

THE GUITARIST'S MUSIC THEORY BOOK BY PETER VOGL



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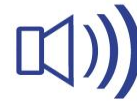
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INTRODUCTION

The *Guitarist's Music Theory Book* is designed to help all guitar players achieve a better understanding of the guitar and of the music they play. This clear, step by step method includes many examples, large and easy to read notation and tablature, and a sequence of instruction that has been meticulously developed and tested over a twenty year period. Understanding music theory will help you establish a firm foundation that will enable you to enjoy guitar playing for many years.

THE AUTHOR

Peter Vogl, the author of this book, has been a professional performer and teacher in the Atlanta area for over twenty years. He was raised in Michigan and went to college at the University of Georgia, where he majored in classical guitar performance. He also did post graduate work at James Madison University. Peter has set up and directed six different schools of music in the Atlanta area and currently works at Jan Smith Studios as a session player and guitar instructor. He has written several instructional courses including *Introduction to Blues Guitar Book & DVD*, *Introduction to Rock Guitar Book & DVD*, *The Acoustic Rock Guitar Book & DVD*, *The Guitarist's Tablature Book*, *The Guitarist's Chord Book*, *The Guitarist's Scale Book*, *The Guitarist's Lick Book & DVD*, and the *Let's Jam! CD Series* (seven different jam along CDs).

WATCH & LEARN PRODUCTS REALLY WORK

Twenty five years ago, Watch & Learn revolutionized music instructional courses by developing step by step instructional methods that were tested thoroughly on students before publication. These products, which have dramatically improved the understanding and success of all guitar players, have evolved into Watch & Learn products that continue to set the standard of music instruction today with sales of almost 2 million products since 1979. The *Guitarist's Music Theory Book* will significantly increase your success and enjoyment while playing the guitar.

CD COUNTERS



The CD counters are included in this book to show where each lesson is located on the companion CD. Use your remote control on the CD player to skip to the track you want.

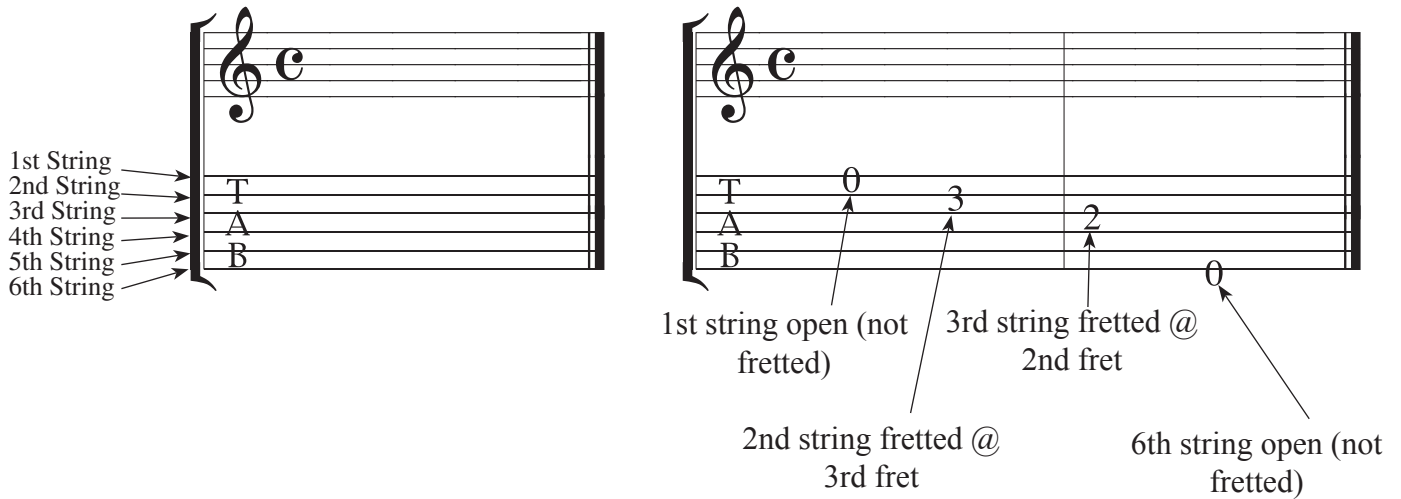
SECTION 1

GETTING STARTED

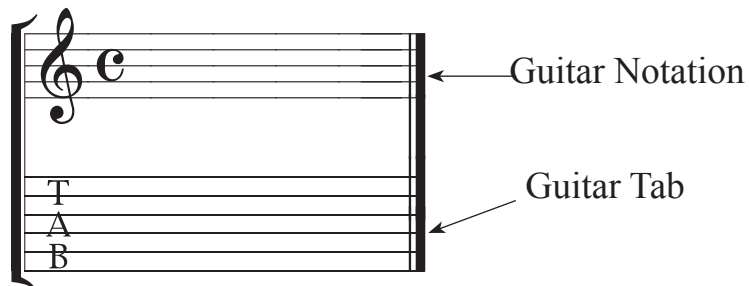
TABLATURE

This book is written in both tablature and standard music notation. If you wish to learn to read music, consult your local music store for a good book or ask your music teacher for an explanation. We will explain tablature because it is easy to learn if you are teaching yourself and because a lot of popular guitar music is available in tablature.

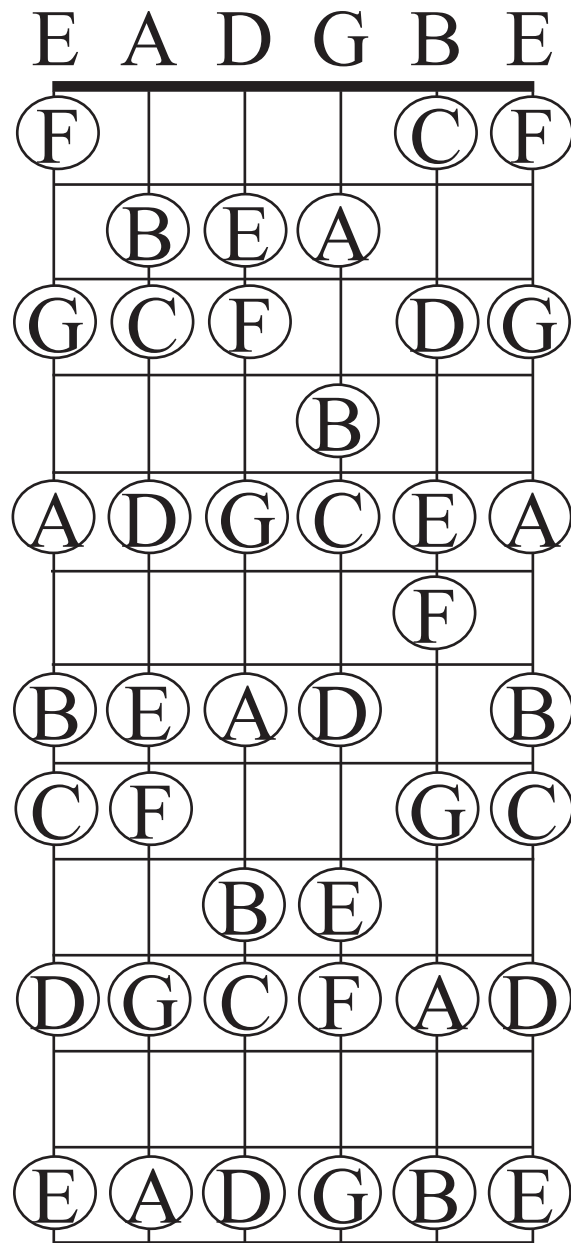
Tablature is a system for writing music that shows the proper string and fret to play and which fingers to use. In guitar tablature, each line represents a string on the guitar. If the string is to be fretted, the fret number is written on the appropriate line. Otherwise, a 0 is written. Study the examples below until you understand them thoroughly.



The music will be divided into two sets of lines (staves) with guitar notation on the top line and tablature on the bottom line.



THE GUITAR NECK

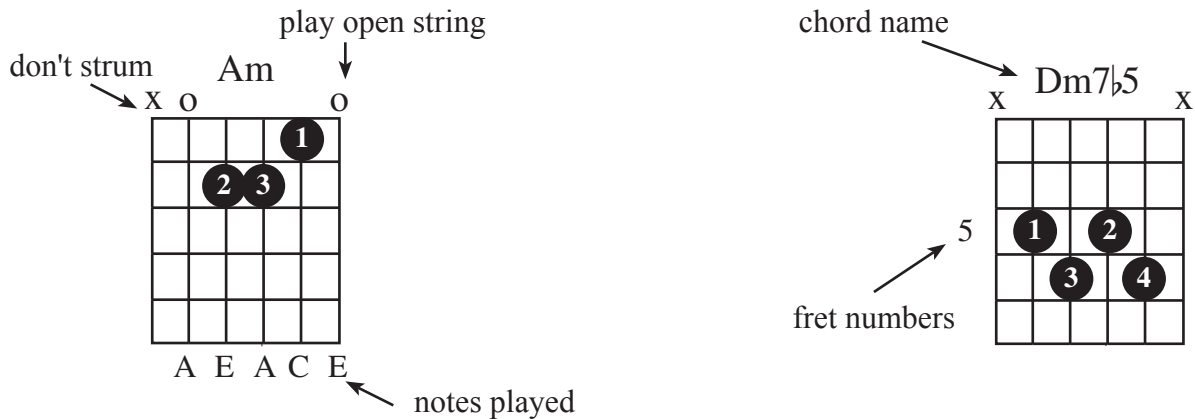


Memorize the notes on the guitar neck. This will help you tremendously throughout this book and throughout all your future guitar playing. If necessary, refer to this diagram when going through this book.

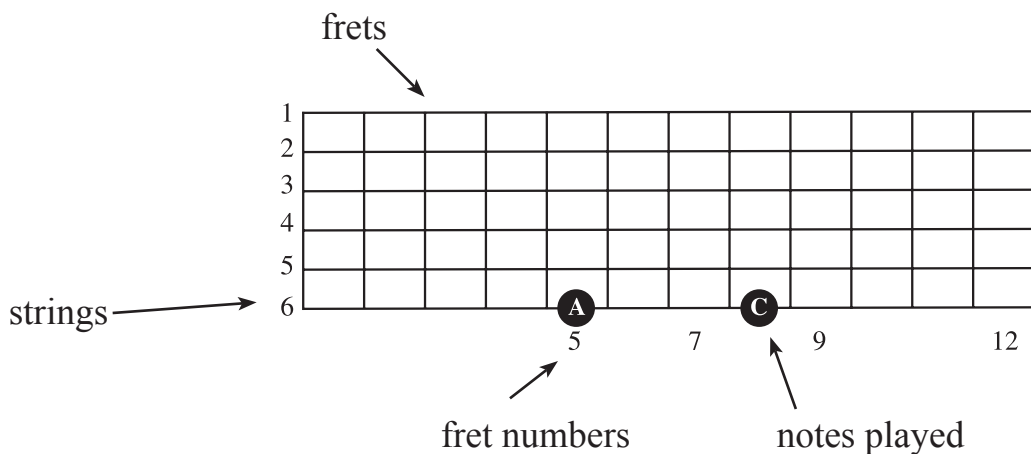
CHORD CHART

Chord and neck diagrams are used throughout this book. Look at the diagrams below and make sure you understand all of their elements.

The small x on top of the chord diagram means don't strum this string because it would be a note that is not in the chord. The o means play the open string. The letters underneath the chord are telling you what notes are in the chord. The name of the chord is at the top of the diagram. The circles tell you what fret to place the fingers in and the numbers in the circle tell you what finger to use.



This neck diagram is sideways. The numbers to the left of the diagram tell you what string it is. The 6th string is the lowest and thickest string on the guitar. The circles represent fret placement on that string and tell you what note is being played. The numbers on the bottom of the diagram are fret numbers to help you spot the fret location easily.



SECTION 2

INTERVALS

What is the musical alphabet?	page 6
What is an interval?	page 7
What is parallel motion of intervals?	page 10
What is the importance of learning intervals?	page 16
What is the best way to memorize the sound of intervals?	page 16

THE MUSIC ALPHABET AND PITCH

Before learning about intervals, we must understand the music alphabet. We only use seven letters of our English alphabet to make up the music alphabet.

A B C D E F G

Once we have used all the letters, we simply start over again. Arriving at G, we may proceed by starting with A again.



(A B C D E F G)(A B C D E F G)

We can then go as high or as low as the instrument will take us. When we arrive at a letter a second time, it is twice as high or low as the previous one. For example, the note A that we typically tune to in the U.S. has a frequency of 440 Hz and is often referred to as A 440. This means this note A vibrates 440 times per second. The next A we come to is one octave higher and would vibrate twice as fast. Picture a string being plucked and vibrating up and down at this rate.

The pitches that divide up the octave are determined by a mathematical formula beyond the scope of this book. It is a formula that is often referred to as "well tempered tuning".

The sounds we hear when singing or playing most instruments are called *definite pitches*. In other words, these sounds aren't random like the wind or noise. Definite pitches have a specific frequency that can be measured and repeated.

When we tune our instruments, we are setting these notes to these specific frequencies. It should be noted, however, that the guitar is never really perfectly in tune. It is a compromise of sorts. The closer we can come to this tempered tuning the better we will sound. A guitar needs to have its intonation set and checked on a regular basis by a guitar technician or luthier. This is because the distances between the saddle, frets, and nut need to be precise. A guitar's intonation may go bad after a while due to changes in temperature, humidity, or being dropped. This change in conditions causes the wood to expand or contract and thus the distances change as well.

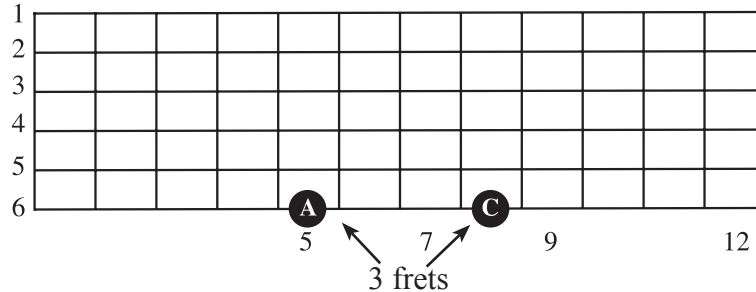


TIP

Heavier gauge strings offer more tone due to their thickness.

INTERVALS

Interval is a term that means the distance between two notes. This distance is usually measured from the lowest note to the highest note. So for example, if you were at the 5th fret 6th string with your first note and then at the 8th fret 6th string with your second note, you would be three frets apart. That's pretty easy to see.

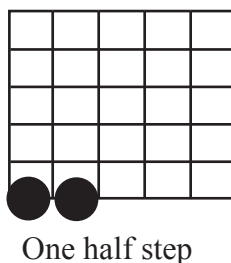


You could tell any other guitar player to play the note A, three frets higher on the 6th string and they would understand. Unfortunately, if you told the same thing to a flute player or a singer, they wouldn't know what to do. Frets don't mean anything to those musicians because they don't have them. Instead of using the word frets, we employ another term that is meaningful to all instruments. If you had said go up a minor 3rd and the other player knew what intervals were, they would arrive at the same note no matter what instrument they played. In this section, we will learn about all of the intervals, starting with the most important of them all, the half step.



THE HALF STEP OR MINOR 2ND

The half step interval is the smallest measurable unit we generally play and is equal to 1 fret on the guitar. We can go less than a half step by bending a string to make it a quarter step higher, but in western culture the half step is generally considered the smallest measurable interval. A half step, once again, is equal to one fret. If you were at the 1st fret 6th string and went up to the 2nd fret 6th string, you would have gone up a half step. This interval, as many do, has another name. It is the minor 2nd. You will hear this term in academia but not very likely by a street trained musician. They both mean the same thing, so learn them both.

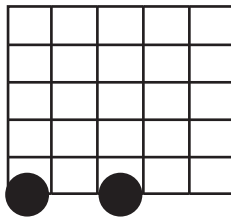


Guitars should be set up by a luthier if you change gauges of strings.

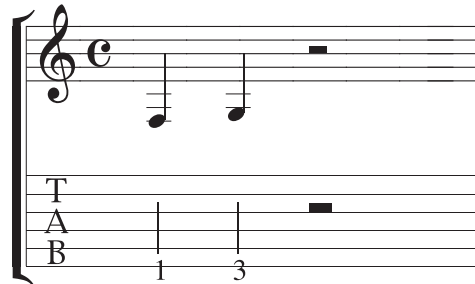


THE WHOLE STEP OR MAJOR 2ND

The whole step is equal to two half steps. Starting at the 1st fret 6th string and going up to the 3rd fret 6th string would be one whole step. The whole step is also known as the major 2nd. Most players will use the term whole step. It would be just as correct to say two half steps, but as you will see, every interval will have it's own name.

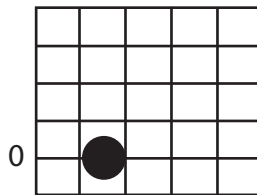


One whole step

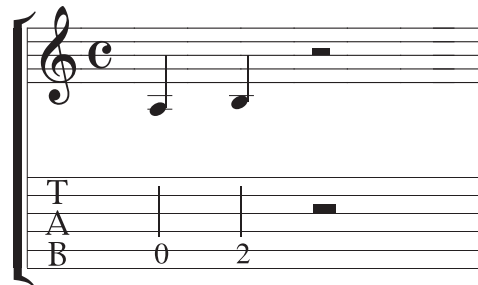


One whole step

Another example of a whole step might be the open 5th string to the 2nd fret 5th string. From the open 5th to the 1st fret is a half step, and one fret higher is a whole step. I use this example because when people first start with music theory, the open strings can confuse them.



One whole step



One whole step

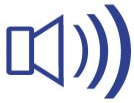
At this point, you should try to memorize what a half step and whole step sound like. This will be a tremendous advantage later. This practice falls under the auspices of ear training. You can find many products and web sites that will help you with ear training. A musician needs to be able to differentiate between a half and whole step simply by hearing them. Try the audio example and see if you can tell which is which. A list of correct answers is in the back of the book.



Interval Quiz

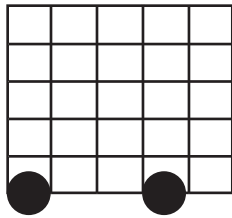


TIP *Electronic tuners are the best way to tune a guitar.*

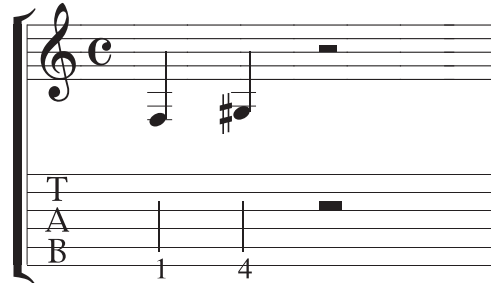


THE MINOR 3RD INTERVAL

The minor 3rd is equal to three half steps or three frets. For example, if you were to play the 1st fret 6th string and the 4th fret 6th string, the two notes would be a minor 3rd apart. This interval will be very important when learning about chords.



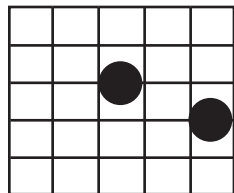
Minor 3rd



Minor 3rd

If you played the 4th fret 6th string and then played the 1st fret 6th string, they would still be a minor 3rd apart since an interval is measured from the lower of the two notes. If you played them at the same time, they would still be a minor 3rd.

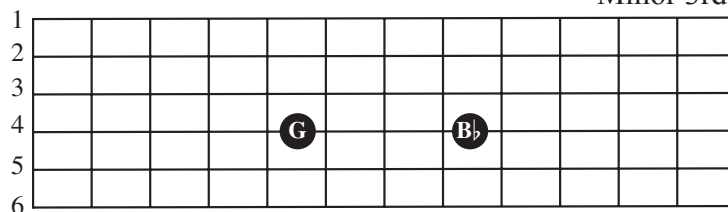
Another way to play minor 3rds is across two strings. You could play the 5th fret 4th string and the 3rd fret 3rd string. These two notes are a minor 3rd apart. To help you see this more clearly, play the 5th fret 4th string and the 8th fret 4th string. These are the same notes, but now played on the same string. It is important to recognize intervals across two or three strings.



Minor 3rd

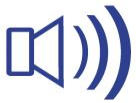


Minor 3rd



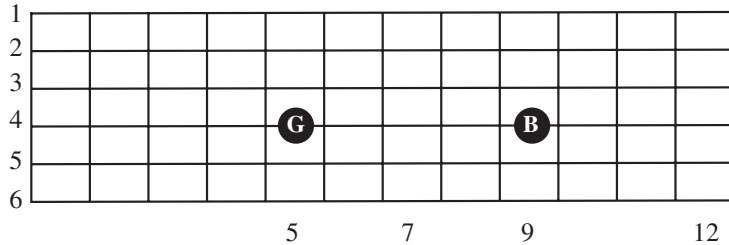
Minor 3rd on same string

At this point, if you don't know the names of the notes on the guitar, you need to learn them (page 3). Start with the open strings. Then learn the notes up through the first five frets on all the strings. From there, you can more easily learn the rest. You need to know the notes well enough to recall them at a moment's notice. This way, when we discuss specific notes, you won't be hung up on where to find the note, but are able to concentrate on the concept we are learning.

