

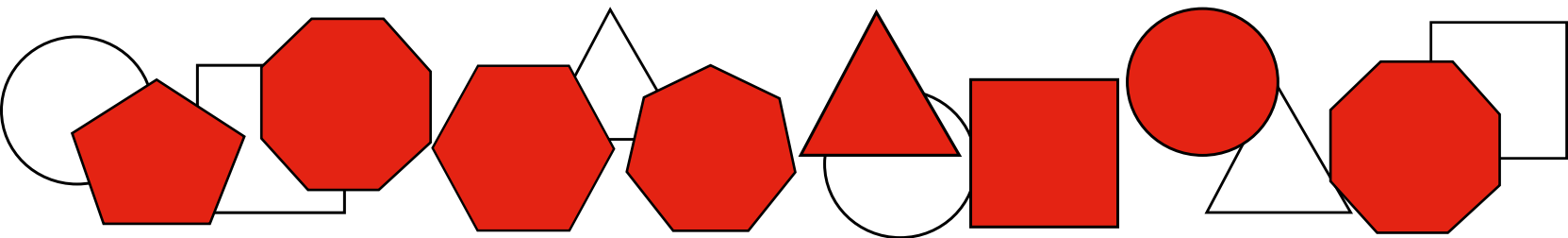
SHAPES

... How to build them ...
and the stories behind them

**identifying and naming shapes, sorting, matching,
tessellating, drawing, finding shapes in nature,
and lots more.**

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SHAPES IN NATURE

The natural world around us is full of shapes, many of which are very beautiful.

This fossil of an ammonite makes a spiral shape.



Pebbles are rubbed and smoothed into rounded shapes by the force of the sea or wind over thousands of years. This process is known as erosion.



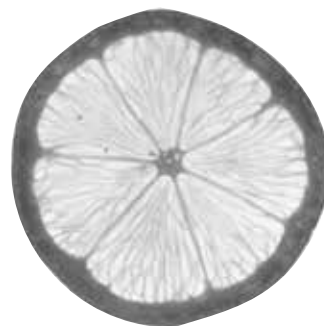
A snowflake has a perfect hexagonal shape.



The cap of the toadstool has a semi circle shape seen from the side.



Many shapes radiate out from a central point like the tentacles of a starfish.



Many fruits have regular-shaped segments.



The beauty of a flower's petals are designed to attract insects to the pollen.

SHADOW GAME

Have you ever played the game 'Catch my shadow' with your friends? You have to try to stand on each other's shadow. You need a sunny day for this game because your shadow will only appear when your body blocks the sunlight and stops it from reaching the ground.



FINGERTIP PATTERNS

Look at your fingertips and you will see many tiny lines, or ridges. If you press them onto an ink pad and then touch a piece of white paper, you will see your fingerprint. No one else in the world has fingerprints exactly like yours. Taking a print copy of fingerprints and matching it to records is a way of identifying people in certain jobs, and is especially helpful in identifying criminals who are wanted for a crime.



Fingerprints fall into three main groups according to the pattern made by the ridges.



In the 'whorl' group the ridges make a circular pattern.



The ridges in the 'arch' group slope upward as they cross the fingertip.



In the 'loop' group the ridges curve back over themselves

SPREADING CIRCLES

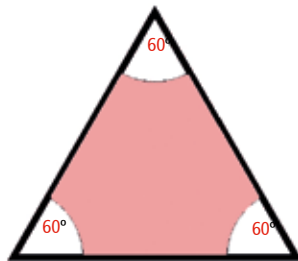
When a pebble is thrown into a pond, ripples start to spread outwards from the place where the stone entered the water. The ripples grow and grow into larger and larger circles. These are known as concentric circles.

Falling raindrops splash in concentric circles.



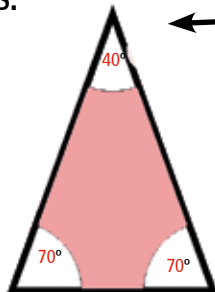
MEET THE TRIANGLES

One of the most useful shapes is the triangle. There are 4 main shapes.



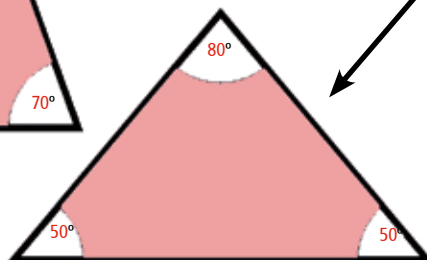
Equilateral

All three sides are the same length. All the angles are 60° .



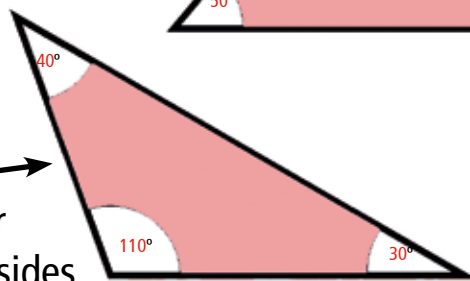
Isosceles

This word means 'equal legs'. Two sides are the same length. One is a different length. Two angles will be the same. One will be different.



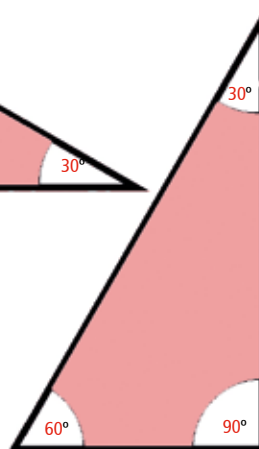
Scalene

This word means unequal or 'bent'. All sides are different lengths. All the angles are different sizes.



Right-angle triangle

This triangle has a right angle of 90° in one corner. It has one long side called the hypotenuse.



TRIANGLE TRICKS!



Take 13 toothpicks or other small sticks, and lay them out in this shape. Now remove 3 sticks to make just 3 triangles.

Can you use 9 sticks to make 5 triangles?



Answers on page 32