



MATHEMATICS



N.S. Yr. 1 P.82

**Make models, shapes and patterns
Describe their features**

Equipment

Paper, pencil, ruler

Variety of 2D and 3D shapes

Scissors, card, glue, straws, pipe cleaners etc paint or ink

MathSphere

© MathSphere P.O. Box 1234 Worthing BN13 2UJ www.mathsphere.co.uk

Concepts

A lot of work should be done in year one which involves making simple models, using a variety of materials.

With 3D shapes there are many types of construction kits on the market such as Lego and K'nex which are ideal for making mathematical shapes.

As well as these there are the more traditional household materials - card, cereal packets, toilet rolls, yoghurt pots etc., which can be used. As children work with these materials they should be encouraged to use the correct mathematical terms - cylinder, sphere, cuboid etc and describe their models using these terms.

Solid shapes can be matched to pictures of solids, so that children recognise 2D representations of 3D shapes.

It is a good idea to have a selection of 2D shapes, especially squares, rectangles, circles, triangles (both equilateral and right angled), that children can move around to make new shapes eg a car out of rectangles, circles etc. They can progress to drawing round these shapes to make pictures.

Symmetry is introduced at a very simple level, with ink blots and paper cutting along folded lines.

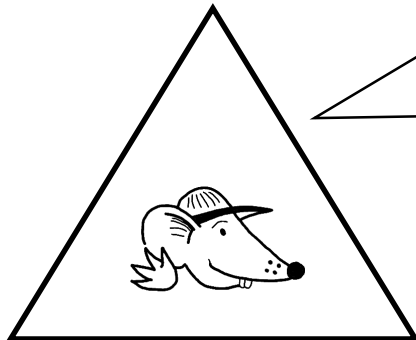
Names of 2D shapes

circle
square

triangle
rectangle



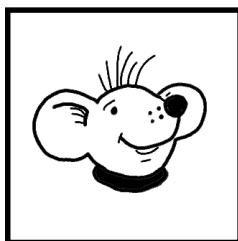
Hello! I'm a _____
I have _____ side and
_____ corners.



Well, I'm a _____
I have _____ sides and
_____ corners.

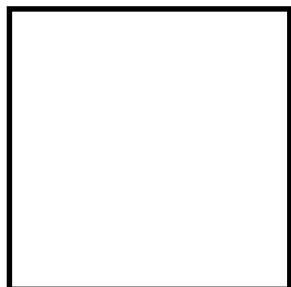


Hi! I'm a _____
I have _____ sides and
_____ corners.

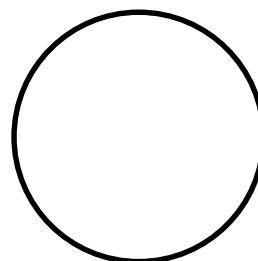


Hey! I'm a _____
I have _____ sides and
_____ corners.

Match the shapes to the names



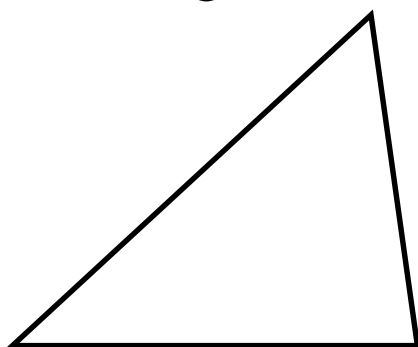
square



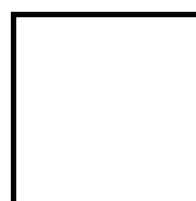
rectangle



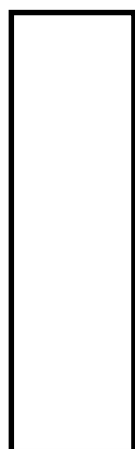
circle



triangle

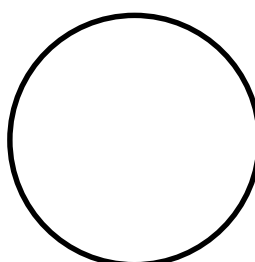


square

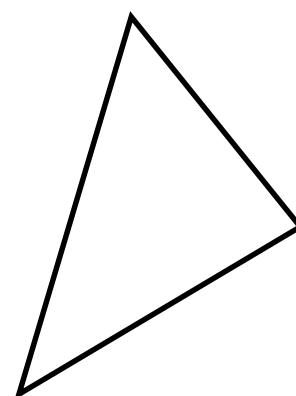


triangle

rectangle



circle



You need
these shapes:



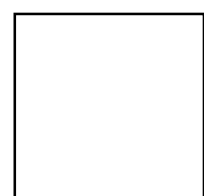
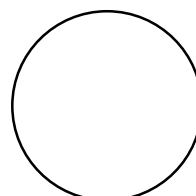
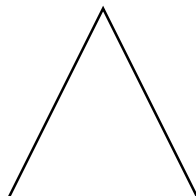
Making patterns

rectangle

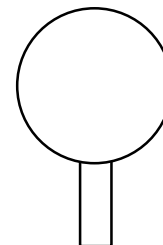
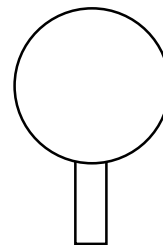
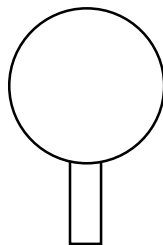
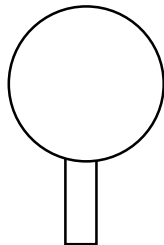
triangle

circle

square

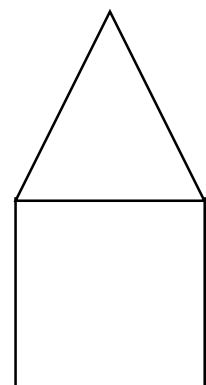
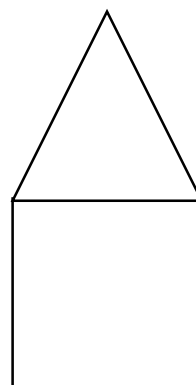
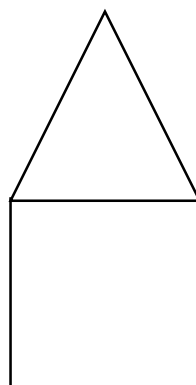
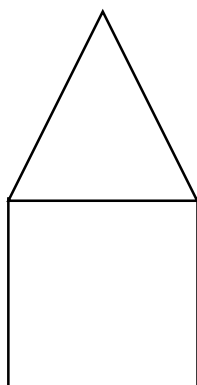


Make these patterns with your shapes:



These trees are made

from _____ and _____



These houses are made

from _____ and _____

You need
these shapes:



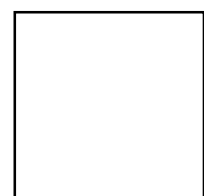
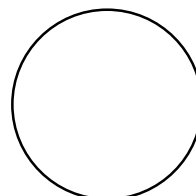
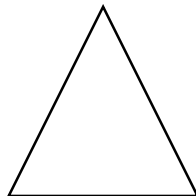
Making patterns

Rectangle

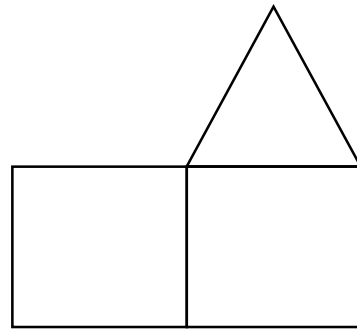
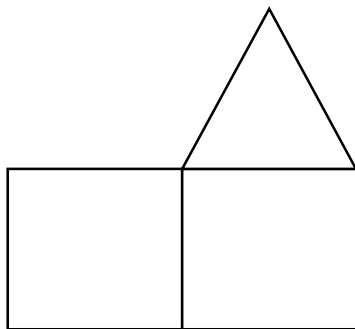
triangle

circle

square

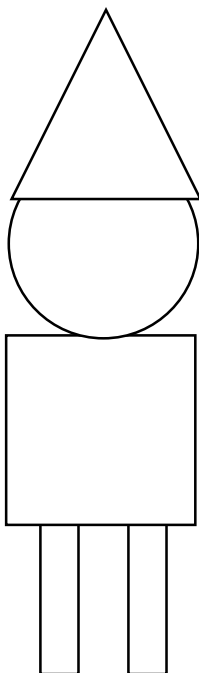


Make these patterns with your shapes:



These churches are made

from _____ and _____



This clown is made of

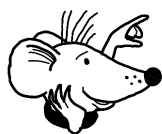
a _____

a _____

a _____

and 2 _____

You need
these shapes:



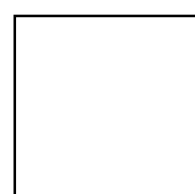
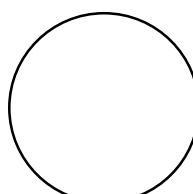
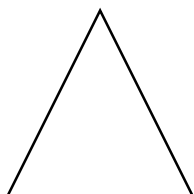
Making patterns