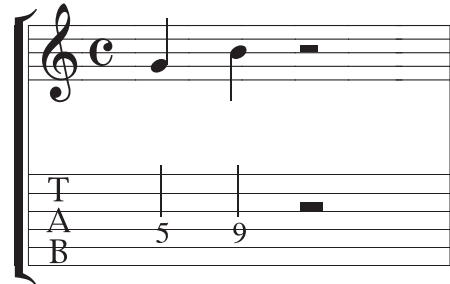


THE MAJOR 3RD INTERVAL

The major 3rd interval is equal to four half steps. If we were to play the 5th fret 4th string and then play the 9th fret 4th string, these two notes would be a major 3rd apart. We could play them one after the other from lowest to highest or highest to lowest. We could also play them at the same time. It is still a major 3rd interval because the interval is measured from the lower of the two notes.

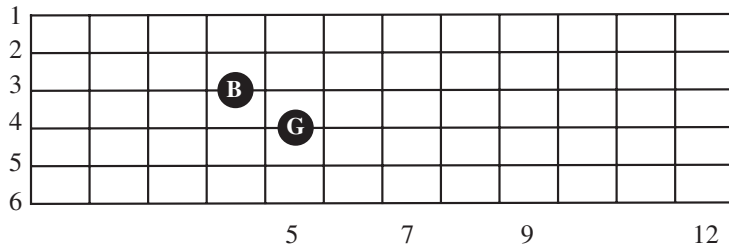


Major 3rd



Major 3rd

Additionally, if we were to play the 5th fret 4th string and the 4th fret 3rd string, we would also have a major 3rd interval. These are the same two notes as before. If we slid them both up two frets to the 7th fret 4th string and the 6th fret 3rd string, they would again be a major 3rd interval. The motion I have just described is called *parallel 3rds*. Listen to the audio example for this demonstration.



Major 3rd



Major 3rd

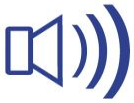
By the way, I am choosing notes at random to demonstrate intervals. Any notes four half steps apart is a major 3rd. Try picking random points on the guitar and playing a major 3rd interval. Try this exercise with all intervals we are learning. Once again, try to memorize the sound of this interval. Use the audio example and try to distinguish minor 3rds from major 3rds.



Interval Quiz

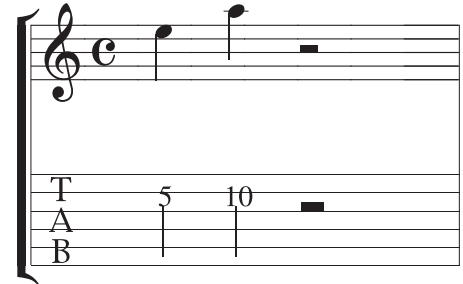
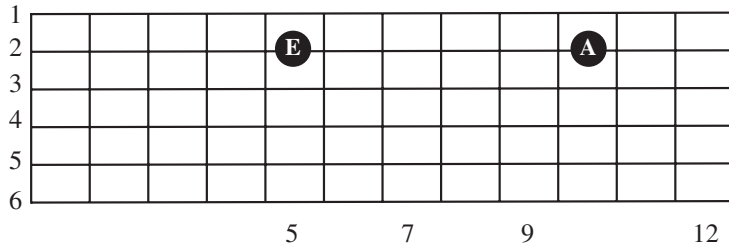
TIP

Relaxation is a must for better technique.



THE PERFECT 4TH

The perfect 4th is equal to five half steps. You may be asking yourself why it is called perfect. It has to do with math and the number of frequencies. Let's not worry too much about it. If you were to play the 5th fret 2nd string and the 10th fret 2nd string, it would be a perfect 4th interval.



Another example of a perfect 4th would be the open 5th string and the open 4th string. As a matter of fact, all the open strings are a perfect 4th apart except for the 3rd and the 2nd string, which are a major 3rd apart.

As a side note, many people have asked me why the tuning of the open strings are set up this way. The real answer is there are many tunings used on the guitar and the "standard" tuning we use now hasn't always been it. I'm sure there is an answer out there somewhere as to why it is the standard tuning, but then it's not really that important. Ask a slide player for example.

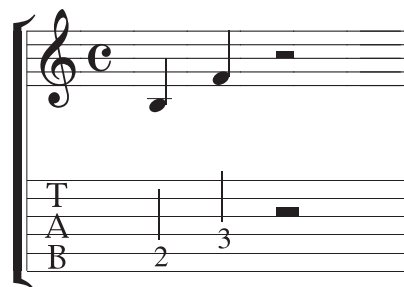
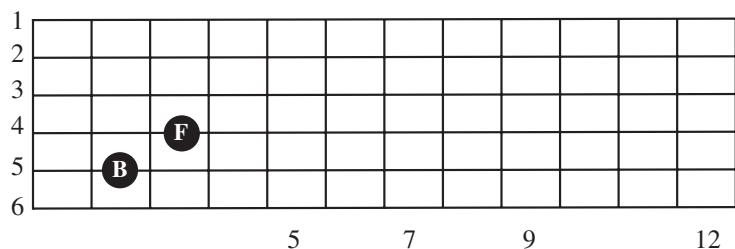
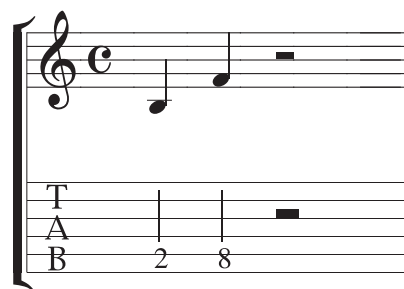
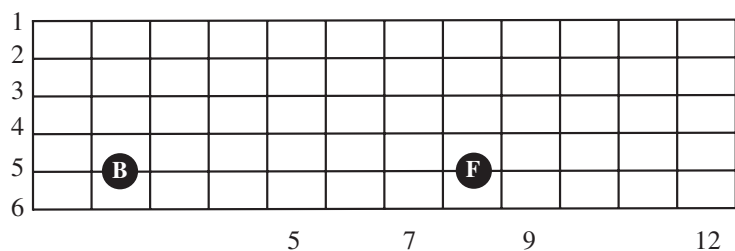


THE DIMINISHED 5TH, TRITONE OR FLAT 5

The tritone is equal to six half steps. It has no less than three names and is probably called by more. This interval becomes incredibly important in how we create tension and release in music. We will discuss this concept later. If you were to play the 2nd fret 5th string and the 8th fret 5th string, you would have a tritone. If you were to play the 2nd fret 5th string and the 3rd fret 4th string, you would again have a tritone. See the examples on the next page.

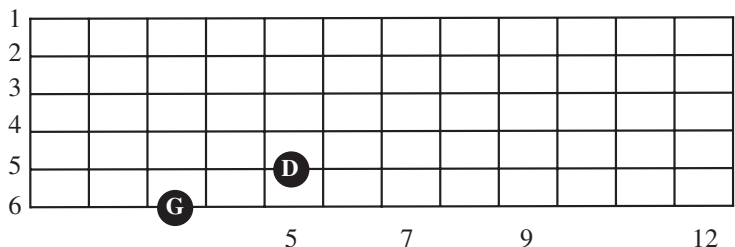
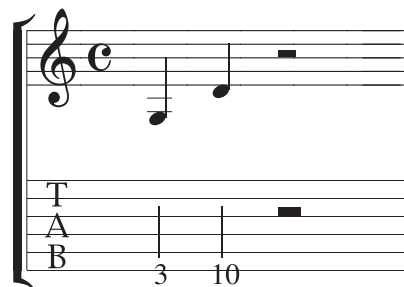
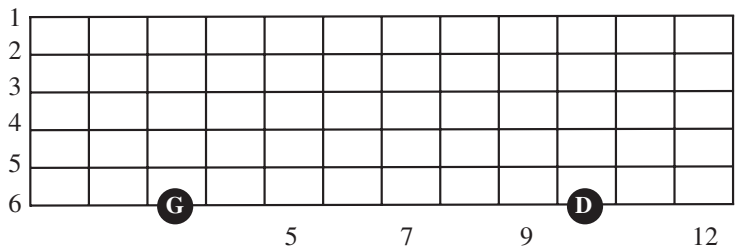
TIP

It is better to practice a little every day than cram the day before a lesson.



THE PERFECT 5TH

This is the second of three perfect intervals. *A perfect 5th is equal to seven half steps.* The 3rd fret 6th string and the 10th fret 6th string would be a perfect 5th. The 3rd fret 6th string and the 5th fret 5th string would be the same perfect 5th interval. Remember that I am choosing random places to play these intervals and you should investigate perfect 5th intervals at different places on the guitar. For example, try the 7th fret 2nd string and the 9th fret 1st string. Sliding these two notes around the guitar would give us parallel 5ths. Listen to the audio track for an example of parallel 5ths.

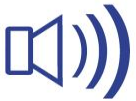
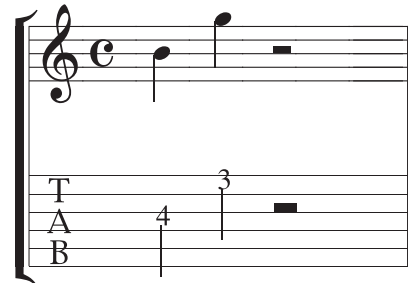
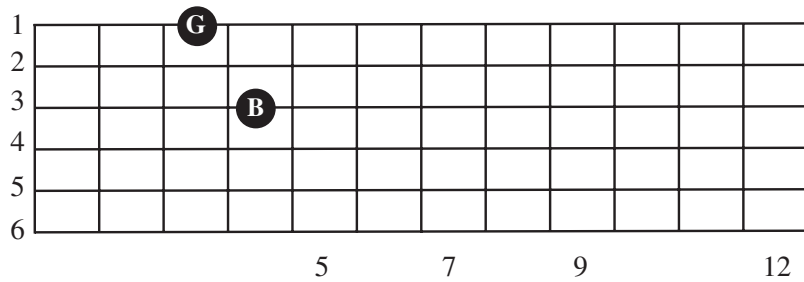
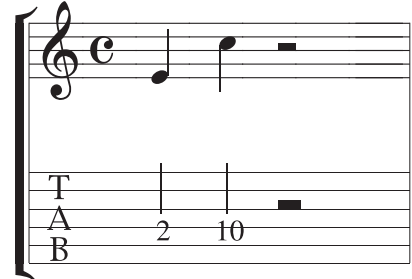
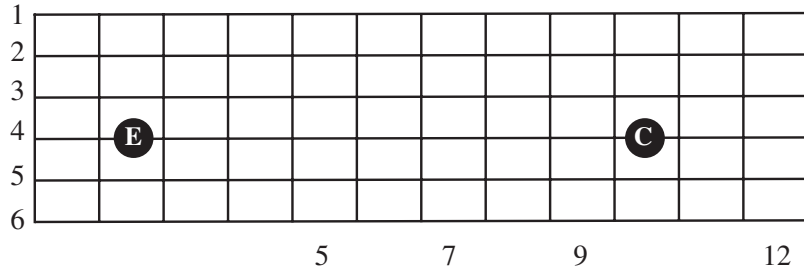


Interval Quiz



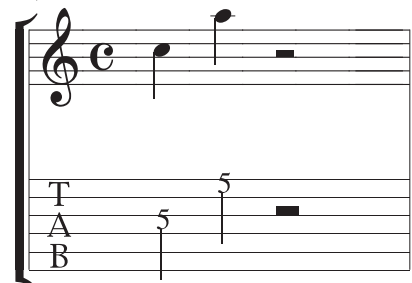
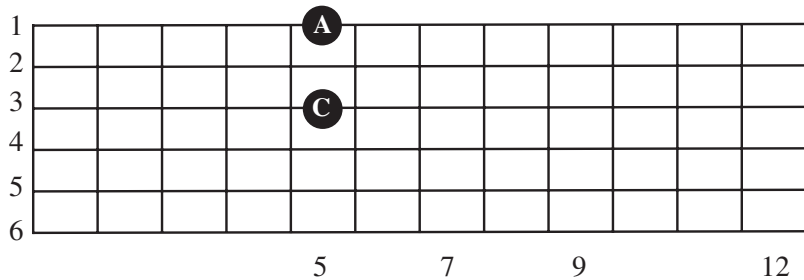
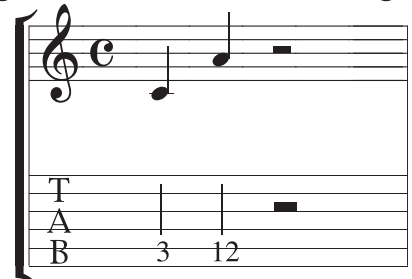
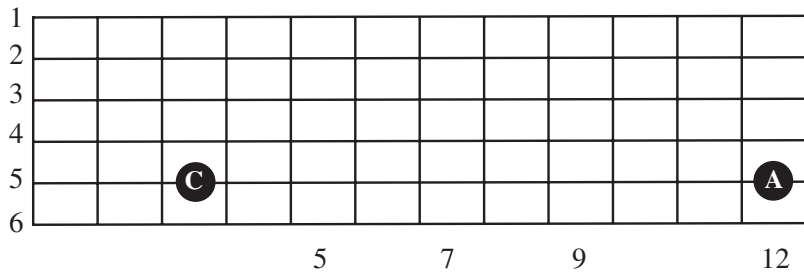
THE MINOR 6TH

The minor 6th interval is equal to eight half steps. Playing the 2nd fret 4th string and the 10th fret 4th string would be a minor 6th interval. It is also common to play minor 6th intervals across several strings. For example, play the 4th fret 3rd string and the 3rd fret 1st string. This would be a minor 6th interval.



THE MAJOR 6TH

The major 6th interval is equal to nine half steps. Playing the 3rd fret 5th string and the 12th fret 5th string would give you a major 6th interval. An example of a major 6th across several strings would be the 5th fret 3rd string and the 5th fret 1st string.

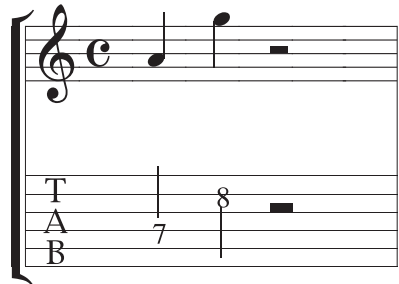
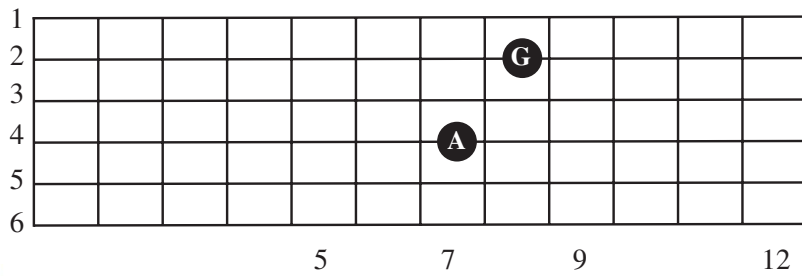
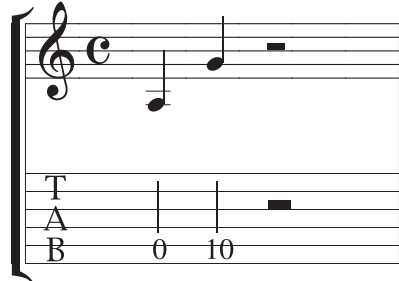
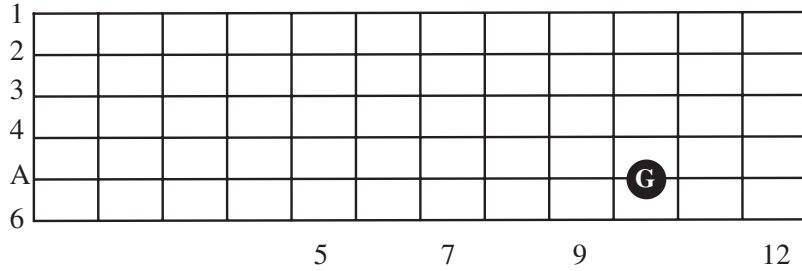


Interval Quiz



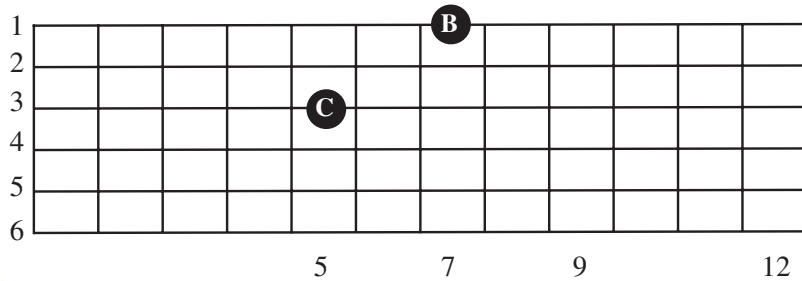
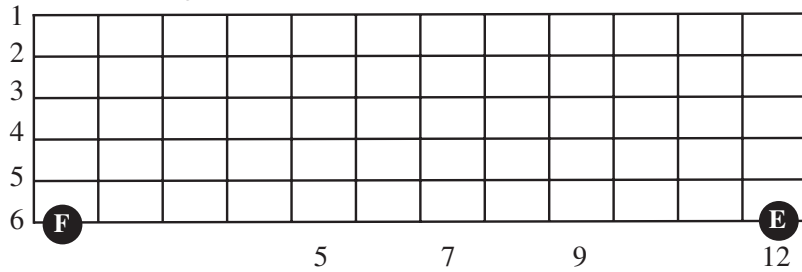
THE MINOR 7TH

The minor 7th is equal to ten half steps or ten frets. The open 5th string to the 10th fret 5th string is a minor 7th interval. The 7th fret 4th string to the 8th fret 2nd string would also be an example of a minor 7th interval.



THE MAJOR 7TH

The major 7th interval is equal to eleven half steps. The 1st fret 6th string to the 12th fret 6th string is a major 7th. The 5th fret 3rd string to the 7th fret 1st string is also a major 7th interval.

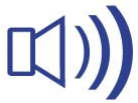


Interval Quiz



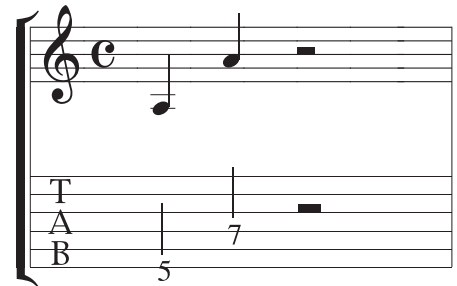
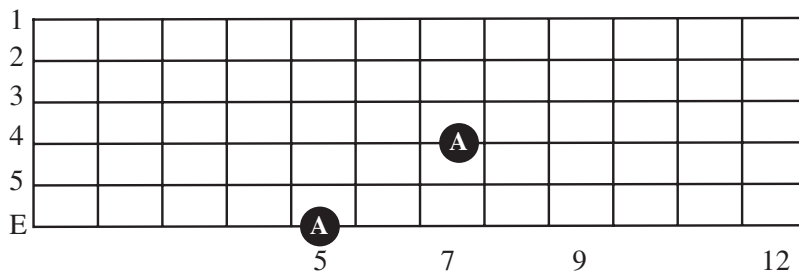
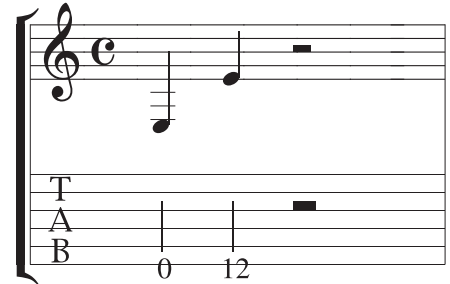
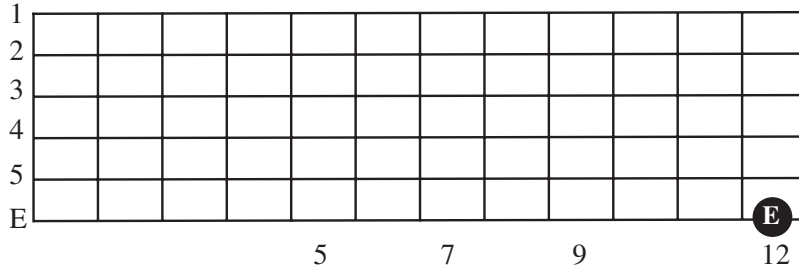
TIP

There are no hands too big or too small for guitar, only better technique.



