL relative biological effectiveness

RDA *abbreviation* Recommended Daily Amount

RDBMS *abbreviation* COMPUT relational database management system

RDF *abbreviation* INDUST refuse-derived fuel

RDZ *abbreviation* resource depletion zone

Re *symbol* CHEM ELEM rhenium

react *verb* **1.** to act in response to an action **2.** CHEM to change chemical composition on contact with a substance ○ *The electrolyte in the cells of a lead-acid battery reacts chemically with the plates.* ○ *Ozone is produced as a result of oxides reacting with sunlight.*

reactance *noun* ELEC a component of impedance in an alternating current circuit

reactant *noun* CHEM a substance that reacts chemically with another

reaction *noun* **1.** an action that takes place because of something that happened earlier **2.** an effect produced by a stimulus **3.** CHEM a chemical change that occurs when two substances come into contact and cause each other to change

reaction turbine *noun* ENG a turbine where the blades on the turbine adjust to the angle at which the jets of water hit them

reactive *adjective* CHEM referring to a chemical that reacts easily with other substances

reactive dye *noun* CHEM a coloured dye that forms a chemical bond with a fabric, providing very good colour fastness

reactive mode *noun* COMPUT a computer operating mode in which each entry by the user causes something to happen but does not provide an immediate response

reactivity *noun* CHEM the degree to which a substance reacts

read *verb* **1.** to look at printed words and understand them ○ *Conditions of sale are printed in such small characters that they are difficult to read.* **2.** COMPUT (of an electronic device) to scan printed text ○ *Can the OCR read typeset characters?* **3.** COMPUT to retrieve data from a storage medium ○ *This instruction reads the first record of a file.* ○ *Access time can be the time taken to read from a record.*

reader level *noun* COMPUT one of two modes that allows a user to run and interact with a multimedia application, but not modify it in any way

read error *noun* COMPUT an error that occurs during a read operation, often because the stored data has been corrupted

read head *noun* ELEC ENG a transducer that reads signals stored on a magnetic medium such as a floppy disk and converts them back to their original electrical form

reading *noun* a piece of information indicated by an instrument or gauge

reading frame *noun* GENETICS a sequence of three nucleotides on DNA or messenger RNA that indicates the starting point for the instruction controlling the production of a polypeptide

read only *adjective* COMPUT referring to a device or circuit whose stored data cannot be changed

read only memory *noun* COMPUT full form of ROM

readout *noun* a display or presentation of data from calculations or storage ○ *The rotating beam cloud base recorder/indicator operates continuously, day and night, and produces an automatic readout of cloud base height.*

readout device *noun* a device that allows data to be displayed as numbers or characters

ready-state *adjective* TELECOM (of a communication line or device) waiting to accept data

reafforest *verb* FORESTRY to plant trees again in an area which was formerly covered by forest

reafforestation *noun* FORESTRY the planting of trees in an area which was formerly covered by forest

reagent *noun* CHEM a chemical substance which reacts with another substance, especially one used in an experiment, test or process

real address *noun* COMPUT an absolute address that directly accesses a memory location

real gas *noun* CHEM a gas that does not behave as an ideal gas

realised niche *noun* ECOL the portion of a fundamental niche that is actually occupied by a species, resulting from the sharing of resources in an ecosystem

real memory *noun* COMPUT the actual physical memory that can be addressed by a central processing unit. Compare **virtual memory**

real number *noun* MATHS a number that is represented with a fractional part (NOTE: It sometimes refers to a number represented in a floating-point form.)

realo *noun* ENVIRON a member of the Green movement who believes in working within the existing social system to effect change

real time *noun* 1. □ **in real time** happening at the same time as something else, without a time delay ○ *The scan allowed us to watch the baby moving in real time.* 2. COMPUT the processing of data as soon as they are received

real-time *adjective* COMPUT referring to something that happens at the same time as something else, e.g. the processing of data as soon as they are received

real-time animation *noun* COMPUT animation in which objects appear to move at the same speed as they would in real life (NOTE: Real-time animation requires display hardware capable of displaying a sequence with tens of different images every second.)

real-time operating system *noun* COMPUT an operating system designed to control a real-time system or process-control system

real-time processing *noun* COMPUT the processing of data as they are received, without a time delay

real-time system *noun* COMPUT a system whose processing time is within the time span of the event being dealt with, so that it can influence the source of the data ○ *In a real-time system, as you move the joystick left, the image on the screen moves left.*

real-time transport protocol *noun* COMPUT a data transport protocol developed by the IETF that provides a guaranteed data delivery over a network that does not usually provide this type of quality of service. Abbr **RTP** (NOTE: It is usually used to transfer video or multimedia data over a packet network such as the Internet.)

rear *noun* the part farthest from the front ○ *the rear of the aircraft* ■ *adjective* at or referring to the back ○ *The rear part of the aircraft is called the aft section.* ■ *verb* AGRIC to look after young animals until they are old enough to look after themselves

reboot *verb* COMPUT to reload an operating system during a computing session ○ *We rebooted and the files reappeared.*

recall COMPUT *noun* the bringing back of text or files from store ■ *verb* to bring back text or files from store

receive only *noun* COMPUT a computer terminal that can accept and display data but not transmit

receiver *noun* PHYS a device that receives incoming radio signals and converts them to sound or light ○ *The transponder in the aircraft consists of a transmitter and a receiver.*

receiver register *noun* COMPUT a temporary storage register for data inputs, before processing

receiving waters *plural noun* ENVIRON rivers, lakes, oceans, streams or other bod-

ies of water into which waste water or treated effluent is discharged

receptacle *noun* BOT **1.** the top part of a flower stalk that supports the flower. Also called **thalamus** (NOTE: In some plants such as strawberry it develops into the fruit.) **2.** the plant part that carries the reproductive organs in lower plants such as mosses and liverworts

reception *noun* TELECOM an act or instance of receiving radio signals ○ *The antenna is highly directive in transmission and reception.*

receptor *noun* **1.** ANAT a nerve ending which senses a change such as cold or heat in the surrounding environment or in the body and reacts to it by sending an impulse to the central nervous system **2.** a site on a cell surface to which a specific molecule such as an antigen binds

receptor cell *noun* ANAT a cell in a nerve ending which senses a change such as cold or heat in the surrounding environment or in the body and reacts to it by sending an impulse to the central nervous system

recessive *adjective* GENETICS (*of a gene or genetically controlled characteristic*) suppressed by the presence of a corresponding dominant gene. Compare **dominant**

COMMENT: Since each physical characteristic is governed by two genes, if one gene is dominant and the other recessive, the resulting trait will be that of the dominant gene. Traits governed by recessive genes will appear if genes from both parents are recessive.

recessiveness *noun* GENETICS the characteristic of a gene that leads to its not being expressed in the individual carrying it when a corresponding dominant gene is also present. Compare **dominance**

recharge *verb* **1.** ELEC to restore the electric charge of a battery **2.** to replace or renew something

rechargeable battery *noun* ELEC a type of battery that uses a reversible chemical reaction to produce electricity, allowing it to be recharged and used again ○ *A rechargeable battery is used for backup when the system is switched off.*

recharge area *noun* EARTH SCI an area of land where there is a net transfer of water each year from the surface to ground water

recipient *noun* MED somebody who receives blood, tissue or an organ from a donor

reciprocal *adjective* **1.** referring to an action that each of two does to the other **2.** MATHS referring to a number or quantity related to another in that they give one when multiplied by each other ■ *noun* **1.** NAVIG an exactly opposite direction ○ *A wave transmitted vertically returns to Earth on its reciprocal.* **2.** MATHS a number or quantity related to another in that they give one when multiplied by each other

reciprocal heading *noun* NAVIG the direction 180° from a given direction ○ *The reciprocal heading of 090° is 270°.*

reciprocating *adjective* MECH ENG (*of a machine*) moving backwards and forwards or up and down ○ *A cam is an oval-shaped wheel which, when rotating, converts circular motion into reciprocating motion.*

reclaim *verb* ENVIRON **1.** to make land usable for agricultural or commercial purposes, usually marshy land, a waste site, land which has previously been built on or used for industry, or land which has never been cultivated ○ *to reclaim land from the sea* **2.** to recover useful materials from waste

reclamation *noun* ENVIRON **1.** the act of reclaiming land ○ *land reclamation schemes in urban centres* **2.** the recovery of useful materials from waste

recode *verb* COMPUT to code a program which has been coded for one system so that it will work on another

recognition *noun* **1.** the ability to recognise someone or something **2.** COMPUT a process that allows something such as letters on a printed text or bars on bar codes to be recognised **3.** respect or official acceptance □ **in recognition of or for** as a mark of respect for ○ *He was awarded the Nobel prize in recognition of his work on the human genome.*

recombinant GENETICS *noun* a cell or organism that results from the joining together of DNA fragments ■ *adjective* **1.** referring to genetic recombination **2.** referring to recombinant DNA or produced by recombinant DNA technology

recombinant DNA *noun* GENETICS DNA produced by joining together DNA extracted from two or more different sources such as cells or different organisms

recombination *noun* GENETICS any process that results in offspring that have combinations of genes different from those of either parent, e.g. the crossing-over and independent assortment of chromosomes during gamete formation

recombine *verb* GENETICS to undergo or cause an organism to undergo recombination

recommend *verb* to suggest that something should be done ○ *The report recommended choosing a different site for the disposal of radioactive waste.*

recommendation *noun* a strong suggestion that something should be done ○ *The council accepted the committee's recommendations about disposal of waste.*

Recommended Daily Amount *noun* the amount of a substance, e.g. a vitamin or mineral, that should be consumed each day for a person or animal to be healthy. Abbr **RDA**

recompile *verb* COMPUT to compile a source program again, usually after changes or debugging

reconfiguration *noun* COMPUT the alteration of the structure of data in a system

reconfigure *verb* COMPUT to alter the structure of data in a system ○ *I reconfigured the field structure in the file.* ○ *This program allows us to reconfigure the system to our own requirements.*

reconstitute *verb* to put something back into its original state ○ *The mining company should reconstitute the site after the open-cast mining operation has closed down.*

record *noun* **1.** a written account of facts and information for future reference **2.** COMPUT a set of electronically stored data ○ *Your record contains several fields that have been grouped together under the one heading.* ○ *This record contains all their personal details.* ■ *verb* **1.** to write down information or data ○ *Record the results in this column.* ○ *Measure the angles and distances and record them in a log.* **2.** COMPUT to store data or signals on tape, on disk or in a computer ○ *This device records signals onto magnetic tape.* ○ *Digitally recorded data are used to generate images.*

recordable CD, recordable compact disc *noun* COMPUT full form of **CD-R**

recorder *noun* COMPUT a piece of equipment able to transfer input signals onto a storage medium

COMMENT: The signal recorded is not always in the same form as the input signal: many recorders record a modulated carrier signal for better quality. A recorder is usually combined with a suitable playback circuit since the read and write heads are often the same physical device.

record gap *noun* COMPUT a blank section of magnetic tape between two consecutive records

record head *noun* COMPUT a transducer that converts an electrical signal into a magnetic field to write the data onto a magnetic medium. Also called **write head**

recording *noun* the action of storing signals or data on tape or in a computer

recording level *noun* ACOUSTICS an amplification of an input signal before it is recorded (NOTE: If a voice is very quiet, the recording level can be increased to ensure that the sound signal is not degraded by noise.)

record length *noun* COMPUT the total number of characters contained in the various fields within a stored record

record locking *noun* COMPUT software that prevents more than one user writing data to a record at the same time

recordset *noun* COMPUT a group of records selected from a main database by a filter, search or query

record structure *noun* COMPUT a list of the fields which make up a record, together with their length and data type

recover *verb* **1.** to return to a more usual condition ○ *The fish populations may never recover from overfishing.* **2.** INDUST to obtain metals or other useful materials from waste by separating and purifying it

recoverable error *noun* COMPUT an error type that allows program execution to be continued after it has occurred

recovery *noun* **1.** the action of getting back something which has been lost ○ *The recovery of lost files can be carried out using the recovery procedure.* **2.** a return to a more usual condition ○ *The area has been overfished to such an extent that the recovery of the fish population is impossible.* **3.** INDUST the process of obtaining metals or other useful materials from waste

recrystallisation *noun* CHEM **1.** a change in the structure of something from one crystal structure to another, usually as

the object changes temperature **2.** the purification of a substance by repeatedly forming crystals from a solution

rectangle *noun* MATHS a four-sided plane figure with four right angles, and with opposite sides of equal length

rectangular *adjective* referring to something with the shape of a rectangle ○ *a rectangular wing panel*

rectification *noun* **1.** ELEC the change from an alternating current to a direct current using a rectifier **2.** CHEM the purification of a liquid by distillation

rectified airspeed *noun* AEROSP same as **calibrated airspeed**

rectifier *noun* ELECTRONICS an electronic circuit that converts an alternating current supply into a direct current supply ○ *The ignition unit receives an alternating current which is passed through a transformer and rectifier.*

rectify *verb* **1.** ELECTRONICS to change alternating current into direct current **2.** CHEM to purify a liquid by a repeated process **3.** to correct something ○ *to rectify a mistake*

rectum *noun* ANAT the last part of the large intestine, where waste material accumulates before leaving the body through the anus

recursion *noun* **1.** the repetition of steps to give a result **2.** COMPUT a subroutine in a program that calls itself during execution. Also called **recursive routine**

recursive *adjective* repeating itself

recursive call *noun* COMPUT a subroutine that calls itself when it is run

recursive routine *noun* COMPUT same as **recursion** **2**

recyclable ENVIRON *adjective* referring to waste that can be processed so that it can be used again ■ *noun* a material or product that is able to be recycled

recycle *verb* ENVIRON to process waste so that it can be used again ○ *The glass industry recycles tonnes of waste glass each year.*

COMMENT: Many waste items can be recycled. In particular, precious metals such as lead, copper and silver can be recovered from old batteries or computers, paper can be recycled from old newspapers and packaging materials after ink removal. Glass can be manufactured from old bottles.

recycled *adjective* ENVIRON made from waste ○ *recycled aluminium*

recycling *noun* ENVIRON the activity of processing waste so that it can be used again

red *noun* a colour like the colour of blood ■ *adjective* referring to a colour like the colour of blood

red, green, blue *noun* COMPUT a high-definition monitor system that uses three separate input signals controlling red, green and blue colour picture beams. Abbr **RGB** (NOTE: There are three colour guns producing red, green and blue beams acting on groups of three phosphor dots at each pixel location.)

red algae *plural noun* MARINE BIOL phytoplankton mainly found on the seabed which cause the phenomenon called red tide. Phylum: Rhodophyta.

red blood cell *noun* BIOL a blood cell which contains haemoglobin and carries oxygen

red corpuscle *noun* a red blood cell which contains haemoglobin and carries oxygen to the tissues

Red Data Book *noun* ENVIRON a catalogue formerly published by the IUCN, listing species which are rare or in danger of becoming extinct. The information is now available in a searchable database. ♢

Red list

redefinable *adjective* COMPUT able to be redefined

redefine *verb* COMPUT to change the function or value assigned to a variable or object ○ *We redefined the initial parameters.*

red giant *noun* ASTRON a star with a relatively low surface temperature and a diameter much greater than that of the Sun, that appears red

redirect *verb* COMPUT **1.** to send a message to its destination by another route **2.** (*in the DOS and UNIX operating systems*) to treat the output of one program as input for another program ○ *You can sort the results from a DIR command by redirecting to the SORT command.*

redirection *noun* COMPUT the sending of a message to its destination by another route ○ *Call forwarding is the automatic redirection of calls to another number.*

red lead *noun* CHEM a poisonous red oxide of lead, used as a colouring in paints. Formula: Pb_3O_4 .

Red list *noun* **1.** a searchable database maintained by IUCN that records the con-

ervation status of different organisms throughout the world. Full form **IUCN Red List of Threatened Species**. ◊ **IUCN – The World Conservation Union 2.** a list recording the conservation status of a particular type of organism in a specific geographical area ◊ *the Red list of the epiphytic lichens of Switzerland*

red mud *noun* OCEANOGRAPHY a deposit found on the seabed in the China Sea and elsewhere, containing dust and iron oxide, the latter giving it its red colour

redness *noun* the condition or degree of being red

redox *noun* CHEM same as **oxidation-reduction**

redox potential *noun* **1.** a measure of the ability of the natural environment to bring about an oxidation or a reduction process **2.** CHEM the cell potential required relative to a standard hydrogen electrode to cause oxidation at an anode and reduction at a cathode ► abbr **rH**

red sea *noun* MARINE BIOL same as **red tide**

redshift *noun* ASTRON a movement of the spectral lines of an astronomical object towards red, caused by the object moving away from the Earth

red snow *noun* EARTH SCI snow coloured red by the presence of algae

red tide *noun* MARINE BIOL a phenomenon where the sea becomes red, caused by phytoplankton of the phylum Rhodophyta. Also called **red sea**

reduce *verb* **1.** to make something less, smaller or lower, or to become less, smaller or lower. Opposite **increase** **2.** CHEM to add electrons or hydrogen to a substance

reduced instruction set computer *noun* COMPUT a design for a central processing unit whose instruction set contains a small number of simple fast-executing instructions, which makes program writing more complex but increases speed. Abbr **RISC**

reducer *noun* BIOL an organism that breaks down dead organic matter, e.g. an earthworm, fungus or bacterium

reducing agent *noun* CHEM a chemical that reduces another substance and is itself oxidised as a result

reducing atmosphere *noun* CHEM an atmosphere that does not contain free oxygen gas and in which compounds combine chemically with hydrogen

reducing sugar *noun* BIOCHEM a sugar that can act as a reducing agent

reduction *noun* **1.** the process of making something less, smaller or lower, or of becoming less, smaller or lower ◊ *The key to controlling acid rain must be the reduction of emissions from fossil-fuelled power stations.* Opposite **increase** **2.** CHEM the addition of electrons or hydrogen to a substance

redundancy *noun* **1.** the situation of not being needed because other similar things exist **2.** ENG a duplication of component parts of a system to enable the system to function even if one component fails ◊ *With system redundancy, a single failure within a system will have little effect on the aircraft's performance during the approach and landing operation.*

redundancy checking *noun* COMPUT the checking of received data for correct redundant codes to detect any errors

redundant *adjective* **1.** no longer useful ◊ *recycling redundant containers* **2.** COMPUT (*of data*) able to be removed without losing any information ◊ *The parity bits on the received data are redundant and can be removed.* **3.** ELECTRONICS (*of an extra piece of equipment*) kept ready for a task in case of faults

redundant array of inexpensive disks *noun* COMPUT a fast, fault tolerant disk drive system that uses multiple drives which would, typically, each store one byte of a word of data, so allowing the data to be saved faster. Abbr **RAID** (NOTE: One drive in the array would also store a check byte for error detection.)

redundant code *noun* COMPUT a check bit or data that added to a block of data for error detection purposes and carries no information

reed *noun* PLANTS a grass that often grows in water near the shores of lakes (NOTE: The common reed *Phragmites communis* is used for thatching roofs. The Spanish reed *Arundo donax* has been used in musical instruments for more than 5000 years.)

reedbed filter *noun* a reedbed used as part of a system of cleaning sewage or dirty water

reef *noun* EARTH SCI a series of low rocks or coral near the surface of the sea

re-entrant program, re-entrant code, re-entrant routine *noun* COMPUT one program or code shared by many users in a

multi-user system (NOTE: It can be interrupted or called again by another user before it has finished its previous run, and returns to the point at which it was interrupted when it has finished that run.)

re-entry *noun* COMPUT the calling of a routine or program from within a routine or program

reference *noun* **1.** something used as a basis for further calculation or investigation ○ *Use 2001 as a reference point.* □ **by reference to** by looking at and comparing a value used as a starting point with other values, often zero **2.** a comment about something ○ *The paper made a reference to our work.* **3.** a piece of work mentioned in a publication by someone else, usually listed at the end with details of the author, source and date ○ *The paper had a list of about 20 references.* ■ *verb* COMPUT to access a location in memory ○ *The access time taken to reference an item in memory is short.*

reference address *noun* COMPUT an initial address in a program used as an origin or base for others

reference book *noun* a book such as a dictionary or encyclopaedia, where you can look for information

reference file *noun* COMPUT a file of data which is kept so that it can be referred to

reference program table *noun* COMPUT a list produced by a compiler or system of the location, size and type of the variables, routines and macros within a program

reference retrieval system *noun* COMPUT an index which provides a reference to a document

reference signal *noun* PHYS a signal against which telemetry data signals are compared

reference table *noun* a list of ordered items

refine *verb* **1.** INDUST to process something to remove impurities ○ *a by-product of refining oil* **2.** to make changes in order to improve something ○ *We've refined the procedures.*

refined *adjective* INDUST having had impurities removed ○ *refined oil*

refinement *noun* **1.** a small change that is an improvement ○ *An internal locking device is one of the numerous refinements to the simple actuator.* **2.** INDUST the process of removing impurities in something

refinery *noun* INDUST a processing facility where impurities are removed from raw materials such as ore, oil or sugar

reflect *verb* PHYS to send back light, heat or sound towards its source or in a different direction ○ *Some solar radiation is reflected back by clouds or by the Earth's surface.*

reflectance *noun* PHYS the ratio of the energy of a wave reflected by a surface to the total wave striking the surface. Symbol **ρ**;

reflected code *noun* COMPUT a code in which the binary representation of decimal numbers changes by only one bit at a time from one number to the next

reflecting telescope *noun* ASTRON a telescope in which a concave mirror initially focuses the light from an object

reflection *noun* PHYS **1.** the process of light, sound or heat being transmitted back towards its source **2.** a reflected image or sound ○ *Bats find their way by sending out high-frequency sounds and listening to the reflection of the sound from objects in their way.*

reflection seismology *noun* EARTH SCI the study of the way pressure waves from seismic movements are reflected by rock structures

reflective *adjective* PHYS referring to the sending back of something such as radio waves or light towards its source ○ *Reflective power means that at low angles of elevation of the Sun, water reflects a great amount of solar radiation thus slowing down the rise in sea surface temperatures.*

reflector *noun* a device that sends back something such as light towards its source ○ *The shape of a water droplet makes it a good reflector, so water in the atmosphere absorbs and scatters radio waves.*

reflector telescope *noun* ASTRON a telescope that uses a mirror rather than a lens as the main optical component to collect light. Compare **refractor telescope**

reflex *noun* PHYSIOL a rapid automatic reaction to a stimulus ■ *adjective* **1.** MATHS describes an angle of between 180° and 360° **2.** BOT bent or folded back **3.** PHYS involving a reflection of energy, e.g. of light or a stream of electrons

reflex action *noun* PHYSIOL an automatic movement in response to a stimulus

reflux *noun* **1.** INDUST a backward flow of a liquid from a boiler in the opposite direc-

tion to normal flow, collecting vapour and condensing it so that it can return to the boiler again **2**. CHEM a backwards flow in distillation **3**. MED a bringing up of stomach acid ■ *verb* CHEM to cause a liquid to flow backwards

reflux condenser *noun* CHEM a tall condenser that is placed above the vessel used to reflux a liquid (NOTE: The condenser ensures that the vapour produced by the boiling liquid is not lost but runs back into the vessel.)

reforest *verb* FORESTRY same as **reafforest**

reforestation *noun* FORESTRY same as **reafforestation**

reformat *verb* COMPUT to format a disk that already contains data, erasing the data by doing so ○ *Do not reformat your hard disk unless you can't do anything else.*

reformatting *noun* COMPUT the act of formatting a disk which already contains data (NOTE: Reformatting destroys all the data on a disk.)

reforming *noun* CHEM the process of converting straight-chain alkanes into branched-chain alkanes by heating or the use of catalysts (NOTE: The technique is used in refining petroleum.)

refract *verb* PHYS to cause a wave such as light or sound to change direction or turn as it passes from one medium into another of different density ○ *On reaching the ionosphere, a direct wave is refracted and returns to the Earth's surface.*

refracting telescope *noun* ASTRON a telescope in which a lens initially focuses light from an object, which then passes through a second magnifying lens in the eyepiece

refraction *noun* PHYS a change in direction of a wave such as light or sound as it passes from one medium into another of different density

refractive index *noun* PHYS the ratio of the speed of refracted light in a vacuum to its speed in the medium being studied

refractometer *noun* PHYS a device for measuring the refractive index of a medium

refractor telescope *noun* ASTRON a telescope that uses a lens, rather than a mirror, as the main optical component to collect light (NOTE: Refractor telescopes have been surpassed by reflector telescopes.)

refractory *adjective* PHYS having a high melting point

refresh *verb* COMPUT to update regularly the contents of dynamic RAM by reading and rewriting stored data to ensure data is retained

refresh rate *noun* COMPUT the number of times every second that the image on a screen is redrawn

refrigerant *noun* INDUST a substance used to provide cooling or freezing either as the working substance of a refrigerator or by direct absorption of heat ○ *Heated air from the main air supply system passes through the evaporator matrix and by induction releases heat into the liquid refrigerant.* ■ *adjective* used for cooling or freezing purposes

refrigerate *verb* PHYS, INDUST to keep something cold to prevent deterioration

refrigeration *noun* PHYS, INDUST the process of keeping something cold to prevent deterioration

refrigerator *noun* INDUST a machine which keeps things cold

refuel, re-fuel *verb* MECH ENG to fill an engine or vehicle with fuel again

refuge *noun* ENVIRON a safe place where a species can escape environmental change and continue to exist as before

refugium *noun* ENVIRON same as **refuge** (NOTE: The plural is **refugia**.)

refuse *noun* ENVIRON rubbish or other forms of waste

refuse-derived fuel *noun* INDUST a fuel that is made or processed from refuse. Abbr **RDF**

regenerate *verb* **1**. BIOL to grow again, or grow something again ○ *A forest takes about ten years to regenerate after a fire.* ○ *Salamanders can regenerate limbs.* **2**. COMPUT to redraw an image on a screen many times a second so that it remains visible **3**. COMPUT to receive distorted signals, process and error check them, then retransmit the same data

regeneration *noun* ENVIRON the process of vegetation growing back on land which has been cleared or burnt ○ *Grazing by herbivores prevents forest regeneration.*

regenerative *adjective* BIOL allowing new growth to replace damaged tissue

regenerative memory *noun* COMPUT a storage medium whose contents need to be regularly refreshed to retain its contents ○

Dynamic RAM is regenerative memory which needs to be refreshed every 250ns.

regime *noun* a general pattern or system
 ○ a strict dietary regime ○ *The two rivers have very different flow regimes: one has rapid flow down from high mountains, while the other is slower and mainly crosses fertile plains.*

region *noun* **1.** EARTH SCI a large area of land with distinct geographic, political, or biological characteristics ○ *the polar regions* ○ *The troposphere is deepest over equatorial regions and shallowest near the Poles.* **2.** an area of a surface ○ *the outer region of the stained area* □ **in the region of** approximately ○ *The burning temperature of the fuel is in the region of 2000° C.* **3.** COMPUT a special or reserved area of memory, program or screen

regional breakpoint *noun* COMPUT a breakpoint that can be inserted anywhere within a program that is being debugged

region fill *noun* COMPUT the filling of an area of a screen or a graphics shape with a particular colour

register *noun* COMPUT a reserved memory location within a central processing unit, usually one or two words wide, that is used to hold data and addresses to be processed in a machine code operation ■ **verb** **1.** to show or display information or data ○ *Several lakes have registered a steady increase in acidity levels until their natural fish populations have started to decline.* ○ *The earthquake registered 6.2 on the Richter scale.* **2.** to make something known formally or officially ○ *We registered our concern about the procedure.* ■ *noun* an official record, or a list of items ○ *a register of authorized users*

regolith *noun* EARTH SCI a layer of weathered rock fragments which covers most of the Earth's land area

regress *verb* ENVIRON, BIOL to return to a more primitive earlier state

regression *noun* ENVIRON, BIOL the process of returning to a more primitive earlier state, e.g. when cultivated land returns to a wild state

regressive *adjective* EARTH SCI (*of a water level*) getting lower

regulate *verb* to control a process or activity

regulated power supply *noun* ELEC a constant controlled voltage source of cur-

rent whose output will not vary with input supply variation

COMMENT: A regulated power supply is required for all computers where components cannot withstand voltage variations.

regulation *noun* **1.** the control of a process or activity **2.** a rule ○ *The pamphlet lists the regulations concerning visits to nature reserves.*

regulator *noun* **1.** something or someone controlling a process or activity **2.** ELEC a device used to limit the current and voltage in a circuit ○ *Regulators allow the correct charging of batteries from solar panels and wind generators.*

regulator gene *noun* GENETICS a gene that modifies the action of one or more structural genes, thus controlling the synthesis of their corresponding proteins

regulatory *adjective* controlling a process or activity according to specific rules ○ *a regulatory body*

regurgitate *verb* ZOOLOG to bring undigested or partially digested food up from the stomach to the mouth, as some birds and animals do to feed their young

reheat *verb* PHYS to heat something again ○ *Water that has been cooled and condensed after passing through the boilers is sent back to the boilers for reheating.*

reheater *noun* INDUST a section of a power station where steam which has been used to turn the first turbine is heated again to create enough pressure to turn the second turbine

rehydration *noun* MED the giving of water or liquid to a patient suffering from dehydration

Reid vapour pressure test *noun* PHYS a test to determine the pressure required above a liquid to hold the vapours in the liquid at a given temperature

reinforce *verb* to strengthen something ○ *Typical skin materials used in aircraft are made from epoxy resins which are reinforced with glass, carbon or Kevlar fibres.*

reinforced *adjective* strengthened

reinforced concrete *noun* CONSTR concrete with steel rods embedded in it for extra strength, used in the construction of large buildings

reinforced plastic *noun* INDUST, AVIAT plastic used with glass fibres to repair some types of aircraft structure

reinforcement *noun* **1.** the act of strengthening something **2.** a strengthened

structure ○ *There is reinforcement around each opening.*

reintroduce *verb* ENVIRON to help a species to live successfully again in an area it had formerly inhabited

reintroduction *noun* ENVIRON the process of helping a species to live successfully again in an area it had formerly inhabited

reject *verb* **1.** to refuse to accept something or someone **2.** PHYSIOL to vomit up food **3.** MED to fail to accept a transplanted organ or foreign tissue, because of immunological incompatibility

rejection *noun* the process or an instance of rejecting something or someone

rejection error *noun* COMPUT an error by a scanner which cannot read a character and so leaves a blank

relate *verb* **1.** to make a connection or link between two things ○ *Orientating the chart relates the direction of land features to their representation on the chart and aids recognition.* **2.** to be connected to or concerned with something ○ *The results relate to experiments over the last decade.*

-related *suffix* connected to ○ *a heat-related change*

relation *noun* **1.** a connection or link between two things **2.** a member of the same family as someone else

relational database *noun* COMPUT a database in which all the items of data can be interconnected ○ *If you search the relational database for the surname, you can pull out the relevant salary from the related accounts database.* (NOTE: Data is retrieved by using one item of data to search for a related field.)

relational database management system *noun* COMPUT a system in which data are retrieved by using one item of data to search for a related field. Abbr **RDBMS**

relationship *noun* the way in which someone or something is related to another

relative *noun* something such as a species that has developed from the same origin as another similar thing ○ *onions and their wild relatives* ■ *adjective* describing how one thing is compared with another

relative abundance *noun* ECOL the number of individual specimens of an animal or plant seen over a period in a specific place

relative address *noun* COMPUT a location specified in relation to a reference address. Also called **indirect address**

relative atomic mass *noun* PHYS the mean mass of one atom of an element relative to one twelfth of the mass of one atom of carbon-12

relative biological effectiveness *noun* PHYS a measure of the different degrees of effectiveness of different types of radiation in producing effects in biological systems, used in radiation protection contexts. Abbr **RBE**

relative coordinate *noun* positional information given in relation to a reference point

relative density *noun* PHYS the ratio of the density of a liquid with reference to water, or of a gas with reference to air

relative humidity *noun* METEOROL a ratio between the amount of water vapour in air and the amount that would be present if the air was saturated, shown as a percentage

relative permittivity *noun* PHYS a measure of the resistance of a substance to an electric field

relative transpiration *noun* BOT the rate at which water transpires from the surface of a plant

relativity *noun* PHYS a theoretical explanation of the nature of gravitation and of motion (NOTE: Einstein proposed two theories: the **General Theory of Relativity** was confirmed by astronomical observations of the effect of the mass of the Sun on passing starlight. The **Special Theory of Relativity** remains controversial, although evidence for some of its predictions, such as the increase in mass of particles approaching the velocity of light, has been obtained in particle accelerators.)

relaxation *noun* PHYS the process of losing energy between excited states or between an excited state and the ground state

relay *noun* ELEC an electromagnetically controlled switch ○ *There is a relay in the circuit.* ○ *It is relay-rated at 5 amps.* ■ *verb* COMPUT, TELECOM to receive data from one source and then retransmit it to another point ○ *All messages are relayed through this small micro.*

release *noun* **1.** COMPUT a version of a product ○ *The latest software is release 5.* **2.** ACOUSTICS the shape of a sound signal that shows the speed at which a sound signal decreases in strength after a note has stopped playing ■ *verb* **1.** to let something

go that has been contained ○ *Acid rain leaches out nutrients from the soil and releases harmful substances such as lead into the soil.* ○ *Using an aerosol spray releases CFCs into the atmosphere.* **2.** MECH ENG to take the tension off something such as a catch and allow something to move or operate **3.** COMPUT (*of software*) to relinquish control of a block of memory or file

releaser *noun* ZOO a stimulus that provokes a reaction in an animal, e.g. the sight of a hawk or the sound of a gun

relevé *noun* BOT a small plot into which a larger area is divided, used as a sample for analysing vegetation

reliability *noun* the degree to which someone or something can be trusted ○ *Check the reliability of the data.*

reliable *adjective* referring to someone or something that can be trusted ○ *It is not a very reliable method of measuring the depth.*

relict *noun* ECOL a species or population that still exists, even though the environment in which it originally developed does not

relief *noun* **1.** EARTH SCI a difference in height between points on the Earth's surface **2.** a reduction in stress

relief map *noun* EARTH SCI a map with contour lines that show differences in height between points on the Earth's surface

relief valve *noun* MECH ENG a valve that opens at maximum safe pressure and closes again upon return to normal operating conditions

reload *verb* COMPUT to load something again ○ *We reloaded the program after the crash.*

relocatable program *noun* COMPUT a computer program that can be loaded into and executed from any area of memory ○ *The operating system can load and run a relocatable program from any area of memory.*

relocate *verb* COMPUT to move data from one area of storage to another ○ *The data is relocated during execution.*

relocation *noun* COMPUT the moving of data from one area of storage to another

reluctance *noun* PHYS the resistance of a closed magnetic circuit to a magnetic flux

rely on *verb* to trust someone or something ○ *He relies on his skill and experi-*

ence to identify poisonous fungi. (NOTE: **relies – relying – relied**)

rem *abbreviation* MEASURE, PHYS roentgen equivalent man

REM *abbreviation* COMPUT remark

remain *verb* to be left behind after others have been removed or excluded

remainder *noun* **1.** something left after excluding other parts ○ *The auxiliary power unit is usually found in the tail section, separated from the remainder of the fuselage by a firewall.* **2.** MATHS a number left over when one number is divided by another ○ *7 divided by 3 is equal to 2 remainder 1.* Compare **quotient**

remark *noun* COMPUT a statement in a BASIC program that is ignored by the interpreter, allowing the programmer to write explanatory notes. Abbr **REM**

remedial maintenance *noun* COMPUT maintenance to repair faults which have developed in a system

remediation *noun* ENVIRON a course of action intended to reverse environmental damage

remedy *MED noun* a treatment for a disease or disorder ■ *verb* to relieve or cure a disease or disorder

remote *adjective* TELECOM, COMPUT capable of being operated from a distance by electronic technology, or able to operate a device from a distance ○ *a remote user* ○ *Users can print reports on remote printers.*

remote access *noun* COMPUT a link that allows a user to access a computer from a distance, usually via a modem

remote client *noun* COMPUT a user who accesses mail without being connected to the mail server's local network

remote control *noun* TELECOM, COMPUT a system that allows a user to operate a computer or other device from a distance

remote job entry *noun* COMPUT full form of **RJE**

remote procedure call *noun* COMPUT a method of communication between two programs running on two separate, but connected, computers. Abbr **RPC** (NOTE: A software routine asks another computer on the network to process a problem and then displays the results.)

remote sensing *noun* EARTH SCI the collection of information via satellite observation and aerial photography about physical aspects of the Earth such as the

location of mineral deposits, or the movement of water or pests

removal *noun* INDUST the extraction of minerals from the ground

remove *verb* INDUST to extract a mineral from the ground

renal *adjective* ANAT referring to the kidneys

renal artery *noun* ANAT one of two arteries running from the abdominal aorta to the kidneys

rename *verb* to give a new name to something ○ *Save the file and rename it CUSTOM.* ○ *Species are renamed if their taxonomic classification changes.*

render *verb* **1.** to cause someone or something to become a particular thing ○ *The failure of any component in the fire detection system will render the system inoperative.* ○ *Tropical air moving northwards is subjected to surface cooling and rendered increasingly stable in its lower layers.* **2.** to give something (*formal*) □ **to render assistance** to provide help **3.** to express or show something in a particular way (*formal*) **4.** COMPUT to colour and shade a graphic object so that it looks solid and real ○ *We rendered the wire-frame model.*

renew *verb* to replace something

renewable *adjective* ENVIRON referring to something that can be replaced or can renew itself by regrowing, reforming or breeding ○ *Herring stocks are a renewable resource if the numbers being caught are controlled.* □ **renewable sources of energy** EARTH SCI energy from the sun, wind, waves, tides or from geothermal deposits or from burning waste, none of which uses up fossil fuel reserves

renewable energy *noun* INDUST energy from the Sun, wind, waves, tides, from geothermal deposits or from burning waste

renewable resource *noun* ENVIRON a natural resource that replaces itself unless overused, e.g. animal or plant life, fresh water or wind energy

renewable resources *plural noun* ENVIRON resources such as forests that can be replaced by natural environmental processes in a reasonably short period of time

renewables obligation *noun* ENG the requirement for power generators to reduce their use of fossil fuels and replace them over time with sources of energy that can be renewed

renin *noun* BIOCHEM an enzyme produced by the kidneys, involved in protein breakdown and the regulation of blood pressure

rennin *noun* an enzyme which makes milk coagulate in the stomach, so as to slow down the passage of the milk through the digestive system

renumber COMPUT *noun* a feature of some computer languages which allows the programmer to allocate new values to all or some of a program's line numbers ■ *verb* to allocate new numbers or values to something

repeat *noun* a thing done for a second or subsequent time

repeat counter *noun* COMPUT a register that holds the number of times a routine or task has been repeated

repeater *noun* TELECOM a device used in communications that amplifies or regenerates a received signal and transmits it on (NOTE: Regenerators are often used to extend the range of a network, while repeaters work at the physical layer of the OSI network model.)

repeating group *noun* COMPUT a pattern of data that is duplicated in a bit stream

repel *verb* to push something away by force, or to resist something ○ *Like poles such as north and north or south and south of a magnet repel each other.* (NOTE: **repelling** – **repelled**)

repellent *adjective* referring to a substance that causes something to which it is applied to resist something ○ *a repellent insecticide* ■ *noun* a substance that causes something to which it is applied to resist something ○ *The coating of wax on the leaves acts as a repellent to pollutants.*

-repellent *suffix* resisting something ○ *a water-repellent coating*

repetitive strain injury, repetitive stress injury *noun* MED a pain in the arm felt by someone who performs the same movement many times over a period of time. Abbr **RSI**

replace *verb* **1.** to put something back where it was before **2.** to put something in the place of something else ■ *noun* COMPUT an instruction to a computer to find an item of data and put another in its place. ◇ **search and replace**

replacement fertility *noun* ECOL the fertility rate needed to ensure that a popu-

lation remains constant as each set of parents is replaced by its offspring

replant *verb* AGRIC, FORESTRY **1.** to grow plants in an area again ○ *After the trees were felled, the land was cleared and replanted with mixed conifers and broad-leaved species.* **2.** to put a plant in the ground again

replay *noun* COMPUT the playback or reading back of data or a signal from a recording ■ *verb* to play back something that has been recorded

replenish *verb* **1.** to replace something that has been used **2.** ELEC to charge a battery with electricity again

replicase *noun* GENETICS a polymerase enzyme, especially one that uses RNA molecules as a template to make new RNA molecules when RNA viruses are replicating

replicate *verb* **1.** to do something again in the same way ○ *The routine will replicate your results with very little effort.* **2.** BIOL (of a cell or microorganism) to reproduce

replication *noun* **1.** COMPUT the provision of extra components in a system in case there is a breakdown or fault in one of them **2.** COMPUT the copying of a record or data to another location **3.** BIOL the process in the division of a cell during which DNA makes copies of itself **4.** BIOL the process of reproduction of a cell or microorganism ○ *virus replication* **5.** SCI the repetition of an experiment several times in order to achieve a reliably consistent result

replicon *noun* GENETICS a segment of DNA or RNA that forms a unit that replicates and is distinct from adjacent segments

report *noun* a document giving an account of something, stating what action has been taken, what the current state is or what the results of a test or experiment are ○ *a report on global warming* ■ *verb* to give an account of something

reportable disease *noun* MED a disease such as asbestosis, hepatitis or anthrax that may be caused by working conditions or may infect other people and must be officially reported

report generator *noun* COMPUT a piece of software that allows data in the form of graphs or tables from database files to be merged with a document to provide a complete report

report program generator *noun* COMPUT a programming language used mainly on personal computers for the preparation of business reports, allowing data in files or databases to be included. Abbr RPG

repower *verb* INDUST to rebuild an old power station, converting it to a more modern combustion system

represent *verb* **1.** to act as a symbol for something ○ *The hash sign is used to represent a number in a series.* **2.** to speak or act on behalf of others

representation *noun* a way of showing something using signs or symbols

representative *adjective* being an example of what all others are like ■ *noun* **1.** a thing that acts as a symbol for something else **2.** a person who speaks or acts on behalf of others

reprocess *verb* INDUST to process something into another form

reprocessing *noun* INDUST the processing of something such as spent nuclear fuel and subjecting it to chemical processes which produce further useful materials such as plutonium

COMMENT: Reprocessing plants are the cause of much controversy. Some countries do not have facilities for reprocessing spent nuclear fuel and therefore export it to those countries with suitable installations. Reprocessing plants are just as likely to cause radioactive waste as nuclear power stations and the transport of the spent material from the power station to the processing plant is also a potential radiation hazard.

reprocessing plant *noun* INDUST an installation that reprocesses nuclear fuel

reproduce *verb* **1.** BIOL to produce offspring **2.** (of bacteria) to produce new cells **3.** SCI to do a test again in exactly the same way **4.** COMPUT to copy data or text from one material or medium to another similar one

reproduction *noun* **1.** BIOL the production of offspring **2.** SCI the performance of a test again in exactly the same way

reproductive *adjective* BIOL referring to the production of offspring ○ *Pollination is a reproductive process.*

reproductive cloning *noun* the use of cloning techniques to produce new individuals

reproductive organ *noun* ANAT an organ such as a womb in mammals or a sta-

men in a flowering plant involved in reproduction

reproductive system *noun* ANAT the arrangement of organs and ducts which produce spermatozoa and ova

reproductive tract *noun* ANAT the series of tubes and ducts which carry spermatozoa and ova from one part of the body to another

reprogram *verb* COMPUT to alter a program so that it can be run on another type of computer

reptile *noun* ZOOLOG a cold-blooded animal that lays eggs and has a scaly skin, e.g. a crocodile, tortoise or snake. Class: Reptilia.

repulsion *noun* PHYS a force between two bodies of the same electric charge or magnetic polarity that tends to repel or separate them

repulsive *adjective* PHYS tending to repel

request *noun* an act of requesting something or a thing requested ■ *verb* to ask for something

request for comment *noun* COMPUT a document that contains information about a proposed new standard and asks users to look at the document and make any comments. Abbr RFC

request to send signal *noun* COMPUT a signal sent by a transmitter to a receiver asking if the receiver is ready to accept data. Abbr RTS (NOTE: It is used in the RS-232C serial connection.)

require *verb* to need something ○ *Delicate computer systems require careful handling.*

requirement *noun* something that is needed ○ *a change in water requirements* ○ *The regulations contain a requirement for regular monitoring.*

re-route *verb* to send something by a different route

rerun *verb* COMPUT to run a program or a printing job again

rerun point *noun* COMPUT the place in the program from where to start running it again after a crash or halt

resample *verb* COMPUT to change the number of pixels used to make up an image

resave *verb* COMPUT to save something again ○ *The program automatically resaves the text.*

research SCI *noun* a scientific study that investigates something new ○ *recent*

research into diet ○ *environmental research* ○ *a research programme* ■ *verb* to carry out a scientific study of something ○ *He is researching the changes in the ozone hole.*

research and development *noun* INDUST the investigation of new products, discoveries and techniques. Abbr R & D

research centre *noun* SCI a place where scientific research is carried out

reseau *noun* ASTRON a grid of lines photographed onto or cut into a glass plate that is used as a reference for astronomical observations

reservation *noun* 1. ENVIRON an area of land set aside for a special purpose 2. a doubt about something ○ *The journal had reservations about the thoroughness of the investigation and so rejected the paper.*

reserve *noun* 1. an amount stored or kept back for future use 2. ENVIRON an area of land maintained for the benefit of plant or animal life where no commercial exploitation is allowed. ◇ **game reserve, nature reserve, wildlife reserve** ■ *verb* to store or keep back something for future use

reservoir *noun* 1. INDUST an artificial or natural area of water, used for storing water for domestic or industrial use ○ *The town's water supply comes from reservoirs in the mountains.* ○ *After two months of drought the reservoirs were beginning to run dry.* 2. EARTH SCI a natural hole in rock that contains water, oil or gas 3. INDUST a container for holding a store of fluid ○ *A reservoir provides both storage space for the system fluid, and sufficient air space to allow for any variations in the volume of the fluid in the system.*

reservoir rock *noun* GEOL rock that is porous and permeable, from which oil or natural gas may be extracted

reset *verb* 1. to set a register or counter to its initial state or to return to an initial state ○ *When it reaches 999 this counter resets to zero.* ○ *Reset the gauge and try the experiment again.* 2. COMPUT to return a system to its initial state, to allow a program or process to be started again ■ *noun* the process or an act of returning something to its original state

COMMENT: In computers, hard reset is similar to soft reset but with a few important differences: it is a switch that directly signals the central processing unit, while soft reset signals the operating system. A hard reset clears all memory contents, a soft reset does not affect memory contents.

A hard reset should always reset the system, a soft reset does not always work.

reset button, reset key *noun* COMPUT a switch that allows a program to be terminated and reset manually

reshape handle *noun* COMPUT a small square displayed on a frame around an object or image that a user can select and drag to change the shape of the frame or graphical object

residence time *noun* the amount of time during which something remains in the same place or in the same state until it is lost or transformed into something else

resident *adjective* **1.** referring to an organism or a person living in a place, especially for a long time ○ *The introduced species wiped out the resident population of flightless birds.* **2.** COMPUT (of data or a program) always present in a computer ■ *noun* **1.** a person who lives in a place, especially for a long time **2.** ZOOL a bird, insect or other animal that does not migrate ○ *The birds are year-round residents in this particular area.* **3.** COMPUT a program or item of data that is always present in a computer

resident font *noun* COMPUT same as **internal font**

resident software *noun* COMPUT a program that is held permanently in memory whilst the machine is on. Also called **memory-resident software**

residual *adjective* referring to the amount of something that is left behind ○ *After de-icing operations, external surfaces should be examined for signs of residual ice or snow.* ■ *noun* same as **residue**

residual error rate *noun* COMPUT a ratio between incorrect and undetected received data and total data transmitted

residual herbicide *noun* AGRIC a herbicide applied to the surface of the soil which acts through the roots of existing plants and also new plants as they germinate

residual oil *noun* INDUST oil that is left after crude oil has been through various refining processes

residue *noun* the material left after a process has taken place or after a material has been used

resilience *noun* **1.** BIOL the ability of an organism to resist or recover from adverse conditions **2.** ECOL the ability of an ecosystem to return to its usual state after being

disturbed **3.** PHYS the ability of something to return to its original shape

resin *noun* **1.** BOT a sticky oil secreted by some conifers or other trees, especially when they are cut **2.** CHEM a solid or liquid organic compound used in the making of plastic

resinous *adjective* BOT like resin, or producing resin

resist *verb* to fight off or not be subject to the effects of something ○ *A tube resists bending in any direction but beams are designed usually to resist bending in one or two directions only.* ○ *In order for an aeroplane to fly, lift and thrust must resist and overcome the forces of gravity and drag.* ■ *noun* ELECTRONICS a substance used to protect a pattern of tracks on a printed circuit board, which is not affected by etching chemicals

resistance *noun* **1.** BIOL the ability of an organism not to be affected by something such as a disease, stress factor, process or treatment ○ *Increasing insect resistance to chemical pesticides is a major problem.* ○ *Crop plants have been bred for resistance to disease.* **2.** ELEC the opposition of a body or substance to current passing through it ○ *The shunt coil is made of fine wire which gives a high resistance and small current flow.* **3.** PHYS the ability of a material to restrict the flow of electrical current through itself

resistant *adjective* referring to something which is unaffected by a disease, stress factor, process or treatment ○ *Some alloys are less resistant to corrosion than others.* ○ *The plants were not resistant to mildew.*

-resistant *suffix* not adversely affected by something ○ *heat-resistant* ○ *a DDT-resistant strain of insects* ○ *disease-resistant genetic material* ○ *a new strain of virus-resistant rice*

resistive *adjective* **1.** ELEC referring to electrical resistance ○ *Windscreens heating and electrical de-icing systems are resistive load circuits.* **2.** same as **resistant** (force) ○ *the resistive force of drag*

resistivity *noun* ELEC a measure of the electrical resistance of a material of a standard length and cross-section. Symbol **ρ**

resistor *noun* ELEC a device used to control current in an electric circuit by providing a known resistance ○ *Components such*

as resistors, rectifiers and internal switches are all embedded in micro-size sections of semiconductor material.

resolution *noun* **1.** CHEM the separation of a racemic mixture into its constituent isomers **2.** COMPUT the number of pixels that a screen or printer can display per unit area ○ *The resolution of most personal computer screens is not much more than 70 dots per inch.*

resolve *verb* **1.** to cause something to divide into its constituents **2.** to become determined to do something

resolving power *noun* OPTICS a measurement of the ability of an optical system to detect fine black lines on a white background, given as the number of lines per millimetre

resonance *noun* **1.** PHYS a situation where a frequency applied to a body which is the same as its natural frequency causes it to oscillate with a very large amplitude **2.** CHEM the property of a chemical compound having several possible structural arrangements of electrons in a molecule. ♠ **mesomerism**

resonate *verb* PHYS to produce or cause something to produce resonance

resorption *noun* BIOL the absorption of a substance already produced back into the organism that produced it

resource *noun* **1.** a useful source of something ○ *reference resources such as encyclopaedias* **2.** ECOL anything in the environment which can be used ○ *Fossil fuel resources are being depleted.* ○ *Woodland is a valuable resource.* **3.** COMPUT a device, product, program or graphics object which is useful or used

resource allocation *noun* the division of available resources between people or activities

resource depletion zone *noun* an area where a resource is depleted, e.g. where water is removed from the soil around a plant. Abbr **RDZ**

resource interchange file format *noun* COMPUT a multimedia data format jointly introduced by IBM and Microsoft that uses tags to identify parts of a multimedia file structure and allows the file to be exchanged between platforms. Abbr **RIFF**

resource management *noun* a system of controlling the use of resources in such

a way as to avoid waste and to use them in the most effective way

resource partitioning *noun* the way in which resources in an ecosystem are divided up by the species who need them, each using them in a different way

respiration *noun* PHYSIOL the action of breathing

COMMENT: Respiration includes two stages: breathing in (inhalation) and breathing out (exhalation). Air is taken into the respiratory system through the nose or mouth and goes down into the lungs through the pharynx, larynx and windpipe. In the lungs, the bronchi take the air to the alveoli (air sacs) where oxygen in the air is passed to the bloodstream in exchange for waste carbon dioxide which is then breathed out.

respiratory *adjective* PHYSIOL referring to respiration

respiratory allergy *noun* MED an allergy caused by a substance which is inhaled

respiratory disorder *noun* MED an illness which affects the patient's breathing

respiratory movement *noun* PHYSIOL a movement or change in shape of an animal, that is required for respiration, e.g. a chest movement in a mammal

respiratory organ *noun* ANAT an organ in which respiration takes place, e.g. a lung in mammals

respiratory pigment *noun* BIOCHEM a blood pigment that carries oxygen collected in the lungs and releases it in tissues, e.g. haemoglobin

respiratory quotient *noun* PHYSIOL the ratio of the amount of carbon dioxide passed from the blood into the lungs to the amount of oxygen absorbed into the blood from the air. Abbr **RQ**

respiratory system *noun* ANAT a series of organs and passages that take air into the lungs and exchange oxygen for carbon dioxide

respire *verb* BIOL to breathe air in and out

respond *verb* to react to something □ **the aircraft responds to the controls** the aircraft attitude changes as a result of the pilot's movements of the flying controls

response *noun* a reaction to a stimulus

response frame *noun* COMPUT a page in a videotext system that allows a user to enter data

response time *noun* COMPUT the speed with which a system responds to a stimulus

responsibility *noun* the state of being answerable for something, or in charge of something ○ *the responsibility of using limited resources wisely* ○ *take responsibility for stewardship of the countryside*

responsible *adjective* **1.** answerable for something or in charge of something ○ *responsible for safety checks* **2.** causing something ○ *The action of sunlight on gases is responsible for the formation of ozone.*

responsible care *noun* an initiative of the chemical industry which requires member firms to follow codes of conduct on such matters as toxic materials, waste reduction, chemical-accident minimisation, worker safety and community consultation

rest *noun* **1.** the state of not moving **2.** a period of not moving or using energy ■ **verb** **1.** to be still and not moving or using energy **2.** to keep something still and not moving or using energy

resting potential *noun* PHYSIOL the potential difference, in millivolts, between the inner and outer parts of a nerve

restitution coefficient *noun* PHYS the difference in velocity of two objects before they impact compared to their velocity after they impact

restock *verb* to provide another supply of something that has been used up, or provide somewhere with a new supply ○ *We'll restock next year.* ○ *So many animals died that they had to restock the farm in the spring.*

restoration *noun* the act or process of giving something back, or putting something back to a previous state or position

restore *verb* to give something back, or put something back to a previous state or position

restrict *verb* to keep something within a certain limit ○ *The document is restricted, and cannot be placed on open access.*

restriction *noun* something which restricts

restriction fragment *noun* GENETICS a section of DNA cut out by a specific restriction enzyme

restriction fragment length polymorphism *noun* GENETICS a variation observed between individuals in the length of the DNA fragments produced by a specific restriction enzyme. Abbr **RFLP**

(NOTE: They are caused by mutations and can be used to detect genetic anomalies.)

restrictor valve, restrictor *noun* ENG a valve designed to permit limited flow in one direction and full flow in the other direction ○ *The extent to which the oil pressure will fall depends on the size of the restrictor valve.*

result *noun* a consequence or outcome ○ *Engine oil and cylinder temperature will also increase as a result of higher combustion temperatures.* ○ *The abundance and diversity of flowers in the meadow was the result of careful management.*

resultant *adjective* happening as a result or consequence ○ *The temperature of the land rises, causing the layer of air in contact with it to warm up and expand with a resultant decrease in density.* ○ *When two or more velocities act simultaneously on a body, the aircraft movement is called the resultant velocity due to the two or more component velocities.* ■ *noun* MATHS one vector that is the equivalent of a set of vectors

result code *noun* COMPUT a message sent from a modem to a local computer indicating the state of the modem

result from *verb* to happen as a consequence of something ○ *The structural weakness resulted from a minor collision while taxiing two years previously.*

result in *verb* to produce something as an effect ○ *Failure to secure seat belts could result in serious injury.*

resume *verb* to restart something from the point where it was left

retard *verb* to make something slower ○ *The injections retard the effect of the anaesthetic.*

retentivity *noun* METALL the ability to remain magnetised after the magnetising force has gone ○ *Steel has high retentivity, but soft iron has low retentivity.*

reticulum *noun* ZOOL the second stomach compartment of ruminants such as cows and sheep

retina *noun* ANAT the inside layer of the eye which is sensitive to light

retinal artery *noun* ANAT the artery that supplies the retina, which accompanies the optic nerve

retinol *noun* BIOCHEM a vitamin that is soluble in fat and can be formed in the body but is mainly found in food such as

liver, vegetables, eggs and cod liver oil. Also called **vitamin A**

retort *noun* CHEM a glass container with a long downwards-pointing spout, used in distillation

retractable *adjective* able to be pulled back or raised

retractable undercarriage *noun* AER-OSP an undercarriage which can be raised into the fuselage or wings after use (NOTE: Early aircraft had non-retractable undercarriages.)

retrain *verb* TELECOM to re-establish a better quality connection when the quality of a line is very bad

retrieval *noun* COMPUT the process of searching, locating and recovering information from a file or storage device

retrieve *verb* COMPUT to extract information from a file or storage device ○ *These are the records retrieved in that search.* ○ *This command will retrieve all names beginning with S.*

retrofit *noun* COMPUT a device or accessory added to a system to upgrade it

retrospective parallel running *noun* COMPUT the running of a new computer system with old data to check if it is accurate

retrovirus *noun* MICROBIOL a virus whose genetic information is contained in RNA rather than DNA (NOTE: A retrovirus is the cause of AIDS and some can also cause cancer.)

return *noun* COMPUT **1.** an instruction that causes program execution to go back to the main program from a subroutine ○ *The program is not working because you missed out the return instruction at the end of the subroutine.* **2.** a key on a keyboard used to indicate that all the required data has been entered ○ *You type in your name and code number then press return.* **3.** an indication of an end of line in printing ■ *verb* to come back or to go back to an earlier position or place, or cause something to do so

return address *noun* COMPUT the address to be returned to after a called routine finishes

return valve *noun* ENG a valve which allows a flow of fluid in both directions

reuse ENVIRON *noun* the use of a product or a material for an additional time or a different purpose, usually as an alternative to throwing it away ■ *verb* to use a product or

a material for an additional time or a different purpose, usually as an alternative to throwing it away

reveal *verb* to bring something to view ○ *A closer inspection revealed small cracks in the surface.*

reverberatory furnace *noun* INDUST a furnace in which heat reflected from above heats the material inside

reversal *noun* a change to the opposite position, direction or order

reverse *noun* the opposite ○ *One would expect a unit of humid air to be heavier than a similar unit of dry air but, in fact, the reverse is true.* ■ *adjective* referring to an object or a process going backwards or in the opposite direction ■ *verb* **1.** to go or travel in the opposite direction **2.** TELECOM to send control data from a receiver to a transmitter

reverse channel *noun* TELECOM a low-speed control data channel between a receiver and transmitter

reverse characters *plural noun* PRINTING characters which are displayed in the opposite way to other characters for emphasis, as black on white or white on black, when other characters are the opposite

reversed fault *noun* EARTH SCI same as thrust fault

reverse engineering *noun* INDUST a method of product design in which the finished item is analysed to determine how it should be constructed

reverse flow *noun* PHYS the flow of a fluid in the opposite direction to normal

reverse index *noun* COMPUT a movement of a printer head up half a line to print superscripts

reverse interrupt *noun* TELECOM a signal sent by a receiver to request the termination of transmissions

reverse polarity *noun* ELEC a situation where positive and negative terminals have been confused, resulting in the equipment not functioning

reverse Polish notation *noun* MATHS a set of mathematical operations written in a logical way, so that the operator appears after the numbers to be acted upon, thus removing the need for brackets ○ *Three plus four, minus two is written in reverse Polish notation as 3 4 + 2 - = 5.* ○ *Normal notation is (x-y) + z, but using RPN it is xy*

– z +. Also called **postfix notation**. Abbr **RPN**

reverse thrust *noun* AEROSP a thrust in the opposite direction to the usual one in order to decelerate an aircraft after landing

reverse video *noun* COMPUT a screen display mode where white and black are reversed

reversible *adjective* which can be made to go backwards or to change direction ○ *a reversible electric motor*

reversible pitch propeller *noun* AEROSP a propeller that allows an aircraft to be propelled backwards when taxiing

reversion *noun* a return to an earlier condition or state ○ *In smaller aircraft, reversion to manual control is possible if complete loss of hydraulic power occurs.*

revert *verb* to return to an earlier condition or state ○ *The elevator system has the ability to revert to manual control after a hydraulic failure.*

revertant BIOL *adjective* referring to an organism or part of an organism that has redeveloped characteristics that had been lost ■ *noun* an organism or part of an organism that has redeveloped characteristics that had been lost

revert command *noun* COMPUT a command in text that returns a formatted page to its original state

revise *verb* COMPUT to update or correct a version of a document or file ○ *The revised version has no mistakes.*

revolution *noun* a rotation or 360° turn about an axis ○ *a revolution of the Earth* ○ *revolutions of a crankshaft*

revolutions per minute *noun* the speed of an engine or the number of rotations of a crankshaft per minute. Abbr **r.p.m., rpm**

revolve *verb* to turn about an axis ○ *The Earth revolves around the Sun.*

Reynolds number *noun* PHYS a number that indicates the density and velocity of flow of a fluid through a pipe or around an obstruction

Rf *symbol* CHEM ELEM rutherfordium

RF, R/F *abbreviation* PHYS radio frequency

RFC *abbreviation* COMPUT request for comment

RFLP *abbreviation* BIOTECH restriction fragment length polymorphism

RF shielding *noun* ELEC a thin metal foil wrapped around a cable that prevents the

transmission of radio frequency interference signals ○ *Without RF shielding, the transmitted signal would be distorted by the interference.*

RGB *abbreviation* COMPUT red, green, blue

RGB display, RGB monitor *noun* COMPUT a high-definition monitor system that uses three separate input signals controlling red, green and blue colour picture beams

COMMENT: There are three colour guns producing red, green and blue beams acting on groups of three phosphor dots at each pixel location.

rH *abbreviation* redox potential

Rh *symbol* CHEM ELEM rhodium

rhodium *noun* CHEM ELEM a rare heavy metallic element with a high melting point, used as a catalyst with tungsten in thermocouples (NOTE: The chemical symbol is **Re**; the atomic number is **75** and the atomic weight is **186.2**.)

rhesis factor *noun* BIOCHEM an antigen in red blood cells which is an element in blood grouping. Also called **Rh factor**

COMMENT: The rhesus factor is important in blood grouping. Most people are Rh-positive and an Rh-negative patient should not receive an Rh-positive blood transfusion as this will cause the formation of permanent antibodies. If an Rh-negative mother has a child by an Rh-positive father, the baby will inherit Rh-positive blood, which may then pass into the mother's circulation at childbirth and cause antibodies to form. This can be prevented by an injection of anti D immunoglobulin immediately after the birth of the first Rh-positive child and any subsequent Rh-positive children. If an Rh-negative mother has formed antibodies to Rh-positive blood in the past, these antibodies will affect the blood of the foetus and may cause erythroblastosis fetalis.

rhesis factor disease *noun* MED a disease which occurs when the blood of a foetus is incompatible with that of the mother

Rh factor *noun* BIOCHEM same as **rhesis factor**

rhizofiltration *noun* ENVIRON the use of plants to absorb or precipitate ground-water contaminants in their roots

rhizoid *noun* BOT a thin structure in lower plants such as mosses and liverworts that resembles a root

rhizome *noun* BOT a plant stem that lies on or under the ground and has leaf buds, adventitious roots and sometimes branches

rhizosphere *noun* BOT the soil surrounding the roots of a plant

Rh-negative *adjective* MED not having the rhesus factor

rhodium *noun* CHEM ELEM a silvery-white metallic element that occurs with platinum and is used for plating jewellery and in alloys (NOTE: The chemical symbol is **Rh**; the atomic number is **45** and the atomic weight is **102.91**.)

