HINTON'S CUBES

"Hinton cubes" are a visualisation aid developed by the mathematician Charles H. Hinton to assist in visualising four-dimensional objects. Their use is fully described in the first appendix to *The Fourth Dimension* (London: Swann Sonnenschien, 1904; various reprints). The full set consists of eighty-one simple cubes, an inch or so along a side, each in one of sixteen colours according to the scheme explained in cap. XI-XII of *The Fourth Dimension*. In addition to these the set should also contain twenty-seven "slabs," flat coloured square pieces about an inch square, their thickness purely dependent on the material uses since they are to be used to represent, by analogy, how a representation of a three-dimensional object could be built up in two dimensions; and finally, twelve multi-coloured "catalogue cubes."

The catalogue cubes are coloured according to the scheme shown in the figure "Views of the Tesseract" on the next page (this is a reconstruction of the colour plate from *The Fourth Dimension*, execrably reproduced as a black and white photocopy in the Kessinger reprint). In fact, the views in that plate may be substituted for the catalogue cubes if one is able to mentally rotate the images as required.

For the simple cubes, obtain 81 1" or so wooden or plastic cubes and paint according to the following scheme:

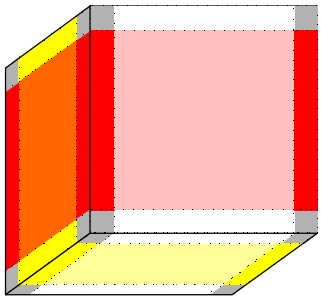
	16 ("Null")		4 (Orange)
	8 (White)		4 (Light blue)
	8 (Yellow)		4 (Pink)
	8 (Red)		2 (Brown)
	8 (Blue)		2 (Light purple)
	4 (Light yellow)		2 (Ochre)
	4 (Purple)		2 (Light green)
	4 (Green)		1 (Light brown)

To make the "slabs"; either print out in colour the page immediately following the views of the tesseract, cut out the two blocks of 27 squares and paste either side of a 3" by 9" piece of heavy card, then cut up into the individual squares; or paint each of a set of 27 1" squares of heavy card, hardboard, or whatever, in the colour scheme indicated.

To make the catalogue cubes, either print out in colour the four pages of nets, cut out, back onto card, fold and glue together; or alternatively, obtain twelve solid cubes and paint according to the scheme indicated.

VIEWS OF THE TESSERACT

No. 1.



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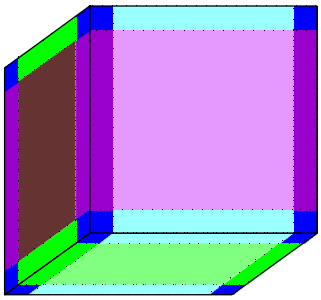

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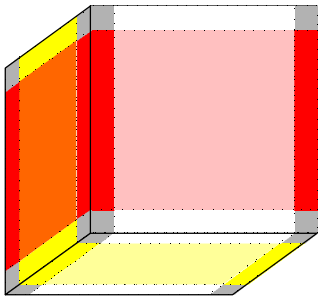

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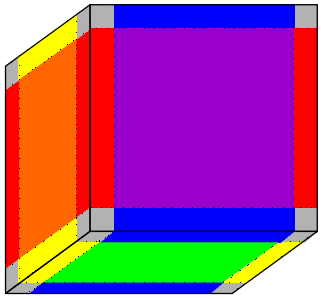

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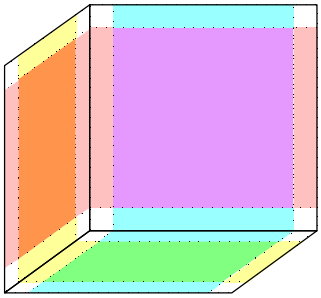

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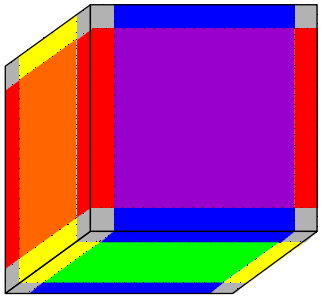

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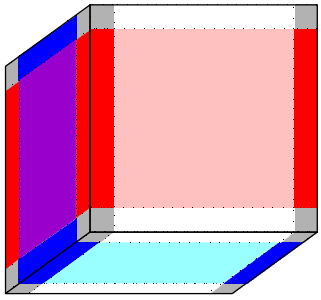

