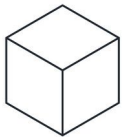# 3D Shape Nets

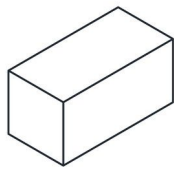**A net shows all the flat faces of a 3D shape!**

Find a box at your house, e.g. cereal box, cracker box, etc. Open up the box and you will see a 3D net!

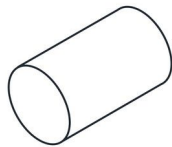Notice the tabs on the sides of the net. They are used to connect each face of the box together.

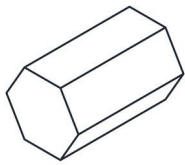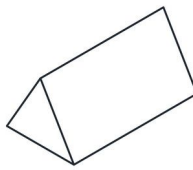Now, have a go at drawing 3D nets for any 3 of these shapes:
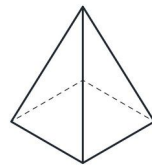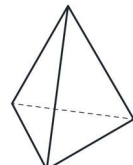
| Cube | Cuboid | Cylinder | Hexagonal prism | Triangular prism | Cone | Square-based pyramid | Triangular-based pyramid |

Can you make them into 3D shapes by cutting them out and sticking them together? If they don't work the first time, try again, then answer these questions:

- What made your 3D nets unsuccessful?

- What did you do to succeed in this task?

3D Shape Challenges

Have a go at making these challenging 3D shapes!
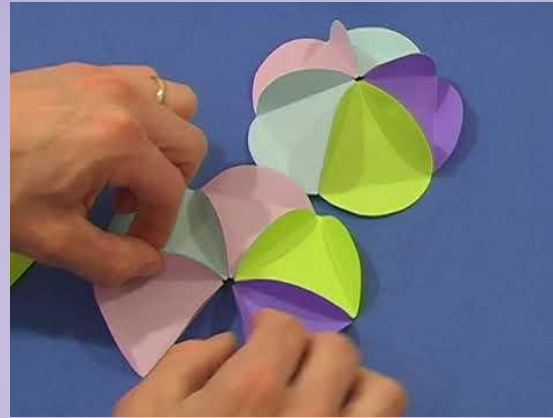
How many faces, edges and vertices does each shape have?

Which 3D shape was the hardest to make? Why?

Now that you're a 3D shape expert, have a go at this 3D shapes quiz!

Symmetry

Symmetry- Something is **symmetrical when it is the same on both sides**. A shape has symmetry if a central dividing line (a mirror line) can be drawn on it, to show that both sides of the shape are exactly the same.

This means that if you were to fold the shape along the line, both halves would match exactly.

Can you identify the lines of symmetry in these things found in nature?
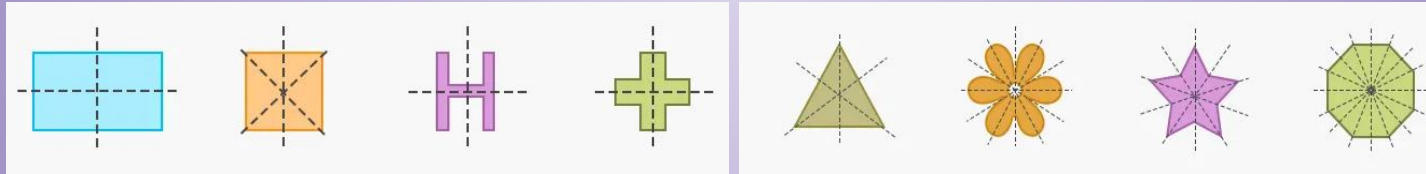
Symmetry

Not all shapes have lines of symmetry

OR

They may have several lines of symmetry.

Have a look outside in the garden or around the house and see if you can find some shapes that have no lines of symmetry and some that have more than one.

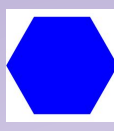**Here are some examples of different lines of symmetry.**

To help you to understand more about different lines of symmetry give this Symmetry Artist Online drawing a go!

Must Do: Symmetry Tasks

You must complete at least TWO of the following tasks

1) Name the 3 of the following 2D shapes and draw the lines of symmetry for them.

2) Make a symmetrical creation out of playdough or lego.

3) Find a 3D object around the house and find out their lines of symmetry.
   Use rubber bands or string to help you find the lines of symmetry.
   Fun fact: A cylinder has an infinite number of lines of symmetry.

4) Using a square piece of paper, click on the links on the words below to make one of these Origami creations which show the lines of symmetry in their folds:

   Heart   **Butterfly**   **Pikachu**   **Turtle**