Rhodophyta *plural noun* MARINE BIOL a phylum of red algae, mainly found on the seabed

rhodopsin *noun* BIOCHEM a reddish light-sensitive pigment in the rod cells of the retina

rhomboid *noun* MATHS *noun* a parallelogram with adjacent sides that are not equal ■ *adjective* **1.** shaped like a rhomboid **2.** relating to or characteristic of a rhombus

rhombus *noun* MATHS a parallelogram that has four equal sides and oblique angles

Rh-positive *adjective* MED having the rhesus factor

rhumb *noun* NAVIG one of the points of a compass

rhumb line *noun* NAVIG a regularly curved imaginary line on the surface of the Earth which cuts all meridians at the same angle

rhumb line direction *noun* NAVIG the average of all the great circle directions between the two points (NOTE: Because the great circle direction between two points on the surface of the Earth is not constant, it is often more convenient to consider the rhumb line direction.)

ria *noun* EARTH SCI a valley that has been filled by the sea

rib *noun* **1.** ANAT a curved bone in the chest, one of a set of pairs that form the rib cage **2.** AEROSP one of many cross pieces of an airframe that provide an aircraft wing with shape and strength

ribbon *noun* a long thin flat piece of material

ribbon cable *noun* ELEC a number of insulated conductors arranged next to each other forming a flat cable

ribbon development *noun* ENVIRON the building of houses in an uninterrupted row along a main road, usually with fields remaining behind them

rib cage *noun* ANAT the structure formed by the ribs that protects the heart and lungs

riboflavin, riboflavine *noun* BIOCHEM a vitamin found in eggs, liver, green vegetables, milk and yeast and also used as an additive (E101) in processed food. Also called **vitamin B₂** (NOTE: Lack of riboflavin will affect a child's growth and can cause anaemia and inflammation of the mouth and tongue.)

ribonuclease *noun* BIOCHEM an enzyme which breaks down RNA

ribonucleic acid *noun* BIOCHEM full form of **RNA**

ribose *noun* BIOCHEM a type of sugar found in RNA

ribosomal *adjective* BIOL referring to ribosomes

ribosome *noun* BIOL a structure in a cell, containing RNA and protein, where protein is synthesised

rice *noun* PLANTS a plant that is the most important cereal crop and the staple food of half the population of the world. Latin name: *Oryza sativa*.

rich *adjective* **1.** EARTH SCI (*of soil*) having many nutrients that are useful for plant growth **2.** (*of food*) having a high calorific value **3.** ENG (*of a mixture of fuel and air*) having a high ratio of fuel to air **4.** □ **rich in** having a lot of something ○ *Green vegetables are rich in minerals.* ○ *The doctor has prescribed a diet which is rich in protein.* ○ *The forests are rich in mosses and other forms of moisture-loving plants.*

-rich *suffix* having a lot of something ○ *a nutrient-rich detergent* ○ *a protein-rich diet* ○ *a species-rich habitat* ○ *oil-rich seeds*

Richter scale *noun* MEASURE, EARTH SCI a scale of measurement of the force of an earthquake from 0 to 10, earthquakes of 5 or more causing damage ○ *There were no reports of injuries after the quake which reached 5.2 on the Richter scale.* (NOTE: The Richter scale measures the force of an earthquake: the damage caused is measured on the Modified Mercalli scale. The strongest earthquake ever recorded was 8.9.)

rich text format *noun* COMPUT a way of storing a document that includes all the commands that describe the page, type, font and formatting. Abbr **RTF**

ridge *noun* **1.** EARTH SCI a long raised section of ground, occurring as part of a mountain range, in a field, on a beach or on the ocean floor **2.** METEOROL a long narrow

band of high pressure leading away from the centre of an anticyclone ○ *A ridge of high pressure is lying across the country.*

ridge waves *plural noun* METEOROL oscillations about the stable state of an undisturbed air flow with a range of hills providing the disturbance

RIFF *abbreviation* COMPUT resource interchange file format

RIFF file *noun* COMPUT a file that contains multimedia data stored in the resource interchange file format

rift valley *noun* EARTH SCI a long valley with steep walls, formed when land between two fault lines sinks or possibly when a fault widens as plates forming the Earth's crust move apart

right angle *noun* MATHS an angle of 90°

right-angled triangle *noun* MATHS a triangle with one right angle

right justify *verb* COMPUT to adjust the right-hand margin so that the text finishes at the same place on every line with no lines indented

right shift *verb* COMPUT to move a section of data one bit to the right

rightsizing *noun* COMPUT the process of moving a company's information technology structure to the most cost-effective hardware, especially moving from a mainframe-based network to a PC-based network

rigid *adjective* hard or stiff and not easy to bend ○ *rigid pipes* ○ *a rigid structure*

rigid disk *noun* COMPUT a rigid magnetic disk that is able to store many times more data than a floppy disk and usually cannot be removed from the disk drive

rigidity *noun* 1. hardness or stiffness and an inability to bend ○ *Extra strength and rigidity must be provided in the tail section for aircraft with a tail wheel unit.* 2. strictness of control or adherence to a way of doing something ○ *the rigidity of the guidelines*

rigidity modulus *noun* PHYS same as **elastic modulus**

rill *noun* EARTH SCI a very narrow stream

rim *noun* the outer edge of a circular object such as a wheel ○ *Creep marks are painted on the tyre and the wheel rim.* ○ *The rim of the air intake is prone to icing.*

rime *noun* METEOROL the feathery ice formed when freezing fog settles on surfaces

ring *noun* 1. a circle which goes round something 2. COMPUT a data list whose last entry points back to the first entry 3. COMPUT the topology of a network in which the wiring sequentially connects one workstation to another 4. CHEM a closed loop of atoms in a molecule 5. a metallic sound like the sound of a bell ■ **verb** 1. TELECOM to telephone someone 2. to make a metallic sound like the sound of a bell 3. ZOOL to attach a numbered ring to the leg of a bird so that its movements can be recorded

COMMENT: Ringing is a very common method of tracing bird movements and providing information about birds' ages. It can also cause stress to the birds.

COMMENT: Some animals can be ringed to allow them to be led, while others are ringed to prevent excessive grubbing in the ground.

ring back system *noun* COMPUT (*usually in a bulletin board system*) a remote computer system in which a user attempting to access it phones once, allows it to ring a number of times, disconnects, waits a moment then redials

Ringer's solution *noun* CHEM a solution of various salts, used to keep cells or organs alive for study after they are removed from the body

ring shift *noun* COMPUT the movement of data to the left or right in a word where the bits falling outside the word boundary are discarded and the free positions are filled with zeros

ring topology *noun* COMPUT a network structure in which each node, computer or printer, is connected one after the other in a loop

ring topology network *noun* COMPUT a network where each node, computer or printer is connected one after the other in a loop

ringworm *noun* any of various infections of the skin by a fungus, in which the infection spreads out in a circle from a central point

Rio Declaration *noun* ENVIRON a statement laying down the broad principles of environmentally sound development adopted at the Earth Summit in Rio de Janeiro in 1992

RIP *abbreviation* COMPUT 1. raster image processor 2. routing information protocol

riparian *adjective* EARTH SCI referring to the bank of a river ○ *riparian fauna*

rip current *noun* EARTH SCI same as **rip-tide**

ripple *noun* EARTH SCI a little wave on the surface of water ○ *Ripple marks can be seen in some sedimentary rocks showing where the sand was marked by the movement of water.*

ripple-through carry *noun* COMPUT an operation producing a carry out from a sum and a carry in

riptide *noun* EARTH SCI **1.** an area of rough water in the sea where currents meet **2.** a current that flows against the flow of the incoming waves. Also called **rip current**

RISC *abbreviation* COMPUT reduced instruction set computer

risk *noun* a combination of the likelihood of injury, damage or loss being caused by a potentially dangerous substance, technology or activity, or by a failure to do something, and the seriousness of the possible consequences

COMMENT: A substance or practice may have the potential to cause harm, i.e. may be a hazard, but risk only arises if there is a likelihood that something will be harmed by it in a specific set of circumstances. A highly dangerous thing may in fact present only a small risk. Risk assessment is used to decide what the degree and nature of the risk, if any, may be so that measures to reduce or avoid it can be taken.

risk assessment *noun* ENVIRON a process used to determine the risk from a substance, technology or activity

river *noun* EARTH SCI a large flow of water, running from a natural source in mountains or hills down to the sea

river authority *noun* ENVIRON an official body which manages the rivers in an area

river basin *noun* EARTH SCI a large low-lying area of land, drained by a river

river capture *noun* EARTH SCI the incorporation of smaller streams into a large river by a process of erosion

riverine *adjective* EARTH SCI referring to a river ○ *The dam has destroyed the riverine fauna and flora for hundreds of kilometres.*

river profile *noun* EARTH SCI a slope along the bed of a river, expressed as a graph of distance-from-source against height

river system *noun* EARTH SCI a series of small streams and rivers which connect with each other

river terrace *noun* EARTH SCI same as **alluvial terrace**

rivet *ENG noun* a metal bolt or pin with a head on one end, inserted through one of the aligned holes in parts to be joined and then compressed on the plain end to form a second head ■ *verb* to join metal parts with rivets ○ *The panel is riveted to the frame.*

RJE *noun* COMPUT a batch processing system where instructions are transmitted to the computer from a remote terminal. Full form **remote job entry**

RLE *noun* COMPUT a data compression technique that stores any sequence of bits of data with the same value to a single value. Full form **run-length encoding**

RLL encoding *noun* COMPUT a fast and efficient method of storing data onto a disk in which the changes in a run of data bits are stored. Full form **run-length limited encoding**

Rn *symbol* CHEM ELEM radon

RNA *noun* GENETICS a nucleic acid chain that takes coded information from DNA and translates it into specific proteins. Full form **ribonucleic acid**. † **DNA**

RNA polymerase *noun* GENETICS a polymerase that aids RNA synthesis

RNA virus *noun* a virus in which the core of nucleic acid consists of RNA

roam *verb* TELECOM to move around freely and still be in contact with a wireless communications transmitter

robot *noun* INDUST a device which can be programmed to carry out certain manufacturing tasks which are similar to tasks carried out by people

robotics *noun* COMPUT the study of artificial intelligence, programming and building involved in robot construction

robust *adjective* **1.** (of people) strong and healthy **2.** (of objects or organisations) effective and unlikely to fail **3.** COMPUT (of a computer system) able to resume working after a fault has occurred

rock *noun* **1.** EARTH SCI a solid mineral substance which forms the outside crust of the Earth **2.** a mass of rock, especially an isolated or projecting one

rock crystal *noun* EARTH SCI a pure form of quartz

rock desert *noun* EARTH SCI a desert where underlying rock has been exposed by the wind blowing away topsoil

rocker arm *noun* AUTOMOT a part of the valve mechanism in an internal combustion engine, which transmits the movement of the pushrod to the valve

rock pool *noun* EARTH SCI a pool of salt water left in rocks by the sea

rock salt *noun* MINERALS same as **halite**

rod *noun* **1.** a thin straight piece of metal
 ○ *Aluminium rods and bars can readily be employed in the high-speed manufacture of parts.* **2.** ANAT a light-sensitive cell in the retina of the eye, especially sensitive to poor light. ◊ **cone**

rodent *noun* ZOOLOG a mammal that has sharp teeth for gnawing, e.g. a rat or mouse

roentgen, röntgen *noun* MEASURE, PHYS a unit of measurement of the amount of exposure to X-rays or gamma rays. Symbol **R**

roentgen equivalent man *noun* MEASURE, PHYS a unit of measurement of ionising radiation equivalent to the effect of absorbing one roentgen. Abbr **rem** (NOTE: It has been replaced by the sievert.)

rogue value, rogue terminator *noun* COMPUT an item in a list of data that shows that the list is terminated

role *noun* **1.** a function that something or someone performs
 ○ *Movement of air plays a major role in the development of weather patterns.* **2.** ECOL the set of characters, chemical, physical and biological, that determine the position of an organism or species in an ecosystem, e.g. aquatic predator or terrestrial herbivore

role indicator *noun* COMPUT a symbol used to show the role of an index entry in its particular context

roll AEROSP *noun* a rotation about the longitudinal axis of an aircraft, created by movement of the ailerons
 ○ *Roll is produced by moving the stick to the left or right.* ■ *verb* to rotate an aircraft around its longitudinal axis
 ○ *Move the control column to the left to roll the aircraft to the left.*

COMMENT: The difference between roll and bank is that roll is movement whereas bank suggests a fixed attitude of the aircraft. Consequently, a turn might be expressed in angles of bank: 'turn at a bank angle of 30°', and the movement to obtain the bank might be expressed as roll: 'roll the aircraft to the left'.

roll back *noun* COMPUT a function of a database application to stop a transaction and return the database to its previous state

roll forward *noun* COMPUT a function of a database application that allows the user to recover from a disaster such as a power cut by reading the transaction log and re-executing all the instructions to return the database to the state just before the disaster

ROM *abbreviation* COMPUT read only memory

Roman numeral *noun* MATHS one of the numbers written as I, II, III, IV, V etc.

ROM BIOS *noun* COMPUT a code which makes up the BIOS routines stored in a ROM chip, usually executed automatically when the computer is switched on

röntgen *noun* MEASURE, PHYS another spelling of **roentgen**

root *noun* **1.** BOT a part of a plant which is usually under the ground and absorbs water and nutrients from the surrounding soil **2.** COMPUT a starting node from which all paths branch in a data tree structure ■ *verb* BOT (*of a plant*) to produce roots
 ○ *The cuttings root easily in moist sand.*

root crop *noun* AGRIC a plant that stores edible material in a root, corm or tuber and is grown as food (NOTE: Root crops include carrots, parsnips, swedes and turnips. Starchy root crops include potatoes, cassavas and yams.)

root cutting *noun* BOT a piece of root cut from a living plant and put in soil, where it will sprout and grow into a new plant

root directory *noun* COMPUT the top-most directory from which all other directories branch
 ○ *In DOS, the root directory on drive C: is called C:.*

root hair *noun* BOT a hollow elongated epidermal cell that grows like a fine hair from the outer cells of a root to take in water and nutrients from the soil

rooting compound *noun* AGRIC a powder containing plant hormones (**auxins**) into which cuttings can be dipped to encourage the formation of roots

root nodule *noun* BOT a lump on a plant root that contains nitrogen-fixing bacteria (NOTE: Root nodules are found in peas, beans and other leguminous plants.)

root pressure *noun* BOT the pressure that pushes water from the roots up through the vascular tissues of a plant

rootstock *noun* **1.** BOT same as **rhizome**

2. AGRIC a plant with roots onto which a piece of another plant is grafted

root system *noun* BOT all the roots of a plant

Rossby wave *noun* EARTH SCI a huge side-to-side swing in air and ocean currents caused by the Coriolis force

rot *verb* BIOL (*of organic tissue*) to decay or become putrefied because of bacterial or fungal action

rotary *adjective* ENG moving around an axis or fixed point

rotary actuator *noun* ENG an actuator which rotates and operates a screw jack, e.g. to extend flaps

rotary converter *noun* ELEC ENG an electric motor powered by an alternating current, linked to a dynamo and used to generate direct current

rotary inverter *noun* ELEC ENG a direct current motor driving an alternating current generator, the output of which must be regulated to give constant voltage and frequency

rotary motion *noun* ENG a circular movement around an axis or fixed point

rotary wing aircraft *noun* AEROSP an aircraft with a rotor which provides lift, e.g. a helicopter

rotate *verb* **1.** to turn around on an axis or fixed point ○ *The Earth rotates on its axis approximately every 24 hours.* **2.** AGRIC to grow different crops from year to year in a field (NOTE: The advantages of rotating crops include: different crops utilising soil nutrients differently, pests specific to one crop being discouraged from spreading, and some crops such as legumes increasing the nitrogen content of the soil if their roots are left in the soil after harvesting.)

rotation *noun* **1.** ENG the process of turning around an axis or fixed point ○ *the rotation of the Earth* ○ *The speed of rotation determines the frequency of the generator output.* **2.** MATHS the amount by which an object has been rotated **3.** the act of moving in a circle

rotation of crops *noun* AGRIC same as **crop rotation**

rotavirus *noun* a wheel-shaped RNA virus that causes gastroenteritis, especially in infants

rotenone *noun* AGRIC the active ingredient of the insecticide derris

rotor *noun* **1.** ENG the central shaft of a generator, which turns inside the stator **2.** METEOROL a rapidly turning mass of air, surrounded by clouds

rotor blade *noun* AEROSP a long thin aerofoil on a helicopter rotor

rough *adjective* **1.** having an irregular surface or action **2.** not fully detailed

roughage *noun* BIOL fibrous matter in food, which cannot be digested

rough air *noun* AEROSP turbulent air

rough calculation *noun* an operation giving an approximate answer ○ *I made some rough calculations on the back of an envelope.* ○ *According to my calculations, we have six months' stock left.*

rough drawing *noun* a quick drawing usually used to illustrate or explain something

rough estimate *noun* an approximate calculation, good enough for a given purpose

roughness *noun* unevenness of a surface ○ *The strength of turbulence near the Earth's surface depends largely on the surface temperature, the surface wind and the roughness of the surface.*

rough running *noun* ENG the incorrect operation of a piston engine

round *adjective* MATHS **1.** shaped like a circle or a globe **2.** not exact, but given to the nearest whole number ○ *a round figure of 300*

round bracket *noun* a type of bracket with round sides, (), used in pairs

round down *verb* MATHS to approximate a number to a slightly lower one of less precision ○ *We can round down 2.651 to 2.65.*

rounding *noun* **1.** MATHS an approximation of a number to a slightly larger or smaller one of lower precision **2.** COMPUT the process of giving graphics a smoother look

rounding error *noun* MATHS an error in a result caused by rounding off the number

round off *verb* MATHS to approximate a number to a slightly larger or smaller one of less precision ○ *round off 23.456 to 23.46*

round off errors *plural noun* MATHS inaccuracies in numbers due to rounding off

round up *verb* MATHS to approximate a number to a slightly larger one of lower precision ○ *We can round up 2.647 to 2.65.*

roundworm *noun* ZOOLOGY a type of worm with a round body, some of which are parasites of animals, others of roots of plants

route *noun* COMPUT the path taken by a message between a transmitter and receiver in a network ○ *The route taken was not the most direct since a lot of nodes were busy.*

router *noun* COMPUT **1.** a communications device that receives data packets in a particular protocol and forwards them to their correct location via the most efficient route **2.** a device that connects two or more LANs that use the same protocol, and allows data to be transmitted between each network (NOTE: The router works at the network-layer level of the OSI model.)

routine *noun* **1.** a regular pattern of activity **2.** COMPUT a number of instructions included in a program that perform a particular task, but are not a complete program ○ *The routine copies the screen display onto a printer.* ○ *The RETURN instruction at the end of the routine sends control back to the main program.* ■ *adjective* usual and expected ○ *a routine check*

COMMENT: Routines are usually called from a main program to perform a task, control is then returned to the part of the main program from which the routine was called once that task is complete.

routing *noun* COMPUT the determination of a suitable route for a message through a network

routing information protocol *noun* COMPUT a protocol used on the Internet to calculate the best route by which to transfer information over the Internet, based on the distance that each route takes. Abbr **RIP**

routing table *noun* COMPUT a list of preferred choices for a route for a message stored within a router

row *noun* COMPUT a horizontal set of data elements in an array or matrix

Royal Society for Nature Conservation *noun* a UK charity that supports environmental projects and coordinates the activities of Wildlife Trusts. Abbr **RSNC**

RPC *abbreviation* COMPUT remote procedure call

RPG *abbreviation* COMPUT report program generator

r.p.m., rpm *abbreviation* MEASURE revolutions per minute

RPN *abbreviation* MATHS reverse Polish notation

RQ *abbreviation* MEASURE, PHYSIOL respiratory quotient

RS-232C ELECTRONICS approved by the Electronics Industry Association standard used in serial data transmission, covering voltage and control signals

RSA *noun* COMPUT a public-key cryptography system used to provide high-level security

RSI *abbreviation* MED repetitive strain injury

R/T *abbreviation* TELECOM radiotelephony

RTF *abbreviation* COMPUT rich text format

RTP *abbreviation* COMPUT real-time transport protocol

RTS *abbreviation* COMPUT request to send signal

Ru *symbol* CHEM ELEM ruthenium

rubber *noun* INDUST a material which can be stretched and compressed, and is made from a thick white fluid (**latex**) from a tropical tree

rubidium *noun* CHEM ELEM a soft silvery radioactive element that reacts strongly with water and ignites in air, used in photocells and glass manufacture (NOTE: The chemical symbol is **Rb**; the atomic number is **37** and the atomic weight is **85.47**.)

ruby *noun* MINERALS a deep red form of corundum that is a precious stone

rudder *noun* AVIAT a control surface on the fin which rotates an aircraft about its vertical axis to produce yaw

COMMENT: The rudder does not turn the aircraft. It is used, together with aileron deflection, to initiate turns, to balance forces in turns and to counteract yawing motions created by the propeller during flight.

ruderal *adjective* BOT referring to a short-lived plant that grows in rubbish or on wasteland

rule *noun* **1.** a standard and authoritative instruction or guideline ○ *I'd like to give a few safety rules before we start.* ○ *According to the rules, your ticket must be paid for two weeks in advance.* ○ *A useful rule for the application of variation is – variation east magnetic least, variation west magnetic best.* **2.** a principle that has been established by observation **3.** COMPUT a set of conditions that describe a function ○ *The*

rule states that you wait for the clear signal before transmitting.

rule-based system *noun* COMPUT a software system that applies the rules and knowledge defined by experts in a particular field to a user's data to solve a problem

rule of thumb *noun* an easily remembered, useful guide to a more complex principle

ruler *noun* 1. MEASURE a short flat piece of rigid material, marked with units for measuring lengths of up to about 100cm 2. COMPUT a bar displayed on screen that indicates a unit of measurement

ruminant *noun* ZOO an animal that has a stomach with several chambers, e.g. a cow

rumination *noun* ZOO the process by which food taken to the stomach of a ruminant is returned to the mouth, chewed again and then swallowed

COMMENT: Ruminants have stomachs with four sections. They take foodstuffs into the upper chamber where it is acted upon by bacteria. The food is then regurgitated into their mouths where they chew it again before passing it to the last two sections where normal digestion takes place.

run *noun* 1. a length of something ○ *a long unbroken run of tubing* 2. INDUST a period of operation of a machine, or the amount produced in one period of operation ○ *three runs a day* ○ *a production run of 5000 units* 3. COMPUT an execution by a computer of a set of instructions, programs or procedures ○ *The next invoice run will be on Friday.* ■ **verb** 1. (of a machine or device) to work or operate ○ *The computer has been running ten hours a day.* ○ *The new package runs on our PC.* 2. to extend ○ *Magnetic lines of force run from the north magnetic pole to the south magnetic pole.* 3. to operate an engine or other device ○ *An engine should be run at low r.p.m. after flight to allow engine components to cool to a more uniform temperature.* 4. ZOO to move rapidly with both feet sometimes off the ground

run around *verb* COMPUT to fit text around an image on a printed page

run-duration *noun* COMPUT same as **run-time**

run in *verb* to operate a system at a lower capacity for a time in case of any faults

run-length encoding *noun* COMPUT full form of **RLE**

run-length limited encoding *noun* COMPUT full form of **RLL encoding**

runoff *noun* 1. ENG the removal of water from a system by opening sluices 2. EARTH SCI the flow of rainwater or melted snow from the surface of land into streams and rivers 3. ENVIRON the flow of excess fertiliser or pesticide from farmland into rivers ○ *Nitrate runoff causes pollution of lakes and rivers.* ○ *Fish are extremely susceptible to runoff of organophosphates.*

runoff rate *noun* ENVIRON the amount of excess fertiliser or pesticide from farmland that flows into rivers in a specific period

runoff water *noun* EARTH SCI rainwater or melted snow that flows into rivers and streams

run phase *noun* COMPUT a period of time during which a program is run

run-time *COMPUT noun* 1. the period of time a program takes to run. Also called **run-duration** 2. the time during which a computer is executing a program ■ **adjective** referring to an operation carried out only when a program is running

run-time error *noun* COMPUT a fault only detected when a program is run or an error made while a program is running

run-time library *noun* COMPUT a library of routines that are only accessed by an application when it is running

run-time system *noun* COMPUT a system of software that is required in main storage while a program is running, e.g. to execute instructions to peripherals

rupture *noun* 1. the process of breaking open or bursting ○ *Pressure in the fuel tanks must be controlled to prevent rupture or collapse.* 2. MED a tear in bodily tissue ■ **verb** to break open or burst, or to cause something to do this ○ *The impact ruptured the fuel tank.* ○ *The fuel tank ruptured.*

rural *adjective* ENVIRON referring to the country, as opposed to the town ○ *Many rural areas have been cut off by floods.*

rural environment *noun* ENVIRON the countryside

rust *noun* 1. CHEM a reddish powder that forms on the surface of iron and iron compounds on contact with damp air 2. FUNGI a fungal disease that gives plants a reddish powdery covering ■ **verb** CHEM to become covered with reddish powder through contact with damp air

ruthenium *noun* CHEM ELEM a brittle white metallic element used in hardening of platinum and palladium alloys (NOTE: The chemical symbol is **Ru**; the atomic

number is **44** and the atomic weight is **101.07**.)

rutherfordium *noun* CHEM ELEM a radioactive element produced artificially in high-energy atomic collisions (NOTE: The chemical symbol is **Rf**; the atomic number is **104** and the atomic weight is **261**.)

rutile *noun* MINERALS a dark brown or shiny black mineral that forms needle-shaped crystals and is a source of titanium

R-value *noun* MEASURE, PHYS a unit of measurement of resistance to the flow of heat (NOTE: An insulated outside wall has an R-value of R-11, while an internal ceiling has a value of R-19.)

Rydberg constant *noun* PHYS a constant that relates to the wave number of spectral lines for a particular element

rye *noun* PLANTS a hardy cereal crop grown in temperate areas. Latin name: *Secale cereale*.

S

S *symbol* **1.** CHEM sulfur **2.** MEASURE, PHYS siemens

SAA *abbreviation* COMPUT Systems Application Architecture

sac *noun* BIOL a small bag or pouch, especially one that contains a fluid, formed by a membrane in an animal or plant

saccharide *noun* CHEM a sugar, particularly a simple one

saccharin *noun* FOOD INDUST a substance used as a substitute for sugar. Formula: $C_7H_5NO_3S$.

saccharose *noun* CHEM same as **sucrose**

sacral nerves *plural noun* ANAT the nerves which branch from the spinal cord in the sacrum and govern the legs, arms and genital area

safe *adjective* not likely to hurt or cause damage ○ *It is not safe to drink the water here.*

safe dose *noun* MED the amount of radiation which can be absorbed without causing harm to someone

safe format *noun* COMPUT a format operation that does not destroy the existing data and allows the data to be recovered in case the wrong disk was formatted

safely *adverb* without danger or damage ○ *Low-level waste can be safely disposed of by burying.*

safety *noun* the condition of being safe or without danger

safety factor *noun* something which plays an important part in safety

safety guidelines *plural noun* a series of recommendations indicating appropriate practices and procedures to ensure safe conditions

safety precaution *noun* an action taken in order to make subsequent actions or a situation safe

safety rod *noun* INDUST a tube inserted into a nuclear reactor in order to alter the speed of the reaction

safety zone *noun* ENVIRON an area in which people are not at risk

sag *noun* ELEC a short drop in the voltage level from a power supply

sagittal *adjective* BIOL going from the front of the body to the back, dividing it into right and left parts

sagittal plane *noun* BIOL the division of the body along the midline, at right angles to the coronal plane, dividing the body into right and left parts

sagittal section *noun* BIOL a section or cut through the body going from the front to the back along the length of the body

sagittal suture *noun* ANAT a joint along the top of the head where the two parietal bones are fused

Sahara *noun* EARTH SCI a large desert region in North Africa

Saharan *adjective* EARTH SCI referring to the Sahara

Sahel *noun* EARTH SCI a semi-desert region south of the Sahara where desert conditions are spreading

Sahelian *adjective* EARTH SCI referring to the Sahel

sal ammoniac *noun* CHEM same as **ammonium chloride**

salicylic acid *noun* CHEM a white crystalline acid used in making aspirin and dyes and as a preservative. Formula: $C_7H_6O_3$.

salination *noun* EARTH SCI a process by which the salt concentration of soil or water increases, especially as a result of irrigation in hot climates. Also called **salinisation**

saline *adjective* CHEM referring to salt ■ *noun* CHEM, MED a saline solution

saline drip *noun* MED a drip containing a saline solution

saline lake *noun* EARTH SCI a low-lying inland lake with water that contains a lot of salt because of evaporation and a lack of fresh water flowing into it. Also called **salt lake**

saline solution *noun* CHEM, MED a salt solution, made of distilled water and sodium chloride, which is introduced into the body intravenously through a drip

salinisation, salinization *noun* EARTH SCI same as **salination**

salinised, salinized *adjective* EARTH SCI referring to soil where evaporation leaves salts as a crust on the dry surface

salinity *noun* CHEM the concentration of salt in an amount of water or soil

salinometer *noun* CHEM an instrument for measuring the amount of salt in a saline solution or in sea water

saliva *noun* PHYSIOL a clear fluid secreted by the salivary glands into the mouth, and containing water, mucus and enzymes to lubricate food and break down starch into sugars

salivary digestion *noun* the first part of the digestive process, which is activated by the saliva in an animal's mouth

salmon *noun* ZOOLOGY a large sea fish that returns to a freshwater river to lay its eggs

Salmonella *noun* MICROBIOL a genus of bacteria found in the intestines, which are acquired by eating contaminated food (NOTE: Different species cause food poisoning and typhoid fever.)

salmonella poisoning *noun* MED an illness caused by eating food which is contaminated with *Salmonella* bacteria which develop in the intestines

salmonid *noun* ZOOLOGY a fish belonging to a family that is sensitive to pollution in water and whose presence indicates that the water is pure, e.g. a trout

salt *noun* CHEM **1.** a chemical compound formed from an acid and a metal **2.** sodium chloride as part of the diet ○ *a salt-restricted diet* ○ *He should reduce his intake of salt.* ■ *adjective* BIOL same as **salty** ■ *verb* FOOD INDUST to preserve food by keeping it in salt or in salt water

COMMENT: Salt forms a necessary part of diet, as it replaces salt lost in sweating and helps to control the water balance in the body. It also improves the working of the muscles and nerves. Most diets contain more salt than each person actually needs.

salt bridge *noun* PHYS a tube containing a solution of potassium chloride, used to connect two half-cells

salt depletion *noun* PHYSIOL the loss of salt from the body by sweating or vomiting, which causes cramp and other problems

salt-free diet *noun* HEALTH a diet which does not contain salt

salting out *noun* CHEM the precipitation of a colloid as a result of the addition of a large quantity of a salt

salt lake *noun* EARTH SCI same as **saline lake**

salt marsh *noun* EARTH SCI an area of land over which the sea flows at high tide

saltpan *noun* EARTH SCI an area where salt from beneath the soil surface rises to form crystals on the surface

saltpetre *noun* CHEM potassium nitrate, when used commercially

salt water *noun* EARTH SCI water which contains salt, e.g. sea water. Compare **fresh water**

saltwater *adjective* **1.** EARTH SCI containing salt water **2.** MARINE BIOL living in salt water

salty *adjective* **1.** containing salt ○ *Excess minerals in fertilisers combined with naturally saline ground to make the land so salty that it can no longer produce crops.* **2.** tasting of salt

SAM *noun* COMPUT storage where a particular data item can only be accessed by reading through all the previous items in the list. Full form **serial access memory**. Compare **RAM**

COMMENT: Magnetic tape is a form of SAM; you have to go through the whole tape to access one item, while disks provide random access to stored data.

samara *noun* BOT a dry winged one-seed fruit such as one produced by a sycamore

samarium *noun* CHEM ELEM a shiny metallic element used in strong magnets, carbon-arc lighting and laser materials (NOTE: The chemical symbol is **Sm**; the atomic number is **62** and the atomic weight is **150.40**.)

sample *noun* a small amount which is representative of the whole ○ *A sample of water was taken from the lake for analysis.* ○ *A seed sample was tested for germination.* ○ *Factories were asked to provide samples from outflow pipes.* ■ *verb* to take a small quantity of something to test

sample and hold circuit *noun* ELECTRONICS a circuit that freezes an analog input signal for long enough for an A/D converter to produce a stable output

sampler *noun* ELECTRONICS an electronic circuit that takes many samples of a signal and stores them for future analysis

San Andreas Fault *noun* EARTH SCI a crack in the Earth's crust in California, running parallel to the coast and passing close to San Francisco

sanctuary *noun* ENVIRON an area where the wildlife it contains is protected ○ *A bird sanctuary has been created on the island.*

sand *noun* EARTH SCI fine grains of weathered rock, usually round grains of quartz, found especially on beaches and in the desert

sand bar *noun* EARTH SCI a long bank of sand in shallow water either in a river or the sea

sand dune *noun* EARTH SCI an area of sand blown by the wind into a small hill or ridge, often crescent-shaped in the desert and sometimes covered with sparse grass when near the sea

sandstone *noun* EARTH SCI a sedimentary rock formed of round particles of quartz

sandstorm *noun* METEOROL a high wind in the desert, which carries large amounts of sand with it

sandwich *noun* ENG a construction of three layers, the material of the one in the middle being different from the two on each side ○ *Standard connectors consist of a metal coupling with a rubber sandwich joint.*

sandy beach *noun* a beach covered with sand rather than pebbles or shingle. Also called **sand beach**

sandy soil *noun* EARTH SCI soil containing a high proportion of sand particles

sanitary *adjective* **1.** clean ○ *They did not have the sanitary conditions necessary to perform the operation.* **2.** referring to hygiene or to health

sanitary landfill, sanitary landfiling *noun* ENVIRON a method of disposing of solid waste on land in lined pits to avoid contaminating surface or ground water and other public health and environmental risks

sanitation *noun* MED the systems of waste disposal and water provision that are the basis of public hygiene ○ *Poor sanita-*

tion in crowded conditions can result in the spread of disease.

sanitation control *noun* MED the measures taken to protect public hygiene, e.g. spraying oil onto the surface of water to prevent insects such as mosquitoes from breeding

sap *noun* BOT a liquid carrying nutrients which flows inside a plant

sapling *noun* BOT a young tree

saponification *noun* CHEM the hydrolysis of an ester, generally by an alkali, to form a salt that is a soap in the case of higher fatty acids, and a free alcohol

sapphire *noun* MINERALS a clear blue precious stone that is a variety of the mineral corundum

sappy *adjective* BOT referring to tree trunks or branches, or wood, that are full of sap

sapro- *prefix* BIOL decay or rotting

saprobe *noun* MICROBIOL a bacterium that lives in rotting matter

saprobic *adjective* BIOL referring to a classification of organisms according to the way in which they tolerate pollution. ♂ **mesosaprobic, oligosaprobic, polysaprobic**

saprogenic, saprogenous *adjective* BIOL referring to organisms that grow on decaying organic matter

sapropel *noun* a layer of decaying organic matter at the bottom of a body of water

saprophagous *adjective* BIOL referring to organisms that feed on decaying organic matter

saprophyte *noun* BIOL an organism that lives and feeds on dead or decaying organic matter, e.g. a fungus

saprophytic *adjective* BIOL referring to organisms that live and feed on dead or decaying organic matter

saprotankton *plural noun* BIOL plankton that live and feed on dead or decaying organic matter

saproxylic *adjective* BIOL referring to invertebrate animals, fungi and other organisms that live in the rotting wood of dead trees

sapwood *noun* BOT an outer layer of wood on the trunk of a tree, which is younger than the heartwood inside and carries the sap

SAR *abbreviation* COMPUT store address register

sarcoma *noun* MED a cancer of connective tissue such as bone, muscle or cartilage

Sargasso Sea *noun* EARTH SCI an area of still water in the North Atlantic Ocean, which is surrounded by currents and contains drifting weed

SARS *noun* MED a serious infection affecting the respiration system, that is caused by a virus and has a high fatality rate. Full form **severe acute respiratory syndrome** (NOTE: It first appeared in Hong Kong in 2003 and spread rapidly in China.)

satellite *noun* **1.** AEROSP an object launched to orbit the Earth, usually receiving and transmitting signals, pictures and data ○ *a weather satellite* **2.** ASTRON an astronomical object that orbits a larger body in space ○ *The Moon is the Earth's only satellite.* **3.** something that is controlled by but separate from a computer **4.** TECH same as **satellite television**

COMMENT: In a network the floppy disk units are called 'satellites' and the hard disk unit the 'server'. In a star network each satellite is linked individually to a central server.

satellite computer *noun* COMPUT a computer doing various tasks under the control of another computer

satellite DNA *noun* GENETICS a component of DNA in animals that differs in density from surrounding DNA, consists of short repeating sequences of nucleotide pairs, and does not undergo transcription

satellite remote sensing *noun* TECH a collection of data on land use, industrial activity, weather, climate, geology and other processes based on observations of the Earth taken from satellites in outer space

satellite television, satellite TV *noun* TECH television that is provided by satellite communications rather than cables or land-based transmitters

satisfy *verb* MATHS to make both sides of an equation equal by finding the values of the unknown variables

saturate *verb* CHEM to fill something with the maximum amount of a liquid that can be absorbed ○ *Nitrates leached from forest soils, showing that the soils are saturated with nitrogen.*

saturated colour *noun* COMPUT a bright colour such as red or orange that does not reproduce well on video and can

cause distortion or can spread over the screen

saturated compound *noun* CHEM a chemical compound that consists of molecules having only single bonds

saturated fat *noun* BIOCHEM a fat that contains the maximum equilibrium amount of hydrogen

COMMENT: Animal fats such as butter and fat meat are saturated fats and contain large amounts of hydrogen. It is known that increasing the amount of unsaturated and polyunsaturated fats (mainly vegetable oils and fish oil) and reducing saturated fats in the food intake help reduce the level of cholesterol in the blood.

saturation *noun* CHEM, PHYS the state of being filled with the maximum amount of something which can be absorbed ○ *The various types of fog are classified by the manner in which saturation is reached.*

COMMENT: Air has different saturation levels at different temperatures. The hotter the air temperature, the more moisture the air can absorb.

saturation noise *noun* PHYS error due to saturation of a magnetic storage medium

saturation point *noun* CHEM, PHYS a level at which no more of a substance can be absorbed

saturation testing *noun* TELECOM the testing of a communications network by transmitting large quantities of data and messages over it

Saturn *noun* ASTRON the sixth planet of the solar system, 95 times as massive as Earth

COMMENT: Saturn has an equatorial diameter of 120,000 km, but its polar diameter is 10 per cent less, giving it much the greatest polar flattening of any planet of the solar system. It is accompanied by a ring system and by a large family of satellites.

saturnism *noun* MED same as **plumbism**

savanna, savannah *noun* EARTH SCI a dry grass-covered plain with few trees, especially in South America or Africa, where growth is abundant during the rainy season but vegetation dies back during the dry season

save *verb* COMPUT to store data or a program on an auxiliary storage device ○ *Don't forget to save the file before switching off.*

sawtooth waveform *noun* PHYS the shape of a changing electrical voltage that repeatedly rises steadily, then drops steadily, giving a triangular-shaped waveform

Sb *symbol* CHEM ELEM antimony

s-block element *noun* CHEM an element in groups IA and IIA of the periodic table, including alkali metals

SBM *abbreviation* COMPUT super bit mapping

Sc *symbol* CHEM ELEM scandium

scabies *noun* a very irritating infection of the skin caused by a mite which lives under the skin

scalar *noun* MATHS a variable that has a single value denoting magnitude assigned to it (NOTE: A scalar has a single magnitude value, while a vector has two or more positional values.)

scalar data *plural noun* COMPUT data containing single values that are predictable and follow a sequence

scalar processor *noun* COMPUT a processor designed to operate at high speed on scalar values

scalar value *noun* MATHS a single value rather than a matrix or record (NOTE: Scalar values are not normally floating-point numbers.)

scalar variable *noun* COMPUT a variable which can contain a single value rather than a complex data type such as an array or record

scale *noun* **1.** a series of marks at fixed intervals used as a reference standard in measurement ○ *This rule has scales in inches and centimetres.* **2.** a graded system of classification **3.** a ratio of two values **4.** ZOOL a small overlapping plate of tissue on the skin of reptiles and fish **5.** CHEM a hard white calcium layer that forms in containers and pipes carrying hot water in areas where the water supply contains a lot of calcium

scale down *verb* to lower or decrease something in proportion

scale insect *noun* INSECTS a parasitic insect that secretes a protective scale around itself and lives on plants

scalene *adjective* MATHS describes a triangle in which each side is a different length

scale up *verb* to raise or increase something in proportion

scaly *adjective* ZOOL covered in flakes of tissue, like a reptile or fish

scan *noun* **1.** MED the examination of an internal part of the body using computer-interpreted X-rays to create a picture ○ *a whole-body scan* **2.** MED a picture of an

internal part of the body produced by computer-interpreted X-rays ○ *They examined the brain scan.* **3.** COMPUT an examination of an image, object or list of items to obtain data describing it ○ *The heat scan of the computer quickly showed which component was overheating.* ○ *The scan revealed which records were now out of date.* ■ *verb* **1.** MED to examine an internal part of the body using computer-interpreted X-rays to create a picture **2.** COMPUT to examine and produce data from the shape or state of an object, or drawing, file or list of items ○ *The fax machine scans the picture and converts this to digital form before transmission.* ○ *The machine scans at up to 300dpi resolution.*

scandium *noun* CHEM ELEM a rare shiny transition metal used as a tracer, found in wolframite and other minerals (NOTE: The chemical symbol is **Sc**; the atomic number is **21** and the atomic weight is **44.96**.)

scan head *noun* COMPUT a device used in scanners, photocopiers and fax machines which uses photoelectric cells to turn an image into a pattern of pixels ○ *This model uses a scan head that can distinguish 256 different colours.*

scan line *noun* COMPUT one of the horizontal lines of phosphor or phosphor dots on the inside of a cathode ray tube or monitor (NOTE: The monitor's picture beam sweeps along each scan line to create the image on the screen.)

scanner *noun* COMPUT a device which converts an image, drawing, photograph or document into graphical data which can be manipulated by a computer

COMMENT: A scanner is connected and controlled by a computer which can then display or process the image data. A scanner can be a device using photoelectric cells, as in an image digitiser, or a device that samples data from a process. Flat-bed scanners are more accurate than hand-held scanners.

scanning *noun* COMPUT the action of examining and producing data from the shape of an object or drawing

COMMENT: A modem with auto-baud scanning can automatically sense which baud rate to operate on and switches automatically to that baud rate.

scanning electron microscope *noun* PHYS a microscope that uses an electron beam instead of light to produce highly magnified images

scanning error *noun* COMPUT an error introduced while scanning an image

scanning line *noun* COMPUT a path traced on a cathode ray tube screen by the picture beam

scanning rate *noun* COMPUT the time taken to scan one line of an image on a cathode ray tube screen

scanning resolution *noun* COMPUT the ability of a scanner to distinguish between small points (NOTE: The usual resolution is 300dpi.)

scan rate *noun* COMPUT the number of times every second that the image on a cathode ray tube screen is redrawn

scapula *noun* ANAT a broad flattened bone at the rear of the shoulder in vertebrates. Also called **shoulderblade**

scar *noun* 1. MED a mark left on the skin surface after a wound has healed 2. a mark or blemish ■ *verb* to leave a mark on the surface of something ○ *The landscape was scarred by open-cast mines.*

scarce *adjective* 1. not available in sufficient amounts 2. uncommon or rare

scarcity *noun* 1. a shortage in the supply of something 2. the infrequency with which something occurs

scar tissue *noun* ANAT fibrous tissue which forms a scar

scatter *PHYS noun* the deflection of radiation or a signal ○ *High frequencies are freer of ionospheric scatter.* ■ *verb* to deflect radiation or a signal

scattering *noun* *PHYS* the diversion of light by matter, as seen in the effect Earth's upper atmosphere has on incoming sunlight, causing the sky to look blue, or the effect of dust or gas nebulae on starlight

scatter load *verb* COMPUT to load sequential data into various non-continuous locations in memory

scavenge *verb* 1. BIOL (*of organisms*) to feed on dead and decaying matter 2. CHEM to remove impurities or pollutants from a substance

scavenger *noun* 1. ZOO a mammal or bird that feeds on animals which have been killed by lions or other predators 2. ZOO same as **detritivore** 3. EARTH SCI generally, any organism which feeds on dead animals, dead plants or refuse left unconsumed by other organisms 4. a substance added to a chemical reaction or mixture to remove impurities or neutralise something

scavenging *noun* 1. ZOO the activity of eating organic matter or dead animals ○ *Vultures and hyenas sometimes feed by scavenging.* 2. CHEM the removal of impurities from a gas

scent *noun* 1. CHEM a smell given off by a substance that stimulates the sense of smell 2. ENVIRON a pleasant smell ○ *the scent of flowers*

schedule *noun* 1. a plan of future activities 2. an order in which tasks are to be done 3. COMPUT the order in which CPU time will be allocated to processes in a multi-user system ■ *verb* 1. to make a plan of future activities 2. to arrange an order in which tasks are to be done

scheduler *noun* COMPUT a program which organises the use of a central processing unit or of peripherals which are shared by several users

schema *noun* COMPUT a graphical description of a process or database structure

schematic *adjective* (*of diagram*) showing the function of a device or system without trying to create a realistic image ○ *Figure 3 shows a schematic diagram of the autopilot.*

Schiff's base *noun* CHEM an organic compound formed in a condensation reaction between an aromatic amine and a ketone or aldehyde

Schiff's reagent *noun* CHEM an acid solution of fuchsin, used as a standard test for the presence of aldehydes

schist *noun* EARTH SCI a type of metamorphic rock that splits easily into flakes

Schistosoma *noun* ZOO a fluke which enters the patient's bloodstream and causes schistosomiasis

schistosomiasis *noun* MED a tropical disease caused by flukes taken in from water affecting the intestine or bladder. Also called **bilharziasis**

COMMENT: The larvae of the fluke enter through the skin of the feet and lodge in the walls of the intestine or bladder. They are passed out of the body in stools or urine and return to water, where they enter and develop in water snails, the secondary host, before returning to humans. Patients suffer from fever and anaemia.

schizogony *noun* GENETICS a form of asexual reproduction in some single-celled organisms (**protozoans**), in which a cell nucleus divides many times before the cytoplasm divides to form the daughter

cells (NOTE: This process enables some parasites such as the malaria parasite to undergo rapid proliferation in the tissues of an infected organism.)

schizont *noun* ANAT a cell in some single-celled organisms (**protozoans**) that is formed during the asexual phase of the life cycle

school *noun* MARINE BIOL a group of water animals which all move together and keep an equal distance apart, e.g. fish or whales

Schwann cell *noun* ANAT a cell that forms part of the myelin sheath around a nerve fibre

science *noun* **1.** the study of the physical and natural world and phenomena, especially by using systematic observation and experiment **2.** a particular area of study or knowledge of the physical world **3.** a systematically organised body of knowledge about a particular subject

scientific *adjective* relating to, using, or conforming to science or its principles

scientific method *noun* SCI the systematic method used in investigations of the natural world, which include designing controlled experiments, collecting data and developing and testing hypotheses

scientist *noun* somebody who has scientific training or works in one of the sciences

scintillation *noun* ASTRON the series of fluctuations in brightness of stars caused by atmospheric instability

scintillation counter *noun* PHYS a machine that detects and counts the flashes of light produced when high-energy ionising radiation strikes a phosphorescent substance

scion *noun* AGRIC a piece of a plant which is grafted onto a rootstock

scissor *verb* COMPUT **1.** to define an area of an image and then cut it out so it can be pasted into another image **2.** to define an area of an image and delete any information that is outside this area

sclera *noun* ANAT the outer coating of an eyeball, which forms the white of the eye. Also called **sclerotic**

sclerenchyma *noun* BOT a strengthening or supporting plant tissue made up of dead cells with thickened walls

sclerophyll *noun* BOT a woody plant that grows in hot dry regions, with thick leath-

ery evergreen leaves that lose very little moisture

scleroprotein *noun* BIOCHEM a tough insoluble protein produced by humans and other animals (NOTE: Examples of scleroproteins are keratin in hair and nails and collagen in the skin.)

sclerosis *noun* **1.** MED the hardening and thickening of body tissue **2.** BOT the hardening and thickening of plant cell walls as lignin is deposited, making stems woody

sclerotic *adjective* **1.** MED referring to the hardening and thickening of body tissue **2.** BOT referring to the hardening and thickening process in plant cell walls that makes stems woody ■ *noun* ANAT same as **sclera**

-scope *suffix* an instrument for examining by sight

scorbutic *adjective* MED referring to scurvy

scorbutus *noun* MED same as **scurvy** (*technical*)

Scots pine *noun* TREES a common commercially grown European conifer. Latin name: *Pinus sylvestris*.

SCP *abbreviation* sustainable consumption and production

SCR *abbreviation* COMPUT sequence control register

scrambler *noun* COMPUT a device that codes a data stream into a pseudorandom form before transmission to eliminate any combination of ones, zeros or alternate ones and zeros that would cause synchronisation problems at the receiver

scrap *noun* **1.** INDUST waste material ○ *scrap paper* ○ *scrap metal* ○ *Some 50% of steel is made from recycled scrap.* (NOTE: no plural) **2.** a small piece of something ○ *Scraps of paper had blown all over the grass.* ■ *verb* INDUST to demolish or destroy something because it is no longer useful

scrapie *noun* VET a brain disease of sheep and goats. Affected animals twitch, then suffer intense itching and thirst. They become extremely thin, and death follows. It is a notifiable disease.

scratch COMPUT *noun* an area of memory or a file used for temporary storage of data ■ *verb* to delete or move an area of memory to provide room for other data

scratch file *noun* COMPUT same as **work file**

scratchpad memory *noun* COMPUT a cache memory used to buffer data being

transferred between a fast processor and a slow input/output device such as a disk drive

scree *noun* EARTH SCI an area of loose rocks and stones at the base of the side of a mountain

screen *noun* **1.** something which protects **2.** COMPUT a display device capable of showing a quantity of information, e.g. a computer monitor **3.** ENVIRON a hedge or row of trees grown to shelter other plants, to protect something from the wind or to prevent something from being seen ■ *verb* **1.** to protect something with a screen ○ *The power supply unit is screened against interference.* **2.** SCI to examine people, animals or plants to test for the presence of something ○ *The population of the village was screened for meningitis.* **3.** to select somebody or something as suitable for a particular purpose **4.** to examine material for the presence of something ○ *screened the samples for high protein content*

screen buffer *noun* COMPUT a temporary storage area for characters or graphics before they are displayed

screen capture *noun* COMPUT the act of storing an image displayed on screen in a file

screen dump *noun* COMPUT the act of outputting the text or graphics displayed on a screen to a printer

screening *noun* **1.** SCI the process of testing for the presence of something **2.** the process of selecting somebody or something as suitable for a particular purpose

screen refresh *verb* COMPUT to update regularly the images on a screen by scanning each pixel with a picture beam to make sure the image is still visible

screen saver *noun* COMPUT a piece of software that, after a pre-determined period of user inactivity, replaces the existing image on screen and displays moving objects to protect against screen burn

scree slope *noun* a part of a mountain side covered with loose rock and stones

screw *noun* ENG a type of threaded connector used to fix things together by rotating it

screw jack, screwjack *noun* ENG a lifting device working with rotary input

script *noun* COMPUT a set of instructions which carry out a function, normally used with a macro language or batch language

scroll *verb* COMPUT to move displayed text vertically up or down the screen, one line or pixel at a time

scroll arrow *noun* COMPUT an arrow belonging to a set that, when clicked, move the contents of the window up or down or sideways

scroll bar *noun* COMPUT a bar displayed along the side of a window with a marker which indicates how far you have scrolled

scrotum *noun* ANAT a bag of muscle and skin that contains the testes of a mammal (NOTE: Its position is outside the body to keep the testes cool.)

scrub *noun* **1.** BOT small trees and bushes **2.** EARTH SCI an area of land covered with small trees and bushes ■ *verb* **1.** COMPUT to wipe information off a disk or remove data from store ○ *Scrub all the files with a date before 2000.* **2.** INDUST to remove sulfur and other pollutants from waste gases produced by power stations

scrubber *noun* INDUST a device for removing sulfur and other pollutants from waste gases

scrubland *noun* EARTH SCI land covered with small trees and bushes

SCSI COMPUT same as **small computer systems interface**

scurvy *noun* MED a disease caused by lack of vitamin C. Also called **scorbutus**

COMMENT: Scurvy causes general weakness and anaemia, with bleeding from the gums, joints and under the skin. In severe cases the teeth drop out. Treatment consists of vitamin C tablets and a change of diet to include more fruit and vegetables.

SDLC *abbreviation* COMPUT synchronous data link control

SDR *abbreviation* COMPUT store data register

SDRAM *abbreviation* COMPUT synchronised dynamic RAM

Se *symbol* CHEM ELEM selenium

sea *noun* EARTH SCI a body of salt water between land masses

seabed *noun* OCEANOGRAPHY the bottom of the sea ○ *These fish feed on minute debris on the seabed.*

seabird *noun* ZOOLOGY a bird which lives near the sea and eats fish, e.g. a seagull

seaborgium *noun* CHEM ELEM an unstable, artificially produced chemical element (NOTE: The chemical symbol is **Sg**; the atomic number is **106** and the atomic weight is **266**.)

sea breeze *noun* METEOROL a light wind which blows from the sea towards the land, e.g. in the evening when the land cools

sea current *noun* OCEANOGR a flow of water in the sea

sea fog *noun* METEOROL fog that forms when cold air is above much warmer water

seagull *noun* ZOO a bird, of several species, that lives near the sea and has a heavy build, a rather hooked beak and webbed feet

seal *noun* **1.** ENG a device that joins two parts and prevents leakage ○ *an oil seal* **2.** ENG a means of preventing a liquid or a gas from escaping ○ *Gaskets effect a seal by being squeezed between two surfaces.* **3.** MARINE BIOL a mammal with a sleek body and flippers that swims in cold seas ■ *verb* ENG to join two parts in such a way as to prevent leakage

sealant *noun* INDUST a substance painted or sprayed onto a surface to prevent the escape of a liquid or gas ○ *The integral fuel tank may be completely coated on the inside with a layer of sealant.* Also called **sealing compound**

sea level *noun* EARTH SCI the average level of the surface of the sea. ◇ **mean sea level**

COMMENT: Sea level is taken as the base for references to altitude: a mountain 300 m high is three hundred metres above sea level. The Dead Sea is 395 m below sea level. Sea levels in general have risen over the past 100 years and much more rapid rises are forecast if the greenhouse effect results in the melting of the polar ice caps. Sea level is also used as a basis for measuring barometric pressure.

sealing compound *noun* INDUST same as **sealant**

seam *noun* EARTH SCI a layer of mineral in rock beneath the Earth's surface ○ *The coal seams are 2m thick.* ○ *The gold seam was worked out some years ago.*

search *noun* COMPUT a process of looking for and identifying a character, word or section of data in a document or file ■ *verb* to look for something

search and replace *noun* COMPUT a feature on word-processors that allows the user to find specified words or phrases, then replace them with another word or phrase

search engine *noun* COMPUT **1.** a piece of software that searches a database **2.** a website that compiles a list of websites and

allows a visitor to find a website by searching for words

search key *noun* COMPUT **1.** a word or phrase that is to be found in a text **2.** a field and other data used to select various records in a database

search memory *noun* COMPUT a method of data retrieval that uses part of the data rather than an address to locate the data

sea salt *noun* FOOD crystals of sodium chloride, extracted from sea water

season *noun* TIME **1.** one of the four parts into which a year is divided, i.e. spring, summer, autumn and winter **2.** the time of year when something happens ○ *the mating season* ■ *verb* INDUST to allow the sap in timber to dry so that the wood can be used for making things

seasonal *adjective* referring to or occurring at a season ○ *seasonal changes in temperature* ○ *Plants grow according to a seasonal pattern.*

seawater *noun* EARTH SCI the salty water in the sea

seaweed *noun* MARINE BIOL any of the large algae that grow in the sea and are usually attached to a surface

sebaceous gland *noun* ANAT a gland that secretes sebum into hair follicles (NOTE: Sebaceous glands are found all over the human body except for the palms of the hands and the soles of the feet.)

sebum *noun* PHYSIOL a greasy substance secreted by the sebaceous glands that lubricates the hair and skin

second *noun* MEASURE **1.** a base SI unit of measurement of time, equal to one sixtieth of a minute **2.** a unit of measurement of the circumference of a circle, equal to one sixtieth of a degree

secondary *adjective* **1.** less important than something else ○ *a secondary reason* **2.** coming after something else ○ *secondary thickening of stems in plants* ◇ **primary, tertiary** **3.** developing from another condition **4.** indirectly related to something. Compare **primary**

secondary cell *noun* ELEC an apparatus that generates electricity by means of a reversible chemical reaction (NOTE: A secondary cell is rechargeable and can be used to store electrical energy.)

secondary channel *noun* COMPUT a second channel containing control information transmitted at the same time as data

secondary consumer *noun* ZOOL an animal such as a carnivore that eats other consumers in the food chain. ◊ **primary consumer**

secondary growth *noun* BOT growth that occurs in a plant's stem and root, increasing the diameter of the stem or root. Also called **secondary thickening**

secondary host *noun* a host which a parasite settles on before moving to its primary host

secondary industry *noun* INDUST an industry that uses basic raw materials to make manufactured goods

secondary memory *noun* COMPUT a permanent storage device in a computer that is used for storing files and data

secondary mineral *noun* EARTH SCI a mineral formed after chemical reactions or weathering have taken place in magma

secondary particulates *plural noun* ENVIRON particles of matter formed in the air by chemical reactions such as smog

secondary sexual characteristic *noun* ZOOL a characteristic controlled by sex hormones that distinguishes sexually mature males and females but is not directly involved in reproduction, e.g. facial hair in men

secondary substance *noun* BOT a chemical substance found in plant leaves, believed to be a form of defence against herbivores

secondary succession *noun* ECOL an ecological community which develops in a place where a previous community has been removed as a result of fire, flooding, cutting down of trees or some other event

secondary thickening *noun* BOT same as **secondary growth**

second generation computer *noun* COMPUT a computer that used transistors instead of valves

second law of thermodynamics *noun* PHYS ↗ **thermodynamics**

second-level addressing *noun* COMPUT an instruction that contains an address at which the operand is stored

second quartile *noun* STATS a number below which fifty per cent of numbers in a sample fall ◊ *This group falls within the second quartile.*

secrete *verb* PHYSIOL (*of a gland*) to produce a substance such as a hormone, oil or enzyme

secretion *noun* BIOL a substance produced by a gland

section *noun* **1.** BIOL a piece cut from a plant or animal for examination **2.** COMPUT a part of a main program which can be executed in its own right, without the rest of the main program being required

sectional *adjective* **1.** referring to a section **2.** composed of sections

sector *noun* **1.** MATHS a portion of a circle inside two radii and the included arc **2.** COMPUT the smallest area on a magnetic disk which can be addressed by a computer. Also called **disk sector** (NOTE: The disk is divided into concentric tracks and each track is divided into sectors which, typically, can store 512 bytes of data.)

sector formatting *noun* COMPUT the division of a disk into a series of addressable sectors (NOTE: A table of their addresses is also formed, allowing each sector to be accessed.)

sector map *noun* COMPUT a table which contains the addresses of unusable sectors on a hard disk

secure encryption payment protocol *noun* COMPUT a system developed to provide a secure link between a user's browser and a vendor's website in order to allow the user to pay for goods over the Internet. Abbr **SEPP**

secure hypertext transfer protocol *noun* COMPUT an extension of the HTTP protocol that allows an encrypted and authenticated session between a user's web browser and a secure web server. Abbr **S-HTTP**

secure/multipurpose Internet mail extension *noun* COMPUT a method of providing secure electronic mail messages by which the system encrypts the main message using a standard cipher then sends the key in encrypted form using a second, public-key encryption system. Abbr **S/MIME**

secure site *noun* COMPUT a website that includes features to ensure that any information transferred between the user and the website is encrypted and cannot be read by a hacker. Also called **secure website**

COMMENT: A secure site is typically used in a shopping site to allow customers to type in their personal details such as their credit-card numbers without risk. Secure sites almost always use a system called SSL (secure sockets layer) that creates a secure channel. A small padlock icon in the

status bar shows as locked when the site is secure.

secure sockets layer *noun* COMPUT an encrypted transmission protocol designed by Netscape that provides secure communications between a browser and a web server over the Internet. Abbr **SSL**

secure website *noun* COMPUT same as **secure site**

security *noun* the condition of being protected or being secret ○ *The system has been designed to assure the security of the stored data.*

security backup *noun* COMPUT a copy of a disk, tape or file kept in a safe place in case the working copy is lost or damaged

sedentary *adjective* BIOL **1.** referring to marine invertebrates that do not swim about and remain attached to a rock for most of their lives **2.** referring to animals that do not migrate **3.** referring to a person who remains seated for long periods or takes little exercise in a way that can be bad for health ○ *a sedentary lifestyle*

sediment *noun* CHEM a mass of solid particles, usually insoluble, that fall to the bottom of a liquid

sedimentary *adjective* **1.** CHEM falling to the bottom of a liquid **2.** EARTH SCI referring to rock formed from material deposited by water, wind or ice and then subjected to pressure

sedimentary cycle *noun* EARTH SCI the process by which sediment falls to the bottom of water, becomes rock, then is weathered to form sediment again

sedimentary deposit *noun* CHEM a mass of solid particles that have fallen to the bottom of a liquid

sedimentary rock *noun* EARTH SCI a rock which has been formed from silt, broken down from older rocks, deposited as sediment at the bottom of lakes or the sea, and then subjected to pressure

sedimentation *noun* **1.** EARTH SCI the process of formation of sedimentary rock **2.** CHEM, INDUST the process of solid particles falling to the bottom of a liquid, e.g. in the treatment of sewage

sedimentation basin *noun* EARTH SCI an area of land where the rocks have been formed from matter carried there by wind and water

sedimentation rate *noun* CHEM the speed with which solid particles fall to the bottom of a liquid

sedimentation tank *noun* ENVIRON a tank in which sewage is allowed to stand so that solid particles can sink to the bottom

seed *noun* **1.** BOT a fertilised ovule that forms a new plant on germination □ **to set seed** to produce seed ○ *plants left after flowering to set seed* **2.** COMPUT a starting value used when generating random or pseudorandom numbers ■ *verb* **1.** BOT (*of a plant*) to produce offspring by dropping seed which germinates and grows into plants in following seasons ○ *The poppies seeded all over the garden.* ○ *The tree was left standing to allow it to seed the cleared area around it.* **2.** AGRIC to sow seeds in an area ○ *The area of woodland was cut and then seeded with pines.* **3.** CHEM to add crystals to a supersaturated solution to encourage crystallisation **4.** METEOROL to drop crystals of salt, carbon dioxide and other substances onto clouds from an aeroplane in order to encourage rain to fall

seed bank *noun* **1.** ECOL all the seeds existing in the soil **2.** BOT a collection of seeds from plants, kept for conservation or research purposes

seedcase *noun* BOT a hard outside cover that protects the seeds of some plants

seed leaf *noun* BOT the first leaf of a plant forming as the seed sprouts. Also called **cotyledon**

seedling *noun* BOT a young plant that has recently grown from a seed

seek area *noun* COMPUT a section of memory to be searched for a particular item of data or a word

seek time *noun* COMPUT the time taken by a read/write head to find the right track on a disk ○ *The new hard disk drive has a seek time of just 35ms.*

seep *verb* PHYS (*of a liquid*) to flow slowly through a substance ○ *Water seeped through the rock.* ○ *Chemicals seeped out of the container.*

seepage *noun* PHYS the action of flowing slowly

seepage tank, seepage pit *noun* INDUST in some septic tank systems, a deep hole into which partly decomposed sewage drains before dispersing slowly into the surrounding soil

segment COMPUT *noun* a section of a main program which can be executed in its own right, without the rest of the main program being required ■ *verb* to divide a long

program into shorter sections which can then be called up when required

segregant GENETICS *adjective* referring to an organism that is genetically different from either parent because of the process of segregation ■ *noun* an organism that is genetically different from either parent because of the process of segregation. Also called **segregate**

segregate GENETICS *verb* to undergo or to cause genes to undergo segregation ■ *noun* same as **segregant**

segregation *noun* GENETICS (*in organisms with paired chromosomes*) the separation of the two variant forms (**alleles**) of each gene and their distribution to separate reproductive cells (**gametes**) during meiosis

seiche *noun* EARTH SCI a tide in a lake, usually caused by the wind or by movements in water level

seism *noun* EARTH SCI an earthquake

seismic *adjective* EARTH SCI referring to earthquakes

seismic shock, seismic wave *noun* EARTH SCI a shock wave which spreads out from the centre or focus of an earthquake travelling through the Earth's crust

seismograph *noun* EARTH SCI, MEASURE an instrument for measuring earthquakes

seismological *adjective* EARTH SCI referring to the study of earthquakes

seismologist *noun* EARTH SCI a scientist who studies earthquakes

seismology *noun* EARTH SCI the scientific study of earthquakes

seismonasty *noun* BOT a response of plants to a physical stimulus such as touch

select *verb* **1.** to choose one thing but not others **2.** COMPUT to find and retrieve specific information from a database **3.** AGRIC to identify plants or animals with desirable characteristics such as high yield or disease resistance as part of the activity of breeding new varieties

selectable attributes *plural noun* COMPUT the functions or attributes of a device which can be chosen by the user

selection *noun* **1.** the act of choosing one thing but not others **2.** AGRIC the process of identifying plants or animals with desirable characteristics such as high yield or disease resistance as part of the activity of breeding new varieties **3.** an individual chosen from a group in a breeding pro-

gramme on the basis of distinctive characteristics **4.** something chosen **5.** a collection of carefully chosen things ○ *a selection of photographs*

selection handle *noun* COMPUT a small square displayed on a frame around a selected area that allows the user to change the shape of the area

selective herbicide *noun* AGRIC a weedkiller which is designed to kill only plants with specific characteristics and not others

selective resistance *noun* BIOL the ability of an organism to be unaffected by specific poisons, pollutants, pesticides or herbicides

selective sort *noun* COMPUT the process of sorting a section of data items into order

selective weedkiller *noun* AGRIC same as **selective herbicide**

selector *noun* a manually operated device such as a switch, which offers a choice of settings ○ *Turn the selector control.* ○ *The purpose of this selector is to direct fluid to the appropriate side of an actuator.*

selenium *noun* CHEM ELEM a non-metallic trace element, used in photoelectric cells. Symbol **Se** (NOTE: The chemical symbol is **Se**; the atomic number is **34** and the atomic weight is **78.96**.)

