






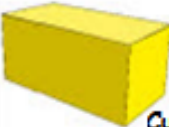






# Year 5 Properties of Shape

Key Vocabulary
right angle
acute angle
obtuse angle
reflex angle
degrees
angles on straight line
angles around a point
vertically
opposite
missing angles
horizontal
vertical
perpendicular
parallel lines
regular polygon
irregular polygon

## 3D Shapes and their Properties

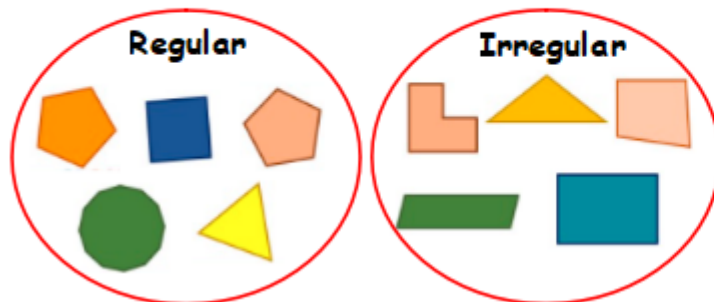
 <b>Cube</b>	6 faces 8 vertices 12 edges
 <b>Cylinder</b>	3 faces 0 vertices 2 edges
 <b>Cone</b>	2 faces 0 vertices 1 edge
 <b>Triangular Prism</b>	5 faces 6 vertices 9 edges

 <b>Tetrahedron</b>	4 faces 4 vertices 6 edges
 <b>Hexagonal Prism</b>	8 faces 12 vertices 18 edges
 <b>Octahedron</b>	8 faces 6 vertices 12 edges
 <b>Cuboid</b>	6 faces 8 vertices 12 edges

 <b>Square-based Pyramid</b>	5 faces 5 vertices 8 edges
 <b>Sphere</b>	1 face 0 vertices 0 edges
 <b>Octagonal Prism</b>	10 faces 16 vertices 24 edges
 <b>Pentagonal Prism</b>	7 faces 10 vertices 15 edges

## Regular and Irregular Polygons

A **polygon** is a flat, two-dimensional (2D) shape with straight sides that is fully closed (all the sides are joined up).



In **regular polygons**, the sides and angles are **equal**.

In **irregular polygons**, the sides and angles are **not equal**.



# Year 5 Properties of Shape

## Angles

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**Right Angle**

A 90 degree angle where two perpendicular lines intersect.

**Acute Angle**

An angle measuring more than 0 degrees, but less than 90 degrees.

**Obtuse Angle**

An angle measuring more than 90 degrees, but less than 180 degrees.

**Reflex Angle**

An angle measuring more than 180 degrees, but less than 360 degrees.

Vertically opposite angles are the angles formed opposite each other when two lines intersect. Vertically opposite angles are always equal.

**Angles on a Straight Line**

Angles on a straight line always total 180°.

To find the missing angle on a straight line, you have to subtract the angle you have from 180°.

$$180^\circ - 74^\circ = 106^\circ$$

$$C = 106^\circ$$

**Angles Around a Point**

Angles around a point always total 360°.

To find the missing angle around a point, you have to subtract the angles you have from 360°.

$$175^\circ + 106^\circ = 281^\circ$$

$$360^\circ - 281^\circ = 79^\circ$$

$$h = 79^\circ$$

**Drawing and Measuring Angles**

We use a protractor to draw and measure angles. The numbers on the scale are from 0 - 180° on both sides so look carefully at whether the angle is acute or obtuse to work out which number you need to use.

Make sure the baseline of your protractor lines up with the baseline of the angle.

Place the midpoint of the protractor on the vertex of the angle.