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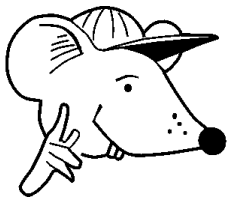
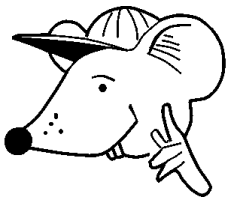


MATHEMATICS



N.S. Yr. 3 P.83

Make shapes and describe their features

Equipment

Paper, pencil, ruler, crayons.
Scissors, shapes to cut out.

MathSphere

Concepts

In year 3 children will continue to make shapes and patterns, these becoming more complex and more accurate.

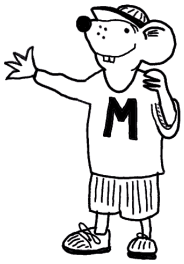
3D shapes should be related to 2D representations of them, as children match familiar solids to their pictures.

Drawing round shapes such as triangles, rectangles and hexagons and then cutting them out to make repeated patterns should be encouraged. When describing the patterns created, children should be encouraged to name the shapes.

Often children will need to copy a pattern before they feel confident enough to create their own. When drawing round shapes the emphasis should be on accuracy and care, both in placing the shape in the right position and drawing round it.

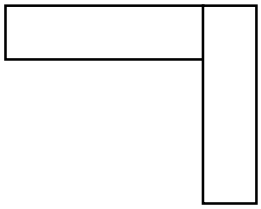
Using a rectangle to make shapes

A rectangle has four sides...but, you can use two rectangles to make shapes with different numbers of sides.
Try it!



First of all try and make a 6 sided shape from two rectangles.

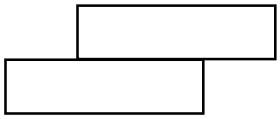
This is called a hexagon.



Can you make any other hexagons?

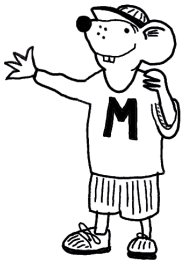
Now see how many different 8 sided shapes you can make - these are called octagons.

I've done one for you!



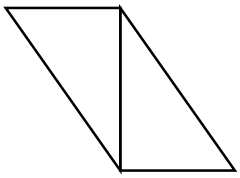
Using triangles to make shapes

A triangle has three sides...but, you can use two triangles to make shapes with different numbers of sides.
Try it!



First of all try and make a 4 sided shape from two triangles.

This is called a quadrilateral.

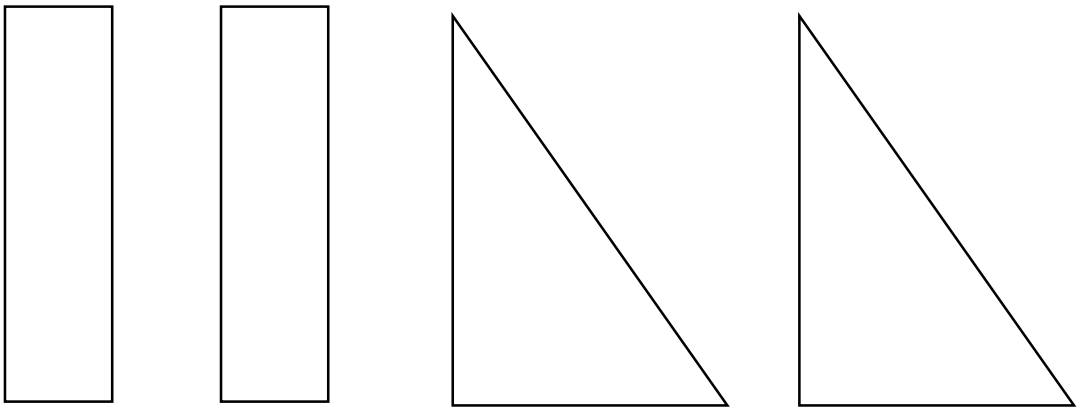


How many quadrilaterals can you make? Draw them.

How many hexagons can you make from two triangles? Remember hexagons have six sides. Draw them below.

How many different sided shapes can you make, using only these 4 shapes?

You can use all the shapes, or just some of them.



Record how many of each type of shape you were able to make.