self- *prefix* **1.** of itself **2.** automatic

self-checking code *noun* COMPUT a character coding system which is able to detect an error or bad character but not correct it

self-contained *adjective* independent and complete in itself ○ *The auxiliary power unit is a self-contained unit.*

self-correcting code *noun* COMPUT a character coding system which is able to detect and correct an error or bad character

self-diagnostic *adjective* COMPUT referring to a computer that runs a series of diagnostic programs, usually when the computer is switched on, to ensure that all circuits, memory and peripherals are working correctly

self-evident *adjective* clear in itself, without further explanation

self-explanatory *adjective* not needing any further explanation

self-extracting archive *noun* COMPUT a compressed file that includes the program to de-compress the contents

self-fertile *adjective* BOT referring to a plant that fertilises itself with pollen from its own flowers

self-fertilisation, self-fertilization *noun* BIOL the fertilisation of a plant or invertebrate animal with its own pollen or sperm

self-fertility *noun* BIOL the ability of a plant or animal to fertilise itself

selfish gene *noun* GENETICS a gene that uses the organism in which it occurs to reproduce itself (NOTE: The concept, proposed by the biologist Richard Dawkins in 1976, contrasts with the traditional concept of the gene acting as a means of inheritance for the organism.)

self-pollination *noun* BOT the pollination of a plant by pollen from its own flowers. Compare **cross-pollination**

self-purification *noun* ECOL the ability of water to clean itself of polluting substances

self-refreshing RAM *noun* COMPUT a dynamic RAM chip that has built-in circuitry to generate refresh signals, allowing data to be retained when the power is off by using a battery

self-regulating *adjective* ECOL (*of an ecosystem*) controlling itself without outside intervention ○ *Most tropical rainforests are self-regulating environments.*

self-replicating *adjective* GENETICS referring to a molecule or bacterium that reproduces by making copies of itself

self-seeded *adjective* BOT referring to a plant that grows from seed that has fallen to the ground naturally rather than being sown intentionally ○ *Several self-seeded poppies have come up in the vegetable garden.*

self-sterile *adjective* BOT referring to a plant that cannot fertilise itself from its own flowers

self-sterility *noun* BOT the inability of a plant to fertilise itself

self-sufficiency *noun* a simple traditional way of farming with little use of modern technology that provides only enough food and other necessary materials for a family

self-sufficient *adjective* able to provide enough food and other necessary materials for a family, often by means of a simple traditional way of farming with little use of modern technology ○ *We're self-sufficient*

in salad crops from the garden in the summer time.

self-thinning *noun* ECOL a process by which only a few individuals survive in a group of plants of the same age, since plants cannot escape competition by moving away to a different place

self-by date *noun* FOOD INDUST a date on the label of a food product which is the last date on which the product should be sold and can be guaranteed as of good quality

selva *noun* ECOL tropical rainforest in the Amazon basin

semantics *noun* 1. the meanings of words, parts of words or combinations of words 2. COMPUT the meanings of words or symbols used in programs

semaphore *noun* COMPUT the coordination of two jobs and appropriate handshaking to prevent lock-outs or other problems when both require a peripheral or function

semen *noun* PHYSIOL in mammals, a thick pale fluid containing spermatozoa, produced by the testes and ejaculated from the penis

semi- *prefix* half

semi-arid *noun* EARTH SCI receiving very little rain

semicircle *noun* MATHS a half circle

semicircular *adjective* MATHS in the shape of a half circle ○ *Most mathematical protractors are semicircular in shape.*

semicircular canal *noun* ANAT one of a set of three tubes in the inner ear that provide the sense of balance

semi-compiled *adjective* COMPUT referring to an object code program converted from a source code program but not containing the code for functions from libraries and other elements that were used in the source code

semiconductor *noun* ELECTRONICS a material with conductive properties between those of a conductor such as a metal and an insulator

COMMENT: Semiconductor material such as silicon is used as a base for manufacturing integrated circuits and other solid-state components, usually by depositing various types of doping substances on or into its surface.

semi-deciduous forest *noun* EARTH SCI a forest in which some trees lose their leaves or needles at some point during the year

semi-desert *noun* EARTH SCI an area of land which has very little rain

semilunar valve *noun* ANAT one of two valves in the heart, either the aortic valve or pulmonary valve

seminal vesicle *noun* ANAT one of a pair of glands that produce some of the liquid components of semen

semiochemical *noun* a chemical released by animals, especially insects, as a means of communication, e.g. a pheromone

semi-parasitic *adjective* BIOL **1.** referring to an organism living as a parasite but also undergoing photosynthesis **2.** living as a parasite but also capable of living on dead or decaying organic matter

semi-permeable *adjective* CHEM referring to something such as a membrane that allows a liquid to pass through but not substances dissolved in the liquid

semipermeable membrane *noun* CHEM a membrane that allows some substances to pass through it, but not others

semi-processed data *noun* COMPUT raw data which has had some processing carried out, such as sorting, recording or error detection

senescence /sɪ'nesəns/ *noun* the process of growing older

sense *noun* BIOL one of the five faculties by which a person or animal notices things in the outside world (NOTE: They are sight, hearing, smell, taste and touch.) ■ *verb* **1.** BIOL to be aware of something without being directly told **2.** TECH to examine or detect the state of a device or electronic component ○ *The condition of the switch was sensed by the program.*

sense of balance *noun* PHYSIOL the mechanism that keeps someone upright, governed by the fluid in the inner ear balance mechanism

sense organ *noun* ANAT a part of the body that detects some particular aspect of the outside world such as light or sound (NOTE: Sense organs include eyes, ears, insect antennae and the lateral lines of fish.)

sense recovery time *noun* COMPUT the time that a RAM device takes to switch from read to write mode

sensible horizon *noun* ASTRON same as **horizon** **1**

sensitise, sensitize *verb* MED to make someone sensitive to a substance such as an allergen or drug

sensitive *adjective* **1.** BIOL referring to the ability to respond to stimuli ○ *The leaves of the plant are sensitive to frost.* **2.** TECH referring to devices that are able to record very small changes ○ *The earthquake was a small one and only registered on the most sensitive equipment.*

sensitive plant *noun* BOT a tropical shrub with leaves which fold up when touched. Latin name: *Mimosa pudica.*

sensitivity *noun* **1.** BIOL the ability or tendency to respond to stimuli. Also called **irritability** **2.** TECH the ability to record very small changes ○ *the scanner's sensitivity to small objects* **3.** TELECOM a minimum power of a received signal that is necessary for a receiver to distinguish the signal

sensor *noun* a device which receives and responds to a signal or stimulus ○ *a pressure sensor* ○ *a temperature sensor* ○ *The inlet pressure is sensed by a single pitot-type sensor.*

sensor glove *noun* COMPUT (*in virtual reality applications*) a glove that fits over a user's hand and has sensors that detect when the user moves his or her fingers or arm and so control an image on screen

sensory *adjective* BIOL referring to the senses

sensory adaptation *noun* BIOL an alteration in a receptor because of increased, decreased or prolonged stimulation

sensory nerve *noun* ANAT a nerve that registers a sensation such as heat, taste or smell and carries impulses to the brain and spinal cord. Also called **afferent nerve**

sensory neuron *noun* ANAT a neuron which receives its stimulus directly from a receptor, and passes the impulse to the sensory cortex

sensory organ *noun* ANAT a part of an organism such as a nerve which receives stimuli

sentinel *noun* COMPUT **1.** a pointer to a special section of data **2.** a flag which reports the status of a register after a mathematical or logical operation

sepal *noun* BOT a part of the calyx of a flower, usually green and sometimes hairy

separate *adjective* **1.** distinct and not related **2.** not joined or together ■ *verb* **1.** to

move or keep something apart **2.** to distinguish one thing from another **3.** to divide or split something into its parts

separate channel signalling *noun*

COMPUT the use of an independent communications channel or bands in a multichannel system to send control data and messages

separation *noun* **1.** the condition of being spaced apart ○ *Airways and advisory routes provide a high degree of safety by maintaining separation between aircraft.*

2. TECH the removal of a component from a mixture or combination ○ *The oil and air mixture flows over the de-aerator tray in the oil tank, where partial separation takes place.*

separator *noun* **1.** TECH a device which removes a component from a mixture or combination ○ *The water separator will extract a percentage of free moisture from the air.* **2.** COMPUT a symbol used in an instruction line in a program, to distinguish parts such as command and argument

SEPP *abbreviation* COMPUT secure encryption payment protocol

sepsis *noun* MED the condition caused by microorganisms or their toxins in the tissues or blood

septet *noun* COMPUT a word made up of seven bits

septic *adjective* **1.** BIOL referring to the process of decomposition of organic matter **2.** MED referring to sepsis

septic sludge *noun* INDUST a solid part of sewage undergoing the process of purification by decomposition

septic tank *noun* ENVIRON **1.** an underground tank for household sewage that is not connected to the main drainage system and in which human waste is decomposed by the action of anaerobic bacteria **2.** a tank at a sewage treatment works in which sewage is collected to begin its treatment by anaerobic bacteria

septum *noun* BIOL a thin partition or dividing membrane such as the tissue separating the nostrils or the internal dividing walls in the spores of some fungi

sequence *noun* **1.** a series of things or events that follow one another ○ *The ignition system provides a rapid series of sparks timed to fire in each cylinder in the correct sequence.* □ **in sequence** sequentially **2.** COMPUT a number of items or data arranged as a logical, ordered list ○ *The*

sequence of names is arranged alphabetically. ○ *The program instructions are arranged in sequence according to line numbers.*

sequence check *noun* COMPUT a check to ensure that sorted data is in the correct order

sequence control register *noun* COMPUT a CPU register that contains the address of the next instruction to be processed. Abbr **SCR**

sequencer *noun* COMPUT a section within a bit-slice microprocessor which contains the next microprogram address

sequence tagged site *noun* GENETICS a short sequence of DNA, usually 200 to 500 base pairs, that occurs only once in the human genome and is useful in genetic mapping

sequence valve *noun* ENG a fluid flow controller which performs a number of actions in a specific order ○ *Sequence valves are often fitted in a landing gear circuit to ensure correct operation of the landing gear doors and actuators.*

sequential *adjective* having a fixed order or happening one after the other

sequential access *noun* COMPUT a method of retrieving data from a storage device by starting at the beginning of the medium such as tape and reading each record until the required data is found. Also called **serial access**

sequential access storage *noun* COMPUT a storage medium such as a tape in which the data is accessed sequentially

sequential batch processing *noun* COMPUT the completion of one job in a batch before the next can be started

sequential computer *noun* COMPUT a computer for which each instruction must be completed before the next is started and so which cannot handle parallel processing

sequential logic *noun* ELECTRONICS a logic circuit whose output depends on the logic state of the previous inputs

sequentially *adverb* in a fixed order or one after the other

sequential search *noun* COMPUT a search where each item in a list starting at the beginning is checked until the required one is found

sequestration *noun* CHEM the process of forming a complex with an ion, thus making it chemically ineffective

sere *noun* ECOL a series of plant communities which succeed one another in an area
serial *adjective* COMPUT referring to data or instructions ordered one after the other rather than in parallel

serial access *noun* COMPUT same as **sequential access**

serial-access memory *noun* COMPUT full form of **SAM**

serial computer *noun* COMPUT a computer system which has a single arithmetic logic unit and carries out instructions one at a time

serial input/output *adjective* COMPUT †, **serial transmission**. Abbr **SIO**

serial input/parallel output *noun* COMPUT a device which can accept serial data and transmit parallel data. Abbr **SIPO**

serial input/serial output *adjective* COMPUT †, **serial transmission**. Abbr **SISO**

serial printer *noun* COMPUT a printer which prints characters one at a time

serial transmission, serial input/output *noun* COMPUT data transmission one bit at a time (this is the normal method of transmission over longer distances, since although slower, it uses fewer lines and so is cheaper than parallel)

series *noun* a number of things or events which come one after the other in a particular order ◦ *a series of photographs* ◦ *a series of switches*

series circuit *noun* ELEC an electric circuit connected so that current passes through each component of the circuit in turn without branching

COMMENT: In a series circuit the same current flows through each component; in a parallel circuit the current flow is dependent upon the component impedance.

serine *noun* BIOCHEM an amino acid that is involved in making some important proteins in the body

serological *adjective* IMMUNOL referring to serology

serological type *noun* BIOCHEM, MICROBIOL same as **serotype**

serology *noun* IMMUNOL the study of blood serum and its components and how they protect against disease

serotonin *noun* BIOCHEM a compound that exists mainly in blood platelets and is released after tissue injury (NOTE: It is a neurotransmitter important in sleep, mood and blood vessel constriction.)

serotype *noun* BIOCHEM, MICROBIOL a group of microorganisms that have some antigens in common. Also called **serological type** ■ *verb* BIOCHEM to group microorganisms according to their antigens

serous membrane *noun* ANAT a membrane that lines an internal cavity which does not come into contact with air (NOTE: The peritoneum and pericardium are serous membranes.)

serum albumin *noun* BIOCHEM a major protein in blood serum

serum globulin *noun* BIOCHEM a major protein in blood serum which is an antibody

server *noun* COMPUT a dedicated computer which provides a function to a network

COMMENT: In a network the hard disk machine is called the 'server' and the floppy disk units the 'satellites'. In a star network each satellite is linked individually to a central server.

server message block *noun* COMPUT a system that allows a user to access another computer's files and peripherals over a network as if they were local resources. Abbr **SMB**

service bit *noun* COMPUT a transmitted bit used for control rather than data

service provider *noun* COMPUT same as **Internet service provider**

services *plural noun* COMPUT **1.** the functions provided by a device **2.** the functions provided by one OSI layer for use by a higher layer

servo *noun* MECH ENG same as **servomechanism**

servo-assisted *adjective* MECH ENG partially operated by a servomechanism ◦ *servo-assisted brakes* ◦ *servo-assisted steering*

servo-control unit *noun* MECH ENG a combined selector valve and actuator that moves a control surface ◦ *A servo-control unit is part of the system which relieves the effects of aerodynamic forces on the flight controls.*

servomechanism *noun* MECH ENG a device to convert input forces into much larger output forces ◦ *Two phase motors are normally used for very small or miniature motors in servomechanisms.* Also called **servo**

sessile *adjective* **1.** BOT attached directly to a branch or stem without a stalk ◦ *The acorns of a sessile oak tree have no stalks*

or very short stalks. **2.** EARTH SCI permanently attached to a surface

session *noun* **1.** a period of time during which something is done **2.** COMPUT the time during which a program or process is running or active

session layer *noun* COMPUT the fifth layer in the ISO/OSI standard model which connects and disconnects the transmitter and receiver

set *noun* **1.** a group of things which belong together ○ a *set of instruments* ○ a *set of figures* **2.** MATHS, COMPUT a number of related data items ■ *adjective* fixed or established ○ a *set procedure* ■ *verb* **1.** to make one variable equal to a value ○ *We set the right-hand margin at 80 characters.* **2.** COMPUT to define a parameter value □ **to set breakpoints** to define the position of breakpoints within a program being debugged **3.** COMPUT to give a binary data bit the value of one **4.** to put something in a particular position ○ *set the throttle fully closed* **5.** CHEM to harden ○ *The resin sets in a couple of hours.*

SET *noun* COMPUT a set of standards created by a group of banks and Internet companies that allow users to buy goods over the Internet without risk from hackers. Full form **secure electronic transactions**

set aside *verb* ENVIRON to use a piece of formerly arable land for something other than growing food crops

set-aside *noun* ENVIRON a piece of formerly arable land used for something other than growing food crops

set square *noun* MATHS a flat metal or plastic instrument in the shape of a right-angled triangle, used in technical drawing

set theory *noun* MATHS the mathematics of numerical sets

setting *noun* **1.** a particular figure or position to which a device is adjusted ○ *Turn the thermostat to a low setting.* **2.** the action of adjusting a device to a particular position ○ *The setting of the altimeter is done prior to take-off.*

settle *verb* **1.** to stop moving and stay in one place **2.** (of *sediment*) to fall to the bottom of a liquid

settlement *noun* **1.** ENVIRON a place where people have established a community **2.** (of *sediment*) the process of falling to the bottom of a liquid

settling basin, settling pond *noun* INDUST a tank in which a liquid is allowed to stand so that solid particles can sink to the bottom

set up *verb* COMPUT to configure, initialize, define or start an application or system ○ *The new computer worked well as soon as the engineer had set it up.*

set-up *noun* COMPUT the way in which an application or system is initialised, defined or started

severe acute respiratory syndrome *noun* MED full form of **SARS**

sewage *noun* ENVIRON, INDUST waste water and other material such as faeces, carried away in sewers

sewage disposal *noun* ENVIRON, INDUST the removal of sewage from houses and other buildings for processing

sewage effluent *noun* ENVIRON liquid or solid waste carried away in sewers

sewage farm *noun* INDUST same as **sewage treatment plant**

sewage gas *noun* CHEM methane mixed with carbon dioxide which is given off by sewage

sewage sludge *noun* ENVIRON the solid or semi-solid part of sewage

sewage treatment plant *noun* INDUST a place where sewage from houses and other buildings is brought for processing

COMMENT: A modern sewage treatment plant works by passing the sewage through a series of processes. It is first screened to remove large particles, then passed into sedimentation tanks where part of the solids remaining in the sewage settle. The sewage then continues into an aerator which adds air to activate the bacteria. The sewage then settles in a second sedimentation tank before being discharged into a river or the sea and the resulting sludge is digested anaerobically by bacteria in digestion tanks before being put on the land as biosolids, burnt, or otherwise disposed of.

sewage waste *noun* ENVIRON, INDUST same as **sewage**

sewage works *noun* INDUST same as **sewage treatment plant**

sewerage sludge *noun* ENVIRON same as **sewage sludge**

sex *noun* BIOL one of the two groups, male and female, into which animals and plants can be divided ○ *The relative numbers of the two sexes in the human population are not equal, more males being born than females.*

COMMENT: In mammals, females have a pair of identical XX chromosomes and males or have one X and one Y chromosome. Out of the twenty-three pairs of chromosomes in each human cell, only two are sex chromosomes. The sex of a baby is determined by the father's sperm. While the mother's ovum only carries X chromosomes, the father's sperm can carry either an X or a Y chromosome. If the ovum is fertilised by a sperm carrying an X chromosome, the embryo will contain the XX pair and so be female.

sexadecimal notation *noun* COMPUT same as **hexadecimal notation**

sex cell *noun* GENETICS same as **gamete**

sex chromatin *noun* BIOCHEM chromatin that is only found in female cells and which can be used to identify the sex of a baby before birth

sex chromosome *noun* BIOL one of two chromosomes, the X chromosome and the Y chromosome, which determine if an organism is male or female (NOTE: Individuals carrying a Y chromosome are male.)

sex determination *noun* BIOL the way in which the sex of an individual organism is fixed, usually genetically controlled

sex hormone *noun* BIOCHEM one of a group of hormones involved in the development and control of the reproductive organs and sexual characteristics

sex-limited *adjective* GENETICS referring to inherited characteristics that appear in one sex only although the genes controlling the characteristics may be found in either sex

sex linkage *noun* BIOL **1.** an existence of characteristics which are transmitted through the X chromosomes **2.** the appearance of some genetically inherited characteristics in only one sex

sex-linked *adjective* BIOL referring to a genetically inherited characteristic that appears in only one sex

sexology *noun* BIOL the study of sex and sexual behaviour

sex organ *noun* ANAT an organ that is associated with reproduction and sexual intercourse

sexet *noun* COMPUT a byte made up of six bits

sexual *adjective* BIOL referring to sex ○ *A study of the sexual behaviour of moths.*

sexual attractant *noun* CHEM a chemical produced by an insect which attracts other insects of the same species

sexual reproduction *noun* BIOL reproduction in which gametes from two individuals fuse together

Sg *symbol* CHEM ELEM seaborgium

SGML *noun* COMPUT a hardware-independent standard that defines how documents should be marked up to indicate bold, italics, margins and so on. Full form **Standard Generalized Markup Language**

shade *noun* **1.** a place sheltered from direct sunlight **2.** shelter from direct sunlight **3.** the relative darkness of a colour ○ *The new leaves are a light shade of green.*

shade-intolerant tree *noun* BOT a tree such as Douglas fir which will not grow in the shade of other trees

shade plant *noun* BOT a plant which tolerates and grows in shade

shade-tolerant tree *noun* BOT a tree such as beech which will grow in the shade of a larger tree

shading *noun* **1.** the action of cutting off the light of the sun ○ *Parts of the field near tall trees suffer from shading.* **2.** variation in the strength of colours **3.** COMPUT the action of changing the strength of colours **4.** COMPUT a simple method of applying shading to a three-dimensional scene using a single point of light and calculating the shade and highlights on each object (NOTE: This type of shading is calculated for each polygon that makes up an object and can sometimes cause unwanted effects as shading may differ on each polygon.)

shadow *noun* **1.** an area which is not affected by sunlight **2.** PHYS an area which is not affected by full radiation because of partial or full blocking of rays by something between the area and the source of the radiation ○ *Line-of-sight transmission path means that obstacles and terrain can create shadow zones.*

shadowmask *noun* COMPUT a sheet with holes placed just behind the front of a colour monitor screen to separate the three-colour picture beams

shadow memory, shadow page *noun* COMPUT duplicate memory location accessed by a special code

shadow RAM *noun* COMPUT a method of improving the performance of a PC by copying the contents of a slow ROM chip to a faster RAM chip when the computer is first switched on

shaft *noun* ENG a long, generally cylindrical bar, especially one that rotates and transmits power ◦ *engine drive shaft* ◦ *propeller shaft*

shaft-driven *adjective* ENG using a rotating shaft as a means of transmitting power from one part of a machine to another such as from a turbine engine to a helicopter rotor

shale *noun* EARTH SCI sedimentary rock formed from clay, which cracks along horizontal straight lines

Shannon's Law *noun* COMPUT a law defining the maximum information carrying capacity of a transmission line

COMMENT: Shannon's Law is defined as $B \lg(1 + S/N)$ where B = Bandwidth, lg is logarithm to the base two and S/N is Signal to Noise ratio.

shared file *noun* COMPUT a stored file which can be accessed by more than one user or system

shared logic system *noun* COMPUT a computer and a backing storage device used by a number of people in a network for an application

shared memory *noun* COMPUT a memory accessed by more than one central processing unit

share-level access *noun* COMPUT a method used to set up network security to protect local resources

shareware *noun* COMPUT software that is available to try free, but if kept the user is expected to pay a fee to the writer

sharp *adjective* **1.** thin and capable of cutting or piercing ◦ *If a piece of thermosetting plastic is hit hard enough, it breaks into pieces with straight sharp edges.* **2.** PHYS (of a signal) clear to the hearing ◦ *The sharp setting means the bandwidth is reduced to 1kHz to minimise noise or interference.* **3.** (of an image or shape) clear and distinct to the sight ◦ *Cumulus clouds have sharp outlines.* **4.** sudden and acute ◻ **a sharp increase** a sudden large increase

shatter *verb* to break, or break something, into a number of pieces when hit ◦ *Clear ice is hard to shatter and break off.*

shear *verb* to move laterally, often causing a break

shearing load *noun* PHYS a load caused by sliding apart the layers of a structure

shear modulus *noun* PHYS the ratio of shear stress to shear strain (NOTE: It is a

measure of the strength of a material under shearing forces.)

shear stress *noun* PHYS stress that resists the force tending to cause one layer of a material to slide over an adjacent layer as in riveted and bolted joints

shear wave *noun* EARTH SCI a type of slow seismic wave that alters direction as it passes through different types of rock

shed *verb* to let something fall off as part of a natural process ◦ *Deciduous trees shed their leaves in autumn.* ◦ *Deer shed their antlers after the mating season.*

sheep *noun* ZOO an animal farmed for its wool, meat and milk

sheet *noun* a large, thin, flat piece of something ◦ *a sheet of aluminium*

sheet feed *noun* COMPUT a device which puts in one sheet at a time into a printer

sheet lightning *noun* METEOROL lightning which lights up the sky rather than producing a single visible flash

shelf *noun* EARTH SCI a layer of rock or ice which juts out

shelf-life *noun* FOOD INDUST the number of days or weeks for which a product can stay on the shelf of a shop and still be good to use

shell *noun* **1.** BIOL a hard outer covering of an animal, egg or seed **2.** COMPUT a piece of software which operates between the user and the operating system, often to try and make the operating system more friendly or easier to use ◦ *MS-DOS's COMMAND.COM is a basic shell that interprets commands typed in at the prompt.* ◦ *The Macintosh Finder is a sophisticated shell with a GUI front-end.*

shellfish *noun* MARINE BIOL a sea animal that has a hard shell and is used as food

shell out *verb* COMPUT to exit temporarily to the operating system, while the original application is still in memory before returning to the application ◦ *I shelled out from the word-processor to check which files were on the floppy, then went back to the program.*

shell script *noun* COMPUT a scripting language such as Perl that is used to create programs that can enhance a website

shell sort *noun* COMPUT an algorithm for sorting data items, in which items can be moved more than one position per sort action

shell star *noun* ASTRON a star that is regarded as having a surrounding shell of gas

shelter *noun* a structure or feature providing protection from wind, sun, rain or other weather conditions ■ *verb* to protect something from weather conditions

shelter belt *noun* FORESTRY, AGRIC a row of trees planted to give protection from wind

shelterwood *noun* FORESTRY a large area of trees left standing when others are cut, to act as shelter for seedling trees

shield *noun* **1.** ELECTRONICS a metal screen connected to earth, used to prevent harmful voltages or interference reaching sensitive electronic equipment **2.** EARTH SCI a large area of very old rocks ○ *the Canadian shield* ■ *verb* ELECTRONICS to protect a signal or device from external interference or harmful voltages

shielded cable *noun* ELEC a cable made up of a conductive core surrounded by an insulator, then a conductive layer to protect the transmitted signal against interference

shielded twisted pair cable *noun* ELEC a cable consisting of two insulated copper wires twisted around each other to reduce induction and so interference and then themselves wrapped in an insulated shielding layer to further reduce interference. Abbr **STP cable**

shift *verb* COMPUT **1.** to move a bit or word of data left or right by, usually, one bit **2.** to change from one character set to another, allowing other characters such as capitals to be used

shifting cultivation *noun* AGRIC **1.** an agricultural practice using the rotation of fields rather than of crops. Short cropping periods are followed by long fallows and fertility is maintained by the regeneration of vegetation. **2.** a form of cultivation practised in some tropical countries, where land is cultivated until it is exhausted and then left as the farmers move on to another area

shigella *noun* a bacillus which causes dysentery

shingle *noun* EARTH SCI the small pebbles found on beaches, 1–7cm in diameter

shingle beach *noun* EARTH SCI a beach covered with pebbles

shock *noun* HAIR a sudden violent impact

shock absorber *noun* MECH ENG, AUTOMOT a device to minimise the shock to

a main structure, e.g. of an aircraft when it lands or a car when it goes over an uneven road surface

shock wave *noun* PHYS a compression wave caused by supersonic motion

shore *noun* EARTH SCI land at the edge of the sea or a lake

COMMENT: The shore is divided into different zones. The upper shore is the area which is only occasionally covered by sea water at the very highest tides. The middle shore is the main area of shore which is covered and uncovered by the sea at each tide. The lower shore is the area which is very rarely uncovered and only at the lowest tides.

shorebird *noun* ZOOLOG a bird which lives and nests near a coast, though some may breed inland

shoreline *noun* EARTH SCI an area of land at the edge of the sea or a lake

shore terrace *noun* EARTH SCI a flat strip of land on a sloping shore

short *adjective* not long

shortage *noun* a lack ○ *There is a shortage of qualified geologists for the project.*

short card *noun* COMPUT an add-on expansion board which is shorter than a standard size

short circuit *noun* ELEC ENG an electrical failure caused by an accidental flow of current between two points in a circuit (NOTE: The fuses in household electrical plugs are there to protect appliances from damage caused by excessive current if a short circuit happens.)

short-circuit *verb* ELEC ENG to fail because of a short circuit (NOTE: The fuses in household electrical plugs are there to protect appliances from damage caused by excessive current if a short circuit happens.)

short-day plant *noun* BOT a plant that flowers as the days get shorter in the autumn, e.g. a chrysanthemum. Compare **long-day plant**

shorten *verb* to become short or shorter or to make something short or shorter ○ *We had to shorten the file to be able to save it on one floppy.* Opposite **lengthen**

short haul modem *noun* COMPUT a modem used to transmit data over short distances, often within a building, usually without using a carrier

short-sighted *adjective* OPHTHALMOLOG able only to see close objects clearly, while distant objects appear indistinct

short-sightedness *noun* OPHTHALMOL the state of being short-sighted

short ton *noun* US MEASURE same as **ton**

short wave *noun* PHYS a radio wave with a wavelength between 10 and 100 m

shotgun cloning *noun* BIOTECH a technique used for cloning a gene segment that involves dividing the original into many random fragments and then mapping and sequencing the fragments to reconstruct the segment or genome

shoulderblade *noun* ANAT same as **scapula**

shower *noun* METEOROL a brief fall of rain or snow

shrivel *verb* to become dry and wrinkled
○ *The leaves shrivelled in the prolonged drought.*

shrub *noun* BOT a perennial plant with several woody stems

shrubby *adjective* BOT growing like a shrub

S-HTTP *abbreviation* COMPUT secure hypertext transfer protocol

shunt *noun* ELEC a low-resistance connection between two points in an electric circuit that forms an alternative path for a portion of the current. Also called **bypass**

shutter *noun* a hinged door which controls flow of air ○ *oil cooler shutters* ○ *radiator shutters*

Si *symbol* CHEM ELEM silicon

SI *noun* MEASURE the international system of metric measurements. Full form **Système International**

sib, sibling *noun* BIOL one of the offspring of the same parents ○ *Brothers and sisters are all siblings.*

sibling species *plural noun* BIOL species which look alike but which cannot interbreed

sick *adjective* MED not in good health

sick building syndrome *noun* ENVIRON a set of symptoms that affect people when they are in a building and not when they leave the building, but that cannot be traced to specific pollutants or sources within the building

COMMENT: Symptoms of sick building syndrome include headaches, sore throats, dry skin, general tired feeling and depression. Some features that seem to be common to the buildings causing these symptoms are artificial ventilation systems with windows that do not open and energy-efficient heating, bright lighting and carpeting on floors.

-side *suffix* side or edge ○ *eroded hillsides* ○ *waterside plants*

side chain *noun* CHEM a group of atoms attached to an atom in a principal chain or ring of a bigger molecule (NOTE: Side chains occur most commonly in carbon compounds.)

side effect *noun* a secondary often undesirable effect ○ *Draining the marsh has had several unexpected side effects.*

side reaction *noun* CHEM a chemical reaction that occurs after or alongside the primary one

sidereal *adjective* ASTRON referring to the stars or determined with reference to their apparent motion

sidereal time *noun* TIME time based on Earth's rotation with respect to a particular star

sidereal year *noun* TIME the time taken for the Sun to make one apparent evolution with reference to fixed stars

siemens *noun* MEASURE, PHYS the SI unit of electrical conductance, equal to one ampere per volt. Symbol **S**

sievert *noun* MEASURE, PHYS a unit of measurement of the absorbed dose of radiation, calculated as the amount of radiation from one milligram of radium at a distance of one centimetre for one hour. Symbol **Sv**

sign *noun* **1.** a small quantity or amount of something which may suggest the existence of a much larger quantity ○ *Any sign of smoke or fire outside a wing exit makes it unusable.* **2.** MATHS a symbol such as -, +, x or ÷ that represents an operation **3.** MATHS the polarity of a number or signal, i.e. whether it is positive or negative

signal *noun* **1.** COMPUT, TELECOM a generated analog or digital waveform used to carry information ○ *The signal received from the computer contained the answer.* **2.** COMPUT a short message used to carry control codes ■ *verb* COMPUT to send a message to a computer ○ *Signal to the network that we are busy.*

signal conditioning *noun* COMPUT the conversion or translation of a signal into a form that is accepted by a device

signal conversion *noun* COMPUT the processing, changing or modulation of a signal

signal distance *noun* COMPUT a number of bit positions with different contents in two data words

signalling *noun* COMPUT **1.** a method used by a transmitter to warn a receiver that a message is to be sent **2.** a communication to the transmitter about the state of the receiver

signal processing *noun* COMPUT the processing of signals to extract the information contained ○ *The system is used by students doing research on signal processing techniques.* ○ *The message was recovered by carrier signal processing.*

signal to noise ratio *noun* PHYS the difference between the power of the transmitted signal and the noise on the line. Abbr **S/N**

sign and magnitude *noun* MATHS a number representation in which the most significant part indicates the sign of the number the remainder its value

sign and modulus *noun* MATHS a way of representing numbers in which one part shows whether the number is positive or negative (NOTE: Usually 0 = positive, 1 = negative.)

signature *noun* COMPUT a special authentication code such as a password that a user gives prior to access to a system or prior to the execution of a task to prove identity

sign bit *noun* COMPUT a single bit that indicates if a binary number is positive or negative. Also called **sign indicator** (NOTE: Usually 0 = positive, 1 = negative.)

sign digit *noun* MATHS one digit that indicates if a number is positive or negative

signed field *noun* COMPUT a storage field that can contain a number and a sign bit

significance *noun* special meaning or importance

significant *adjective* **1.** important, considerable or notable ○ *There has been a significant reduction in the amount of raw sewage being released into the sea.* **2.** too closely linked statistically to be the result of chance ○ *The difference is not statistically significant.*

significant digit code *noun* COMPUT a code that indicate various details of an item, by assigning each one a value

significant figures *plural noun* MATHS the figures in a decimal number that express accuracy, beginning with the first non-zero figure on the left and ending with the figure on the right ○ *shown to three significant figures*

significantly *adverb* **1.** to any considerable or notable degree ○ *The amount has not been significantly reduced.* **2.** in a way that is linked statistically

sign indicator *noun* COMPUT same as **sign bit**

silage *noun* AGRIC food for cattle formed of grass and other green plants, cut and stored in silos

COMMENT: Silage is made by fermenting a crop with a high moisture content under anaerobic conditions.

silage additive *noun* AGRIC a substance containing bacteria and/or chemicals, used to speed up or improve the fermentation process in silage or to increase the amount of nutrients in it

silage effluent *noun* AGRIC an acidic liquid produced by the silage process which can be a serious pollutant, especially if it drains into a watercourse

silence *noun* the complete absence of noise

silencer *noun* ENG a device to reduce noise, fitted to a machine ○ *In order to reduce the level of noise from the blower, silencers are incorporated in the main supply ducting.*

silica *noun* MINERALS a mineral which forms quartz and sand, and is used to make glass

silica gel *noun* INDUST silica in a form that absorbs water from the air, used as a drying agent and anticaking agent

silicate *noun* **1.** CHEM a chemical compound of silicon and oxygen, the most widespread form of mineral found in most rocks and soils **2.** EARTH SCI particles of silica found in clay

silicon *noun* CHEM ELEM an element with semiconductor properties, used in crystal form as a base for the manufacture of integrated circuits (NOTE: The chemical symbol is **Si**; the atomic number is **14** and the atomic weight is **28.09**.)

COMMENT: Silicon is used in the electronics industry as a base material for integrated circuits. It is grown as a long crystal which is then sliced into wafers before being etched or treated, producing several hundred chips per wafer. Other materials, for example germanium or gallium arsenide, are also used as a base for integrated circuits.

silicon carbide *noun* CHEM a very hard bluish-black crystalline solid, used as an abrasive and refractory, and in pure form as a semiconductor. Formula: **SiC**.

silicon chip *noun* ELEC a small piece of silicon in and on the surface of which a complete circuit or logic function has been produced, by depositing other substances or by doping

silicon dioxide *noun* CHEM same as **silica**

silicon wafer *noun* ELECTRONICS a thin slice of a pure silicon crystal, usually around 10cm or 4in. in diameter, on which integrated circuits are produced. (NOTE: These are then cut out of the wafer to produce individual chips.)

silicosis *noun* MED a type of pneumococcosis caused by inhaling silica dust from mining or stone-crushing operations, which makes breathing difficult and can lead to emphysema and bronchitis

silk *noun* INSECTS, INDUST a thread produced by the larvae of a moth to make its cocoon (NOTE: It is used to make a smooth light fabric.)

silkworm *noun* INSECTS a moth larva which produces silk thread

silo *noun* AGRIC a large container for storing grain or silage

silt *noun* EARTH SCI **1.** soft mud which settles at the bottom of water **2.** particles of fine quartz with a diameter of 0.002–0.06mm

siltation, silting *noun* EARTH SCI the action of depositing silt at the bottom of water, or the state of having a silt deposit ◦ *increased sedimentation and siltation in backwaters*

silt up *verb* EARTH SCI (*of a harbour or river*) to become full of silt, so that boats can no longer sail

silver *noun* CHEM ELEM a white metallic element which is not corroded by exposure to air (NOTE: The chemical symbol is **Ag**; the atomic number is **47** and the atomic weight is **107.87**.)

silver bromide *noun* CHEM a yellowish insoluble salt that darkens on exposure to light, used in photography. Formula: AgBr.

silver chloride *noun* CHEM a white insoluble salt that darkens on exposure to light, used in photography. Formula: AgCl.

silver iodide *noun* CHEM a yellow insoluble salt that darkens on exposure to light, used in photography, antiseptics and to seed clouds to make rain. Formula: AgI.

silver nitrate *noun* CHEM a white soluble salt that is toxic and turns black on exposure to light while in contact with organic

matter. Used in photography, and as an analytical reagent, antiseptic and astringent. Formula: AgNO₃.

silver oxide *noun* CHEM **1.** a brown, strongly basic powder. Formula: Ag₂O. **2.** a black solid. Formula: AgO.

silvi- *prefix* BOT, FORESTRY trees or woods

silvicide *noun* BOT a substance which kills trees

silvicolous *adjective* BIOL living or growing in woodland

silvicultural *adjective* FORESTRY referring to the cultivation of trees

silviculture *noun* FORESTRY the cultivation of trees as part of forestry

SIMD *abbreviation* COMPUT single instruction stream multiple data stream

similar *adjective* sharing some qualities but not exactly the same

similarity *noun* the state of being alike

similarity coefficient *noun* ECOL the degree to which two things such as areas of vegetation are alike

SIMM *abbreviation* COMPUT single in-line memory module

simple *adjective* **1.** CHEM consisting of a single chemical compound **2.** BIOL not divided, either totally or partially, into separate segments

simple mail transfer protocol *noun* COMPUT a standard protocol that allows electronic mail messages to be transferred from one system to another. Abbr **SMTP** (NOTE: It is usually used as the method of transferring mail from one Internet server to another or to send mail from a personal computer to a server.)

simple network management protocol *noun* COMPUT a network management system that defines how status data is sent from monitored nodes back to a control station. Abbr **SNMP** (NOTE: It is able to work with virtually any type of network hardware and software.)

simplex *noun* COMPUT data transmission in only one direction. Opposite **duplex**. Abbr **SPX**

simplify *verb* MATHS to convert a mathematical expression such as a fraction or equation to a simpler form by removing common factors or regrouping elements

simulate *verb* to imitate the conditions or behaviour of something ◦ *The computer program simulates the action of an aircraft.*

simulation *noun* the imitation of a real situation, often created for training purposes ○ *a simulation of an engine fire* ○ *The computer animation showed a simulation of the events which followed the explosion on board the aircraft.*

simulator *noun* COMPUT a device that simulates another system

simultaneous *adjective* happening at the same time

simultaneous processing *noun* COMPUT the execution of two or more processes at the same time

simultaneous transmission *noun* COMPUT the transmission of data or control codes in two directions at the same time. Also called **duplex**

sine *noun* MATHS a trigonometric function equal to the length of the side opposite to an angle in a right-angled triangle divided by the hypotenuse

sine curve *noun* MATHS a graph of the sine equation 'y = a sin bx', with 'a' and 'b' being constants

sine wave *noun* PHYS a waveform with a simple shape like a sine curve, produced by a single frequency

single address code, single address instruction *noun* COMPUT a machine code instruction that contains one operator and one address

single address message *noun* COMPUT a message with a single destination

single bond *noun* CHEM a covalent bond between two atoms, formed by sharing a pair of electrons

single chip computer *noun* COMPUT a complete simple computer including central processing unit, memory and input/output ports on one chip

single cross *noun* GENETICS the production of a hybrid by crossing two inbred lines, or the hybrid produced

single frequency signalling *noun* COMPUT the use of various frequency signals to represent different control codes

single in-line memory module *noun* COMPUT a small, compact circuit board with an edge connector along one edge that carries densely-packed memory chips. Abbr **SIMM**

single in-line package *noun* COMPUT an electronic component that has all its leads on one side of its package. Abbr **SIP**

single instruction stream multiple data stream *noun* COMPUT the architecture of a parallel computer, which has a number of arithmetic logic units and data buses with one control unit. Abbr **SIMD**

single instruction stream single data stream *noun* COMPUT the architecture of a serial computer, which has one arithmetic logic unit and data bus with one control unit. Abbr **SISD**

single mode *noun* TELECOM an optic fibre with a very narrow diameter, 10 microns or less, designed to transmit a single light signal over a long distance (NOTE: This type of fibre has a bandwidth of 5Gbits/second and is normally used for long distance telephone networks.)

single nucleotide polymorphism *noun* BIOTECH a commonly found change in a single nucleotide base of a DNA sequence, occurring about every 1000 bases. Abbr **SNP** (NOTE: It is of significance in biomedical research.)

single precision *noun* COMPUT the use of one data word to store a number

singularity *noun* ASTRON the point where the curvature of spacetime is infinite and all the usual rules of physics cease to have effect

sink *verb* to fall to the bottom of water ○ *sank to the river bed* (NOTE: **sinks – sank – sunk**) ■ *noun* **1.** CHEM a place into which a substance passes to be stored or to be absorbed. ♦ **carbon sink** **2.** CHEM, PHYS a chemical or physical process which removes or absorbs a substance ○ *The commonest ozone sink is the reaction with nitric oxide to form nitrogen dioxide and oxygen.* **3.** TELECOM the receiving end of a communications line **4.** EARTH SCI a low-lying piece of land where water collects to form a pond

sinkhole *noun* same as **sink** *noun* **4**

sinter *noun* EARTH SCI a whitish chemical sediment or rock consisting of porous silica or calcium carbonate deposited by a mineral spring

sintering *noun* INDUST the process of fusing particles together to form a mass by heating below melting point

sinus *noun* **1.** ANAT an air-filled cavity in the bones of the face and skull, especially one that opens into the nasal passages **2.** BOT an indentation between petals or the lobes of a leaf

sinusoidal wave *noun* PHYS the shape of a signal or voltage that is described by the sin formula, giving a rounded wave that repeatedly rises and falls with time

SIO *abbreviation* COMPUT serial input/output

SIP *abbreviation* COMPUT single in-line package

SIPO *abbreviation* COMPUT serial input/parallel output

sire *noun* a male animal selected for breeding

sirenian *noun* MARINE BIOL a large marine animal living in warm estuaries, e.g. a manatee. Order: Sirenia.

sirocco *noun* METEOROL a dry wind blowing from the desert northwards in North Africa

SISD *abbreviation* COMPUT single instruction stream single data stream

SISO *abbreviation* COMPUT serial input/serial output

site *noun* a place or position of something
 ○ *The area around the nuclear test site is closed to the public.* ○ *Hazardous chemicals found on the site include arsenic, lead mercury and cyanide.* ♦ **landfill site** ■ *verb* to be in or put something in a particular place ○ *The nesting area is sited on the west side of the cliff.*

Site of Special Scientific Interest *noun* ENVIRON in England, Wales and Scotland, an area of land which is officially protected to maintain its fauna, flora or geology. Abbr **SSSI**

Sitka spruce *noun* TREES a temperate softwood coniferous tree, that is fast-growing. It is used for making paper. Latin name: *Picea sitchensis*.

SI unit *noun* MEASURE a standard international unit of measurement adopted under the *Système International d'Unités* (NOTE: The seven fundamental units are the metre, kilogram, second, ampere, kelvin, candela, and mole, and there are two supplementary units, the radian and steradian.)

6 degrees of freedom *plural noun* COMPUT the limits of movement and vision that a user can interpret, normally three visual dimensions together with movement

16-bit sample *noun* COMPUT a single sample of an analog signal which is stored as a 16-bit digital number, meaning that there are 65536 possible levels. A '16-bit sound card' can sometimes mean that the

card generates 16-bit samples, but it can also mean that it generates 8-bit samples, but fits into a 16-bit expansion slot. ♦ **8-bit sample**

sixth decile *noun* STATS a number below which sixty per cent of numbers fall ○ *This group falls within the sixth decile of consumers.*

size *noun* how big something is, or how many there are of something ■ *verb* **1.** to establish the size of something **2.** COMPUT to calculate the resources available, and those required to carry out a particular job

skeletal *adjective* ANAT referring to a skeleton

skeletal code *noun* COMPUT a program which is not complete, with the basic structure coded

skeletal muscle *noun* ANAT a muscle attached to a bone, which makes a limb move. Also called **voluntary muscle**

skeleton *noun* ANAT the framework of bones which make up a body

skew *verb* to make something inaccurate or unbalanced ■ *noun* the amount by which something is not correctly aligned

skewed *adjective* unbalanced or biased

skin *noun* **1.** ANAT the tissue, the epidermis and dermis, that forms the outside surface of the body **2.** AEROSP the outer layer of an aircraft ○ *The aircraft skin is riveted to stringers and frames.*

COMMENT: The skin is the largest organ in the human body. It is formed of two layers: the epidermis is the outer layer, and includes the top layer of particles of dead skin which are continuously flaking off. Beneath the epidermis is the dermis, which is the main layer of living skin. Hairs and nails are produced by the skin, and pores in the skin secrete sweat from the sweat glands underneath the dermis. The skin is sensitive to touch and heat and cold, which are sensed by the nerve endings in the skin. The skin is a major source of vitamin D which it produces when exposed to sunlight.

skin graft *noun* MED **1.** a layer of skin transplanted from one part of the body to cover an area where the skin has been destroyed **2.** a surgical operation to transplant skin ○ *After the operation she had to have a skin graft.*

skip distance *noun* TELECOM the shortest distance at which a sky wave can be received ○ *The higher the layer in which a direct wave signal is totally refracted and*

returns as a sky wave, the greater the skip distance.

skull *noun* ANAT the bony part of the head in humans and other vertebrates (NOTE: It consists of the cranium, which encloses and protects the brain, and the bones of the face.)

sky *noun* the atmosphere and outer space as seen from the Earth ○ *The higher the Sun is in the sky, the more intense is the radiation per unit area.*

COMMENT: The sunlight that strikes the atmosphere is scattered by the particles which it hits. The scattering affects short light waves most, hence the short blue light waves colour the sky.

sky wave *noun* TELECOM that part of a radiated wave which is returned to Earth by refraction from the ionosphere

slack *adjective* 1. not tight or taut ○ *a slack cable* 2. (of isobars) widely spaced ○ *Throughout the tropics and sub-tropics, where pressure gradients are normally slack, the sea breeze is a regular feature.*

slack water *noun* OCEANOGRAPHY the part of the tidal cycle occurring between the ebb and flood tides at the point when the flows are reversing direction

slag *noun* INDUST waste matter which floats on top of the molten metal during smelting, used to lighten heavy soils, e.g. clay, and also for making cement

slag heap *noun* INDUST a large pile of waste material from an industrial process such as smelting or from coal mining

slant *noun* a slope or inclination ■ *verb* to slope

slash *verb* to make a long cut in something with a knife

slash and burn agriculture *noun* AGRIC a form of agriculture in which forest is cut down and burnt to create open space for growing crops. Also called **swidden farming** (NOTE: The space is abandoned after several crops have been grown and then more forest is cut down.)

slate *noun* EARTH SCI a hard metamorphic rock which splits easily along cleavage lines, used especially for making roofs

slaughter *noun* the killing of a large number of animals ■ *verb* 1. AGRIC to kill animals for food 2. to kill large numbers of animals ○ *Thousands of seals were slaughtered annually.*

slave processor *noun* COMPUT a dedicated processor controlled by a master processor

sleep *noun* 1. BIOL a state of unconsciousness during which the body rests 2. COMPUT the state of a system that is waiting for a log-on signal before doing anything ■ *verb* to be asleep or fall asleep

sleeping sickness *noun* MED an African disease caused by trypanosomes spread by the tsetse fly infesting the blood

sleet METEOROL *noun* icy rain ■ *verb* to fall as icy rain

slice *noun* a section or piece of something **slick** *noun* a patch of something thin or slippery on a surface, especially of oil floating on water

slide *noun* a device which allows continuous movement over a smooth surface ■ *verb* to move continuously over a smooth surface ○ *Shear stress is the stress that resists the force tending to cause one layer of a material to slide over an adjacent layer.* (NOTE: **sliding – slid**)

slide rule *noun* MATHS a graduated device with sliding parts marked with scales for performing complex mathematical operations

slime *noun* 1. BIOL a mucous substance secreted by an organism such as a snail 2. BIOL a coating of green algae on rocks or other surfaces 3. any thick liquid substance regarded as unpleasant

slip-off slope *noun* EARTH SCI a gently sloping bank on the inside of a river with large bends (**meanders**)

slipped disc *noun* MED one of the discs of cartilage separating the bones of the spine that has become displaced or protrusive and causes pain by pressing on a nerve

slit *noun* a long thin gap in something ■ *verb* to cut a slit in something

slope *noun* a slanting surface or slanting piece of ground ■ *verb* to be inclined at an angle

slot *noun* a long thin hole that can hold something ○ *The system disk should be inserted into the left-hand slot on the front of the computer.* ■ *verb* to fit into or insert an object into a hole ○ *The disk slots into one of the floppy drive apertures.*

slough BIOL *noun* dead tissue, especially dead skin, which has separated from healthy tissue ■ *verb* (of a snake) to let dead skin fall off as part of a natural process

slow neutron *noun* PHYS a relatively slow-moving neutron with low kinetic energy. Also called **thermal neutron**

(NOTE: Slow neutrons can cause nuclear fission.)

slow-wave sleep *noun* BIOL a state of dreamless sleep characterized by slow brain waves and lowered heart rate, respiration, and blood pressure

SLSI *abbreviation* ELECTRONICS super large scale integration

sludge *noun* **1.** a thick wet substance, especially wet mud or snow **2.** INDUST the solid or semi-solid part of sewage

slurry *noun* **1.** CHEM a liquid containing a suspended solid **2.** AGRIC liquid or semi-liquid waste from animals, stored in tanks or lagoons and treated to be used as fertilizer

small computer systems interface *noun* COMPUT a standard high-speed parallel interface used to connect computers to peripheral devices such as disk drives and scanners. Abbr **SCSI**

small intestine *noun* ANAT the narrow section of the gut after the stomach, where most of the food is digested and absorbed (NOTE: Its three sections are called the duodenum, jejunum and ileum.)

small-scale *adjective* small in size or limited in scope. Compare **large-scale**

small-scale integration *noun* ELECTRONICS an integrated circuit with 1 to 10 components. Abbr **SSI**

Smalltalk *noun* COMPUT an object-oriented programming language developed by Xerox

smart card *noun* ELECTRONICS a plastic card with a memory and microprocessor device embedded in it, so that it can be used for electronic funds transfer or for identification of the user

smart wiring hub *noun* COMPUT a network hub or concentrator that can transmit status information back to a managing station and allows management software to configure each port remotely *o* *Using this management software, I can shut down Tom's port on the remote smart wiring hub.*

SMB *abbreviation* COMPUT server message block

smear *noun* BIOTECH a sample of soft tissue such as blood or mucus taken from a patient and spread over a glass slide to be examined under a microscope

smelt *verb* INDUST to extract metal from ore by heating it

smelter *noun* INDUST a processing facility where ore is heated and metal extracted from it

smelting *noun* INDUST the process of extracting metal from ore by heating

smiley *noun* COMPUT a face created with text characters, used to provide the real meaning to an email message. Also called **emoticon** (NOTE: For example, :-) means laughter or a joke and :-(means sad.)

S/MIME *abbreviation* COMPUT secure/multipurpose Internet mail extension

smog *noun* ENVIRON a form of air pollution in towns, caused by warm damp air combined with exhaust fumes from cars

COMMENT: Smog originally meant smoke and fog, and it was caused by coal smoke in foggy weather in winter. Today's smog is usually caused by car exhaust fumes and can occur in sunny weather. When the atmosphere near ground level is polluted with nitrogen oxides from burning fossil fuels together with hydrocarbons, ultraviolet light from the Sun sets off a series of reactions that result in photochemical smog, containing, among other substances, ozone. Temperature inversion (where the air temperature at ground level is colder than the air above) helps to form smog by making it impossible for the pollutants in the air to rise.

smoke *noun* CHEM a white, grey or black mass of small particles in the air, produced by something which is burning *o* *The room was full of cigarette smoke.* *o* *Several people died from inhaling toxic smoke.* ■ *verb* **1.** to emit smoke *o* *The volcano is still smoking.* **2.** FOOD INDUST to preserve food by hanging it in the smoke from a fire (NOTE: Smoking is used mainly for fish, but also for some bacon and cheese.)

COMMENT: By banning the use of fuels which create smoke, the air above towns has become much cleaner than it was. This has the disadvantage of allowing the sunlight to penetrate and cause photochemical reactions to take place, increasing the acidity of the atmosphere, with the result that apparently clean air can be as dangerous as smog.

smokestack *noun* INDUST a very tall industrial chimney, usually containing several flues

smoky *adjective* ENVIRON full of smoke *o* *a smoky room*

smooth *adjective* **1.** even and without lumps or dents *o* *a smooth surface* **2.** not rough or turbulent *o* *High ground will disturb the smooth, horizontal flow of air.* □ **a**

smooth running engine an engine which is operating well

smooth muscle *noun* ANAT a type of muscle found in involuntary muscles. Also called **unstriated muscle**

SMT *abbreviation* COMPUT surface-mount technology ○ *SMT is faster and more space-efficient than soldering.*

SMTP *abbreviation* COMPUT simple mail transfer protocol. Compare **POP 3**

smut *noun* **1.** CHEM a small black piece of carbon emitted from a fire ○ *Smuts from the oil depot fire covered the town.* **2.** BIOL a disease of cereal plants, caused by a fungus, that affects the development of the grain and makes it look black

Sn *symbol* CHEM ELEM tin

SNA *abbreviation* COMPUT Systems Network Architecture

SNMP *abbreviation* COMPUT simple network management protocol

SNOBOL *noun* COMPUT a high-level programming language that uses string processing methods. Full form **string oriented symbolic language**

snow *noun* **1.** METEOROL water which falls as light pieces of white ice in cold weather **2.** PHYS interference displayed as flickering white flecks on a monitor ■ *verb* to fall as snow ○ *It snowed heavily during the night.*

snow blindness *noun* MED a temporary painful blindness caused by bright sunlight shining on snow

snowfall *noun* METEOROL a quantity of snow that comes down at any one time ○ *A heavy snowfall blocked the main roads.*

snowflake *noun* METEOROL a small piece of snow formed from a number of ice crystals

snow line *noun* EARTH SCI a line on a high mountain above which there is permanent snow

snow-melt *noun* EARTH SCI the melting of snow in spring, often the cause of floods

snowstorm *noun* METEOROL a heavy fall of snow accompanied by wind

snowy *adjective* **1.** METEOROL referring to weather or a period when a lot of snow falls ○ *a period of snowy weather* ○ *a snowy night* **2.** covered with snow

SNP *abbreviation* BIOTECH single nucleotide polymorphism

soak *verb* **1.** PHYS to put something in liquid, so that it absorbs some of it ○ *The*

newspaper is soaked in water, then formed into bricks and dried. **2.** COMPUT to run a program or device continuously for a period of time to make sure it functions correctly

soakaway *noun* EARTH SCI a channel in the ground filled with gravel, which takes rainwater from a downpipe or liquid sewage from a septic tank and allows it to be absorbed into the surrounding soil

soak-test *verb* COMPUT same as **soak** ○ *The device was soak-tested prior to delivery.*

soak up *verb* PHYS to absorb a liquid

soap *noun* CHEM a metallic salt of a fatty acid such as stearic acid, used as a cleansing agent

soar *verb* ZOOLOG (*of a bird*) to fly high up or stay airborne without any movement of the wings by floating on the upward movement of warm air

social *adjective* ECOL referring to a group of animals or people

social animal *noun* ZOOLOG an animal such as an ant or bee that lives in an organised society

social carnivore *noun* ZOOLOG a meat-eating animal that lives and hunts in a group, e.g. a lion or wolf

social group *noun* **1.** ZOOLOG a group of people or animals living together in an organised way **2.** a group of people with a similar position in society

social parasite *noun* BIOL a parasite that benefits from the host's usual behaviour, e.g. a cuckoo, which lays its eggs in the nest of another bird who then brings up the cuckoo's young as if it were its own

social responsibility *noun* ENVIRON concern for the effects upon society of activities that are undertaken, such as a concern for the effects on people's health of environmental pollution and industrial processes

society *noun* **1.** ZOOLOG a group of people or animals that live together in an organised way **2.** BOT a group of plants within a larger community **3.** a group of people who live together and have the same laws and customs

socket *noun* ELEC a device with a set of holes, into which a plug fits

soda *noun* CHEM same as **sodium hydroxide**

soda ash *noun* CHEM same as **sodium carbonate**

soda lake *noun* EARTH SCI a salt lake with a high concentration of sodium in the water

soda lime *noun* CHEM a mixture of sodium hydroxide and calcium hydroxide, used to absorb moisture and carbon dioxide

sodium *noun* CHEM ELEM a chemical element which is a constituent of common salt and essential to animal life (NOTE: The chemical symbol is **Na**; the atomic number of **11** and the atomic weight is **22.99**.)

sodium aluminate *noun* CHEM a solid, white-coloured substance, normally used in water-purification. Formula: NaAlO_2 .

sodium balance *noun* PHYSIOL a balance maintained in the body between salt lost in sweat and urine, and salt taken in from food (NOTE: The balance is regulated by aldosterone.)

sodium bicarbonate *noun* CHEM a white crystalline alkaline salt, used as a raising agent, antacid and in fizzy drinks and fire extinguishers. Formula: NaHCO_3 .

sodium bisulfate *noun* CHEM same as **sodium hydrogensulfate**

sodium bisulfite *noun* CHEM same as **sodium hydrogensulfite**

sodium bromide *noun* CHEM a white crystalline solid. Formula: NaBr .

sodium carbonate *noun* CHEM a white crystalline salt of carbonic acid. Formula: Na_2CO_3 .

sodium chlorate *noun* AGRIC a herbicide which is taken up into the plant through the roots

sodium chloride *noun* CHEM common salt. Formula: NaCl .

sodium hydrogensulfate, sodium hydrogensulphate *noun* CHEM a white solid used in making sulfuric acid. Formula: $\text{NaHSO}_4 \cdot \text{H}_2\text{O}$. Also called **sodium bisulfate**

sodium hydrogensulfite, sodium hydrogensulphite *noun* CHEM a white powder, used as an antiseptic. Formula: NaHSO_3 . Also called **sodium bisulfite**

sodium hydroxide *noun* CHEM a compound of sodium and water which is used to make soap and to clear blocked drains. Formula: NaOH .

sodium monoxide *noun* CHEM a white solid that is a strong base. Formula: Na_2O .

sodium nitrate *noun* CHEM a white crystalline salt, used as a fertiliser and in curing meat. Formula: NaNO_3 .

sodium peroxide *noun* CHEM an odourless yellowish powder, used as a bleaching agent, antiseptic and disinfectant. Formula: Na_2O_2 .

sodium pump *noun* BIOCHEM the active process that exchanges sodium ions for potassium ions across a cell membrane

sodium sulfate, sodium sulphate *noun* CHEM a bitter-tasting white solid, used in making glass, rayon, dyes, detergents and purgatives. Formula: Na_2SO_4 .

sodium sulfide, sodium sulphide *noun* CHEM an amorphous solid that dissolves in moist air. Formula: Na_2S .

sodium sulfite, sodium sulphite *noun* CHEM a white soluble crystalline solid, used in photography and as a bleach. Formula: Na_2SO_3 .

soft *adjective* **1.** not hard **2.** PHYS referring to material that loses its magnetic effects when removed from a magnetic field **3.** COMPUT referring to data that is not permanently stored in hardware (NOTE: It usually refers to data stored on a magnetic medium.)

soft coal *noun* INDUST coal which is not as efficient a fuel as anthracite and produces more smoke when it burns

soft copy *noun* COMPUT text displayed on a computer screen. Compare **hard copy**
soft detergent *noun* INDUST a detergent that is broken down in water but which can cause eutrophication and algal bloom

soften *verb* to make something soft or become soft

softener *noun* CHEM a substance which makes something become soft

soft error *noun* COMPUT a random error caused by software or data errors (NOTE: This type of error is very difficult to trace and identify since it only appears in some conditions.)

soft goods *plural noun* COMPUT software that is purchased and paid for in an online shop, but is then downloaded directly onto the computer

soft hyphen *noun* PRINTING a hyphen that is inserted only when a word is split at the end of a line

soft reset *noun* COMPUT an instruction that terminates any program execution and

returns the user to the monitor program or BIOS

software *noun* COMPUT any program or group of programs that instructs the hardware on how it should perform, including operating systems, word processors and applications programs (NOTE: no plural)

software-compatible *adjective* COMPUT referring to a computer that will load and run programs written for another computer

software developer *noun* COMPUT a person or company that writes software

software engineering *noun* COMPUT a field of study covering all software-related subjects

software system *noun* COMPUT an assembly of all the programs required for one or more tasks

soft water *noun* CHEM water that does not contain calcium and other minerals that are found in hard water and is easily able to make soap lather

softwood *noun* 1. INDUST the open-grained wood produced by pine trees and other conifers 2. TREES a pine tree or other conifer that produces such wood. Compare **hardwood**

soil *noun* EARTH SCI the earth in which plants grow

COMMENT: Soil is a mixture of mineral particles, decayed organic matter and water. Topsoil contains chemical substances which are leached through into the subsoil where they are retained.