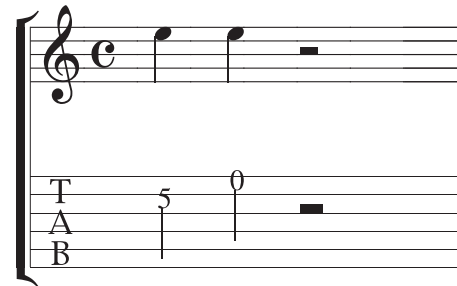
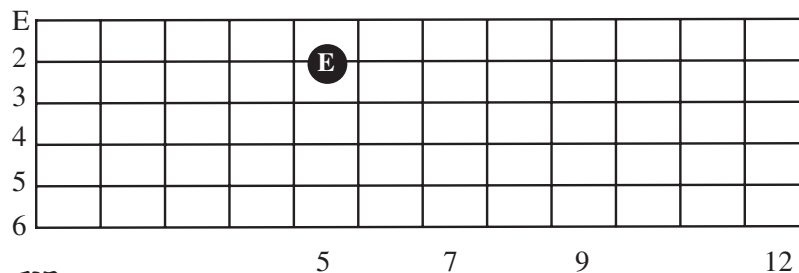
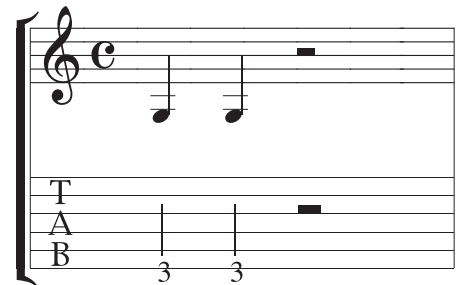
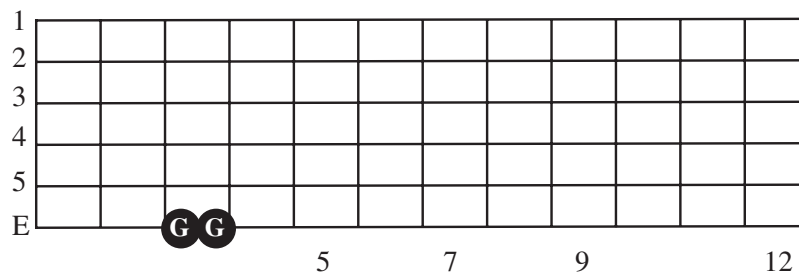
THE PERFECT 8TH OR OCTAVE

The perfect 8th or octave is equal to twelve half steps. From the open 6th string to the 12th fret 6th string is a octave. From the 5th fret 6th string to the 7th fret 4th string is an octave. An octave means you have arrived at the same note, but 12 half steps higher. It is twice the frequency.



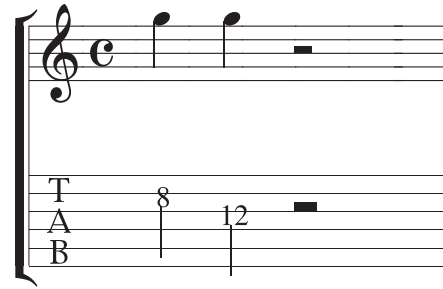
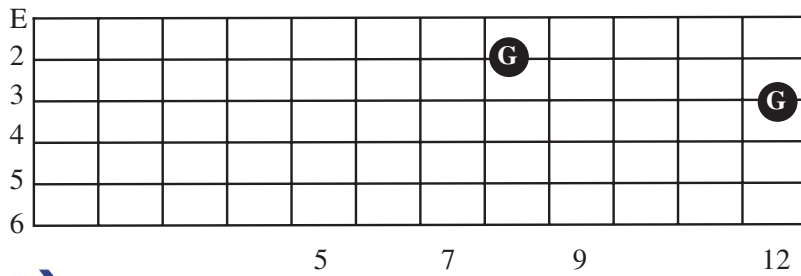
THE UNISON

The unison is simply playing the same note twice. For example, the 3rd fret 6th string and the 3rd fret 6th string. They don't have to be played in the same place however. For example, the 5th fret 2nd string and the open 1st string is a unison. The 8th fret 2nd string and the 12th fret 3rd string is also a unison.



TIP

Using a music stand will increase your practice time up to 30 percent.



Interval Quiz



LEARNING THE SOUNDS OF INTERVALS

Many people use songs they are familiar with to memorize the sound of particular intervals. For example, the first two notes of "*Silent Night*" is a whole step. The first two notes of "*Somewhere over the Rainbow*" is an octave. The first two notes of the original "*NBC Theme*" is a major 6th. The first two notes of "*There's a Place for Us*" is a minor 7th. You will need to use songs you recognize instantly. Try finding a song to associate with a particular interval and it will make it easier to learn.

Because this book isn't an ear training book, you will need to refer to other resources to learn to recognize intervals. Software and free web sites exist for this purpose. You may also find materials at your local library and local music store.

INTERVAL SUMMARY

Intervals are the ground floor of harmonic music theory. Scales, chords, melodies, and solos are all dependent upon an understanding of what intervals are and what they sound like. Apply these intervals to your instrument. To make them relevant to your playing, you must spend time experimenting with intervals. How can they be found easily? What solos or chord progressions focus on particular intervals? As you progress on guitar, focus on this concept. You will greatly enhance your understanding of music. It will also cut down on the time it takes to learn a new song or solo. You will no longer have to memorize every note of a solo because you understand it better. When you first learned the multiplication tables in school, it was hard because you didn't quite understand math. As you understood the concept better, you didn't need to memorize as much. The same process applies here.

Now let's move on to scales and how to build them.



Use a metronome or drum machine to practice playing in time.

SECTION 3

SCALES

What are sharps and flats?	page 18
What are scales and how are they defined?	page 18
What are relative minor and major?	page 26
What are the harmonic and melodic minor scales?	page 29-31
What are the pentatonic scales and why are they so widely used by guitarists	page 33
What are licks and riffs?	page 43

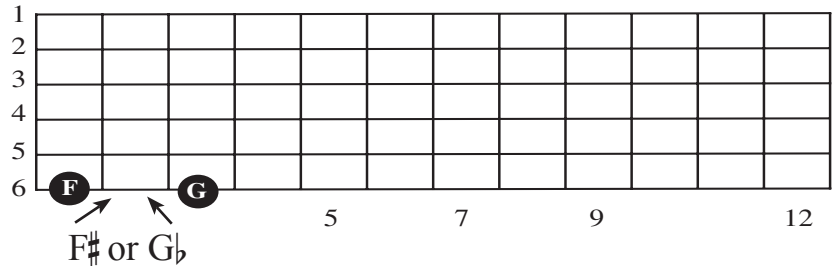
WHAT IS A SCALE

A scale is a series of single notes. That's all there is to it. There are many types of scales with many different names and uses, but the major scale is by far the most common. Other examples are the minor scale, the blues scale, the pentatonic scale, the diminished scale, the chromatic scale, and many more. *Scales are defined by the number of notes that comprise them and by the series of intervals it takes to build them. The notes in the scale are also referred to as degrees. Each degree is given a number.*

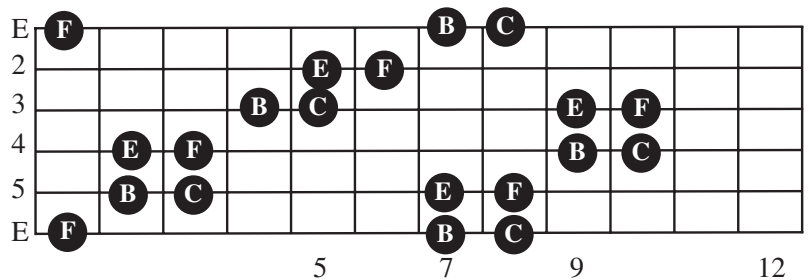
Scales are used to solo, create melodies, connect chords together, and they are the very foundation for the chords we play. Scales help establish the "key" we are in. We must learn how these scales are built in order to understand them better and use them to our advantage.

SHARPS AND FLATS

In order to work through this chapter, we must understand the concept of sharps and flats. A sharp (\sharp) raises a note one half step or one fret. A flat (\flat) lowers a note one half step. For example, between F and G on the 6th string, there is a whole step. The fret between F and G could be called either F sharp or G flat. F sharp is one fret higher than F and G flat is one fret lower than G. F sharp and G flat are *enharmonically the same* because they are the same pitch.



There are sharps and flats between all of our notes with the exception of E to F and B to C. E and F are right next to each other and so are B and C. This is true on all instruments. You might have played a keyboard before and noticed there are no black keys between these notes. The black keys are sharps and flats, so between E and F and B and C there are none. Let's get started with the most easy to understand scale, the chromatic scale.



B and C and E and F are always a half step apart.



Whenever transporting a guitar, be sure and use a guitar case or gig bag.

THE CHROMATIC SCALE

The chromatic scale is a twelve note scale. It is comprised solely of half steps. For example, playing all the half steps from the open 6th string to the 12th fret 6th string, is a chromatic scale. A very common 1st position chromatic scale on the guitar starts on the open 6th string and then plays all the way up to the 4th fret 1st string.



Example

A one octave chromatic scale up the 6th string.

0 1 2 3 4 5 6 7 8 9 10 11 12



Chromatic Example 2.

A 1st position chromatic scale. This is a great exercise as well. Play it forwards and backwards. If you compare the first twelve notes of this exercise with the previous exercise, you will see they are the same.

1 2 3 4 1 2 3 4 1 2 3 4 0

1 2 3 0 1 2 3 4 0 1 2 3 4



TIP

There are only 12 notes to play but there are an infinite amount of rhythms and dynamics.



THE MAJOR SCALE

The major scale is perhaps the most important scale to understand. The major scale is a seven note scale. The series of notes and the intervals used to build the major scale are what defines this scale. The C major scale is the best major scale to start with. Let's look at this scale.

The C major scale contains the notes C D E F G A B C. The last C is the first note of the scale repeated, so there are seven notes in this scale. Now let's examine the intervals that make up this scale. (From C to D is a whole step, from D to E is a whole step, from E to F is a half step, from F to G is whole step, from G to A is a whole step, and from B to C is a half step).

Here's an important fact to remember. On any instrument, B and C are only a half step apart. The same goes for E and F. All the other notes are a whole step apart. So here is our scale with the intervals.

C **D** **E** **F** **G** **A** **B** **C**
 whole whole half whole whole whole half

A major scale has seven notes and the intervals that make up the scale are whole, whole, half, whole, whole, whole, half. Any major scale can be constructed using this definition. If we wanted to build a G major scale, we would simply start on the note G and build the scale with the correct intervals. Here is the G major scale.




TIP

If you wish to learn more about scales, purchase
The Guitarist's Scale Book by Watch & Learn.

The notes in this scale are G A B C D E F# G. The note F has a sharp next to it. This means the note is a half step or one fret higher. The F sharp occurs because there is only a half step between E and F and in the major scale, we need a whole step in this position.

G whole A whole B half C whole D whole E whole F# half G

Let's build one more major scale together. This time we will build a F major scale. The F major scale consists of F G A Bb C D E F.



Correct

F whole G whole A half Bb whole C whole D whole E whole F half

Once again, we have used an accidental (a sharp or flat), this time a flat. If we tried to write this scale using a sharp, we would have to use the letter A twice and then skip B.

Incorrect

F whole G whole A half A# whole C whole D whole E half F

Using a sharp would cause too much confusion as we get into bigger issues with music theory. Technically, A sharp and B flat are the same note, but as common practice, *use each letter only once when writing a scale*. In some scales this may prove difficult, but for 99% of the time this will be our practice. Below is a listing of all the major scales and their key signatures. "Key signature" means the sharps or flats that make up the scale. You should memorize these. For example, A major has three sharps, F sharp, C sharp and G sharp.

C major	No sharps or flats	F major	Bb
G major	F#	Bb major	Bb, Eb
D major	F#, C#	Eb major	Bb, Eb, Ab
A major	F#, C#, G#	Ab major	Bb, Eb, Ab, Db
E major	F#, C#, G#, D#	Db major	Bb, Eb, Ab, Db, Gb
B major	F#, C#, G#, D#, A#	Gb major	Bb, Eb, Ab, Db, Gb, Cb
F# major	F#, C#, G#, D#, A#, E#	Cb major	Bb, Eb, Ab, Db, Gb, Cb, Fb
C# major	F#, C#, G#, D#, A#, E#, B#		

TIP

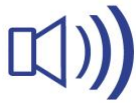
Learn to read music. There is a world of music available if you can read.



DIRECT APPLICATION OF THE MAJOR SCALE

Now let's take a couple of common major scale shapes on the guitar and examine them. This will help us to apply our music theory to the instrument. Here is a one octave C major scale. Study it and play it on the guitar.

It may be confusing that the scale goes across several strings. It is difficult to see the intervals this way. If we were to write it out on one string it would look like this.



The above single string representation makes it much easier to understand, but not that great to play. The first shape we looked at is a common shape to play because it fits the hand so well and stays in one area of the neck. Now let's look at a common G major scale.



TIP The guitar was originally designed as a disposable instrument.

This scale spans over two octaves, but if you examine the notes, they are all the notes in the G major scale. We have simply repeated them. We could stop at one or two octaves, but the other notes are very accessible from this shape and fit the hand well. When we improvise, it would be good to see all these notes and understand they are all in the key of G or all in the G major scale.

Now take a look at all the other major scales you know. If you don't know many, purchase *The Guitarist's Scale Book* as it contains all the scales you will ever need in one book. Examine the notes in these scales up and down the neck.



THE NATURAL MINOR SCALE

The natural minor scale is closely related to, yet the polar opposite of the major scale. For ease, we often refer to the natural minor scale simply as the minor scale. The minor scale, like the major scale, has seven notes. **The intervals that make up the minor scale are whole, half, whole, whole, half, whole, whole.** Let's examine the A minor scale.

This scale starts on A. Notice there are no sharps or flats in this scale. The half steps fall between B and C and between E and F. Remember E and F and B and C are right next to each other.

A **B** **C** **D** **E** **F** **G** **A**
 whole half whole whole half whole whole

Here is the scale on a single string to make it easier to see.



THE E MINOR SCALE

Now let's use this sequence of half steps and whole steps to build the Em scale. (the m in Em stands for minor)

1 3 4 1 3 4 1 3

T 7 9 10 7 9 10 7 9

E F# G A B C D E

The E minor scale has one sharp in it, F sharp. That is because the note following E in this sequence must be a whole step higher and F is only a half step higher. Sharping the F gives us the right sequence to create a minor scale.

E whole F# half G whole A whole B half C whole D whole E



THE C MINOR SCALE

Now let's build the C minor scale. The C minor scale has three flats in it - E flat, B flat, and A flat. We need the flats to create the correct sequence of whole and half steps. If you play all three of these scales, you will find they all have a similar sound. That is the "minor" sound.

1 3 4 1 3 4 1 3

T 3 5 6 3 5 6 3 5

C D Eb F G Ab Bb C

C whole D half Eb whole F whole G half Ab whole Bb whole C

The natural minor scale has seven notes and the sequence of intervals that make up the scale are whole, half, whole, whole, half, whole, whole.

Below is a listing of the minor scales and their key signatures. You should memorize how many sharps or flats make up each scale or key.

A minor	No sharps or flats	D minor	B \flat
E minor	F \sharp	G minor	B \flat , E \flat
B minor	F \sharp , C \sharp	C minor	B \flat , E \flat , A \flat
F \sharp minor	F \sharp , C \sharp , G \sharp	F minor	B \flat , E \flat , A \flat , D \flat
C \sharp minor	F \sharp , C \sharp , G \sharp , D \sharp	B \flat minor	B \flat , E \flat , A \flat , D \flat , G \flat
G \sharp minor	F \sharp , C \sharp , G \sharp , D \sharp , A \sharp	E \flat minor	B \flat , E \flat , A \flat , D \flat , G \flat , C \flat
D \sharp minor	F \sharp , C \sharp , G \sharp , D \sharp , A \sharp , E \sharp	A \flat minor	B \flat , E \flat , A \flat , D \flat , G \flat , C \flat , F \flat
A \sharp minor	F \sharp , C \sharp , G \sharp , D \sharp , A \sharp , E \sharp , B \sharp		

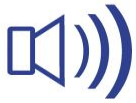
ENHARMONIC SCALES

Let's explore an interesting situation. If you take the G sharp minor scale and the A flat minor scale, these are both based on the same note. G sharp and A flat are the same note. In academic terms, we would say these two notes are enharmonically the same. This means the two scales must be the same as well. One scale is using sharps and the other flats, but both have the same notes described two different ways. In G sharp minor, the F is sharped. In A flat minor, the G is flatted. These two are the same notes, so they mean the same thing. In G sharp minor, the C is sharped. In A flat minor, the D is flatted. Again, they are the same note. We can go through the rest of the notes in these two scales and find the same enharmonic principle at work. In this case and many others, we can describe the same notes and the same scales two different ways, one using sharps and the other using flats. We will find this principle at work with chords later on as well.

Remember, music theory is a way to describe musical events so we can learn from them and use them in our playing or listening. We can also communicate our ideas to other players regardless of what instrument they play. Music theory is not a set of rules or laws. Furthermore, it changes and expands over time. Music theory is fluid.



Scales are like the alphabet. What you do with them is what creates expression.



RELATIVE MAJOR & MINOR, THE AEOLIAN RELATIONSHIP

This sounds too complicated, right? It's really not. Relative major and minor and the aeolian relationship are merely academic words to describe how the major and minor scales are related. Let's take the first major and minor scales we learned and examine them.

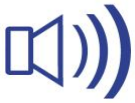
C major

A minor

Both scales have seven notes. One starts and ends on C and the other starts and ends on A. The series of intervals is different in each scale. Here's the big similarity, they both contain the same notes. ***Notice both C major and A minor have exactly the same notes. They simply start at different points of the same set. We say these scales are related or are relative major and minor. The academic term to describe this is the aeolian relationship.***

To the ear, these scales hardly sound similar at all. Play or listen to each one. Each sounds entirely different. This difference is because the ear becomes centered around the first note of each scale.

This relationship is incredibly important. ***When playing in C major or in A minor, we are using the same set of notes.*** This means we can use either scale when soloing in either key. They both work. Later we will learn the chords in each key are also strongly related and that will have a huge impact as well. As an experiment, try playing the A minor scale over a song in A minor, for example track 4 of the *Blues & Rock Let's Jam CD*. Next try playing a C major scale over the same chords. Both sound great and both work. The only trick is to place importance on the notes C and G when playing in the key of C and place importance on the notes A and E when playing in the key of A minor. Soloing will be fodder for later discussion. Know this now; A minor and C major scales have exactly the same notes. This is called relative major and minor or the aeolian relationship. For every scale or key there is a relative key. ***For every major scale there is a minor scale with exactly the same notes.***



Let's compare the G major scale with the E minor scale.

G major

E minor

The G major scale has exactly the same notes as the E minor scale. Both scales have an F sharp and no other accidentals. G major and E minor are considered relative major and minor because they have the same notes. One starts on G, the other on E, otherwise they are the same.

Below is a listing of the major scales and their relative minor scales. You should memorize this list.

C major	A minor
G major	E minor
D major	B minor
A major	F# minor
E major	C# minor
B major	G# minor
F# major	D# minor
C# major	A# minor
F major	D minor
Bb major	G minor
Eb major	C minor
Ab major	F minor

In order to easily find the relative minor scale, simply go to the 6th degree of the major scale. This note will be the starting note of the relative minor. This will be true in every case. Use the notes in the major scale, but start on the 6th degree and you have the relative minor. ***If you know the minor scale and want to find the relative major, go to the 3rd degree of the minor scale and you will find the relative major.***



TIP

A good strap should be connected to the guitar by a set of strap locks.



PARALLEL MAJOR AND MINOR

Now let's compare C major with C minor.

C major		C minor	
C D E F G A B C		C D Eb F G Ab Bb C	

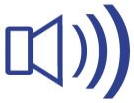
Notice that these two scales are pretty different. C major has no sharps and flats while C minor has three flats. However, they do have the same tonic. The tonic is the note the scale starts on. These scales are called parallel major and minor. C major and C minor are parallel major and minor. G major and G minor are parallel major and minor. ***Parallel major and minor scales are scales that start on the same note, but one scale is major and one scale is minor.***

SUMMARY OF RELATIVE AND PARALLEL SCALES

Understanding and being able to find the relative scales or parallel major and minor scales will increase your scale vocabulary exponentially. This knowledge will help you with writing melodies, soloing, and understanding chord progressions. Make sure you understand these concepts before going forward. Apply them to your instrument. Play a major scale and then figure out it's relative minor. Play that scale. Try them both over their relative major and minor keys or chord progressions. A great tool for practicing scales over chord progressions is the *Let's Jam* series of CDs by Watch & Learn. You can practice over many keys, grooves, and genres of music.



*Never use furniture polish on your guitar.
Use guitar polish and a guitar cloth.*



2 OTHER VARIATIONS OF THE MINOR SCALE, HARMONIC & MELODIC MINOR

Minor keys and scales have a tremendous amount of variety. For several important reasons, there are two other widely used versions of the minor scale, harmonic and melodic minor. Let's start by examining the harmonic minor scale.

HARMONIC MINOR

Here is the A natural minor scale compared with the A harmonic minor scale.

<p style="text-align: center;">A minor</p>	<p style="text-align: center;">A harmonic minor</p>
--	---

The A harmonic minor scale has a raised 7th degree. The 7th note is one half step higher than the same note in the natural minor scale. This raised note gives the harmonic minor scale what is called a strong leading tone. ***A leading tone is the last degree of a scale that is only a half step from the tonic or the 1st note of the scale. It may also refer to a note that is strongly leading to another note one half step away.*** You might hear this term when discussing chord progressions, scales, or solos.

In the natural minor scale, you will notice we don't have a strong leading tone because the 7th degree is a whole step away from the tonic. This tends to give the scale a less than complete sound when played. Try playing both scales and listen to the relationship from the 7th degree to the 8th degree.

A harmonic minor scale

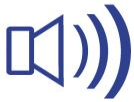
A	B	C	D	E	F	G#	A
whole	half	whole	whole	half	minor 3rd	half	
1	2	3	4	5	6	7	8



TIP Never leave your guitar where it can get extremely hot or cold.

The harmonic minor scale has this series of intervals.

whole - half - whole - whole - half - minor 3rd - half



To build any harmonic minor scale, start with the natural minor scale and raise the 7th degree one half step. Here is the E harmonic minor scale.