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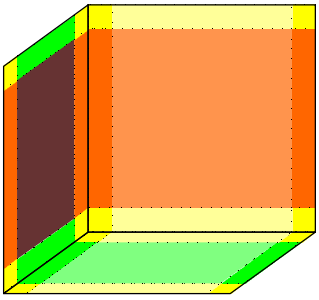

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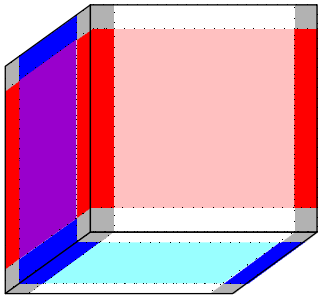

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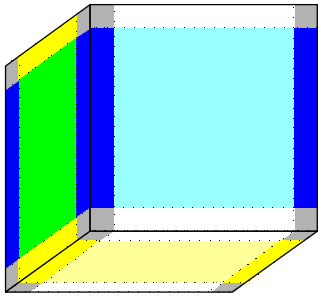

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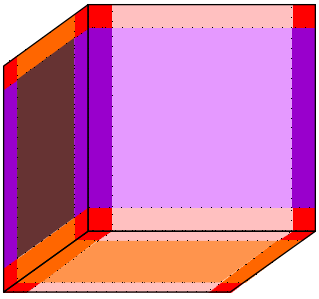