Soil Association *noun* a UK organisation that certifies organically grown food

soil conservation *noun* AGRIC the use of a range of methods to prevent soil from being eroded or overcultivated. Also called **conservation of soil**

soil contamination *noun* the presence of chemical or biological elements which affect the soil's natural function

soil creep *noun* EARTH SCI a slow movement of soil downhill

soil depletion *noun* EARTH SCI a reduction of the soil layer by erosion

soil drainage *noun* EARTH SCI the flow of water from soil, either naturally or through pipes and drainage channels inserted into the ground

soil erosion *noun* EARTH SCI the removal of soil by the effects of rain, wind, sea or cultivation practices

soil fauna *plural noun* ZOO invertebrate animals that live in soil, e.g. earthworms

soil fertility *noun* EARTH SCI the potential capacity of soil to support plant growth based on its content of nitrogen and other nutrients

soil flora *plural noun* BOT microorganisms such as fungi and algae that live in soil

soil horizon *noun* EARTH SCI a layer of soil that is of a different colour or texture from other layers (NOTE: There are four soil horizons: the A horizon or topsoil containing humus; the B horizon or subsoil containing minerals leached from the topsoil and little organic matter; the C horizon or weathered rock; and the D horizon or bedrock.)

soil improvement *noun* AGRIC the practice of making the soil more fertile by methods such as draining and manuring

soilless gardening *noun* AGRIC same as **hydroponics**

soil management *noun* the study of soil's physical properties and how to maintain a healthy and functional soil system

soil map *noun* EARTH SCI a map showing the different types of soil found in an area

soil nutrition *noun* 1. the condition of soil in terms of the plant nutrients it contains 2. the action of putting nutrients into soil through the application of fertilisers ○ *Use muck and some seaweed for soil nutrition.*

soil organic matter *noun* decayed or decaying vegetation that forms part of soil. Abbr **SOM**

soil profile *noun* EARTH SCI a vertical section through the soil showing the different layers

soil salinity *noun* EARTH SCI the quantity of mineral salts found in a soil (NOTE: High soil salinity is detrimental to most agricultural crops, although some plants are adapted to such conditions.)

soil sample *noun* EARTH SCI a small quantity of soil used for testing

soil science *noun* EARTH SCI the scientific study of all aspects of soil, including its formation, distribution and structure

soil structure *noun* EARTH SCI the arrangement of soil particles in groups or individually, giving a loose or firm texture

soil texture *noun* EARTH SCI the structure of soil based on the relative propor-

tions of particles of different sizes it is composed of (NOTE: There are four main classes of soil texture: clay, silt, sand and loam. Loam, which contains a mixture of soil particles, is the most suitable for growing crops.)

solar *adjective* **1.** ASTRON referring to the Sun **2.** INDUST using the energy of the Sun or driven by power from the Sun

solar cell *noun* ELEC a photoelectric device that converts solar energy into electricity

solar collector *noun* INDUST same as **solar panel**

solar constant *noun* PHYS the rate at which solar energy arrives at the Earth, equal to about 13.5 watts per square metre in space just above Earth's atmosphere (NOTE: The solar constant is not constant, and it is unclear whether its day-to-day and year-to-year variations are accompanied by long-term variations which could have important effects on the evolution of life on Earth, modern-day climate change and the incidence of Ice Ages.)

solar cycle *noun* ASTRON the 22-year period over which the pattern of sunspots on the Sun's surface repeats itself (NOTE: Analysis of sunspot records shows that the full cycle appears to incorporate two 11-year periods.)

solar day *noun* TIME the day measured in terms of the time taken for the Sun to return to the same point in the sky, equal to about 24 hours 4 minutes

solar dryer *noun* AGRIC a device for drying crops using the heat of the sun

solar eclipse *noun* ASTRON a situation when the Moon passes between the Sun and the Earth during the daytime and the shadow of the Moon falls across the Earth, so cutting off the Sun's light. Compare **lunar eclipse**

solar energy *noun* INDUST electricity produced from the Sun's radiation. Also called **solar power**, **solar-generated energy**, **solar-generated power**

COMMENT: The Sun emits radiation in the form of ultraviolet rays, visible light and infrared heating rays. Solar energy can be collected by various methods, most often by heating water, which is then passed into storage tanks. Although solar energy is easy to collect, the problem is in storing it in order to make sure that power is available for use during the night or when it is cloudy.

solar flare *noun* ASTRON a sudden flash of bright radiation from the Sun which

affects radio waves and is associated with sunspot activity

solar gain *noun* ENVIRON the amount of heat in a building derived from solar radiation through windows or transparent walls

solar-generated energy, **solar-generated power** *noun* INDUST same as **solar energy**

solar heating *noun* ENG the use of the Sun's energy to heat water as it passes through heat-absorbing panels

solar irradiation *noun* PHYS rays which are emitted by the Sun

solarisation, **solarization** *noun* AGRIC exposure to the rays of the Sun, especially for the purpose of killing pests in the soil, by covering the soil with plastic sheets and letting it warm up in the sunshine

solar panel *noun* ENG a device with a dark surface which absorbs the sun's radiation and uses it to heat water. Also called **solar collector**, **collector panel**

solar power *noun* INDUST same as **solar energy**

solar-powered *adjective* INDUST powered by energy derived from the Sun's rays
○ a *solar-powered steam pump*

solar radiation *noun* PHYS rays which are emitted by the Sun

solar system *noun* ASTRON the Sun and all the objects under its gravitational influence

solar thermal *noun* INDUST a form of power generation that uses concentrated sunlight to heat a fluid that is then used to drive a motor or turbine

solar wind *noun* ASTRON the stream of particles being driven constantly off the surface of the Sun into interplanetary space, moving at several hundred kilometres per second, and consisting largely of protons and electrons plus a few per cent of alpha particles (NOTE: The Earth is protected from the solar wind by its own atmosphere and its magnetic field.)

solar year *noun* TIME the year measured from equinox to equinox, equal to 365.24 days. Also called **tropical year**

solder *noun* METALL an alloy with a low melting point, typically a mixture of tin and lead, used to join metallic parts ■ *verb* INDUST to join parts using solder

solenoid *noun* ELEC a cylindrical coil of wire acting as a magnet when carrying electric current
○ *Fuel is metered from the*

fuel system by a solenoid-operated control valve.

solid *adjective* **1.** CHEM not liquid or gaseous ○ *a lump of solid matter* ○ *a solid object* ○ *Visibility is reduced by the presence of solid particles such as dust or sand in the atmosphere.* **2.** continuous, unbroken or overall ○ *a solid line* ○ *a solid block of colour* ■ *noun* CHEM a substance which is not a liquid or a gas ○ *Ice is a solid, water is a liquid and vapour is a gas.*

solid colour *noun* COMPUT a colour that can be displayed on a screen or printed on a colour printer without dithering

solid error *noun* COMPUT an error that is always present when certain equipment is used

solid fuel *noun* INDUST coal, coke or wood

solidification *noun* the process of becoming solid

solidify *verb* to become solid ○ *Carbon dioxide solidifies at low temperatures.*

solid modelling *noun* COMPUT a function in a graphics program that creates three-dimensional solid-looking objects by shading

solids *plural noun* FOOD food that has to be chewed

solid-state *adjective* ELECTRONICS referring to semiconductor devices

solid-state ballast lamp *noun* ELEC a fluorescent light bulb containing a ballast that reduces the amount of current needed to keep the lamp bright

solid-state device *noun* ELECTRONICS an electronic device that operates by using the effects of electrical or magnetic signals in a solid semiconductor material

solid-state technology *noun* ELECTRONICS the technology using the electronic properties of solids to replace those of valves

solid waste *noun* ENVIRON a type of waste matter that is hard and not liquid

solifluction *noun* EARTH SCI a gradual downhill movement of wet soil

solstice *noun* ASTRON one of the two times of year when the Sun is at its furthest point, either north or south, from the equator

solubility *noun* CHEM the ability of a substance to dissolve in another substance or solvent at a given temperature and pressure

solubility product *noun* CHEM a concentration of ions in a solution saturated with an electrolyte

soluble *adjective* CHEM referring to a substance that can be dissolved ○ *fat-soluble* ○ *water-soluble*

soluble fibre *noun* FOOD fibre found in vegetables, fruit, pulses and porridge oats, which is partly digested in the intestine and reduces the absorption of fats and sugar into the body, so lowering the level of cholesterol

solum *noun* EARTH SCI soil, including both topsoil and subsoil

solute *noun* CHEM a solid substance which is dissolved in a solvent to make a solution

solution *noun* **1.** the act or means of solving a problem or difficulty ○ *The solution was to protect the plants from trampling.* **2.** the answer to or a way of removing a problem or difficulty ○ *found a solution* **3.** CHEM a change of a solid or gas into a liquid by dissolving in water or some other liquid **4.** CHEM a mixture of a solid substance dissolved in a liquid ○ *a dilute solution of sodium bicarbonate*

solvate CHEM *verb* to enter into solution with a solvent, or cause a solute to dissolve in solution with a solvent ■ *noun* a compound consisting of an ion or molecule of solute combined with one or more of solvent

Solvay process *noun* INDUST the industrial process that produces sodium carbonate or washing soda from common salt

solve *verb* to find the answer to, or a way of removing, a difficulty or problem ○ *The triangle of velocities is used to solve navigation problems.*

solvent *noun* CHEM a liquid in which a solid substance can be dissolved

solvolysis *noun* CHEM a chemical reaction between a solute and its solvent

SOM *abbreviation* soil organic matter

somatic *adjective* BIOL referring to cells not involved in sexual reproduction

sonar *noun* PHYS a method of finding objects under water by sending out sound waves and detecting returning sound waves reflected by the object

sonde *noun* METEOROL a device attached to a balloon or rocket, for measuring and taking samples of the atmosphere

son file *noun* COMPUT the latest working version of a file

sonic *adjective* PHYS referring to sound waves

sonic boom *noun* ACOUSTICS a loud noise made by the shock waves produced by an object such as an aircraft or a bullet travelling through the air at or faster than the speed of sound

COMMENT: The shock waves of a sonic boom can cause objects to resonate so violently that they are damaged. Supersonic aircraft generally fly at speeds greater than the speed of sound only over the sea, to avoid noise nuisance and damage to property.

soot *noun* ENVIRON a black deposit of fine particles of carbon which rise in the smoke produced by the burning of material such as coal, wood or oil

sorghum *noun* PLANTS a drought-resistant cereal plant grown in semi-arid tropical regions such as Mexico, Nigeria and Sudan. Latin name: *Sorghum vulgare*.

sort *verb* to put data into order, according to a system ○ *Sort the addresses into alphabetical order.* ○ *Sort orders according to account numbers.*

sorting pass *noun* COMPUT a single run through a list of items to put them into order

sortkey, sort field *noun* COMPUT a field in a stored file which is used to sort the file ○ *The orders were sorted according to dates by assigning the date field as the sortkey.*

sort/merge *noun* COMPUT a program which allows new files to be sorted and then merged in correct order into existing files

sound *adjective* strong ○ *a sound structure* ■ *noun* ACOUSTICS something that can be heard and is caused by vibration of the surrounding air ■ *verb* **1.** to make a noise ○ *A warning horn will sound if the door opens.* **2.** to seem on the basis of an account ○ *It sounds as if there is a problem.*

sound absorption factor *noun* PHYS a number indicating the amount of sound energy absorbed by a surface

sound bandwidth *noun* ACOUSTICS the range of frequencies that a human ear can register, normally from 20Hz to 20KHz

sound barrier *noun* PHYS the air resistance encountered by objects moving at speeds near the speed of sound

sound capture *noun* COMPUT the conversion of an analog sound into a digital form that can be used by a computer

sound card *noun* COMPUT expansion card which produces analog sound signals under the control of a computer ○ *This software lets you create almost any sound – but you can only hear them if you have a sound card fitted.*

sound pressure level *noun* MEASURE, ACOUSTICS a measure of loudness, in decibels. Abbr **SPL**

sound wave *noun* ACOUSTICS a pressure wave produced by vibrations, which is transmitted through air or a solid and detected by a human ear or a microphone (NOTE: In a microphone sound waves are converted to electrical signals.)

source *noun* **1.** a substance or object which produces something ○ *Hot rocks are a potential energy source.* ○ *Plants tend to turn towards a light source.* **2.** EARTH SCI the place where a river starts to flow ○ *The source of the Nile is in the mountains of Ethiopia.* **3.** TELECOM a point where a transmitted signal enters a network **4.** an original or initial point

source address filtering *noun* COMPUT a feature of some bridges which detects a particular address in the received packet and either rejects or forwards the data

source book *noun* COMPUT a library file from which elements or objects are copied and used

source code *noun* COMPUT a set of codes written by a programmer that cannot be directly executed by a computer but has to be translated into an object code program by a compiler or interpreter

source language *noun* COMPUT the language of a program prior to translation

source program *noun* a program, prior to translation, written in a programming language by a programmer

south *noun* NAVIG the compass point 180° clockwise from due north and directly opposite north ○ *fly towards the south* ■ *adjective* **1.** NAVIG referring to the compass point 180° from north ○ *the south side of the river* **2.** GEOG situated in the south ■ *adverb* NAVIG towards the south ○ *The aircraft is flying south.*

south-east *noun* NAVIG the direction between south and east ○ *a region in the south-east of Canada* ■ *adjective* **1.** GEOG

situated in the south-east ○ *the south-east coast of England* **2.** METEOROL blowing from the south-east ○ *a south-east wind* ■ **adverb** NAVIG towards the south-east ○ *We were heading south-east.*

southerly *adjective* NAVIG to or from the south ○ *The typhoon is moving in a southerly direction at 25 knots.* ■ **noun** METEOROL a wind which blows from the south

southern *adjective* GEOG, NAVIG situated in the south or towards the south

Southern blot *noun* BIOTECH a technique for transferring DNA restriction fragments onto a membrane filter for identification with a gene probe

southern hemisphere *noun* EARTH SCI the lower half of the Earth

Southern Lights *plural noun* METEOROL a spectacular illumination of the sky in the southern hemisphere caused by ionised particles striking the atmosphere. Also called **Aurora Australis**

Southern Oscillation *noun* METEOROL a regular cycle by which air is exchanged between the Pacific basin and the Indian Ocean, occurring every two to five years and linked to changes in the sea temperature and to the El Niño effect

South Pole *noun* EARTH SCI the point which is furthest south on the earth

south-west *noun* NAVIG the direction between south and west ○ *a region in the south-west of Canada* ■ **adjective** **1.** GEOG situated in the south-west ○ *the south-west coast of England* **2.** METEOROL blowing from the south-west ○ *a south-west wind* ■ **adverb** NAVIG towards the south-west ○ *We were heading south-west.*

south wind *noun* METEOROL a wind blowing from or coming from the south (NOTE: A wind is named after the direction it comes from.)

sow *verb* AGRIC to put seeds into soil so that they will germinate and grow ■ **noun** ZOO a female pig

soya *noun* PLANTS a plant that produces edible beans which have a high protein and fat content and very little starch. Latin name: *Glycine max.* Also called **soya bean**

soya bean, soybean *noun* **1.** BOT a bean from a soya plant **2.** PLANTS same as **soya**
COMMENT: Soya beans are very rich in protein and apart from direct human consumption are used for their oil and as livestock feed.

SP *abbreviation* COMPUT stack pointer

sp. *abbreviation* BIOL species (NOTE: The plural, for several species, is **spp.**)

space *noun* **1.** a gap between things **2.** PHYS the physical universe outside Earth's atmosphere ○ *VHF waves tend to pass through the layers of the ionosphere into space.*

space bar *noun* COMPUT a long bar at the bottom of a keyboard, which inserts a space into the text when pressed

space capsule *noun* ASTRON a vehicle or cabin designed to support life and used for transporting human beings or animals in outer space or at very high altitudes within the Earth's atmosphere

space character *noun* COMPUT a character code which prints a space

spacecraft *noun* ASTRON a vehicle or device designed for travel or use in space

space probe *noun* AEROSP a device sent into space to obtain information about conditions in space

Space Shuttle *noun* AEROSP a reusable space launcher developed in the US by NASA and first used in 1981

space station *noun* ASTRON a spacecraft or satellite designed to be occupied by a crew for extended periods of time and used as a base for the exploration, observation, and research of space

spacesuit *noun* ASTRON a sealed pressurised suit designed to support the wearer's life in space

space-time foam *noun* PHYS same as **quantum foam**

spacewalk ASTRON *noun* an excursion by an astronaut or cosmonaut outside the spacecraft ■ *verb* to go out of a spacecraft in order to perform a task or experiment

spacing *noun* PRINTING the insertion of spaces between characters or lines of printed text, or the way in which spaces were inserted ○ *The spacing on some lines is very uneven.*

span *noun* **1.** the distance between two points **2.** COMPUT a set of allowed values between a maximum and minimum ■ *verb* to bridge a distance between two points

spanning tree *noun* COMPUT a method of creating a network topology that does not contain any loops and provides redundancy in case of a network fault or problem

spar *noun* AEROSP the main longitudinal beam of an aircraft wing

SPARC *noun* COMPUT a RISC processor designed by Sun Microsystems which is used in its range of workstations. Full form **scalar processor architecture**

spare part *noun* ENG a small piece of a machine that is needed to replace a piece which is broken or missing

spark *noun* ELEC a light produced by a sudden electrical discharge ○ *An electric spark from an igniter plug starts combustion and the flame is then continuous.*

spark plug *noun* MECH ENG a device screwed into each cylinder head of a spark ignition engine, which initiates fuel combustion by an electric spark

sparse array *noun* MATHS a data matrix structure that contains mainly zero or null entries

spathe *noun* BOT a large funnel-shaped bract, often coloured, around a flower head

spawn ZOO *noun* a mass of eggs produced by a fish or reptile ○ *Frog spawn develops into tadpoles.* ■ *verb* (of a fish or reptile) to produce a mass of eggs

spawning ground *noun* ZOO an area of water where fish come each year to produce their eggs

spay *verb* to remove the ovaries of a female animal

speaker *noun* ACOUSTICS same as **loud-speaker**

special *adjective* **1.** not usual **2.** for one particular purpose **3.** highly valued ○ *The doctor has put him on a special diet.*

specialisation, specialization *noun* **1.** the activity of being concerned with one particular area of knowledge in detail **2.** a particular area of knowledge

specialise, specialize *verb* to be concerned with one particular area of knowledge in detail ○ *She specialises in the study of conifers.*

specialist *noun* **1.** a person who specialises in a particular area of knowledge ○ *They have called in a contamination specialist.* **2.** BIOL an organism which only lives on one type of food or in a very restricted habitat

speciality *noun* a particular area of knowledge that a person is concerned with in detail

Special Theory of Relativity *noun* PHYS ▶ **relativity**

speciation *noun* BIOL the process of developing new species

species *noun* BIOL a group of organisms that can interbreed. A species is a division of a genus. Abbr **sp.** (NOTE: The plural is **species**.)

species barrier *noun* GENETICS the inability of members of different species to produce healthy offspring if they mate or cross

species diversity *noun* ECOL the range of species found in an area

species richness map *noun* a map showing the distribution of species in an area

specific *adjective* **1.** clearly defined and definite ○ *The airframe has to be built to very specific requirements.* **2.** characteristic of something **3.** BIOL referring to species **4.** PHYS referring to a physical quantity expressed per unit mass

specific activity *noun* PHYS the number of disintegrations of a radio-isotope in a period of time

specific address *noun* COMPUT a storage address which directly, without any modification, accesses a location or device

specification *noun* a detailed description of the composition of something, of what is needed, or of what is involved in doing something ○ *The specification requires gaps of 5mm.* ○ *Fluids are coloured for recognition purposes and fluids of different specifications must never be mixed.* ○ *The work was rejected as not up to specification.* ○ *The product meets the customer's specifications.*

specific charge *noun* PHYS the electric charge of an elementary particle divided by its mass

specific coding *noun* COMPUT a program code which has been written so that it only uses absolute addresses and values

specific gravity *noun* PHYS a measure of the density of a substance

specific heat capacity *noun* PHYS the amount of energy needed to raise the temperature of unit mass of a substance by unit temperature interval under constant conditions (NOTE: It is usually measured in joules per kelvin per kilogram.)

specific humidity *noun* PHYS a ratio between the amount of water vapour in air and the total mass of the mixture of air and water vapour

specificity *noun* the characteristic of having a specific range or use ○ *Parasites*

show specificity in that they live on only a limited number of hosts.

specific name *noun* BIOL the scientific name by which a species is differentiated from other members of the genus (NOTE: It is the second name in the binomial classification system, the first being the name which identifies the genus. It is written with a small letter.)

specific surface *noun* CHEM the surface area of a solid substance per unit mass

specify *verb* to state clearly what is needed

specimen *noun* **1.** a representative of a group, especially an animal or plant *o a rare double-flowered specimen* **2.** SCI, MED a small quantity of something given for testing *o Scientists have taken away soil specimens for analysis.*

spectra *noun* PHYS plural of **spectrum**

spectral *adjective* produced by a spectrum or relating to a spectrum

spectral type *noun* ASTRON a classification system of stars based on an analysis of the light they emit which also gives information on a star's temperature and chemical composition

spectrography *noun* PHYS the recording of a spectrum on photographic film

spectrometer *noun* PHYS an instrument for measuring and sometimes recording a spectrum

spectrometry *noun* ASTRON the measurement and analysis of spectra for the determination of characteristics such as the composition and motion of astronomical objects

spectrophotometer *noun* PHYS an apparatus for measuring the relative intensities of wavelengths in a spectrum

spectroscope *noun* PHYS an instrument used to analyse a spectrum

spectroscopy *noun* PHYS the science of producing and analysing spectra

spectrum *noun* **1.** a range of different but related things or stages **2.** PHYS the distribution of energy from a body in terms of its frequency, in any part of the electromagnetic spectrum or the whole of it

speech chip *noun* COMPUT an integrated circuit which generates sounds, usually phonemes, which when played together sound similar to human speech

speech quality *noun* COMPUT a sound recorded at a low bandwidth with a small

sample size (NOTE: For example, in CD-i it is Level C with 4-bit samples and a rate of 18.9KHz.)

speech recognition *noun* COMPUT the analysis of spoken words in such a way that a computer can recognise spoken words and commands

speech synthesis *noun* COMPUT the production of spoken words by a speech synthesiser

speed *noun* PHYS the rate of motion over a distance in time

speed brake *noun* AEROSP same as **spoiler 2**

speed of light *noun* PHYS the constant speed at which light and all electromagnetic radiation travels through a vacuum, equal to 2.998×10^8 metres per second

speed of loop *noun* COMPUT a method of benchmarking a computer by measuring the number of loops executed in a particular amount of time

speed of sound *noun* PHYS the speed at which sound waves travel through a medium (NOTE: It is slower than the speed of light, so the rumble of thunder is heard after the flash of lightning from a distant storm has been seen.)

spell *noun* **1.** a short period *o take a spell at the wheel* **2.** METEOROL a short period when the weather does not change *o There will be some fine spells over the east of the country. o The south has experienced the longest spell of rainy weather since records were first taken.*

spellcheck *verb* COMPUT to check the spelling in a text by comparing it with a dictionary held in the computer

spellchecker, spelling checker *noun* COMPUT a program that checks the spelling in a text by comparing it with a dictionary held in the computer *o The program will be upgraded with a word-processor and a spelling checker.*

spent fuel *noun* INDUST fuel which has been used in a nuclear reactor but which is still fissile and can be reprocessed *o Tonnes of spent fuel are sent for reprocessing.*

sperm *noun* BIOL same as **spermatozoon** (NOTE: The plural is **sperm**.)

spermat- *prefix* BIOL same as **spermato-** (NOTE: used before vowels)

spermatric *adjective* BIOL referring to spermatozoa

spermatic artery *noun* ANAT an artery which leads into the testes. Also called **testicular artery**

spermatid *noun* BIOL an immature cell, formed from a spermatocyte, which becomes a spermatozoon

spermato- *prefix* BIOL spermatozoa

spermatocyte *noun* BIOL an early stage in the development of a spermatozoon

spermatogenesis *noun* BIOL the formation and development of spermatozoa

spermatogonium *noun* BIOL a cell which forms a spermatocyte

spermatophyte *noun* BOT a seed-producing plant such as an angiosperm or a gymnosperm

spermatozoon *noun* BIOL a mature male sex cell that is capable of fertilising an ovum (NOTE: The plural is **spermatozoa**.)

COMMENT: A spermatozoon is very small and comprises a head, neck and very long tail. It can swim by moving its tail from side to side.

sperm bank *noun* MED a collection of spermatozoa from donors, kept until needed for artificial insemination

sperm count *noun* MED a calculation of the number of spermatozoa in a quantity of semen

spermicide *noun* MED a substance that kills spermatozoa

sperm whale *noun* MARINE BIOL a large toothed whale with a massive head inside which is a cavity containing sperm oil for which it was formerly hunted

sphagnum *noun* PLANTS a type of moss that grows in acid conditions

sphagnum peat *noun* EARTH SCI a peaty soil made up of dead sphagnum moss

sphere *noun* an object in the shape of a ball ○ *The Earth is not a perfect sphere.*

spherical *adjective* shaped like a sphere ○ *The Earth is almost spherical in shape.* ○ *Drain cocks are generally simple, manually operated spherical valves.*

spherical aberration *noun* OPTICS distortion caused by the use of spherical surfaces in mirrors or lenses in optical equipment (NOTE: Spherical shapes do not bring light to a precise focus, and it is necessary to use a more complex parabola shape to produce precise images.)

spherometer *noun* MECH ENG a device for measuring the curvature of a surface

sphincter *noun* ANAT a ring of muscles that surrounds an opening in the body and controls what passes through it (NOTE: Sphincters are found at the exits of the stomach, bladder and anus.)

spicule *noun* 1. BIOL a small hard needle-shaped part, especially one of the calcium- or silicon-containing supporting parts of some invertebrates such as sponges and corals. Also called **spiculum** 2. ASTRON a slender column of relatively cool high-density gas that rises rapidly from the Sun's atmosphere and then falls back (NOTE: There can be as many as 250 000 spicules rising above the solar surface at any time.)

spiculum *noun* BIOL same as **spicule** 1

spider *noun* ZOOLOG one of a large group of animals, with two parts to their bodies and eight legs. Class: Arachnida.

spike *noun* 1. BOT a tall pointed flower head (**inflorescence**) in which small flowers without stalks grow from a central flower stem 2. ELEC a very short duration voltage pulse

spikelet /'spɪklət/ *noun* part of the flower head of plants such as grass, attached to the main stem without a stalk

spill *PHYS noun* a quantity of liquid which has escaped from a container or confined area ■ *verb* to escape from a container or confined area ○ *About 200 000 barrels of oil spilled into the sea.*

spillage *noun* 1. PHYS the process of escaping from a container or confined area ○ *spillage of the river onto the adjacent land* 2. a quantity of liquid which has escaped from a container or confined area

spin *noun* fast rotation, or an instance of this ■ *verb* to rotate rapidly or cause something to rotate rapidly ○ *spun the car off the road* ○ *The Earth spins on its axis.*

spinal *adjective* ANAT referring to the spine

spinal anaesthesia *noun* MED local anaesthesia in which an anaesthetic is injected into the cerebrospinal fluid

spinal anaesthetic *noun* MED an anaesthetic given by injection into the spine, which results in large parts of the body losing the sense of feeling

spinal canal *noun* ANAT the hollow interior of the bones (**vertebrae**) of the spine that contains the spinal cord

spinal column *noun* ANAT a row of connected bones (**vertebrae**) that surround the

spinal cord along the back of vertebrates, including humans, and support the skeleton

spinal cord *noun* ANAT a cord of nerve tissue that runs down from the brain through the spinal column and gives rise to pairs of spinal nerves that connect to different parts of the body (NOTE: The central nervous system consists of the spinal cord plus the brain.)

spinal ganglion *noun* ANAT a cone-shaped mass of cells, the main axons of which form the posterior root of the spinal nerve

spinal nerve *noun* ANAT a nerve of the thirty-one pairs that lead from the spinal cord and govern mainly the trunk and limbs

spindle *noun* a pin or bar which rotates or on which something rotates ○ *A cup anemometer has three cups mounted on a spindle that are driven by the wind, causing the spindle to rotate.*

spine *noun* **1.** ANAT the series of bones (**vertebrae**) linked together to form a flexible supporting column running from the pelvis to the skull (NOTE: The spine is made up of twenty-four ring-shaped vertebrae, with the sacrum and coccyx, separated by discs of cartilage.) **2.** BIOL a sharp projecting part of a bone **3.** BOT a pointed structure that is either a modified leaf, as in cacti, or part of a leaf or leaf base

spin electronics *noun* PHYS same as **spintronics**

spintronics *noun* PHYS the study of magnetic and electric fields produced by electron spin

spiracle *noun* **1.** INSECTS one of several small holes through which an insect breathes **2.** MARINE BIOL the breathing hole of a whale or dolphin

spiral *adjective* circling around a central point and constantly increasing or decreasing in size

spiral galaxy *noun* ASTRON a galaxy consisting of an older set of stars in the centre from which two spiral arms of gas, dust, and newer stars extend

spirochaete *noun* MICROBIOL a bacterium with a spiral shape

spit *noun* EARTH SCI a long, narrow accumulation of sand or gravel that projects from the shore into the sea

SPL *abbreviation* MEASURE, ACOUSTICS sound pressure level

spleen *noun* ANAT an organ in the left upper abdomen that stores blood, destroys old red blood cells, forms lymphocytes and filters foreign substances

spline *noun* ENG a groove in a shaft for meshing, or engaging with another component ○ *For satisfactory operation, an engine requires an adequate supply of oil at all bearings, gears and driving splines.*

split baud rate *noun* COMPUT a feature of a modem which receives data at one baud rate but transmits data at another ○ *The viewdata modem uses a 1200/75 split baud rate.*

spoil *noun* INDUST waste left after minerals have been dug out of the ground ■ *verb* **1.** (of food) to rot or decay **2.** to destroy the quality or usefulness of something

spoilage *noun* FOOD INDUST the process of food becoming inedible, especially because of poor storage conditions

spoil bank *noun* INDUST a heap of waste material produced in surface mining and deposited at the side of the worked coal seam

spoiler *noun* **1.** AVIAT a hinged surface on an upper wing which, when opened, decreases lift and increases drag **2.** AUTOMOT a fixed extension on the rear of a car designed to deflect air and keep the wheels on the ground at high speed

COMMENT: Aircraft spoilers are sometimes called 'speed brakes'. They are used during the descent prior to landing and immediately after landing to decrease lift and increase braking effect.

spoil heap *noun* a large pile of waste left after minerals have been dug out of the ground

sponge *noun* MARINE BIOL an invertebrate animal with a porous flexible skeleton (NOTE: Most sponges live in colonies in the sea.)

spongy *adjective* having the open porous texture of a sponge

spongy mesophyll *noun* BOT a loosely packed layer of irregularly shaped green cells that forms the middle layer of a leaf

spontaneous *adjective* happening without an external stimulus

spontaneous combustion *noun* PHYS the starting of a fire by heat generated inside a material by oxidation or decay processes

spontaneous generation *noun* BIOL same as **abiogenesis**

sporangium *noun* BOT, FUNGI the organ that produces spores in some fungi, ferns and some other non-flowering plants (NOTE: The plural is **sporangia**.)

spore *noun* BIOL the microscopic reproductive body of fungi, bacteria and some non-flowering plants such as ferns

sporidial *adjective* AGRIC able to kill spores

sporicide *noun* AGRIC a substance that kills spores

sporocyte *noun* BIOL a cell that divides to form spores

sporophyll *noun* BOT a leaf with spore-producing organs, e.g. the fertile frond of a fern

sporophyte *noun* BOT the spore-producing non-sexual phase in the life cycle of some plants such as ferns

spp. *abbreviation* BIOL species (*plural*) (NOTE: The singular is **sp.**)

spreadsheet *noun* COMPUT **1.** a program which allows calculations to be carried out on several columns of numbers **2.** a printout of calculations on wide computer stationary

spring *noun* **1.** EARTH SCI a place where water comes naturally out of the ground **2.** the season of the year following winter and before summer, when days become longer and the weather progressively warmer **3.** a metal device which, when under tension, tries to resume its previous position **4.** a rapid upwards or forwards movement ■ *verb* to make a rapid upwards or forwards movement

spring equinox *noun* EARTH SCI one of the two occasions in the year when the Sun crosses the celestial equator and night and day are each twelve hours long, taking place about 21 March

spring tide *noun* EARTH SCI a tide which occurs at the new and full moon when the influence of the Sun and Moon act together and the difference between high and low water is more than normal. Compare **neap tide**

spring wheat *noun* AGRIC wheat which is sown in spring and harvested towards the end of the summer

springwood *noun* BOT wood that develops just below the bark of trees in spring. Compare **summerwood**

sprite *noun* COMPUT an object which moves round the screen in computer graphics

sprocket, sprocket wheel *noun* ENG a wheel with teeth round it which fit into holes in a continuous strip of something

sprout BOT *noun* a little shoot growing out from a plant, with a stem and small leaves ■ *verb* (*of a plant*) to send out new growth

spruce *noun* TREES a temperate softwood coniferous tree. Genus: *Picea*.

SPS *abbreviation* PHYS standard pressure setting

spur *noun* **1.** EARTH SCI a ridge of land that descends towards a valley floor from higher land above **2.** BOT a tubular projection from a flower sepal or petal often containing nectar (NOTE: *Aquilegia* flowers have spurs.) **3.** BOT a short leafy branch of a tree with a cluster of flowers or fruits

spurious data *noun* COMPUT unexpected or unwanted data or an error in a signal, often due to noise

SPX *abbreviation* COMPUT simplex. Opposite **duplex**

SQL *abbreviation* COMPUT structured query language

squall *noun* METEOROL a sharp gust of wind

squally *adjective* METEOROL (*of weather*) with sharp gusts of wind

square *noun* MATHS **1.** a shape with four equal sides and four right angles **2.** the product of multiplying a number by itself ○ *The square of 4 is 16.* ■ *adjective* **1.** shaped like a square ○ *a square panel* **2.** MATHS referring to a unit of measurement of area representing the length of each side of a square ○ *ten square centimetres* **3.** MATHS referring to the length of the sides that an area has ○ *ten metres square*

square bracket *noun* a type of bracket with straight sides ([]), used in pairs

square foot *noun* MEASURE a measurement of area in feet

square metre *noun* a measurement of area in metres

square root *noun* MATHS a divider of a quantity that when multiplied by itself gives the quantity ○ *3 is the square root of 9.*

square wave *noun* ELEC a pulse that rises vertically, levels off, then drops vertically (NOTE: It is the ideal shape for a digital signal.)

Sr *symbol* CHEM ELEM strontium

SSI *abbreviation* ELECTRONICS small-scale integration

SSL *abbreviation* COMPUT secure sockets layer

SSSI *abbreviation* ENVIRON Site of Special Scientific Interest

stabilise, stabilize *verb* to become steady and not change, or to make something remain without change ○ *After the engine has been started, engine speed is increased to 1000r.p.m. until cylinder head and oil temperatures have stabilised at normal operating temperatures.* ○ *Drugs stabilised her temperature.*

stabiliser, stabilizer *noun* AEROSP a device to improve the tendency of an aircraft to return to its original attitude after being deflected ■ *interjection* CHEM a substance that prevents a chemical change taking place ■ *noun* **1.** FOOD INDUST an artificial substance added to processed food such as sauces containing water and fat to stop the mixture from changing. Also called **stabilising agent** (NOTE: In the EU, emulsifiers and stabilisers have E numbers E322 to E495.) **2.** INDUST an artificial substance added to plastics to prevent degradation

stabilising agent *noun* FOOD INDUST same as **stabiliser**

stability *noun* **1.** the state of being stable and not changing **2.** METEOROL a state of the atmosphere in which air will resist vertical displacement ○ *When air moves away from its source region, the stability of the lower atmosphere changes.*

COMMENT: Stability can be classified as three types. **Positive stability** is the tendency of a body to return to its original state after being displaced. **Neutral stability** is the tendency of a body to remain in the new position after displacement. **Negative stability** is the tendency of a body to continue moving away from its original position after displacement.

stable *adjective* **1.** steady and not easily moved ○ *a stable surface* **2.** not changing ○ *In parts of Southeast Asia, temperatures remain stable for most of the year.* **3.** CHEM referring to a chemical compound that does not react readily with other chemicals **4.** PHYS not radioactive

stable climax *noun* ECOL a community of plants and animals in equilibrium with its environment, the final stage of an ecological succession

stable population *noun* ECOL a population which remains at a constant level because births and deaths are equal

stable state *noun* PHYS the state of a system when no external signals are applied

stack *noun* **1.** COMPUT an area of temporary storage for data, registers or tasks where items are added and retrieved from the same end of the list **2.** INDUST a very tall industrial chimney, usually containing several flues ○ *The use of high stacks in power stations means that pollution is now more widely spread.* Also called **chimney stack** **3.** EARTH SCI a steep-sided pillar of rock which stands in the sea near a cliff **4.** a large neat pile of things ○ *a stack of boxes* ■ *verb* to place things in a neat pile one on top of the other

stack gases *plural noun* INDUST gases that are emitted from chimney stacks

stack overflow *noun* COMPUT an error message that is sometimes displayed when there is not enough free memory on a computer for a program's needs

stack pointer *noun* COMPUT an address register containing the location of the most recently stored item of data or the location of the next item of data to be retrieved. Abbr **SP**

stage *noun* one of several points in a process ○ *The text is ready for the printing stage.* ○ *We are in the first stage of running in the new computer system.*

stain *noun* **1.** a coloured mark on a surface **2.** BIOL a substance used to increase contrast in the colour of something such as a piece of tissue or a bacterial sample before examining it under a microscope ■ *verb* **1.** to make a coloured mark on a surface ○ *Peaty water stains the rocks brown.* **2.** BIOL to treat something such as a piece of tissue or a bacterial sample with a dye so as to increase contrast in the colour before examining it under a microscope

staining *noun* BIOL the treating of a piece of something such as tissue or a bacterial sample with a dye so as to increase contrast in the colour before examining it under a microscope

stainless steel *noun* METALL steel that includes chromium and nickel ○ *Tubing in parts of the system containing fluid at high pressure are usually made from stainless steel.*

stalactite *noun* EARTH SCI a long pointed growth of mineral from the ceiling of a cave, formed by the constant dripping of water which is rich in minerals

stalagmite *noun* EARTH SCI a long pointed growth of mineral upwards from the floor of a cave, formed by the constant dripping of water which is rich in minerals from the tip of a stalactite

stalk *noun* BOT **1.** the main stem of a plant which holds the plant upright **2.** a subsidiary stem of a plant, branching out from the main stem or attaching a leaf, flower or fruit

stall *noun* **1.** AVIAT a loss of lift caused by the breakdown of airflow over the wing when the angle of attack passes a critical point ○ *In certain configurations it is possible for the buffet speed to be less than the required 7% margin ahead of the stall.* **2.** ENG the point at which opposing force overcomes that of the driving part ○ *Compressor stall can be caused by ice formation in the air intake.* ■ **verb** **1.** AVIAT to lose lift by the breakdown of airflow over the wing when the angle of attack passes a critical point ○ *Many light aircraft stall when the angle of attack exceeds 15°.* **2.** AUTOMOT to stop operating suddenly or to cause an engine to do this ○ *The car keeps stalling.*

COMMENT: An aircraft stall has nothing to do with the engine stopping. An aircraft can stall at any airspeed and in any attitude.

stalling speed *noun* AVIAT the speed at which the angle of attack is such that lift over the wing surface breaks down

stamen *noun* BOT a male part of a flower consisting of a stalk (**filament**) bearing a container (**anther**) in which pollen is produced

stand *noun* BOT a group of plants or trees growing together ○ *a stand of conifers*

standalone, stand-alone COMPUT *adjective* referring to a device or system that can operate without the need of any other devices ○ *The workstations have been networked together rather than used as standalone systems.* ■ *noun* a computer operating independently from other devices

standard *noun* something which has been agreed on and is used to measure other things by ○ *set higher standards for water purity* ■ *adjective* usual or officially accepted ○ *standard procedures*

standard atmosphere *noun* METEOROL a model atmosphere defined by pressure, temperature, density and similar factors, used in instrument calibration

standard deviation *noun* STATS a measure of the amount by which a set of values differs from the arithmetic mean (NOTE: It is equal to the square root of the mean of the differences' squares.)

standard electrode *noun* PHYS a hydrogen electrode, with a potential of zero, used to measure the potential of other electrodes

standard electrode potential *noun* PHYS the voltage developed by an electrode of an element placed in a solution of that element's ions, relative to that of hydrogen under standard conditions

Standard Generalized Markup Language *noun* COMPUT full form of SGML

standard parallels *plural noun* EARTH SCI (*in a conical projection*) the parallels of latitude where the cone cuts the surface

standard pressure setting *noun* PHYS 1013.25 millibars. Abbr **SPS**

standard state *noun* CHEM the pure form of a chemical that is stable under given conditions of pressure and temperature

standard temperature and pressure *noun* PHYS the standard conditions used as the basis for comparing the properties of gases. Abbr **s.t.p., STP** (NOTE: Standard temperature is taken as 298.15K and standard pressure as 10⁵Pa.)

Standard Time *noun* TIME a universally adopted time for all countries within a given time zone on the Earth's surface

standby *adjective* ready for use in case of failure

standby equipment *noun* a secondary system identical to the main system, to be used if the main system breaks down

standing wave *noun* PHYS a wave motion in which the high and low points of the wave do not move. Also called **stationary wave**

stannane *noun* CHEM same as **tin (IV) hydride**

stapes *noun* ANAT a tiny stirrup-shaped bone in the middle ear, one of a set of three that help sound to pass from the eardrum to the inner ear

staphylococcal *adjective* MED caused by staphylococci

COMMENT: Staphylococcal infections are treated with antibiotics such as penicillin, or broad-spectrum antibiotics such as tetracycline.

staphylococcal poisoning *noun* MED poisoning by staphylococci which have spread in food

staphylococcus *noun* BIOL a bacterium that causes boils and food poisoning. Genus: *Staphylococcus*. (NOTE: The plural is **staphylococci**.)

staple commodity *noun* INDUST a basic food or raw material

star *noun* ASTRON an astronomical object whose temperature and density is high enough to allow energy to be generated by nuclear fusion (NOTE: Stars range in size from less than 0.1 solar masses to about 100 and most have a simple relationship linking their mass to their light output or luminosity.)

starboard *noun, adjective* (referring to) the right-hand side of an aircraft when facing forwards

starburst galaxy *noun* ASTRON a galaxy that is in a phase of intense star production

starburst molecule *noun* CHEM same as **dendrimer**

starch *noun* CHEM, FOOD a substance composed of chains of glucose units, found in green plants

starchy *adjective* CHEM, FOOD containing a lot of starch ○ *Potatoes are a starchy food.*

star classification *noun* ASTRON a system of identifying stars

COMMENT: Numerous overlapping systems are used to identify stars. The oldest is simply to give conspicuous stars a name, in many cases handed down via Arab countries in the Middle Ages. The first systematic approach was pioneered in the 17th century by **Bayer** who gave the stars designations consisting of a letter of the Greek alphabet, usually starting with Alpha for the brightest, and the genitive of the name of its constellation: so Alpha Canis Minoris is the brightest star in Canis Minor. Many other systems were developed in the 20th century.

starfish *noun* MARINE BIOL one of a group of flat sea animals that have five arms branching from a central body

star network *noun* COMPUT a network of several machines where each node is linked individually to a central hub

star system *noun* ASTRON a group of astronomical objects such as a star and its planets or a cluster of stars that forms a distinct unit

starter motor, starter *noun* AUTOMOT in a piston engine, a small electrically operated device to turn the engine until ignition starts

startup disk *noun* COMPUT a floppy disk that holds the operating system and system configuration files which can, in case of hard disk failure, be used to boot the computer

startup screen *noun* COMPUT text or graphics displayed when an application or multimedia book is run

starvation *noun* MED the state of having very little or no food

starvation diet *noun* MED a diet that contains little nourishment and is not enough to keep a person healthy

starve *verb* MED to have little or no food or nourishment

stasis *noun* a state when there is no change, growth or movement

state *noun* PHYS any form or quantifiable condition in which a physical substance can be, depending on its temperature and other circumstances

statement *noun* COMPUT **1.** an expression used to convey an instruction or define a process **2.** an instruction in a source language which is translated into several machine code instructions

static *adjective* **1.** not changing, moving or growing **2.** COMPUT referring to data that do not change with time **3.** COMPUT referring to a system that is not dynamic

COMMENT: Static RAM uses bistable devices such as flip-flops to store data. These take up more space on a chip than the capacitive storage method of dynamic RAM but do not require refreshing.

static electricity *noun* PHYS electricity that is in a static state and not flowing in a current

static memory *noun* COMPUT a non-volatile memory that does not require refreshing

static object *noun* COMPUT an object in an animation or video that does not move within the frame

statics *noun* MECH ENG the mechanics of forces and systems in equilibrium

static seal *noun* ENG a seal which is part of a non-moving component ○ *Static seals,*

gaskets and packing are used in many locations.

station *noun* **1.** a building used for a particular purpose, e.g. a research station or railway station **2.** a very large farm, specialising in raising sheep or cattle

stationary *adjective* not moving, especially after having previously been in motion

stationary state *noun* PHYS an energy level of a system, defined by the quantum theory

stationary wave *noun* PHYS same as **standing wave**

statistical mechanics *noun* PHYS the analysis of macroscopic systems by applying statistical principles to their microscopic constituents

statistics STATS *plural noun* figures relating to measurements taken from samples ○ *Population statistics show that the birth rate is slowing down.* ■ *noun* the study of measurements taken from samples

statocyst *noun* ZOOLOG an organ that maintains balance in some invertebrates such as crabs and lobsters

stator *noun* ENG a fixed part of a rotary machine ○ *The low pressure compressor has large rotor blades and stator blades.*

status *noun* **1.** the relative position of somebody or something in a group **2.** a condition that is likely to change ○ *the current status of the research programme*

status bar *noun* COMPUT a line at the top or bottom of a screen that gives information about the task currently being worked on. Also called **status line**

status bit *noun* COMPUT a single bit in a word used to provide information about the state or result of an operation

status line *noun* COMPUT same as **status bar**

status poll *noun* COMPUT a signal from a computer requesting information on the current status of a terminal

statute mile *noun* MEASURE same as **mile** (*technical*)

steady *adjective* constant and unchanging ○ *The manual test will give a steady red light.*

steady state *noun* **1.** a situation where the input, output and properties of a system remain constant over time **2.** COMPUT a circuit, device or program state in which no

action is occurring but the system can accept an input

steady-state theory *noun* ASTRON a theory that the universe has always existed at a uniform density that is maintained because new matter is created continuously as the universe expands

steady wind *noun* METEOROL a wind of constant speed and direction

steam *noun* PHYS vapour that comes off boiling water and condenses in the atmosphere

steam coal *noun* INDUST coal with a lot of sulfur in it, which is suitable for generating steam but not for turning into coke

steam distillation *noun* CHEM the distillation of a liquid by passing steam through it

steam fog, steam mist *noun* METEOROL fog that forms when a cold air mass moves over a warmer body of water, giving the appearance of steam or smoke

steam turbine *noun* INDUST a turbine driven by steam

stearic acid *noun* CHEM a colourless insoluble fatty acid found in animal and vegetable fats. It is used for making candles and soap. Formula: $C_{18}H_{36}O_2$.

steel *noun* METALL an alloy mainly of iron and carbon

steelworks *noun* INDUST a factory where steel is produced from iron ore

steep *adjective* **1.** sloping very sharply ○ *a steep curve* **2.** METEOROL referring to isobars that are closely spaced **3.** PHYS referring to marked changes in pressure or temperature in a relatively short horizontal distance ○ *Cooling of the air in contact with the ground at night can cause a very steep inversion of temperature at the surface.*

steering *noun* MECH ENG a system for guiding or directing a vehicle ○ *Steering is controlled by rudder pedals.* ○ *Most modern light aircraft have nose-wheel steering.*

stela *noun* BOT the core of roots and stems, consisting of vascular tissue arranged in different patterns in different types of plant

stellar wind *noun* ASTRON a stream of ionised particles coming from the surface of a star

stellate ganglion *noun* ANAT a group of nerve cells in the neck, shaped like a star

stem *noun* BOT **1.** the main stalk of a plant that holds it upright **2.** a subsidiary plant stalk, branching out from the main stalk or attaching a leaf, flower or fruit

stem cell *noun* ANAT an unspecialised cell that can either give rise to other cells of the same type indefinitely or develop into specialised cells in different parts of the organism

steno- *prefix* narrow or constricted

stenohaline *adjective* **1.** BIOL referring to an organism that cannot tolerate variations in salt concentration in its environment **2.** EARTH SCI referring to an organism that cannot survive variations in osmotic pressure of soil water ► compare **euryhaline**

stenothermous *adjective* BIOL referring to an organism that cannot tolerate changes of temperature. Compare **eurythermous**

steppe *noun* EARTH SCI a wide grassy plain with no trees, especially in Europe and Asia (NOTE: The North American equivalent of a steppe is a **prairie**.)

step through *noun* COMPUT the function of a debugger that allows a developer to execute a program one instruction at a time to see where the fault lies

steradian *noun* MEASURE, MATHS the supplementary SI unit of measurement for solid angle. Symbol **sr**

stereo *adjective* ACOUSTICS same as **stereophonic**

stereochemistry *noun* CHEM the study of the spatial distribution of atoms in molecules and of how this affects chemical properties

stereoisomerism *noun* CHEM isomerism in which the atoms in molecules are present in the same order but in different spatial arrangements

stereophonic *adjective* ACOUSTICS recorded onto two separate channels from two separate microphone elements and played back through a pair of headphones or two speakers. Compare **monophonic**

stereoregular *adjective* CHEM referring to a compound in which the atoms of each molecule are arranged in a regular pattern

stereoscopic *adjective* PHYS referring to the effects of seeing something as three-dimensional

stereoscopic vision *noun* BIOL the ability of being able to judge how far away something is, because of seeing it with both eyes at the same time

stereoselective *adjective* CHEM describes a chemical reaction in which one stereoisomer is affected more rapidly than another

stereospecific *adjective* CHEM referring to a chemical reaction that produces a fixed spatial arrangement of atoms

steric effect *noun* CHEM an effect in which the shape of a molecule changes its chemical properties

sterile *adjective* **1.** MICROBIOL free from microorganisms **2.** BIOL infertile or not able to produce offspring

sterilise, sterilize *verb* **1.** MED to make something sterile by killing the microorganisms in it or on it ◦ *The soil needs to be sterilised before being used for intensive greenhouse cultivation.* **2.** BIOL to make an organism unable to have offspring (NOTE: This may be done by various means including drugs, surgery or irradiation.)

sterilised milk *noun* FOOD INDUST milk prepared for human consumption by heating in sealed airtight containers to kill all bacteria. See Comment at **milk**

sterility *noun* **1.** MED the state of being free from microorganisms **2.** BIOL the inability to produce offspring

sternum *noun* **1.** ANAT a long bone running down the front of the upper body. Also called **breastbone** **2.** ZOO the hard covering underneath a body segment of an insect or other arthropod

steroid *noun* BIOCHEM a fatty compound belonging to a large group that includes the human sex hormones

sterol *noun* BIOCHEM a steroid alcohol such as cholesterol

Stevenson screen *noun* METEOROL a shelter that contains meteorological instruments, arranged to give standard readings

stiff *adjective* **1.** rigid or inflexible **2.** not easily bent or turned

stiffen *verb* to make something rigid or inflexible ◦ *Beams can be additionally stiffened in a downward direction by vertical and diagonal members.*

stigma *noun* BOT the part of a flower's female reproductive organ that receives the pollen grains (NOTE: It is generally located at the tip of the **style**.)

stillbirth *noun* the birth of a dead animal or abortion at a late stage of pregnancy

stillborn *adjective* referring to an animal which is born dead

stimulate *verb* BIOL to make an organism or organ react or respond

stimulus *noun* BIOL something that makes an organism or organ react or respond, e.g. light, heat or noise (NOTE: The plural is **stimuli**.)

sting *noun* **1.** ZOOL an organ with a sharp point, used by an insect or scorpion to pierce the skin of its victim and inject a toxic substance into the victim's bloodstream **2.** ZOOL the action of using a sting **3.** a raised area on the skin produced by a sting **4.** MED a small itchy lump that is the result of touching a plant such a nettle that irritates the skin ■ *verb* **1.** ZOOL (*of an insect or scorpion*) to use a sting to pierce a victim ○ *Do not touch the scorpion or it will sting you.* **2.** BOT (*of a plant*) to produce a small itchy lump on somebody's skin

COMMENT: Stings by some insects such as tsetse flies can transmit a bacterial infection. Other insects such as bees have toxic substances which they pass into the bloodstream of the victim, causing irritating swellings.

stinger *noun* BOT a plant such as a nettle that irritates the skin

stochastic model *noun* MATHS a mathematical representation of a system that includes the effects of random actions

stock *noun* **1.** BIOL animals or plants that are derived from a common ancestor **2.** AGRIC a plant with roots onto which a piece of another plant, the **scion**, is grafted **3.** a supply of something available for future use ○ *Stocks of herring are being decimated by overfishing.* ■ *verb* to provide a supply of something for future use ○ *a well-stocked garden* ○ *We stocked the ponds with a rare breed of fish.*

stock culture *noun* BIOL a basic culture from which other cultures can be taken

stock farming *noun* AGRIC the rearing of livestock for sale

stoichiometric mixture *noun* CHEM a mix of reactants that produces a compound with no excess reactant

stoichiometry *noun* CHEM the branch of chemistry concerned with measuring the composition of chemical compounds or reaction mixtures in terms of the relative proportions or equivalents of different elements within them

Stokes' law *noun* PHYS a formula used to define the viscosity of a fluid

stolon *noun* **1.** BOT a stem that grows along the ground and gives rise to a new

plant when it roots **2.** ZOOL a structure found in some simple animals, sometimes used to anchor an organism to a surface

stoma *noun* BOT a pore in a plant, especially in the leaves, through which carbon dioxide is taken in and oxygen is sent out. Each stoma in a leaf is surrounded by a pair of guard cells, which close the stomata if the plant needs to conserve water. (NOTE: The plural is **stomata**.)

stomach *noun* ZOOL a bag-like organ that processes and partly digests food before passing it into the intestines

stomata *noun* BIOL plural of **stoma**

stone *noun* **1.** EARTH SCI a single small piece of rock **2.** EARTH SCI a mineral formation **3.** a hard endocarp that surrounds a seed in a fruit such as a cherry

stony *adjective* **1.** EARTH SCI with many stones **2.** resembling stone

stop *noun* **1.** the end of a movement □ **to come to a stop** to stop moving **2.** MECH ENG a component which limits the movement of a part ○ *An adjustable stop on the throttle control ensures a positive idling speed.*

stop bit *noun* COMPUT a transmitted bit used in asynchronous communications to indicate the end of a character. Also called **stop element**

stop codon *noun* GENETICS a sequence of three base pairs linking complementary strands of DNA or RNA that indicates the end of a genetic instruction for protein synthesis (NOTE: The three stop codons are thymine-adenine-guanine, thymine-adenine-adenine, and thymine-guanine-adenine.)

stop element *noun* COMPUT same as **stop bit**

storage *noun* **1.** the act of keeping something until it is needed **2.** a space or especially the amount of space for keeping something until it is needed **3.** COMPUT the memory or part of the computer system in which data or programs are kept for further use

storage capacity *noun* the amount of space available for storage

storage device *noun* COMPUT a device that can store data and then allow it to be retrieved when required

storage weight density *noun* MEASURE, ELEC the capacity of a lithium ion battery, compared to its weight, calculated in watt-hours per kilogram

store *noun* **1.** a supply of something kept for future use **2.** a place where something is kept until needed **3.** COMPUT the memory or part of the computer system in which data or programs are kept for further use ■ **verb** **1.** to keep something until it is needed ○ *Whales store energy as blubber under the skin.* **2.** COMPUT to save data, which can then be used again as necessary ○ *Storing a page of high resolution graphics can require 3Mb.*

store address register *noun* COMPUT a register in a central processing unit that contains the address of the next location to be accessed. Abbr **SAR**

store and forward *noun* COMPUT an electronic mail communications system which stores a number of messages before retransmitting them

store data register *noun* COMPUT a register in a central processing unit that holds data before it is processed or moved to a memory location. Abbr **SDR**

stored program *noun* COMPUT a computer program that is stored in memory

storm *noun* METEOROL a period of violent weather, with wind and rain or snow ○ *There was a storm during the night.* ○ *Storms swept the northern region.*

storm beach *noun* EARTH SCI an accumulation of coarse beach sediments built up above the high-water mark during storms

storm centre *noun* METEOROL a low pressure point in the centre of a cyclone

STP, s.t.p. *abbreviation* PHYS standard temperature and pressure

STP cable *abbreviation* COMPUT shielded twisted pair cable

straight angle *noun* MATHS an angle of 180°

straight chain *noun* CHEM a molecular structure, usually of a carbon compound, that has no side chains or branches

straight fertiliser *noun* AGRIC a fertiliser that supplies only one nutrient such as nitrogen. Compare **compound fertiliser**, **mixed fertiliser**

straight-line coding *noun* COMPUT a program written to avoid the use of loops and branches, providing a faster execution time

strain *noun* **1.** PHYS deformation caused by stress ○ *At low value of stress the plot of stress and strain is basically a straight line.* **2.** BIOL a group within a species with dis-

tinct characteristics ○ *They have developed a new strain of virus-resistant rice.*

strait *noun* EARTH SCI a narrow passage of sea between two larger areas of sea

strangeness *noun* PHYS a quantum characteristic of some elementary particles

strata EARTH SCI plural of **stratum**

strategic environmental assessment *noun* an official assessment of the environmental effect of policies, plans and projects. ◊ **environmental impact assessment**

stratification *noun* EARTH SCI the formation of several layers in substances such as sedimentary rocks, or water in a lake or air in the atmosphere

stratified *adjective* PHYS formed of several layers

stratigraphy *noun* EARTH SCI the science of studying rock strata

stratocumulus *noun* METEOROL a layer of small cumulus clouds below 3000m

stratopause *noun* METEOROL a thin layer of the Earth's atmosphere between the stratosphere and the mesosphere

stratosphere *noun* METEOROL a layer of the Earth's atmosphere, above the troposphere and the tropopause and separated from the mesosphere by the stratopause

COMMENT: The stratosphere rises from about 18 km to 50 km above the surface of the Earth. It is formed of nitrogen (80%), oxygen (18%), ozone, argon and trace gases. The ozone in it forms the ozone layer.

stratospheric *adjective* METEOROL referring to the stratosphere ○ *CFCs are responsible for damage to the ozone in the Earth's stratospheric zone.*

stratum *noun* **1.** PHYS a layer **2.** EARTH SCI a layer of rock (NOTE: The plural is **strata**.)

stratus *noun* METEOROL a type of grey cloud, often producing light rain

straw *noun* AGRIC the dry stems and leaves of crops such as wheat and oilseed rape left after the grains have been removed

COMMENT: Straw can be ploughed back into the soil or is sometimes burned as stubble. It can be cut, compressed into bundles and burned as fuel for heating.

stream *noun* **1.** PHYS a steady current of a fluid ○ *Probes are positioned in the gas stream, so as to obtain a good average temperature reading.* **2.** EARTH SCI a narrow and shallow river

stream erosion *noun* ENVIRON the wearing away of soil or rock by the effect of a stream of water

streamflow *noun* EARTH SCI the amount and speed of water flowing in a stream

streaming audio *noun* COMPUT digital audio data that are continuously transmitted using a streaming protocol to provide stereo sound

streaming protocol *noun* COMPUT a method of sending a continuous stream of data over the Internet to provide live video or sound transmission

COMMENT: Older methods of sending continuous live data used a standard web server to transmit the data. To provide a good multimedia server, the data delivery must be regulated and ideally synchronised. There are many different standards used to deliver sound and video over the Internet, each of which allows the user or publisher to limit the delivery of data to a maximum data rate.

streaming video *noun* COMPUT video image data that are continuously transmitted over the Internet by using a streaming protocol to provide smooth moving images

strength *noun* **1.** the physical quality of being strong **2.** the ability of a material to support a load ○ *Aircraft wheels require great strength and are constructed in two halves which are bolted together after the tyre is fitted.* **3.** PHYS the degree of clarity and volume of a signal ○ *A radio wave loses strength as range increases.* **4.** CHEM the degree of dilution of a substance in solution ○ *Incorrect mixture strength may cause detonation.* **5.** PHYS the intensity of radiation ○ *The strength of the Sun's radiation varies with latitude.* **6.** the force of something such as wind ○ *The degree of air disturbance depends upon the strength of the wind and the roughness of the terrain.*

strengthen *verb* to make something strong or stronger, or to become strong or stronger ○ *Some alloys are hardened and strengthened by heat treatment.* □ **the wind is strengthening** the wind is increasing in speed

strengthening *noun* **1.** something such as a structure that helps to make something else stronger ○ *Aircraft which require large apertures in the fuselage for freight doors need increased strengthening around these areas.* **2.** the process of becoming stronger ○ *a strengthening of the wind*

streptavidin *noun* BIOCHEM a protein that interacts strongly with biotin and is

used in immunological and biochemical assays

streptococcal *adjective* MED referring to an infection caused by streptococci

streptococcus *noun* BIOL a bacterium belonging to a genus that grows in long chains and causes diseases such as scarlet fever, tonsillitis and rheumatic fever (NOTE: The plural is **streptococci**.)

streptomycin *noun* PHARM an antibiotic used against many types of infection, especially streptococcal ones

stress *noun* **1.** the internal force, or load per unit area of a body that resists distortion or change of shape of the body ○ *Turbine blades in the average jet engine vibrate at frequencies of 1 million per minute, and in each cycle experience stress.* **2.** a condition where an outside influence changes the composition or functioning of something ○ *Plants in dry environments experience stress due to lack of water.* ■ *verb* **1.** to subject something to stress **2.** to emphasise something ○ *It must be stressed that the description is a model and departures from it often occur.*

striated muscle *noun* ANAT a type of muscle tissue found in skeletal muscles whose movements are controlled by the central nervous system. Also called **striped muscle**

striation *noun* **1.** a pattern of parallel lines or grooves **2.** EARTH SCI a narrow groove or scratch on rock, caused by the action of a glacier

stridulate *verb* INSECTS to rub parts of the body together to make the chirping or grating sound typical of male crickets and grasshoppers

string *noun* COMPUT a series of consecutive alphanumeric characters or words that is manipulated and treated as a single unit by the computer

string array *noun* COMPUT an array whose elements can be strings of alphanumeric characters

string concatenation *noun* COMPUT the process of linking a series of strings together

string function *noun* COMPUT a program operation that can act on strings

string length *noun* COMPUT the number of characters in a string

string name *noun* COMPUT the identification label assigned to a string

string variable *noun* COMPUT a variable used in a computer language that can contain alphanumeric characters as well as numbers

strip *noun* a long narrow piece, usually of the same width from end to end ○ *a strip of paper* ○ *a strip of land* ■ *verb* **1.** COMPUT to remove the control data from a received message, leaving only the relevant information **2.** ENG to dismantle an engine or other device ○ *After the collision, the engine was stripped down to its component parts.* **3.** to remove a covering from something ○ *Spraying with defoliant strips the leaves off all plants.*

strip cropping *noun* AGRIC a method of farming in which long thin pieces of land across the contours are planted with different crops in order to reduce soil erosion

strip cultivation *noun* AGRIC a method of communal farming in which each family has a long thin piece or several long thin pieces of land to cultivate

striped muscle *noun* ANAT same as **striated muscle**

strip mining *noun* INDUST a form of mining where the mineral is dug from the surface instead of digging underground. ♢

open-cast mining

strobe *verb* ELECTRONICS to send a pulse, usually on the selection line of an electronic circuit ■ *noun* **1.** ELECTRONICS the pulse of an electronic circuit **2.** PHYS a high-intensity flashing beam of light that makes objects in rapidly repeating motion appear to slow down or stop

strobilus *noun* BOT same as **cone** (*technical*)

stroboscope *noun* PHYS a light that can be flashed very fast so as to make objects in rapidly repeating motion appear to slow down or stop (NOTE: It is often used to observe or photograph moving machinery or insects in flight.)

stroke *noun* **1.** ENG a movement of a piston from one end of the limit of its movement to another ○ *The connecting rod links the piston to the crankshaft and transmits the force of the power stroke from the piston to the crankshaft.* **2.** COMPUT the width in pixels of a pen or brush used to draw on-screen **3.** COMPUT the thickness of a printed character

stroma *noun* BOT the inner part of a chloroplast that contains the pigments and enzymes needed for photosynthesis

strong *adjective* **1.** physically powerful **2.** not easily damaged or broken **3.** easily perceived and distinctive **4.** having a high degree, level, intensity or concentration

strong acid *noun* CHEM an acid that is totally dissociated into its component ions in solution

strong interaction *noun* PHYS a short-range force that holds protons and neutrons together in an atomic nucleus

strontium *noun* CHEM ELEM a radioactive metallic element (NOTE: The chemical symbol is **Sr**; the atomic number is **38** and the atomic weight is **87.62**.)

strontium-90 *noun* CHEM an isotope of strontium that is formed in nuclear reactions and, because it is part of the fallout of nuclear explosions, can enter the food chain, affecting in particular animals' bones

strontium hydroxide *noun* CHEM a strong base formed when strontium monoxide dissolves in water. Formula: $\text{Sr}(\text{OH})_2$.

strontium monoxide *noun* CHEM an amorphous solid that dissolves in water to form strontium hydroxide. Formula: SrO .

structural *adjective* referring to the structure of something ○ *The structural limitations must never be exceeded.*

structural failure *noun* the breaking of part of the structure of something

structural formula *noun* CHEM an expanded chemical formula that gives information about the arrangement of atoms and bonds in a molecule

structural gene *noun* GENETICS a gene that controls the synthesis of a protein required for the cell's own use

structural geology *noun* EARTH SCI the scientific study of the structure and distribution of the rocks forming the Earth's crust

structural isomer *noun* CHEM one of two or more related chemical compounds that have the same molecular formula but different structural formulae

structure *noun* **1.** a whole or a system that is made of different parts **2.** something that has been constructed ○ *a glass and steel structure* **3.** the different parts that make up a whole, or the arrangement of parts ○ *the structure of DNA* ○ *Aircraft structure serves the same purpose for an aircraft as the skeleton for a human body.*

