

Y7 Maths Knowledge Organiser Topic 10: Working with units

What must I be able to do?	Key vocabulary								
<ul style="list-style-type: none"> □ Record and order measurements using decimal notation □ Estimate and/or measure: <ul style="list-style-type: none"> Length in: kilometres (km), metres (m), centimetres (cm), millimetres (mm) ➤ Sparx MB28, U388 Mass in: kilograms (kg), grams (g) <ul style="list-style-type: none"> ➤ Sparx MB28, U388 Volume and capacity in: litres (l), millilitres (ml) <ul style="list-style-type: none"> ➤ Sparx MB28, U388 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Measure</td> <td>To find the <u>size</u> of something by using an instrument marked in <u>standards units</u>.</td> </tr> <tr> <td>Length</td> <td>The <u>distance</u> from one point to another.</td> </tr> <tr> <td>Mass</td> <td>A measurement of how <u>heavy</u> an object is.</td> </tr> <tr> <td>Volume</td> <td>The <u>amount of space</u> that an object occupies.</td> </tr> </table>	Measure	To find the <u>size</u> of something by using an instrument marked in <u>standards units</u> .	Length	The <u>distance</u> from one point to another.	Mass	A measurement of how <u>heavy</u> an object is.	Volume	The <u>amount of space</u> that an object occupies.
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<u>Metric unit conversions</u>	Volume: 1000ml = 1 litre	Length: 1km = 1000m
Mass: 1000g = 1kg	10ml = 1 centilitre	1m = 100cm
1000kg = 1 tonne	1 litre is the amount of water equal to the weight of 1kg	1cm = 10mm

Converting units examples

Three steps for converting units.

1. Find the conversion factor (see box above)
2. Decide whether to multiply or divide by it
 - To go from a bigger unit to a smaller unit, multiply.
 - To go from a smaller unit to a bigger unit, divide.
3. Do the calculation

e.g. Convert 5.4km to metres.

1. The conversion is 1km = 1000m
2. Going from a bigger unit of measurement to a smaller so, multiply.
3. 5.4 km x 1000 = 5400 m.

Another good way to set these out is to use a proportion table.

e.g. Convert 5.4 km to metres.

Put the known conversion into a table

Kilometres	Metres
1	1000

Add in what you know from the question

Kilometres	Metres
1	1000
5.4	

We can use a multiplier to determine missing values. This can be done in 2 ways.

Kilometres	Metres
1	1000
5.4	5400m

↙ x 5.4 ↘ x 5.4

or

Kilometres	Metres
1	1000
5.4	5400m

↖ x 1000 ↗ x 1000