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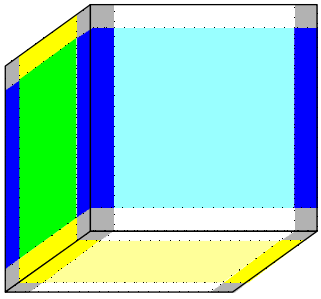
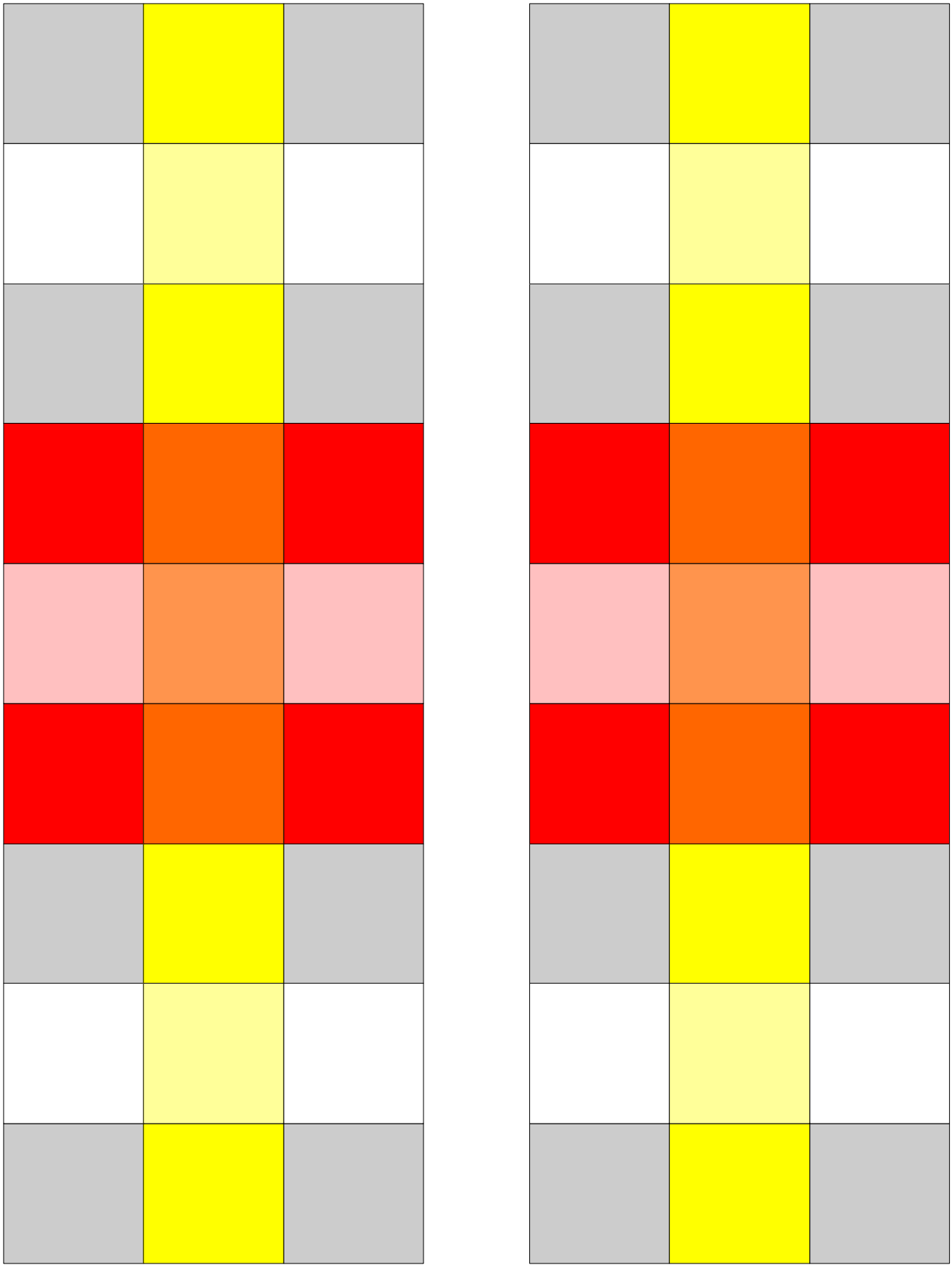
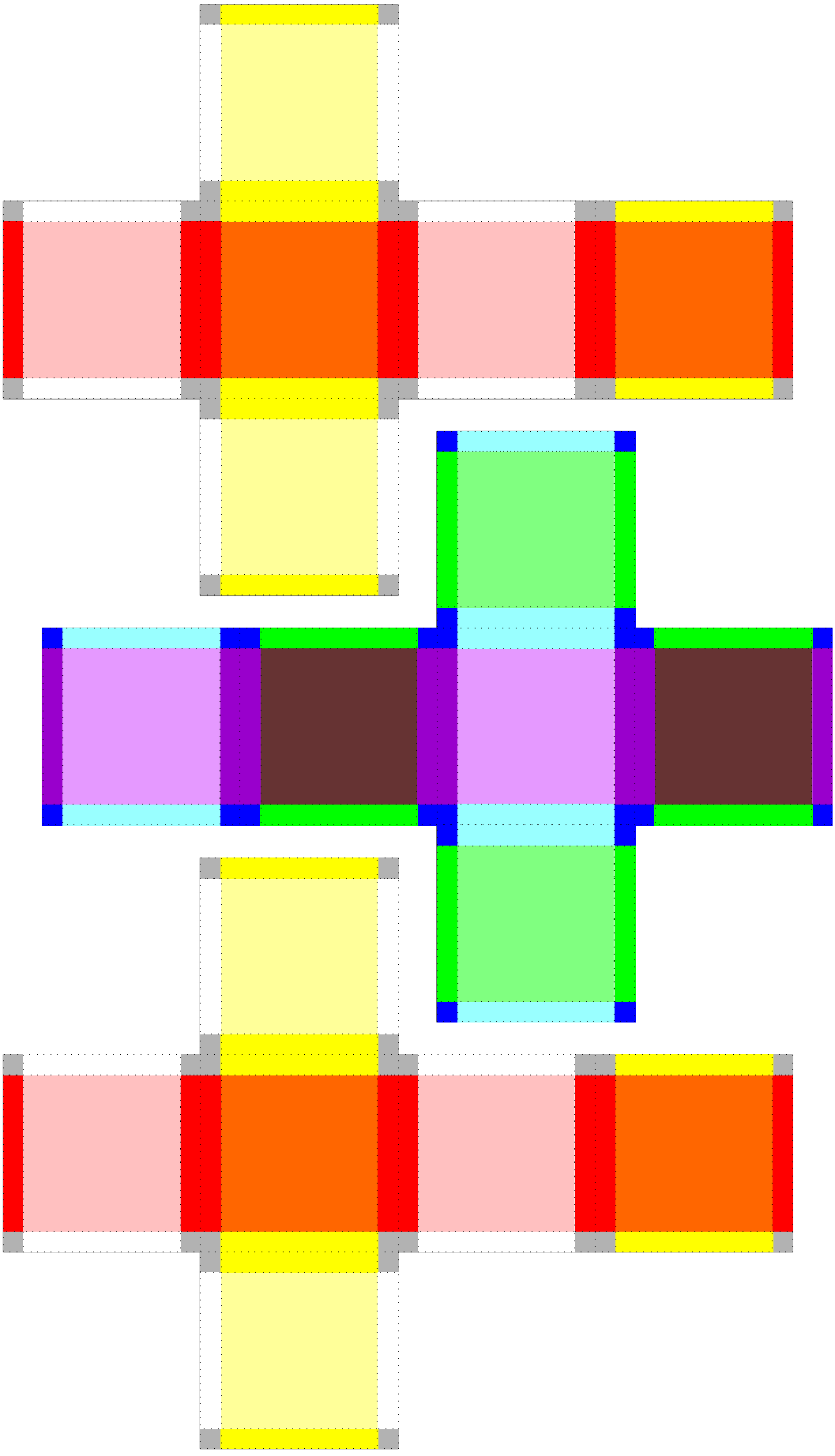