■ *verb* to organise or arrange something in

a systematic way ○ *You first structure a document to meet your requirements and then fill in the blanks.*

structured cabling *noun* COMPUT the use of UTP cable feeding into hubs designed in such a way that it is easy to trace and repair cable faults and also to add new stations or more cable

structured programming *noun* COMPUT a well-ordered and logical technique of assembling programs

structured query language *noun* COMPUT a simple, commonly used, standard database programming language which is only used to create queries to retrieve data from a database. Abbr **SQL**

structured wiring *noun* ELEC ENG a planned installation of all the cables that will be required in an office or building for computer networks and telephone

strut *noun* ENG a bar or rod used to strengthen a structure against forces from the side ○ *A strut is designed to withstand compressive loads.*

strychnine *noun* CHEM a very poisonous alkaloid substance made from the seeds of a tropical tree

STS *abbreviation* GENETICS sequence tagged site

stub *noun* COMPUT a short program routine that contains comments to describe the executable code that will eventually be inserted into the routine

stubble *noun* AGRIC the short stems left in the ground after a crop such as wheat or oilseed rape has been cut

stuck beacon *noun* COMPUT an error condition in which a station continuously transmits beacon frames

stunt *verb* to reduce the growth of something ○ *The poor soil stunts the growth of the trees.*

style *noun* BOT the elongated structure that carries the stigma at its tip in many flowers

style sheet *noun* COMPUT a template that can be formatted in advance to generate automatically the style or layout of a document such as a manual or a newsletter

styrene *noun* CHEM a flammable liquid hydrocarbon that polymerises easily, used in the manufacture of synthetic rubber, plastic and polystyrene. Formula: C_8H_8 .

sub- *prefix* **1.** less important than **2.** lower than

subacute *adjective* MED referring to a disease or condition that is between acute and chronic

subaddress *noun* COMPUT a peripheral identification code, used to access one peripheral, followed by address data to access a location within the peripheral's memory

subarctic region *noun* GEOG a region near to, but south of, the Arctic

subatomic particle *noun* PHYS same as **elementary particle**

sub-beam *noun* PHYS (*of directional radar*) a less important or minor beam ○ *A lobe is one of two, four or more sub-beams that form a directional radar beam.*

subclass *noun* **1.** BIOL a division of a class in the scientific classification of organisms **2.** COMPUT a number of data items related to one item in a master class

subclavian artery *noun* ANAT one of two arteries branching from the aorta on the left and from the innominate artery on the right, continuing into the brachial arteries and supplying blood to each arm

subclimax *noun* ECOL a stage in the development of a plant community where development stops before reaching its final stable state or **climax**

subcloud layer *noun* METEOROL the air immediately underneath a cloud layer

subcontinent *noun* EARTH SCI a very large land mass, that is a distinct part of a continent ○ *the Indian subcontinent*

subcritical *adjective* PHYS referring to a chain reaction that cannot sustain itself

subculture *noun* BIOL a culture of micro-organisms or cells that is grown from another culture

subcutaneous injection *noun* MED same as **hypodermic injection**

subcutaneous tissue *noun* ANAT the layer of tissue below the dermis in the skin

subdirectory *noun* COMPUT a directory of disk contents contained within the main directory

subdivision *noun* BIOL a group within a division in the scientific classification of organisms

subdomain *noun* COMPUT a second level of addressing on the Internet that usually refers to a department name within a larger organisation

subdominant *adjective* ECOL (of a species) being not as important as the dominant species

subduct *verb* to pull something underneath ○ *The oceanic crust is being subducted under the continents which surround it.*

subduction *noun* EARTH SCI the process by which a tectonic plate such as the oceanic crust is slowly being pulled under another plate

subgroup *noun* a small group distinguished in some way from the larger group to which it belongs

sublimate *noun* CHEM the deposit left when a vapour condenses ■ *verb* **1.** PHYS to change from solid to vapour without passing through a liquid state **2.** PSYCHIAT to convert violent emotion into an action which is not antisocial

sublimation *noun* CHEM a process in which a substance is converted directly from a solid to a gas or from a gas to a solid without an intermediate liquid phase

sublime *verb* CHEM same as **sublimate**

subliminal *adjective* BIOL referring to a stimulus that is too slight to be noticed by the senses

sublingual *adjective* ANAT situated under the tongue

sublittoral *adjective* EARTH SCI further inland from a shore than the littoral zone

sublittoral plant *noun* BOT a plant that grows near the sea but not on the shore

submandibular *adjective* ANAT situated under the lower jaw

submandibular ganglion *noun* ANAT a ganglion associated with the lingual nerve, relaying impulses to the submandibular and sublingual salivary glands

submarine *adjective* MARINE BIOL situated or existing beneath the sea ○ *Shellfish collect round warm submarine vents.*

submenu *noun* COMPUT a secondary menu displayed as a choice from a menu

submerge *verb* to cover something with water or to become covered with water ○ *The coast is dangerous, with rocks submerged at intervals along it.*

submicroscopic *adjective* too small to be seen with a light microscope

submit button *noun* COMPUT a button displayed on a webpage that sends information entered by a user on a web form to

a program running on a web server for processing

subnet *noun* COMPUT a self-contained part of a large network, usually an independently managed part of the Internet

subnet address *noun* COMPUT part of an IP address that identifies a subnet that is connected to a larger network. Also called **subnet number** (NOTE: The first part of the IP address identifies the network, the next part identifies the subnet and the last part identifies a single host server.)

subnet mask *noun* COMPUT a filter that is used to select the portion of an IP address that contains the subnet address

subnet number *noun* COMPUT same as **subnet address**

subnotebook *noun* COMPUT a very small portable computer that is smaller and lighter than a standard full-size notebook or laptop computer

subprogram *noun* COMPUT **1.** same as **subroutine** **2.** a program called up by a main program

subroutine *noun* COMPUT a section of a program that performs a required function and can be called upon at any time from inside the main program. Also called **sub-program**

COMMENT: A subroutine is executed by a call instruction that directs the processor to its address. When finished it returns to the instruction after the call instruction in the main program.

subroutine call *noun* COMPUT a computer programming instruction that directs control to a subroutine

sub-Saharan *noun* GEOG referring to the area south of the Sahara ○ *Rural supplies of wood for fuel are falling in many countries of sub-Saharan Africa.*

subscale *noun* the secondary scale on an instrument ○ *The barometric pressure is set on the subscale and the altimeter main scale displays height or altitude.*

subscript *noun* PRINTING a small character that is printed lower than the other characters. ◇ **superscript** (NOTE: Subscripts are used in chemical formulae: CO₂)

subscripted variable *noun* COMPUT an element in an array that is identified by a subscript

subset *noun* MATHS a small set of data items that forms part of another larger set

subside *verb* **1.** to go down or to become less violent ○ *After the rainstorms passed,*

the flood waters gradually subsided. **2.** to sink or fall to a lower level ○ *The office block is subsiding owing to the shrinkage of the clay it is built on.*

subsidence *noun* **1.** (of a piece of ground or a building) the process of sinking or falling to a lower level ○ *Subsidence caused by the old mine shaft closed the main road.* **2.** METEOROL a gradual downward movement of a mass of air

subsidence inversion *noun* METEOROL a phenomenon produced when a mass of air gradually sinks and becomes warmer

subsistence *noun* BIOL the condition of managing to live on the smallest amount of resources including food needed to stay alive

subsistence farming *noun* AGRIC the activity of growing just enough crops to feed the farmer's family and having none left to sell

subsoil *noun* EARTH SCI a layer of soil under the topsoil (NOTE: The subsoil contains little organic matter but chemical substances from the topsoil leach into it.)

subsoil water *noun* EARTH SCI water held in the subsoil

subspecies *noun* BIOL a group of organisms that is part of a species but which shows slight differences from the main group, with which it can still interbreed

substance *noun* **1.** CHEM material of a particular type ○ *a sticky substance* ○ *a harmful substance* ○ *toxic substances* **2.** MED a drug, especially an illegal drug ○ *an addictive substance*

substance P *noun* BIOCHEM a neurotransmitter involved in pain pathways

substitute *noun* a thing used in place of another ■ *verb* to replace one thing with another ○ *Farmers have been told to plough up pastureland and substitute woodlots.*

substitution *noun* the replacement of one thing by another ○ *the substitution of natural fibres by synthetic materials*

substitution effect *noun* the effect on the environment of substituting one form of action for another

substitution error *noun* COMPUT an error made by a scanner which mistakes one character or letter for another

substitution reaction *noun* CHEM a chemical reaction that replaces an atom in

a molecule with another atom. Also called **displacement reaction**

substitution table *noun* COMPUT a list of characters or codes that are to be inserted instead of received codes

substitution therapy *noun* MED the treatment of a condition by using a different drug from the one used before

substrata *noun* EARTH SCI plural of **substratum**

substrate *noun* **1.** ELECTRONICS the base material on which an integrated circuit is constructed **2.** CHEM a substance that is acted on by a catalyst such as an enzyme **3.** BIOL the matter or surface on which an organism lives

substratum *noun* EARTH SCI a layer of rock beneath the topsoil and subsoil (NOTE: The plural is **substrata**.)

subtend *verb* to be opposite to and delimit something ○ *The angle subtended by an arc equal to one 360th part of the circumference of a circle is called 1 degree.*

subtotal *noun* MATHS a sum of part of a set of figures

subtract *verb* **1.** to deduct or take away something from a larger unit **2.** MATHS to deduct or take away one number or quantity from another to calculate a remainder ○ *6 subtracted from 10 equals 4 (10 - 6 = 4).*

subtraction *noun* MATHS the operation of taking away or deducting one number or quantity from another to calculate a remainder ○ *The major arithmetic operations are addition, subtraction, multiplication and division.*

subtrahend *noun* MATHS in a subtraction operation, the number to be subtracted from the minuend

subtropical *adjective* EARTH SCI referring to the subtropics ○ *The islands enjoy a subtropical climate.* ○ *Subtropical plants grow on the sheltered parts of the coast.*

subtropical high *noun* METEOROL an area of high pressure normally found in the subtropics

subtropics *plural noun* EARTH SCI an area between the tropics and the temperate zone

sub-zero *adjective* PHYS, METEOROL below zero degrees ○ *a week of sub-zero temperatures* ○ *In sub-zero conditions sublimation will occur when air is cooled below the frost point, producing a deposit of ice crystals.*

succession *noun* ECOL a series of stages, one after the other, by which a group of organisms living in a community reaches a stable state or **climax**

successional cropping *noun* AGRIC the growing of several crops one after the other during the same growing season

successive *adjective* referring to events or things following on one after another

succinic acid *noun* CHEM a colourless water-soluble acid used in the manufacture of lacquers, perfumes and pharmaceuticals. Formula: $C_4H_6O_4$. (NOTE: It is derived from amber and from plant and animal tissues or is artificially synthesised.)

succulent *noun* BOT a plant that has fleshy leaves or stems in which it stores water, e.g. a cactus

sucralose *noun* FOOD, CHEM an artificial noncaloric sweetener created from sugar by replacing three hydroxyl groups with three chlorine atoms

sucrose *noun* BIOCHEM a sugar that is abundant in many plants, which consists of one molecule of glucose joined to one of fructose

suction *noun* PHYS the force that causes a fluid or solid to be drawn into a space because of the difference between the external and internal pressures ○ *In a fuel injection system, fuel is induced into the inlet port or combustion chamber by a pump rather than the suction caused by the venturi of a carburettor.*

sudden warming *noun* METEOROL a rapid rise in the temperature of the stratosphere, which occurs at the beginning of spring

sufficiency *noun* a large enough amount of something

sufficient *adjective* large enough as an amount of something

suffix *noun* an addition to the end of a word to create a new word ○ *Apart from cirrus and stratus, which are complete names, all layer cloud names consist of a prefix according to height of base, and a suffix according to shape.*

suffix notation *noun* MATHS the system of writing mathematical operations in a logical way, so that the symbol appears after the numbers to be acted upon

suffrutescent, suffruticose *adjective* BOT referring to a perennial plant that is woody at the base of the stem and does not die down to ground level in winter

sugar *noun* 1. FOOD INDUST same as **sucrose** 2. CHEM any chemical of the saccharide group

sugar-free *noun* FOOD INDUST not containing sugar

sugar substitute *noun* FOOD INDUST a sweetener used in place of sugar, e.g. saccharin

sulfate *verb* ELEC to cause a layer of lead sulfate to form on the plates of an accumulator

sulfate aerosol, sulphate aerosol *noun* CHEM particulate matter consisting of sulfur compounds formed by the interaction of sulfur dioxide and sulfur trioxide with other compounds in the atmosphere ○ *Sulfate aerosols are injected into the atmosphere from the combustion of fossil fuels and the eruption of volcanoes.*

sulfate of ammonia, sulphate of ammonia *noun* AGRIC same as **ammonium sulfate**

sulfate of potash, sulphate of potash *noun* AGRIC same as **potassium sulfate**

sulfide, sulphide *noun* CHEM an ion of sulfur present in chemical compounds and mineral ores

sulfite, sulphite *noun* CHEM a salt of sulfuric acid that forms part of several chemical compounds and is used in processing paper

sulfonation, sulphonation *noun* CHEM the incorporation of sulfonic acid into an organic substance

sulfonator, sulphonator *noun* CHEM an apparatus for adding sulfur dioxide to water to remove excess chlorine

sulfonic acid, sulphonic acid *noun* CHEM any strong organic acid containing the group SO_2OH , used in the manufacture of dyes and pharmaceuticals

sulfonium compound, sulphonium compound *noun* CHEM any organic compound with the general formula R_3SX , where R is an organic group and X is an electronegative element

sulfur, sulphur *noun* CHEM ELEM a yellow non-metallic chemical element that is essential to biological life. It is used in the manufacture of sulfuric acid and in the vulcanisation of rubber. (NOTE: The chemical symbol is **S**; the atomic number is **16** and the atomic weight is **32.06**. The usual and recommended scientific spelling of sulphur and derivatives such as sulphate, sulphide and sulphonate is with an -f-, though the

spelling with -ph- is still common in general usage.)

COMMENT: In the United Kingdom, the removal of sulphur from the atmosphere means that some crops such as oilseed rape are deficient and sulphur needs to be added to fertilisers.

sulfur cycle, sulphur cycle *noun* ECOL the process by which sulfur flows from the environment, through organisms and back to the environment again

sulfur dioxide, sulphur dioxide *noun* CHEM an unpleasant-smelling gas formed when sulfur is burnt with oxygen, used in disinfectants and as a food preservative. Formula: SO_2 .

COMMENT: Sulfur dioxide produced from burning coal or oil is an important cause of smog. Today the atmospheric concentration of sulfur dioxide has fallen with the reduction in the use of coal and this type of pollution has been replaced by nitrogen dioxide produced by car exhausts.

sulfur hexafluoride, sulphur hexafluoride *noun* CHEM a very powerful greenhouse gas, used mostly in electrical transmission and distribution systems. Formula: SF_6 .

sulfuric acid, sulphuric acid *noun* CHEM a strong acid that exists as a colourless oily corrosive liquid and is made by reacting sulfur trioxide with water. It is used in batteries and in the manufacture of fertilisers, explosives, detergents, dyes and many other chemicals. Formula: H_2SO_4 .

sulfurous acid, sulphurous acid *noun* CHEM a weak unstable acid made by dissolving sulphur dioxide in water, used as a disinfectant, food preservative and bleaching agent. Formula: H_2SO_3 .

sulfur oxide, sulphur oxide *noun* CHEM sulfur dioxide or sulfur trioxide, both of which are present in sulfur pollution

sulfur trioxide, sulphur trioxide *noun* CHEM a corrosive white solid that readily forms sulfuric acid when dissolved in water. Formula: SO_3 . (NOTE: It is formed when fossil fuels burn, and dissolves in water droplets in the air forming sulfuric acid.)

sullage *noun* 1. EARTH SCI mud brought down by mountain streams 2. ENVIRON the liquid waste from a building

sum *noun* MATHS the result of two or more numbers added together ○ *When the component velocities act in the same direction, the resultant velocity is equal to the sum of their speeds in that direction.*

summation check *noun* COMPUT an error detection check performed by adding together the characters received and comparing with the required total

summer *noun* the season following spring and before autumn, when the weather is warmest, the sun is highest in the sky and most plants flower and set seed
 ■ *verb* to spend the summer in a place ○ *The birds summer on the shores of the lake.*

summer solstice *noun* ASTRON 21 June, the longest day in the northern hemisphere, when the Sun is as its furthest point south of the equator

summerwood *noun* BOT dense wood formed by trees during the later part of the growing season. Compare **springwood**

summit *noun* EARTH SCI the highest point of a hill or mountain ○ *The climber reached the summit of the mountain.*

sump *noun* AUTOMOT the oil reservoir of a piston engine, situated at its base ○ *The oil level in the sump or tank is normally checked after the engine has been stopped for a time.*

sun *noun* ASTRON 1. sunlight or the rays of the Sun ○ *sitting in the sun* 2. another spelling of **Sun**

Sun *noun* ASTRON a very hot star round which the Earth and other planets orbit and which gives energy in the form of light and heat

COMMENT: The Sun dominates the solar system and contains most of its matter. It has a surface temperature of some 6000 K and is about 329,000 times as massive as the Earth. The Sun is notable among other stars for being solitary rather than part of a multiple system. The energy source that powers the Sun is now known to be nuclear fusion. It is a variable star with regular cycles of sunspot activity over 22 years. The variation in its energy output is closely linked to its intense magnetism, which is also involved in other surface and atmosphere effects.

sunlight *noun* ASTRON the light from the Sun

COMMENT: Sunlight is essential to give the body vitamin D. However, excessive exposure to the ultraviolet radiation in sunlight will not simply turn white skin brown, but may also burn the surface of the skin so badly that the skin dies and pus forms beneath. There is evidence that constant exposure to the sun can cause cancer (**melanoma**) of white skin. Depletion of the ozone layer in the atmosphere may increase the incidence of skin cancer.

sunquake *noun* ASTRON a violent seismic event on the Sun associated with solar flares

sunrise *noun* ASTRON the time when the Sun appears above the eastern horizon

sunset *noun* ASTRON the time when the Sun disappears below the western horizon

sunspot *noun* ASTRON a darker patch on the surface of the Sun, caused by a stream of gas shooting outwards

sunstroke *noun* MED a serious condition caused by excessive exposure to strong sunlight or to hot conditions, in which the patient becomes dizzy and has a high body temperature but does not perspire

super- *prefix* **1.** more than **2.** extremely

super bit mapping *noun* COMPUT an extension to the Red Book CD-Audio specification in which studio-quality 20-bit sound samples are stored in the 16-bit data format used by CD-Audio. Abbr **SBM**

superbug *noun* MICROBIOL a bacterium that is resistant to most antibiotics that could be used to treat it

supercharge *verb* MECH ENG to increase the power of an engine by using a supercharger ○ *A supercharged engine delivers greater power than a non-supercharged engine of the same size.*

supercharger *noun* MECH ENG a blower or compressor, usually driven by the engine, for supplying air under high pressure to the cylinders of an internal combustion engine ○ *The function of the supercharger is to increase the power output and maintain sea-level conditions at altitude.*

supercluster *noun* ASTRON a grouping of clusters of galaxies. Also called **super-galaxy**

supercomputer *noun* COMPUT a very powerful mainframe computer used for high-speed mathematical tasks

superconductivity *noun* PHYS the ability of some solids to conduct electric current with almost no internal resistance at very low temperatures

supercool *verb* PHYS to reduce the temperature of a substance below its usual freezing point without freezing actually occurring

supercooled *adjective* cooled below freezing point without solidification ○ *Nimbo-stratus cloud is composed of liquid water droplets some of which are super-cooled.*

supercooled fog *noun* METEOROL fog that has cooled below freezing point, but still remains liquid

COMMENT: Supercooled fog contributes to the phenomenon known as freezing fog, where droplets of fog remain liquid in the air even though the temperature is below 0°C, but freeze into hoar frost as soon as they touch a surface.

supercritical *adjective* PHYS referring to a nuclear chain reaction that has become explosively self-sustaining

superficial *adjective* **1.** referring to features on or near the surface ○ *superficial scratches* **2.** not thorough ○ *a superficial study of the results* ○ *superficial knowledge* **3.** apparent but not real ○ *a superficial resemblance*

superficial vein *noun* ANAT a vein that is near the surface of the skin

supergalaxy *noun* ASTRON same as **supercluster**

supergene *noun* GENETICS a set of genes that are close together on a chromosome, function as a unit and are rarely inherited separately

supergiant *noun* ASTRON an extremely large brilliant star that has a luminosity thousands of times greater than that of the Sun (NOTE: The stars Rigel and Betelgeuse are supergiants.)

superheat *verb* PHYS to heat a liquid to a temperature above its boiling point without causing it to vaporize

superheated *adjective* INDUST referring to steam that is heated to a high temperature in a power station

superheater *noun* INDUST a section of a power station boiler where steam is heated to a higher temperature

superheterodyne receiver *noun* PHYS a radio receiver that operates using the method by which the frequency of the carrier wave is changed in the receiver to an intermediate frequency

superior conjunction *noun* ASTRON the position of an astronomical object when it is opposite Earth on the far side of the Sun

superior planet *noun* ASTRON a planet that is further from the Sun than the Earth (NOTE: The superior planets are Mars, Jupiter, Saturn, Uranus, Neptune and Pluto.)

super large scale integration *noun* ELECTRONICS an integrated circuit with more than 100000 components. Abbr **SLSI**

supermassive black hole *noun* ASTRON an extremely large black hole with a mass ranging from a few million to more than several billion solar masses (NOTE: Supermassive black holes are believed to be at the centre of many large galaxies, driving quasar formation.)

supernatant liquid *noun* CHEM the liquid above a precipitate or sediment

supernova *noun* ASTRON the catastrophic and explosive disruption of a heavy star late in its evolution

COMMENT: Some supernovae are bright enough to outshine the galaxy in which they erupt. Supernovae are now known to be major sources of material erupted into interstellar space. They are the origin of all the universe's heavy elements, those beyond iron in atomic weight, as well as producers of intense cosmic rays and severe shock waves.

superorder *noun* BIOL one of the groups in the scientific classification of organisms, ranking next above order

superorganism *noun* ECOL a group or community of individual organisms that functions as a single unit (NOTE: A forest, a termite colony and even human society can all be viewed as superorganisms.)

superovulation *noun* the process in animal production of injecting hormones to increase the number of eggs released by the ovaries

superphosphate *noun* AGRIC a chemical compound formed from calcium phosphate and sulfuric acid, used as a fertiliser

supersaturated *adjective* **1.** PHYS referring to air which contains more moisture than the amount required to saturate it **2.** CHEM referring to a solution that contains more solute than the amount required to saturate it

superscript *noun* PRINTING a small character that is printed higher than the other characters. ϕ **subscript** (NOTE: Superscripts are used in mathematics: 10^5)

supersonic *adjective* PHYS faster than the speed of sound \circ *For sustained supersonic flight, tank insulation is necessary to reduce the effect of kinetic heating.*

superstring theory *noun* PHYS a development of the **general theory of relativity** that postulates the existence of multi-dimensional defects in spacetime, left over from the early universe

super VGA *noun* COMPUT an enhancement to the standard VGA graphics display

system that allows resolutions of up to 800 x 600 pixels with 16 million colours. Abbr **SVGA**

supervisory program *noun* COMPUT a master program in a computer system that controls the execution of other programs. Also called **executive control program**

superweed *noun* BIOTECH a weed resistant to herbicides that might develop in future as hybrid of a weed and a genetically modified plant

supplement *noun* **1.** MATHS an angle or arc that when added to a given angle or arc makes 180° or a semicircle **2.** HEALTH a substance taken to make up for a real or supposed deficiency in the diet **3.** something added in order to make something more complete \circ *vitamin supplements* \blacksquare *verb* to add to something in order to make it more complete \circ *The main power plant fire detection system should contain an audible warning device to supplement the visual indication.*

supplementary *adjective* extra or additional \circ *supplementary information*

supplementary angle *noun* MATHS an angle that when added to a given angle makes 180° or a semicircle

supply *noun* **1.** the provision of something that is needed \circ *The reservoir ensures a good supply of water.* **2.** a stock of something that is needed \circ *a year's supply of food* **3.** the act or process of providing something that is needed \circ *the supply of power to the building* \blacksquare *verb* to provide something that is needed \circ *The computer was supplied by a recognised dealer.*

support *verb* **1.** to hold the weight of something \circ *to support the saplings with stakes* **2.** BIOL to provide what is necessary for an activity or way of life \circ *These wetlands support a natural community of plants, animals and birds.*

support chip *noun* COMPUT a dedicated circuit that carries out an additional function or a standard function very rapidly, so speeding up the processing time \circ *The maths support chip can be plugged in here.*

suppressor *noun* ELEC, ELECTRONICS a device, e.g. a resistor or grid, used in an electrical or electronic system to reduce unwanted currents \circ *A suppressor improves the quality of the signal.*

supra- *prefix* above or over

suprarenal gland *noun* ANAT same as **adrenal gland**

surf *verb* COMPUT to explore a website looking at the webpages in no particular order, but simply moving between pages by using the links

surface *noun* **1.** the outer covering or top layer of something **2.** the top part of something *○ the surface of the liquid* **3.** EARTH SCI the land, water or sea of Earth's surface

surface-active agent *noun* CHEM same as **surfactant**

surface air temperature *noun* the temperature recorded in the shade at a height just above ground level

surface area *noun* the total of all the outer surfaces of an object *○ a surface area of 10 square metres*

surface drainage *noun* EARTH SCI the removal of surplus water from an area of land by means of ditches and channels

surface evaporation *noun* PHYS the evaporation of water from the surface of a body of water

surface front *noun* METEOROL a front at the surface of the Earth *○ The cirrus cloud can be 900 miles ahead of the surface front with a rain belt as wide as 200 miles.*

surface heating *noun* EARTH SCI the heating of the ground by the Sun

surface-mount technology *noun* ELEC a method of manufacturing circuit boards in which the electronic components are bonded directly onto the surface of the board rather than being inserted into holes and soldered into place *○ Surface-mount technology is faster and more space-efficient than soldering.* Abbr **SMT**

surface runoff *noun* EARTH SCI a flow of rainwater, melted snow or excess fertiliser from the surface of land into streams and rivers

surface soil *noun* EARTH SCI same as **topsoil**

surface tension *noun* PHYS the appearance of a film on the surface of a liquid caused by the attraction between its molecules

surface water *noun* EARTH SCI water that flows across the surface of the soil as a stream after rain and drains into rivers rather than seeping into the soil itself. Compare **ground water**

surface wind *noun* METEOROL a wind that blows across the land surface, rather than higher in the atmosphere

surfactant *noun* CHEM a substance that reduces surface tension

surge *noun* ELEC a sudden increase in the flow of something such as water or electrical power ■ *verb* PHYS to move with force like a wave *○ If combustion pressure increases above compressor outlet pressure, the airflow will reverse in direction and surge forward through the compressor.*

COMMENT: Power surges can burn out circuits before you have time to pull the plug. A surge protector between the computer and the wall outlet helps prevent damage.

surge arrester *noun* ELEC a device to prevent surges of current in an electric system

surge protector *noun* ELEC an electronic device that cuts off the power supply to sensitive equipment if it detects a power surge that could cause damage

surplus *adjective* more than is needed *○ Surplus water will flow away in storm drains.* ■ *noun* something that is more than is needed *○ produced a surplus of wheat*

survey *noun* **1.** an investigation or inspection of something *○ a survey of garden birds ○ a survey of people's views on smoking in public places* **2.** EARTH SCI the taking of measurements of the height of buildings or mountains and the length of roads, rivers and other features in order to make a detailed plan or map **3.** EARTH SCI a document, plan or map showing the results of an investigation or of the measurements taken ■ *verb* to carry out a survey of something

survival *noun* BIOL the situation of continuing to live, especially if conditions are difficult

survival of the fittest *noun* BIOL same as **natural selection**

survival rate *noun* BIOL the number of organisms that continue to live *○ The survival rate of newborn babies has begun to fall.*

survive *verb* BIOL **1.** to continue to live in a difficult situation *○ After the fire, only a few trees survived.* **2.** to overcome a difficult situation *○ The plants can survive even the hottest desert temperatures.*

survivor *noun* BIOL an individual that continues to live when others have died

survivorship *noun* BIOL the number of individuals of a population surviving at a specific time

survivorship curve *noun* BIOL a graph showing the number of individuals of a population that survive to a particular age

suspend *verb* **1.** to hang something from above ○ *The bird-feeder was suspended from a tree.* **2.** CHEM to hold particles in a liquid or in air ○ *an aerosol of suspended particles*

suspension *noun* **1.** the state of being suspended **2.** CHEM a liquid with solid particles in it, not settling to the bottom nor floating on the surface

suspensory ligament *noun* ANAT a ligament that keeps an organ or body part in place (NOTE: It most commonly refers to the ligament that supports the lens of the eye.)

sustain *verb* **1.** to provide the necessary conditions for something ○ *The land is fertile enough to sustain a wide variety of fauna and flora.* **2.** to support something from below **3.** to continue doing something in spite of adverse circumstances or events

sustainability *noun* ENVIRON the ability of a process or human activity to meet present needs but maintain natural resources and leave the environment in good order for future generations

COMMENT: Sustainability has been described as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs', but there is no internationally agreed definition of sustainability.

sustainable *adjective* ENVIRON referring to an activity that does not deplete or damage natural resources ○ *hardwood from a sustainable source*

sustainable agriculture *noun* AGRIC environmentally friendly methods of farming that allow the production of crops or livestock without damage to the ecosystem

sustainable consumption and production *noun* the idea that agricultural production should not cause environmental damage, exploit workers or use up natural resources that cannot be replaced. Abbr **SCP**

sustainable development *noun* ENVIRON development that balances the satisfaction of people's immediate interests and the protection of future generations' interests

sustainable energy *noun* energy produced from renewable resources that does not deplete natural resources

sustainable existence *noun* a way of life that ensures that the resources of the ecosystem are not depleted

sustainable food chain *noun* a food chain from producer to consumer which is environmentally responsible and sustainable at all stages

sustainable products *plural noun* products which are created and supplied using sustainable methods

sustainable society *noun* a society which exists without depleting the natural resources of its habitat

sustainable tourism *noun* the management of tourist activities to ensure minimum disruption of local infrastructure and environment

sustainable yield *noun* ENVIRON the greatest productivity that can be derived from a renewable resource without depleting the supply in a specific area

Sv *symbol* MEASURE, PHYS sievert

SVGA *abbreviation* COMPUT super VGA

swallow *verb* PHYSIOL to take food into the stomach through the mouth and throat

swallow hole *noun* EARTH SCI a hole that forms in limestone rock as rainwater drains through it, dissolving minerals in the rock and sometimes forming underground caverns

swamp *noun* EARTH SCI an area of permanently wet land and the plants that grow on it

swampland *noun* EARTH SCI an area of land covered with swamp

swampy *adjective* EARTH SCI referring to land that is permanently wet

swap *verb* COMPUT to stop using one program, put it into store temporarily, run another program, and when that is finished, return to the first one

swap file *noun* COMPUT a file stored on the hard disk used as a temporary storage area for data held in RAM, to provide virtual memory

swarm ZOOLOG *noun* a large number of insects such as bees or locusts flying as a group ■ *verb (of insects)* to fly in a large group

swash *noun* EARTH SCI a rush of water up a beach from a breaking wave

sweat *noun* **1.** PHYSIOL a salty liquid secreted by glands onto the skin's surface as a means of reducing body heat **2.** PHYS drops of liquid generated on a surface, usu-

ally by condensation of water vapour from the air ■ *verb* PHYSIOL to produce a clear salty liquid on the surface of the skin as a result of being hot or as a result of strenuous activity, fear, anxiety, or illness

sweet chestnut *noun* TREES a European hardwood tree grown for its nuts and timber. Latin name: *Castanea sativa*.

sweetener *noun* FOOD INDUST an artificial substance such as saccharin added to food to make it sweet

swidden farming *noun* AGRIC same as slash and burn agriculture

swim *verb* COMPUT (of computer graphics) to move slightly owing to a faulty display unit

swim bladder *noun* ZOOL same as air bladder

swirl *noun* 1. a movement with a twisting motion 2. an eddy ○ *Swirls of smoke came out of the engine.*

swirl chamber *noun* AUTOMOT a small chamber in the cylinder head to promote swirl ○ *The usual method of atomising the fuel is to pass it through a swirl chamber, so converting its pressure energy to kinetic energy.*

switch *noun* 1. ELEC a mechanical or solid state device that can electrically connect or isolate two or more lines ○ *There is an on/off switch on the front panel.* 2. COMPUT an additional character entered on the same line as the program command, which affects how the program runs ○ *Add the switch 'W' to the DOS command DIR and the directory listing will be displayed across the screen.* 3. COMPUT a point in a computer program where control can be passed to one of a number of choices ■ *verb* ELEC to connect or disconnect two lines by activating a switch

switching *noun* COMPUT a constant update of connections between changing sinks and sources in a network

switching centre *noun* ELECTRONICS a point in a communications network where messages can be switched to and from the various lines and circuits that end there

switching circuit *noun* ELECTRONICS an electronic circuit that can direct messages from one line or circuit to another in a switching centre

switchmode *noun* ELEC a way of converting one form of electricity to another by rapidly switching it on and off and feed-

ing it through a transformer to produce a voltage change

switch off *verb* ELEC to disconnect the power supply to a device

switch on *verb* ELEC to start to provide power to a system by using a switch to connect the power supply lines to the circuit

switch over *verb* to start using an alternative device when the primary one becomes faulty

swollen *adjective* 1. increased in size ○ *A tuber is a swollen underground stem.* 2. containing more water than usual ○ *swollen rivers or streams*

sycamore *noun* TREES a large hardwood tree of the maple family. Latin name: *Acer pseudoplatanus*.

symbiogenesis *noun* MICROBIOL a hypothetical evolutionary process in which mitochondria and chloroplasts developed from symbiotic organisms within the cell

symbiont *noun* ECOL one of the set of organisms living in symbiosis with each other. Compare **commensal**

symbiosis *noun* ECOL a condition where two or more unrelated organisms exist together enabling both to survive

symbiotic *adjective* ECOL referring to symbiosis ○ *The rainforest has evolved symbiotic mechanisms to recycle minerals.*

symbiotically *adverb* ECOL in symbiosis ○ *Colonies of shellfish have parasites that live symbiotically with them.*

symbiotic relationship *noun* ECOL a relationship of cooperation between two or more unrelated organisms

symbol *noun* a printed or written sign used to represent something

symbolic *adjective* referring to symbols ○ *A symbolic code is used for synoptic charts.*

symbolic address *noun* COMPUT an address represented by a symbol or name

symbolic code, symbolic instruction *noun* COMPUT an instruction that is in mnemonic form rather than a binary number

symbolic language *noun* COMPUT 1. a computer language in which locations are represented by names 2. any language used to write source code

symbolic logic *noun* LOGIC the study of reasoning and thought

symbolic name *noun* COMPUT a name used as a label for a variable or location

symmetrical, symmetric *adjective* with an exact likeness of form on opposite sides of a central dividing line ○ *The area covered by the forecast is divided into a series of grid or reference points at approximately 300km symmetrical spacing.*

symmetrical compression *noun* COMPUT a compression system that requires the same processing power and time scale to compress and decompress an image

symmetric difference *noun* MATHS a logical function whose output is true if either of two inputs is true, and false if both inputs are the same

symmetry *noun* an exact matching in position or form of points on an object that are equally positioned about a given point, line or plane bisecting the object

sympathetic nervous system *noun* ANAT one of two complementary parts of the nervous system that affects involuntary functions. Compare **autonomic nervous system** (NOTE: It is activated by danger or stress and causes responses such as dilated pupils and a rapid heart rate.)

symphile *noun* ECOL an insect or other organism that lives in the nests of social insects such as ants or termites and is fed by them

symphysis *noun* ANAT, BOT a point or line where a symphysis occurs

symptom *noun* 1. an indication of something 2. MED a change in the functioning or appearance of an organism, which shows that a disease or disorder is present

symptomatic *adjective* 1. characteristic or typical of something 2. MED referring to a medical symptom ○ *The rash is symptomatic of measles.*

syn- *prefix* joint or fused

synapse *noun* ANAT a point in the nervous system where the axons of neurons are in contact with the dendrites of other neurons ■ *verb* BIOL to link with a neuron

synaptology *noun* BIOL the study of junctions between nerve cells (**synapses**) and synaptic connections in the nervous system

synchronisation, synchronisation *noun* the action of synchronising two or more devices

synchronisation pulse *noun* ELEC a transmitted pulse used to make sure that the receiver is synchronised with the transmitter

synchronise, synchronise *verb* to cause things to occur or operate at the same time or rate

synchronised dynamic RAM *noun* COMPUT an enhanced memory component in which the memory access cycle is synchronised with the main processor clock, eliminating wait time between memory operations. Abbr **SDRAM**

synchronised sleep *noun* BIOL same as **slow-wave sleep**

synchronous *adjective* COMPUT being synchronised with something else such as a main clock

synchronous cache *noun* COMPUT a high-speed secondary cache system used in many computers that use the Pentium processor chip

synchronous computer *noun* COMPUT a computer in which each action can only take place when a timing pulse arrives

synchronous data link control *noun* COMPUT a data transmission protocol, most often used in IBM's Systems Network Architecture, that defines how synchronous data is transmitted. Abbr **SDLC**

synchronous network *noun* COMPUT a network in which all the links are synchronised with a single timing signal

synchronous transmission *noun* COMPUT the transmission of data from one device to another, where both devices are controlled by the same clock and the transmitted data is synchronised with the clock signal

synchrotron *noun* PHYS a particle accelerator in which charged particles travelling at near the speed of light are guided round a doughnut-shaped tube by powerful magnets, producing synchrotron radiation

synchrotron radiation *noun* PHYS short-wave radiation, from infrared to conventional X-rays, produced in a synchrotron. Use: analysis of the structure of proteins, viruses, and inorganic materials such as metals.

syncline *noun* EARTH SCI a concave downward fold of rock, with the youngest rock on the inside. Compare **anticline**

sync pulse *noun* ELEC a transmitted pulse used to make sure that the receiver is synchronised with the transmitter

syndrome *noun* MED a group of symptoms and other changes in an organism's functions which, when taken together,

show that a particular disease or disorder is present

synecology *noun* ECOL the study of communities of organisms in their environments. Compare **autecology**

synergism *noun* CHEM a phenomenon where two substances act more strongly together than they would independently

synergist *noun* CHEM a substance that increases the effect of another

synfuel *noun* INDUST a fuel similar to those produced from crude oil but produced from more plentiful resources, e.g. coal, shale or tar

synodic *adjective* ASTRON **1.** referring to the alignment of astronomical objects **2.** referring to the interval between the occasions when the same astronomical objects are aligned

synovial membrane *noun* ANAT a smooth membrane that forms the inner lining of the capsule covering a joint, and secretes the fluid which lubricates the joint

synroc *noun* INDUST an artificial mineral compound formed of nuclear waste fused into minerals and so will never deteriorate

syntactic error *noun* COMPUT a programming error in which the program statement does not follow the syntax of the language. Also called **syntax error**

syntax *noun* COMPUT the grammatical rules which apply to a programming language

syntax error *noun* COMPUT same as **syntactic error**

syntenic *adjective* GENETICS referring to genes that occur on the same chromosome

synteny *noun* GENETICS the occurrence of genes on the same chromosome, whether or not they are linked

synthesis *noun* **1.** the process of combining things to form a whole **2.** CHEM the process of producing a compound by a chemical reaction

synthesise, synthesize *verb* **1.** to combine things to form a whole **2.** CHEM to produce a compound by a chemical reaction ○ *The body cannot synthesise essential fatty acids and has to absorb them from food.*

synthetic *adjective* INDUST made in an industrial process and not occurring naturally ○ *synthetic rubber*

synthetically *adverb* INDUST by an industrial process ○ *synthetically produced hormones*

synthetic insecticide *noun* AGRIC an insecticide that is made artificially from chemicals that do not occur naturally in plants

syntype *noun* BIOL a member of a set of specimens that have equal status as the basis for the description of a new species

synusia *noun* ECOL a group of plants living in the same habitat

syringe *noun* MED **1.** a device consisting of a needle attached to a tube, used for injecting fluids into the body or for taking blood **2.** to clean, spray or inject something by using a syringe

syrinx *noun* ZOOLOG the vocal organ of a bird

sysop *noun* COMPUT a person who maintains a bulletin board system or network

system *noun* **1.** a group of interdependent parts forming and operating as a whole ○ *a braking system* ○ *an electrical system* **2.** an arrangement of things or phenomena that act together ○ *a weather system* **3.** COMPUT a group of hardware or software components that work together **4.** BIOL an arrangement of parts of the body that work together ○ *the nervous system* **5.** a way of classifying something scientifically ○ *the Linnaean system*

systematic *adjective* **1.** organised in a planned way **2.** being part of a system

systematics *noun* BIOL the scientific study of systems, especially of the system of classifying organisms

system clock *noun* COMPUT an electronic component that generates a regular signal that is used to synchronise all the components in the computer

system colours *noun* COMPUT same as **default palette**

system console *noun* COMPUT the main terminal or control centre for a computer which includes status lights and control switches

system crash *noun* COMPUT a situation in which the operating system stops working and has to be restarted

system disk *noun* COMPUT a disk that holds the system software

Système International *noun* MEASURE full form of **SI**

systemic *adjective* BIOL affecting a whole organism

systemic circulation *noun* PHYSIOLOG the circulation of blood around the whole

body, except the lungs, starting with the aorta and returning through the venae cavae

systemic compound *noun* a compound fertiliser which reaches all parts of a plant

systemic fungicide *noun* AGRIC a fungicide that is absorbed into a plant's sap system through its leaves or roots and protects the plant from infection by fungi without killing the plant itself

systemic herbicide *noun* AGRIC a herbicide that is absorbed into a plant's sap system through its leaves or roots and is transported through the plant to kill the roots

systemic insecticide *noun* an insecticide which is taken up by a plant and enters the sap stream so that biting insects take the insecticide when they suck the sap

systemic pesticide *noun* AGRIC a pesticide that is absorbed into a plant's sap system through its leaves or roots and protects the plant from pests without killing the plant itself

systemic weedkiller *noun* AGRIC same as **systemic herbicide**

systems analysis *noun* COMPUT **1.** the analysis of a process or system to see if it could be more efficiently carried out by a

computer **2.** the examination of an existing system with the aim of improving or replacing it

Systems Application Architecture *noun* COMPUT a standard that defines the look and feel of an application regardless of the hardware platform. Abbr **SAA** (NOTE: SAA defines which keystrokes carry out standard functions (such as F1 to display help), the application's display and how the application interacts with the operating system.)

Systems Network Architecture *noun* COMPUT the design methods that define how communications in a network should occur and allow different hardware to communicate. Abbr **SNA**

system software *noun* COMPUT the set of programs that direct the basic functions of a computer

systems programmer *noun* COMPUT a person who writes system software

systole *noun* PHYSIOL the contraction of the heart that pumps blood into the arteries. Compare **diastole**

syzygy *noun* ASTRON the conjunction or opposition of three astronomical objects such as the Sun, Earth and Moon in a straight line

T

T *symbol* **1.** MEASURE tera- **2.** MEASURE, PHYS tesla

Ta *symbol* CHEM ELEM tantalum

tab *noun* COMPUT a key that moves a printing head or cursor a preset distance along a line

tab character *noun* COMPUT an ASCII character that is used to align text at a preset tab stop

table *noun* **1.** COMPUT, PRINTING a list of data in columns and rows on a printed page or on the screen **2.** COMPUT a structure that shows how records and data items are linked by relations between the rows and columns of the table **3.** ENG a level structure

tableland *noun* EARTH SCI an area of high flat land

table lookup *noun* COMPUT the use of one known value to select one entry in a table, providing a secondary value

table mountain *noun* EARTH SCI a flat-topped mountain

table of contents *noun* COMPUT **1.** a set of data at the start of a disk that describes how many tracks are on the disk, their position and length **2.** a page with a list of the headings of all the other main pages in the title and links so that a user can move to them

tabular *adjective* referring to a table of or for data □ **in tabular form** (*of facts and figures*) arranged in a table ○ *The most widely acceptable presentation of fuel data is in tabular form but graphical presentations may also be used.*

tabulation *noun* COMPUT **1.** the arrangement of a table of figures **2.** the movement of a printing head or cursor a preset distance along a line

tachometer *noun* MECH ENG an instrument for the measurement of the revolutions per minute of a rotating shaft ○ *The*

pilot checks the tachometer and notes the resulting drop in r.p.m. for each magneto.

tachyon *noun* PHYS a hypothetical elementary particle whose speed is greater than that of light

tag *noun* COMPUT an identifying character attached to a file or item of data ○ *Each file has a three letter tag for rapid identification.*

taiga *noun* EARTH SCI a forested region between the Arctic tundra and the steppe

tail *noun* **1.** the rear part of a bird or aircraft **2.** COMPUT a control code used to signal the end of a message

tailings *plural noun* INDUST refuse or waste ore from mining operations

talc *noun* MINERALS a soft mineral consisting of hydrated magnesium silicate, found in igneous and metamorphic rocks and used to make talcum powder (NOTE: It is the softest mineral on a scale of hardness that runs from talc to diamond.)

tall-grass prairie *noun* EARTH SCI same as **long-grass prairie**

talon *noun* ZOOL a hooked claw, especially of a bird of prey

tandem processors *plural noun* COMPUT two processors connected so that if one fails, the second takes over

tangent *noun* **1.** MATHS a straight line, curve or surface that meets another curve or curved surface at a point, but which, if extended, does not cut through at that point ○ *The glide path is at a tangent to the runway.* **2.** a trigonometric function equal to the length of the side opposite the angle of a right-angled triangle divided by the length of the adjacent side

tangential *adjective* MATHS relating to or involving a tangent

tank *noun* INDUST a large container for storing fluid ○ *water tank* ○ *fuel tank*

tanker *noun* INDUST **1.** a large ship used to carry petrol or oil **2.** a truck used to carry liquids such as petrol or milk

tannin, tannic acid *noun* BIOCHEM a brownish or yellowish compound formed in leaves and bark, used in the tanning of leather and in dyes and astringents (NOTE: Tannins help protect plants from being eaten.)

tantalum *noun* CHEM ELEM a rare metal that does not corrode. It is used to repair damaged bones. (NOTE: The chemical symbol is **Ta**; the atomic number is **73** and the atomic weight is **180.95**.)

tap *noun* a pipe with a handle that can be turned to make a liquid or gas come out of a container ■ *verb* to remove or drain liquid from something □ **to tap oil resources** INDUST to bring up oil from the ground

tape archive *noun* COMPUT full form of **TAR**

taper *verb* to reduce in thickness towards one end

tapered *adjective* reducing in thickness towards one end ○ *Fuel flowing from the float chamber passes through a jet, in which is positioned a tapered needle valve.*

tapered wing *noun* AEROSP a wing which becomes narrower in width from root to tip

tapeworm *noun* ZOOLOG a parasitic worm with a long flattened segmented body that lives mainly in the guts of vertebrate animals, including humans. Class: Cestoda.

taproot *noun* BOT the thick main root of a plant which grows straight down into the soil (NOTE: A taproot system has a main root with smaller roots branching off it, as opposed to a fibrous root system which has no main root.)

tap water *noun* the water that has been supplied by pipes to a building and is sometimes stored in tanks before being used

tar *noun* INDUST a thick black sticky substance derived from coal

TAR *noun* COMPUT a file compression system used on a computer running the Unix operating system. Full form **tape archive**

target *noun* **1.** a goal to be achieved **2.** something that is being aimed at

target computer *noun* COMPUT a computer on which software is to be run

target program *noun* COMPUT an object program or computer program in object code form, produced by a compiler

tariff *noun* COMPUT, TELECOM a charge incurred by a user of a communications or computer system ○ *There is a set tariff for logging on, then a rate for every minute of computer time used.*

tarn *noun* EARTH SCI a small lake in a depression on a mountainside

tar oil *noun* AGRIC a winter wash used to control aphids and scale insects on fruit trees

tar pit *noun* EARTH SCI a natural hole in the ground containing bitumen

tarsal *noun* ANAT one of the bones in the ankle

tar sand *noun* EARTH SCI same as **oil sand**

tarsus *noun* ANAT the ankle or a similar joint in the hindlimb of an animal

tartaric acid *noun* CHEM a white crystalline organic acid found in fruit, used as baking powder and in photographic processes and tanning leather. Formula: (CHOH)₂(COOH)₂.

tartrate *noun* CHEM a salt or ester of tartaric acid

tartrazine *noun* FOOD INDUST a yellow substance added to food to give it an attractive colour (NOTE: It is coded E102. Although widely used, tartrazine provokes bad reactions in some people and is banned in some countries.)

task *noun* **1.** a job that someone has to do **2.** COMPUT a job that is to be carried out by a computer

taskbar *noun* COMPUT a bar that usually runs along the bottom of the screen and displays the Start button and a list of other programs or windows that are currently active

task-management *adjective* COMPUT referring to system software which controls the use and allocation of resources to programs

task queue *noun* COMPUT the temporary storage of jobs waiting to be processed

task swapping, task switching *noun* the exchanging of one program in memory for another which is temporarily stored on disk

taste bud *noun* ANAT one of many small structures on the surface of the tongue or in the mouth that respond to various chemi-

cals to give the sense of taste (NOTE: Each taste bud responds to one of four basic tastes: sweet, sour, bitter or salty.)

tau *noun* BIOCHEM same as **tau protein**

tau protein *noun* BIOCHEM a protein that maintains the stability of the microtubules that serve as a transport system within brain cells. It is also implicated in the formation of masses of fibrous protein in the brains of people with Alzheimer's disease.

tautomerism *noun* CHEM the existence at equilibrium of a mixture of two isomers that readily convert from one to the other

taxa plural of **taxon**

taxis *noun* BIOL a movement of a cell or microorganism towards or away from a stimulus such as light

-taxis *suffix* BIOL the response of an organism moving towards or away from a stimulus

taxon *noun* BIOL a grouping in a scientific classification of organisms, e.g. a family, genus or species (NOTE: The plural is **taxa**.)

taxonomic *adjective* BIOL referring to taxonomy

taxonomic group *noun* BIOL a group of organisms classified together according to a specific system

taxonomy *noun* BIOL the techniques and system of classifying organisms according to their characteristics

TBC *abbreviation* total bacterial count

TBT *abbreviation* tributyltin

Tc *symbol* CHEM ELEM technetium

TCDD *noun* ENVIRON a highly toxic persistent by-product of the herbicide 2,4,5-T. Full form **tetrachlorodibenzoparadioxin**

T cell *noun* ANAT a white blood cell (**lymphocyte**) that matures in the thymus and is essential for immunity, especially in combating viral infections and cancers. Also called **T lymphocyte** (NOTE: T cells include cytotoxic T cells that directly attack virus-infected or cancerous body cells, helper T cells that stimulate other T cells, and suppressor T cells that play a restraining role.)

TCP/IP *noun* COMPUT a data transfer protocol often used in Unix-based networks and used for all communications over the Internet. Full form **transmission control protocol/interface program**

TDI *abbreviation* tolerable daily intake

TDM *abbreviation* COMPUT time division multiplexing

TDR *abbreviation* COMPUT time domain reflectometry

TDS *abbreviation* COMPUT transaction-driven system

Te *symbol* CHEM ELEM tellurium

teak *noun* TREES a tropical tree that produces a hardwood which is resistant to water. Latin name: *Tectona grandis*.

tear duct *noun* ANAT a tube through which tears flow, especially the one that drains tears from the inner corner of the eye into the nasal cavity

tears *plural noun* PHYSIOL the salty fluid secreted in the eye by the lacrimal glands

teat *noun* ANAT a protuberance on the breast or udder of a female mammal through which milk is excreted for the nourishment of young

technetium *noun* CHEM ELEM a radioactive metallic element used as a tracer and in corrosion-resistant materials (NOTE: The chemical symbol is **Tc**; the atomic number is **43** and the atomic weight is **98.91**.)

technical *adjective* referring to practical or scientific work

technician *noun* a person who does practical work in a laboratory or scientific institution ○ *a laboratory technician*

technique *noun* a way of doing something such as scientific or medical work using a special method or skill ○ *a new technique for dating fossils*

technological *adjective* referring to technology

technological fix *noun* the solution to a problem based on technology, generally not a really satisfactory solution

technological revolution *noun* INDUST the changing of industrial methods by introducing new technology

technology *noun* the use of scientific knowledge to develop machines and techniques for use in industry

technology transfer *noun* 1. the practical application of research results 2. the passing of technological information from a developed country to a developing one or from one company to another

technosphere *noun* an environment built or modified by humans

tectonic *adjective* EARTH SCI referring to faults or movements in the Earth's crust

tectonic plate *noun* EARTH SCI a large area of solid rock in the Earth's crust,

which floats on the mantle and moves very slowly

tectorial membrane *noun* ANAT a spiral membrane in the inner ear above the organ of Corti, containing the hair cells which transmit impulses to the auditory nerve

teeth *noun* ANAT plural of tooth

Teflon *trademark* INDUST polytetrafluoroethylene, a plastic used as a non-stick coating on articles such as saucepans

tele- *prefix* COMPUT long distance

telecommunications *plural noun* TELECOM the network for passing and receiving messages over a distance by systems such as telephone, satellite and radio

telematics *noun* COMPUT the study of the processes involved in interaction of all data processing and communications devices such as computers and networks

telephone *noun* TELECOM a machine used for speaking to someone or communicating with another computer using modems over a long distance

telephone line *noun* TELECOM a cable used to connect a telephone handset with a central exchange

telephony *noun* TELECOM a series of standards that define the way in which computers can work with a telephone system to provide voice-mail, telephone answering and fax services

teleprocessing *noun* COMPUT the processing of data at a distance, e.g. using outside terminals to access a central computer. Abbr **TP**

telescope *noun* ASTRON a device for concentrating electromagnetic radiation for human study

telesoftware *noun* COMPUT software which is received from a viewdata or teletext service ○ *The telesoftware was downloaded yesterday.* Abbr **TSW**

teletext *noun* TELECOM a method of transmitting text and information with a normal television signal, usually as a serial bit stream which can be displayed using a special decoder

television *noun* a device which can receive modulated video signals via a cable or broadcast signals via an aerial and display images on a cathode ray tube screen together with sound. Abbr **TV**

telluric *adjective* ASTRON coming from Earth or its atmosphere

tellurium *noun* CHEM ELEM a shiny brittle semimetallic element, used in alloys and manufacturing processes and as a semiconductor (NOTE: The chemical symbol is **Te**; the atomic number is **52** and the atomic weight is **127.60**.)

telnet *noun* COMPUT the TCP/IP protocol that allows a user to connect to and control a remote computer via the Internet and type in commands as if they were sitting in front of the computer

telocentric *adjective* GENETICS referring to a chromosome with a centromere that is located at or near one end

telomere *noun* GENETICS a piece of non-coding DNA at the end of a chromosome (NOTE: It protects the genetically important parts of the DNA against damage when the chromosome divides.)

telophase *noun* BIOL the fourth and last stage of cell division, in which new nuclei form around chromosomes at opposite ends of the dividing cell

temper *verb* METALL to heat and rapidly cool a metal to increase its hardness

temperate *adjective* METEOROL neither very hot nor very cold

temperate climate *noun* EARTH SCI a climate that is neither very hot in summer nor very cold in winter

temperate forest *noun* EARTH SCI a forest in a temperate region

temperate region *noun* EARTH SCI a region that is neither very hot in summer nor very cold in winter

temperature *noun* 1. PHYS a measurement of heat **2**. how hot something is **3**. MED a body temperature that is higher than usual, as a sign of illness ○ *She has a temperature.* ○ *He is running a temperature.*

COMMENT: The normal average body temperature is about 37° C (98° F). This temperature may vary during the day, and can rise if a person has taken a hot bath or had a hot drink. If the environmental temperature is high, the body has to sweat to reduce the heat gained from the air around it. If the outside temperature is low, the body shivers, because rapid movement of the muscles generates heat. A fever will cause the body temperature to rise sharply, to 40°C (103°F) or more. Hypothermia exists when the body temperature falls below about 35°C (95°F).

temperature chart *noun* a chart showing changes in temperature over a period of time

temperature coefficient *noun* PHYS a ratio of the speed at which a process develops compared to the speed of the same process at a 10°C cooler temperature

temperature gradient *noun* 1. METEOROL a gradual increase in temperature travelling from the North or South Pole towards the equator 2. PHYS a change in temperature with distance from a hot or cold object

temperature graph *noun* PHYS, METEOROL a graph showing how the temperature of something rises and falls

temperature inversion *noun* METEOROL an atmospheric phenomenon in which cold air is nearer the ground than warm air, making the temperature of the air rise as it gets further from the ground, trapping pollutants between the layers of air

temperature lapse rate *noun* EARTH SCI same as **lapse rate**

template *noun* 1. a plastic or metal object used as a pattern for drawing or cutting shapes 2. COMPUT a file containing a standard text such as a standard letter or invoice into which specific details can be added

temporarily *adverb* for a time or not permanently

temporary *adjective* lasting for a short time and not permanent

temporary hardness *noun* CHEM the hardness of water caused by carbonates of calcium, which can be removed by boiling the water

temporary parasite *noun* BIOL a parasite which does not live permanently on the host

temporary register *noun* COMPUT a register used for temporary storage for the results of an arithmetic logic unit operation

10Base2 *noun* COMPUT the IEEE standard specification for running Ethernet over thin coaxial cable

10Base5 *noun* COMPUT the IEEE standard specification for running Ethernet over thick coaxial cable

10BaseT *noun* COMPUT the IEEE standard specification for running Ethernet over unshielded twisted pair cable

tender *adjective* 1. soft or susceptible to damage 2. MED painful to touch 3. BOT referring to a plant which cannot tolerate frost

tendon *noun* ANAT a strip of connective tissue that attaches a muscle to a bone

tendon sheath *noun* ANAT a tube of membrane that covers and protects a membrane

tendrils *noun* BOT a stem, leaf or petiole of a plant modified into a thin touch-sensitive organ that coils around objects, providing support for climbing plants

ten's complement *noun* MATHS a decimal complement, formed by adding one to the nine's complement of a decimal number

tensile *adjective* referring to stretching or pulling out

tensile load *noun* PHYS a load caused by forces acting in opposite directions away from each other

tensile strength *noun* PHYS the strength of a structure to resist forces pulling it apart from opposite directions

tensile stress *noun* PHYS the forces that try to pull a structure apart from opposite directions

tension *noun* PHYS a strained condition resulting from forces acting in opposition to each other ○ *A rod which is bent is shortened or in compression on the inside of the bend and is stretched or in tension on the outside of the bend.*

tera- *prefix* MEASURE one trillion, 10¹². Symbol T

terabyte *noun* COMPUT one thousand gigabytes

teragram *noun* MEASURE one trillionth of a gram

teratogen *noun* MED a substance or agent that causes birth defects

teratogenesis *noun* MED the production of birth defects

teratogenic *adjective* MED causing birth defects

terawatt *noun* MEASURE, ELEC a unit of measurement of electric energy, equal to one billion watts. Abbr TW

terbium *noun* CHEM ELEM a shiny metallic element used in lasers, X-rays and television tubes (NOTE: The chemical symbol is Tb; the atomic number is 65 and the atomic weight is 158.93.)

term *noun* MATHS a mathematical expression that forms part of a fraction or proportion, is part of a series, or is associated with another by a plus or minus sign

terminal *noun* 1. COMPUT a device usually made up of a display unit and a keyboard which allows entry and display of

information when on-line to a central computer system **2.** ELEC an electrical connection point **3.** COMPUT a point in a network where a message can be transmitted or received ■ **adjective 1.** coming at the end ○ *a terminal inflorescence* ○ *terminal moraine* **2.** MED causing death ○ *a terminal illness* **3.** COMPUT fatal or unable to be repaired ○ *The computer has a terminal fault.*

terminal adapter *noun* COMPUT a device that transfers digital signals from a computer to a digital communications line such as an ISDN line

terminal emulation *noun* COMPUT the ability of a terminal to emulate the functions of another type of terminal so that display codes can be correctly decoded and displayed and keystrokes correctly coded and transmitted

terminal moraine *noun* EARTH SCI a heap of soil and sand pushed by a glacier and left behind when the glacier melts

terminal strip *noun* ELEC a row of electrical connectors that allow pairs of wires to be electrically connected using a screw-down metal plate

terminal velocity *noun* PHYS the constant maximum velocity reached by a falling object

terminator *noun* COMPUT **1.** a resistor that fits onto each end of a coaxial cable in a bus network to create an electrical circuit **2.** a resistor that fits onto the last SCSI device in the daisy chain, creating an electrical circuit

terminator gene *noun* GENETICS a gene that can be inserted into genetically modified plants to make them unable to produce seed after one season

terminology *noun* the set of words or expressions used for a particular subject ○ *scientific terminology*

termitarium *noun* ZOOLOG a nest made by termites formed in the shape of a hill of hard earth

termite *noun* ZOOLOG an insect resembling a large ant, which lives in colonies and eats cellulose

ternary *adjective 1.* MATHS referring to a number system with three possible states **2.** CHEM referring to a compound containing three different elements

terrace *noun* EARTH SCI a flat strip of land across a sloping hillside, lying level along the contours ■ *verb* AGRIC to build

terraces on a mountainside ○ *The hills are covered with terraced rice fields.*

COMMENT: Terracing is widely used to create small flat fields on steeply sloping land, so as to bring more land into productive use, and also to prevent soil erosion.

terrace cultivation *noun* AGRIC hill slopes cut to form terraced fields which rise in steps one above the other and are cultivated, often with the aid of irrigation

terrain *noun* EARTH SCI the ground or an area of land in terms of its physical surface features ○ *mountainous terrain*

terrestrial *adjective 1.* EARTH SCI referring to the Earth, as opposed to space ○ *terrestrial and satellite links* **2.** TELECOM referring to land-based communications ○ *a terrestrial link*

terrestrial animal *noun* ZOOLOG an animal that lives on dry land

terrestrial equator *noun* EARTH SCI same as **equator**

terrestrial magnetism *noun* EARTH SCI the magnetic properties of the Earth

terrestrial planet *noun* ASTRON one of the four planets nearest the Sun that are similar in density and composition (NOTE: The terrestrial planets are Mars, Venus, Mercury and Earth.)

terrestrial radiation *noun* EARTH SCI loss of heat from the Earth ○ *Clear skies allow terrestrial radiation to escape.*

terricolous *adjective* ZOOLOG referring to an animal that lives in or on soil

territorial *adjective* referring to territory

territorialism, territoriality *noun* ZOOLOG a pattern of behaviour involving the establishment and defence of a territory

territorial species *noun* ZOOLOG a species that occupies and defends a territory

territorial waters *plural noun* the sea near the coast of a country that is under the control of that country

territory *noun* ZOOLOG an area occupied and defended by an animal, which may be all or part of the animal's home range ○ *A robin defends its territory by attacking other robins that enter it.*

tertiary *adjective 1.* coming after two other things **2.** CHEM relating to or containing a carbon atom that has direct bonds to three other carbon atoms

tertiary consumer *noun* ZOOLOG a carnivore that only eats other carnivores. ◇ **primary consumer, secondary consumer**

tertiary treatment *noun* ENVIRON an advanced stage in the processing of sewage

tesla *noun* MEASURE, PHYS the derived SI unit of magnetic flux density, equal to a flux of one weber per square metre. Symbol **T**

tessellate *verb* **1.** (*of shapes*) to fit together without leaving spaces **2.** COMPUT to reduce a complex shape to a collection of simple shapes, often triangles

test *noun* a process designed to find out if a sample of something matches criteria, if a device is working well, or if a product is satisfactory ○ *Laboratory tests showed that the sample was positive.* ○ *Government officials have carried out tests on samples of drinking water.* ■ *verb* to examine a sample or device to see if it is working well ○ *They tested the water sample for microorganisms.*

testa *noun* BOT the tough protective skin around a seed. Also called **seed coat**

test bed *noun* COMPUT an environment used to test programs

test data *plural noun* COMPUT data with known results prepared to allow a new program to be tested

test equipment *noun* COMPUT special equipment used to test hardware or software ○ *The engineer has special test equipment for this model.*

testicle *noun* ANAT same as **testis**

testicular artery *noun* ANAT same as **spermatic artery**

testis *noun* ANAT a male gland that produces sperm (NOTE: In mammals, including humans, the paired testes also secrete sex hormones. The plural of **testis** is **testes**.)