E harmonic minor

The 7th degree is raised in this scale. Notice the strong sound to the harmonic minor scale. All harmonic minor scales can be created using the correct intervals. Simply start on a note and use the series of intervals listed above to create a harmonic minor scale. For simplicity, I think of a natural minor scale and play a raised 7th degree.



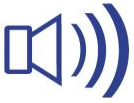
MELODIC MINOR

Melodic minor goes one step further. It raises the 6th and 7th degree of the natural minor scale. Compare the A natural minor and A melodic minor scales.

A natural minor

A melodic minor

The idea with the melodic minor scale was to close the large gap (minor 3rd interval) created between the 6th and 7th degree of this scale in the harmonic minor scale. Let's examine E melodic minor.



E melodic minor has a raised 6th and 7th degree. Notice there is a strong leading tone in both the harmonic and melodic minor scales. Also notice that the gap between the 6th and 7th degree is only a whole step in the melodic minor scale.

E melodic minor

E melodic minor scale on one string

Here is an interesting situation with the melodic minor scale. In academic theory, the melodic minor scale is played as written going up, but then reverts to natural minor when coming down. Here is the academic version of the A melodic minor scale.

The melodic minor scale may or may not be played this way when used during pop, rock, or jazz. It is up to each player to decide how to think of the melodic minor scale. I have found that I naturally lean towards the academic version even when improvising. It just sounds better to me.

So how do we know what version of the minor scale to use? We get to choose from all three. When a musician says they are playing in the key of A minor, they might pull from all three scales during the same melody, chord progression, or solo. They could stay confined to any one of these scales. It is understood that whenever you are playing in a minor key you can use natural, harmonic, or melodic minor. As you become more advanced, the chords will dictate what notes you play.

USING MAJOR AND MINOR SCALES

In the previous pages we have learned how major and minor scales are constructed. Let's briefly touch on the practical uses of these scales.

MELODIES

Most of the songs you listen to or play use the diatonic scales (major and minor) for their melodies. Since the 1600's, these are by far the most widely used scales. Most songwriters are pulling from these scales whether they know it or not.

SOLOING

Many solos that you listen to and aspire to play use the diatonic scales (diatonic means major and minor) as their foundation. You can play the major or minor scales in various positions on the guitar, but they are simply the same seven notes in different places. If you can determine the correct key, you will be able to use the correct scale. The *Let's Jam Series* of CDs has many tunes designed to help you practice this technique. *The Let's Jam Unplugged CD* has mostly tunes designed to practice major and minor scales over. You can generally use one scale during each one of these tunes and the CD booklet tells you what scale you should try. You will find when using the major and minor scales that you need to be especially conscious of the note you are ending phrases on. Any note that lasts for a long time should be a strong note against the chord. Play through other notes until you arrive on one that works well with the chord.

A word of caution is necessary here. There are some circumstances where the major and minor scales can get you into trouble. There are a couple of notes in these scales that can work against you if you are not aware. As you move forward in music theory knowledge, you will learn more about them.

CHORD CONSTRUCTION

The scales we have learned are the DNA for building chords and chord progressions. The chords and chord progressions you have learned are undoubtedly based on the major and minor scales. We will study this in depth in the upcoming chapters.

TIP

Solos are a combination of scales, arpeggios, licks, and expression.

THE PENTATONIC SCALES

These are the scales we know and love so much on the guitar. Pentatonic scales are used by all musicians, but especially by guitar players. They fit the hand well on the guitar and are easy to find. Let's learn what's in them.

MINOR PENTATONIC SCALES

The minor pentatonic scale consists of five notes. (You will remember the major and minor diatonic scales consists of seven). Starting on the tonic or note that names the scale, the minor pentatonic scale is built using these intervals:

minor 3rd - whole - whole - minor 3rd - whole

Another way to say this is:

3 half steps - 2 half steps - 2 half steps - 3 half steps - 2 half steps

Let's examine the A minor pentatonic scale and see how this works.

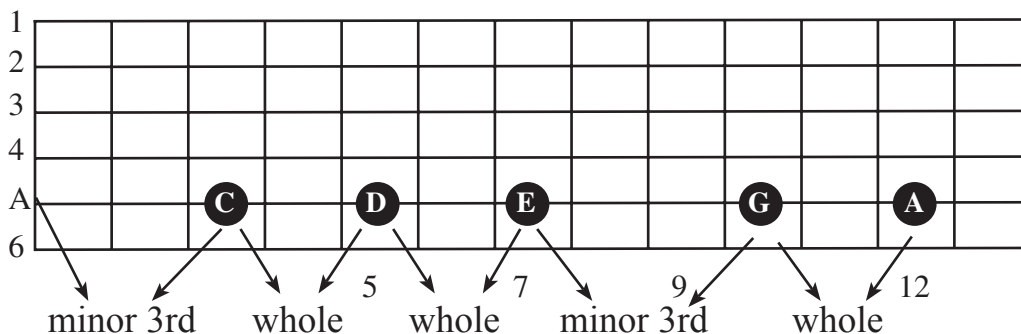


A MINOR PENTATONIC SCALE

The A minor pentatonic scale contains these notes:

A C D E G A

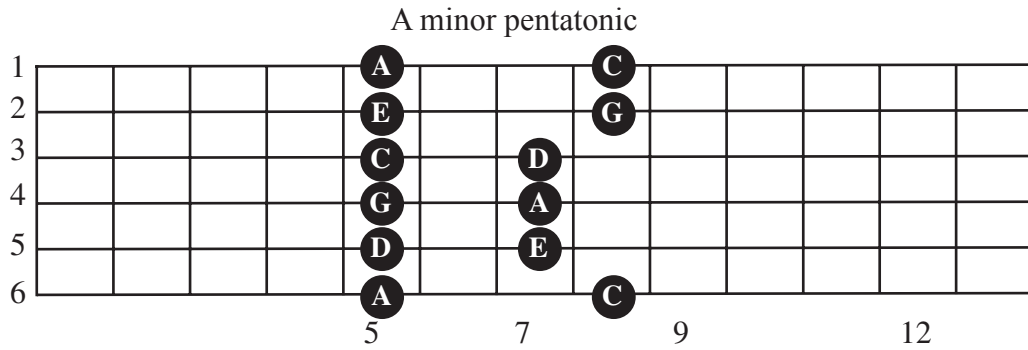
Notice there are five different notes with the 6th note being the tonic (A). If we were to draw this scale out on the 5th string, it would look like this:



TIP The *Let's Jam CDs* are great for practicing scales and licks.



We can easily see the series of intervals that make up the minor pentatonic scale in the previous diagram. Most of the time however, we play the scale across strings. Here is the most common position of this scale.



1 4 1 3 1 3 1 3 1 4 1 4
 T A B 5 8 5 7 5 7 5 7 5 8 5 8
 A C D E G A C D E G A C

Notice that we are still playing these five notes, but have repeated them after the 1st octave. We even go one note past the 2nd octave (the note C). This is because it fits the hand so well. The intervals and notes that make up this scale remain the same. They are just harder to see when involving all the strings. All the positions of the A minor pentatonic scale have the same notes. They all start and end on different notes of the scale, but they are all the A minor pentatonic scale. On the next page are five positions of the A minor pentatonic scale.



When soloing, the goal is to create a melody. Hopefully create an interesting one.



A minor pentatonic 1st position

A minor pentatonic 2nd position

A minor pentatonic 3rd position

A minor pentatonic 4th position

A minor pentatonic 5th position



When playing guitar, use the lightest touch possible on the fretboard that will get a clear note.



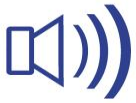
THE MINOR SCALE & THE MINOR PENTATONIC SCALE

It is useful to compare the natural minor scale and the minor pentatonic scale. Below is the A natural minor scale and the A minor pentatonic scale side by side.

The image shows two musical examples side-by-side. The left example is titled 'A minor' and the right is 'A minor pentatonic'. Both are in treble clef with a common time signature (C). Each example consists of a melody line and a guitar fretboard diagram. The fretboard diagrams are labeled with strings T (Treble), A (Middle), and B (Bass). Fingerings are indicated by numbers 1-4. The A natural minor scale notes are A B C D E F G A, and the A minor pentatonic scale notes are A C D E G A C D E G A C.

This helps illustrate why so many guitar players use the pentatonic scale. Notice the pentatonic scale only has five notes (A, C, D, E, G) compared to the natural minor scale's seven notes (A, B, C, D, E, F, G). The five notes in the pentatonic scale are within the natural minor scale. ***The minor pentatonic scale can be thought of as a shortened minor scale.*** The notes that are missing from the pentatonic scale (B and F) are the 2nd and 6th degree of the minor scale. The 6th degree in particular can get us into problem areas in some styles of music if we don't know what we are doing with it. Using the pentatonic scale avoids this issue all together. ***The minor pentatonic scale creates the sound in a minor key that is almost always right.*** The shortened scale avoids problematic notes and is easy to use. That is why it is chosen so often. The minor pentatonic scale has a great expressive ability as well.

Once you have the technique to play the things you want to play, how you think about music is more important than anything else. If you are thinking pentatonic, this will sound different than if you are thinking diatonic. If you are thinking chord tones, you will sound different than if you are thinking scales. Remember, there are only twelve possible notes on an instrument. That means how you play and think is what will make it interesting. Also, develop the ability to phrase well. This means using interesting rhythms, dynamics, note choices, and techniques.



MAJOR PENTATONIC

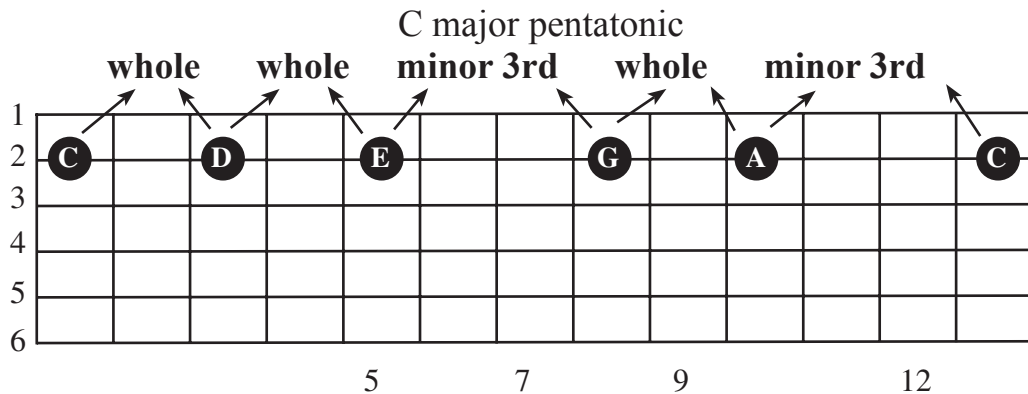
The major pentatonic scale has five notes and this set of intervals.

whole-whole-minor 3rd-whole-minor 3rd

Let's examine the C major pentatonic scale

C D E G A C

If we were to draw out this scale on one string it would look like this:



It is easy to see the series of intervals that make up this scale in the above diagram. When layed out across strings it is more difficult to see, but it is the same scale. Here is a common position of the C major pentatonic scale.



C major pentatonic

2 4 1 4 1 4 1 3 1 3 1 3

T
A
B

8 10 7 10 7 10 7 9 8 10 8 10

C D E G A C D E G A C D

Notice that we are using only the notes in the major pentatonic scale and repeating them as we go into our 2nd octave and beyond. This is the way all positions of the major pentatonic scale will work. On the next page are five positions of the C major pentatonic scale. Examine their notes. Notice these are the same five scale positions for A minor pentatonic. Remember the concept of relative major and minor, it works with pentatonic scales too! This means if you know A minor pentatonic, you also know C major pentatonic.



C major pentatonic 1st position

1 4 1 3 1 3 1 3 1 4 1 4

5 8 5 7 5 7 5 7 5 8 5 8

A C D E G A C D E G A C

C major pentatonic 2nd position

2 4 1 4 1 4 1 3 1 3 1 3

8 10 7 10 7 10 7 9 8 10 8 10

C D E G A C D E G A C D

C major pentatonic 3rd position

1 3 1 3 1 3 1 4 1 4 1 3

10 12 10 12 10 12 9 12 10 13 10 12

D E G A C D E G A C D E

C major pentatonic 4th position

1 4 1 4 1 3 1 3 2 4 1 4

12 15 12 15 12 14 12 14 13 15 12 15

E G A C D E G A C D E G

C major pentatonic 5th position

1 3 1 3 1 4 1 4 1 3 1 3

3 5 3 5 2 5 2 5 3 5 3 5

G A C D E G A C D E G A



TIP A good teacher can dramatically increase your rate of learning.



COMPARING THE MAJOR & MAJOR PENTATONIC SCALES

The major pentatonic scale can be thought of as a shortened version of the major diatonic scale. Here are both scales side by side.

C major	C major pentatonic
<p>C D E F G A B C D E F G A B C</p>	<p>C D E G A C D E G A C D</p>

Notice the major pentatonic scale is identical to the major scale except that it does not contain the 4th or 7th degree (F and B). Once again, this avoids problematic notes. It's not that the 4th or 7th degree are bad notes, but they should be handled differently under certain circumstances. When playing the major pentatonic scale, this issue is avoided. This is why the pentatonic scale is chosen so often by guitar players. It sounds right almost all the time if played in the correct key. It also has a great expressive nature, allowing the player to use bends, slides, and other techniques in interesting ways.

RELATIVE MAJOR AND MINOR APPLIED TO PENTATONIC SCALES

Relative major and minors are applied to pentatonic scales the same way we applied them to diatonic scales. Remember, we can think of the pentatonic scales as shortened major and minor scales, so the theory is identical. A minor pentatonic contains the same notes as C major pentatonic. (For the complete list of relative pentatonic scales, refer to the chart on page 27. It is exactly the same as the diatonic scales)



Jeremiah was a bullfrog. He was a good friend of mine.

Since C major pentatonic and A minor pentatonic have identical notes but different starting points, they are said to be related. Remember the academic term for this is the *aeolian relationship*. ***For every major pentatonic scale, there is a minor pentatonic scale with the same notes. These scales are relative major and minor.***

Understanding the concept of relative major and minor will immediately double the rate at which you can learn scales. Once you realize C major and A minor are related, you no longer have to learn all positions of both. Learn one and you have learned the other. B minor pentatonic is D major pentatonic. E minor pentatonic is G major pentatonic. This concept will also help later on when learning the modes. Make sure you understand the concept of relative major and minor when applied to pentatonic scales.

PRACTICAL APPLICATION OF MAJOR AND MINOR PENTATONIC SCALES

Major and minor pentatonic scales are used for creating chords, soloing, and for creation of melodies. Since we will be using them primarily for soloing, let's talk about them in this regard. The major and minor pentatonic scales should be your foundation for soloing. I teach soloing as learning layers like a topographical map. The bottom layer that everything else is built upon is the pentatonic scales. They are also our default position when everything else isn't working. Learn your positions of both major and minor pentatonic scales. Apply major pentatonic over major keys and minor pentatonic over minor keys. Then learn to layer the other scales, such as diatonic scales or modes, on top of these positions. We will also discuss using arpeggios, but this will be covered later in the book. Learn to play the pentatonic scales in all keys and over different genres of music.

We will have to examine this concept more closely later in music theory, but you should also know that minor pentatonic scales are often used over chord progressions in major keys (Example: A minor pentatonic played over a rock or blues tune in A major). There are some interesting sounds that are created when doing so and there are also some additional notes that must be added to the scale to make this work well. For now, however, know that minor pentatonic scales can be applied over major and minor chord progressions in the rock, blues, jazz, funk, and pop genres.



Have your guitar set up twice a year. Once in the spring and once in the fall.



THE BLUES SCALE

The blues scale is very similar to the minor pentatonic scale. It has all the notes in the minor pentatonic scale plus one more. The blues scale has six notes and contains these intervals:

Minor 3rd - Whole - Half - Half - Whole - Whole

Let's examine the E Blues scale.

E G A B \flat B D E G A B \flat B D E

When describing a scale, musicians might use the major diatonic scale as a comparative tool. For example, we might say the blues scale has a tonic (or root), minor 3rd, 4th, flat 5th, 5th, and flat 7th. What does this mean? If we compare the E blues scale with the E major scale and refer to the notes in the scale as degrees or numbers, it would look like this:

E Major Scale	E	F\sharp	G\sharp	A	B	C\sharp	D\sharp	E
Scale Degree	1	2	3	4	5	6	7	8
E Blues Scale	E		G	A	B\flat	B	D	E
Scale Degree	1		\flat3	4	\flat5	5	\flat7	8

Notice we use the scale degrees from the major scale as our comparison numbers. Taking a look at both scales, we can see the blues scale has a tonic and a flat or minor 3rd instead of a major 3rd. Notice the 3rd degree in the major scale has a sharp and the 3rd in the blues scale does not. The 4th degree in both scales is the same. The blues scale has a flat 5th and a regular 5th. The B is the natural 5th and the B flat is the flatted 5th. The blues scale then has a flat 7th degree. Notice the note D is not actually flatted in the blues scale. It is a half step lower than the D sharp in the major scale, so we say it is flatted.

Any blues scale can be constructed using the intervals previously listed. For practical purposes, I find it easier to think of a minor pentatonic scale with a extra flatted 5th. Many players think of the blues scale and the minor pentatonic scale interchangeably. In fact, you can use the blues scale any time you can use the minor pentatonic scale, so thinking this way does work.

If you take the major pentatonic scale and add a note in the identical place (between the 3rd and 4th note of this scale) it adds a minor 3rd to this scale (using the major scale as our reference). Some folks have called this the major blues scale. Although this scale can be used successfully when improvising, I don't like the major blues label. In my mind there is only one blues scale, neither major nor minor. It is similar to the minor pentatonic scale but is not a minor scale. The so called major blues scale adds a minor 3rd to the scale, so it is not a major scale per say and it doesn't have the blues note (the flatted 5th), so it is not a blues scale either. I like to think of it as a hybrid scale.

What gives the blues scale it's sound is the minor 3rd, the flat 7, and the flat 5th all in one scale. These are the notes we want to use when playing the blues. These are not the only notes, but the notes that really push a song in the blues direction.

If you want to learn the blues scale, pick one key and learn all your minor pentatonic positions. Then learn the blues scale variation of each of these positions. Once you find that extra note (the flat 5th) in each position, you will be able to use it at will. I am usually thinking minor pentatonic, then add the blues note when I feel like it. Do this in one key first and then move on to all the others. I suggest starting in the key of E or E minor.

CONCLUSION OF SCALES

There are many more scales to be examined as we move on, but they are beyond the scope of this book. If you have a desire to play more scales, try *The Guitarist's Scale Book* by Peter Vogl. It has all the scales you will ever need to learn in one convenient book. It also shares ways to use and practice these scales.

Music theory is a way of thinking about music and understanding what is going on. Much of it is discussed by looking at the intervals and comparing things to each other. As you apply the information, you will also discover how they function in music. In moving forward and trying to understand theory, always look at these pieces of the puzzle. How far are things from each other? How are they combined? How does this compare to other similar items?

Then apply what you have learned. Play the scales or chords. Study the song you are playing or writing. What scale is it you are using here? What chord are you playing it over? What chord progression makes up this song?



MUSICAL EXAMPLES OF SCALES AND WHAT IS A LICK OR RIFF?

A lick or riff is a musical phrase or idea that generally comes from a scale, arpeggio, or just notes that sound good to the player. When guitarists say they are playing a riff or lick, they mean they are quoting an idea or phrase from a song or player they have heard. These are generally derived from scales or arpeggios. The words lick or riff are used interchangeably by most players and they mean the same thing. Some jazz players have more strict definitions of these terms, but it's not anything to get hung up on.

Below are a few licks or riffs based on scales we have studied in this book. These licks are based on the scale, but the notes are not played in the same order as the scale and they don't have to contain only the notes in the scale. These riffs or licks can be closely related to the scale or loosely related to the scale. Basically, it just has to sound good over the chords being played.

There are an infinite amount of licks or riffs. Don't base your playing entirely on licks. Instead, use them as launching pads for your own ideas.

Lick based on the C major scale. (page 20)

Lick based on the A blues scale. (page 41)

Lick based on the Am scale. (page 36)

Lick based on the C major pentatonic scale. (page 38)



TIP For more licks try *The Guitarist's Lick Book* and DVD by Watch & Learn.

SECTION 4

CHORDS

What is a chord?	page 45
What are the four food groups of chords?	page 45
What does the / mean when used in a chord name?	page 48
What is a triad?	page 50
What about more complex chords?	page 54
What is an inversion?	page 55
What is an arpeggio?	page 55

WHAT IS A CHORD?

A chord is generally defined as three or more notes played simultaneously. A chord can be implied by two notes, but is not considered a real chord. *Harmony is a similar word meaning two or more notes played at the same time.* When two or more people sing together at the same time, they may be singing in harmony. Chords are also considered harmony, but must have at least three notes.