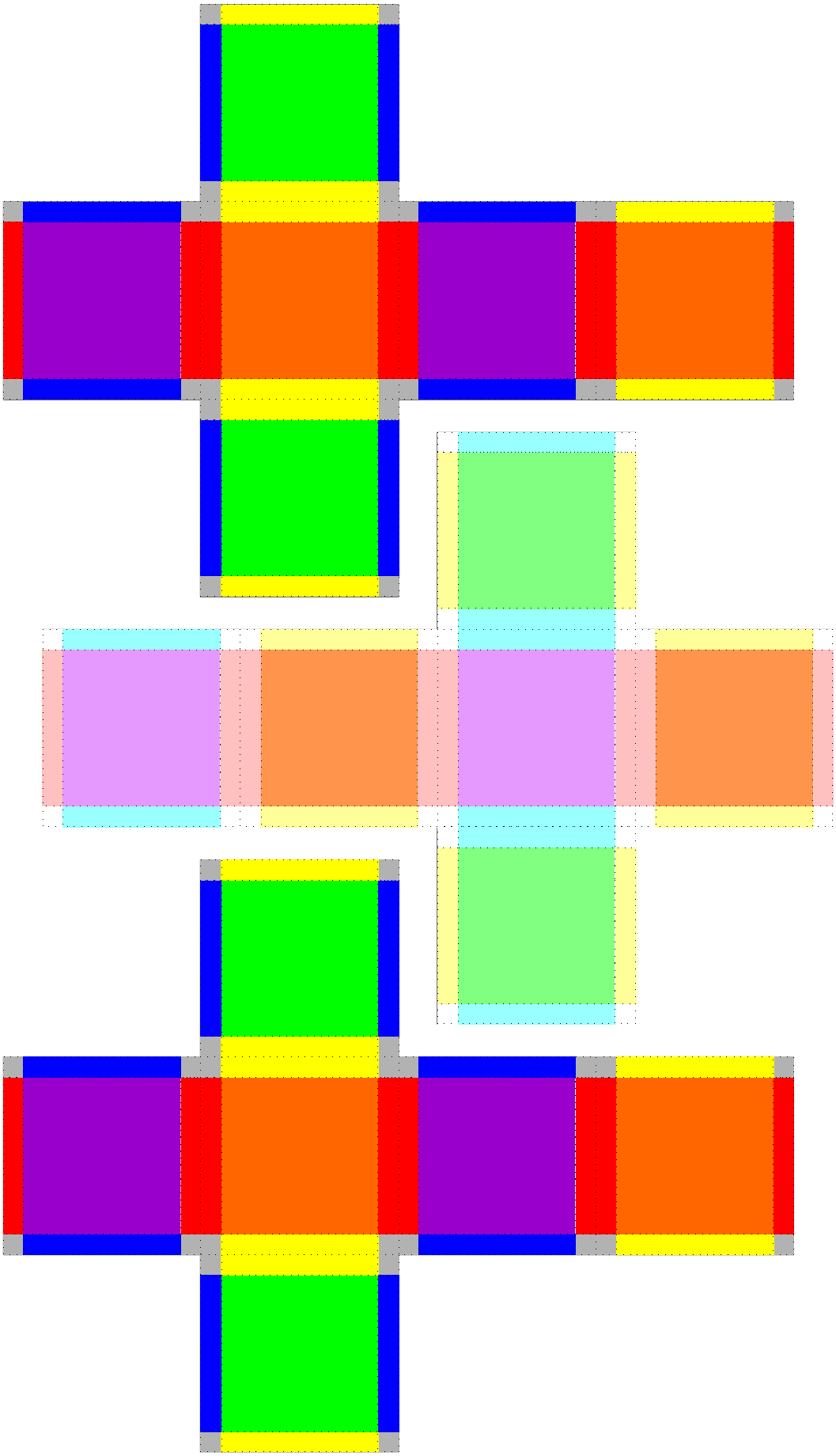
“Slabs”



