



# Perimeter and Area - Year 5

## Measuring Perimeter

### Perimeter of a rectangle



Measure the length (l) and width (w).  
Perimeter =  $l + w + l + w$  or  $(l + w) \times 2$

### Perimeter of regular shapes



Measure the length (l) and count the number of sides (s) on the shape.

$$\text{Perimeter} = l \times s$$

### Perimeter of irregular shapes



Measure the length of each side and add them together.

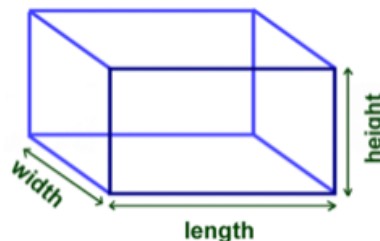
## Measuring Volume

Volume is the amount of space a 3D shape takes up.

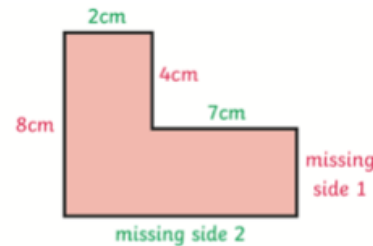
A cubic cm block takes up 1 cubic cm. This is written as  $1 \text{ cm}^3$ .

You can work out the volume of a shape by multiplying height  $\times$  width  $\times$  depth.

If the shape is made of cubic cm blocks, you can count the cubes to find the shape's volume.



## Missing Sides of a rectilinear shape



\* This shape is not drawn to the dimensions specified.

$$\text{Missing side 1} + 4\text{cm} = 8\text{cm},$$

$$\text{so missing side 1} = 4\text{cm}.$$

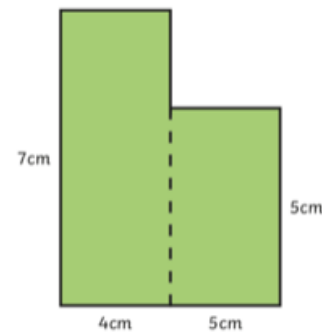
$$\text{Missing side 2} = 2\text{cm} + 7\text{cm} = 9\text{cm}$$

$$\text{Perimeter} = \text{sum of all sides} =$$

$$2\text{cm} + 4\text{cm} + 7\text{cm} + 4\text{cm} + 9\text{cm} + 8\text{cm} = 34\text{cm}$$

## Area of a compound shape

To find the area of a compound shape, divide the shape into rectangles with known dimensions:



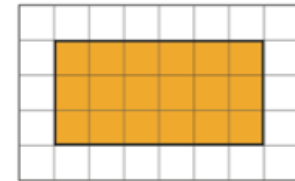
$$\text{Area} = 7\text{cm} \times 4\text{cm} + 5\text{cm} \times 5\text{cm}$$

$$= 28\text{cm}^2 + 25\text{cm}^2$$

$$= 53\text{cm}^2$$

## Area of a Rectangle

The area of a rectangle on a grid:



$$\text{Multiply the length} \times \text{width}$$

$$= 6 \times 3 = 18 \text{ squares.}$$

The area of a rectangle = length (l)  $\times$  width (w).

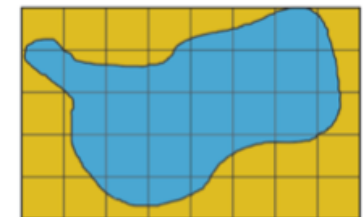


Area's unit of measure is always squared

For example:  $\text{cm}^2$ ,  $\text{m}^2$  or  $\text{km}^2$

## Area of an irregular shape

To find the area of an irregular shape, find the number of whole squares and part squares.



Whole squares = 10  
Part squares = 22

$$\text{Estimate of area} = \text{whole squares} +$$

$$\text{half part squares}$$

$$= 10\text{cm}^2 + 11\text{cm}^2 = 21\text{cm}^2$$