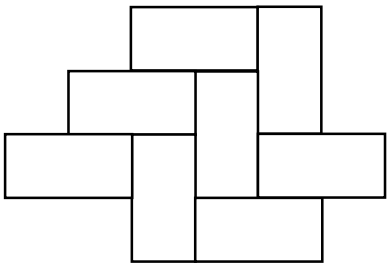
Type of shape	Number of different examples
Three sided shapes (triangles)	
Four sided shapes (quadrilaterals)	
Five sided shapes (pentagons)	
Six sided shapes (hexagons)	
Seven sided shapes (heptagons)	
Eight sided shapes (octagons)	

Making patterns with rectangles

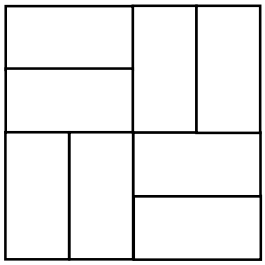
Cut out a rectangle of card this size.

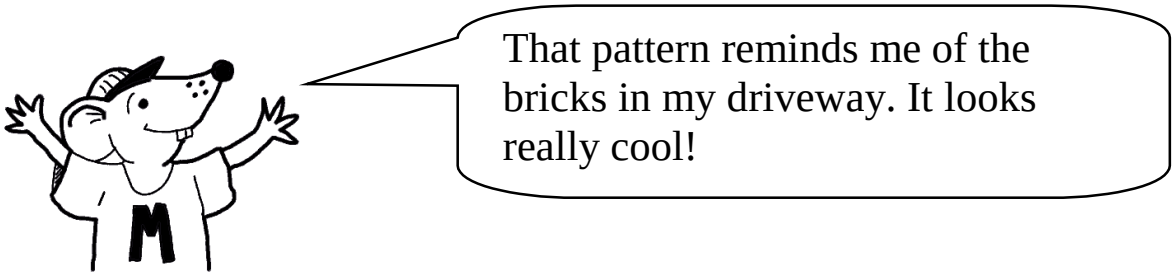
Draw round it to make a pattern which leaves no gaps.

Your pattern might look like this:

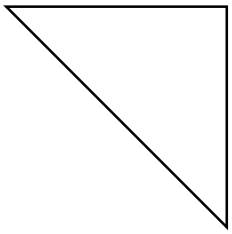


Or





Making patterns with triangles

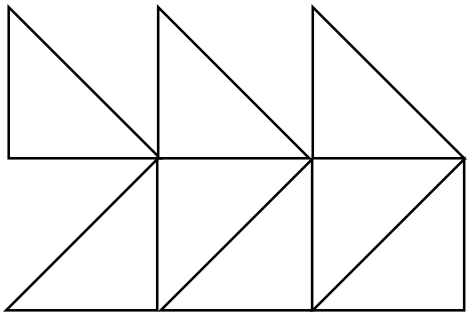


Cut out a triangle this size.

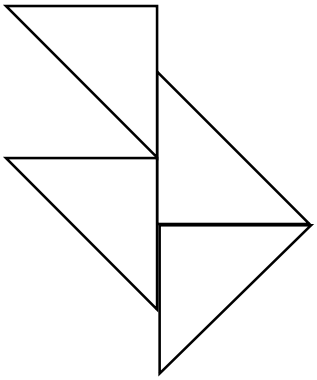
It would be best to do it on card.

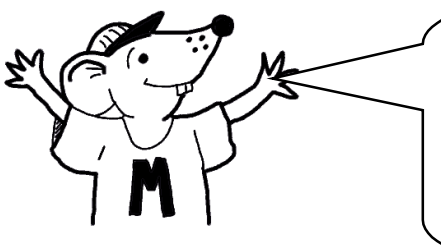
Draw round it to make a pattern which leaves no gaps.

Your pattern might look like this:

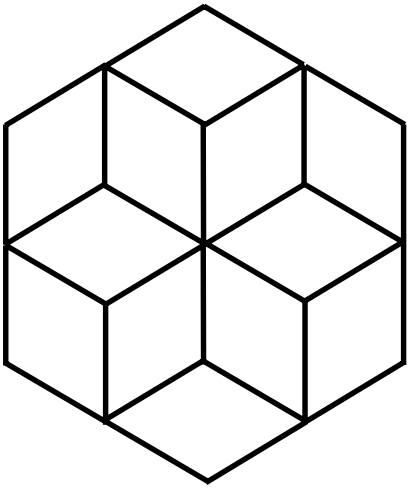


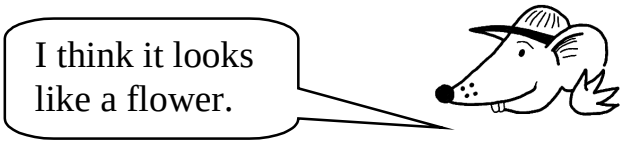
Or



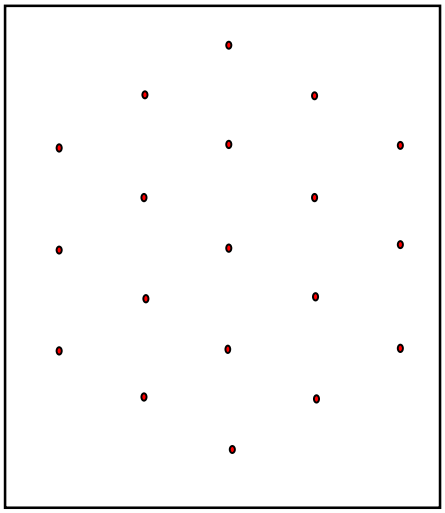


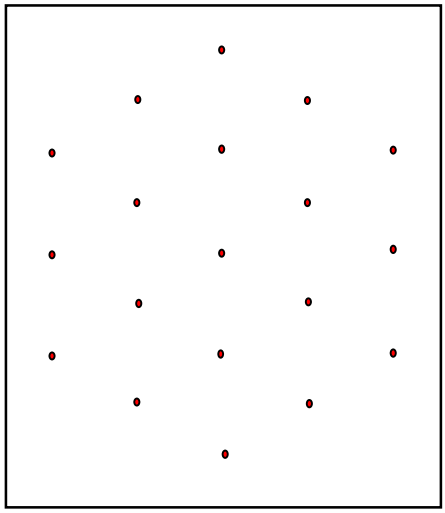
Stars or cubes

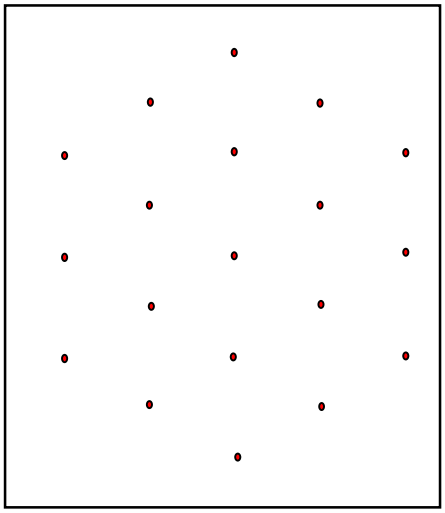




Can you draw out the shape again three times and then colour and shade so that they look like each of the above?







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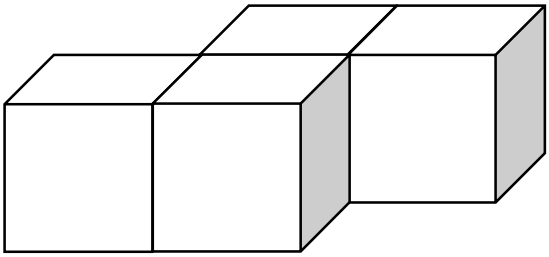
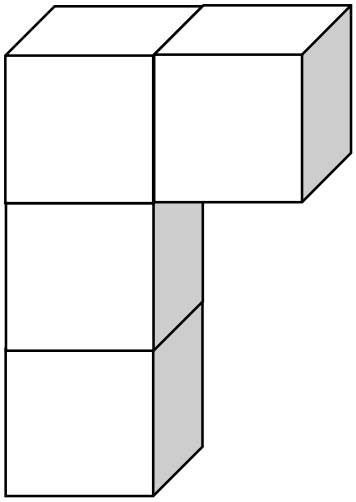
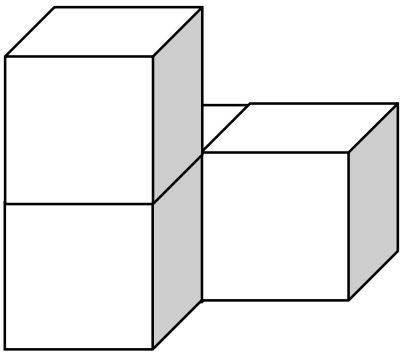
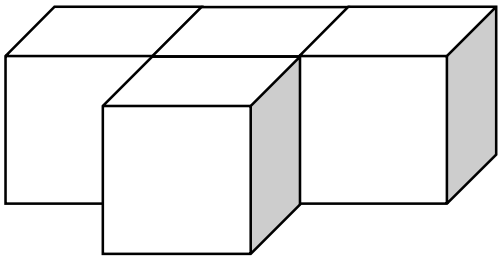
Make these shapes