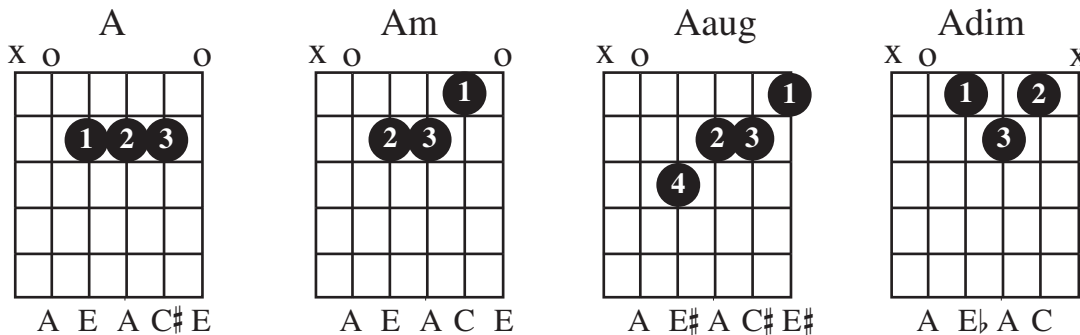
THE FOUR QUALITIES OF CHORDS

There are four qualities or types of chords upon which all others are based. I like to call these the "four food groups of chords." All the complicated names you may see (A13b5b9) fit into one of these four headings or qualities of chords. The four are:

1. Major
2. Minor
3. Augmented
4. Diminished



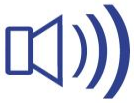
Listen to the CD and look at the diagrams for each one of these chords.



Considering how different each one of these chords sound, they have a lot in common. We learned how to construct scales and we must also learn how to construct chords. We will then examine the connection between chords and scales. Let's begin by examining the major chord.



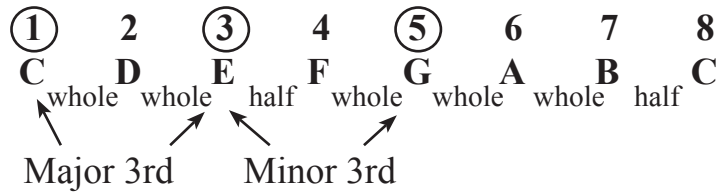
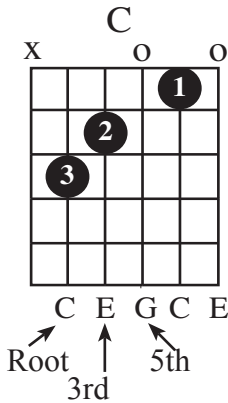
TIP
The Guitarist's Chord Book has virtually every chord you will ever need.



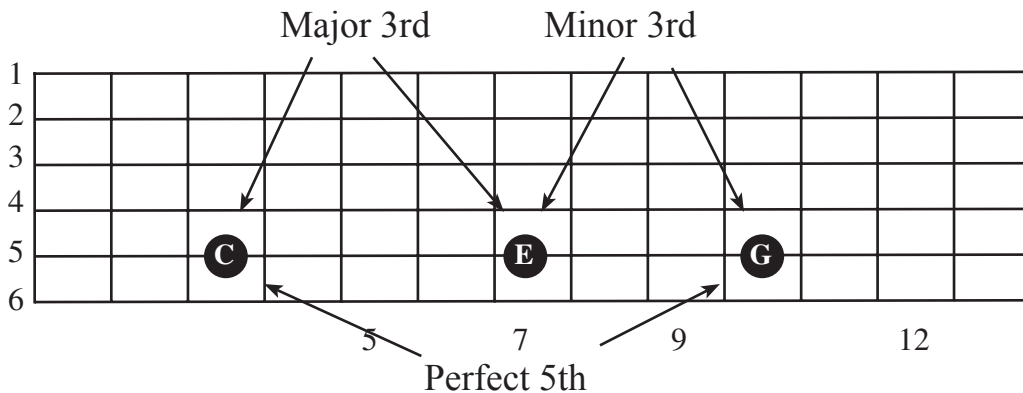
THE MAJOR CHORD

(No Symbol Necessary. Example: C is C major)

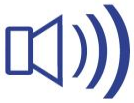
The major chord consists of three notes. A root, a 3rd and a 5th. As a matter of fact, all the four qualities of chords will begin with a root, 3rd and 5th. The root is the note that names the chord. For example, in the C major chord below, C is the root. *Many times, but not always, the root is the lowest note played in the chord. If this is the case, we call this root position.*



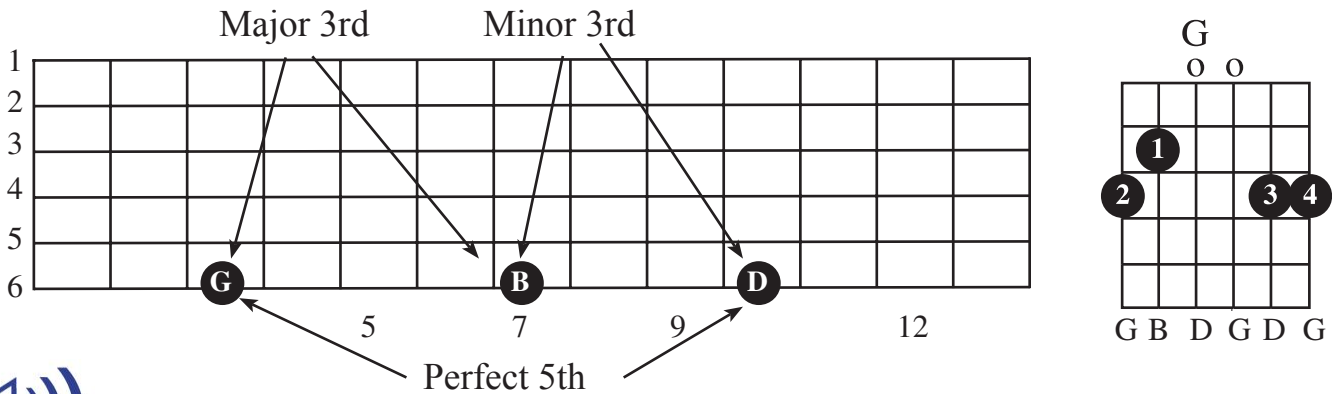
In the C major chord shown here, the note E is the 3rd. If you count up three letters of the musical alphabet starting on C, you would arrive on E (C-D-E). It is also a major 3rd higher than the note C (review the chapter on intervals if necessary). The note G in the C major chord is the 5th. It is five notes higher than C (C-D-E-F-G), and it is a perfect 5th higher than C. Thus we have a root, a 3rd and a 5th making up a C major chord. This is a simple way to define any major chord. Another way to describe a major chord is to say that between C and E is a major 3rd or two whole steps and between E and G is a minor 3rd or three half steps.



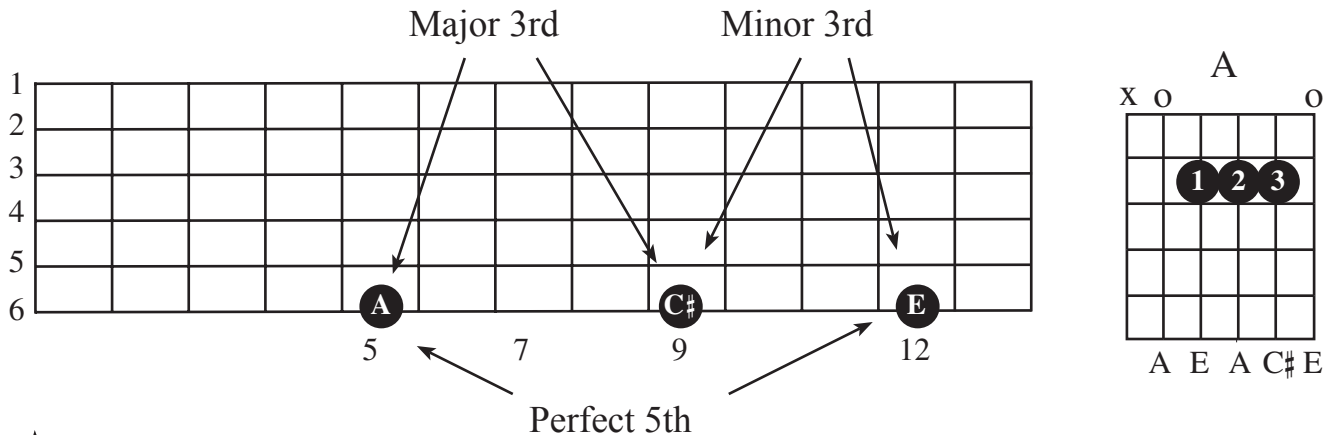
A major chord consists of three notes, a root, 3rd, and 5th. The 3rd is a major 3rd higher than the root and the 5th is a perfect 5th higher than the root (or a minor 3rd higher than the 3rd).



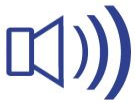
Now let's build other major chords using this formula. Let's try G major. G is the root. A perfect 3rd higher is B and a perfect 5th above G is D. Below is a diagram of the classic G major chord. You might play this chord and say wait a minute, I am playing 6 strings. Aren't there more than three notes? Notice that by using this classic open position G major chord, we are playing 3 Gs, a B, and 2 Ds. We can repeat any of the roots, 3rds, or 5ths as many times as we want. If there are only Gs, Bs, and Ds, we have a G major chord.



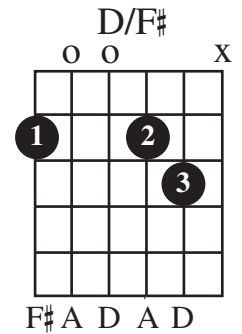
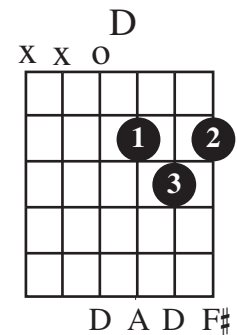
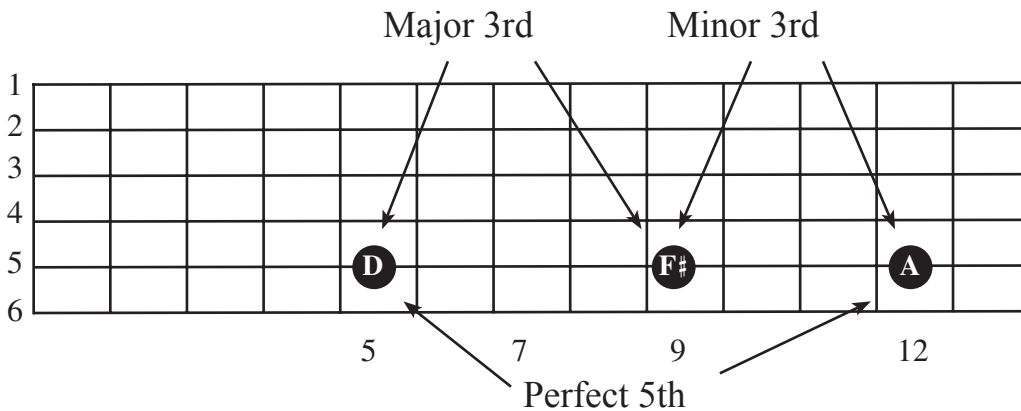
The chord A major is built by starting on A. A major 3rd higher (two whole steps equals a major 3rd) is C sharp. A minor 3rd higher than C sharp (three half steps equals a minor 3rd) is E, the 5th. Examine the A major chord below. This is a classic open position A major chord. Notice from the 5th string down, we have A, E, A, C sharp, and E. If we strum from the 5th string down, we are in root position because A is the lowest note. If we strum from the 6th string down, we are now playing E as the lowest note. This is called 2nd inversion. **An inversion of a chord is one that has a note other than the root as the lowest note. A chord with the 3rd in the bass is a 1st inversion chord. A chord with the 5th in the bass is a 2nd inversion chord.** Although we are often told to strum this A chord from the 5th string down, it is perfectly okay to hit the 6th string, especially if we want to hear an inversion of the chord.



TIP To change strings, you should have a set of wire cutters and a peg winder.

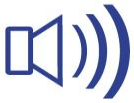


D major starts with a root D, contains a major 3rd F sharp, and a 5th A. The classic open position D major chord, strumming from the 4th string down, contains D, A, D, and F sharp. If we strum from the 5th string down, we are playing a 2nd inversion of the chord. We can't strum the 6th string with this chord because the open 6th string is the note E, which is not in the chord. Notice the second chord diagram below is called D with an F sharp in the bass. Whenever we see a chord like D/F#, the first note is the chord and the second note is the specific bass note. This chord is a 1st inversion D chord.



TIP

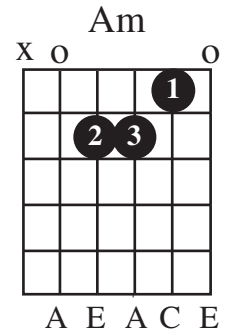
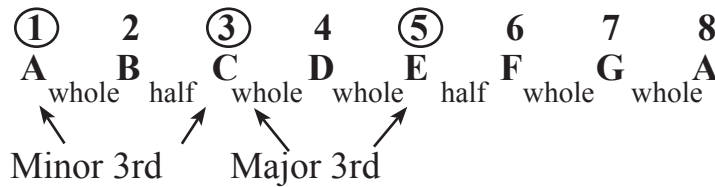
Guitar makers build travel guitars that are small and easy to transport.



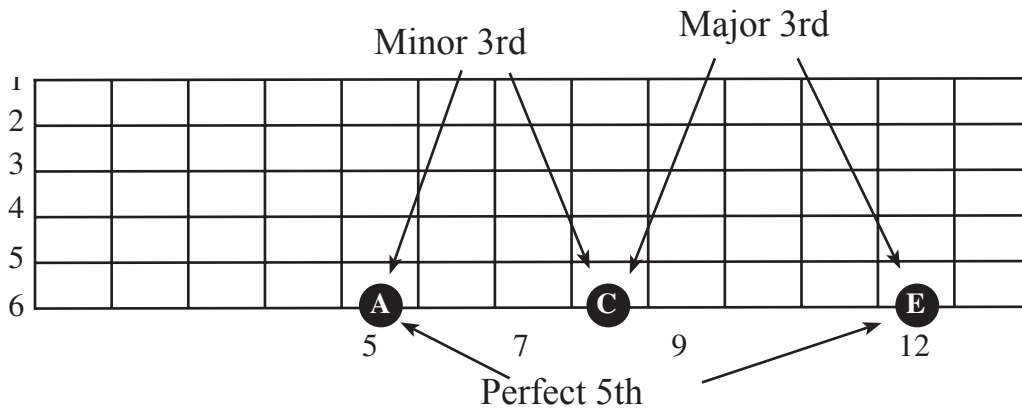
MINOR CHORDS

(-, m, min Example: A-, Am, Amin)

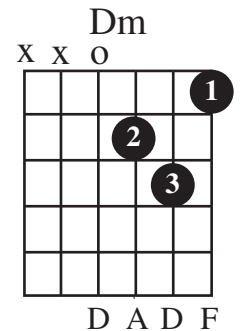
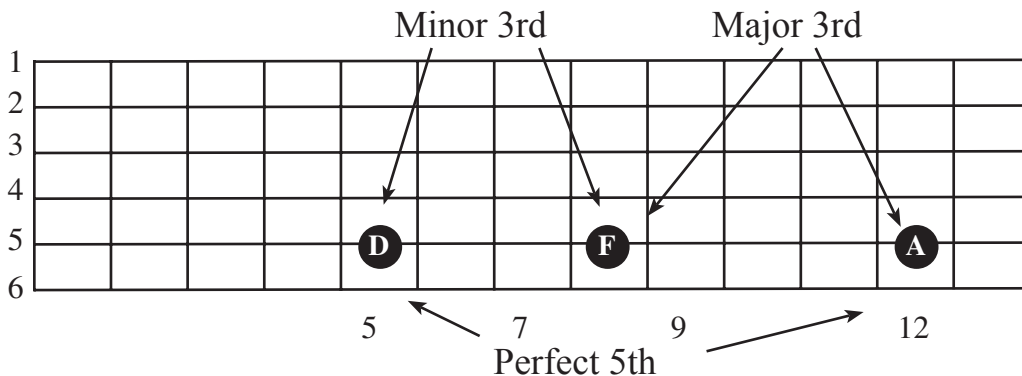
A minor chord has a root, 3rd, and 5th. In the A minor chord below, notice the root is the A, C is the 3rd, and E is the 5th. In this case, the C is a minor 3rd above the root (three half steps) and the E is a perfect 5th above the root (seven half steps). The 5th is also a major 3rd above the 3rd (four half steps).



A minor chord has three notes, a root, 3rd and 5th. The 3rd is a minor 3rd above the root and the 5th is a perfect 5th above the root (or a major 3rd above the 3rd).

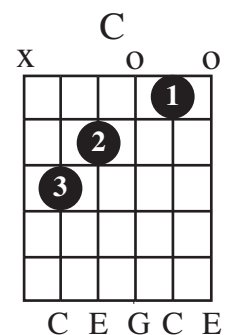
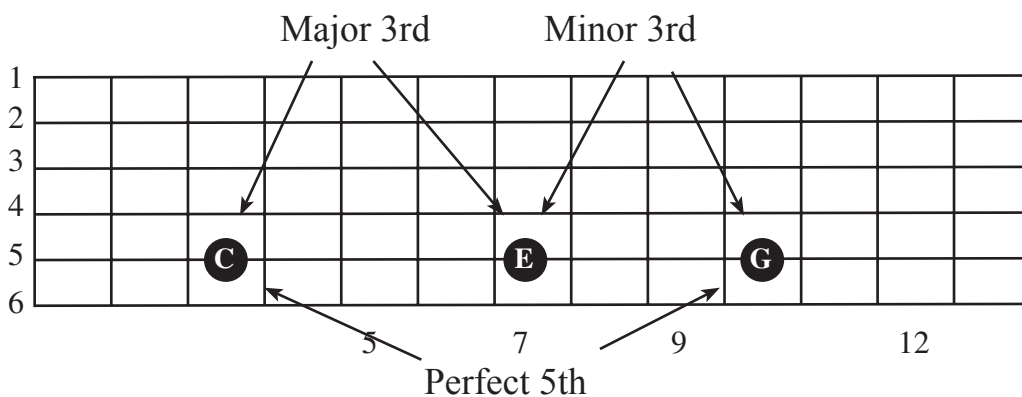
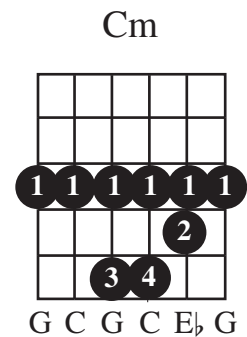
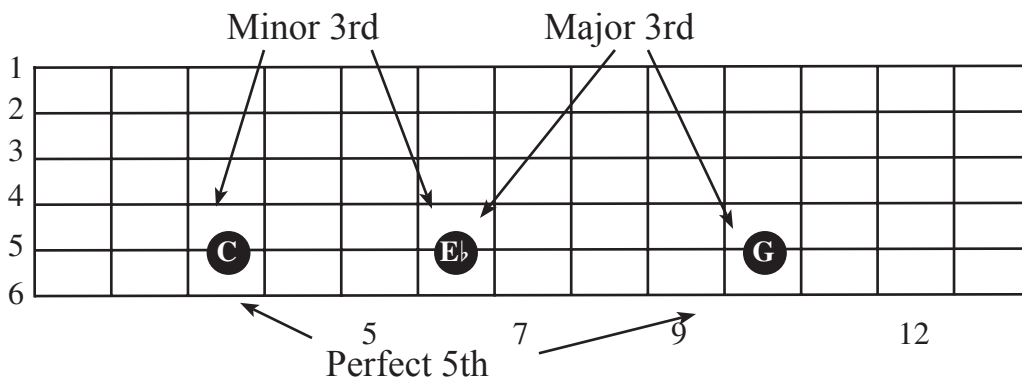


All minor chords can be constructed using this formula. Let's make a D minor chord. D is the root, F is the 3rd, and A is the 5th. In this classic open position D minor chord, we have a D, A, D, F. We are strumming 4 strings, but only three different notes.



Note that chords consisting of only three notes are often referred to as triads. Generally, a triad is just the three notes in the chord and no repeating notes (1-3-5 of chord). Sometimes this term is used more liberally to refer to any major, minor, augmented, or diminished chord no matter how many times a note is repeated in the chord.

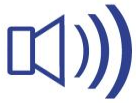
Now let's build a C minor chord. C minor consists of C, E flat, and G. We had to flat the E because a E natural would have given us a C major chord. With E flat we now have all the correct intervals to make up a C minor chord. Notice C major and C minor side by side. The only difference between the two is the 3rd. With a major chord, we have a major 3rd interval from the root to the 3rd and in the minor chord we have a minor 3rd interval from the root to the 3rd. This makes it easy to remember. Also notice that the intervals between the 3rd and 5th are opposites. **A major chord is made up of a major 3rd followed by a minor 3rd. A minor chord is made up of a minor 3rd followed by a major 3rd.** Use these similarities and differences to easily remember how to build a major and minor chord.



The rule for inversions also applies to minor chords or any other chords for that matter. A C minor chord with a 5th in the bass is a 2nd inversion. If you strum the C minor chord as drawn above from the 5th string down, you have a C minor chord in root position. If you strum from the 6th string down, you have a C minor chord in 2nd inversion.



