

Measurement

Numeracy Guide, Greystanes High School

Students need to be able to select and use appropriate units and measuring tools.

This will enable them to calculate length, area, volume, mass and time.

Vocabulary

Students struggle with converting between units, usually because they forget the factor for conversion. However, the factor is described in the words.

milli means a thousandth of.
A millimetre is a thousandth of a metre. There are 1000 millimetres in a metre.

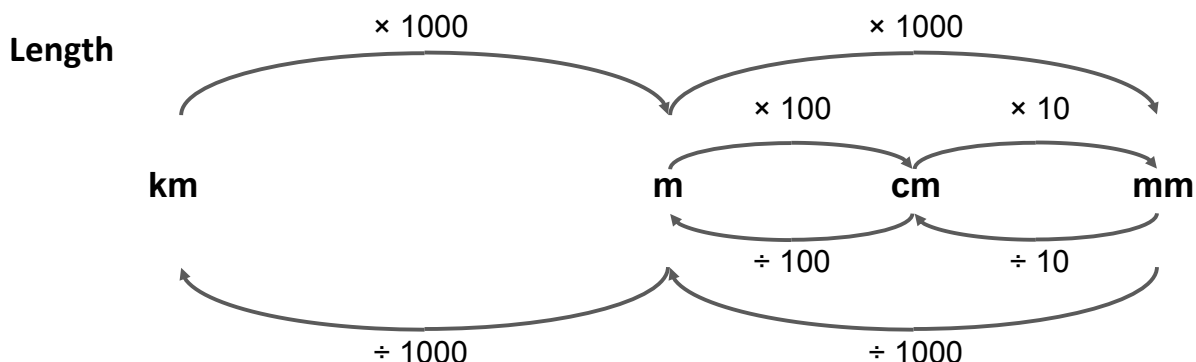
centi means a hundredth of.
A centimetre is a hundredth of a metre. There are 100 centimetres in a metre.

kilo means 1000 wholes.
A kilometre equals 1000 metres.

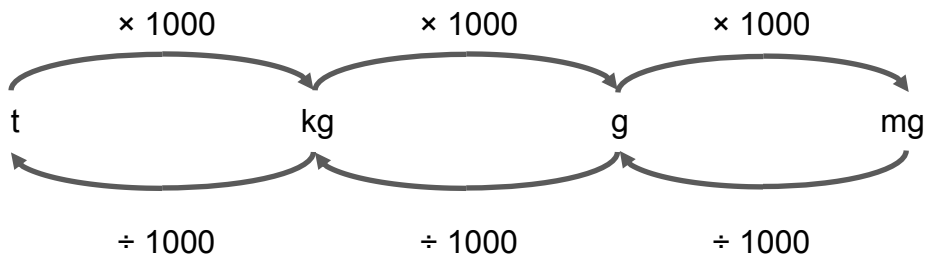
Metric Facts

Quantity	Unit	Symbol	Converting between units
Length	millimetre	mm	1 cm = 10 mm
	centimetre	cm	1 m = 100 cm = 1 000 mm
	metre	m	1 km = 1 000 m
	kilometre	km	
Mass	milligram	mg	1 g = 1 000 mg
	gram	g	1 kg = 1 000 g
	kilogram	kg	1 t = 1 000 kg
	tonne	t	
Capacity "How much can it hold"	millilitre	mL	1 L = 1 000 mL
	litre	kL	1 kL = 1 000 L
	kilolitre	L	1 ML = 1 000 kL = 1 000 000 L
	megalitre	ML	

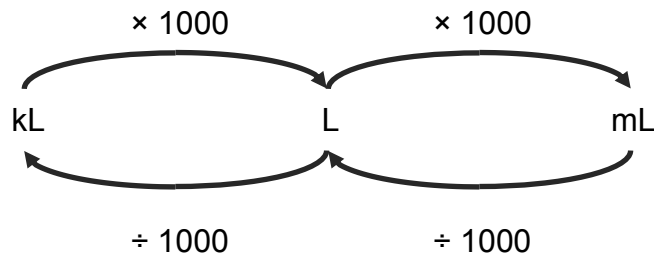
Unit Conversions



Mass



Capacity



Multiplying and Dividing by 10, 100, 1000 etc...

When a number is multiplied by 10 it becomes 10 times bigger.

Take the number 1.314:

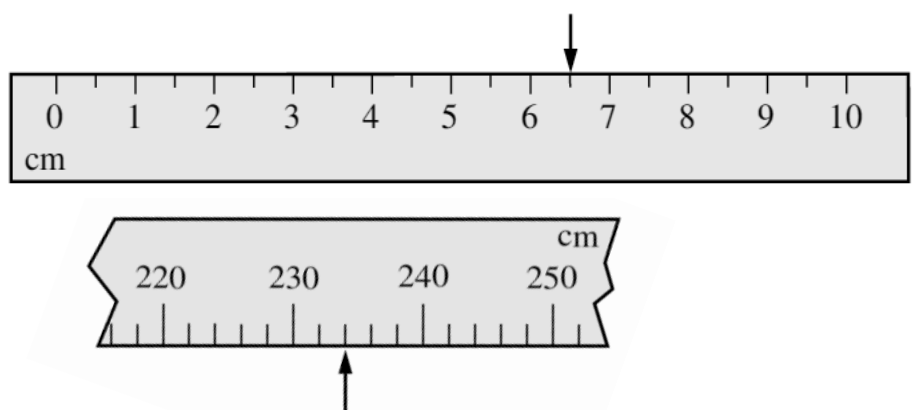
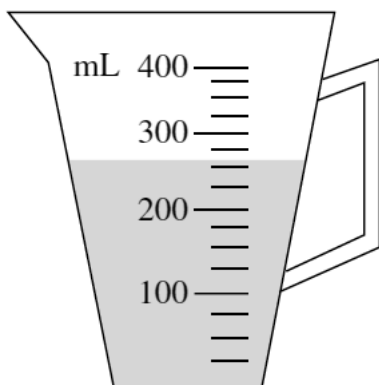
$$\begin{aligned} 1.314 \times 10 &= 13.14 \\ 1.314 \times 100 &= 131.4 \\ 1.314 \times 1000 &= 1314 \\ 1.314 \times 10\,000 &= 13\,140 \end{aligned}$$

When a number is divided by 10 it becomes 10 times smaller.

Take the number 131.4:

$$\begin{aligned} 131.4 \div 10 &= 13.14 \\ 131.4 \div 100 &= 1.314 \\ 131.4 \div 1000 &= 0.1314 \\ 131.4 \div 10\,000 &= 0.01314 \end{aligned}$$

Reading Scales



Teaching Strategies

- Discuss the vocabulary.
- When dealing with measurement, try to use questions with a variety of units.
- Use the real-life examples in your KLA to discuss units of measurement.
- Help students read scales on measuring devices.