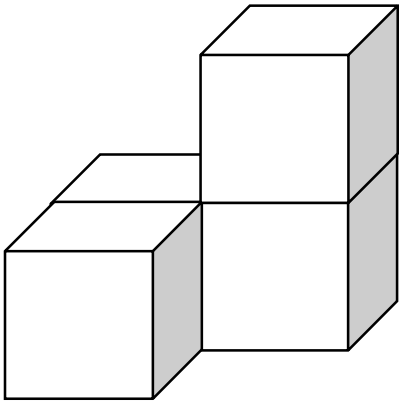
Can you make each of these shapes using 4 cubes?

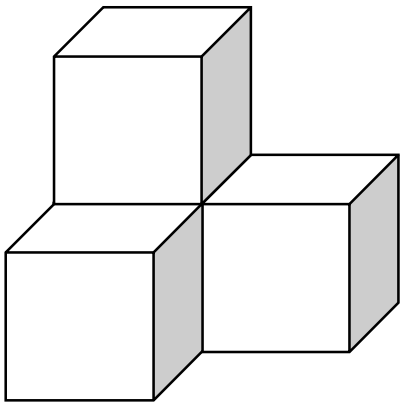












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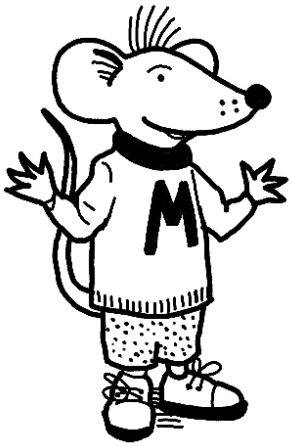
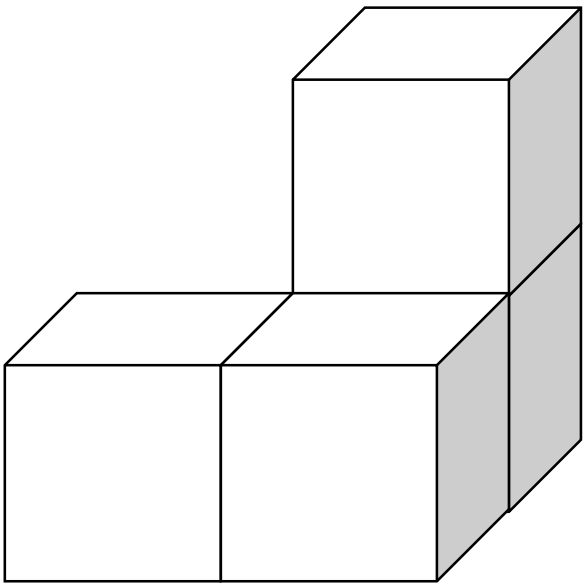
How many ways?

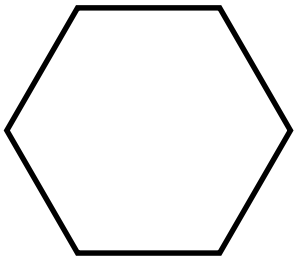


Can you find all the different shapes that can be made by fitting four cubes together?

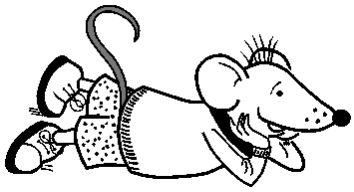
Here's one to start you off



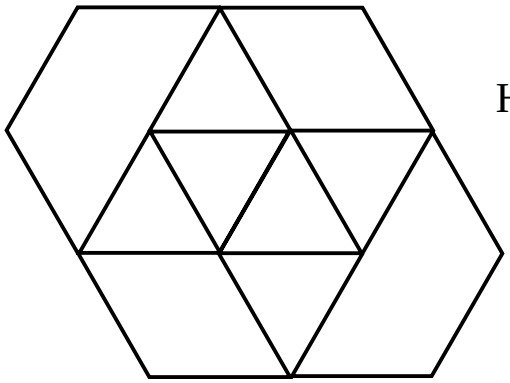
Regular hexagon patterns



Did you know that regular hexagons tessellate?
This means they fit together exactly, leaving no gaps.



It also means that you can make some great patterns with hexagons.



Here's the start of an interesting pattern.

Can you work out how it has been made, just with hexagons?

Now try and make your own hexagon pattern.

Shapes to cut out