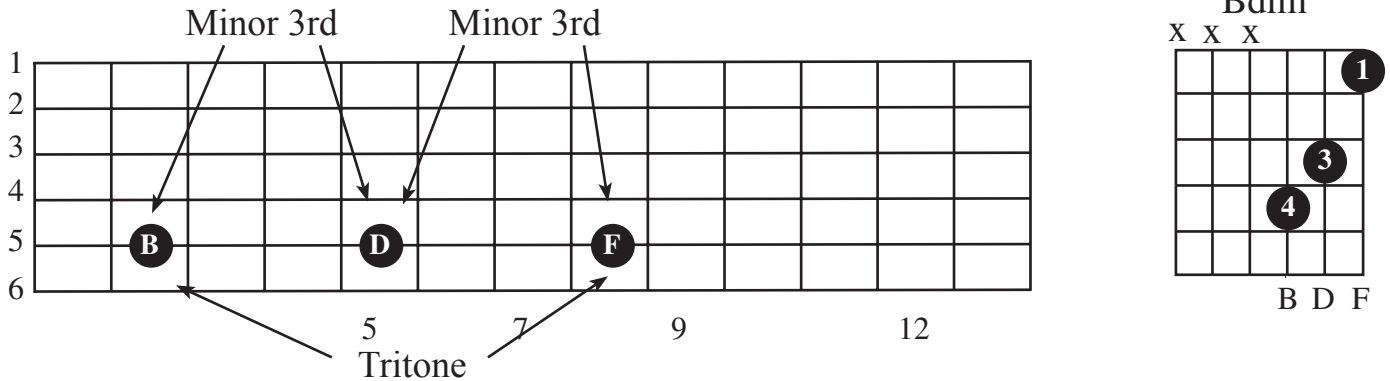
Check out the free guitar lessons by Peter Vogl and others at FreeGuitarVideos.com.



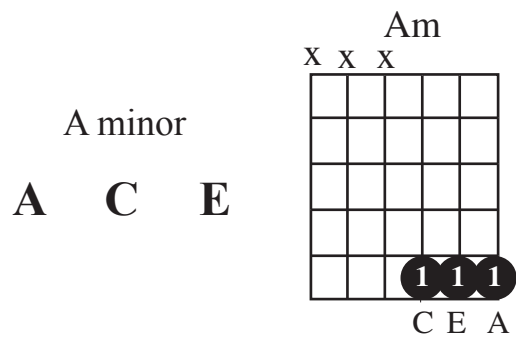
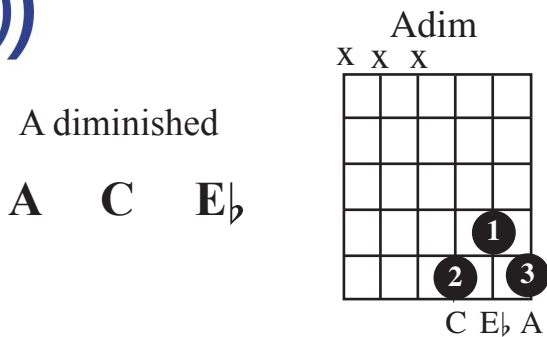
DIMINISHED CHORDS

(**o**, Dim Example: C^o, Cdim)

A diminished chord has a root, 3rd and 5th. The 3rd is a minor 3rd higher than the root (three half steps) and the 5th is a flat 5th or a tritone higher than the root (six half steps). The 5th is also a minor 3rd higher than the 3rd (three half steps). Examine the B diminished chord example.



A diminished chord has three notes, a root, 3rd, and 5th. The 3rd is a minor 3rd higher than the root and the 5th is a tritone higher than the root or a minor 3rd higher than the 3rd. Any diminished chord can be constructed using this formula. For example, look at the A diminished chord below. Compare it to the A minor chord next to it.



The A diminished chord has the root A, the 3rd C, and the 5th E flat. The A minor chord has a root A, the 3rd C and the 5th E flat. The only difference between A diminished and A minor is the 5th. However, these chords function in completely different ways. They sound quite a bit different as well.



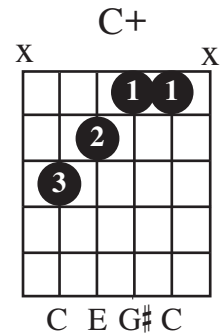
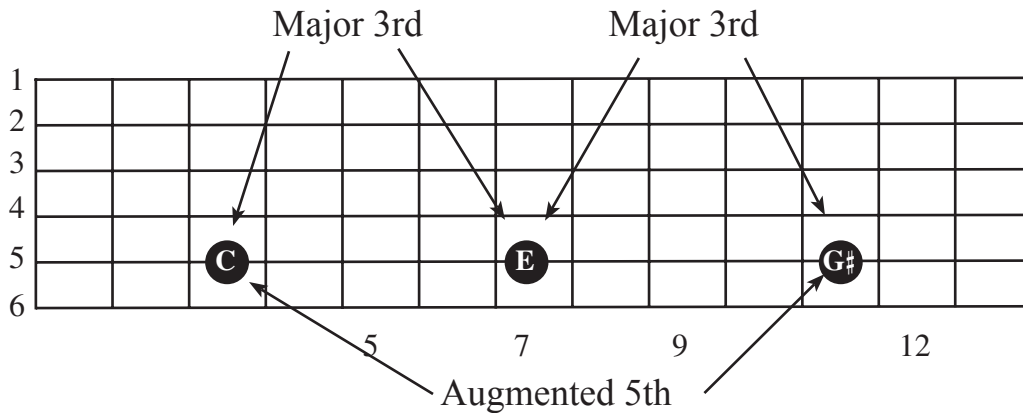
TIP Learn the notes on the guitar neck. It will help all this theory make a lot more sense.



AUGMENTED CHORDS

(+,Aug Example: A+, Aaug)

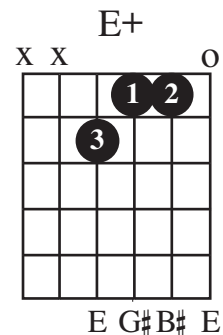
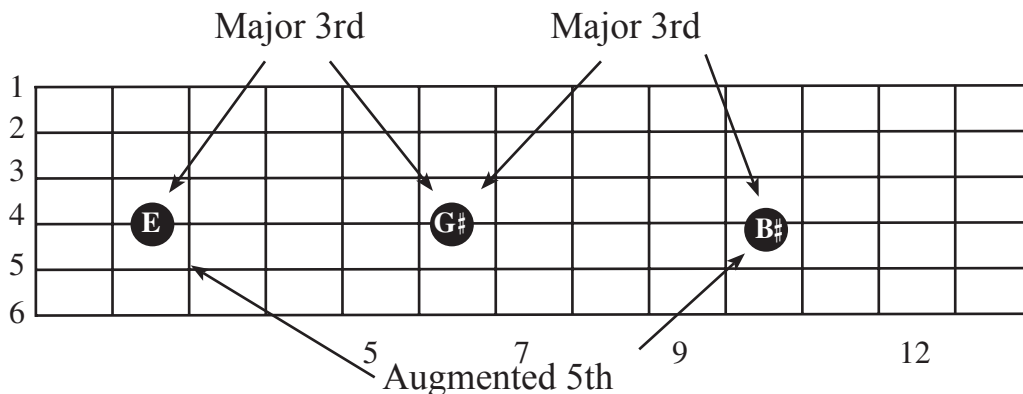
Augmented chords have three notes, a root, 3rd, and 5th. The 3rd is a major 3rd higher than the root (four half steps) and the 5th is an augmented 5th higher than the root (eight half steps), or a major 3rd higher than the 3rd (four half steps). Examine the C augmented chord below. The root is a C, the 3rd is an E, and the 5th is a G sharp.



Augmented chords have a root, 3rd, and 5th. The 3rd is a major 3rd higher than the root and the 5th is an augmented 5th higher than the root or a major 3rd higher than the 3rd. Any augmented chord can be constructed using this formula.



Let's build an E augmented chord. The note E is the root. A major 3rd higher is the note G sharp and an augmented 5th higher than the root is a B sharp (B sharp is the same note as C, but to keep things clear, we should use the note B since it is the 5th or five notes above E).



Look online for ear training software.
Music stores also carry DVDs for ear training.

COMPARING AND REMEMBERING MAJOR, MINOR, DIMINISHED, AND AUGMENTED CHORDS

In the example below, we have all four chord qualities starting on the root C. In order to understand and remember them, it is useful to compare their similarities and differences. The major chord and minor chord only differ by the note that is the 3rd. Notice also that in a major chord, the intervals are major 3rd and minor 3rd and with minor chords the intervals are minor 3rd and major 3rd. They are opposites. The diminished chord is similar to the minor chord except it has a flat 5th and is constructed using two minor 3rd intervals. The augmented chord is similar to the major chord except it has a raised 5th and is constructed using major 3rd intervals.

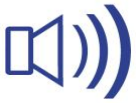


C Major	C Major 3rd	E Minor 3rd	G
C Minor	C Minor 3rd	E \flat Major 3rd	G
C Diminished	C Minor 3rd	E \flat Minor 3rd	G \flat
C Augmented	C Major 3rd	E Major 3rd	G \sharp

The above chart is the best way to learn and remember these chords and their formulas.

THE IMPORTANCE OF EAR TRAINING

Now that you understand what makes up the four qualities of chords, you should learn to recognize what they sound like. Learn to identify each one. There are plenty of online courses, software, recordings, etc. that will help you with this process. When you wish to figure out a song or hear a chord in your head when writing a song, you will be much better equipped to find it. Being able to recognize intervals and chords quickly will become a valuable asset in your theoretical and practical progress.



MORE COMPLEX CHORDS

We will not go beyond the description of these four qualities in this book. However we will briefly introduce ideas that relate to more complex chords. As you progress, you will learn many more specific traits of these more advanced harmonies, but for now it would be helpful to understand a couple of general ideas.

First, all chords will fit under the four headings described in this chapter. You will see numbers added to these chords such as 7, 9, 11, 14, 6, sus4, etc. Each one is a more complex version of one of the four qualities of chords. The higher the number, the more notes the chord will typically have and the more complex the sound of the chord. This doesn't mean the chord will be harder to play however. Examine the list below.

MAJOR	MINOR	DIMINISHED	AUGMENTED
7	7	7	7
9	9	9	9
11	11	11	11
13	13	13	13
sus	sus	sus	sus
add	add	add	add
6	6	6	6
6/9	6/9	6/9	6/9

Not commonly found.

Each major, minor, diminished, or augmented chord could be turned into a 7, 9, 11, 13, etc. Some more practically than others, but this is the general idea. A 7th chord has a total of four notes in the chord instead of three, the 9th has five notes. The 11th has six notes, and the 13th has seven notes. These chords are constructed by stacking 3rds. This means every note added is either a major 3rd or minor 3rd higher than the previous. This is only a general concept, but it will work for us. Another way to say this is we are combining every other note of the musical alphabet. For example, a C maj7 chord is built using every other note of the C major scale starting on C until you have 4 notes (C, E, G, B). There will be many specifics added to this later and it does get a great deal more complex.

ARPEGGIOS

Arpeggio means to play one note of a chord at a time. For example, instead of strumming a G chord, play each note one after the other. This is an arpeggio. There are different ways to use arpeggios. One way would be in accompaniment to a song. You might play arpeggios instead of strumming the chord. Classical guitarists use this technique a great deal to support melodies they are playing. This is especially effective in the classical style since there isn't as much strumming.

Another way of using arpeggios is in the process of soloing. Solos are generally made up of scales, licks, arpeggios, and playing by ear. The use of arpeggios is especially important because playing the correct arpeggio over the chord means you are always hitting strong notes. Arpeggios also contain intervals of 3rds, which lead to more interesting intervals and melodic movement. Below is a listing of some common arpeggio shapes used for soloing. There are many more shapes, but these are a good starting point. For major chords, we will use C major and for minor chords we will use Am. You will need to practice moving them around and thus making them other chords.

This book is not a "how to solo" reference, but these shapes can be incredibly valuable. It would be good to learn these and seek instruction on how to use them in your own soloing technique. Generally, a good mix of the techniques listed above will lead to a more interesting solo than merely focusing on scales.



C Major Arpeggios

3 2 5 3 7 5 5 5 3 10 9 8 10 9 12 9 8 8 12 13 12

A Minor Arpeggios

5 3 2 5 8 7 5 3 7 2 1 5 7 5 5 5 5 5 9 10 8 14 13 12

SECTION 5

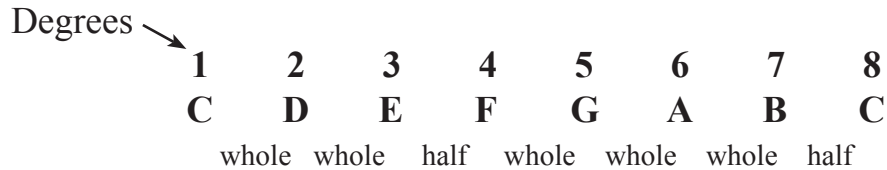
THE RELATIONSHIP BETWEEN CHORDS AND SCALES

How do we build chords from scales?	page 57
What is stacking 3rds?	page 57
What is a key?	page 59
How can learning the chords in major keys help me with minor keys?	page 60
Why are there more chords to choose from in minor keys?	page 63-65

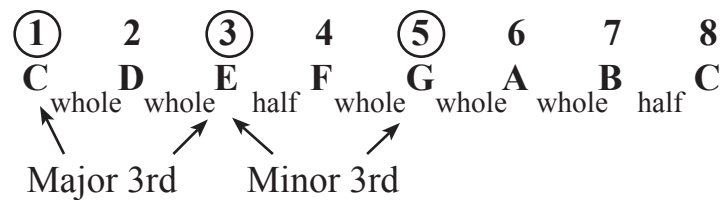
Up to this point, we have discussed scales and chords as separate entities. Now let's learn how chords can be derived from scales and what is meant by the "key" we are in. We will begin by looking once again at the C major scale.

C MAJOR SCALE

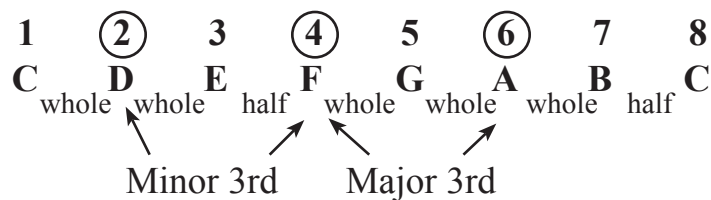
Remember that a major scale has seven notes and a definitive series of intervals. Each note of the scale can be given a number as well. We often call these numbers degrees, so the 1st degree of the C major scale is C, the 5th degree is G.



We can use the notes in this scale to build chords as well. It's as simple as starting on a note and choosing every other note until we have three. So to build the first chord from this scale, start with C and then combine this with E and G. As shown earlier, this builds a C major chord and is the first chord in the key of C.

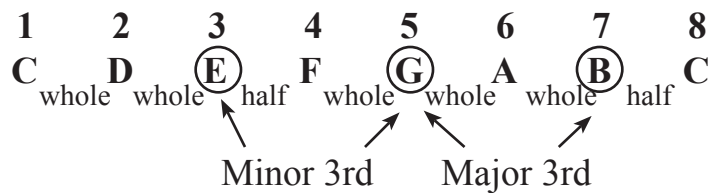


To build the 2nd chord in this key, we start on the note D and take every other note. This process of taking every other note might also be referred to as stacking 3rds. By taking every other note, we are combining 3rd intervals. When combined, these three notes build a D minor chord. Notice that between D and F there is a minor 3rd and between F and A there is a major 3rd.



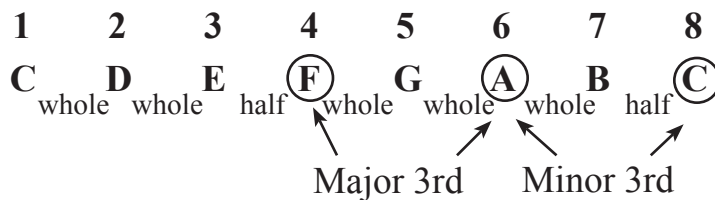
Keep plenty of picks around. They disappear like socks.

To build the 3rd chord in the key of C, start on the 3rd note of this scale and combine every other note until we have three. The 3rd chord in the key of C is a E minor chord.

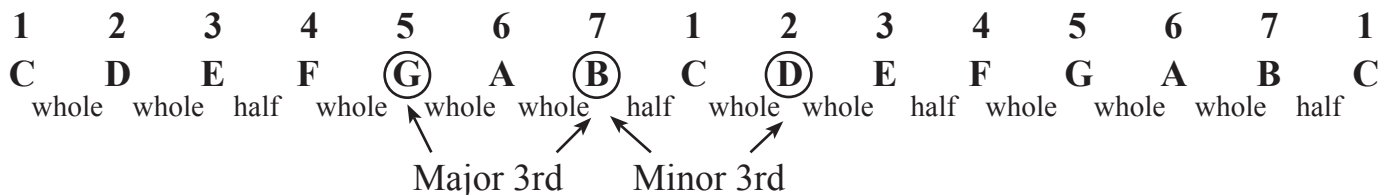


Every chord has a root, a 3rd, and a 5th. In this case, the root is the E, the 3rd is the G, and the 5th is the B. Don't let the scale degrees confuse you. These are two entirely different systems. We have combined the 3rd degree, the 5th degree, and the 7th degree of the C major scale into a E minor chord. The E minor chord has a root E, a 3rd G, and a 5th B. (The G is a 3rd higher than E and the B is a 5th higher than the root E). This process will become clearer once we have gone through all the chords in the key of C.

Now let's build the 4th chord in the key of C. Start on the 4th degree F and then add A and C. This builds a F major chord. Notice the intervals between F and A and A and C. This explains why it is F major.

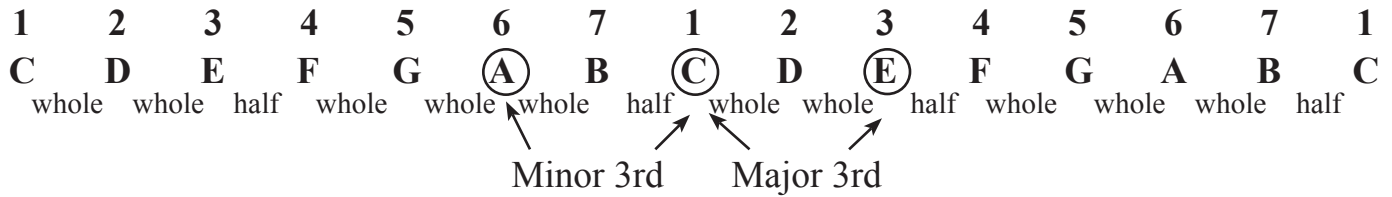


The 5th chord in the key of C starts on the note G. To build this chord, we will have to extend our C major scale into a second octave. Combine every other note and this chord will contain G, B and D. This is a G major chord.

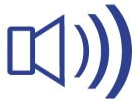
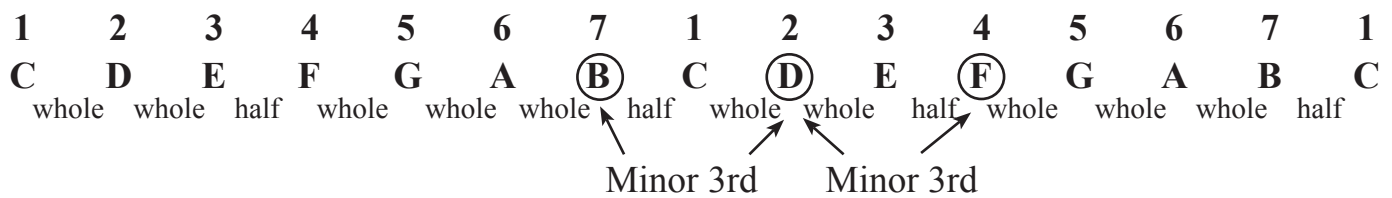


Try different gauges and brands of picks for different sounds and techniques.

The 6th chord in the key of C starts on the note A. Combine every other note until we have three and we have an A minor chord consisting of A, C, and E.



The 7th chord in the key of C starts on the note B. The three notes in this chord are B, D, and F. This is a B diminished chord.



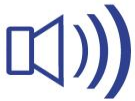
We have now built a chord starting on each note of the C major scale. These are the chords in the key of C. We can turn each into 7ths, 9ths, 11ths, 13ths, etc., but these are the starting points and the set of chords associated with the key of C. *A key is a set of notes (such as the C major scale) and the chords that are constructed from these notes.* Here is a list of the chords in the key of C.

Scale Degrees	Scale Notes	Chords	Chord Notes
1	C	C Major	C,E,G
2	D	D Minor	D,F,A
3	E	E Minor	E,G,B
4	F	F Major	F,A,C
5	G	G Major	G,B,D
6	A	A Minor	A,C,E
7	B	B Diminished	B,D,F

CHORDS IN OTHER MAJOR KEYS

Now that we have gone through the process of constructing the chords in the key of C, we can apply the same formula to all the other major keys. Because all major scales are built using the same series of intervals, the chords or "chord qualities" will fall into the same sequence. Let's explore G major as another example.

The G major scale has seven notes. Notice once again that the series of intervals remains the same for every major scale. It helps to pay particular attention to where the half steps fall. In a major scale, they are between the 3rd and 4th degree and also between the 7th and 8th (or 1st) degree. The G major scale has one sharp and it is F sharp.



1 **2** **3** **4** **5** **6** **7** **1**
G **A** **B** **C** **D** **E** **F#** **G**
whole whole half whole whole whole #half

Now take every other note and build the chords in the key of G major.

