



SHAPE

Year 5



KNOWLEDGE ORGANISER

Overview

Shape we learn to:



- Identify Angles -Compare and Order Angles -Quadrilaterals
- Measure Angles in Degrees -Measuring with a Protractor
- Calculating Angles on a Straight Line/Around a Point -Triangles
- Calculate Lengths & Angles -Regular/Irregular Polygons

This learning is important because...

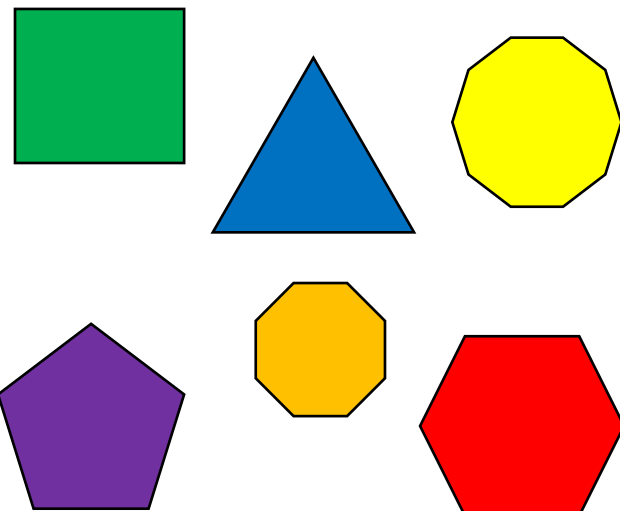
...it helps us to understand and organise the things that we see in the world around us. Shapes help us to describe the similarities and differences between objects.

Regular and Irregular Polygons

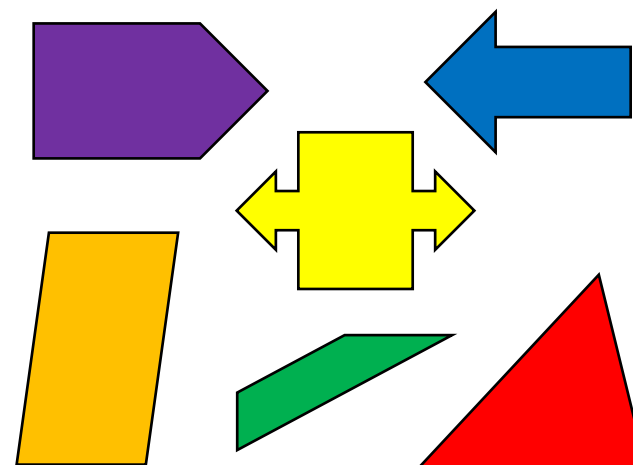
A polygon is a 2-D shape with straight sides that are fully closed.

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

With regular polygons, all sides and angles are equal.

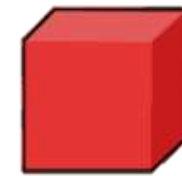


With irregular polygons, the sides and angles are not equal.



Properties of 3-D Shapes

3-D shapes have 3 dimensions: height, width and depth. They are not flat. They have faces, vertices and edges. A face is a flat or curved surface on a 3-D shape, e.g. a cube has 6 faces.



Cube

- 6 flat faces
- 12 flat edges
- 8 vertices



Cuboid

- 6 flat faces
- 12 flat edges
- 8 vertices



Tetrahedron

- 4 flat faces
- 6 flat edges
- 4 vertices



Hexagonal Prism

- 8 flat faces
- 18 flat edges
- 12 vertices



Square-Based Pyramid

- 5 flat faces
- 8 flat edges
- 5 vertices



Triangular Prism

- 5 flat faces
- 9 flat edges
- 6 vertices



Pentagonal Prism

- 7 flat faces
- 15 flat edges
- 10 vertices

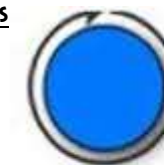


Octagonal Prism

- 10 flat faces
- 24 flat edges
- 16 vertices

Development of Turns and Angles

Turns



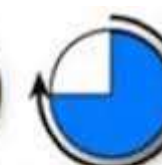
Full turn
360°



Quarter turn
90°

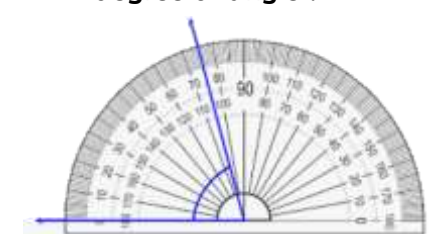


Half turn
180°



Three quarter turn
270°

Protractors can be used to measure the degree of angles.



Angles



ACUTE ANGLE
Less than 90°



RIGHT ANGLE
Exact 90°



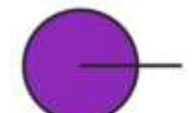
OBTUSE ANGLE
Greater than 90° and less than 180°



STRAIGHT ANGLE
Exact 180°



REFLEX ANGLE
Greater than 180°



FULL ANGLE
Exact 360°

Key Vocabulary

Edge Apex Faces Vertices Dimension Protractor Right Angle Obtuse Acute Reflex Vertical Horizontal Diagonal Parallel Perpendicular