testosterone *noun* BIOCHEM a male steroid hormone produced by the testes, that controls the development of secondary sexual characteristics at puberty

test run *noun* COMPUT a program run with test data to ensure that the software is working correctly ○ *A test run will soon show up any errors.*

test tube *noun* CHEM a small glass tube with a rounded bottom, used in laboratories to hold samples of liquids

tetanus *noun* MED an infection caused by *Clostridium tetani* in the soil, which affects the spinal cord and causes spasms which occur first in the jaw

tetrachlorodibenzoparadioxin *noun* CHEM full form of **TCDD**

tetrad *noun* **1.** BIOL a group of four cells produced by meiosis of a single parent cell into sex cells **2.** GENETICS a group of four chromosomes in a diploid cell that is about to undergo meiosis

tetraethyl lead *noun* INDUST a substance sometimes added to petrol to prevent knocking in an engine

tetrahedral compound *noun* CHEM a compound in which the main atom joins other atoms at four corners around the atom

tetrahedron *noun* MATHS a solid object with four identical triangular faces

tetrahydrate *noun* CHEM a chemical with four molecules of water of crystallisation

tetraploid *adjective* GENETICS referring to an organism that has four sets of chromosomes in a cell nucleus

tetravalent *adjective* CHEM with a valency of four

tex *noun* MEASURE, TEXTILES a measure of mass per unit length of fibres. Symbol **tex**

texel *noun* COMPUT a collection of pixels that are treated as a single unit when texture mapping is being applied over an object

text *noun* COMPUT information consisting of alphanumeric characters

text file *noun* COMPUT a stored file on a computer containing text rather than digits or data

text processing *noun* COMPUT the use of a computer to keyboard, edit and output text

texture *noun* the roughness or smoothness of a surface or substance

textured vegetable protein *noun* FOOD INDUST a substance made from processed soya beans or other vegetables, used as a substitute for meat. Abbr **TVP**

texture mapping *noun* COMPUT **1.** a computer graphics effect using algorithms to produce an image that looks like the surface of something such as marble, brick, stone or water **2.** the covering of one image with another to give the first a texture

TFT screen *noun* COMPUT a method of creating a high-quality LCD display often used in laptop computers. Full form **thin film transistor screen**

Th *symbol* CHEM ELEM thorium

thalamus *noun* BOT same as **receptacle**

thallium *noun* CHEM ELEM a metallic element which is poisonous and used in pesticides. Symbol **Tl** (NOTE: The chemical symbol is **Tl**; the atomic number is **81** and the atomic weight is **204.37**.)

thallophyte *noun* BOT a plant without stem, roots, or leaves, e.g. an alga, lichen or fungus

thallus *noun* BOT the flat green body of a simple plant such as an alga or liverwort (NOTE: It is not differentiated into leaves, stems and roots.)

thaw *noun* METEOROL a period when the weather becomes warmer after a heavy frost, and ice and snow melt ■ *verb* to melt or make something melt ○ *As the polar ice thaws, the sea level rises.* ○ *It is possible that rising atmospheric temperatures will thaw the polar ice caps and raise the level of the sea.*

thaw water *noun* EARTH SCI water from melting snow and ice

theodolite *noun* ENG an instrument formed of a telescope mounted in such a way that it can turn around, used for measuring angles

theorem *noun* MATHS a proposition or formula in mathematics or logic that is provable from a set of axioms and basic assumptions

theory *noun* a possible explanation of how or why something happens which has not been confirmed by experimental evidence

therapeutic cloning *noun* MED the use of cloning to produce new body tissues from stem cells, for use in the treatment of disease or injury

therm *noun* MEASURE, PHYS a unit of heat equal to 100000 British thermal units or 1.055×10^8 joules

thermal *adjective* PHYS referring to heat ○ *Intense surface heating causes thermal currents to develop and create convection.* ■ *noun* METEOROL a rising current of relatively warm air in the lower atmosphere ○ *Glider pilots circle in thermals in order to gain height.*

thermal accumulator *noun* PHYS same as **heat accumulator**

thermal analysis *noun* PHYS the analysis of the properties of a compound or metal at different temperatures

thermal diffusion *noun* PHYS a concentration gradient within a fluid created by a temperature gradient

thermal discharge *noun* INDUST same as **heat discharge**

thermal dissociation *noun* PHYS the reversible decomposition of a chemical compound into its components when heat is applied

thermal efficiency *noun* PHYS the efficiency of conversion of fuel energy to kinetic energy

thermal energy *noun* INDUST energy in the form of heat

thermal inkjet printer *noun* COMPUT a computer printer which produces characters by sending a stream of tiny drops of electrically charged ink onto paper

thermalisation, thermalization *verb* PHYS the reduction of the speed and energy of neutrons in a nuclear reactor to a point at which they have thermal energy so that they can be captured and produce fission

thermal neutron PHYS **1.** a neutron produced in the process of thermalisation **2.** same as **slow neutron**

thermal pollution *noun* ENVIRON a change in the quality of an environment by increasing its temperature, e.g. the release of heat from the cooling towers of a power station or from the discharge of a coolant

thermal radiation *noun* PHYS the emission of radiant heat

thermal reactor *noun* INDUST a nuclear reactor that heats using a moderator, as opposed to a breeder reactor

thermal spring *noun* EARTH SCI a stream of hot water running out of the ground continuously

thermal storage *noun* INDUST same as **heat storage**

thermal stratification *noun* EARTH SCI the different layers of heat in a body of water

thermionic emission *noun* PHYS the emission of ions or electrons from very hot solids or liquids (NOTE: It is used to produce electrons in electron microscopes and X-ray tubes.)

thermionics *noun* PHYS the study of the emission of electrons from hot substances

thermionic valve *noun* ELECTRONICS an electronic component in which electrons are emitted from a heated cathode in a glass tube containing a vacuum

thermistor *noun* ELECTRONICS a semiconductor device whose resistance decreases as the temperature increases

thermite *noun* CHEM a mixture of powdered aluminium and iron (III) oxide that produces very high temperatures when ignited

thermo- *prefix* heat or temperature

thermochemistry *noun* CHEM the study of the heat produced by chemical reactions

thermocouple *noun* PHYS a device for measuring temperature

thermodynamic *adjective* PHYS **1.** relating to or involving thermodynamics **2.** obeying or affected by the laws of thermodynamics

thermodynamics *noun* PHYS the study of the processes involving heat changes and conservation of energy □ **first law of thermodynamics** a general scientific rule that during a physical or chemical change, energy is neither created nor destroyed □ **second law of thermodynamics** a general scientific rule that heat cannot pass from a colder to a warmer body and that with each change in form, some energy is degraded to a less useful form and given off into the surroundings, usually as heat

thermodynamic temperature *noun* PHYS temperature measured on a scale that is independent of the substance being used, expressed in kelvin

thermoelectricity *noun* ELEC electricity produced by maintaining a temperature difference at the point where two materials meet

thermograph *noun* PHYS an instrument that records changes in temperature on a roll of paper

thermolysis *noun* BIOL a reduction in body temperature, e.g. by sweating

thermometer *noun* PHYS an instrument for measuring temperature

thermometry *noun* PHYS the science of measuring temperature

thermonasty *noun* BOT a response of plants to heat

thermoneutral zone *noun* BIOL a range of environmental temperatures in which an endotherm can easily maintain a constant body temperature

thermonuclear energy *noun* PHYS energy produced by fusion of atomic nuclei

thermonuclear reaction *noun* PHYS a nuclear reaction in which atomic nuclei are fused together to make heavier types

COMMENT: Thermonuclear reactions occur in stars as well as hydrogen bombs and

potential fusion power reactors, because the creation of nuclei up to iron releases energy. Nuclei beyond iron can only be produced by absorbing energy, which is why they are rare by comparison with lighter species.

thermoperiodic *adjective* BIOL referring to an organism that reacts to regular changes in temperature

thermoperiodicity, thermoperiodism *noun* BIOL the effect on an organism of regular changes in temperature

thermophilic *adjective* BIOL referring to organisms such as algae living in the hot water of thermal springs that need a high temperature to grow

thermopile *noun* ELEC a device that is used for measuring radiant energy or converting it into electricity, consisting of a set of thermocouples joined either in series or in parallel

thermoplastic *INDUST noun* a type of plastic which can be repeatedly softened by heating and formed into shapes ■ *adjective* able to be recycled by heating and cooling ○ *thermoplastic materials*

thermoregulation *noun* BIOL the control of body temperature by processes such as sweating and shivering

thermosetting *adjective* *INDUST* able to be heated to be shaped but unable to be reheated for recycling

thermosetting plastic *noun* *INDUST* a type of plastic that can be heated to be shaped but which cannot be softened by reheating

thermosphere *noun* *EARTH SCI* the zone of the atmosphere above 80km from the surface of the Earth, where the temperature increases with altitude

thermostat *noun* *PHYS* a device that responds to temperature change by activating a mechanism, used for controlling the temperature of a space or process

therophyte *noun* *BOT* an annual plant that completes its life cycle rapidly in favourable conditions, growing from a seed and dying within one season and then surviving the unfavourable season in the form of seeds (NOTE: Many desert plants and plants growing on cultivated land are therophytes.)

thiamine, thiamin *noun* *BIOCHEM* vitamin B₁, found in yeast, cereals, liver and pork

thick *adjective* **1.** deep or broad ○ *This sheet of aluminium is not very thick. **2.** of a*

particular extent between two surfaces ○ *a 1 cm thick steel bar* **3.** with a large diameter ○ *thick wire* **4.** METEOROL dense ○ *thick fog* ○ *thick cloud* **5.** PHYS of a consistency which does not flow easily ○ *thick oil*

thicken *verb* to make something thicker or to become thicker

thickening agent *noun* CHEM a substance that causes a liquid to become thicker

thick-Ethernet *noun* COMPUT a network that can extend long distances, implemented using thick coaxial cable and transceivers to connect branch cables

thick film *noun* ELECTRONICS a miniature electronic circuit design in which miniature components are mounted on an insulating base, then connected as required

thickness *noun* **1.** the extent between two surfaces ○ *In monocoque construction, there is no internal stiffening because the thickness of the skin gives strength and stability.* **2.** the extent of the diameter of a wire **3.** METEOROL (*of fog or cloud*) the state of being dense **4.** PHYS (*of a liquid*) the state of not flowing easily

thigmotropism *noun* BOT a directional growth movement (**tropism**) of a plant part in response to touch (NOTE: It is often seen in plant tendrils such as those of peas.)

thin *adjective* **1.** of small extent between two surfaces ○ *a thin layer of paint* **2.** with a small diameter ○ *thin wire* **3.** METEOROL not dense ○ *thin mist* ○ *Altostratus cloud is thin enough for the Sun to be dimly visible.* **4.** PHYS of a consistency which flows easily ○ *thin oil* Opposite **thick**

thin-Ethernet *noun* COMPUT a network that is limited to distances of around 1000m, implemented using thin coaxial cable and BNC connectors

thin film *noun* ELECTRONICS a method of constructing integrated circuits by depositing in a vacuum very thin patterns of various materials onto a substrate to form the required interconnected components

thin film transistor screen *noun* COMPUT full form of **TFT screen**

thin-layer chromatography *noun* CHEM a method of separating substances in a solution using a solid adsorbent material on which the different substances move up at different speeds, allowing them to be separated. Abbr **TLC**

thinness *noun* **1.** the smallness of extent between two surfaces ○ *The thinness of the*

material makes it unsuitable. **2.** the smallness of extent of the diameter of a wire **3.** METEOROL (*of fog or cloud*) the state or condition of being thin enough to see through ■ PHYS (*of a liquid*) the state or condition of flowing easily

thionyl chloride *noun* CHEM a colourless liquid used in organic synthesis. Formula: SOCl_2 .

thiosulfate, thiosulphate *noun* CHEM a salt or ester of thiosulfuric acid

thiosulfuric acid *noun* CHEM an unstable acid that exists only as salts or esters or in solution. Formula: $\text{H}_2\text{S}_2\text{O}_3$.

thiourea *noun* CHEM a soluble crystalline solid used in the manufacture of resins and in photography. Formula: $\text{CS}(\text{NH}_2)_2$.

third eyelid *noun* ZOO same as **nictitating membrane**

third generation *noun* TELECOM the latest specification for mobile communication systems including mobile telephones, permitting very fast data transfer rates of between 128Kbps and 2Mbps. Abbr **3G**

third generation computer *noun* COMPUT a computer which uses integrated circuits instead of transistors

32-bit *adjective* COMPUT referring to data that is transferred 32 bits at a time along 32 parallel conductors

32-bit system *noun* COMPUT a micro-computer system or central processing unit that handles data in 32-bit words

thixotropy *noun* CHEM the property of becoming thinner or more fluid when shaken or stirred and returning to a gel state when allowed to stand, as in many paints

Thomson effect *noun* PHYS the phenomenon whereby a temperature gradient along a conductor or semiconductor causes an electric potential gradient

thoracic *adjective* ANAT referring to the thorax

thoracic aorta *noun* ANAT the part of the aorta which crosses the thorax

thorax *noun* **1.** ANAT a cavity in the top part of the body of an animal above the abdomen, containing the diaphragm, heart and lungs, all surrounded by the rib cage **2.** ZOO the middle section of the body of an insect, between the head and the abdomen

thorium *noun* CHEM ELEM a natural radioactive element which decomposes to radioactive radon gas (NOTE: The chemical

symbol is **Th**; the atomic number is **90** and the atomic weight is **232.04**.)

thorn *noun* **1.** BOT a sharp woody point on plant stems or branches **2.** PLANTS a plant or tree that has sharp woody points on its stems or branches

thornbush *noun* PLANTS a shrub or bush which has sharp woody points on its stems and branches

thorn scrub *noun* ECOL an area of land covered with bushes and small trees which have sharp woody points on their stems and branches

thorn woodland *noun* ECOL an area of land covered with trees which have sharp woody points on their stems and branches

thrashing *noun* COMPUT **1.** excessive disk activity **2.** a configuration or program fault in a virtual memory system that results in a central processing unit wasting time moving pages of data between main memory and disk or backing store

thread *noun* **1.** COMPUT a program which consists of many independent smaller sections or **beads** **2.** MECH ENG a continuous ridge on a screw or pipe ■ *verb* to pass a thread or strand of something through a hole or gap

threaded file *noun* COMPUT same as **chained file**

threaded language *noun* COMPUT a programming language which allows many small sections of code to be written then used by a main program

threaded tree *noun* COMPUT a structure in which each node contains a pointer to other nodes

threadworm *noun* ZOOLOG a thin parasitic worm which infests the large intestine. Genus: *Enterobius*.

threat *noun* something dangerous which may cause harm or damage ○ *Water pollution is a threat to public health.* □ **under threat (of)** likely to be harmed or damaged ○ *under threat of flooding*

threaten *verb* **1.** to be a danger or harmful to something ○ *Plant species growing in arid or semi-arid lands are threatened by the expansion in keeping livestock.* **2.** to be likely to do something harmful ○ *The plan for the new road threatens to damage the ecology of the wood.*

threatened *adjective* ENVIRON in danger of being harmed, damaged, or reduced in numbers ○ *a threatened habitat*

threatened species *noun* ECOL a species which is in danger of becoming extinct and needs protection

COMMENT: IUCN defines three categories of threatened species, in order of danger of extinction: critically endangered, endangered and vulnerable.

three-address instruction *noun* COMPUT an instruction which contains the addresses of two operands and the location where the result is to be stored

3D *adjective* COMPUT referring to an image that has the appearance of depth as well as height and width. Full form **three-dimensional**. ◊ **render**

three-dimensional *adjective* COMPUT having three dimensions, width, breadth and depth, and therefore giving the impression of being solid. Abbr **3D**

three-dimensional array *noun* COMPUT an array made up of a number of two dimensional arrays, arranged in parallel, giving rows, columns and depth

3G *adjective* COMPUT ◊ **third generation**

3-pin plug *noun* an electrical supply plug with three electrodes: live, neutral and earth

three-pin plug *noun* ELEC a standard plug with three connections, one neutral, one live and one earthed, to connect an electric device to the mains electricity supply

three state logic *noun* COMPUT a logic gate or integrated circuit that has three possible output states rather than the usual two (NOTE: These are logic high, logic low and high impedance.)

threonine *noun* BIOCHEM an essential amino acid

threshold *noun* **1.** a point or limit at which something changes **2.** ENVIRON the limit below which a significant adverse effect is not expected **3.** a point at which something is strong enough to be sensed by an instrument or by a sensory nerve

thrive *verb* BIOL (*of an animal or plant*) to develop and grow strongly ○ *These plants thrive in very cold environments.*

thrombin *noun* BIOCHEM a substance that coagulates blood

thromboplastin *noun* BIOCHEM a lipoprotein that converts prothrombin into thrombin

throttle *noun* MECH ENG **1.** same as **throttle lever** **2.** same as **throttle valve**

throttle back *verb* MECH ENG to reduce engine power ○ *Throttle back to increase the rate of descent.*

throttle lever *noun* MECH ENG a device operating the throttle valve ○ *When starting an engine, it is inadvisable to pump the throttle lever because of the risk of fire.* Also called **throttle**

throttle setting *noun* a particular position of the throttle which gives the required revolutions per minute power

throttle valve *noun* MECH ENG a device controlling the flow of fuel in an engine

throughput *noun* COMPUT the rate of production by a machine or system, measured as total useful information processed in a set period of time ○ *For this machine, throughput is 1.3 inches per second scanning speed.*

thrush *noun* MED an infection of the mouth or vagina caused by the fungus *Candida albicans*

thrust *noun* 1. AEROSP the force produced by a propeller, jet or rocket ○ *A propeller converts engine power into thrust.* ○ *In order for the aircraft to increase speed, thrust must overcome drag.* ○ *In constant unaccelerated flight, thrust equals drag.* 2. EARTH SCI a force in the crust of the Earth that squeezes and so produces folds ■ *verb* to push something suddenly with force ○ *A nozzle is an opening at the rear of a jet engine through which exhaust gases are thrust.*

thruster *noun* AEROSP a rocket on a spacecraft or high-altitude aircraft that controls an altitude or flight path

thrust fault *noun* EARTH SCI a fault in which the upper layers of rock have been pushed forward over the lower layers. Also called **reversed fault**

thrust reverser *noun* ENG a device to change the direction of thrust so that it operates in the opposite direction to the usual direction

thulium *noun* CHEM ELEM a very rare soft shiny metallic element used as an X-ray source (NOTE: The chemical symbol is **Tm**; the atomic number is **69** and the atomic weight is **168.93**.)

thumb *noun* ANAT a short thick finger, with only two phalanges, which is separated from the other four fingers on a hand

thumbnail *noun* 1. ANAT the nail on a thumb 2. COMPUT a miniature graphical representation of an image, used as a quick

and convenient method of viewing the contents of graphics or DTP files before they are retrieved

thunder *noun* METEOROL a loud sound generated by lightning in the atmosphere ○ *The storm was accompanied by thunder and lightning.*

thunderstorm *noun* METEOROL a storm with rain, thunder and lightning

COMMENT: The distance of a storm from the person hearing the thunder can be calculated by counting the number of seconds between the lightning flash and the sound of the thunder. Dividing this figure by three gives the distance in kilometres to the centre of the storm.

thymine *noun* BIOCHEM one of the four basic components of DNA

thymus *noun* ANAT an organ at the base of the neck that is involved in the development of the immune system, particularly T-cells (NOTE: It is relatively large in young children but shrinks after puberty.)

thyatron *noun* ELECTRONICS an electronic relay made up of a gas-filled tube in which a signal applied to the control grid initiates, but then cannot control, a transient anode current

thyristor *noun* ELECTRONICS a semiconductor device with three electrodes in which a signal to one electrode causes an independent current to flow between the other two

thyroid *adjective* ANAT referring to the thyroid gland

thyroid gland *noun* ANAT an endocrine gland in the neck of humans and other vertebrates that secretes the hormones that control metabolism and growth

COMMENT: The thyroid gland is activated by the pituitary gland and produces thyroxine, a hormone that regulates the body's metabolism. The thyroid gland needs a supply of iodine in order to produce thyroxine.

thyroid hormone *noun* BIOCHEM a hormone produced by the thyroid gland

thyroid-releasing hormone *noun* BIOCHEM a hormone secreted by the hypothalamus that controls the secretion of thyroid-stimulating hormone. Abbr **TRH**

thyroid-stimulating hormone *noun* BIOCHEM a hormone secreted by the pituitary gland that controls the secretion of thyroxine and triiodothyronine in the thyroid gland. Abbr **TSH**

thyroxine *noun* BIOCHEM the main hormone produced by the thyroid gland which

regulates the body's metabolism and conversion of food into heat

Ti *symbol* CHEM ELEM titanium

tibia *noun* ZOOLOG a long straight bone below the knee in vertebrates (NOTE: In humans this is often called the shinbone.)

tibial arteries *plural noun* ANATOMY the two arteries which run down the front and back of the lower leg

tick *noun* ZOOLOG a tiny parasite that sucks blood from the skin. Order: Acarida.

tidal *adjective* EARTH SCI referring to the tide

tidal current *noun* EARTH SCI a flow of water into or out of a bay, harbour or estuary

tidal energy, tidal power *noun* INDUSTRY electricity produced by using the force of the tides to drive turbines

tidal marsh *noun* EARTH SCI a marsh in which the water level rises and falls twice daily

tidal power *noun* INDUSTRY same as **tidal energy**

tidal power plant *noun* INDUSTRY an installation where electricity is produced by turbines driven by the force of the tides

tidal prism *noun* EARTH SCI a model of water flow in an estuary or other tidal area, used to assess the way in which pollutants are flushed through the area and dispersed

tidal range *noun* EARTH SCI the difference in height between high water and low water

tidal river *noun* EARTH SCI a river in which the water level rises and falls twice daily

tidal wave *noun* EARTH SCI same as **tsunami**

tidal zone *noun* EARTH SCI an area where the water level rises and falls twice daily

tide *noun* EARTH SCI a regular rising and falling of the sea, in a twice-daily rhythm

COMMENT: The tides are caused by the gravitational pull of the Moon, taken together with the centrifugal force of the Earth as it rotates, which make the water on the surface of the Earth move to high peaks at opposite sides of the globe with low troughs halfway between. Twice each month, at the new and full moon, the Sun, Moon and the Earth are directly aligned, giving the highest gravitational pull and causing the spring tides.

tie *noun* a basic structural member which is designed to withstand mainly tensile

loads ○ *Diagonal ties can be used to relieve tension.*

tilapia *noun* ZOOLOG a tropical white fish, suitable for growing in fish farms

tile *verb* COMPUT to arrange a group of windows in a graphical user interface so that they are displayed side by side without overlapping

till *noun* EARTH SCI a boulder clay soil mixed with rocks of different sizes, found in glacial deposits ■ *verb* AGRIC to prepare the soil, especially by digging or ploughing, to make it ready for the cultivation of crops

tillage *noun* AGRIC the activity of preparing the soil for cultivation

tilt *noun* a sloping position ○ *Land creates a drag effect on an electromagnetic wave-front, reducing the velocity of the wave and thereby causing a tilt.* ■ *verb* to be at an angle to the vertical or horizontal ○ *The Earth tilts on its axis.*

tilt and swivel *adjective* COMPUT referring to a monitor that is mounted on a pivot so that it can be moved to point in the most convenient direction for the operator

tilth *noun* AGRIC a good light crumbling soil prepared to be suitable for growing plants ○ *Work the soil into a fine tilth before sowing seeds.*

timber *noun* FORESTRY trees which have been or are to be cut down and made into logs

timberline *noun* US EARTH SCI same as **treeline**

timbre *noun* ACOUSTICS the quality of a sound that can be identified by the human ear, e.g. that of a musical note which when played on two different musical instruments will not sound the same

time *noun* a dimension that relates the occurrence of events, expressed in intervals such as hours, minutes and seconds ■ *verb* to measure the time taken by an operation

time base *noun* PHYS **1.** a signal used as a basis for timing purposes **2.** a regular sawtooth waveform used in an oscilloscope to sweep the beam across the screen

time code *noun* COMPUT a record of timed information on an audio track in a video tape

time dilation *noun* PHYS variation in the apparent rate at which time passes as measured by clocks moving with relative velocities which are a significant fraction of the

velocity of light (NOTE: Time dilation is a consequence of the Special Theory of Relativity.)

time division multiplexing *noun* COMPUT a method of combining several signals into one high-speed transmission carrier, each input signal being sampled in turn and the result transmitted to be reconstructed by the receiver. Abbr **TDM**

time domain reflectometry *noun* COMPUT a test which identifies where cable faults lie by sending a signal down the cable and measuring how long it takes for the reflection to come back. Abbr **TDR**

timer *noun* a device which records the time taken for an operation to be completed

times *preposition* MATHS used to indicate that a number is to be multiplied by another

time-sharing *noun* COMPUT a computer system which allows several independent users to use it or be online at the same time

COMMENT: In time-sharing, each user appears to be using the computer all the time, when in fact each is using the central processing unit for a short time only, the central processing unit processing one user for a period then moving on to the next.

tin *noun* 1. CHEM ELEM a metallic element, used especially to form alloys (NOTE: The chemical symbol is **Sn**; the atomic number is **50** and the atomic weight is **118.69**.) 2. INDUST a metal container for food or drink, made of iron with a lining of tin or of aluminium (NOTE: The US term is **can**.)

tin can *noun* INDUST same as **tin 2**

tin (II) chloride *noun* CHEM a white solid used as a reducing agent. Formula: SnCl_2 .

tincture *noun* CHEM a solution of a plant extract or chemical in alcohol

tincture of iodine *noun* CHEM a weak solution of iodine in alcohol, used as an antiseptic

tin (IV) hydride *noun* CHEM a volatile gas used as a reducing agent. Formula: SnH_4 .

tin (IV) oxide *noun* CHEM a crystalline solid. Formula: SnO_2 .

tin (IV) sulfide, tin (IV) sulphide *noun* CHEM a solid used as a yellow-coloured pigment. Formula: SnS_2 .

tip *noun* BOT the end part of a plant stem where growth takes place ◦ a *shoot tip*

tipping *noun* the process of disposing with rubbish ◦ a *ban on tipping*

tipping point *noun* MED the stage during an epidemic when the agent, especially a virus, begins to increase very rapidly in a population

tire *noun* US AUTOMOT US spelling of **tyre**

tissue *noun* BIOL a group of cells that carries out a specific function, of which the organs of an animal or plant are formed ◦ *photosynthetic tissue in leaves* ◦ *Most of an animal's body is made up of soft tissue, with the exception of the bones and cartilage.*

tissue culture *noun* 1. BIOL plant or animal tissue grown in a culture medium 2. BOT a method of plant propagation which reproduces clones of the original plant on media containing plant hormones

tissue fluid *noun* PHYSIOL the lymph that is found in the intercellular spaces

titanic acid *noun* CHEM an acid that is the hydrated form of titanium dioxide. Use: for fixing dyes. Formula: H_2TiO_3 .

titanium *noun* CHEM ELEM a light metal used to make strong alloys (NOTE: The fatigue resistance of titanium is greater than that of aluminium or steel. The chemical symbol is **Ti**; the atomic number **22** and the atomic weight is **47.90**.)

titanium dioxide *noun* CHEM a white crystalline solid used as a white pigment for durable paints and plastics. Formula: TiO_2 .

titanium (IV) oxide *noun* CHEM an inert solid that has three crystalline forms. Formula: TiO_2 .

titer *noun* CHEM US spelling of **titre**

titration *noun* CHEM a process for measuring the concentration of a solution

titre *noun* CHEM a measurement of the concentration of a solution, as determined by titration (NOTE: The US spelling is **titer**.)

Tl *symbol* CHEM ELEM thallium

TLC *abbreviation* thin-layer chromatography

T lymphocyte *noun* ANAT same as **T cell**

toadstool *noun* FUNGI a fungus that resembles an edible mushroom, but which may be poisonous

tocopherol *noun* BIOCHEM one of a group of fat-soluble chemicals that make up vitamin E (NOTE: It is particularly abundant in vegetable oils and leafy green vegetables.)

toe *noun* ANAT one of the five separate parts at the end of a foot

TOE *abbreviation* MEASURE tonnes of oil equivalent

toggle *verb* COMPUT to switch between two states

toggle switch *noun* ELEC an electrical switch which has only two positions

token *noun* COMPUT **1.** an internal code which replaces a reserved word or program statement in a high-level language **2.** a control packet which is passed between workstations to control access to the network

token bus network *noun* COMPUT an IEEE 802.4 standard for a local area network formed with a bus-topology cable in which workstations transfer data by passing a token

token ring network *noun* COMPUT an IEEE 802.5 standard that uses a token passed from one workstation to the next in a ring network, so that a workstation can only transmit data if it captures the token (NOTE: Although logically a ring, token ring networks are often physically wired in a star topology.)

tolerable daily intake *noun* ENVIRON the amount of a substance that it is estimated can be taken in without risk to health on a daily basis. Abbr **TDI**

tolerance *noun* **1.** BIOL the ability of an organism to accept something, or not to react to something ○ *He has developed a tolerance to the drug.* **2.** MEASURE an allowable variation in something which can be measured ○ *a tolerance of 2°* ○ *a tolerance of 1mm*

tolerance dose *noun* MED the amount of radiation which can be given without harm in radiotherapy

tolerant *adjective* not reacting adversely to something ○ *a salt-tolerant plant*

tolerate *verb* not to react adversely to something

toleration *noun* the ability to tolerate something, or the act of tolerating something ○ *poor toleration of high temperatures*

toleration level *noun* BIOL a limit below which an organism will accept something or not react to something ○ *Waste hot water from power stations can kill freshwater fish if the water temperature rises above toleration levels.*

Tollen's reagent *noun* CHEM a mixed solution of silver nitrate, ammonia and sodium bicarbonate, used in testing for aldehydes

toluene *noun* CHEM a colourless liquid hydrocarbon similar to benzene, but less flammable, and lower in toxicity, used as a solvent and high-octane fuel. Formula: C₇H₈.

ton *noun* MEASURE **1.** a unit of measurement of weight, equal to 1016kg **2.** US a unit of measurement of weight, equal to 907kg **3.** same as **tonne**

tone *noun* ACOUSTICS the sound of one pitch ○ *The ground transmits a code in two short bursts each of which is modulated with two tones.*

toner *noun* COMPUT a finely powdered, usually black ink, used in laser printers. It is transferred onto paper by electrical charge and then fixed permanently to the paper by heating.

tongue *noun* **1.** ANAT a muscular organ in the mouth, used during eating to move food and, in humans, to produce speech sounds **2.** EARTH SCI a narrow strip of land that sticks out into water

tonne *noun* MEASURE a unit of measurement of weight, equal to 1000kg

tonnes of oil equivalent *noun* MEASURE a unit of measurement of the energy content of a fuel, calculated by comparing its heat energy with that of oil. Abbr **TOE**

tonsil *noun* ANAT either of two small oval masses of lymphoid tissue, one on either side of the throat

tool *noun* **1.** an object that is designed to help in carrying out particular task ○ *a cutting tool* **2.** COMPUT in a graphical user interface, a function accessed from an icon in a toolbar

toolbar *noun* COMPUT a window that contains a range of icons that access tools

toolbox *noun* **1.** ENG a box containing instruments needed to repair or maintain or install equipment **2.** COMPUT a set of predefined routines or functions that are used when writing a program

toolkit *noun* a set of tools consisting of spanners, screwdrivers, pliers and similar implements

tools *plural noun* COMPUT the utility programs such as backup or format found in a computer system

tooth *noun* **1.** ANAT a hard white object that is part of a set found in the jaws of vertebrates, used for biting and chewing **2.** ZOOLOG a hard, sharp projection on an invertebrate that functions like or resembles a vertebrate tooth (NOTE: The plural is **teeth**.)

toothed *adjective* **1.** ZOOL having teeth **2.** having many small indentations around the edge ○ *toothed leaves*

toothed whale *noun* MARINE BIOL a whale that has teeth, e.g. a sperm whale, killer whale, porpoise or dolphin. Suborder: Odontoceti.

top *noun* the highest point or part ○ *the top of the cloud*

topaz *noun* MINERALS a yellow mineral, especially yellow sapphire or a yellow variety of quartz

top-dead-centre *noun* ENG the position of the piston at the extreme top of its stroke in a piston engine ○ *Ignition should occur just before top-dead-centre.*

top-down control *noun* the system of regulation of trophic levels by which the abundance of herbivores in the lower trophic levels is determined by factors such as predators in the higher levels. Compare **bottom-up control**

bottom-up control

top down programming *noun* COMPUT a method of writing programs in which a complete system is divided into simple blocks or tasks, each block unit being written and tested before proceeding with the next one

topic *noun* the subject of something heard, said, written or read ○ *The first section in the book deals with the topic of planning.*

topical *adjective* **1.** of particular interest at the moment **2.** MED referring to one particular part of the body

topical drug *noun* PHARM a drug which is applied to one part of the body only

topically *adverb* PHARM to one part of the body only ○ *The drug is applied topically.*

top of stack *noun* COMPUT the newest data item added to a stack

topographic, topographical *adjective* EARTH SCI referring to topography

topography *noun* EARTH SCI the study of the physical features of a geographical area

topology *noun* COMPUT the way in which the various elements in a network are interconnected

topotype *noun* ECOL a population which has become different from other populations of a species because of adaptation to local geographical features

topset bed *noun* EARTH SCI a layer of fine-grained sediment in a river delta

topsoil *noun* EARTH SCI the top layer of soil, often containing organic material, from which chemical substances are washed by water into the subsoil below

tor *noun* EARTH SCI a pile of blocks or rounded granite rocks found on summits and hillsides

tornado *noun* METEOROL a violent storm with a column of rapidly turning air at the centre of an area of very low pressure, giving very high winds and causing damage to buildings

COMMENT: Tornadoes are formed by rising air currents associated with large cumulonimbus clouds. They rotate anticlockwise in the northern hemisphere and clockwise in the southern. Passing over the sea they pick up water and become waterspouts.

torque *noun* MECH ENG, PHYS a tangential of force causing rotation ○ *Torque forces try to bend the propeller against the direction of rotation.* ○ *High current flows through both the field and armature windings producing the high torque required for engine starting.*

torquemeter *noun* MECH ENG a device for measuring forces causing rotation ○ *Engine torque is used to indicate the power that is developed by a turboprop engine and the indicator is known as a torquemeter.*

torr *noun* MEASURE a unit of pressure equal to about 133.3 pascal or one conventional millimetre of mercury

torrent *noun* EARTH SCI a violent rapidly flowing stream of water or lava

torrential *adjective* METEOROL referring to very heavy rain ○ *The storm brought a torrential downpour of rain.*

torsion *noun* PHYS the action or force of twisting, especially of one end of a body while the other is fixed ○ *Rivets are subjected to torsion and may break.*

torsion load *noun* PHYS a load caused by the twisting of a structure

torso *noun* ANAT the main part of the body, not including the arms, legs and head

total *adjective* complete or entire ○ *The total world population of the animal is no more than four or five hundred pairs.*

total bacterial count *noun* a system of calculating the strength of an infection by counting the number of bacteria present in a sample quantity of liquid taken from the animal. Abbr **TBC**

total body irradiation *noun* MED the treatment of the whole body with radiation

total eclipse *noun* ASTRON an eclipse when the whole of the Sun or Moon is hidden

total fertility rate *noun* MED an average number of children expected to be born to a female during her lifetime

total internal reflection *noun* PHYS the complete reflection of a light ray at the boundary of the medium through which it passes

touch pad *noun* COMPUT a flat device which can sense where on its surface and when it is touched, used to control a cursor position or switch a device on or off

touch screen *noun* COMPUT a computer display which allows the user to control the cursor position by touching the screen

town gas *noun* INDUST same as **coal gas**

tox-, toxi- *prefix* poison

toxic *adjective* CHEM referring to a substance that is poisonous or harmful to humans, animals or the environment

toxic agent *noun* CHEM a substance which is poisonous or harmful to humans, animals or the environment

toxicant *noun* CHEM a toxic substance

toxic emissions *plural noun* poisonous chemicals discharged into the air, water or land

toxic fumes *plural noun* CHEM poisonous gases or smoke given off by a substance

toxicity *noun* CHEM **1.** the degree to which a substance is poisonous or harmful
 ○ *They were concerned about the high level of toxicity of the fumes.* **2.** the state of being poisonous or harmful
 ○ *The toxicity of the compound has limited its use.*

toxicity threshold same as **toxic threshold**

toxico- *prefix* poison

toxicological *adjective* MED referring to toxicology
 ○ *Irradiated food presents no toxicological hazard to humans.*

toxicologist *noun* MED a scientist who specialises in the study of poisons

toxicology *noun* MED the scientific study of poisons and their effects on the human body

toxicosis *noun* MED poisoning

toxic site *noun* land contaminated with one or more toxic substances, usually not suitable for human habitation

toxic substance *noun* ENVIRON a substance that is poisonous or harmful to humans, animals or the environment

toxic threshold *noun* MED the point at which a poison starts to have a noticeably harmful effect. Also called **toxicity threshold**

toxic waste *noun* ENVIRON industrial or chemical waste that is poisonous or harmful to humans, animals or the environment

toxigenomics *noun* GENETICS the study of genetic effects on toxicology

toxin *noun* BIOCHEM a poisonous substance produced by microorganisms. ◊ **mycotoxin**

toxoid *noun* BIOCHEM a toxin which has been treated and is no longer poisonous but which can still provoke the formation of antibodies

COMMENT: Toxoids are used as vaccines, and are injected into a patient to give immunity against a disease.

TP *abbreviation* COMPUT **1.** teleprocessing
2. transaction processing

T piece adapter *noun* COMPUT a device for connecting two inputs to one output or vice versa

trace *noun* **1.** a very small amount of something
 ○ *There are traces of radioactivity in the sample.* **2.** a line or pattern made on a screen or piece of paper by a device recording an electrical signal
3. COMPUT a method of verifying that a program is functioning correctly, in which the current status and contents of the registers and variables used are displayed after each instruction step

trace element *noun* BIOCHEM a chemical element that is essential to organic growth but only in very small quantities

COMMENT: Plants require traces of copper, iron, manganese and zinc. Humans require the trace elements chromium, cobalt, copper, magnesium, manganese, molybdenum, selenium and zinc.

trace gas *noun* CHEM a gas that exists in the atmosphere in very small quantities, e.g. xenon or helium

trace metal *noun* METALL a metal that is essential to organic growth but only in very small quantities

tracer *noun* BIOL a substance inserted into an organism so that its movements may be tracked from its colour, radioactivity, fluorescence or other characteristic

tracer element *noun* MED a radioactive element used as a tracer

traceroute *noun* COMPUT a software utility that finds and displays the route taken for data travelling between a computer and a distant server on the Internet

COMMENT: The display shows the different servers that the data travels through, together with the time taken to travel between each server.

trachea *noun* **1.** ANAT the tube through which air travels from the throat to the lungs **2.** ZOOL a tube used for breathing air by insects and other invertebrates

tracheid *noun* BOT a thickened supporting cell found in conifers and their relatives

tracing *noun* COMPUT a function of a graphics program that takes a bit-map image, processes it to find the edges of the shapes and converts these into a vector line image that can be more easily manipulated

track *COMPUT noun* one of a series of thin concentric rings on a magnetic disk or of thin lines on a tape, which the read/write head accesses and along which the data is stored in separate sectors ■ *verb* to follow a path or track correctly ○ *The read head is not tracking the recorded track correctly.*

COMMENT: The first track on a tape is along the edge and the tape may have up to nine different tracks on it, while a disk has many concentric tracks around the central hub. The track and sector addresses are set-up during formatting.

trackball *noun* COMPUT a device used to move a cursor on-screen, which is controlled by turning a ball contained in a case

tract *noun* **1.** ANAT a system of internal organs ○ *the digestive tract* **2.** EARTH SCI a wide area of land ○ *Large tracts of forest have been destroyed by fire.*

trade wind *noun* METEOROL a wind that blows towards the equator, from the north-east in the northern hemisphere and from the south-east in the southern hemisphere

trade-wind cumulus *noun* METEOROL cumulus cloud usually associated with the trade winds

tradition *noun* a long-established way of doing something

traditional *adjective* referring to something that has always been done in the same way ○ *a traditional system of agriculture* ○ *Traditional technologies met basic subsistence needs.*

traffic *noun* **1.** ENVIRON the vehicles that are travelling in an area at the same time ○ *rush-hour traffic* **2.** aircraft, train and ships

that travel from one place to another ○ *Lower fares have resulted in a large increase in air traffic.* **3.** COMPUT, TELECOM all the messages and other signals processed by a system or carried by a communications link ○ *Our network begins to slow down if the traffic reaches 60 per cent of the bandwidth.*

trail *noun* **1.** ENVIRON a path or track ○ *created a new nature trail in the forest* **2.** ZOOL a mark or scent left by an animal ○ *on the trail of a badger*

trait *noun* BIOL a genetically controlled characteristic

trajectory *noun* MATHS a curve that intersects all of a family of curves or surfaces at a constant angle

trans- *prefix* through or across

transaction *noun* COMPUT one single action which affects a database, e.g. a sale, a change of address or a new customer

transaction-driven system *noun* COMPUT a computer system that will usually run batch processing tasks until interrupted by a new transaction, at which point it allocates resources to that transaction. Abbr **TDS**

transaction file *noun* COMPUT same as update file

transaction processing *noun* COMPUT interactive processing in which a user enters commands and data on a terminal which is linked to a central computer, with results being displayed on-screen. Abbr **TP**

transactivation *noun* GENETICS the activation by an infecting virus of the genes of another virus that is already integrated into the chromosomes of a host bacterium, inducing the host to replicate the infecting virus

transalpine *adjective* EARTH SCI on or to the other side of the Alps ○ *All transalpine roads are closed.*

transamination *noun* BIOCHEM the changing of one amino acid into another

transboundary pollution *noun* ENVIRON airborne or waterborne pollution produced in one country which crosses to another. Also called **transfrontier pollution**

transceiver *noun* COMPUT a device that can both transmit and receive signals, e.g. a terminal or modem

transcribe *verb* COMPUT to copy data from one backing storage unit or medium to another

transcript *noun* GENETICS **1.** a molecule of messenger RNA carrying coded genetic information derived from DNA during the process of transcription in living cells **2.** the DNA carrying the genetic information of a retrovirus derived from the virus's RNA during transcription following the infection of a living cell

transcription *noun* GENETICS **1.** the transfer of genetic information from DNA to molecules of messenger RNA, which subsequently control protein synthesis **2.** the first step in the replication of a retrovirus in a host cell, in which its genetic code is transferred from RNA to a molecule of DNA

transcriptome *noun* GENETICS the full complement of unique sequenced RNA transcripts that an individual produces

transcriptomics *noun* GENETICS the scientific classification and analysis of RNA transcripts and their formation, structure and function in an individual

transduce *verb* **1.** GENETICS to transfer genetic material from one bacterium to another using a bacteriophage **2.** ELEC ENG to convert a non-electrical signal into an electrical one

transducer *noun* ELEC a device which converts a non-electrical signal into an electrical one

transduction *noun* **1.** GENETICS the transfer of genetic material between bacteria using a bacteriophage **2.** ELEC the conversion of a non-electrical signal into an electrical one

transect *noun* ECOL a line used in ecological surveys to provide a way of measuring and showing the distribution of organisms

transfer *verb* **1.** to move, or move someone or something, from one place to another **2.** COMPUT to change command or control from one location to another ○ *All processing activities have been transferred to the mainframe.* **3.** COMPUT to copy a section of memory to another location ■ *noun* **1.** the moving of someone or something from one place to another **2.** COMPUT the changing of command or control from one location to another

transfer rate *noun* COMPUT the speed at which data is transferred from a backing store to main memory or from one device to another ○ *With a good telephone line,*

this pair of modems can achieve a transfer rate of 14.4Kbps.

transfer RNA *noun* GENETICS a type of RNA that binds amino acids to protein chains in the ribosomes

transform *verb* to change the structure or appearance of something

transformation *noun* a change in structure or appearance

transformational rules *plural noun* COMPUT a set of rules applied to data which is to be transformed into coded form

transformer *noun* ELEC a device for changing the voltage or current amplitude of an alternating current signal (NOTE: Current transformers differ from voltage transformers in that the primary circuit consists of a supply feeder cable rather than a coil connected across a supply.)

transfrontier pollution *noun* ENVIRON same as **transboundary pollution**

transgene *noun* BIOTECH a gene from one organism that is transferred to another

transgenesis *noun* the process of transferring genetic material from one organism to another

transgenic BIOTECH *adjective* **1.** referring to an organism into which genetic material from a different species has been transferred using the techniques of genetic modification **2.** referring to the techniques of transferring genetic material from one organism to another ■ *noun* an organism produced by genetic modification

transhumance *noun* AGRIC the practice of moving flocks and herds up to high summer pastures and bringing them down to a valley again in winter

transient COMPUT *adjective* referring to a state or signal that is present for a short period of time ■ *noun* something that is present for a short period

transient area *noun* COMPUT a section of memory for user programs and data

transient error *noun* COMPUT a temporary error which occurs for a short period of time

transient suppressor *noun* ELEC a device which suppresses voltage transients

transistor *noun* ELECTRONICS an electronic semiconductor device that can control the current flow in a circuit (NOTE: There are two main types of transistors: bipolar and unipolar.)

transistor-transistor logic *noun* ELECTRONICS the most common family of logic gates and high-speed transistor circuit design, in which the bipolar transistors are directly connected, usually collector to base, to provide the logic function. Abbr **TTL**

transit *noun* ASTRON the apparent movement of a star or planet across the meridian from which it is being observed, caused by Earth's rotation

transition *noun* a change from one state to another

transition element *noun* CHEM a metallic element such as copper or gold that has variable valencies (NOTE: Such elements often form brightly coloured compounds.)

transition phase *noun* a period when something is changing from one state to another

transition temperature *noun* CHEM, PHYS a temperature at which a substance changes from one form or phase to another, or at which some other initial change takes place

translation *noun* **1.** PHYS the movement of a body in a straight line without rotation **2.** GENETICS the process by which information in messenger RNA controls the sequence of amino acids that a ribosome assembles during protein synthesis **3.** COMPUT the conversion of data from one form into another

translocate *verb* BOT to move substances through the tissues of a plant

translocated herbicide *noun* AGRIC a herbicide that kills a plant after being absorbed through its leaves

translocation *noun* BOT a movement of substances through the tissues of a plant

transmissible spongiform encephalopathy *noun* the name given to the group of spongiform encephalopathies which affect animals or humans, including scrapie and BSE. Abbr **TSE**

transmission control protocol/interface program *noun* COMPUT full form of **TCP/IP**

transmit *verb* **1.** to send something somewhere else ○ *As the camshaft rotates, the cam will transmit a lifting force through rods and pivots to open the valve.* ○ *The charts are transmitted from one station to another by fax.* **2.** TELECOM to send out a radio signal ○ *Survival beacons trans-*

mit a signal which enables search aircraft to rapidly locate survivors in the water. **3.** BIOL to pass on a disease to another animal or plant ○ *Some diseases are transmitted by insects.* (NOTE: **transmitting** – **transmitted**)

transmittance *noun* PHYS a measure of how well a material allows radiation to pass through it, measured as the ratio of incident radiation to transmitted radiation

transmitter *noun* **1.** TELECOM a device for sending out radio signals ○ *Although continuous wave radars operate continuously, separate transmitter and receiver antennae must be used.* ○ *Signal strength is inversely proportional to the distance from the transmitter.* **2.** COMPUT a device which will take an input signal, process it by modulation or conversion to sound, then transmit it by a medium such as radio or light

transparency *noun* **1.** PHYS the condition of being transparent ○ *Meteorological visibility gives information on the transparency of the atmosphere to a stationary ground observer.* **2.** COMPUT a computer program which is not obvious to the user or which cannot be seen by the user when it is running **3.** PHOTOGRAPHY a positive image on a film or slide that can be viewed when light is passed through it

transparent *adjective* PHYS allowing electromagnetic radiation of specific wavelengths to pass through (NOTE: It is often used to describe materials such as glass that allow light to pass and hence can be seen through.)

transparent interrupt *noun* COMPUT a mode in which, if an interrupt occurs, all machine and program states are saved (NOTE: When the interrupt is serviced the system restores all previous states and continues as usual.)

transphaser *noun* ELEC an optical transistor, constructed from a crystal, that is able to switch a main beam of light according to a smaller input signal (NOTE: Transphasors are used in optical computers which could run at very high speeds, i.e. the speed of light.)

transpiration *noun* **1.** BOT the loss of water from a plant through its stomata **2.** the removal of moisture from the soil by plant roots, which pass the moisture up the stem to the leaves

COMMENT: Transpiration accounts for a large amount of water vapour in the atmosphere. A tropical rainforest will transpire

more water per square kilometre than is evaporated from the same area of sea. Clearance of forest has the effect of reducing transpiration, with an accompanying change in climate: less rain, leading to eventual desertification.

transpire *verb* BOT (*of a plant*) to lose water through stomata ○ *In tropical rain-forests, up to 75% of rainfall will evaporate or transpire into the atmosphere.*

transplant *noun* **1.** MED the transfer of an organ or tissue from one person into or onto another ○ *a kidney transplant* **2.** MED a transplanted organ or tissue **3.** AGRIC a plant taken from one place and planted in the soil in another place ■ *verb* **1.** AGRIC to take a growing plant from one place and plant it in the soil in another place **2.** MED to take an organ or tissue from one person and put it into or onto another

transponder *noun* AVIAT a device in an aircraft for receiving and automatically transmitting radio signals so that an air traffic control station can identify the aircraft ○ *The transponder in the aircraft comprises a transmitter and a receiver.* (NOTE: The pilot sets an identification code, or 'squawk', assigned by air traffic control, on the transponder in the aircraft.)

transport *noun* **1.** a system of moving things from one place to another ○ *road and rail transport* ○ *an integrated transport policy* **2.** the activity of moving something from one place to another ■ *verb* to move something from one place to another ○ *Xylem and phloem transport nutrients around a plant.*

transportation *noun* same as **transport**
transport layer *noun* COMPUT the fourth layer in the ISO/OSI network model that provides a reliable connection and checks and controls the quality of the connection

transport number *noun* PHYS (*in electrolysis*) the fraction of the total current carried by an ion in the electrolyte

transpose *verb* **1.** to reverse the usual order of things **2.** to move something to a different position in a sequence

transposition *noun* GENETICS a movement of a DNA segment to a new position on the same or another chromosome

transposon *noun* GENETICS a segment of DNA that can move to a new position on the same or another chromosome, often modifying the effect of neighbouring genes. Also called **jumping gene** (NOTE:

These elements occur in bacteria, plants and animals.)

transuranic element *noun* CHEM an artificial radioactive element which is beyond uranium in the periodic table

COMMENT: The transuranic elements have higher atomic numbers than uranium, which has an atomic number of 92. Apart from neptunium and plutonium they do not occur naturally but are formed from uranium in nuclear reactions.

transverse wave *noun* PHYS a wave that causes vibrations in a medium at right angles to the direction of its travel

trap *noun* COMPUT a device or piece of software or hardware that will catch something, e.g. a variable, fault or value

trapdoor *noun* COMPUT a way of getting into a system to change data, browse or hack

trapezium *noun* **1.** MATHS a quadrilateral that has two parallel sides **2.** ANAT a small bone in the wrist at the base of the thumb

trapezoid *noun* MATHS a quadrilateral that has no parallel sides

trap handler *noun* COMPUT a piece of software that accepts interrupt signals and acts on them, e.g. by running a special routine or sending data to a peripheral

trauma centre *noun* MED a hospital or a department in a hospital that is specially equipped and staffed to treat patients who have sustained complex, life-threatening injuries such as multiple gunshot wounds or severe internal injuries

travelling wave *noun* PHYS a wave that carries energy away from its source

tread *noun* a series of patterns moulded into the surface of a tyre to provide grip ○ *The risk of aquaplaning increases as the depth of tyre tread is reduced.*

treat *verb* **1.** INDUST to apply a chemical or physical process to something in order to get a specific result ○ *The fabric has been treated to make it waterproof.* **2.** MED to give medical aid to someone or to apply medical techniques to a disease or condition

treatment *noun* **1.** the application of a chemical or physical process ○ *anti-corrosion treatment* ○ *heat treatment* ○ *the treatment of sewage* **2.** MED the application of medical techniques to a patient, disease or condition **3.** MED a particular medical course of action to treat a disease or condition

tree *noun* **1.** BOT a plant typically with one main woody stem that may grow to a great height **2.** COMPUT same as **tree structure**

tree and branch network system *noun* COMPUT a system of networking in which data is transmitted along a single output line, from which other lines branch out, forming a tree structure that feeds individual stations

tree cover *noun* BOT the percentage of an area occupied by trees

tree fern *noun* PLANTS a very large fern found in Australasia, which grows like a tree with a single thick stem

treeline *noun* EARTH SCI **1.** a line at a specific altitude, above which trees will not grow *o The slopes above the treeline were covered with boulders, rocks and pebbles.* **2.** a line in the northern or southern hemisphere, north or south of which trees will not grow

tree ring *noun* BOT same as **annual ring**

tree savanna *noun* EARTH SCI a dry grass-covered plain with some trees

tree selection sort *noun* COMPUT a rapid form of selection in which the information from the first sort pass is used in the second pass to speed up selection

tree structure *noun* COMPUT a data structure system in which each item of data is linked to several others by branches. Also called **tree**

trellis coding *noun* COMPUT a method of modulating a signal that uses both amplitude and phase modulation to give a greater throughput and lower error rates for data transmission speeds of over 9600 bits per second

trematode *noun* a fluke, a parasitic flat-worm

trembler *noun* ELEC an automatic vibrator for making and breaking an electrical circuit *o An ignition unit may be supplied with direct current and operated by a trembler mechanism.*

tremor *noun* **1.** a slight shaking movement **2.** EARTH SCI a minor earthquake

trend *noun* a gradual development *o a trend towards organic farming*

TRH *abbreviation* BIOCHEM thyroïd-releasing hormone

triad *noun* COMPUT **1.** a group of three elements, characters or bits **2.** a triangular shaped grouping of the red, green and blue

phosphor spots at each pixel location on the screen of a colour monitor

triangle *noun* MATHS a plane figure with three sides and three angles

triangle of vectors *noun* MATHS same as **parallelogram of vectors**

triatomic molecule *noun* CHEM an element with three atoms in a molecule

triazine *noun* CHEM an organic compound containing a ring of three carbon and three nitrogen atoms per molecule, or a derivative of such a compound (NOTE: Triazines are used in weedkillers, pesticides and dyes.)

tribe *noun* BIOL a category between sub-family and genus in the scientific classification of living things

tribomaterial *noun* CHEM a material based on carbon, used to control friction and minimize surface wear

tribromomethane *noun* CHEM a colourless liquid with a sweet smell, formed as a by-product when chlorine is added to drinking water. Formula: CHBr_3 . (NOTE: It is used as a laboratory reagent.)

tributary *noun* EARTH SCI a stream or river flowing into a larger river

tributyltin *noun* a very toxic organic compound containing tin that is a component of the paint used on ships' hulls and structures that stand in seawater to prevent organisms growing on them. Abbr **TBT**. \diamond

antifouling paint

tricarboxylic acid cycle *noun* BIO-CHEM same as **Krebs cycle**

trichloroethanal, trichloroacetaldehyde *noun* CHEM a colourless liquid aldehyde, used in making DDT. Formula: CCl_3CHO .

trickling filter *noun* INDUST a filter bed through which liquid sewage is passed to purify it

tricuspid valve *noun* ANAT an inlet valve with three cusps between the right atrium and the right ventricle in the heart

trifuralin *noun* a commonly used herbicide incorporated into the soil before planting a wide range of crops (NOTE: It is under review for withdrawal from use in the European Union.)

trigeminal ganglion *noun* ANAT a sensory ganglion containing the cells of origin of the sensory fibres in the fifth cranial nerve. Also called **Gasserian ganglion**

trigeminal nerve *noun* ANAT the fifth cranial nerve which controls the sensory nerves in the forehead and face as well as the muscles in the jaw

trigger *verb* to cause something to operate or come into effect ○ *The indicator triggers an aural warning if specific limits are exceeded.* ○ *It is not known what triggered the avalanche.*

triglyceride *noun* CHEM an ester formed from one glycerol molecule and three fatty acid molecules (NOTE: Large amounts of triglycerides in the diet are harmful to human health. They are found in animal and plant fats and oils.)

trigonometry *noun* MATHS a branch of mathematics dealing with properties of triangles and their applications, e.g. in surveying

triiodothyronine *noun* BIOCHEM a hormone that is secreted by the thyroid gland

trilobite *noun* PALAEOONT an extinct Palaeozoic marine arthropod with a flat oval segmented body and compound eyes. Class: Trilobita.

trioxide *noun* CHEM an oxide containing three oxygen atoms per molecule

triple *adjective* consisting of three parts ○ *Probes may be of single, double or triple element construction.*

triple bond *noun* CHEM a chemical bond composed of three covalent bonds

triple point *noun* CHEM the temperature and pressure at which the solid, liquid and gaseous phases of a substance exist in equilibrium

triplet *noun* GENETICS same as **codon**

triploblastic *adjective* ZOOLOG having a body that develops from all three layers of cells: ectoderm, endoderm and mesoderm (NOTE: All many-celled animals are triploblastic except for the coelenterates, the group to which jellyfish and sea anemones belong.)

triploid *adjective* GENETICS referring to an organism that has three representatives of each chromosome in a cell nucleus

trisomy *noun* GENETICS the occurrence of one or more sets of three chromosomes instead of chromosome pairs

tritium *noun* CHEM a rare isotope of hydrogen

triton *noun* MARINE BIOL a large tropical marine snail with a thick brightly coloured shell. Family: Cymatiidae.

trivalent *adjective* 1. GENETICS referring to three structurally identical chromosomes that associate during the initial stage of meiosis 2. CHEM having a valency of three

trochlear nerve *noun* ANAT the fourth cranial nerve which controls the muscles of the eyeball

trophic *adjective* BIOL referring to nutrition

trophic cascade *noun* ENVIRON the effect that a change in the size of one population in a food web has on the populations below it

trophic chain *noun* ECOL same as **food chain**

trophic level *noun* ECOL one of the levels in a food chain

COMMENT: There are several trophic levels.