Scale Degrees	Scale Notes	Chords	Chord Notes
1	G	G Major	G,B,D
2	A	A Minor	A,C,E
3	B	B Minor	B,D,F#
4	C	C Major	C,E,G
5	D	D Major	D,F#,A
6	E	E Minor	E,G,B
7	F#	F# Diminished	F#,A,C

If you compare these chords with the chords in C major, you will find that the order of chord qualities are the same. The notes of the scales are different, but the order of intervals are the same in each major scale. When combining notes to make chords, the qualities will be the same in each major scale. *The order of chords in every major key will be major, minor, minor, major, major, minor, diminished.*



TIP Never adjust a guitar yourself. Always use a guitar tech or luthier.

Below is a list of the major keys and their respective chords. Remember that each could be expanded into 7ths, 9ths, 11ths, 13ths, etc., simply by adding more notes.

C major	C,Dm,Em,F,G, Am,B [°]
G major	G,Am,Bm,C,D,Em,F [°]
D major	D,Em,F [°] m,G,A,Bm,C [°]
A major	A,Bm,C [°] m,D,E,F [°] m,G [°]
E major	E,F [°] m,G [°] m,A,B,C [°] m,D [°]
B major	B,C [°] m,D [°] m,E,F [°] ,G [°] m,A [°]
F [°] major	F [°] ,G [°] m,A [°] m,B,C [°] ,D [°] m,E [°]
C [°] major	C [°] ,D [°] m,E [°] m,F [°] ,G [°] ,A [°] m,B [°]
F major	F,Gm,Am,B ^b ,C,Dm,E [°]
B ^b major	B ^b ,Cm,Dm,E ^b ,F,Gm,A [°]
E ^b major	E ^b ,Fm,Gm,A ^b ,B ^b ,Cm,D [°]
A ^b major	A ^b ,B ^b m,Cm,D ^b ,E ^b ,Fm,G [°]
D ^b major	D ^b ,E ^b m,Fm,G ^b ,A ^b ,B ^b m,C [°]
G ^b major	G ^b ,A ^b m,B ^b m,C ^b ,D ^b ,E ^b m,F [°]
C ^b major	C ^b ,D ^b m,E ^b m,F ^b ,G ^b ,A ^b m,B [°]



Strings should be changed every 2 months or when they show corrosion.

CHORDS IN THE KEY OF A MINOR

The great thing about learning the chords in minor keys is that we already know them. At least we know the chords based on the natural minor scale (remember there are two other variations of the minor scale, harmonic and melodic minor). If you recall the relative major and minor concept, A minor and C major consist of exactly the same notes. A minor simply starts on A instead of C. If we use this as our scale bed for chords, we will wind up with exactly the same chords as C major. Here is the A natural minor scale. Notice it has the same notes as C major (page 57).



A_{whole} B_{half} C_{whole} D_{whole} E_{half} F_{whole} G_{whole} A

Here are the chords constructed from the A natural minor scale.

Scale Degrees	1	2	3	4	5	6	7	8
Scale Pitches →	A C E	B D F	C E G	D F A	E G B	F A C	G B D	A C E
Chord Names	Am	Bdim	C	Dm	Em	F	G	Am

← Chord Pitches

Notice these are the same chords as in C major. However, in the key of A minor we start on the note A, so the 1st chord in this key is A minor.

Chords in C Major

C Dm Em F G Am Bdim

The chords in the relative keys are exactly the same. A minor has the same chords as C major and the key of B minor has the same chords as D major. Go back and review the relative major and minor keys. You should now be able to construct all the chords in major and minor keys.

All the minor keys will all have the same order of chords, minor, diminished, major, minor, minor, major, major.



TIP Dynamics means how loud or how soft you play.

CHORDS DERIVED FROM HARMONIC MINOR

The harmonic minor scale is the natural minor scale with a raised 7th degree. This is only one note different from the natural minor scale, but it will affect three chords when derived from harmonic minor. Let's examine the A harmonic minor scale and see why.

A **B** **C** **D** **E** **F** **G#** **A**
whole half whole whole half minor 3rd half
 1 2 3 4 5 6 7 8



Notice the 7th degree is a G sharp. To build chords from this scale, we must start with each note in the scale and take every other note so each chord has three notes. Here is a chart showing these notes and chords.

Scale Degrees	1	2	3	4	5	6	7	8
Scale Pitches →	A	B	C	D	E	F	G#	A
	C	D	E	F	G#	A	B	C
	E	F	G#	A	B	C	D	E
Chord Names	Am	Bdim	CAug	Dm	E	F	G#dim	Am

← Chord Pitches

We have three different chords from the natural minor scale (page 62). Notice the G sharp in the 3, 5, and 7 chords. The 3rd chord was a C major in the natural minor scale and is now a C augmented. (This is our first look at an augmented chord derived from a scale). The 5 chord was an E minor and is now E major. The 7 chord was G major and is now G sharp diminished. Raising the 7th degree changes the notes and intervals that make up these chords and thus has a profound affect on our selection of chords.

When using the harmonic minor scale, the sequence of chords is minor, diminished, augmented, minor, major, major, diminished.

You can use this formula to derive all the chords using every harmonic minor scale.



Music theory explains common musical events. It is not a set of rules.

CHORDS DERIVED FROM A MELODIC MINOR

The melodic minor scale has a raised 6th and 7th degree when compared to the natural minor scale. If the harmonic minor scale has three different chords, how many do you think will be different in melodic minor? Six chords would be correct. Remember there were only seven possible chords to start with and now six are different. Let's examine the A melodic minor scale and the chords derived from this scale.

A **B** **C** **D** **E** **F#** **G#** **A**
whole half whole whole whole whole half
 1 2 3 4 5 6 7 8



Notice the 6th degree is a F sharp and the 7th degree is a G sharp. To build chords from this scale, start with each note in the scale as a root and combine every other note. Here is a chart showing these notes and chords.

Scale Degrees	1	2	3	4	5	6	7	8
Scale Pitches →	A	B	C	D	E	F#	G#	A
	C	D	E	F#	G#	A	B	C
	E	F#	G#	A	B	C	D	E
Chord Names	Am	Bm	Caug	D	E	F#dim	G#dim	Am

← Chord Pitches

Notice the F sharp and G sharp affecting all the chords but the first chord. We now have six different chords when compared to the natural minor scale. Whenever we change one note in the scale, it affects three of our triads.

When using the melodic minor scale, the sequence of chords is minor, minor, augmented, major, major, diminished, diminished.

You can use this formula to build the chords in every key using the melodic minor scale.



Songs that don't stay strictly in the key may be said instead to have a tonal center.

WHEN TO USE NATURAL, HARMONIC OR MELODIC MINOR

When we say a song is in a minor key, we are generally thinking of the natural minor scale as this is the most widely used scale. The harmonic minor and melodic minor scales can be used whenever we feel like it. Many songs pull from all three. When soloing, this is also the case. Many players use all three scales in any minor key. It comes down to what sounds good to you. Experimentation and experience will guide you. Analyzing other songs will also help a great deal. Take out one of your favorite song books and look at the chords. Once we know what key the song is in, we can then determine the possible chords.

This leads to a very important point. A song in a major key has only seven possible chords to pull from if it stays in that key. A song in a minor key might pull from all three variations of the minor scale. There is a wider variety of chords in a minor key and I believe this is why minor keys tend to sound so interesting. Minor keys have so many options.

SUMMARY OF THE SCALE & CHORD RELATIONSHIP

Chords can be viewed on their own or as constructed from scales. Chords and scales have a very strong relationship. Chords can be derived from scales and when they are, this firmly establishes a key. For example, the key of C major contains the notes C, D, E, F, G, A, B, C, and the chords C major, D minor, E minor, F major, G major, A minor, and B diminished. Each note will also be a 3rd or 5th of another chord in that key. As we move on to more complex chords in the future, they may also be the 7th, 9th, 11th, or 13th.

You should practice writing out scales and the chords derived from that scale. I used C major and A minor as examples, but you should try all the others on your own. You have to be able to think of these things fast when on a job. Struggling to remember what chord the 6th chord should be is going to get you in trouble fast.

We will now move on to chord progressions, which are derived from the scales as well. Now that we know the chords in any given key, we must put them in an order that sounds musical or that supports a particular melody.

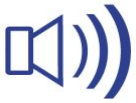


Guitar is a percussive instrument, think rhythm.

SECTION 6

CHORD PROGRESSIONS

What is a chord progression?	page 67
What is the most widely used chord progression?	page 67
What is the 5 chord and why is it so important?	page 70
What is the role of tension in music?	page 71
What is the 12 bar blues chord progression?	page 73
What is the most popular chord progression in jazz?	page 77
When a bass player tells me, "It's a 1-6-2-5", what does that mean?	page 79



WHAT IS A CHORD PROGRESSION?

A chord progression is a series of chords. When you listen to a song, the backing instruments, whether they are guitars, strings, or keyboard, are all playing a chord progression. Hopefully, they are all playing the same chord progression at the same time. In many songs, it is the same short chord progression repeated over and over for each section of the song, such as the verse, chorus, bridge, etc. There are even songs that have only one chord throughout the entire song. Let's begin by looking at the most common chord progressions.



THE 1-5 CHORD PROGRESSION

The 1-5 chord progression has been with us since the time of Bach and before. It is the most common chord progression of all time. It is a large musical concept as well. So what does 1-5 mean? The 1 represents the 1st chord in any key or scale. For example, in the key of C, the 1 would be C. The 5 represents the 5th chord in any key or scale. In C, the 5th chord would be G. In the last chapter, we gave every chord a number in each key. In the key of C, it looked like this:

Scale Degrees	Scale Notes	Chords	Chord Notes
1	C	C Major	C,E,G
2	D	D Minor	D,F,A
3	E	E Minor	E,G,B
4	F	F Major	F,A,C
5	G	G Major	G,B,D
6	A	A Minor	A,C,E
7	B	B Diminished	B,D,F

Notice the 1 chord and the 5 chord. The scale degrees on the left tell you the 1 is C and the 5 is G. In the chords column, you should remember that the 1 chord in any major key is a major chord, and the 5 chord in any major key is a major chord. So the 1-5 chord progression in C is C-G, both being major chords. This formula works in any key.

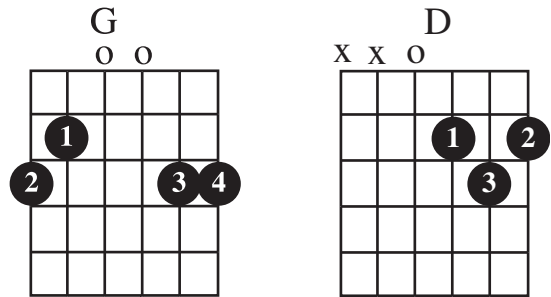
It may also be important to know that in the academic world of music, they often use roman numerals to represent chord progressions (I-V). For our use, we will stick to basic numbers (1-5).

The 1-5 chord progression in the key of G is G-D. G is the 1 and D is the 5. Simply start on G and count up five degrees of the scale. In the key of D, the 1-5 chord progression is D-A. In the key of A, the 1-5 is A-E.

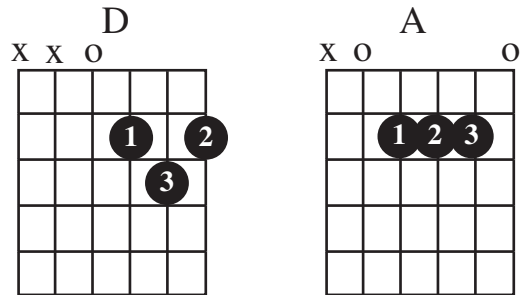
The 1-5 chord progression is in many songs, but that doesn't mean there aren't more chords played in that song. Perhaps just one section of the song is made up of this chord progression. We will look at longer chord progressions as we move on.



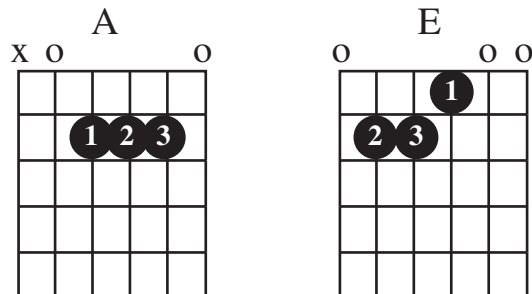
1-5 chord progression in G



1-5 chord progression in D



1-5 chord progression in A

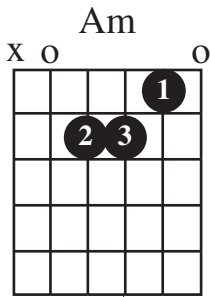


TIP

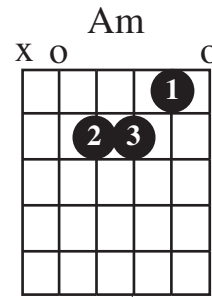
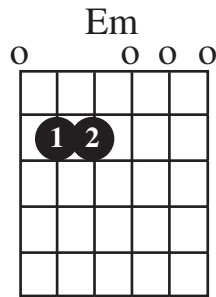
Playing in time is the most important job of any musician.

1-5 IN A MINOR KEY

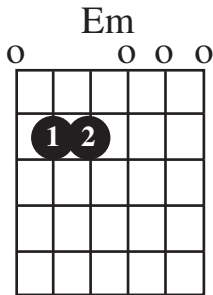
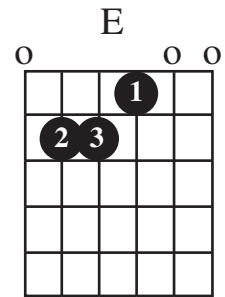
In a minor key, this chord progression works the same way. This time the 1 chord will be a minor chord and the 5 chord will be major or minor. The reason the 5 could be either is because we might be using the natural, harmonic, or melodic minor scales. Review the chapter on scales if you have forgotten what these are. In the case of natural minor, the 1 and 5 chord are minor. In A minor, this means the 1-5 is made up of A minor and E minor. If we use the harmonic or melodic minor scale, the 5 chord is major. In this case, it would be Am-E. Neither is more correct, just different options. In E minor, the 1 is E minor and the 5 could be B minor or B. In the key of B minor, the 1 chord is B minor and the 5 chord is either F sharp minor or F sharp major. The reason the 5 has a sharp is because in the key of Bm, the 5th degree is F sharp. This means the chord must be sharp as well.



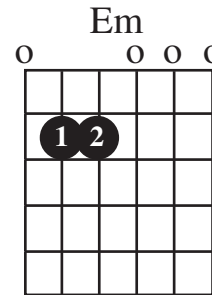
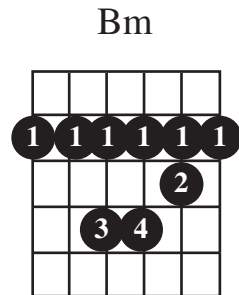
1m-5m chord progression Am



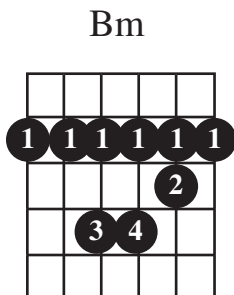
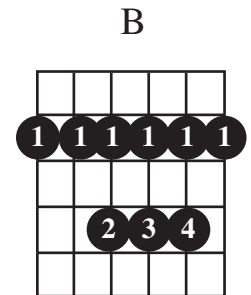
1m-5 chord progression in Am



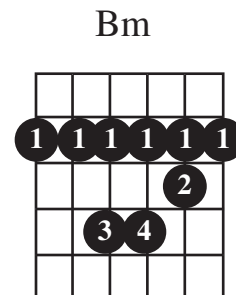
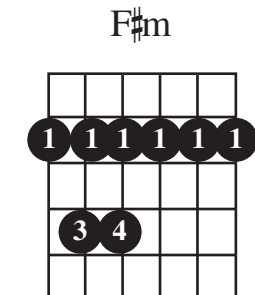
1m-5m chord progression Em



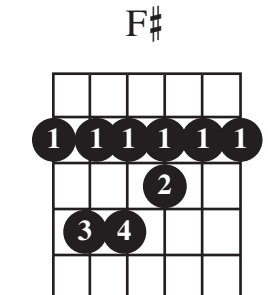
1m-5 chord progression in Em



1m-5m chord progression Bm



1m-5 chord progression in Bm



THE PURPOSE OF A CHORD PROGRESSION

The main job of a chord progression is to support the melody of the song. The chords should have a strong relationship to the notes being sung or played over them. If they don't, they are poor choices for that particular melody. Therefore, the notes in the chord should also be in the melody. This doesn't mean that every note in the chord is used in the melody, but a note from the chord appears in the melody while it is being played. It tends to be on a strong beat as well. This may seem a little vague at first, but you will get the idea the more you experiment with chord progressions. As you study music theory, make it a habit to look at other songs and analyze their chord progressions. This is a great way to learn about chord progressions and melody.

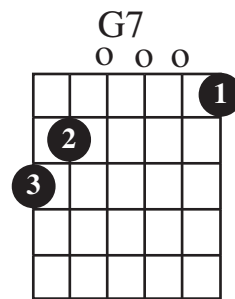
THE SPECIAL FUNCTION OF THE 5 CHORD

The 5 chord is a special chord in music. Many would consider this the most important chord and the concepts surrounding it as the most important in music theory. Let us deal with a couple of side issues first. *The 5 chord is often referred to as the Dominant.* One reason is because it is often turned into a dominant 7th. The original name goes far back into music history. We haven't discussed 7th chords too much, but a dominant 7th would be a major chord with a flat 7. This occurs naturally when using the 5th degree of the scale to make a 7th chord. (A flat 7th is a minor 7th up from the root).



G Dominant 7 chord

G-B-D-F
1 3 5 7



There are two classes of dominant chords (5 chords). A functioning dominant or a non-functioning dominant. Here I am discussing the functioning dominant. *The functioning dominant or 5 chord's job is to return to the 1. In other words, the next chord after a functioning 5 chord is the 1.* This is because the nature of the 5 chord is to create tension.

TIP

Don't be afraid to experiment with different brands of strings.

This tension created by a dominant chord is released or resolved when returning to the 1 chord. An example of a functioning 5 chord in the key of C would be C-G-C. The G chord is the 5 chord in the key of C. It is very common to turn this chord into a dominant 7th chord. Another way of playing the same idea, only creating even more tension, is to play C-G7-C. The extra note added to G helps create tension that is released when we arrive at C. This is true in any key or in any genre of music.

As we move forward to more complex theory, much will be based on this idea. It cannot be overstated. *The 5 to 1 chord progression is simply the most important in all of music theory.*

TENSION AND RELEASE

Tension is the driving force of all music. Tension is created when a listener is expecting a certain event in music. Once that event arrives, the tension is released. A great example of tension is the dominant 7th chord we just discussed. When we hear this chord progression, we expect to hear the 1 chord after the dominant.



C-G7-C

1 5 1

Another good example of tension is the sus4 chord. *Any sus chord has no 3rd.* For example, a Dsus4 chord contains these notes:

Dsus4

Chord Tones

D-G-A

1 4 5

D

Chord Tones

D-F#-A

1 4 5

Normally, a D major chord has a 1, 3, and 5. Notice the sus4 chord has a 4th in place of the 3rd. This creates a nice bit of tension that is released when we play Dsus4 and then play D major. Most folks have heard this sound many, many times. If I want more tension, I simply wait longer to return to the D major.

These are two obvious examples. Less obvious examples would be how a crescendo (getting louder) can create tension. We expect the music to keep getting louder until it drops off and starts again. Another example might simply be a rhythm or beat that we expect to continue. If we change the beat, we see our expectations are not fulfilled and a great sense of tension results.

Tension is a good thing in music. It is what makes us listen and continue to listen. A performer's job is to create tension in the manner that the genre of music allows. Jazz has a different idea about tension than rock or classical. Blues creates tension in different ways than country. This is the overall way to understand a genre of music. What expectations do the listeners have and how is tension created and released?

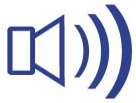
Perhaps the most interesting question of all is why do we have the expectations we have when listening to music and where did they come from? Why do totally different methods of making music seem to arrive at similar sounds and ideas? It may be as simple as the fact that we have heard these same ideas for centuries and have grown to expect certain sounds. It may even be more intrinsic or mathematical than that. There are countless theories about this concept, but we will never truly know the answer.

Once again, music is driven by tension and release. Instead of thinking of sounds as ugly or displeasing or pure or pretty, start to think of them as tense or static. Does this chord create tension or release it? Is there more tension in this chord or melody than another? How do I create musical events that are interesting to the listener?

Let us now move on to more chord progressions.



The Let's Jam CDs by Watch and Learn are also great for practicing chords and rhythm.

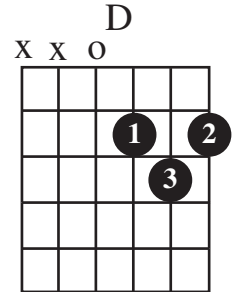
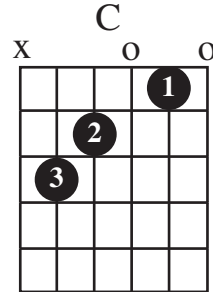
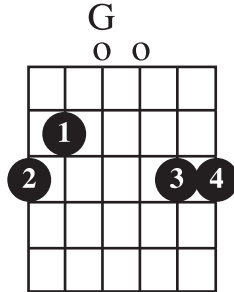


THE 1-4-5 CHORD PROGRESSION

The 1-4-5 chord progression is really just an extension of the 1-5 chord progression. Many might argue that this is the most common chord progression in music since most songs don't have just two chords, the 1 and the 5. Here is the 1-4-5 chord progression in the key of G.

