

### Circumference

The circumference (C) is another term for the perimeter of a circle.

The diameter (D) of a circle is the name given to the straight-line distance across a circle through its centre.

The straight-line distance from the centre of the circle to the circumferences is called the radius (r).

The circumference of a circle is given by the formula  $C = \pi D$

The diameter is double the radius, so the other way to write the formula for the circumference is  $C = 2\pi r$ .

### Perimeter

The perimeter of a shape is the total distance around the shape. To find the perimeter of a shape:

-identify the length of each side

-ensure that all measurements are in the same units

-add all side lengths together and include units with your answer.

### Units of length

Metric units of length include millimetres (mm), centimetres (cm), metres (m) and kilometres (km).

10 mm is 1 cm. 100 cm is 1 m. 1000 m is 1 km.

### Time

Time is one of our most important systems of measurement.

The suffixes am and pm are used to indicate morning and afternoon.

Noon (or midday) may be written as 12:00 pm, and midnight may be written as 12:00 am.

### Volume

Volume is the amount of space inside a three-dimensional object. Volume is measured in cubic units such as  $\text{mm}^3$ ,  $\text{cm}^3$  or  $\text{m}^3$ .

Prisms are solid shapes with identical opposite polygonal ends which are joined by straight edges. They can be cut into identical slices, called cross sections.

Prisms are named after the shape of their cross-section. Objects such as spheres, cones and square pyramids are not prisms.

The volume of any prism is given by the formula  $V = A \times H$ .

The volume of a rectangular prism is  $V = lwh$ .

The volume of a cube is  $V = \beta^3$ .

### Area

The area of a shape is the amount of flat surface enclosed by the shape.

Area is measured in square units:

100 sq mm is 1 sq cm. 10000 sq cm is 1 sq m. 1000000 sq m is 1 sq km.

Large areas of land can be measured in hectares (ha). 1 ha = 10000  $\text{m}^2$ .

The area of a rectangle is  $A = l \times w$ .

The area of a square is  $\beta^2$ .

The area of a triangle is  $\frac{1}{2} \times b \times h$ .

The area of a parallelogram is  $b \times h$ .

The area of a rhombus is  $d_1 \times d_2 \div 2$ .

The area of a kite is  $d_1 \times d_2 \div 2$ .

The area of a circle is  $\pi r^2$ .

The area of a trapezium is  $\frac{1}{2} (a + b) \times h$ .

### Time zones

Time changes as we travel around the world. If we travel east, we need to set our watches ahead. If we travel west, we need to set our watches back.

Many countries around the world have daylight-saving time during summer so that people can make the most of warm weather. When daylight-saving time begins, clocks are turned forward by 1 hour at 2:00 am.

At the end of daylight-saving time, the clocks are then turned back by 1 hour at 3:00 am.

