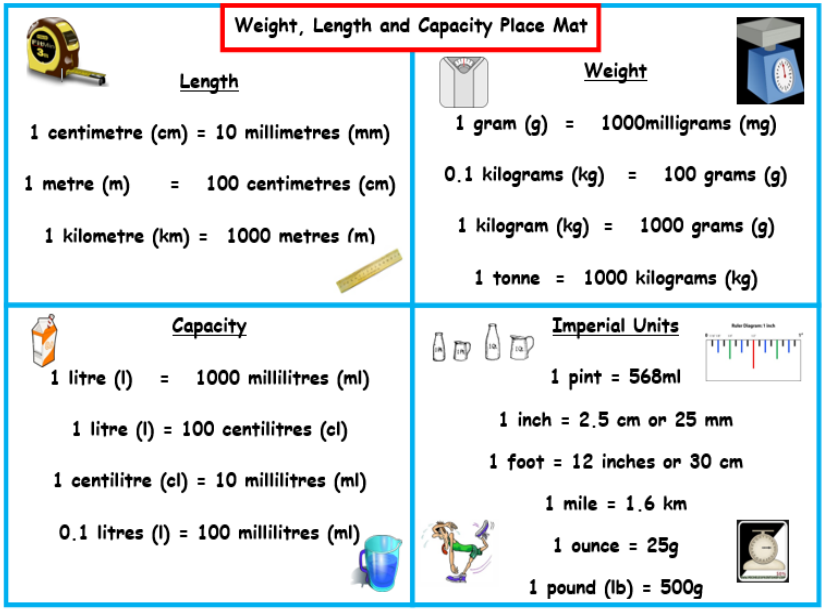
Templars Primary School – Knowledge Organiser

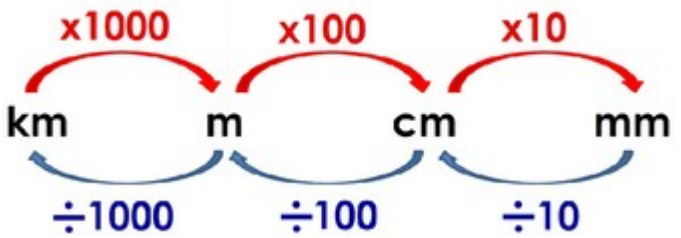
Year 6 Converting Units of Measure Area, Perimeter and Volume

Key Vocabulary

- metric
- imperial
- length/width
- capacity
- miles
- kilometres
- feet / inches
- pounds / ounces
- stone
- gallon
- pints
- rectilinear
- area
- perimeter
- base
- length
- width
- height
- perpendicular
- parallelogram
- volume

Read, write and convert





Use your skills of **multiplying and dividing by 10, 100 and 1,000** when converting between units of length, mass and capacity

Capacity = the amount an object can contain
Volume = the amount actually in an object

Units of time

60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day
7 days = 1 week

12 months = 1 year
52 weeks = 1 year
365 days = 1 year

10 years = 1 decade
100 years = 1 century
1000 years = 1 millennium

Problems involving conversion

Estimate how much juice the glass holds:

250 ml | 2 litres | 0.5 litres | $\frac{1}{2}$ kg

In this question you need to understand that litres and ml are for measuring liquids.

Use conversion:
2 litres = 2000 ml (1000ml in a litre)
0.5 litres = **500 ml** – Could be right but it would be a lot of juice!
½ kg = 500g (wrong context – used for weight)
250ml is the most logical answer

Put these capacities in order, starting with the smallest.

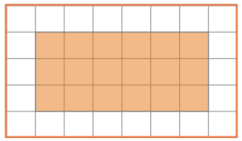
3 litres	3,500 ml
0.4 litres	0.035 litres
450 ml	330 ml

0.035 litres
330 ml
0.4 litres
450 ml
3 litres
3,500 ml

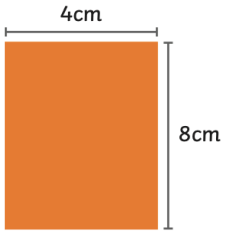
For this question, convert all the capacities to ml or litres first so it is easier to compare them.

