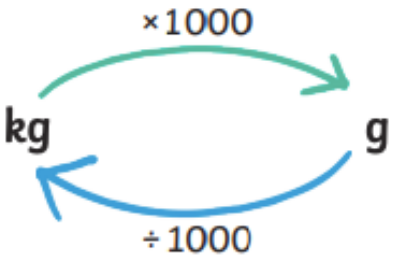
# Templars Primary School Knowledge Organiser

# Year 5 Converting Units and Volume

## Key Vocabulary

- mass
- gram
- kilogram
- metres
- centimetres
- millimetres
- kilometre
- capacity
- litre
- millilitre
- imperial units
- pint
- inch
- foot
- mile
- ounce
- pound
- decade
- century
- millennium

## Kilograms and Kilometres



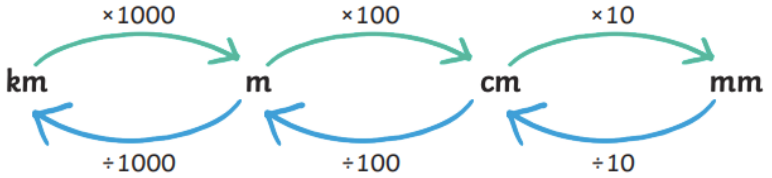

1000g = 1kg

$\frac{1}{10}$ kg = 0.1kg = 100g

¼ kg = 0.25kg = 250g

½ kg = 0.5kg = 500g

¾ kg = 0.75kg = 750g




1000 metres = 1 kilometre

100cm = 1m

10mm = 1cm

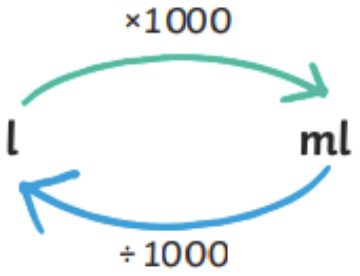
$\frac{1}{10}$ km = 0.1km = 100m

¼ km = 0.25km = 250m

½ km = 0.5km = 500m

¾ km = 0.75km = 750m

## Milligrams and Millilitres




1000ml = 1 litre

$\frac{1}{10}$ l = 0.1l = 100ml

¼ l = 0.25l = 250ml

½ l = 0.5l = 500ml

¾ l = 0.75l = 750ml

## Imperial Units

1 pint = 568ml

1 inch = 2.5cm or 25mm

1 foot = 12 inches or 30 cm

1 mile = 1.6km

1 ounce = 25g

1 pound (lb) = 500g

## Converting Units of Time

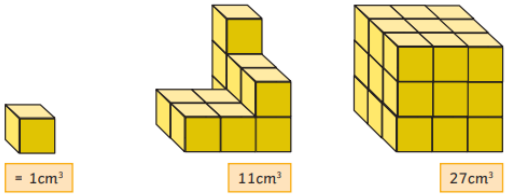
# Volume

| Key Vocabulary |
|---|
| cubed |
| area |
| cross-section |
| prism |
| cube |
| cuboid |
| face |
| length |
| height |
| width |
| depth |

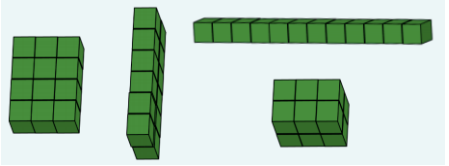
## What is volume?

Volume means the space occupied by a 3D object. We measure volume using cubed units for example $cm^3$, $m^3$ and $km^3$. Volume is different to capacity as capacity is related to the amount a container can hold.

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



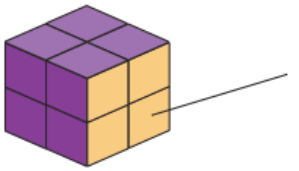

A shape that has a volume of $12cm^3$ can be made in different ways.



## Calculating volume

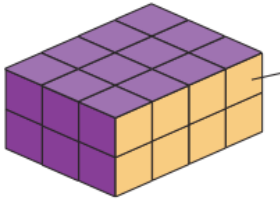
We can calculate the volume of cubes and cuboids.

1. Calculate the area of the cross-section (one face)
2. Multiply the area of the cross-section (one face) by its depth (how many rows of cubes)



Area of cross section (face) = 2cm × 2cm = $4cm^2$

$4cm^2$ × 2cm = Volume of $8cm^3$

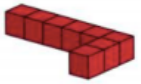


Area of cross section (face) = 4cm × 2cm = $8cm^2$

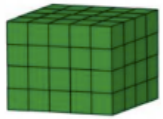
$8cm^2$ × 3cm = Volume of $24cm^3$

## Comparing and estimating volume

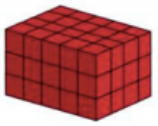
less than



equal to



greater than



It is important to make sure that we use the most suitable unit of measure for different objects. E.g.

- Measure the volume of a small object in $cm^3$
- Measure the volume of a room in $m^3$
- Measure the volume of a planet in $km^3$

## Estimate capacity

Containers can be different shapes and sizes but still hold the same capacity. We use the word capacity when referring to liquid, rather than volume.