Producers, organisms such as plants, take energy from the Sun or the environment and convert it into matter. Primary consumers, organisms such as herbivores, eat producers. Secondary consumers are carnivores that eat herbivores; tertiary consumers eat only other carnivores.

trophic pyramid *noun* a chart showing the structure of an ecosystem in terms of trophic levels

trophic structure *noun* ECOL the structure of an ecosystem, shown by food chains and food webs

-trophy *suffix* BIOL 1. nourishment 2. development of an organ

-tropic *suffix* 1. turning towards 2. having an influence

tropical *adjective* EARTH SCI referring to the tropics ○ *The disease is carried by a tropical insect.*

tropical air *noun* METEOROL a mass of air that originates in the tropics

tropical climate *noun* METEOROL the type of climate found in the tropics and characterised by very high temperatures and often high humidity

tropical cyclone *noun* METEOROL a tropical storm in the Indian Ocean, with masses of air turning rapidly round a low pressure area

tropical desert *noun* EARTH SCI same as **hot desert**

tropical disease *noun* MED a disease such as malaria, dengue or Lassa fever that occurs in tropical countries

tropical disturbance *noun* METEOROL a powerful storm that forms over water in the tropics or subtropics and lasts for 24

hours or more ○ *As it gains power, a tropical disturbance may become a tropical wave, tropical depression, tropical storm or hurricane.*

tropical hygiene *noun* MED health concerns relating to tropical regions

tropical medicine *noun* MED a branch of medicine which deals with tropical diseases

tropical month *noun* TIME a period of 27.32 days, the time taken for the Moon to return to the celestial equator

tropical rainforest *noun* EARTH SCI a biome where almost constant rain and high temperature permit plants to grow throughout the year

tropical revolving storm *noun* METEOROL an intense depression that develops over a tropical ocean (NOTE: Tropical revolving storms originate within 5–15° of the equator and generally occur from June to October.)

tropical seasonal forest *noun* EARTH SCI a biome where plants only grow at a specific time of year

tropical storm *noun* METEOROL a violent storm occurring in the tropics

tropical year *noun* TIME same as **solar year**

tropical zone *noun* EARTH SCI the region between the Tropic of Cancer and the Tropic of Capricorn

Tropic of Cancer *noun* EARTH SCI a parallel running round the Earth at latitude 23°28N

Tropic of Capricorn *noun* EARTH SCI a parallel running round the Earth at latitude 23°28S

tropics *plural noun* EARTH SCI the region between the Tropic of Cancer and the Tropic of Capricorn, where the climate is hot and often humid ○ *a disease which is endemic in the tropics*

tropism *noun* BOT the action of a plant organ turning towards a stimulus

tropopause *noun* METEOROL a layer of the atmosphere between the troposphere and the stratosphere

troposphere *noun* METEOROL the lowest region of the atmosphere, extending to about 12km above sea level

COMMENT: The troposphere is at its deepest near the equator and shallowest near the poles. It is formed largely of nitrogen (78%) and oxygen (21%), plus

argon and some trace gases. The temperature in the troposphere falls about 6.5°C per thousand metres of altitude, the temperature at 16km being about –55°C.

tropospheric *adjective* METEOROL referring to the troposphere

tropospheric ozone *noun* METEOROL the ozone that is located in the troposphere and plays a significant role in the greenhouse gas effect and urban smog

troubleshoot *verb* **1.** to look for the causes of problems and resolve them **2.** COMPUT to debug computer software **3.** COMPUT to locate and repair faults in hardware

trough *noun* **1.** a low point in a cycle ○ *The graph shows the peaks and troughs of pollution over the seasons.* **2.** METEOROL a long narrow area of low pressure with cold air in it, leading away from the centre of a depression

true *adjective* **1.** correct **2.** COMPUT having the logical condition representing binary one. Compare **false**

true bearing *noun* NAVIG a bearing with reference to true north, rather than magnetic north

true north *noun* NAVIG the direction along any line of longitude towards the North Pole. Compare **magnetic north**

true vocal cords *plural noun* ANAT the cords in the larynx which can be brought together to make sounds as air passes between them

truncate *verb* MATHS to give an approximate value to a number by reducing it to a specific number of digits

truncation *noun* MATHS the removal of digits from a number so that it is a specific length ○ *3.5678 truncated to 3.56*

truncation error *noun* MATHS an error caused when a number is truncated

trunk *noun* **1.** BOT the main woody stem of a tree **2.** ZOOL the long muscular tube at the front of the head of an elephant, used for grasping things and taking up water **3.** COMPUT a bus or communication link consisting of wires or leads which connect different parts of a hardware system

truth table *noun* COMPUT a method of defining a logic function as the output state for all possible inputs

truth value *noun* MATHS one of two values true or false, T or F, 1 or 0, used in Boolean algebra

trypanosome *noun* ZOOLOGY a parasite which causes sleeping sickness, transmitted by the tsetse fly

trypanosomiasis *noun* MED same as sleeping sickness

trypsin *noun* BIOCHEM a protein-digesting enzyme secreted by the pancreas

trypsinogen *noun* BIOCHEM an inactive substance secreted in the juices of the pancreas and converted into trypsin in the duodenum

tryptophan *noun* BIOCHEM an essential amino acid

TSE *abbreviation* transmissible spongiform encephalopathy

tsetse fly *noun* ZOOLOGY an African insect which passes trypanosomes into the bloodstream of humans and livestock, causing sleeping sickness

TSH *abbreviation* BIOCHEM thyroid-stimulating hormone

tsunami *noun* METEOROL a wave caused by an earthquake under the sea, which moves rapidly across the surface of the sea and becomes very large when it hits the shore. Also called **tidal wave**

TSW *abbreviation* COMPUT telesoftware

TTL *abbreviation* ELEC transistor-transistor logic

TTL compatible *noun* ELEC a MOS or other electronic circuit or component that can directly connect to and drive TTL circuits

TTL logic *noun* ELEC the use of TTL design and components to implement logic circuits and gates

TTL monitor *noun* ELEC a design of monitor which can only accept digital signals, so can only display monochrome images or a limited range of colours

tube *noun* **1.** a long, hollow cylindrical device for holding or carrying fluids ○ *A liquid-type fire detector consists of a tube and expansion chamber filled with liquid.* **2.** ANAT a long, hollow cylindrical organ that carries fluids around the body

tuber *noun* BOT a swollen underground stem or root, which holds nutrients and which has buds from which shoots develop ○ *A potato is the tuber of a potato plant.*

tuberous *adjective* **1.** like a tuber **2.** BOT referring to a plant that grows from a tuber

tubing *noun* a system of tubes ○ *hydraulic tubing*

tubular *adjective* shaped like a tube ○ *Diagonal members can be of angle section, box spar or tubular in shape.*

tufa *noun* EARTH SCI a form of calcareous deposit found near hot springs

tundra *noun* EARTH SCI a cold Arctic region without trees which may be covered with low shrubs, grasses, mosses and lichens

tune *verb* **1.** ENG to set a system at its optimum point by careful adjustment ○ *The engine has not been properly tuned.* **2.** PHYS to adjust a radio receiver to the particular frequency of the required signal ○ *The RBI shows the bearing of the tuned radio beacon with reference to the aircraft's heading.*

tuner *noun* a part of a radio receiver which allows the operator to select the particular frequency of the required signal ○ *The tuner reduces interference.*

tungsten *noun* CHEM ELEM a hard shiny grey metallic element with a very high melting point, used in high-temperature alloys, lamp filaments and high-speed cutting tools (NOTE: The chemical symbol is **W**; the atomic number is **74** and the atomic weight is **183.85**.)

tungsten carbide *noun* CHEM a fine, very hard, grey powder made by heating tungsten with carbon and used in the manufacture of cutting and grinding tools and durable machine parts

tunnel effect *noun* PHYS a quantum mechanical effect in which fundamental particles pass through an energy barrier even if they do not have enough energy to do so

tunnelling *noun* **1.** COMPUT a method of enclosing a packet of data from one type of network within another packet so that it can be sent over a different, incompatible, network **2.** ASTRON an effect of relativity whereby electrons might travel through rather than over the gravitational wall around a black hole, especially one of low mass

tunnel vision *noun* BIOL a field of vision which is restricted to the area immediately in front of the eye

turbid *adjective* PHYS referring to a liquid which is cloudy because of particles suspended in it

turbidity *noun* PHYS cloudiness of a liquid, because of particles suspended in it

turbine *noun* ENG a mechanical device which converts moving liquid, steam or air into energy by turning a generator

COMMENT: Water turbines create electricity from water power. Water is channelled from a reservoir through pipes which turn the vanes of the turbine, which then turn the rotor of the generator. Axial-flow turbines have blades like those on a ship's propeller, rotating horizontally. The impulse turbine has jets of water directed at bucket-shaped blades which catch the water. Reaction turbines have blades on the turbine which adjust to the angle at which the jets of water hit them. Pumped storage turbines act as generators when water pressure is high, but become water pumps when pressure is low, pumping water back into the reservoir.

turbine blade *noun* ENG a part of a turbine which has an aerodynamic effect on the air

turbo- *prefix* ENG turbine

turbocharger *noun* ENG a supercharger driven by a turbine powered by exhaust gases ○ *The turbocharger significantly increases engine power.*

turbofan *noun* AEROSP a jet engine in which most of the thrust is produced by air, accelerated by a large fan, which does not pass through the combustion chamber of the engine

COMMENT: Turbofan engines are much quieter than older turbojets and make a characteristic sound when in operation. The fan can be clearly seen in the front part of the engine.

turbojet *noun* AEROSP a jet engine which includes a turbine-driven compressor for the air taken into the engine ○ *The de Havilland Comet was the world's first turbojet commercial transport aircraft.*

COMMENT: Frank Whittle (1907–96) was an English engineer and RAF officer who invented the turbojet aircraft engine. Whittle developed a jet aircraft by 1941 and the first military jet aircraft, the Gloster Meteor, became operational in 1944. Turbofan engines have now taken over from turbojet engines.

turbopropeller, turboprop *noun* AEROSP a turbojet engine in which the turbine also drives a propeller

COMMENT: Turboprop aircraft are efficient at lower speeds than turbojet aircraft and are often used for short haul operations.

turbulence *noun* 1. METEOROL an irregular motion of the atmosphere 2. PHYS secondary motion within a moving fluid

turbulent *adjective* METEOROL referring to the irregular motion of the atmosphere ○ *When flying in turbulent air conditions, an aircraft is subjected to upward and downward gust loads.*

turf moor *noun* EARTH SCI an area of land where peat is found

turgid *adjective* BOT referring to plant tissue that is swollen with liquid and therefore firm. Opposite **flaccid**

turgidity *noun* BOT the condition of being turgid

turgor *noun* BOT the normal state of a plant cell when the vacuole is full of water

Turing machine *noun* COMPUT a mathematical model of a device which could read and write data to a controllable tape storage while altering its internal states

Turing test *noun* COMPUT a test to decide if a computer is intelligent

turnkey system *noun* COMPUT a complete system which is designed to a customer's needs and is ready to use (NOTE: To operate it, the user only has to switch it on or turn a key.)

turquoise *noun* MINERALS a bright greenish-blue form of aluminium copper phosphate, used in jewellery

TV *abbreviation* COMPUT television

TVP *abbreviation* FOOD INDUST textured vegetable protein

TW *abbreviation* MEASURE terawatt

tweak *verb* COMPUT to make small adjustments to a program or hardware to improve performance

tweening *noun* COMPUT the process of calculating the intermediate images that lead from a starting image to a different finished image ○ *Using tweening, we can show how a frog turns into a princess in five steps.*

24-bit sample *noun* COMPUT a single sample of an analog signal which is stored as a 24-bit digital number, meaning that there are 16777216 possible levels. ◊ **8-bit sample**

twenty-twenty vision, 20/20 vision *noun* BIOL perfect normal vision

twin *noun* BIOL one of two babies or animals born at the same time from two ova fertilised at the same time or from one ovum that splits in two

twinkling *noun* ASTRON same as **scintillation**

twist *verb* **1.** to change the shape of something by bending or turning it, or to bend or turn into another shape ○ *He twisted the wire into the shape of an S.* ○ *The rods twist easily when heated.* **2.** to wind something around something else ○ *She twisted the wire around the post.* **3.** to turn against resistance ○ *Centrifugal, bending and twisting forces act on a propeller during flight.*

twisted-pair cable *noun* ELEC a cable which consists of two insulated copper wires twisted around each other, to reduce induction and so interference

COMMENT: The EIA specifies five levels of cable for different purposes. The Category 1 standard defines an older-style unshielded twisted-pair cable that is formed by loosely twisting two insulated wires together to reduce noise and interference. This type of cable is not suitable for data transmission. The Category 2 (part of the EIA/TIA 568 specification) standard defines a type of unshielded twisted-pair cable that can be used to transmit data at rates up to 4MHz. The Category 3, part of the EIA/TIA 568 specification, standard defines a type of unshielded twisted-pair cable that can be used to transmit data at rates up to 10MHz. This type of cable is the minimum standard of cable required for a 10BaseT network (the standard suggests that the cable should have three twists per foot of cable). The Category 4, part of the EIA/TIA 568 specification, standard defines a type of unshielded twisted-pair cable that is the minimum standard of cable required for data transmission rates up to 16 Mbit/second on a Token Ring network. The Category 5, part of the EIA/TIA 568 specification, standard defines a type of cable that can carry data transmitted at up to 100MHz and is suitable for FDDI over copper wire, 100BaseT or other high-speed networks.

twisted-pair Ethernet *noun* COMPUT a star-topology network that uses twisted-pair cable and transmits data at 10Mbps, normally called 10BaseT

twister *noun* US METEOROL a tornado (*informal*)

2,4-D *noun* AGRIC a herbicide that is absorbed into a plant through its leaves and is especially effective against broadleaved weeds growing in cereals

two-address instruction *noun* COMPUT an instruction format containing the location of two operands, the result being stored in one of the operand locations

2D *noun* COMPUT an object in a graphic image that has only the appearance of width and height, not depth, so does not look like a solid object

two-dimensional *adjective* having only two dimensions, so being flat with no depth

two-figure code *noun* COMPUT a code with two numbers between 0 and 9

two input adder *noun* MATHS † **half adder**

two-pin mains plug *noun* ELEC a plug with two pins, one neutral, one live

two's complement *noun* COMPUT a decimal complement, formed by adding one to the one's complement of a binary number, often used to represent negative binary numbers

tympenic membrane *noun* ANAT same as **eardrum**

tympanium *noun* ACOUSTICS a membrane or diaphragm that vibrates to produce sound

Tyndall effect *noun* PHYS the scattering of light by particles in its path (NOTE: An example is the way in which a sunbeam becomes visible as it passes through dust in the air.)

type *noun* **1.** a category with members sharing some properties **2.** COMPUT a definition of the processes or sorts of data which a variable in a computer can contain, e.g. numbers or text only **3.** PRINTING printed words, letters or symbols

type size *noun* PRINTING the size of a font, measured in points

type style *noun* PRINTING the weight and angle of a font, e.g. bold or italic

typhoid, typhoid fever *noun* MED an infection of the intestine caused by *Salmonella* in food or water, which causes fever and diarrhoea and may be fatal

typhoon *noun* METEOROL a tropical cyclone in East Asia

typhus *noun* MED one of several fevers caused by the Rickettsia bacterium, making the patient very weak

tyramine *noun* BIOCHEM an enzyme found in cheese, beans, tinned fish, red wine and yeast extract, which can cause high blood pressure if found in excessive quantities in the brain

tyre *noun* ENG a rubber covering for a wheel (NOTE: The US spelling is **tire**.)

tyre creep *noun* AEROSP a gradual rotation of the tyre in relation to the wheel, caused by landing ○ *Aligned white marks on the wheel and tyre indicate that there is no tyre creep.*

COMMENT: Tyre creep can lead to damage to the tyre valve and subsequent unwanted

and possibly dangerous deflation of the tyre.

tyre pressure *noun* ENG the air pressure in a tyre

tyrosine *noun* BIOCHEM an amino acid which is a component of thyroxine

U

U *symbol* CHEM ELEM uranium

U&Es *plural noun* MED blood tests of the body's chemistry used to determine the general health of a patient and, specifically, kidney and lung function, effects of medications, and state of hydration

UART *abbreviation* COMPUT universal asynchronous receiver/transmitter

ubiquitin *noun* BIOL a heat-stable protein found in most cellular organisms (**eukaryotes**) that is involved in many cell processes such as DNA repair and removing metabolic wastes

UDP *noun* COMPUT a protocol that is part of TCP/IP that is often used in network management and SNMP applications. Full form **user datagram protocol**

UHF *abbreviation* PHYS ultra high frequency

UKAEA *abbreviation* United Kingdom Atomic Energy Authority

UKBAP *abbreviation* United Kingdom Biodiversity Action Plan

ULA *abbreviation* COMPUT uncommitted logic array

ulcer *noun* an open sore in the skin or in mucous membrane, which is inflamed and difficult to heal

ulceration *noun* **1.** a condition where ulcers develop **2.** the development of an ulcer

ulna *noun* ANAT one of two parallel long bones in the lower forelimb of vertebrates or the forearm of humans

ulnar artery *noun* ANAT an artery which branches from the brachial artery at the elbow and runs down the inside of the forearm to join the radial artery in the palm of the hand

ulnar nerve *noun* ANAT a nerve running from the neck to the elbow, which controls the muscles in the forearm and fingers

ulnar pulse *noun* BIOL a secondary pulse in the wrist, taken near the inner edge of the forearm

ultra- *prefix* beyond

ultrabasic *adjective* EARTH SCI referring to rock which has less silica and more magnesium than basic rock

ultra high frequency *noun* PHYS a range of frequencies usually used to transmit television signals. Abbr **UHF**

ultra high frequency band *noun* ELEC a radio frequency range between 300MHz and 3000MHz

ultramicroscope *noun* BIOL a microscope that uses scattered light to form images of submicroscopic objects

ultramicroscopic *adjective* BIOL too small to be seen with a light microscope

ultranoplankton *plural noun* MARINE BIOL plankton less than 2 μm in size

ultraplankton *plural noun* MARINE BIOL plankton in the size range 0.5–10 μm

ultrasonic *adjective* ACOUSTICS referring to the frequencies in the range of 20000Hz which cannot be heard by the human ear

ultrasonic detection *adjective* INDUST a method using high frequency sound to check metal components for internal weaknesses

ultrasonic inspection *noun* INDUST a non-destructive inspection of materials using extremely high frequency vibrations

ultrasonics *noun* using high-frequency sound waves to tell what is below the skin of a live animal. By using ultrasonics, it is possible to tell the amount of fat layers and the muscle area.

ultrasonic waves *plural noun* ACOUSTICS sound waves in the range of 20000Hz

ultrasound *noun* ACOUSTICS, MED sound in the range of 20000Hz which cannot be heard by the human ear

COMMENT: The very high frequency waves of ultrasound can be used to detect and record organs or growths inside the body, in a similar way to the use of X-rays, by recording the differences in echoes sent back from different tissues. Ultrasound is used routinely to monitor growth of the fetus in the uterus, and to treat some conditions such as internal bruising. It can also destroy bacteria and calculi.

ultrasound scan *noun* MED the examination of an internal part of the body using very high frequency sound waves to create a picture

ultrasound treatment *noun* MED the treatment of soft tissue inflammation using ultrasound waves

ultraviolet *adjective* PHYS referring to the range of invisible radiation wavelengths just greater than those of the visible spectrum. Abbr **UV**

ultraviolet erasable PROM *noun* COMPUT an EPROM whose contents are erased by exposing to UV light

ultraviolet radiation *noun* PHYS an invisible light which has a very short wavelength beyond the violet end of the spectrum and causes tanning and burning. Abbr **UVR**

ultraviolet rays *plural noun* the short invisible rays, beyond the violet end of the colour spectrum, which form the tanning and burning element in sunlight

COMMENT: UV rays form part of the high-energy radiation which the Earth receives from the Sun. UV rays are classified as UVA and UVB rays. UVB rays form only a small part of radiation from the Sun but they are dangerous and can cause skin cancer if a person is exposed to them for long periods. The effect of UVB rays is reduced by the ozone layer in the stratosphere.

umbilical cord *noun* ANAT the flexible cord that connects the fetus to the mother's placenta during pregnancy, and through which nutrients are delivered and waste expelled

UMTS *noun* COMPUT a third generation mobile communication system that supports voice, data, and video signals to the handset. Full form **universal mobile telecommunications system**

UN *abbreviation* United Nations

un- *prefix* **1.** not **2.** reversing an action or state

unary operation *noun* COMPUT a computing operation on only one operand, e.g. the logical NOT operation

unblock *verb* to remove a blockage from something

unboiled *adjective* FOOD SCI which has not been boiled ○ *In some areas, it is dangerous to drink unboiled water.*

unlocked *adjective* COMPUT referring to an electronic circuit or flip-flop which changes state as soon as an input changes, not with a clock signal

uncommitted logic array *noun* COMPUT a chip containing a number of unconnected logic circuits and gates which can then be connected by a customer to provide a required function. Abbr **ULA**

unconditional *adjective* which does not depend on any condition being met

unconditional branch, unconditional jump, unconditional transfer *noun* COMPUT an instruction which transfers control from one point in the program to another, without depending on any condition being met

unconfined *adjective* EARTH SCI referring to ground water or an aquifer of which the upper surface is at ground level

uncontaminated *adjective* ENVIRON not having been contaminated

uncontrollable *adjective* unable to be controlled

uncontrolled *adjective* not controlled

uncontrolled dumping *noun* ENVIRON the throwing away of waste in places that are not officially approved

uncontrolled dumpsite *noun* ENVIRON a place where waste is left without permission or control

uncontrolled fire *noun* ENVIRON a fire which has ignited accidentally and burns out of control

uncoordinated *adjective* not joined together or working together

uncultivated *adjective* AGRIC not cultivated ○ *uncultivated land and semi-natural areas* ○ *The field was left uncultivated over winter to allow ground-nesting birds such as skylarks to nest and rear young.*

undelete *verb* COMPUT to restore deleted information or a deleted file ○ *This function will undelete your cuts to the letter.*

under- *prefix* **1.** below or underneath **2.** less than or not as strong

underflow *noun* COMPUT the result of a numerical operation that is too small to be represented with the given accuracy of a computer

underground *adjective, adverb* EARTH SCI beneath the surface of the ground ○ *underground power cables* ○ *swollen underground stems* ○ *Foxes live in underground holes.* ○ *Worms live underground.*

underground water *noun* EARTH SCI water in porous rocks underground

undergrowth *noun* BOT shrubs and other plants growing under large trees

underline *noun* COMPUT, PRINTING a line drawn or printed under a piece of text. Also called **underscore**

undernourished *noun* BIOL having too little food

underproduction *noun* INDUST the production of less than usual

underscore *noun* COMPUT, PRINTING same as **underline**

understorey *noun* BOT the lowest layer of small trees and shrubs in a wood, below the canopy

underwood *noun* BOT the small trees in a wood, below the canopy

undo *verb* COMPUT to reverse the previous action ○ *You've just deleted the paragraph, but you can undo it from the option in the Edit menu.* (NOTE: It is often an option in a program and an editing command.)

undulating *adjective* rising and falling in gentle slopes ○ *Flight over undulating terrain will result in changing indications of aircraft height on the indicator of the radio altimeter.*

unedited *adjective* having not been edited

unexpressed *adjective* GENETICS referring to a gene that does not produce an observable effect on the organism that carries it

unformatted *adjective* COMPUT **1.** referring to a text file which contains no formatting commands, margins or typographical commands ○ *It is impossible to copy to an unformatted disk.* **2.** referring to a disk which has not been formatted ○ *The cartridge drive provides 12.7Mbyte of unformatted storage.*

ungroup *verb* COMPUT to convert a single complex object back into a series of separate objects

ungulate *adjective* ZOOL having hoofs (NOTE: Ungulates are divided into two groups, odd-toed such as horses or even-toed such as cows.)

uni- *prefix* one

unicellular *adjective* BIOL referring to an organism formed of one cell. Compare **multicellular**

unified atomic mass unit *noun* PHYS same as **atomic mass unit**

unified field theory *noun* PHYS a single theory that defines the interrelationships between the theories of nuclear, electro-magnetic and gravitational forces

uniform *adjective* consistent and not varying in characteristics ○ *An engine should be run at low revolutions per minute after flight to allow engine components to cool to a uniform temperature.*

uniform resource locator *noun* COMPUT same as **universal resource locator**. Abbr **URL**

unimolecular reaction *noun* CHEM a chemical reaction with just one type of molecule working as the reactant

uninterruptable power supply *noun* COMPUT a power supply that can continue to provide a regulated supply to equipment even after mains power failure. Abbr **UPS**

union *noun* MATHS a logical function which produces a true output if any input is true

unipolar *adjective* ELEC referring to a transmission system in which a positive voltage pulse and zero volts represent the binary bits 1 and 0

unipolar neuron *noun* ANAT a neuron with a single process

unipolar signal *noun* ELEC a signal that uses only positive voltage levels

unipolar transistor *noun* ELECTRONICS same as **field-effect transistor**

unique *adjective* being the one and only of its sort ○ *The pulse coded message contains a unique 4-number identification.*

unique identifier *noun* COMPUT a set of characters used to distinguish between different resources in a multimedia book

unisexual *adjective* BIOL having either male or female sex organs, but not both, in one individual

unit *noun* **1.** a component of something larger **2.** MEASURE a quantity or amount used as a standard, accepted measurement ○ *The internationally agreed unit of pressure is the millibar.* ○ *The higher the Sun is in the sky, the more intense is the radiation per unit area.* **3.** a person, group or device that is complete in itself ○ *The operation of flying controls is by means of self-con-*

tained power flying control units (PFCUs).

4. MECH ENG a single machine, possibly with many different parts

unit cell *noun* CRYSTALS the smallest structural unit of a crystal that can be repeated in three dimensions to make its full lattice

United Kingdom Atomic Energy Authority *noun* the official organisation in the United Kingdom responsible for all aspects of atomic energy, both commercially and in research. Abbr **UKAEA**

United Kingdom Biodiversity Action Plan *noun* the United Kingdom's response to the Convention on Biological Diversity in 1992, which contains plans to conserve threatened species and habitats. Abbr **UKBAP**

univalent *adjective* **1.** GENETICS referring to a chromosome that does not pair with another structurally identical chromosome during the initial stage of meiosis **2.** CHEM having a valency of one

universal asynchronous receiver/transmitter *noun* COMPUT a chip which converts an asynchronous serial bit stream to a parallel form or parallel data to a serial bit stream. Abbr **UART**

universal indicator *noun* CHEM a solution that turns different colours according to a range of pH values

universal law of gravitation *noun* PHYS the law of gravitation stating that every body in the universe exerts an attraction on every other, proportional to their masses multiplied together divided by the square of the distance between them (NOTE: The gravitational constant G gives the force between any pair of objects whose masses and separation are known, and equals $6.672 \times 10^{-11} \text{ kg}^{-1} \text{ m}^3 \text{ s}^{-2}$.)

universal mobile telecommunications system *noun* COMPUT full form of **UMTS**

universal product code *noun* COMPUT a standard printed bar coding system used to identify products. Abbr **UPC**

universal programming *noun* COMPUT the writing of a programs which are not specific to one machine, so that they can run on several machines

universal resource locator *noun* COMPUT an Internet system used to standardise the way in which World Wide Web addresses are written. Also called **uniform resource locator**. Abbr **URL** (NOTE: It is

made up of three parts: the first is the protocol such as HTTP or FTP, then the domain name of the service and finally the directory or file name.)

universal serial bus *noun* COMPUT full form of **USB**

universal synchronous asynchronous receiver-transmitter *noun* COMPUT a chip that can be instructed by a central processing unit to communicate with asynchronous or synchronous bit streams or parallel data lines. Abbr **USART**

universal synchronous receiver/transmitter *noun* COMPUT a single integrated circuit that can carry out all the serial to parallel and interfacing operations required between a computer and transmission line. Abbr **USRT**

universe *noun* ASTRON the total existing amount of mass, space and radiation

UNIX *trademark* COMPUT a popular multi-user, multitasking operating system developed by AT&T Bell Laboratories to run on almost any computer, from a PC, to mini-computers and large mainframes

unjustified *adjective* COMPUT, PRINTING referring to text which has not been justified

unleaded petrol *noun* INDUST petrol with a low octane rating, which has no lead additives such as tetraethyl lead and therefore creates less lead pollution in the atmosphere

unlined *adjective* ENVIRON referring to something with no lining, such as a landfill site from which waste liquids can leak out into the surrounding soil

unmapped *adjective* **1.** GENETICS not identified as a gene on a particular chromosome **2.** BIOTECH not identified as a DNA sequence coding for a specific gene

unmoderated list *noun* COMPUT a mailing list which sends any material submitted to the listserv on to all the subscribers without a person reading or checking the content

unmodified instruction *noun* COMPUT a program instruction which is directly processed without modification to obtain the operation to be performed

unmodulated *adjective* COMPUT referring to a signal which has not been modulated

unnatural *adjective* not found in nature

unneutralised, unneutralized *adjective* not having been made neutral

UNO *abbreviation* United Nations Organization

unpaired *adjective* GENETICS referring to a chromosome which is not associated with another chromosome of the same type
○ *an unpaired X chromosome in males*

unpasteurised, unpasteurized *adjective* FOOD INDUST referring to something such as milk which has not been pasteurised
○ *Unpasteurised milk can carry bacilli.*

unpolluted *adjective* ENVIRON not affected by pollution
○ *the relatively unpolluted atmosphere in mountain areas*

unpopulated *adjective* COMPUT referring to a printed circuit board which does not yet contain any components or whose sockets are empty
○ *You can buy an unpopulated RAM card and fit your own RAM chips.*

unrecoverable error *noun* COMPUT a computer hardware or software error which causes a program to crash

unsaturated compound *noun* CHEM a chemical compound that consists of molecules having double or triple bonds

unsaturated fat *noun* FOOD INDUST, BIOCHEM a fat which does not have a large amount of hydrogen and so can be broken down more easily

unsettled *adjective* METEOROL referring to weather which changes frequently from rainy to fine and back again

unshielded twisted pair cable *noun* ELEC a cable made of two insulated copper wires twisted around each other to reduce induction and therefore interference but not wrapped in any other outer layer, unlike STP cable. Abbr **UTP cable**

unsightly *adjective* ENVIRON not pleasant to look at
○ *The company is proposing to run a line of unsightly pylons across the moors.*

unsigned *adjective* MATHS referring to a number system which does not represent negative numbers

unspoilt *adjective* ENVIRON referring to a landscape which has not been damaged by development
○ *an area of unspoilt woodland*
○ *The highland region is still unspoilt.*

unstable *adjective* not stable and liable to change easily

unstable air mass *noun* METEOROL a mass of air in which a sample of wet air, in rising, cools less rapidly than the surround-

ing air and thus continues to rise until ultimately condensation and precipitation of the water content occur

unsterilised, unsterilized *adjective* HEALTH not free from microorganisms
○ *unsterilised bottles*

unstriated muscle *noun* ANAT same as **smooth muscle**

unsustainable *adjective* ENVIRON referring to a development or process which depletes or damages natural resources and which does not leave the environment in good order for future generations

untapped *adjective* not yet used
○ *untapped mineral resources*

untreated *adjective* not subjected to a treatment process
○ *Untreated sewage leaked into the river.*

ununbium *noun* CHEM ELEM an artificially produced radioactive metallic chemical element (NOTE: The chemical symbol is **Uub**; the atomic number is **112** and the atomic weight is **277**.)

ununpentium *noun* CHEM ELEM a highly unstable radioactive chemical element, reported to have been produced artificially by bombarding americium with calcium atoms (NOTE: The chemical symbol is **Uup**; the atomic number is **115** and the atomic weight is **299**.)

ununquadium *noun* CHEM ELEM a chemical element produced by bombarding plutonium with calcium ions (NOTE: The chemical symbol is **Uuq**; the atomic number is **114** and the atomic weight is **285**.)

ununtrium *noun* CHEM ELEM a highly unstable radioactive chemical element, reported to have been produced artificially by bombarding americium with calcium atoms (NOTE: The chemical symbol is **Uut**; the atomic number is **113** and the atomic weight is **293**.)

unununium *noun* CHEM ELEM a chemical element produced by bombarding bismuth-209 with nickel-60 (NOTE: The chemical symbol is **Uuu**; the atomic number is **111** and the atomic weight is **272**.)

UPC *abbreviation* COMPUT universal product code

update file *noun* COMPUT a file containing recent changes or transactions to records which is used to update the master file. Also called **transaction file**

updraught *noun* METEOROL a rising air current, usually of warm air

upgrade *verb* COMPUT to make a system more powerful or more up-to-date by adding new equipment ○ *They can upgrade the printer.* ○ *The single processor with 2 Mbytes of memory can be upgraded to 4 Mbytes.* ○ *All three models have an on-site upgrade facility.*

upland EARTH SCI *noun* an inland area of high land ○ *The uplands have different eco-systems from the lowlands.* ■ *adjective* referring to an upland ○ *upland farming*

uplands *plural noun* EARTH SCI an inland region of high land

uplink *noun* TELECOM the transmission link from an Earth station to a satellite

upload *verb* COMPUT **1.** to transfer data files or programs from a small computer to a main CPU ○ *The user can upload PC data to update mainframe applications.* **2.** to transfer a file from one computer to a BBS or host computer ○ *The image can be manipulated before uploading to the host computer.* Opposite **download**

upper *adjective* **1.** referring to something that is at a high level or towards the top **2.** referring to something which is above something ► opposite **lower**

upper case *noun* capital letters ○ *He corrected the word 'coMputer', replacing the upper case M with a lower case letter.*

upper limb *noun* ANAT an arm

upper motor neuron *noun* ANAT a neuron which takes impulses from the cerebral cortex

UPS *abbreviation* COMPUT uninterruptable power supply

upstream *adverb, adjective* EARTH SCI towards the source of a river ○ *The river is contaminated for several miles upstream from the estuary.* ○ *Pollution has spread into the lake upstream of the waterfall.* ○ *Upstream communities have not yet been affected.* Compare **downstream**

uptake *noun* the taking in of trace elements or nutrients by a plant or animal

'Poor rooting is responsible for poor nutrient uptake and drought stress during the growing season. This phenomenon is not unique to just direct drilled crops, but the system exaggerates the problems which can be diluted by tillage.' [Arable Farming]

upthrust *noun* EARTH SCI a piece of rock that has moved upwards in a low-angle fault

uptime *noun* COMPUT the time when a computer is operational and functioning correctly. Compare **downtime**

upward compatible, upwards compatible *adjective* COMPUT referring to hardware or software designed to be compatible either with earlier models or with future models which have not yet been invented

upwelling *noun* EARTH SCI the process by which warmer surface water in the sea is drawn away from the shore and replaced by colder water from beneath the surface

uraninite *noun* MINERALS a black uranium oxide mineral that also contains thorium, radium and lead

uranium *noun* CHEM ELEM a naturally radioactive metallic element which is an essential fuel for nuclear power (NOTE: The chemical symbol is **U**; the atomic number is **92** and the atomic weight is **283.04**.)

COMMENT: Three uranium isotopes are found in ores: uranium-234, uranium-235 and uranium-238. Of these, U-235 is the only fissionable isotope occurring in nature and so is an essential fuel for reactors.

uranium-lead dating *noun* EARTH SCI the process of finding out the age of a uranium-containing mineral by measuring the amount of lead isotope produced by the radioactive decay of uranium, which occurs at a known rate

uranium (IV) oxide, uranium dioxide *noun* CHEM a toxic radioactive crystalline solid, used in photography. Formula: UO₂.

Uranus *noun* ASTRON the seventh planet of the solar system

COMMENT: Uranus takes 84 years to orbit the Sun at an average distance of 19 AU from it. Uranus is one of the giant gas planets, 15 times as massive as the Earth and 52,000 km in diameter.

urea *noun* PHYSIOL a crystalline solid produced in the liver from excess amino acids and excreted by the kidneys into the urine (NOTE: It is made commercially from carbon dioxide and ammonia and is used as a fertiliser and in other products.)

urea-formaldehyde resin *noun* INDUST a resin made by the polymerisation of urea and formaldehyde with good oil resistant properties, used in electrical fittings and in cavity insulation

ureter *noun* ANAT one of a pair of ducts through which urine flows from the kidneys to the bladder in mammals or to the cloaca in lower vertebrates

urethane resin *noun* CHEM same as **polyurethane**

urethra *noun* ANAT the tube in humans and other mammals through which urine passes from the bladder out of the body (NOTE: In the male, semen also passes through it at ejaculation.)

uric acid *noun* CHEM a chemical compound which is formed from nitrogen in waste products from the body and which also forms crystals in the joints of patients suffering from gout

urinary bladder *noun* ANAT a sac where the urine collects from the kidneys through the ureters, before being passed out of the body through the urethra

urinate *verb* PHYSIOL to discharge urine from the body

urine *noun* BIOL a liquid secreted as waste from an animal's body

URL *abbreviation* COMPUT **1.** uniform resource locator **2.** universal resource locator ○ *The URL of the Bloomsbury Publishing home page is 'http://www.bloomsburymagazine.com'.*

usability *noun* COMPUT the ease with which hardware or software can be used ○ *We have studied usability tests and found that a GUI is easier for new users than a command line.*

USART *abbreviation* COMPUT universal synchronous asynchronous receiver/transmitter

USB *noun* COMPUT a standard that defines a high-speed serial interface that transfers data at up to 12Mbps and allows up to 127 compatible peripherals to be connected to a computer. Full form **universal serial bus**

Usenet *noun* COMPUT a section of the Internet that provides forums called newsgroups in which any user can add a message or comment on any other message

user *noun* COMPUT **1.** a person who uses a computer, machine or software **2.** a keyboard operator

user datagram protocol *noun* COMPUT full form of **UDP**

user-definable *adjective* COMPUT referring to a feature or section of a program that a user can customise as required ○ *The*

style sheet contains 125 user-definable symbols.

user-friendly *adjective* COMPUT referring to a language, system or program that is easy to use and interact with ○ *It's such a user-friendly machine.* ○ *Compared with the previous version this one is very user-friendly.*

user-pays principle *noun* ENVIRON the principle that a user of a service or resource pays directly for the amount they use, rather than the cost being shared by all the users or a community equally. ◇ **polluter-pays principle**

user's manual *noun* COMPUT a booklet showing how a device or system should be used

USRT *abbreviation* COMPUT universal synchronous receiver/transmitter

UTC *abbreviation* TIME Coordinated Universal Time

uterus *noun* ANAT an organ inside which the eggs or young of animals develop (NOTE: In humans and other mammals it is often called the womb and has strong muscles to push the baby out at birth.)

utilitarian justification *noun* ENVIRON a reasoning for conservation based on the idea that the environment should provide direct economic benefits to the population

utility *noun* **1.** ENVIRON a company that organises an essential public service such as electricity, gas or public transport **2.** COMPUT same as **utility program** ○ *A lost file cannot be found without a file-recovery utility.* ○ *On the disk is a utility for backing up a hard disk.* **3.** the state of being useful

utility program *noun* COMPUT a program concerned with routine activities such as file searching, copying files, file directories, sorting and debugging and various mathematical functions. Also called **utility**

UTP cable *abbreviation* COMPUT unshielded twisted pair cable

Uub *symbol* CHEM ELEM ununbium

Uuencoding *noun* COMPUT a method of converting documents and files to a pseudo-text format that allows them to be transmitted as an electronic mail message

COMMENT: This gets around the Internet's inability to transfer messages that are not text. It has now been largely replaced by MIME.

Uuq *symbol* CHEM ELEM ununquadium

Uuu *symbol* CHEM ELEM ununium

UV *abbreviation* PHYS ultraviolet

UVA *noun* **UV-A** PHYS ultraviolet radiation in the wavelengths 320–400 nm, not harmful to human skin under normal exposure

UV-absorbing lens *noun* OPHTHALMOL a lens specially devised to absorb ultraviolet radiation in order to protect the eyes against the sun

UVB, UV-B *noun* PHYS ultraviolet radia-

tion in the wavelengths 290–320 nm, causing first reddening and then browning of skin

UVC, UV-C *noun* PHYS ultraviolet radiation in the wavelengths 230–290 nm, causing blistering to skin and possibly giving rise to skin cancer

UVR *abbreviation* PHYS ultraviolet radiation

V

V *symbol* MEASURE, ELEC volt

vaccinate *verb* MED to use a vaccine to give a person immunisation against a specific disease ○ *She was vaccinated against smallpox as a child.*

vaccination *noun* MED the action of vaccinating someone against a disease. ◇ **immunisation** (NOTE: Originally the words **vaccination** and **vaccine** applied only to smallpox immunisation, but they are now used for immunisation against any disease)

vaccine *noun* IMMUNOL a substance which contains the germs of a disease, used to inoculate or vaccinate someone against it ○ *The hospital is waiting for a new batch of vaccine to come from the laboratory.* ○ *New vaccines are being developed all the time.* ○ *MMR vaccine is given to control measles, mumps and rubella.* ○ *There is, as yet, no vaccine for meningococcal meningitis.*

COMMENT: A vaccine contains the germs of the disease, sometimes alive and sometimes dead, and this is injected into the patient so that his or her body will develop immunity to the disease. The vaccine contains antigens, and these provoke the body to produce antibodies, some of which remain in the bloodstream for a very long time and react against the same antigens if they enter the body naturally at a later date when the patient is exposed to the disease. Vaccination is mainly given against cholera, diphtheria, rabies, smallpox, tuberculosis and typhoid.

vacuole *noun* BIOL a fluid-filled compartment in the cytoplasm of a cell

vacuum *noun* PHYS a space completely empty of everything, even air ○ *If the fuel tank vent pipe is blocked, a vacuum will form in the tank and fuel flow to the engine will be restricted.*

vacuum distillation *noun* CHEM the distillation of liquid at low pressure so that it boils at a lower temperature

vacuum pump *noun* PHYS a pump used to reduce the gas pressure of a container

vadose *adjective* EARTH SCI referring to an area which lies between the surface of the ground and the water table

vagina *noun* ANAT any part of an animal or plant that forms a sheath, in particular the lowest part of the birth canal in humans and other mammals

vagrant *noun* ZOOLOG a bird which only visits a country or region occasionally

vagus *noun* ANAT one of the tenth pair of cranial nerves carrying the sensory and motor neurons that serve the heart, lungs, stomach, intestines and various other organs

vale *noun* EARTH SCI same as **valley** (*used especially in place names*)

valence *noun* IMMUNOL, CHEM same as **valency**

valence electron *noun* CHEM an electron in an outer shell of an atom that can take part in a bond with another atom to form a molecule

valency *noun* **1.** CHEM the ability of atoms or groups to combine, measured by the number of hydrogen atoms received, lost or shared in forming a compound **2.** IMMUNOL the number of sites on an antibody at which an antigen can bind ► also called **valence**

valeric acid *noun* CHEM a fatty acid with four isomers

validate *verb* COMPUT to check that an input is or data are correct according to a set of rules

validation *noun* COMPUT a check performed to validate data

valine *noun* BIOCHEM an essential amino acid

valley *noun* EARTH SCI a long low area, usually with a river at the bottom, between hills or mountains

valley bog *noun* EARTH SCI a peat bog which forms in the damp bottom of a valley

valley glacier *noun* EARTH SCI a large mass of ice which moves down a valley from above the snowline towards the sea

value *noun* MATHS a quantity shown as a number

value-added network *noun* COMPUT a commercial network which offers information services such as stock prices, weather, e-mail or advice as well as basic file transfer. Abbr **VAN**

value-added reseller *noun* COMPUT a company which buys hardware or software and adds another feature, customises it or offers an extra service to attract customers. Abbr **VAR**

valve *noun* 1. MECH ENG a mechanical device for controlling the flow of a fluid 2. ANAT a flap in the heart, blood vessels or lymphatic vessels or other organs, which opens and closes to allow liquid to pass in one direction only

valve gear *noun* MECH ENG a mechanism for opening and closing valves

valve overlap *noun* MECH ENG the period when both the exhaust and inlet valves are open together, with the exhaust valve closing and the inlet valve opening

valve seat *noun* MECH ENG an angled ring in a cylinder head on which the poppet valve sits when closed. \diamond **sequence**

VAN *abbreviation* COMPUT value-added network

vanadium *noun* CHEM ELEM a toxic silvery white metallic element, used in the manufacture of tough steel alloys and as a catalyst (NOTE: The chemical symbol is **V**; the atomic number is **23** and the atomic weight is **50.94**.)

Van Allen belt *noun* EARTH SCI either of two regions of high-energy, ionised particles surrounding the Earth (NOTE: The inner belt is formed mainly of protons, and lies at an altitude of 3000–6000km above the Earth's surface, while the outer belt is formed mainly of electrons, and lies at an altitude of 20000–30000km.)

vancomycin intermediate Staphylococcus aureus *noun* MICROBIOL full form of **VISA**

vancomycin resistant Staphylococcus aureus *noun* MICROBIOL full form of **VRSA**

van de Graaff generator *noun* PHYS an electrostatic generator that produces electrical discharges at extremely high voltages, used in particle accelerators and for testing electrical insulators (NOTE: The electric charge from a source of direct current accumulates on a high-speed belt inside an insulated metal sphere filled with Freon or nitrogen gas under high pressure.)

van der Waals' equation *noun* PHYS a modified equation of state that describes the physical properties of gases allowing for the volumes of molecules and the interactions between them

van der Waals' force *noun* PHYS a weak force of attraction between atoms or molecules

vanishing point perspective *noun* COMPUT graphics displayed in two-dimensions that have the appearance of depth as all lines converge at a vanishing point and objects appear smaller as they are further from the user

vapor *noun* US spelling of **vapour**

vaporisation, vaporization *noun* CHEM the process by which a liquid or solid is converted to gas or vapour by heat, with the rate of vaporisation increasing with a higher temperature

vaporise, vaporize *verb* to turn into vapour, or to turn something into a vapour \circ *Water vaporises when heated.*

vaporiser, vaporizer *noun* MED 1. an instrument which sprays liquid in the form of very small drops like mist 2. a device which warms a liquid to which medicinal oil has been added so that it provides a vapour which a patient can inhale

vapour *noun* PHYS a gaseous form of a liquid (NOTE: The US spelling is **vapor**.)

vapour concentration *noun* PHYS a ratio of the mass of a vaporised substance in a given quantity of air to the amount of air

vapour density *noun* PHYS the density of a gas relative to that of hydrogen

vapour lock *noun* ENG a blockage of fuel flow from a tank caused by a bubble of vapour at a high point in the pipeline

vapour pressure *noun* PHYS the pressure exerted by a gas, in particular one that is in contact with its liquid state

vapour trail *noun* AEROSP same as **condensation trail**

VAR *abbreviation* COMPUT value-added reseller

variable *adjective* changing or changeable ○ *Winds are more variable in the northern hemisphere than in the southern hemisphere.* ■ *noun* **1.** COMPUT a computer program identifier for a register or storage location which can contain any number or character and which may vary during the program run **2.** a quantity or quality which changes

variable data *plural noun* COMPUT data which can be modified, and are not write protected

variable geometry *noun* AEROSP the technology which allows the angle between an aircraft's wing and fuselage to be altered to give a more or less swept wing for better high-speed and low-speed flight characteristics

variable name *noun* COMPUT a word used to identify a variable in a program

variable pitch propeller *noun* AEROSP a propeller with a mechanism that changes the blade angle to suit flight conditions

variable star *noun* ASTRON a star that changes in brightness at regular or irregular intervals

variant *noun* BIOL a specimen of a plant or animal that is different from the usual type

variant CJD *noun* a form of Creutzfeldt-Jakob disease which was observed first in the 1980s, especially affecting younger people. Abbr **vCJD**

variation *noun* **1.** the existence of a difference in amount, concentration, number or other feature **2.** a difference within a possible range or from a standard **3.** something that is slightly different from other similar things **4.** NAVIG an angular difference between magnetic north and true north, which is measured in degrees and is named east or west according to whether the north-seeking end of a freely suspended magnet lies to the east or to the west of the true meridian at that point

variety *noun* **1.** a number of different things ○ *a wide variety of reasons why people like and dislike cities* **2.** a type of something **3.** BIOL a named cultivated plant ○ *a new variety of wheat* Also called **cultivar**

vascular bundle *noun* BOT a strand of plant tissue containing the xylem and phloem tubes that transport water and food to and from different parts of the plant

vascular plant *noun* BOT a plant that has specialised tubes within it for transporting sap (NOTE: All flowering plants, conifers, ferns, clubmosses and horsetails, but not mosses and liverworts, are vascular plants.)

vascular system *noun* **1.** ANAT (*in animals*) a system of tubes that carry liquid, e.g. blood **2.** BOT (*in plants*) a system of conducting tissues that carry nutrients from the roots to the upper parts of the plant

vascular tissue *noun* BOT a specialised plant tissue consisting of phloem and xylem, which transports dissolved sugar, water and dissolved minerals throughout the plant

vas deferens *noun* ANAT one of a pair of ducts through which sperm passes from the testes to the urethra during ejaculation

vasectomy *noun* an operation to cut the duct which takes sperm from the testicles, so making the animal infertile

vasoconstriction *noun* PHYSIOL the narrowing of the blood vessels (NOTE: It decreases blood flow and increases blood pressure.)

vasodilation *noun* PHYSIOL the widening of the blood vessels, especially the arteries (NOTE: It increases blood flow and reduces blood pressure.)

vasomotor nerve *noun* ANAT a nerve whose impulses make the arterioles become narrower

vasopressin *noun* BIOCHEM a hormone secreted from the pituitary gland (NOTE: It raises blood pressure and causes the kidneys to excrete less urine.)

vCJD *abbreviation* variant CJD

VDT *abbreviation* COMPUT visual display terminal

VDU *abbreviation* COMPUT visual display unit

vector *noun* **1.** MATHS a quantity with magnitude and direction indicated by a line of a given length, representing magnitude and specific direction ○ *The triangle of velocities is a vector solution of what happens to an aircraft when wind causes drift.*

2. NAVIG a heading given to a pilot to provide navigational guidance by radar ○ *Wind velocity is indicated by a vector, identified by a single arrow, pointing in the direction the wind is blowing towards.* **3.** COMPUT an address which directs a computer to a new memory location **4.** MATHS a

shape described using coordinates of magnitude and direction **5.** BIOL an insect or animal which carries a disease or parasite and can pass it to other organisms ○ *The tsetse fly is a vector of sleeping sickness.* **6.** an agent such as a plasmid or bacteriophage that is used to transfer a segment of DNA from one organism to another

vectored interrupt *noun* COMPUT an interrupt which directs the central processing unit to transfer to a particular location

vector font *noun* COMPUT a shape of characters within a font that are drawn using vector graphics, allowing the characters to be scaled to almost any size without changing the quality

vector graphics *noun* COMPUT a computer drawing system which uses line length and direction from an origin to plot lines

vector processor *noun* COMPUT a coprocessor which operates on one row or column of an array at a time

veer *noun* METEOROL a shifting of the wind, in a clockwise direction in the northern hemisphere ○ *The passing of a weather trough is marked by a sharp veer in the direction of the wind.* ■ *verb* **1.** METEOROL (of the wind) to change in a clockwise direction, in the northern hemisphere ○ *Winds veer and increase with height ahead of a warm front.* Opposite **back** **2.** to change direction, especially as in an uncontrolled movement ○ *The aircraft veered off the runway into the grass.*

vegan *noun* a strict vegetarian who eats only vegetables and fruit and no animal products like milk, fish, eggs or meat ■ *adjective* referring to vegans or their diet

vegetable *noun* AGRIC a plant grown for food, especially plants grown for leaves, roots or pods or seeds that are usually cooked ○ *Green vegetables are a source of dietary fibre.*

vegetable oil *noun* FOOD INDUST an oil obtained from a plant and its seeds, low in saturated fat

vegetarian *noun* MED a person who does not eat meat ■ *adjective* referring to vegetarians or their diet ○ *He is on a vegetarian diet.*

vegetation *noun* BOT plants that are growing ○ *The vegetation was destroyed by fire.* ○ *Very little vegetation is found in the Arctic regions.*

vegetation loss *noun* ENVIRON the loss of plants from an area by processes such as pollution or clearing

vegetation map *noun* BOT a map showing the pattern of vegetation in an area

vegetative *adjective* **1.** BOT referring to plants ○ *The loss of vegetative cover increases the accumulation of carbon dioxide in the atmosphere.* **2.** BIOL referring to the process of growth and development **3.** BIOL referring to reproduction that does not involve sex cells

vegetative propagation *noun* BOT the artificial reproduction of plants by taking cuttings or by grafting, not by seed

vegetative reproduction *noun* a form of reproduction in which a plant reproduces itself from parts such as bulbs or tubers rather than from seed

vehicle *noun* a machine for moving people or goods, e.g. a car, truck, train or boat

vehicular *adjective* referring to a vehicle

vein *noun* **1.** ANAT a blood vessel which takes deoxygenated blood containing waste carbon dioxide from the tissues back to the heart **2.** BOT a thin tube that forms part of the structure of a leaf or the circulation system of an animal, allowing the flow of liquids

Veitch diagram *noun* COMPUT a graphical representation of a truth table

velamen *noun* BOT a spongy layer covering the aerial roots of plants such as tree-dwelling orchids (NOTE: It protects the roots and helps them absorb water.)

velocity *noun* PHYS the rate of change of position in a given direction which is composed of both speed and direction ○ *The anemograph gives a continuous recording of wind velocity which is displayed on a chart and reveals gusts, squalls and lulls.*

velocity of light *noun* the speed of light, which is almost 300000km a second in a vacuum (NOTE: The velocity of light in a vacuum is the same as that of all other electromagnetic radiation. This is much more than a mere measure of distance covered in a given amount of time, because *c*, the velocity of light, appears in the fundamental equations of relativity as the factor linking mass with the amount of energy to which it is equivalent, and as a basic speed limit for all objects in the universe.)

velocity of sound *noun* the speed of sound, which is equal to 331 metres per

second through air (NOTE: The speed of sound varies in different materials.)

vena cava *noun* ANAT one of two major veins that carry blood from the body back to the heart (NOTE: The inferior vena cava brings blood from the lower half of the body and the superior vena cava brings it from the head and upper body.)

venation *noun* BIOL the pattern of veins in a leaf or an insect's wing

Venn diagram *noun* MATHS a graphical representation of the relationships between the states in a system or circuit

venom *noun* BIOL a liquid poison secreted by an animal (NOTE: Venoms are produced in many different animals, including snakes, scorpions, spiders and fish.)

venomous *adjective* BIOL producing venom and capable of inflicting a poisonous bite or sting

vent *noun* 1. MECH ENG a hole serving as an inlet or outlet for a fluid, usually a gas such as air ○ *During the inspection, check that the fuel tank vent pipe is not blocked.*

2. EARTH SCI a hole through which air, smoke or gas can leave a building or other structure 3. EARTH SCI a hole through which gases or lava escape from a volcano

ventilate *verb* to cause air to pass in and out of a place freely ○ *The water separator is installed downstream of the cold air unit to extract a percentage of free moisture from the air, which subsequently ventilates and pressurises the cabin.*

ventilation *noun* the process of air passing in and out of a place freely ○ *A constant supply of air for ventilation purposes is always available from the air conditioning system.*

ventilation system *noun* a system that allows fresh air to move around a building

ventilator *noun* ENG a device that causes fresh air to pass into a room or building

ventral *adjective* ANAT 1. referring to the abdomen or the front of the human body 2. referring to the lower side of something ○ *The fish has two ventral fins.* Compare **dorsal**

ventral root *noun* ANAT the spinal nerve root that arises from the surface of the spinal cord that is facing the stomach

ventricle *noun* ANAT 1. one of a number of chambers or cavities in the body or an organ 2. a chamber of the heart that receives blood from the atria and pumps it to the arteries 3. one of the cavities of the

vertebrate brain that connects with the others and contains cerebrospinal fluid

venturi effect *noun* PHYS the rapid flow of a liquid or a gas as it passes through a narrower channel

venturi tube *noun* PHYS a tube with a constriction in the middle that measures fluid flow rate based on the pressure drop in the fluid as it travels from one end of the tube to the other

venule *noun* BIOL a small offshoot from a vein in a leaf or insect wing

Venus *noun* ASTRON the second planet of the solar system, and the closest in size to the Earth, being 82 per cent as massive (NOTE: Venus orbits the Sun in 225 days, at an average distance of 0.72 AU (108 million km), and has no satellites. Venus is swathed in clouds and has a high albedo, so is brighter than anything in the sky apart from the Sun and Moon.)

Venusian *adjective* ASTRON referring to Venus

verdigris *noun* CHEM a green or greenish-blue poisonous powder formed by the reaction of acetic acid with a copper surface, used as a paint pigment and fungicide

verification *noun* COMPUT the process of checking that data has been keyboarded correctly or that data transferred from one medium to another has been transferred correctly

vermicide *noun* MED, VET a substance that kills worms

vermiculite *noun* AGRIC a substance that is a form of silica processed into small pieces. It is used instead of soil in horticulture because it retains moisture.

vermiform *adjective* BIOL shaped like a worm

vermin *noun* AGRIC an organism that is regarded as a pest ○ *Vermin such as rats are often carriers of disease.* (NOTE: The word **vermin** is usually treated as plural.)

vermis *noun* ANAT the central part of the cerebellum

vernal *adjective* referring to the spring

vernal equinox *noun* ASTRON same as **spring equinox**

vernalisation, vernalization *noun* BOT 1. a requirement by some plants for a period of cold in order to develop normally 2. the technique of making a seed germinate early by refrigerating it for a time

vernier *noun* MEASURE a small movable scale parallel to the main scale of some measuring instruments such as calipers (NOTE: It enables the user to obtain more precise measurements from the larger scale.)

version *noun* a copy of something which is slightly different from others ○ *The latest version of the software includes an improved graphics routine.*

version control *noun* COMPUT utility software which allows several programmers to work on a source file and monitors the changes that have been made by each programmer

vertebra *noun* ANAT one of the ring-shaped bones which link together to form the backbone (NOTE: The plural is **vertebrae**.)

vertebral *adjective* ANAT referring to the vertebrae

vertebral artery *noun* ANAT one of the two arteries which go up the back of the neck into the brain

vertebral column *noun* ANAT same as **spinal column**

vertebral ganglion *noun* ANAT a ganglion in front of the origin of a vertebral artery

vertebrate ZOOL *noun* an animal that has a backbone ■ *adjective* referring to animals that have a backbone. Compare **invertebrate**

vertex *noun* MATHS a point in space defined by three coordinates: x, y and z

vertical *adjective* at right angles to a horizontal line

vertical application *noun* COMPUT application software that has been designed for a specific use, rather than for general use

vertical axis *noun* 1. AEROSP an imaginary line running through the fuselage of an aircraft at the centre of gravity from top to bottom, around which the aircraft rotates when it yaws ○ *The rudder is a control surface on the fin which rotates the aircraft about its vertical axis to produce yaw.* 2. MATHS a vertical reference line of a graph ○ *The vertical axis shows engine power available.* Also called **Y-axis**

vertical-axis wind turbine *noun* ENG a type of wind turbine with a vertical main shaft

vertically *adverb* in a vertical position ○ *The aircraft pitched up vertically.*

vertical motion *noun* an up and down movement

vertical redundancy check *noun* COMPUT a parity check on each character of a block received, to detect any errors. Abbr **VRC**

vertical scan frequency *noun* COMPUT the number of times a picture beam in a monitor moves from the last line back up to the first

vertical scrolling *noun* COMPUT the movement of a displayed text up or down the computer screen one line at a time

vertical stabiliser *noun* AEROSP a fin at the rear of an aircraft

very high frequency *noun* PHYS the radio frequency band between 30 and 300MHz. Abbr **VHF** (NOTE: This frequency band is used to transmit television and FM radio signals.)

very large scale integration *noun* ELECTRONICS an integrated circuit with 10000 to 100000 components. Abbr **VLSI**

very low frequency *noun* PHYS the radio frequency band between 3 and 3kHz

vesicle *noun* 1. BOT a rounded air-filled structure that helps seaweeds and aquatic plants to float 2. ZOOL, MED any small rounded structure filled with fluid or gas

vessel *noun* 1. a container for liquids 2. INDUST a container for nuclear fuel or radioactive waste 3. BIOL a tubular structure which carries liquid around the body of an animal or plant

vestibulocochlear nerve *noun* ANAT the eighth cranial nerve, which controls hearing and balance

vestigial *adjective* existing in a simple and reduced form ○ *Some snakes have vestigial legs.*

vestigial organ *noun* ANAT an organ which has lost its original function and, through evolution, is fully developed but non-functioning

vestigial side band *noun* COMPUT full form of **VSB**

veterinary *adjective* referring to the care of sick animals

VHF *abbreviation* PHYS very high frequency

viable *adjective* 1. BIOL able to germinate or develop normally 2. MED describes a fetus that can survive outside the womb

vibrate *verb* to move rapidly and continuously backwards and forwards or to cause

something to do this ○ *Turbine blades in the average jet engine vibrate at frequencies of 1 million per minute.* ○ *The passing traffic makes the foundations of the bridge vibrate.*

vibration *noun* a rapid and continuous movement ○ *Engine vibration was detected in engine number one.* ○ *Vibrations caused by aircraft can shatter windows.*

vibrio *noun* MICROBIOL a bacterium with a wavy or curved shape. Genus: *Vibrio*. (NOTE: Cholera is a disease caused by a vibrio.)

video *noun* text, images or graphics viewed on television or a monitor

video bandwidth *noun* COMPUT the maximum display resolution, measured in MHz, and calculated by horizontal x vertical resolution x refreshes/sec (NOTE: TV studio recording is limited to 5MHz. TV broadcasting is limited to 3.58MHz.)

video codec *noun* TELECOM an electronic device to convert a video signal to or from a digital form

video display *noun* COMPUT a device that can display text or graphical information, e.g. a cathode ray tube

video graphics card *noun* COMPUT an expansion card that fits into an expansion slot inside a PC and allows a computer to display generated text and graphics as well as moving video images from an external camera or video recorder

video memory, video RAM *noun* COMPUT a high speed random access memory used to store computer-generated or digitised images. Abbr **VRAM**

video signal *noun* COMPUT a signal that provides line picture information and synchronisation pulses

viewdata *noun* COMPUT an interactive system for transmitting text or graphics from a database to a user's terminal by telephone lines, providing facilities for information retrieval, transactions, education, games and recreation

COMMENT: The user of viewdata calls up the page of information required, using a telephone and modem. With teletext, the pages of information are repeated one after the other automatically.

vigor *noun* US spelling of **vigour**

vigorous *adjective* BIOL growing strongly ○ *Plants put out vigorous shoots in a warm damp atmosphere.*

vigour *noun* strength and energy (NOTE: The US spelling is **vigor**.)

villus *noun* BIOL a small finger-shaped structure sticking out from a tissue or organ surface (NOTE: The lining of the gut is covered with villi to increase its surface area for food absorption.)

vinyl *noun* INDUST a plastic that is not biodegradable

vinyl chloride *noun* INDUST a chemical compound of chlorine and ethylene, used as a refrigerant and in the making of PVC

vinyl group *noun* CHEM a group of organic compounds with one double bond, $\text{CH}_2=\text{CH}-$

viral *adjective* MICROBIOL referring to or caused by a virus ○ *a viral disease*

viral infection *noun* MED an infection caused by a virus

viral load *noun* MED the amount of HIV in a person's blood, usually measured by a test that determines the number of copies of HIV in one millilitre of blood

viral pneumonia *noun* MED an inflammation of the lungs caused by a virus

virgin *adjective* ENVIRON in its natural state, untouched by humans ○ *Virgin rainforest was being cleared at the rate of 1000 hectares per month.*

virgin land *noun* AGRIC land which has never been cultivated

virgin ore *noun* INDUST ore as it is extracted from the ground, before it has been processed

virtual *adjective* COMPUT referring to a feature or device which does not actually exist but which is simulated by a computer and can be used by a user as if it did exist

virtual circuit *noun* COMPUT the link established between a source and sink in a packet-switching network for the duration of the call

virtual disk *noun* COMPUT a section of RAM used with a short controlling program as if it were a fast disk storage system

virtual machine *noun* COMPUT a simulated machine and its operations

virtual memory *noun* COMPUT a system of providing extra main memory by using a disk drive as if it were RAM. Also called **virtual storage**

virtual reality *noun* COMPUT a simulation of a real-life scene or environment by a computer ○ *This new virtual reality soft-*

ware can create a three-dimensional room that you can navigate around.

virtual storage COMPUT abbr **VS**. Same as **virtual memory**

virus *noun* **1**. MICROBIOL a microorganism consisting of a nucleic acid surrounded by a protein coat which can only develop in other cells, and often destroys them **2**. COMPUT a program which adds itself to an executable file and copies or spreads itself to other executable files each time an infected file is run (NOTE: A virus can corrupt data, display a message or do nothing. If your PC is infected with a virus, your data is at risk. Computer viruses are spread by downloading unchecked files from a bulletin board system or via unregulated networks or by inserting an unchecked floppy disk into your PC. Always use a virus detector.)

virus detector *noun* COMPUT utility software which checks executable files to see if they contain a known virus

VISA *NOUN* MED, MICROBIOL a strain of a common infection-causing bacterium that shows some resistance to treatment by the antibiotic vancomycin

viscera *plural noun* ANAT the internal organs, in particular the intestines and other contents of the abdomen

visceral *noun* ANAT referring to the viscera

visceral muscle *noun* ANAT a muscle in the walls of the intestines which makes the intestine contract

viscid *adjective* PHYS same as **viscous**

viscometer *noun* PHYS a piece of equipment for measuring the viscosity of a substance

viscosity *noun* PHYS the internal resistance of a liquid to flowing ○ *Excessive oil temperatures are dangerous, as the oil viscosity is reduced and inadequate bearing lubrication results.*

viscous *adjective* PHYS referring to a liquid which is thick, sticky and slow-moving. Also called **viscid**

visibility *noun* PHYS the degree to which unlit objects can be seen by day and lighted objects can be seen by night ○ *Measurement of visibility by day is made by direct observation of objects at known distances and is therefore an estimated value.*

visibility-by-day values *plural noun* PHYS the values which indicate how easily

seen an object is in a horizontal line from an observer in daylight conditions

visible *adjective* PHYS referring to something that can be seen ○ *The Sun will be clearly visible through cumulus cloud.*

visible spectrum *noun* PHYS the range of wavelengths of light visible to a human

vision *noun* **1**. BIOL the ability to see ○ *After the age of 50, many people's vision begins to fail.* Also called **eyesight** **2**. the picture on a television screen ○ *You need to adjust the vision on the set.* **3**. an image seen in the imagination or in a dream

visitor, visitant *noun* a bird that comes to a region regularly when migrating ○ *Flycatchers are summer visitors to Britain.*

visual *adjective* PHYS referring to seeing

visual acuity *noun* BIOL the state or degree of being able to see objects clearly

visual display unit *noun* COMPUT a terminal with a screen and a keyboard, on which text or graphics can be viewed and information entered. Abbr **VDU** (NOTE: The US term is **visual display terminal**.)

visual examination *noun* an examination of something using the eyes only. Also called **visual inspection**

visual horizon *noun* EARTH SCI the horizon which can be seen (NOTE: Because of the curvature of the Earth, the visual horizon looks curved when seen from a ship.)

visual indication *noun* something which is seen and which serves as a warning of a more serious condition

visual inspection *noun* same as **visual examination**

visualisation, visualization *noun* COMPUT the conversion of numbers or data into a graphical format that can be more easily understood

visual programming *noun* COMPUT a method of programming a computer by dragging icons into a flowchart that describes the program's actions rather than writing a series of instructions

visual purple *noun* BIOCHEM same as **rhodopsin**

visual reference *noun* something seen and used as a guide to something else

vital *adjective* BIOL important, or essential for life ○ *Vital nutrients are leached from the topsoil.* ○ *Oxygen is vital to the human system.*

vital organs *plural noun* ANAT the organs in the body without which a human being cannot live, e.g. the heart, lungs and brain

vital statistics *plural noun* STATS official statistics relating to the population of a place, e.g. the percentage of live births per thousand, the incidence of a specific disease or the numbers of births and deaths

vitamin *noun* BIOCHEM a substance not produced in the body, but found in most foods, and needed for good health

vitamin A *noun* BIOCHEM a vitamin which is soluble in fat and can be synthesised in the body from precursors, but is mainly found in food such as liver, vegetables, eggs and cod liver oil. Also called **retinol** (NOTE: Lack of vitamin A affects the body's growth and resistance to disease.)

vitamin B₁ *noun* BIOCHEM a vitamin found in yeast, liver, cereals and pork. Also called **thiamine**

vitamin B₂ *noun* BIOCHEM a vitamin found in eggs, liver, green vegetables, milk and yeast. Also called **riboflavin**

vitamin B₆ *noun* BIOCHEM a vitamin found in meat, cereals and molasses. Also called **pyridoxine**

vitamin B₁₂ *noun* BIOCHEM a water-soluble vitamin found especially in liver, milk and eggs but not in vegetables, and important for blood formation, nerve function, and growth. Also called **cyanocobalamin** (NOTE: A deficiency of B₁₂ causes pernicious anaemia.)

vitamin B complex *noun* BIOCHEM a group of vitamins which are soluble in water, including folic acid, pyridoxine and riboflavin

vitamin C *noun* BIOCHEM a vitamin which is soluble in water and is found in fresh fruit, especially oranges and lemons, raw vegetables and liver. Also called **ascorbic acid** (NOTE: Lack of vitamin C can cause anaemia and scurvy.)

vitamin D *noun* BIOCHEM a vitamin which is soluble in fat, and is found in butter, eggs and fish (NOTE: It is also produced by the skin when exposed to sunlight. Vitamin D helps in the formation of bones, and lack of it causes rickets in children.)

vitamin deficiency *noun* MED a lack of necessary vitamins

vitamin E *noun* BIOCHEM a vitamin found in vegetables, vegetable oils, eggs and wholemeal bread

vitamin K *noun* BIOCHEM a vitamin found in green vegetables such as spinach and cabbage, which helps the clotting of blood and is needed to activate prothrombin

vitreous *adjective* CHEM being like glass in appearance or characteristics

vitreous humour *noun* ANAT the colourless gel that lies between the lens and the retina of the eye

viviparous *adjective* 1. ZOOLOG referring to an animal such as a mammal or some fish that give birth to live young. Compare **oviparous** 2. BOT reproducing by buds that form plantlets while still attached to the parent plant or by seeds that germinate within a fruit

vivisection *noun* ZOOLOG, MED the dissection of a living animal under experimental conditions

VLSI *abbreviation* ELECTRONICS very large scale integration

vocal *adjective* BIOL referring to the voice

vocal cords *plural noun* ANAT a pair of fibrous structures that run across the voice box and produce sounds by vibrating

vocal fremitus *noun* MED a vibration of the chest as a patient speaks or coughs

vocal ligament *noun* ANAT a ligament in the centre of the vocal cords

voice *noun* the sound made when a person speaks or sings ○ *The doctor has a quiet and comforting voice.* ○ *I didn't recognise your voice over the phone.*

voice box *noun* ANAT the hollow organ at the back of the throat containing the vocal cords. Also called **larynx**

voice coil *noun* ACOUSTICS 1. an element in a dynamic microphone which vibrates when sound waves strike it causing variations in an electrical signal 2. an element in a loudspeaker that vibrates according to a signal and so produces sound waves

voice data entry, voice data input *noun* COMPUT an input of information into a computer using a speech recognition system and the user's voice

voice recognition *noun* COMPUT the ability of a computer to recognise specific words produced by a human voice and to provide a suitable response

voice synthesis *noun* COMPUT the reproduction of sounds similar to those produced by a human voice

volatile *adjective* CHEM referring to a liquid which easily changes into a gas or vapour

volatile memory *noun* COMPUT a memory or storage medium which loses data stored in it when its power supply is switched off

volatile oil *noun* PHARM same as **essential oil**

volatile organic compound *noun* CHEM an organic compound which evaporates at a relatively low temperature. Abbr **VOC** (NOTE: Volatile organic compounds such as ethylene, propylene, benzene and styrene contribute to air pollution.)

volatility *noun* CHEM, PHYS the ease with which a liquid changes into a gas or vapour
 ◦ *With kerosene-type fuels, volatility is controlled by distillation and flash point.*

volcanic *adjective* EARTH SCI referring to volcanoes

volcanic activity *noun* EARTH SCI something such as an earthquake, eruption, lava flow or smoke emission that shows that a volcano is not extinct

volcanic ash *noun* EARTH SCI ash and small pieces of lava and rock which are thrown up by an erupting volcano

volcanic dust *noun* EARTH SCI fine ash thrown up by an erupting volcano

volcanic rock *noun* EARTH SCI rock formed from lava

volcano *noun* EARTH SCI a mountain surrounding a hole in the Earth's crust, formed of solidified molten rock sent up from the interior of the Earth

COMMENT: Volcanoes occur along faults in the Earth's surface and exist in well-known chains. Some are extinct, but others erupt relatively frequently. Some are always active, in that they emit sulfurous gases and smoke, without actually erupting. Volcanic eruptions are a major source of atmospheric pollution, in particular of sulfur dioxide. Very large eruptions cause a mass of dust to enter the atmosphere, which has a noticeable effect on the world's climate.

volt *noun* MEASURE, ELEC the SI unit of electrical potential ◦ *The system requires a power supply of either 115 volts AC (alternating current), 28 volts DC (direct current), or both.* Symbol **V**

voltage *noun* MEASURE, ELEC an electrical force measured in volts ◦ *As an installed battery becomes fully charged by the aircraft generator, the battery voltage nears its nominal level and the charging current decreases.*

COMMENT: Electricity supplies can have peaks and troughs of current, depending on the users in the area. Fluctuations in voltage can affect computers and a voltage regulator will provide a steady supply of electricity.

voltage divider *noun* ELEC a resistor or series of resistors that can produce voltages that are fractions of the source voltage. Also called **potential divider**

voltage regulator *noun* ELEC a device to control the level of voltage

voltage transient *noun* ELEC a spike of voltage which is caused by a time delay in two devices switching or by noise on the line

voltaic cell *noun* ELEC same as **primary cell**

voltmeter *noun* ELEC an instrument for measuring the potential difference between two points in an electrical circuit

volume *noun* **1.** PHYS the amount of space occupied by a solid, a liquid or a gas
 ◦ *If the pressure of a given mass of gas is maintained constant, the volume of gas increases as its temperature is increased.*

2. ACOUSTICS the loudness of a transmission ◻ **to turn down the volume** to make the sound less loud by adjusting the volume control ◻ **to turn up the volume** to make the sound louder by adjusting the volume control **3.** COMPUT the total disk space occupied by data in a storage system
volume control *noun* a knob used to adjust the sound on a device by making it louder or less loud

volumetric analysis *noun* CHEM the analysis of gas by volume

voluntary muscle *noun* ANAT a muscle that is under conscious control (NOTE: It is usually a striated muscle.)

von Neumann machine *noun* PHYS a machine whose abilities include the skills needed to reproduce itself from commonly available materials

von Willebrand's factor *noun* BIO-CHEM a protein substance in plasma involved in platelet aggregation

-vore *suffix* BIOL an organism that eats a particular diet

-vorous *suffix* BIOL eating a particular diet

vortex *noun* PHYS a flow of a liquid in a whirlpool or of a gas in a whirlwind ◦ *The most destructive winds are in the vortex, where the rotation of the whirlwind produces very high wind speeds.*

VRAM *noun* COMPUT high speed random access memory used to store computer-generated or digitised images. Full form **video random access memory**

VRC *abbreviation* COMPUT vertical redundancy check

VRSA *noun* MED a strain of a common infection-causing bacterium that has become resistant to treatment by the antibiotic vancomycin and is therefore a hazard in places such as hospitals

VS *abbreviation* COMPUT virtual storage

VSB *noun* COMPUT a method of transferring data over coaxial cable, used to modulate and transmit digital television signals. Full form **vestigial side band**

VU *abbreviation* ENVIRON vulnerable

vulcanisation, vulcanization *verb* INDUST to strengthen a material such as

rubber in a reaction with sulfur and other additives at increased temperature and pressure

vulcanism *noun* EARTH SCI a movement of magma or molten rock onto or towards the Earth's surface

vulnerability *noun* the degree to which a person, organism, environment or system is likely to be caused harm by an activity

vulnerable *adjective* **1.** liable to be easily harmed **2.** ENVIRON referring to a species that is likely to become endangered unless protective measures are taken. Abbr **VU**

vulture *noun* ZOOL a large bird of prey that feeds on carrion

vulva *noun* ANAT the external fleshy structures around the opening of the vagina

W

W *symbol* **1.** CHEM ELEM tungsten **2.** ELEC, MEASURE watt

W3C *noun* COMPUT a group of international industry members that work together to develop common standards for the World Wide Web. Full form **World Wide Web Consortium** (NOTE: Visit the www.w3.org website for new standards and developments.)

wader *noun* BIRDS a bird that feeds on organisms or plants found in shallow water

wadi *noun* EARTH SCI a gully with a stream at the bottom, found in the desert regions of North Africa. Compare **arroyo**

wafer *noun* ELECTRONICS a thin round slice of a large single crystal of silicon onto which hundreds of individual integrated circuits are constructed (NOTE: The wafer is then cut into individual chips.)

wafer scale integration *noun* ELECTRONICS one large chip, the size of a wafer, made up of smaller integrated circuits connected together (NOTE: These are still in the research stage.)

