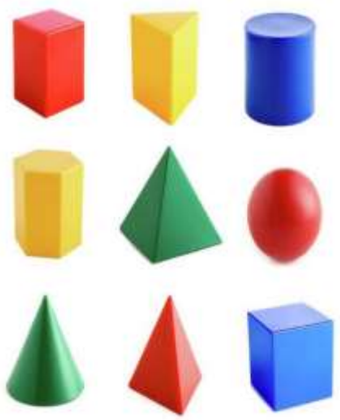
SHAPE

KNOWLEDGE ORGANISER

Year 4

Overview



Shape we learn about:

-Turns and Angles -Right Angles in Shapes

-Compare and Order Angles -Identify Angles -Triangles

-Horizontal and Vertical -Quadrilaterals -Lines of Symmetry

-Recognise & Describe 2-D Shapes -Complete a Symmetric Figure

This learning is important because...

...it helps us to understand and organise the things that we see in the world around us. Shapes help us to describe the similarities and differences between objects.

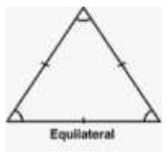
Angles of 2-D Shapes

A polygon is a 2-D shape with straight sides that are fully closed.

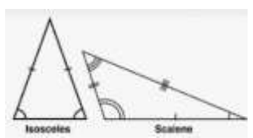
Polygons can have any number of sides, but they must be straight (not curved).

Triangles

Triangles have 3 sides and 3 vertices. The angles in a triangle total 180°.

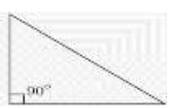


Equilateral triangles are regular polygons, with 3 sides of equal length. Each of the 3 angles are 60°



Isosceles triangles have two sides of equal length and two angles of the same size.

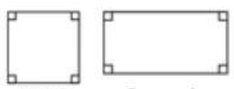
Scalene triangles have no equal sides or angles.



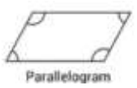
Right-angled triangles always have one angle of 90 degrees. Right-angled triangles can be isosceles or scalene triangles.

Quadrilaterals

Quadrilaterals are polygons of 4 sides. The angles in a quadrilateral total 360°.

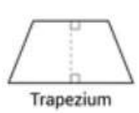


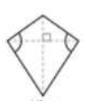
Squares and rectangles have 4 right angles. Squares have four equal sides whilst rectangles have 2 pairs of equal sides.



Parallelograms have two pairs of parallel lines and equal opposite angles.

A rhombus has four sides of equal length and opposite equal angles. A rhombus is a type of parallelogram.





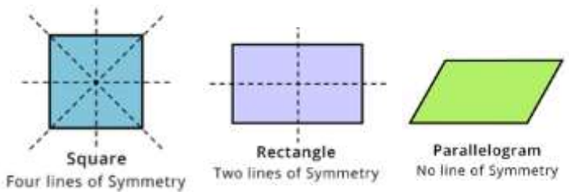
A trapezium has only one pair of opposite parallel sides. A kite has one pair of opposite equal angles and two pairs of opposite equal sides.

Symmetry

Lines of Symmetry

-Lines of symmetry can be horizontal, vertical or diagonal.

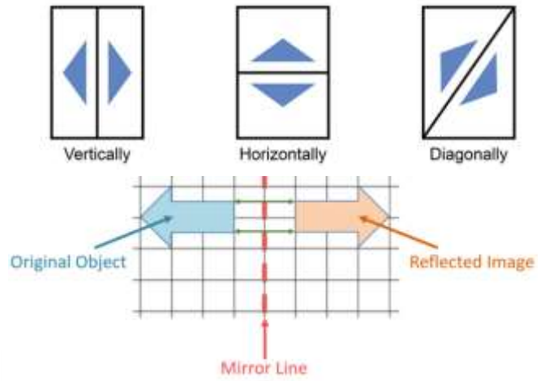
-2-D shapes may have no lines of symmetry, one line of symmetry, or multiple lines of symmetry.



Lines of Symmetry

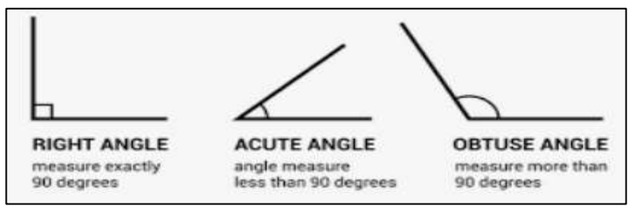
-Shapes and patterns can be reflected across a mirror line. Mirror lines can be horizontal, diagonal or vertical.

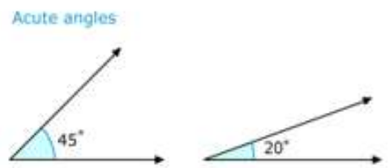
-We can use squared paper to help us accurately reflect shapes over mirror lines.

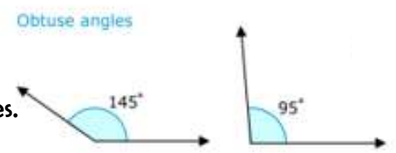


Different Types of Angles

Angles – Angles are created where two lines intersect. The unit for angles is degrees °. There are 360° in a full turn.







A right angle is created where two perpendicar lines meet.

An acute angle is more than 0 degrees and less than 90 degrees.

An obtuse angle is more than 90 degrees and less than 180 degrees.

Key Vocabulary

Rhombus Parallelogram Trapezium Kite Equilateral Isosceles Right Angle Obtuse Acute Horizontal Vertical Parallel Perpendicular