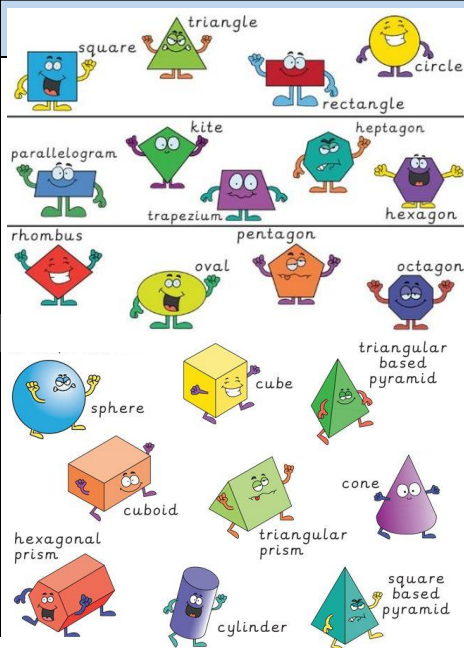# SHAPE

KNOWLEDGE ORGANISER

Overview

In our unit on 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 (180°)/Around a Point (360°)

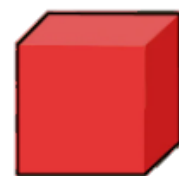-Triangles   -Calculate Lengths & Angles   -Regular/Irregular Polygons

This learning is important because...

...it helps 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 <u>regular</u> polygons, all sides and angles are equal.

With <u>irregular</u> 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. The 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.
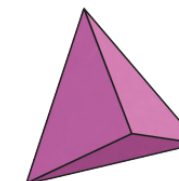
Cube
-6 flat faces
-12 flat edges
-8 vertices

Cuboid
-6 flat faces
-12 flat edges
-8 vertices

Tetrahedron
-4 flat faces
-6 flat edges
-4 vertices

Hexagonal Prism
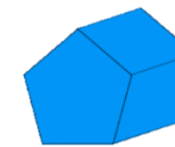-8 flat faces
-18 flat edges
-12 vertices

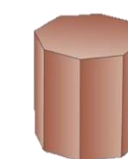**Square-Based Pyramid**
-5 flat faces
-8 flat edges
-5 vertices

Triangular Prism
-5 flat faces
-9 flat edges
-6 vertices

Pentagonal Prism
-7 flat faces
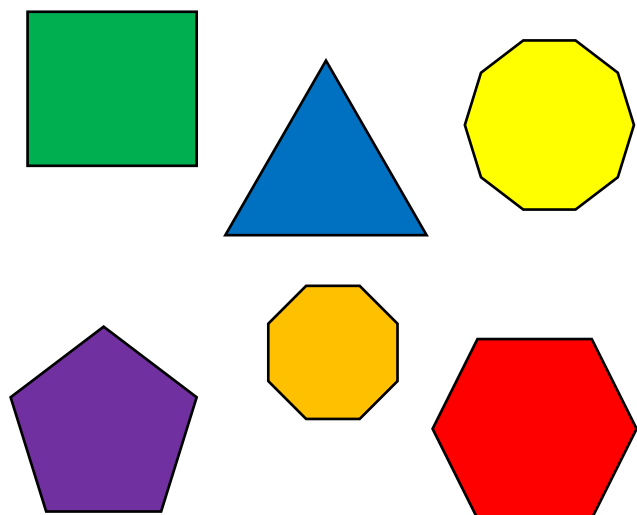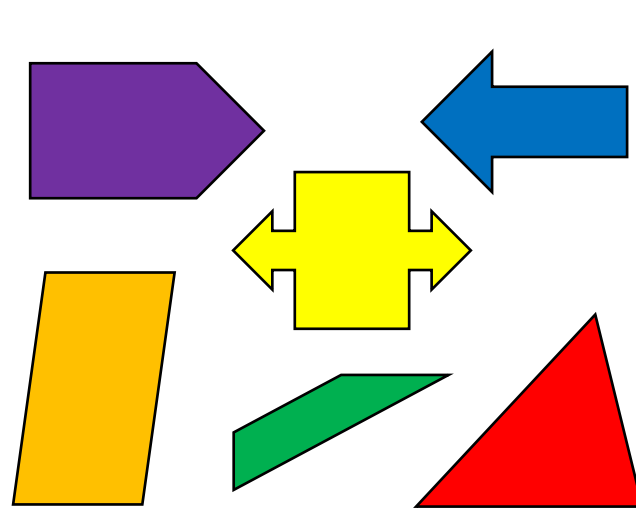-15 flat edges
-10 vertices

Octagonal Prism
-10 flat faces
-24 flat edges
-16 vertices

Development of Turns and Angles

Turns

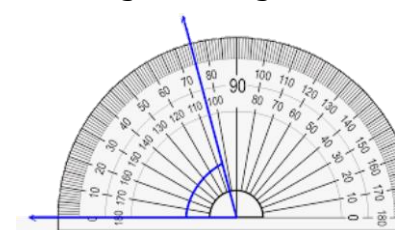**Full turn** 360°

Quarter turn 90°
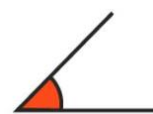
Half turn 180°

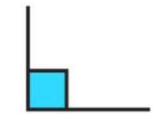**Three quarter turn** 270°

Protractors can be used to measure the degree of angles.
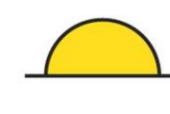
Angles

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