Rectangle

triangle

circle

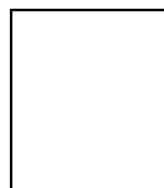
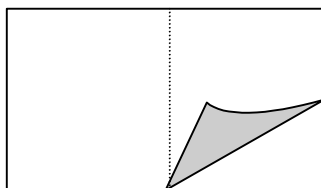
square



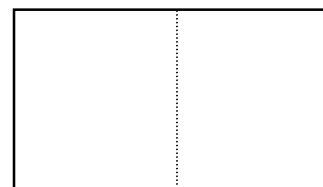
**Make your own pictures using the shapes above.
Write down the names of the shapes you have used.**

Symmetrical patterns

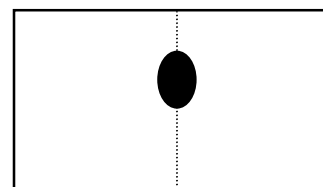
1. Get a piece of paper and fold it in half carefully.



2. Open it out and put it flat on the table.

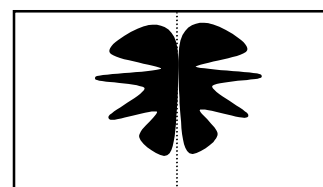


3. Put a blob of paint or ink in the middle, across the fold line.



4. Refold the paper and press down gently.

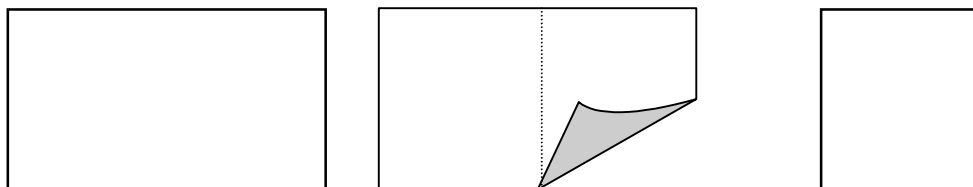
5. Open the paper out again and look at the pattern.



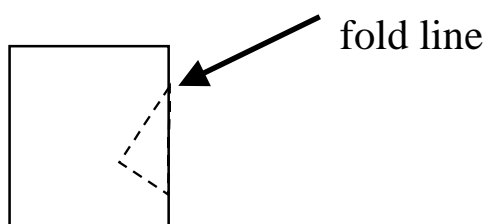
6. What do you notice?

Symmetrical patterns

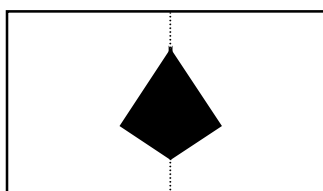
1. Get a piece of paper and fold it in half carefully.



2. Take a pair of scissors and cut a triangle out of the fold line.



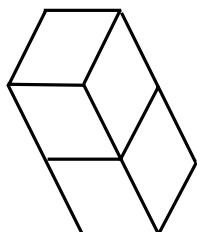
3. Now open out the piece of paper to see what shape you have cut out.



Now try cutting some other shapes along the fold line and see what happens.

3D shape

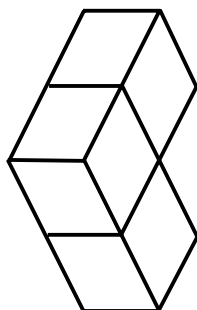
Join two cubes



How many ways can you join two cubes?

Join three cubes

Can you make this shape with three cubes?

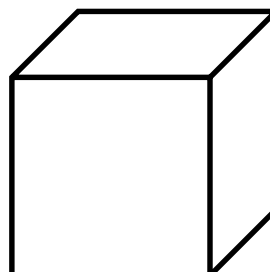


What other shapes can you make with three cubes?

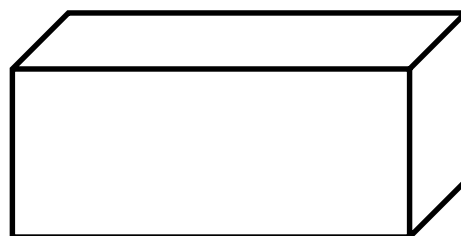
What shapes can you make with 4 cubes?

Names of 3D shapes

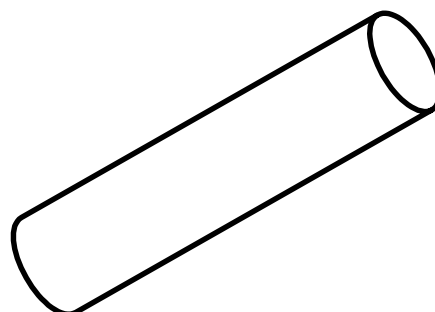
cube



cuboid



cylinder



cone