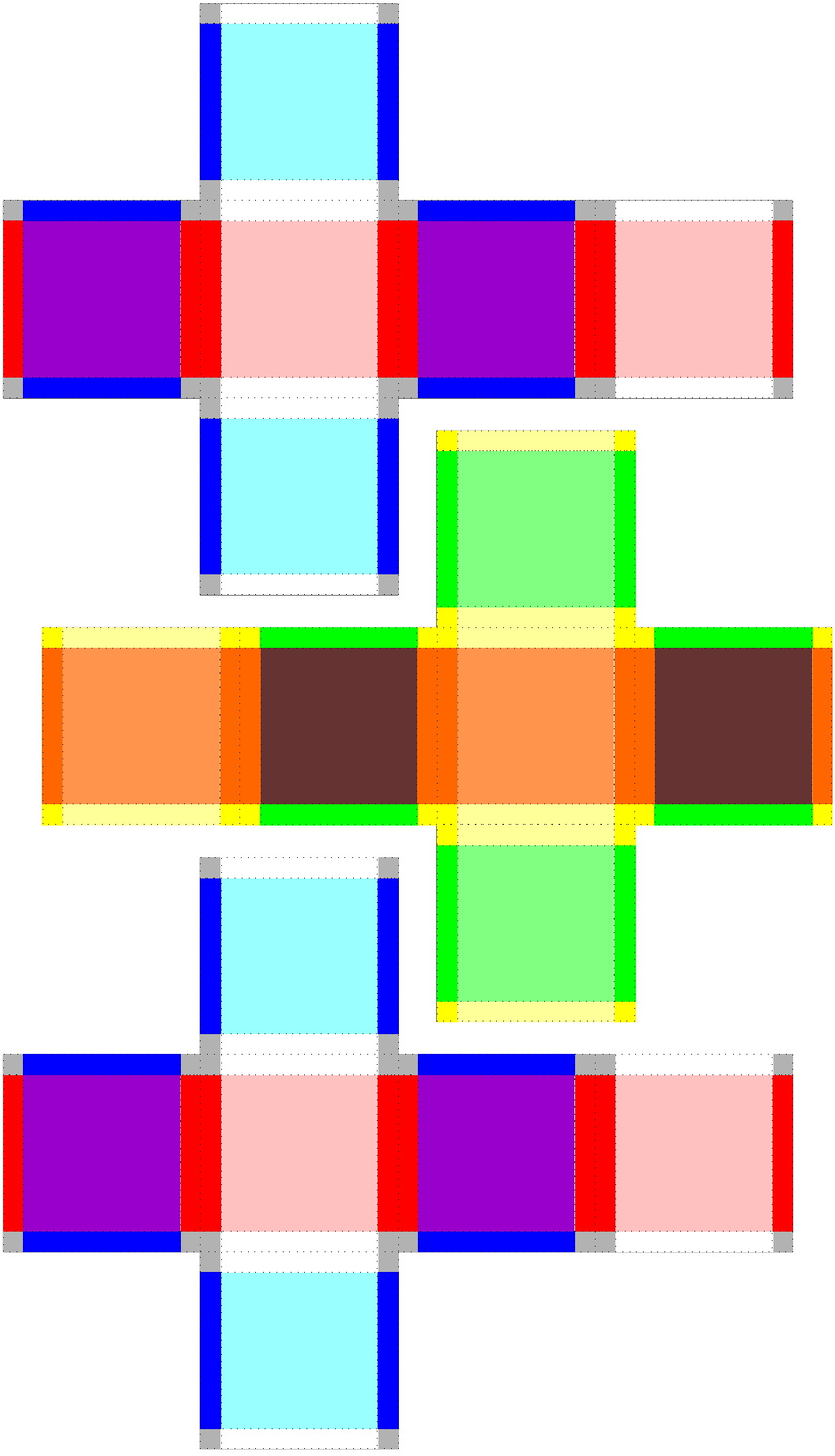
Catalogue cubes 1-3



Catalogue cubes 4-6



Catalogue cubes 7-9



Catalogue cubes 10-12