1-4-5 chord progression in G

G-C-D
1 4 5



Perhaps the most famous use of the 1-4-5 chord progression is the 12 bar blues song form. Here is the 12 bar blues in the key of E. All the chords in this chord progression have been turned into a dominant 7th chord. This is typical of the 12 bar blues sound.



For more blues try the **Intro to Blues**
Guitar Course by Watch & Learn.

The 1-4-5 combination provides valuable insight into a song as well. Remember that the 1, 4, and 5 chords in a major key are all major. These are the only major chords in a major key. They are also in that particular combination in one key and one key only. For example, in the key of G the 1 is G, the 4 is C, and the 5 is D. These three major chords are only together in the key of G. No other major key has all three of these major chords. Therefore, many times you can determine what key a song is in by looking for three major chords and then determining which must be the 1, 4, and 5. This should help establish the key.

When we say it is a 1,4,5 chord progression, more chords are occasionally thrown in and the 1,4,5 doesn't always appear in that exact order. This is a shorthand way of describing a chord progression used by players.

1-4-5 CHART IN ALL MAJOR KEYS

C major	C,F,G
G major	G,C,D
D major	D,G,A
A major	A,D,E
E major	E,A,B
B major	B,E,F#
F# major	F#,B,C#
C# major	C#,F#,G#
F major	F,Bb,C
Bb major	Bb,Eb,F
Eb major	Eb,Ab,Bb
Ab major	Ab,Db,Eb
Db major	Db,Gb,Ab,
Gb major	Gb,Cb,Db
Cb major	Cb,Fb,Gb



*If you don't know all the chords above you can find them in **The Guitarist's Chord Book** by Watch and Learn.*

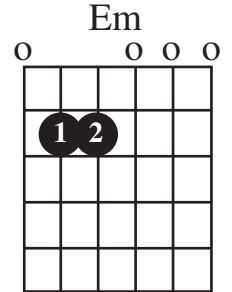
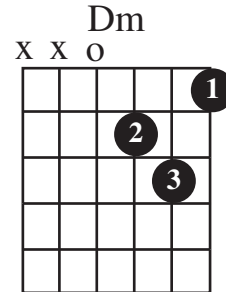
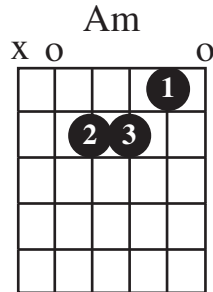
THE 1-4-5 CHORD PROGRESSION IN A MINOR KEY

The 1-4-5 chord progression in a minor key has several options. If it is based on the natural minor scale, all three chords will be minor. For example, consider the minor 1-4-5 below:



1-4-5 chord progression in Am

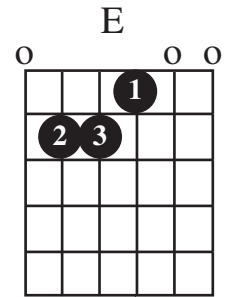
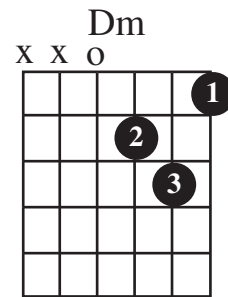
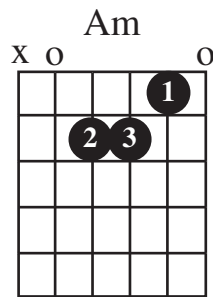
Am-Dm-Em
1m 4m 5m



If this same chord progression were based on the harmonic minor scale, these three chords would be as follows:

1-4-5 chord progression based on
A harmonic minor

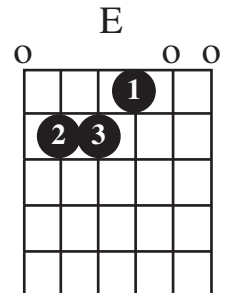
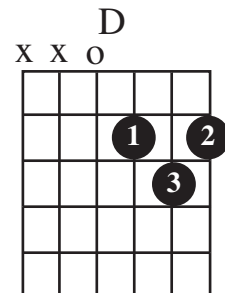
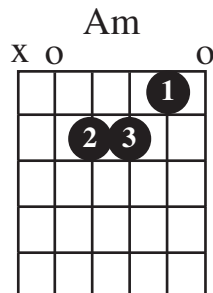
Am-Dm-E
1m 4m 5



If we base the same chord progression on the melodic minor scale, the three chords become:

1-4-5 chord progression based on
A melodic minor

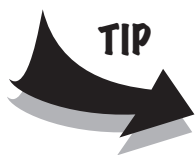
Am-D-E
1m 4 5



TIP Never practice electric guitar barefoot on a cement floor.

We have a lot of variety in a minor key. It all depends upon the desired sound and the melody these chords are supporting. We often find songs that switch between a major and minor 4 chord when in a minor key. The same thing is true for the 5 chord in a minor key. Remember that the 5 chord may be turned into a dominant 7 chord by adding a flat 7 to the chord. In A minor, this would mean you play a E7 chord. This is quite common and simply adds tension, which is then released or resolved by returning to the 1 minor chord.

Key	Natural Minor	Harmonic Minor	Melodic Minor
A minor	Am,Dm,Em	Am,Dm,E	Am,D,E
E minor	Em,Am,Bm	Em,Am,B	Em,A,B
B minor	Bm,Em,F#m	Bm,Em,F#	Bm,E,F#
F# minor	F#m,Bm,C#m	F#m,Bm,C#	F#m,B,C#
C# minor	C#m,F#m,G#m	C#m,F#m,G#	C#m,F#,G#
G# minor	G#m,C#m,D#m	G#m,C#m,D#	G#m,C#,D#
D# minor	D#m,G#m,A#m	D#m,G#m,A#	D#m,G#,A#
A# minor	A#m,D#m,E#m	A#m,D#m,E#	A#m,D#,E#
D minor	Dm,Gm,Am	Dm,Gm,A	Dm,G,A
G minor	Gm,Cm,Dm	Gm,Cm,D	Gm,C,D
C minor	Cm,Fm,Gm	Cm,Fm,G	Cm,F,G
F minor	Fm,Bbm,Cm	Fm,Bb,m,C	Fm,Bb,C



TIP *The Acoustic Rock Guitar Primer and DVD has many chord progressions, songs, and strum patterns.*

THE 2-5-1 CHORD PROGRESSION

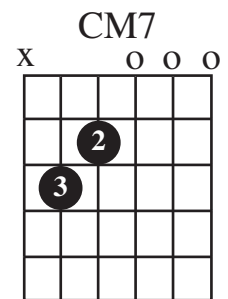
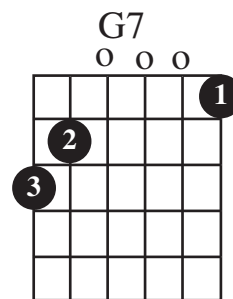
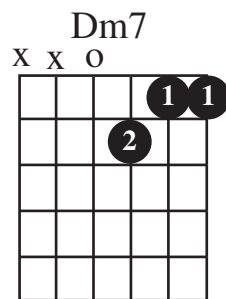
The 2-5-1 chord progression is the most common chord progression in jazz. It is found in many other genres of music as well, but it is famous for its usage in jazz standards. The 2-5-1 is the equivalent to the 1-4-5 chord progression in pop, classical, blues, and rock. Many times, it is the vehicle used to establish the key or used as a way to modulate easily. ***A modulation is a key change during a song.*** This is done quite frequently in jazz. The 2 chord in a major key is minor, the 5 chord is major, and the 1 chord is major. All these chords are generally turned into more complex chords when playing jazz, such as 7ths. Since this is the way we will use it the most, we will look at it this way. For other simpler forms, you can just take away the 7ths and play it that way. Here is the 2-5-1 in the key of C major.



2-5-1 chord progression in C

Dm7-G7-CM7

2m 5 1



Notice the 2 chord is minor, since in any major key the 2 chord is minor. The 5 chord is a dominant 7th and the 1 chord is a major 7th. This means in the 1 chord, the 7th is not flatted but natural. The notes in a CM7 (C Major 7) chord are C-E-G-B. If it were a C dominant 7th (C7) the notes would be C-E-G-B \flat . 7th chords are beyond the scope of this book, but it may help to know this little bit of information when looking at this chord progression.

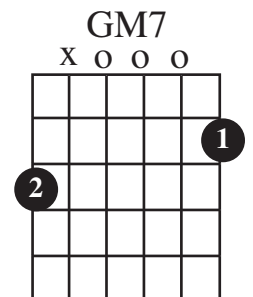
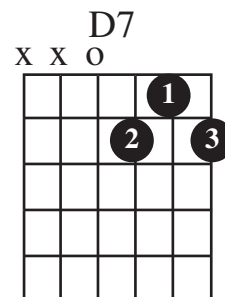
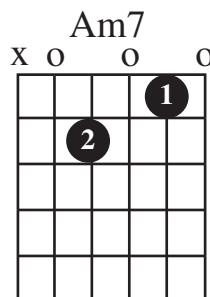
Sometimes it confuses students to see this chord progression starting on a 2 chord. The whole chord progression, however, is in the key of C. Many chord progressions begin on a chord other than the 1 chord. Here is an example of a 2-5-1 in the key of G. It is really quite easy to figure out. Just look at the key and plug in the right chords.



2-5-1 chord progression in G

Am7-D7-GM7

2m 5 1



TIP

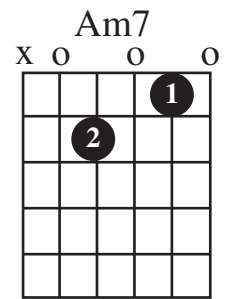
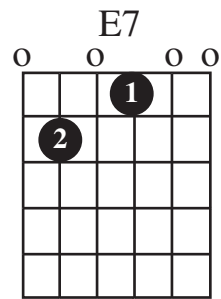
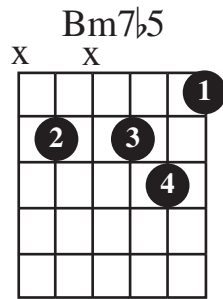
When flying or traveling through mountains, loosen up the strings on your guitar.

THE 2-5-1 CHORD PROGRESSION IN A MINOR KEY

There is one very common 2-5-1 chord progression in a minor key and it is based on the harmonic minor scale. Since this is the most common way we will see this chord progression, we will only look at this example. The chords are all turned into 7th chords and are a concept beyond the scope of this book. However, since this is the way you will probably see them, we will discuss this chord progression in this manner. Here is an example of a minor 2-5-1 in the key of A minor:



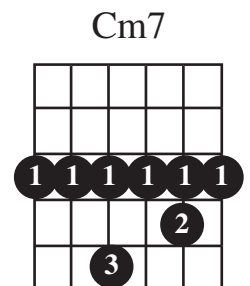
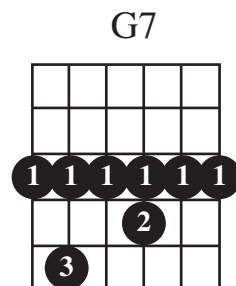
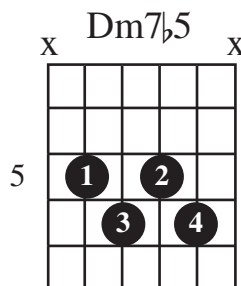
2-5-1 chord progression in Am
Bm7 \flat 5-E7-Am7
2m 5 1m



The 2 chord is a minor 7th with a flat five or read as a B minor 7th with a flat five. The minor 7 chord has a flat 5th because the 2 chord in a harmonic or natural minor scale is a minor 7th with a flat 5th. The flat five falls into the scale or key signature naturally when playing the 2 chord. Notice just because it has a flat 5th doesn't mean there must be a flat sign in front of the note. It is just one fret lower than usual. In this case, it means the notes in the chord are B-D-F-A. If the 5th weren't flatted, the F would be the note F sharp. This chord could also be called B half diminished 7th. Again, this is beyond our scope, so if you don't quite understand, you should proceed to more advanced music theory. The 5 chord in the harmonic minor scale is major, so our chord is E7. This is a major chord with a dominant or flat 7. The 1 chord is the A minor 7th chord. Here is another example: a minor 2-5-1 in the key of C minor.



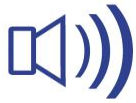
2-5-1 chord progression in Cm
Dm7 \flat 5-G7-Cm7
2m 5 1m



You should experiment making minor 2-5-1 chord progressions in all keys using this formula.

THE 1-6-2-5 CHORD PROGRESSION

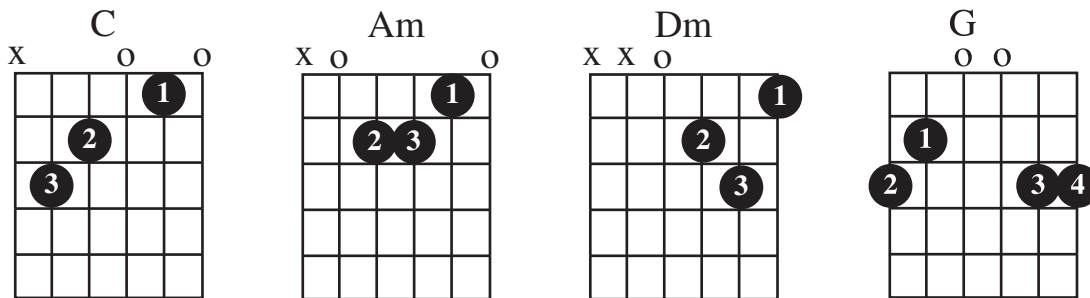
The 1-6-2-5 chord progression is another staple in many genres of music. From rock to pop to country to jazz and blues, this chord progression has been used in many variations. For our purposes, we will look at it in its most basic presentation. In C major, this chord progression would look like this:



1-6-2-5 chord progression in C

C-Am-Dm-G

1 6m 2m 5

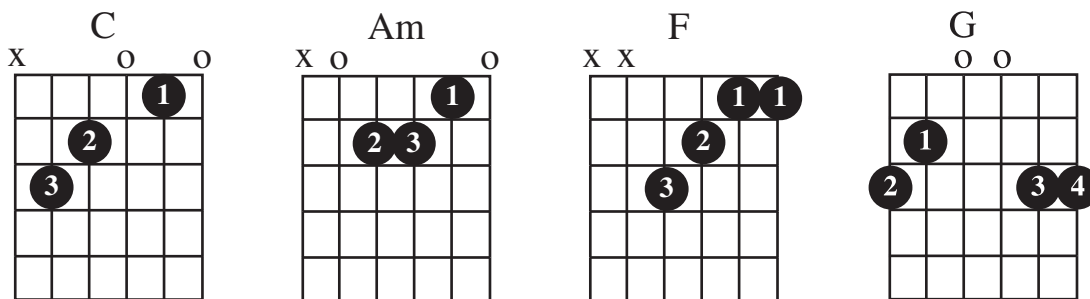


As with all these chord progressions, we have simply plugged in the correct quality of chord for each number or scale degree. The 1 chord in C major is C, the 6 chord is A minor, the 2 chord is D minor, and the 5 chord is G major. You can do this with any key. Another slight variation of this chord progression is the 1-6-4-5 chord progression. Here is this variation in C.

1-6-4-5 chord progression in C

C-Am-F-G

1 6m 4 5



At this point, you should be able to practice making this chord progression in any key. Just use the formulas we have developed for chord progressions and keys.



*Practice new songs slowly and relaxed.
Work on speed after you can play it perfectly.*

SUMMARY OF CHORD PROGRESSIONS

There are many more chord progressions to be learned. A whole book could be written on this topic alone. We can't cover them all, but we can give you a method for thinking about them. The best way to study chord progressions is to take out your song books and analyze the chord progressions you find. Ask yourself these questions. What key is the song in? What are the chords? Where do you see the 1, 4, and 5 chords? Practice doing this and you will not only enhance your understanding of songs, but you will also gain more ideas for your own song writing and soloing.

Another great result of understanding chords and chord progressions is that you will be able to sit in easily with a band or ensemble. The leader tells you it's a 1-4-5 blues and you will know what he means. If you don't know a chord, the leader might yell to you on stage, "it's a 6", and you will know what it means.

This is also a tremendous advantage in the studio. When an engineer or producer tells you it's a 1-6-2-5 and you know what he means, he is going to be happy he used you. Better yet, you may become the guy who is responsible for charting out the songs. This means you are a vital member of the studio and therefore will be used more frequently. This leads to our final chapter in the book, reading charts and the Nashville number system.



TIP

Try to find friends who play. Playing with others is great fun and you will learn new things as well.

SECTION 7




READING CHARTS & THE NASHVILLE NUMBER SYSTEM

What is the Nashville number system?	page 82
How do I read a chord chart?	page 82-83
What is diamond when used as a musical symbol?	page 82
What is a push?	page 82-83
What is the advantage of using numbers to represent chords?	page 82

Reading charts and using the Nashville number system should be pretty easy now that you have studied keys and chord progressions. Charts for gigs and charts for the studio are frequently in this format. The person making the chart may write out the chords instead of numbers. Either way, numbers or chords, the rest of the information is the same. This system not only involves numbers, but symbols as well. Many of these symbols differ wherever you go. They are not really codified. Still, there are some constants and a way of thinking that will help you figure it out and be able to work successfully through a chart. First, let's start with a basic charted chord progression. If using numbers, the key will either be written down or stated to you. For this example we are in G, but by using numbers, we will be able to translate it into any key.



Sample Chart

							Each chord lasts half a measure ↓	
Intro	1	4	1	5	1	4	<u>1 5</u>	1
Verse 1	1	4	1	5	1	4	<u>1 5</u>	1
Chorus	4	1	4	5	2m	4	5	5 ⁷
Verse	1	4	1	5	1	4	<u>1 5</u>	1
Chorus	4	1	4	5	2m	4	5	5 ⁷
Bridge			^p 6m	<u>2m 5</u>				
								p means play early.
Chorus	4	1	4	5	2m	4	5	5/3
Chorus	4	1	4	5	2m	4	5	5 ⁷
End								

Diamond means hold chord.

This is an inversion with the 3rd in the bass.



TIP Keep your instrument from being knocked over. Purchase a guitar stand.

When looking at the previous chart, remember that we have been told to play in the key of G. This means the 1 chord is G, the 4 chord is C, and the 5 chord is D. The 2 chord is Am, and the 6 chord is Em. We are also told it is 4/4 time which means there are 4 beats to a measure. The numbers without lines underneath them last for one full measure or 4 beats. The numbers with lines underneath them split the measure, each lasting for 2 beats. The 5 chord has been turned into a dominant 7th chord at the end of the chorus. The diamonds around the chords in the bridge section and at the end of the song mean to hold the chord and let it ring. The "p" above the 6m chord in the bridge signifies a push. The chord is played before the downbeat. This is usually a half or quarter of a beat early depending on the feel of the song. There are different symbols used for a push depending on the individual making the chart. As stated earlier, there are many possible ways to make this chart, but this should give you a good feel for what is necessary. The 5 chord with the slash mark and 3 beneath it means play the 5 chord as an inversion with the 3rd in the bass. You can get away with just playing the 5, but the 3rd in the bass is what the songwriter or chart maker wanted here.

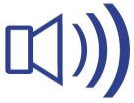
There is no strum pattern or rhythmic figure represented here. There might be a phrase at the top of the tune that tells you how to play the song, such as "rock" or "latin" or "shuffle". These terms are beyond the scope of this book, but they would help a great deal with your understanding of music. Expand your studies into this area if you don't recognize this idea.

If you were told to play this chart in D, you would have to change the chords. Everything else would stay the same. The 1 chord would be D, the 4 chord would be G, and the 5 chord would be A. The 2 chord would be Em and the 6 chord would be Bm.

The Nashville numbering system is really what we have already learned with a few more specifics thrown in. Charts can get much more complex than this. As you are asked to play more chords, the charts will look more and more complex.



Wiping down your guitar after playing will keep it looking and playing better.



CONCLUSION

Congratulations on completing *The Guitarist's Music Theory Book*. With the knowledge you now have, understanding songs, chord progressions, soloing and other important ideas relevant to guitar playing should be easier. For more information on chords, scales, licks, blues, rock, etc., be sure to look for more products by Watch & Learn.

ANSWERS TO AUDIO INTERVAL TESTS

1. Half Step Whole Step Quiz

1. Whole
2. Half
3. Half
4. Whole
5. Whole
6. Half
7. Whole
8. Whole
9. Half
10. Whole

2. Minor 3rd Major 3rd Quiz

1. Minor 3rd
2. Major 3rd
3. Major 3rd
4. Minor 3rd
5. Major 3rd
6. Minor 3rd
7. Major 3rd

3. Perfect 4th, Tritone, Perfect 5th Quiz

1. Tritone
2. Perfect 5th
3. Perfect 4th
4. Tritone
5. Perfect 5th
6. Perfect 4th
7. Tritone

4. Minor 6th, Major 6th Quiz

1. Minor 6th
2. Major 6th
3. Minor 6th
4. Major 6th
5. Major 6th
6. Minor 6th
7. Major 6th
8. Minor 6th

5. Minor 7th, Major 7th Quiz

1. Major 7th
2. Minor 7th
3. Major 7th
4. Minor 7th
5. Minor 7th
6. Major 7th

6. Unison, Octave Quiz

1. Unison
2. Octave
3. Unison
4. Unison
5. Octave
6. Octave
7. Unison