Area and perimeter of a rectangle

length × width = area of a rectangle

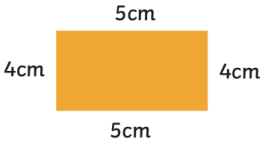


Counting squares:
area = 18cm²
Use formula:
6cm × 3cm
area = 18cm²

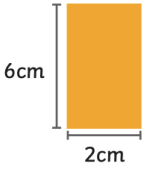


8cm × 4cm area = 32cm²

perimeter = length + width + length + width or (length + width) × 2



5cm + 4cm + 5cm + 4cm
area = 18cm²



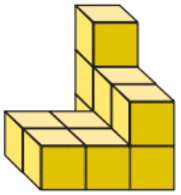
(6 + 2) × 2
area = 16cm²

Volume

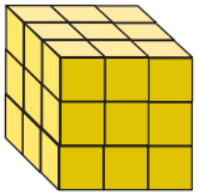
Volume means the space occupied by a 3D object. We measure volume using cubic units cm³

The volume of a cuboid can be found by counting how many cubes it is made up of.

= 1cm³

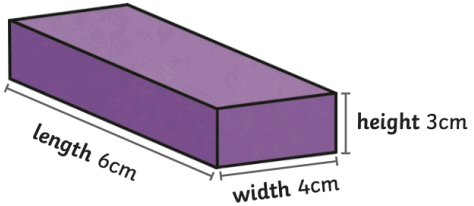


11cm³



27cm³

length × width × height = volume of a cuboid

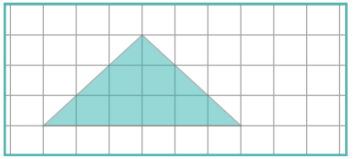


Multiply dimensions in **any** order:
3cm × 6cm × 4cm
volume = 72cm³

The formula for calculating volume is the same as calculating the area of the base and multiplying this by the height.

Volume can be measured in cubed units of measure e.g. cm³ or m³

Area of a triangle

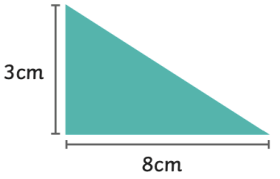


Counting squares:
6 whole squares = 6cm²
6 half squares = 3cm²
6cm² + 3cm² = 9cm²
area = 9cm²

We can count squares to work out the area of a triangle. First count the whole squares, crossing them out as you go. Then count the half squares and add them up.

If you know the base and the perpendicular heigh of a triangle, you can work out the area by multiplying the base and the perpendicular height together and dividing by 2.

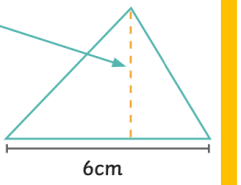
base × perpendicular height ÷ 2 = area of a triangle



8cm × 3cm ÷ 2
area = 12cm²

perpendicular height = 5cm

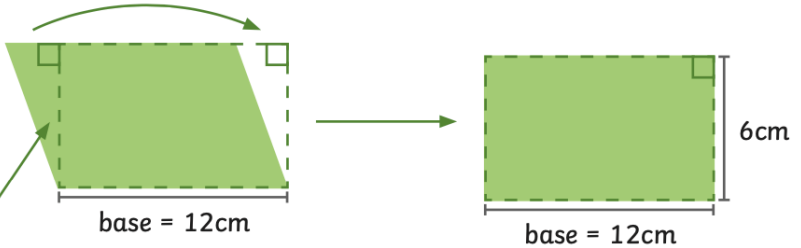
6cm × 5cm ÷ 2
area = 15cm²



Area of a parallelogram

base × perpendicular height = area of a parallelogram

A parallelogram can be transformed into a rectangle.



perpendicular height = 6cm

12cm × 6cm = 72cm²