WAIS *noun* COMPUT a system that allows a user to search for information stored on the Internet. Full form **wide area information server**

wait condition *noun* COMPUT **1.** a state in which a processor is not active, but waiting for input from peripherals **2.** a null instruction which is used to slow down a processor so that slower memory or a peripheral can keep up. Also called **wait state**

wait loop *noun* COMPUT a processor that repeats one loop of program until some action occurs

wait state *noun* COMPUT same as **wait condition**

wake-on-LAN *noun* COMPUT technology that allows a personal computer or workstation to be switched on automati-

cally by sending it a signal over a local area network connection (NOTE: The system is built into the network interface card fitted to the computer and allows a network manager or network server software to manage the computers linked to the network.)

Waldsterben *noun* BOT same as **forest dieback** (NOTE: From a German word meaning 'the dying of trees'.)

Wallace's line *noun* EARTH SCI a line dividing the Australasian biogeographical region from the Southeast Asian region

wallpaper *noun* COMPUT an image or pattern used as a background in a window

WAN *abbreviation* COMPUT wide area network. Compare **LAN**

wand *noun* COMPUT an optical device which is held in the hand to read bar codes on products. Also called **bar code reader**

wane *verb* ASTRON (*of the Moon or a planet*) to appear to grow smaller as less of the illuminated face is visible. Compare **wax**

WAP *abbreviation* COMPUT **1.** wireless application protocol **2.** wireless access point *o* *The WAP has an aerial and a built-in hub.*

COMMENT: WAP can be used over almost all of the current wireless networks, including the popular GSM mobile telephone standard, and can run on almost any operating system or hardware device. A device that supports WAP provides a very simple browser that can display basic graphics and text-based pages of information on a small, monochrome, 6–10 line display, similar to a tiny, simple webpage. The user can navigate between pages using two or three buttons on the handheld device or mobile telephone. The arrival of WAP allows users to access e-mail and news-based websites from a mobile telephone, but users have been put off by the very slow speed (no more than 9,600 bps) at which data can be transferred over current wireless telephone systems.

WAP browser *noun* COMPUT a simple web browser that works on a handheld WAP device

COMMENT: A WAP browser supports the HTML and XML web page markup standards, but also supports its own markup system, WML (WAP markup language) allowing designers to create simple pages that can be transferred efficiently over the often slow wireless link (usually at a maximum of 9,600bps) and navigated using two or three buttons on a handheld device or mobile telephone.

WAP markup language *noun* COMPUT a webpage formatting language that is similar to a very simple version of the standard HTML webpage coding system, but does not include many of the extra features that cannot be displayed on the small screen of a WAP handheld device or navigated with two or three buttons. Abbr **WML**

WAP markup language script *noun* COMPUT a scripting language similar to a very simple version of JavaScript that allows WML webpages to include scripting functions

warble fly *noun* ZOOL, INSECTS a parasitic fly whose larvae infest cattle. Infestation by warble fly is a notifiable disease.

warfarin *noun* AGRIC, PHARM a substance used to poison rats, to which many rats in some areas are now resistant

warm *adjective* pleasantly hot ○ *These plants grow fast in the warm season.* ■ *verb* to make something hotter ○ *The greenhouse effect has the result of warming the general atmospheric temperature.*

warm-blooded *adjective* ZOOL referring to an animal such as a mammal that can control its body temperature

warm boot *noun* COMPUT a system restart which usually reloads the operating system but does not reset or check the hardware

warm desert *noun* EARTH SCI same as **mid-latitude desert**

warm front *noun* METEOROL a movement of a mass of warm air which displaces a mass of cold air and gives rain

warming *noun* the action of making something hotter ○ *At the poles, warming would be two or three times the global average if the greenhouse effect makes the Earth's temperature rise.* ◊ **global warming**

warm start *noun* COMPUT an act of restarting a programme which has stopped,

without losing any data. Compare **cold start**

warm up *verb* to allow a machine to stand idle for a time after switching on, to reach the optimum operating conditions

warning lamp *noun* a small light, often red, which indicates a possible danger by lighting up ○ *The switch is connected to a warning lamp on the instrument panel which will illuminate if the oil pressure falls below an acceptable minimum.*

washland *noun* EARTH SCI an area of land that is regularly flooded

wash out *verb* EARTH SCI, INDUST to remove a mineral by the action of running water ○ *Minerals are washed out of the soil during heavy rains.*

washout *noun* METEOROL, ENVIRON a process in which drops of water form in the atmosphere and then collect pollutant particles as they fall. Compare **rainout**

wash PROM *verb* COMPUT to erase the data from a PROM

wastage *noun* INDUST **1.** the act of wasting something ○ *There is an enormous wastage of mineral resources.* **2.** the amount wasted

waste *noun* material that is thrown away by people or is an unwanted by-product of a process ○ *household waste* ○ *industrial waste* ■ *adjective* without a specific use and unwanted ○ *Waste products are dumped in the sea.* ○ *Waste matter is excreted by the body in the faeces or urine.* ■ *verb* to use more of something than is needed

waste disposal *noun* ENVIRON the process of getting rid of household or industrial waste

waste disposal site *noun* ENVIRON same as **waste dump**

waste dump *noun* ENVIRON a place where household or industrial waste is left. Also called **waste disposal site**

waste ground *noun* ENVIRON an area of land that is not used for any purpose

waste instruction *noun* COMPUT an instruction which does not carry out any action except increasing the program counter to the location of next instruction

wasteland *noun* ENVIRON an area of land that is no longer used for agriculture or for any other purpose ○ *Overgrazing has produced wastelands in Central Africa.*

waste management *noun* ENVIRON the action of controlling and processing household or industrial waste

waste neutral *adjective* INDUST relating to activities designed to reduce waste and lead to a balance between the production of waste to be recycled and the amount of recycled products used

wastepaper *noun* ENVIRON paper that has been thrown away after use

waste processing *noun* INDUST the activity of treating waste material to make it suitable for reuse or safe disposal. Also called **waste treatment**

waste processing plant *noun* ENVIRON a facility where waste material is treated to make it suitable for reuse or safe disposal

waste product *noun* a substance which is produced in a process but is not needed

waste treatment *noun* same as **waste processing**

wastewater *noun* INDUST, ENVIRON water that is part of effluent or sewage, especially from industrial processes ○ *There is considerable interest in the anaerobic treatment of industrial wastewaters.* ○ *Wastewater will add small but significant quantities of heavy metals to the aquatic environment.*

wastewater treatment *noun* ENVIRON the processing of wastewater to make it suitable for reuse or safe disposal

wastewater treatment plant *noun* a place where liquid waste is processed

water *noun* CHEM a liquid which forms rain, rivers, lakes and the sea and which makes up a large part of the bodies of organisms. Formula: H₂O. ■ *verb* **1.** AGRIC to give water to a plant **2.** BIOL to fill with tears or saliva ○ *Onions made his eyes water.* ○ *Her mouth watered when she saw the ice cream.*

COMMENT: Water is essential to plant and animal life. Since the human body is formed of more than 50% water, an adult needs to drink about 2.5 litres of fluid each day. Water pollution can take many forms: the most common are discharges from industrial processes, household sewage and the runoff of chemicals used in agriculture.

water balance *noun* **1.** EARTH SCI a state in which the water lost in an area by evaporation or by runoff is replaced by water received in the form of rain **2.** PHYSIOL a state in which the water lost by the body in urine and perspiration or by other physio-

logical processes is balanced by water absorbed from food and drink

waterborne *adjective* MED carried in water

waterborne disease, waterborne infection *noun* MED a disease or infection that is spread by water ○ *After the floods diarrhoea, dysentery and other waterborne diseases spread rapidly.*

watercourse *noun* EARTH SCI a stream, river, canal or other flow of water

water cycle *noun* EARTH SCI the circulation of water between the atmosphere, land and sea (NOTE: The Sun causes water to evaporate from seas, other bodies of water and land; it condenses in clouds and then falls back to the Earth's surface as rain.)

water dispersal *noun* BOT the spreading of plant seeds by water

waterfall *noun* EARTH SCI a place where a river or stream falls over a steep vertical drop (NOTE: Some waterfalls only appear in very wet weather.)

waterfowl *plural noun* BIRDS birds which spend much of their time on water, e.g. ducks

Water Framework Directive *noun* ENVIRON a basis for future policy decisions in the European Union, setting objectives for water use and management and waste water disposal. Abbr **WFD**

water glass *noun* CHEM a very concentrated and viscous solution of sodium silicate in water, used in cement and as a waterproofing and fireproofing agent

waterhole *noun* EARTH SCI **1.** a place where water rises naturally to the surface ○ *In the evening, the animals gather round the waterholes to drink.* **2.** a pool of water created by boring holes in the ground

watering eye *noun* MED an eye which fills with tears because of an irritation

waterlogged *adjective* EARTH SCI referring to soil that is saturated with water and so cannot keep oxygen between its particles (NOTE: Most plants cannot grow in waterlogged soil.)

water management *noun* the careful and appropriate use of water

water meadow *noun* EARTH SCI a grassy field near a river, which is often flooded

water mill *noun* INDUST a mill which is driven by the power of a stream of water which turns a large wheel

water of crystallisation *noun* CHEM water molecules that form part of the structure of a crystal

water plant *noun* BOT a plant that grows in water. Also called **aquatic plant**

water pollution *noun* ENVIRON the introduction of pollutants into water-courses or the sea, rivers, lakes or canals

water pollution abatement *noun* ENVIRON a reduction of pollution in water-courses or the sea

water power *noun* INDUST power derived from a descending water supply that is converted to electricity by hydraulic turbines

waterproof *adjective* not allowing water to pass through

water purification *noun* ENVIRON the removal of impurities from water

water quality *noun* ENVIRON the suitability of water for human consumption and bathing and for animals to live in ○ *Fish have returned to many rivers because of the improvement in water quality.*

water resources *plural noun* ENVIRON rivers, lakes and other surface waters that supply water for human use

water-salt balance *noun* EARTH SCI a state where the water in the soil balances the amount of salts in the soil

watershed *noun* EARTH SCI a natural dividing line between the sources of river systems, dividing one catchment area from another

waterside *adjective* BOT referring to a plant which grows next to a river, lake or other area of water

water softener *noun* 1. INDUST a device attached to the water supply to remove nitrates or calcium from the water 2. a chemical added to water to remove calcium

water solubility *noun* the degree to which something is able to be dissolved in water

water-soluble *adjective* CHEM able to dissolve in water

waterspout *noun* METEOROL a phenomenon caused when a rapidly turning column of air forms over an area of water, sucking water up into the column

COMMENT: Waterspouts form in summer weather as air rises rapidly from the warm surface of the sea. Waterspouts turn cyclonically, i.e. anticlockwise in the northern hemisphere. When the waterspout

moves onto dry land, it loses momentum and falls as saltwater rain. The rain sometimes contains fish which have been sucked up into the spout.

water table *noun* EARTH SCI the area below the soil surface at which the ground is saturated with water

watertight *adjective* not leaking water or other fluid

water turbine *noun* INDUST a device that converts the motion of the flow of water into the turning movement of a wheel ○ *Water turbines are often used to drive generators or pumps.*

water vapour *noun* METEOROL air containing suspended particles of water

waterwheel *noun* INDUST a wheel with wooden steps or buckets that is turned by the flow of water against it and itself turns machinery such as a mill wheel or an electric generator

waterworks *noun* INDUST a plant for treating and purifying water before it is pumped into pipes for distribution to houses, factories, schools and other places for use

watt *noun* MEASURE, ELEC an SI unit of measurement of electrical power. The work done by an electrical circuit or the power consumed is measured in watts. Symbol **W**

wattage *noun* ELEC electrical power measured in watts

watt-hour *noun* MEASURE, ELEC a measurement of power with respect to time. One watt-hour is equal to one watt being used for a period of one hour.

wattmeter *noun* ELEC ENG an instrument for measuring electrical power

wave *noun* 1. EARTH SCI a mass of water moving across the surface of a lake or the sea, rising higher than the surrounding water as it moves 2. PHYS the form in which heat, light, sound or electric current is spread

waveband *noun* PHYS a range of radio frequencies within which transmissions occur

waveform *noun* PHYS the shape of a wave, especially the graphic representation of its characteristics such as frequency or amplitude relative to time

waveform audio *noun* ELEC a method of storing analog audio signals as digital data

waveform digitisation *noun* ELEC the conversion and storage of a waveform in numerical form using an A/D converter

waveform editor *noun* COMPUT a software program that displays a graphical representation of a sound wave and allows a user to edit, adjust levels and frequencies or add special effects

waveform table *noun* COMPUT data that describe a sound clip

wave function *noun* PHYS a quantum equation that shows how a wave's amplitude varies in space and time

wavelength *noun* PHYS the distance from the highest point of one wave to the highest point of the next ○ *Short wavelength permits sharper beams for direction finding and more efficient reflections.*

wavelength division multiplexing *noun* ELEC ENG a method of increasing the data capacity of an optic fibre by transmitting several light signals at different wavelengths along the same fibre. Abbr **WDM**

wave number *noun* PHYS the number of electromagnetic waves per unit distance (NOTE: It is inversely related to the wavelength, so radiation with a short wavelength will have a high wave number.)

wave-particle duality *noun* PHYS the quantum concept that energy can behave as either a particle or a wave

wave power *noun* INDUST electricity produced by using the force of waves (NOTE: In harnessing wave power, the movement of waves on the surface of the sea is used to make large floats move up and down. These act as pumps which supply a continuous flow of water to turn a turbine.)

wave refraction *noun* OCEANOLOG the tendency of wave crests to turn from their original direction and become more parallel to the shore as they move into shallower water

wavetable *noun* COMPUT a memory in a sound card that contains a recording of a real musical instrument that is played back

wave theory *noun* PHYS the theory that the behaviour of electromagnetic radiation such as light can be explained by assuming that it travels in waves

wax *noun* CHEM a semi-solid or solid substance of animal, plant or mineral origin ■ *verb* ASTRON (*of the Moon or a planet*) to appear to grow bigger as more of the illuminated face becomes visible. Compare

wane (NOTE: The Moon waxes between its new and full phases.)

waxy *adjective* 1. smooth and shiny 2. covered with wax

Wb *symbol* MEASURE, PHYS weber

WDM *abbreviation* COMPUT wavelength division multiplexing

weak *adjective* 1. not strong ○ *a weak radio signal* 2. CHEM overdiluted with water or air

weak acid *noun* CHEM an acid that does not ionise or dissociate in a solution

weak interaction *noun* PHYS the short-range interaction between elementary particles that is involved in radioactive decay

weak mixture *noun* AUTOMOT a fuel/air mixture in which there is more air than usual ○ *Excessive cylinder head temperatures could be caused by prolonged use of a weak mixture, especially at high altitude.* Also called **lean mixture**

weak solution *noun* CHEM a mixture of water and some other substance in which the amount of water is more than usual

wear *noun* damage or loss of quality by use ○ *Poor handling of aero-engines during operation can cause considerable damage and wear which can shorten the life of the engine.* ■ *verb* to become damaged or to lose quality because of use ○ *The more the brakes are used, the more they wear.*

weather *noun* METEOROL daily atmospheric conditions such as sunshine, wind and precipitation in an area ■ *verb* EARTH SCI to change the state of soil or rock through the action of natural agents such as rain, sun, frost or wind or by artificially produced pollutants

weather chart *noun* METEOROL a chart showing the state of the weather at a specific moment or changes which are expected to happen in the weather in the near future. Also called **weather map**

weather forecast *noun* METEOROL a description of what the weather will be for a period in the future

weather forecasting *noun* METEOROL the scientific study of weather conditions and patterns, which allows the description of what the weather will be for a period in the future

weather map *noun* METEOROL same as **weather chart**

weather station *noun* METEOROL a place where weather is recorded

web, Web *noun* COMPUT a collection of the millions of websites and webpages that together form the part of the Internet that is most often seen by users. Also called **www, World Wide Web**

COMMENT: The Internet includes electronic mail, Usenet and newsgroups as well as the web. Each website is a collection of webpages; each web page contains text, graphics and links to other websites. Each page is created using the HTML language and is viewed by a user with a web browser. Navigation between webpages and websites is called surfing. This requires a computer with a link to the Internet (usually using a modem) and a web browser to view the webpages stored on the remote web servers.

webbed *adjective* ZOOL with skin between the toes ○ *Ducks and other aquatic birds have webbed feet.*

web browser *noun* COMPUT same as **browser**

weber *noun* MEASURE, PHYS the SI unit of magnetic flux. Symbol **Wb** (NOTE: It is equal to 1 joule per ampere or 1 volt second.)

webpage *noun* COMPUT a single file stored on a web server that contains formatted text, graphics and hypertext links to other pages on the Internet or within a website

web server *noun* COMPUT a computer that stores the collection of webpages that make up a website

website *noun* COMPUT a collection of webpages that are linked and related and can be accessed by a user with a web browser

weed *noun* AGRIC a plant that grows where it is not wanted, e.g. a poppy in a wheat field (NOTE: Some weeds are cultivated plants, for example oilseed rape growing in hedgerows.)

weedkiller *noun* AGRIC same as **herbicide**

WEEE *noun* ENVIRON an EC directive governing the disposal of electrical and electronic equipment such as household appliances, tools, and computers

weigh *verb* **1.** to measure how heavy something is ○ *He weighed the sample carefully.* **2.** to have a particular degree of heaviness ○ *A given quantity of lead weighs more than the same quantity of aluminium.*

weight *noun* **1.** the force with which a body is drawn towards the centre of the Earth **2.** a measure of how heavy something is

weighted average *noun* STATS an average which is calculated by taking several factors into account, giving some more value than others

weighted bit *noun* COMPUT a bit that has a different value depending on its position in a word

weighting *noun* COMPUT the process of sorting users, programs or data by their importance or priority

weightlessness *adjective* PHYS, AEROSP the state of having no weight, generally as a result of being outside the gravitational pull of the Earth, the Moon or other planet

Weismannism *noun* GENETICS the principle that the inherited characteristics of any organism are determined only by the components of the male and female gametes from which the organism develops (NOTE: This theory rules out the inheritance of characteristics acquired during an organism's lifetime and is the basis of modern genetics.)

well *noun* INDUST, AGRIC a hole dug in the ground to the level of the water table, from which water can be removed by a pump or bucket

well-behaved *adjective* COMPUT referring to a program which does not make any non-standard system calls, using only the standard BIOS input/output calls rather than directly addressing peripherals or memory

wellhead *noun* INDUST, AGRIC the top structure of a well above the ground

Wentworth-Udden scale *noun* MEASURE, GEOL a scale for measuring and describing the size of grains of minerals

COMMENT: The scale runs from the largest size, the boulder, down to the finest grain, clay. The approximate diameters of each grain are: boulder, up to 256 mm; cobble, above 64 mm; pebble, between 4 and 64 mm; gravel, between 2 and 4 mm; sand, between 0.06 and 2 mm; silt and clay are the finest sizes.

west *noun* **1.** NAVIG the compass point 270° clockwise from due north and directly opposite east **2.** the direction of the setting sun ■ *adjective* GEOG **1.** referring to areas or regions lying in the west **2.** referring to western part of a country ■ *adverb*

NAVIG towards the west ○ *The aircraft was flying west.*

westerly *adjective* NAVIG to or from the west ○ *The ship was proceeding in a westerly direction.* ○ *A westerly airstream covers the country.* ■ *noun* METEOROL a wind that blows from the west

western *adjective* NAVIG in the west or towards the west ○ *the western plains*

west wind *noun* METEOROL a wind which blows from the west

wet *adjective* with a lot of moisture ■ *verb* to add moisture to something

wetland *noun* EARTH SCI an area of land where the soil surface is almost level with the water table and where specially adapted vegetation has developed (*often plural*)

wet season *noun* METEOROL same as **rainy season**

WFD *abbreviation* ENVIRON Water Framework Directive

whale *noun* MARINE BIOL a very large mammal living in the sea. Order: Cetacea.

COMMENT: Whales are the largest mammals still in existence. There are two groups of whales: the toothed whales and the baleen whales. Baleen whales have no teeth and feed by sucking in large quantities of water which they then force out again through their baleen, which is a series of fine plates like a comb hanging down from the upper jaw. The baleen acts like a sieve and traps any plankton and krill which are in the water. The toothed whales have teeth and eat fish. They include the sperm whale, the killer whale and porpoises and dolphins. Whales are caught mainly for their oils, though also in some cases for food. Some species of whale have become extinct because of overexploitation and the population of many of the existing species is dangerously low. Commercial whaling is severely restricted.

what you see is what you get *noun* COMPUT full form of **WYSIWYG**

wheat *noun* PLANTS a cereal crop grown in temperate regions. Genus: *Triticum*. (NOTE: Wheat is one of the major arable crops.)

wheatgerm *noun* FOOD INDUST the central part of the wheat seed, which contains valuable nutrients

wheatmeal *noun* FOOD INDUST brown flour with a large amount of bran, but not as much as is in wholemeal

Wheatstone bridge *noun* ELEC a piece of equipment for measuring an unknown electrical resistance

wheel *noun* MECH ENG **1.** a circular, rotating, load-carrying part between the tyre and axle of a vehicle **2.** the whole wheel and tyre assembly on which a vehicle rolls

wheel bearing *noun* MECH ENG a device which allows a wheel to rotate freely around an axle

while-loop *noun* COMPUT a set of conditional program instructions that carries out a loop while a condition is true

whirlpool *noun* EARTH SCI a rapidly turning eddy of water

whirlwind *noun* METEOROL a column of rapidly turning air at the centre of an area of very low pressure (NOTE: Over water a whirlwind becomes a **waterspout** and over desert a **dust devil**.)

white arsenic *noun* CHEM same as **arsenic oxide**

white blood cell *noun* BIOL a blood cell containing a nucleus, that is formed in bone marrow and creates antibodies

white corpuscle *noun* a blood cell which does not contain haemoglobin

white dwarf *noun* ASTRON one of the possible remnants which can be formed from stars after they cease producing energy by fusion

COMMENT: If less than 1.4 solar masses of material remain after the star leaves the main sequence and loses mass, it will collapse into a white dwarf when the outward radiation pressure which holds active stars up is removed. White dwarfs are held up instead by the mutual repulsion between the electrons in their atoms. They emit small amounts of residual heat and when this is gone reach the black dwarf stage – or will do so, since the process takes so long that no star in the universe has completed it yet.

white hole *noun* ASTRON the exact opposite of a black hole, a singularity from which matter emerges instead of being sucked in (NOTE: White holes are speculative constructs, unlike black holes which have a solid theoretical backing. They open up the possibility of allowing matter to be sent to alternative universes.)

white light *noun* PHYS light containing a perfect or near-perfect mix of the colours of the visible spectrum and appearing white to the eye

white matter *noun* ANAT the pale-coloured nerve tissue in the brain and spinal cord

white spirit *noun* INDUST a colourless flammable liquid derived from petroleum

and used for cleaning paintbrushes and as paint thinner

wholefood *noun* FOOD INDUST food such as brown rice or wholemeal flour that has not been processed and so contains the vitamins, minerals and fibre that are removed by processing

wholegrain *noun* FOOD INDUST a cereal grain containing the whole of the original seed, including the bran

wholemeal *noun* FOOD INDUST flour that contains a large proportion of the original wheat seed, including the bran

wholemeal bread, wholewheat bread *noun* FOOD INDUST bread made from wholemeal flour

whole number *noun* MATHS a positive or negative number, including zero, that does not contain a vulgar or decimal fraction

wide *adjective* large from side to side

wide area information server COMPUT full form of **WAIS**

wide area network *noun* COMPUT a network where the various terminals are far apart and linked by radio or satellite. Abbr **WAN**. Opposite **local area network**

wideband *noun* TELECOM a transmission method that combines several channels of data onto a carrier signal and can carry the data over long distances

widely adopted *adjective* now in standard use with many companies, institutions and organisations

width *noun* the size of something from side to side

wild *adjective* BIOL not domesticated

wilderness *noun* ENVIRON an area of wild uncultivated land, usually a long way from human habitation

wilderness area *noun* ENVIRON an area of undeveloped land that is protected, as a national park or other conservation area

wildlife *noun* ZOOLOG wild animals of all types, including birds, reptiles and fish ○ *Plantations of conifers are poorer for wildlife than mixed or deciduous woodlands.* ○ *The effects of the open-cast mining scheme would be disastrous on wildlife, particularly on moorland birds.*

wildlife reserve *noun* an area where animals and their environment are protected

wild rice *noun* PLANTS a species of grass found naturally in North America which is

similar to rice. Latin name: *Zizania aquatica*.

Williamson's synthesis *noun* CHEM a method of synthesising ethers from alkyl iodides and sodium alcoholates

willow *noun* TREES a temperate hardwood tree that often grows near water. Genus: *Salix*. (NOTE: Willow is sometimes grown as a crop and is coppiced or pollarded to produce biomass for fuel.)

wilt *noun* BOT **1.** the drooping of plants particularly young stems, leaves and flowers, as a result of a lack of water, too much heat or disease **2.** one of a group of plant diseases that cause drooping and shrivelling of leaves (NOTE: It is caused by fungi, bacteria, or viruses that block the plant's water-carrying vessels.)

WIMP *abbreviation* COMPUT window, icon, mouse, pointer

COMMENT: WIMPs usually use a combination of windows, icons and a mouse to control the operating system. In many graphical user interfaces all the functions of the operating system can be controlled just using the mouse. Icons represent programs and files, so instead of entering the file name, the file is selected by moving a pointer with a mouse.

winch *noun* MECH ENG a handle used to turn a machine manually

wind *noun* **1.** METEOROL air which moves in the lower atmosphere, or a stream of air ○ *The weather station has instruments to measure the speed of the wind.* **2.** PHYSIOL gas which builds up in the stomach and intestines during the digestion of food

wind chill factor *noun* METEOROL a way of calculating the risk of exposure in cold weather by adding the speed of the wind to the number of degrees of temperature below zero

wind dispersal *noun* BOT the spread of plant seeds as a result of being blown by the wind

wind-driven *adjective* INDUST powered by the wind

wind erosion *noun* EARTH SCI erosion of soil or rock by wind

wind farm *noun* INDUST a group of large windmills or wind turbines, built to harness the wind to produce electricity ○ *Wind farms in estuaries may adversely affect bird populations.*

wind generator *noun* INDUST a machine used to produce electricity from the wind

wind gradient *noun* METEOROL, AER-OSP the rate of increase of wind strength with unit increase in height above ground level ○ *After take-off, as the aircraft gains altitude, the ground speed may be affected by the wind gradient.*

windmill *noun* 1. INDUST a construction with sails which are turned by the wind, providing the power to drive a machine 2. same as **wind turbine**

COMMENT: Windmills were originally built to grind corn or to pump water from marshes. Large modern windmills are used to harness the wind to produce electricity.

window COMPUT *noun* 1. a reserved section of screen used to display special information, which can be selected and looked at at any time and which overwrites information already on the screen ○ *Several remote stations are connected to the network and each has its own window onto the hard disk.* 2. a part of a document currently displayed on a screen ○ *The operating system will allow other programs to be displayed on-screen at the same time in different windows.* 3. an area of memory or access to a storage device ■ *verb* to set up a section of screen by defining the coordinates of its corners, allowing information to be temporarily displayed, overwriting previous information but without altering information in the workspace

window, icon, mouse, pointer *noun* COMPUT a program display which uses graphics or icons to control the software and make it easier to use as system commands do not have to be typed in. Abbr **WIMP**

windowing *noun* COMPUT 1. the action of setting up a window to show information on the screen ○ *The network system uses the latest windowing techniques.* 2. the displaying or accessing of information via a window

wind park *noun* INDUST same as **wind farm**

windpipe *noun* ANAT the tube through which air travels from the throat to the lungs. Also called **trachea**

wind pollination *noun* BOT pollination of flowers by pollen which is blown by the wind

wind power *noun* INDUST the power generated by using wind to drive a machine or turbine which creates electricity

wind pump *noun* INDUST, AGRIC a pump driven by the wind, which raises water out of the ground

wind rose *noun* METEOROL a chart showing the direction of the prevalent winds in an area

windrow *noun* AGRIC a row of the cut stalks of a crop, gathered together and laid on the ground to be dried by the wind

wind shear *noun* METEOROL a change in wind direction and speed between slightly different altitudes, which can be dangerous ○ *Wind shear, if strong enough, can produce clear air turbulence.* ○ *Fly-by-wire technology can be very useful in wind shear situations.*

windspeed *noun* METEOROL the speed of the wind, usually measured in knots (NOTE: If combined with a direction, windspeed is called velocity.)

wind turbine *noun* INDUST a turbine driven by wind

windward *adjective* EARTH SCI referring to a position exposed to the wind ○ *The trees provide shelter on the windward side of the house.*

wing *noun* 1. ZOOLOG one of the feather-covered limbs of a bird or membrane-covered limbs of a bat that are used for flying 2. AVIAT the main horizontal aerofoil of an aircraft ○ *The wing supports the weight of the aircraft in flight.*

wing loading *noun* AVIAT the weight of an aircraft per unit of wing area

wing root *noun* AVIAT the part of the wing of an aircraft where it meets the fuselage

wing span *noun* ZOOLOG, AVIAT the distance between the tip of one wing to the tip of the other wing

wing tip *noun* ZOOLOG, AVIAT the outermost end of a wing

winter *noun* the season of the year, following autumn and before spring, when the weather is coldest, the days are short, most plants do not flower or produce new shoots and some animals hibernate ■ *verb* ZOOLOG to spend the winter in a place

winterbourne *noun* EARTH SCI a stream which flows only in the wetter part of the year, usually in winter

wintering ground *noun* ECOL an area where birds come each year to spend the winter

winter solstice *noun* ASTRON 21 December, the shortest day in the northern

hemisphere, when the sun is at its furthest point north of the equator

winter wheat *noun* AGRIC wheat of a variety sown in the autumn or early winter months and harvested early the following summer

wipe *verb* COMPUT to clean data from a disk ○ *By reformatting you will wipe the disk clean.*

wire *noun* a thin metal filament, often one carrying electric current ■ *verb* **1.** ELEC to install wiring in a place **2.** PHYSIOL to control a function in the body by means of a neurological or physiological structure or process

wired *adjective* COMPUT referring to a computer with a program built into the hardware which cannot be changed

wire frame model *noun* COMPUT a method of displaying objects using lines and arcs rather than filled areas or with the appearance of being solid. Also called **wire mesh model**, **polygon mesh model**

wireless access point *noun* COMPUT a device that connects to a LAN and allows a computer to access the network using wireless data transmission. Abbr **WAP**

wireless application protocol *noun* COMPUT a system that allows a user to access information on an Internet server using a wireless handheld device such as a mobile telephone. Abbr **WAP**. See Comment at **WAP**

wireless modem *noun* TELECOM a modem that can be used with a wireless mobile telephone system (NOTE: A wireless modem usually includes the telephone hardware and an aerial, so does not need to be plugged into a separate mobile telephone.)

wireless network *noun* TELECOM a network that does not use cable to transmit the data between computers, but instead uses radio signals to transmit signals, normally using the 802.11b or 802.11a transmission protocol

wire mesh *noun* ENG metal sheeting made of criss-crossed wiring

wire mesh model *noun* COMPUT same as **wire frame model**

wire printer *noun* COMPUT a dot-matrix printer

wiring *noun* **1.** a series of wires ○ *The wiring in the system had to be replaced.* **2.** PHYSIOL a neurological or physiological

structure or process that controls a function in the body

wiring closet *noun* COMPUT a box in which the cabling for a network or part of network is terminated and interconnected

wiring frame *noun* COMPUT a metal structure used to support incoming cables and to provide connectors to allow cables to be interconnected

WISC *abbreviation* COMPUT writable instruction set computer

wither *verb* BOT (*of plants, leaves, flowers*) to shrivel and die

wizard *noun* COMPUT a software utility that helps someone create something

WML *abbreviation* COMPUT WAP markup language

Wohler's synthesis *noun* CHEM a way of producing urea from inorganic ammonium isocyanate by heating

wolds *plural noun* EARTH SCI areas of low chalk or limestone hills

wolfram *noun* CHEM ELEM same as **tungsten**

woman *noun* BIOL a female adult person (NOTE: The plural is **women**. For other terms referring to women, see words beginning with **gyn-**.)

womb *noun* ANAT a hollow organ in a woman's pelvic cavity in which a fertilised ovum develops into a fetus. Also called **uterus**

wood *noun* **1.** FORESTRY a large number of trees growing together **2.** BOT a hard tissue which forms the main stem and branches of a tree **3.** INDUST a construction material that comes from trees

wood alcohol *noun* CHEM an alcohol manufactured from waste wood, which is used as a fuel or solvent. Also called **methanol**

woodfuel *noun* INDUST wood which is used as fuel

woodland *noun* FORESTRY an area in which the main vegetation is trees with some spaces between them

woodland burial *noun* an act of burial designed to have low environmental impact, typically placing a corpse that has not been embalmed in a biodegradable coffin or bag and burying it in a natural woodland setting without a headstone. ◇ **green burial**

woodland management *noun* FORESTRY the controlling of an area of wood-

land so that it is productive, e.g. by regular felling, coppicing and planting

woodlot *noun* FORESTRY a small area of land planted with trees

wood pulp *noun* INDUST softwood that has been pulverised into small fibres and mixed with water, used to make paper

word *noun* **1.** a separate item of language, which is used with others to form speech or writing **2.** COMPUT a separate item of data on a computer, formed of a group of bits, stored in a single location in a memory

word-processing *noun* COMPUT the use of a computer to produce, edit and output text. Also called **text processing**

word-processor *noun* COMPUT a word-processing package or program for a computer which allows the editing and manipulation and output of text, e.g. as letters, labels or address lists

word wrap *noun* COMPUT a system in word processing in which the operator does not have to indicate the line endings, but can keyboard continuously, leaving the program to insert word breaks and to continue the text on the next line. Also called **wraparound**

work *noun* **1.** PHYS energy used when something is forced to move **2.** paid employment, or the duties of a job

work area *noun* COMPUT a memory space which is being used by an operator

work disk *noun* COMPUT a disk on which current work is stored

worker *noun* **1.** a person who works, especially as an employee **2.** INSECTS (*in a colony of insects*) a sterile female that forages for food

work file *noun* COMPUT a temporary work area which is being used for current work. Also called **scratch file**

workflow *noun* COMPUT software designed to improve the flow of electronic documents around an office network, from user to user

workgroup *noun* COMPUT a small group of users who are working on a project or connected with a local area network

work hardening *verb* METALL the increasing of the hardness and strength of a metal by subjecting it to cold work such as compression or tension

workings *plural noun* **1.** the parts of something such as a machine that allow it to operate **2.** INDUST underground tunnels in a mine

workload *noun* **1.** an amount of work which a person or computer has to do ○ *He has difficulty in dealing with his heavy workload.* **2.** the share of work done by a person, system or device

work out *verb* INDUST to use up something such as a mineral resource completely ○ *The coal mine was worked out years ago.*

worksheet *noun* COMPUT a two-dimensional matrix of rows and columns that contains cells which can, themselves, contain equations

workspace *noun* COMPUT a space on memory which is available for use or is being used currently by an operator

workstation *noun* COMPUT a place where a computer user works, with a terminal, VDU, printer, modem and other facilities ○ *The system includes five workstations linked together in a ring network.* ○ *The archive storage has a total capacity of 1200Mb between seven workstations.*

world *noun* **1.** EARTH SCI the Earth ○ *a map of the world* ○ *to sail round the world*

2. a particular society, community or situation ○ *the bird world* ○ *the world of work* **3.** all the people who live on the Earth

worldwide *adjective, adverb* referring to or covering the whole world ○ *the worldwide energy crisis* ○ *We sell our products worldwide.*

World Wide Web *noun* COMPUT the millions of websites and webpages that together form the part of the Internet that is most often seen by users. Abbr **www**. Also called **web**. See Comment at **web**

World Wide Web consortium *noun* COMPUT full form of **W3C**

worm *noun* ZOO **1.** an invertebrate animal with a soft body and no limbs, e.g. a nematode or flatworm **2.** an invertebrate animal with a long thin body and no legs that lives in large numbers in the soil. Also called **earthworm**

COMMENT: Earthworms provide a useful service by aerating the soil as they tunnel. They also eat organic matter and help increase the soil's fertility. It is believed that they also secrete a hormone which encourages rooting by plants.

WORM *abbreviation* COMPUT write once, read many times memory

wormhole *noun* ASTRON a temporary path which might in theory exist to connect black holes in different universes

wraparound *noun* COMPUT same as **word wrap**

writable instruction set computer *noun* COMPUT a design for a central processing unit that allows a programmer to add extra machine code instructions using microcode, to customise the instruction set. Abbr **WISC**

write head *noun* ELECTRONICS a transducer that can write data onto a magnetic medium

write once, read many times memory *noun* COMPUT an optical disk storage system that allows one writing action but

many reading actions in its life. Abbr **WORM**

write protect *verb* COMPUT to make it impossible to write to a floppy disk by moving a special write-protect tab

Wurtz reaction *noun* CHEM a method of synthesising hydrocarbons using iodides and sodium

www *abbreviation* COMPUT World Wide Web

WYSIWYG *noun* COMPUT a program where the output on the screen is exactly the same as the output on printout, including graphics and special fonts. Full form

what you see is what you get

XYZ

X.25 *noun* COMPUT a CCITT standard that defines the connection between a terminal and a packet-switching network

X.400 *noun* COMPUT a CCITT standard that defines an electronic mail transfer method

X.500 *noun* COMPUT a CCITT standard that defines a method of global naming which allows every individual user to have a unique identity and allows any user to address an electronic mail message to any other user

X-axis *noun* MATHS the horizontal axis of a graph. \diamond **Y-axis**

X chromosome *noun* GENETICS a chromosome that determines sex. \diamond **Y chromosome**

COMMENT: Mammals have a pair of chromosomes determining sex, one of which is always an X chromosome. A female usually has one pair of XX chromosomes, while a male usually has one XY pair. Haemophilia is a disorder linked to the part of the X chromosome that is unpaired with the shorter Y chromosome and so appears only in males.

X-coordinate *noun* MATHS a horizontal axis position coordinate. \diamond **Y-coordinate**

X-direction *noun* MATHS a movement horizontally. \diamond **Y-direction**

X-distance *noun* MATHS the distance along an X-axis from the origin. \diamond **Y-distance**

Xe *symbol* CHEM ELEM xenon

xeno- *prefix* different

xenobiotics *plural noun* BIOCHEM chemical compounds that are foreign to an organism

xenon *noun* CHEM ELEM an inert gas, traces of which are found in the atmosphere (NOTE: The chemical symbol is **Xe**; the atomic number is **54** and the atomic weight is **131.30**.)

xeric *adjective* ECOL referring to a dry environment

xero- *prefix* dry

xeromorphic *adjective* BOT referring to a plant which can prevent water loss from its stems during hot weather

xerophilous *adjective* BOT referring to a plant which lives in very dry conditions

xerophyte *noun* BOT a plant which is adapted to living in very dry conditions

xerosere *noun* ECOL a succession of communities growing in very dry conditions

xerothermic *adjective* BIOL referring to an organism which is adapted to living in very dry conditions

XML *noun* COMPUT a webpage markup language that is a simplified version of the SGML system and allows designers to create their own customised markup tags to improve flexibility. Full form **extensible markup language**

XNS *noun* COMPUT a network protocol developed by Xerox that has provided the basis for the Novell IPX network protocols

XON/XOFF *noun* COMPUT an asynchronous transmission protocol in which each end can regulate the data flow by transmitting special codes

X-ray *noun* **1.** PHYS a ray with a very short wavelength, which is invisible, but can go through soft tissue and register as a photograph on a film **2.** MED an examination using X-rays **3.** MED, PHYS a photograph taken using X-rays \circ *The dentist took some X-rays of the patient's teeth.* \circ *He pinned the X-rays to the light screen.* \circ *All the staff had to have chest X-rays.* \blacksquare *verb* MED to take an X-ray photograph of a patient \circ *There are six patients waiting to be X-rayed.*

COMMENT: Because X-rays go through soft tissue, it is sometimes necessary to make internal organs opaque so that they will show up on the film. In the case of stomach X-rays, patients take a barium meal before being photographed; in other cases, for example kidney X-rays, radioactive substances are injected into the blood-

stream or into the organ itself. X-rays are used not only in radiography for diagnosis but as a treatment in radiotherapy because rapidly dividing cells such as cancer cells are most affected. Excessive exposure to X-rays, either as a patient being treated, or as a radiographer, can cause radiation sickness.

X-ray crystallography *noun* CRYSTALS the study of crystal structures by means of the diffraction patterns produced when X-rays are scattered by the crystal

X-ray diffraction *noun* CRYSTALS the diffraction of X-rays arising due to the position and size of the atoms within a crystal, used to obtain structured information about a crystal

X-ray tube *noun* PHYS an evacuated tube in which a stream of high-energy electrons hits a metal target to produce X-rays

X-series *noun* COMPUT a set of recommendations for data communications over public data networks

X-Y *noun* MATHS coordinates for drawing a graph, where X is the horizontal and Y the vertical value

xylem *noun* BOT the tissue in a plant which transports water and dissolved minerals from the roots to the rest of the plant. Compare **phloem**

xylene *noun* CHEM a flammable volatile colourless liquid hydrocarbon, used as a solvent and in aviation fuel. Formula: C_8H_{10}

xylophagous *adjective* ZOOLOG wood-eating

xylophilous *adjective* BOT preferring to grow on wood

y *symbol* MEASURE yocto-

Y *symbol* 1. MEASURE yotta- 2. CHEM ELEM yttrium

YAC *abbreviation* GENETICS yeast artificial chromosome

yard *noun* MEASURE a unit of length in the US and British Imperial Systems equal to 3 ft or 0.9144 m. Abbr **yd**

yaw AEROSP *noun* a rotation of an aircraft around its vertical axis ○ *Three-axis control of roll, pitch and yaw is effected by ailerons, elevators and rudder.* ■ *verb (of an aircraft)* to rotate around the vertical axis ○ *Single engine, propeller driven aircraft tend to yaw on take-off.*

Y-axis *noun* MATHS the vertical axis of a graph. ◇ **X-axis**

Y chromosome *noun* GENETICS a chromosome that determines sex, carried by

males and shorter than an X chromosome. ◇ **X chromosome** (NOTE: A male usually has an XY pair of chromosomes.)

Y-coordinate *noun* MATHS a vertical axis position coordinate. ◇ **X-coordinate**

yd *abbreviation* MEASURE yard

Y-direction *noun* MATHS a vertical movement. ◇ **X-direction**

Y-distance *noun* MATHS the distance along the Y-axis from the origin. ◇ **X-distance**

year *noun* TIME a period of just over 365 days, or 366 days in every fourth year, in which the Earth makes an orbit of the Sun

yeast *noun* FUNGI, FOOD INDUSTRY a single-celled fungus that is used in the fermentation of alcohol and in making bread

yeast artificial chromosome *noun* BIOTECH a sequence of DNA taken from an organism and inserted in a yeast to reveal its function. Abbr **YAC**

yellowing *noun* BOT 1. a condition where the leaves of plants turn yellow, caused by lack of light 2. a sign of disease or of nutrient deficiency

yellow spot *noun* ANAT same as **macula**

yield AGRIC *noun* the quantity of a crop or a product produced from a plant or from an area of land ○ *The usual yield is 8 tonnes per hectare.* ○ *The green revolution increased rice yields in parts of Asia.* ■ *verb* to produce a quantity of a crop or a product ○ *The rice can yield up to 2 tonnes per hectare.* ○ *The oil deposits may yield 100000 barrels a month.*

yocto- *prefix* MEASURE 10^{-24} . Symbol **y**

yolk *noun* ZOOLOG the yellow central part of an egg

yolk sac *noun* ZOOLOG a membrane which encloses the yolk in embryo fish, reptiles and birds

yotta- *prefix* MEASURE 10^{24} . Symbol **Y**

Young modulus of elasticity *noun* PHYS same as **elastic modulus**

ytterbium *noun* CHEM ELEM a soft silvery metallic element, used in strengthening steel, in laser devices and in portable X-ray units (NOTE: The chemical symbol is **Yb**; the atomic number is 70 and the atomic weight is 173.04.)

yttrium *noun* CHEM ELEM a silvery-grey metallic element used in superconducting alloys and permanent magnets (NOTE: The

chemical symbol is **Y**; the atomic number is **39** and the atomic weight is **88.91**.)

Z *symbol* MEASURE zepto-

Z *symbol* MEASURE zetta- ■ *abbreviation* TIME Zulu time

zap *verb* COMPUT to wipe off all data currently in the workspace ○ *He pressed CONTROL Z and zapped all the text.*

z-axis *noun* MATHS an axis for depth in a three-dimensional graph or plot

z buffer *noun* COMPUT an area of memory used to store the z-axis information for a graphics object displayed on screen

Zeeman effect *noun* OPTICS the splitting of single spectrum lines into two or more polarised ones when the spectrum's source is put in a magnetic field

zener diode *noun* ELECTRONICS a semiconductor-based device used as a voltage regulator because the voltage across it is independent of the current through it

zenith *noun* ASTRON the point of the celestial sphere that is 90 degrees from all points on the horizon and directly over the observer

zeolite *noun* MINERALS one of a large group of minerals based on aluminium silicates, used in water purification and ion exchange

zepto- *prefix* MEASURE 10^{-21} . Symbol **z**

zero *noun* 1. MATHS the digit 0 ○ *The code for international calls is zero one zero (010).* 2. COMPUT the equivalent of logical off or false state

zero compression *noun* COMPUT the shortening of a file by the removal of unnecessary zeros. Also called **zero suppression**

zero emission vehicle *noun* an electric-powered vehicle with no direct emissions from its tailpipe or fuel evaporation. Abbr **ZEV**

zero flag *noun* COMPUT an indicator that the contents of a register or result is zero ○ *The jump on zero instruction tests the zero flag.*

zero gravity experiments *plural noun* AEROSP experiments in biology, materials science, physics, medicine and other sciences carried out in orbit at a velocity high enough to cancel the influence of the Earth's gravitation (NOTE: More generally called microgravity experiments because in practice the gravitation obtainable in orbit not quite zero, typically amounting to 10^{-3} – 10^{-6} of that at the Earth's surface.)

zero insertion force socket *noun* ELECTRONICS a chip socket that has movable connection terminals, allowing the chip to be inserted without using any force, then a small lever is turned to grip the legs of the chip. Abbr **ZIF socket**

zero-level address *noun* COMPUT an instruction in which the address is the operand. Also called **immediate address**

zero population growth *noun* ZOOLOG a state when the numbers of births and deaths in a population are equal and so the size of the population remains the same

zero slot LAN *noun* COMPUT a local area network that does not use internal expansion adapters, but instead uses the serial port or sometimes an external pocket network adapter connected to the printer port

zero suppression *noun* COMPUT same as **zero compression**

zero wait state *noun* COMPUT the state of a device, usually a processor or memory chip, that is fast enough to run at the same speed as the other components in a computer, so does not have to be artificially slowed down by inserting wait states

zetta- *prefix* MEASURE 10^{21} . Symbol **Z**

ZEV *abbreviation* zero emission vehicle

Ziegler process *noun* INDUST a method of producing polyethylene or polypropylene using a catalyst

ZIF socket *abbreviation* COMPUT zero insertion force socket

zinc *noun* CHEM ELEM a white metallic trace element, essential to biological life. It is used in alloys and as a protective coating for steel. (NOTE: The chemical symbol is **Zn**; the atomic number is **30** and the atomic weight is **65.38**.)

zinc chloride *noun* CHEM a toxic soluble salt, used as a wood preservative, antiseptic and catalyst. Formula: $ZnCl_2$.

zinc oxide *noun* CHEM a compound of zinc and oxygen, which forms a soft white soothing powder that is used in creams and lotions. Formula: ZnO .

zinc sulfate, zinc sulphate *noun* CHEM a colourless crystalline powder used as emetic, wood preservative, crop spray and mordant for dyeing. Formula: $ZnSO_4$.

zinc sulfide, zinc sulphide *noun* CHEM a white or yellowish crystalline powder used as a pigment or phosphor on cathode ray tubes. Formula: ZnS .

zirconium *noun* CHEM ELEM a greyish-white metal with good corrosion resistance, used in alloys, abrasives, flame proofing compounds and fuel rod cooling in nuclear reactors (NOTE: The chemical symbol is **Zr**; the atomic number is **40** and the atomic weight is **91.22**.)

Zn *symbol* CHEM ELEM zinc

zonal *adjective* EARTH SCI referring to a zone

zonal airstream *noun* METEOROL a stream of air blowing from west to east in the upper atmosphere of the northern hemisphere

zone *noun* EARTH SCI an area of land, sea or of the atmosphere

zone of saturation *noun* EARTH SCI a layer beneath the surface of the land in which all openings are filled with water

zoo- *prefix* ZOO animal

zoocology *noun* ECOL the scientific study of the relationship between animals and their environment

zoogeographical *adjective* ECOL referring to animals and geography

zoogeographical region *noun* ZOO a large area of the world where the fauna is different from that in other areas. \diamond **biogeographical region**

zoological *adjective* ZOO referring to zoology

zoologist *noun* ZOO a scientist who specialises in zoology

zoology *noun* ZOO the scientific study of animals

zoonosis *noun* a disease that a human can catch from an animal, e.g. tuberculosis and disorders caused by Salmonella bacteria

zoonotic *adjective* referring to a disease that a human can catch from an animal

zoophyte *noun* ZOO an animal that looks like a plant, e.g. a sea anemone

zooplankton *plural noun* ZOO microscopic animals that live and drift in water

zotechnology *noun* the use of modern technological advances in animal breeding to increase quality and production

zooxanthellae *plural noun* MARINE BIOL microscopic algae that live inside cells of sea animals, especially corals, each organism benefiting from the relationship

Zr *symbol* CHEM ELEM zirconium

Zulu time *noun* same as **Greenwich Mean Time**. Abbr **Z**

zygote *noun* BIOL a fertilised ovum, the first stage of development of an embryo

zymogen *noun* BIOCHEM same as **proenzyme**

SUPPLEMENT

THE PLANETS OF THE SOLAR SYSTEM

	Mean distance from Sun (AU*)	Time taken to orbit Sun	Time taken to rotate on axis	Mass relative to Earth	Radius relative to Earth	Number of known satellites
MERCURY	0.39	88 days	58.6 days	0.06	0.38	0
VENUS	0.72	226 days	243 days	0.82	0.95	0
EARTH	1	1 year	24 hrs	1	1	1
MARS	1.52	1.88 yrs	24.6 hrs	0.11	0.53	2
JUPITER	5.2	11.86 yrs	9.9 hrs	317.8	11.2	16
SATURN	9.54	29.46 yrs	10.7 hrs	95.1	9.42	18
URANUS	19.18	84 yrs	17.2 hrs	14.5	4.01	18
NEPTUNE	30.06	164.79 yrs	16 hrs	17.2	3.88	8
PLUTO**	39.33	247.7 yrs	6.4 days	0.004	0.18	1

* 1 AU is equivalent to approximately 150 million km (93 million miles)

** Pluto was reclassified as a dwarf planet in 2006

MATHEMATICAL SYMBOLS

$+$	plus; positive	$-$	minus; negative
\pm	plus or minus; positive or negative; approximate	$=$	equals
\times	multiplied by	\div	divided by
$<$	is less than	$>$	is greater than
\neq	is not equal to	\equiv	is identical with
\sim	is equivalent to; is similar to	\approx	is approximately equal to
$:$	shows a ratio	\therefore	shows the equality of a ratio
$\#$	number	$\%$	per cent
$/$	indicates a fraction or division	$\sqrt{\quad}$	square root of
\propto	is directly proportional to	∞	infinity
\cup	union	\cap	intersection
\subset	is a subset of	\supset	contains a subset
\in	is a member of	\notin	is not a member of
\sphericalangle	angle	\cong	is congruent to
\therefore	therefore	π	pi
$(), []$	brackets, square brackets	$\{ \}$	braces

MEASUREMENTS

SI METRIC SYSTEM

The SI (Système International d'Unités) system is founded on seven base units that can be multiplied or divided by each other to yield derived units. Values of the base and derived units can be increased or decreased by using SI prefixes indicating decimal multiplication factors. Units and prefixes are assigned internationally accepted symbols.

BASE UNITS

Name	Physical Quantity	Symbol
metre	length	m
kilogram	mass	kg
second	time	s
ampere	electric current	A
kelvin	thermodynamic temperature	K
mole	amount of substance	mol
candela	luminous intensity	cd

DERIVED UNITS WITH SPECIAL NAMES AND SYMBOLS

Name	Physical Quantity	Symbol
becquerel	radioactivity	Bq
coulomb	electric charge	C
degree Celsius	temperature	°C
farad	electric capacitance	F
gray	absorbed dose of radiation	Gy
henry	inductance	H
hertz	frequency	Hz
joule	energy	J
lumen	luminous flux	lm
lux	illumination	lx
newton	force	N
ohm	electrical resistance	Ω
pascal	pressure, stress	Pa
radian	plane angle	rad
siemens	electrical conductance	S
sievert	radiation dose equivalent	Sv
steradian	solid angle	sr
tesla	magnetic flux density	T
volt	electric potential difference	V
watt	power	W
weber	magnetic flux	Wb

MEASUREMENTS

SOME DERIVED UNITS WITHOUT SPECIAL NAMES AND SYMBOLS

Name	Physical Quantity	Symbol
ampere per metre	magnetic field strength	A/m
cubic metre	volume	m ³
henry per metre	permeability	H/m
joule per kelvin	heat capacity, entropy	J/K
kilogram per cubic metre	mass density	kg/m ³
metre per second	linear speed	m/s
metre per second squared	linear acceleration	m/s ²
mole per cubic metre	concentration of substance	mol/m ³
newton metre	moment of force, torque	N•m
radian per second	angular speed	rad/s
square metre	area	m ²
volt per metre	electric field strength	V/m
watt per metre kelvin	thermal conductivity	W/(m•K)
watt per steradian	radian intensity	W/sr

PREFIXES

Multiplication Factor	Name	Symbol
10 ²⁴	yotta-	Y
10 ²¹	zetta-	Z
10 ¹⁸	exa-	E
10 ¹⁵	peta-	P
10 ¹²	tera-	T
10 ⁹	giga-	G
10 ⁶	mega-	M
10 ³	kilo-	K
10 ²	hecto-	H
10 ¹	deca- or deka-	da
10 ⁻¹	deci-	d
10 ⁻²	centi-	c
10 ⁻³	milli-	m
10 ⁻⁶	micro-	μ
10 ⁻⁹	nano-	n
10 ⁻¹²	pico-	p
10 ⁻¹⁵	femto-	f
10 ⁻¹⁸	atto-	a
10 ⁻²¹	zepto-	z
10 ⁻²⁴	yocto-	y

MEASUREMENTS

CONVERSION OF COMMON SI UNITS

Conversions for some common SI units or those used with the SI to imperial or US customary units are given below

SI unit	Conversion
<i>length</i>	
micrometre	= 0 00003937 inches
millimetre	= 0 03937 inches
centimetre	= 0 3937 inches
metre	= 39 37 inches
metre	= 1 094 yards
kilometre	≈ 0 621 miles
<i>area</i>	
square millimetre	≈ 0 00155 square inches
square centimetre	≈ 0 155 square inches
square metre	≈ 1 196 square yards
square metre	≈ 10 76 square feet
hectare	≈ 2 471 acres
square kilometre	≈ 0 386 square miles
<i>volume or capacity</i>	
cubic millimetre	≈ 0 000061 cubic inches
cubic centimetre	≈ 0 0610 cubic inches
cubic centimetre	≈ 0 0352 imperial fluid ounces
cubic centimetre	≈ 0 0338 US fluid ounces
millilitre	≈ 0 0610 cubic inches
millilitre	≈ 0 0352 imperial fluid ounces
millilitre	≈ 0 0338 US fluid ounces
cubic decilitre	≈ 61 0 cubic inches
cubic decilitre	≈ 0 880 imperial quarts
cubic decilitre	≈ 1 057 US liquid quarts
cubic decilitre	≈ 0 908 US dry quarts
litre	≈ 61 0 cubic inches
litre	≈ 0 880 imperial quarts
litre	≈ 1 057 US liquid quarts
litre	≈ 0 908 US dry quarts
<i>mass</i>	
gram	≈ 0 0353 ounces avoirdupois
gram	≈ 0 0322 ounces troy
kilogram	≈ 2 205 pounds avoirdupois
tonne	≈ 2205 pounds avoirdupois
<i>temperature</i>	
degree Celsius	$(^{\circ}\text{C} \times 1.8) + 32 = \text{degrees Fahrenheit}$

THE PERIODIC TABLE

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
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1	1	H 1.01	2		3	Li 6.94	4	Be 9.01	5	B 10.81	6	C 12.01	7	N 14.01	8	O 16.00	9	F 19.00	10	Ne 20.18																
2	11	Na 22.99	12	Mg 24.31	13	Al 26.98	14	Si 28.09	15	P 30.97	16	S 32.06	17	Cl 35.45	18	Ar 39.95																				
3	19	K 39.10	20	Ca 40.08	21	Sc 44.96	22	Ti 47.90	23	V 50.94	24	Cr 52.00	25	Mn 54.94	26	Fe 55.85	27	Co 58.93	28	Ni 58.71	29	Cu 63.55	30	Zn 65.38	31	Ga 69.72	32	Ge 72.59	33	As 74.92	34	Se 78.96	35	Br 79.90	36	Kr 83.80
4	37	Rb 85.47	38	Sr 87.62	39	Y 88.91	40	Zr 91.22	41	Nb 92.91	42	Mo 95.94	43	Tc 98.91	44	Ru 101.07	45	Rh 102.91	46	Pd 106.40	47	Ag 107.87	48	Cd 112.40	49	In 114.82	50	Sn 118.69	51	Sb 121.75	52	Te 127.60	53	I 126.90	54	Xe 131.30
5	55	Cs 132.91	56	Ba 137.34	57	La 138.91	72	Hf 178.49	73	Ta 180.95	74	W 183.85	75	Re 186.2	76	Os 190.2	77	Ir 192.22	78	Pt 195.09	79	Au 196.97	80	Hg 200.59	81	Tl 204.37	82	Pb 207.20	83	Bi 208.98	84	Po 209	85	At (210)	86	Rn (222)
6	87	Fr (223)	88	Ra (226)	89	Ac (226)	104	Rf (261)	105	Db (262)	106	Sg (266)	107	Bh (264)	108	Hs (269)	109	Mt (268)	110	Ds (269)	111	Uuu (272)	112	Uub (277)	113	Uut -	114	Uuq (285)	115	Uup -	116	Uuh -	117	Uus -	118	Uuo -

Each chemical element is represented by its symbol. Atomic numbers are shown above each symbol and atomic weights below. Atomic weights shown in brackets are for longest-lived isotopes. Elements 113, 115 and 117 are unknown; the report of 118 has been retracted, throwing doubt on 116.

57	La 138.91	58	Ce 140.12	59	Pr 140.91	60	Nd 144.24	61	Pm (145)	62	Sm 150.40	63	Eu 151.96	64	Gd 157.93	65	Tb 158.93	66	Dy 162.50	67	Ho 164.26	68	Er 167.26	69	Tm 168.93	70	Yb 173.04	71	Lu 174.97
89	Ac (226)	90	Th 232.04	91	Pa 231.04	92	U 238.04	93	Np 237.05	94	Pu (244)	95	Am (243)	96	Cm (247)	97	Bk (247)	98	Cf (251)	99	Es (254)	100	Fm (257)	101	Md (258)	102	No (255)	103	Lr (256)

Lanthanides

Actinides

