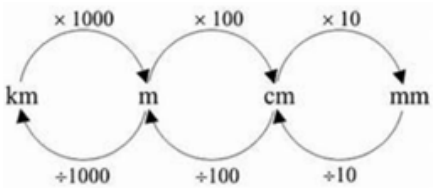
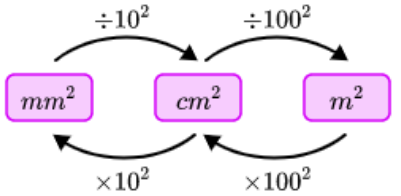
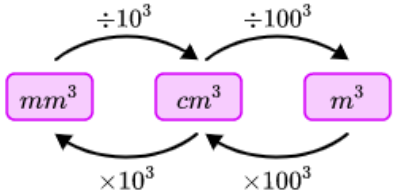
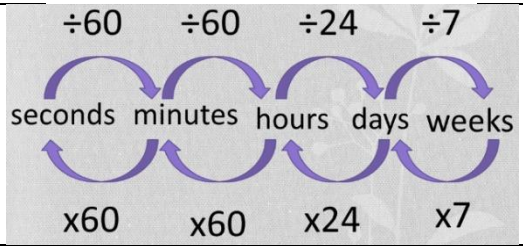
Year 10 Foundation Unit 1 KO – Types of Data, Sampling, Averages, Perimeter and Area, 3D Forms and Volume

Types of Data		
1	Population	The group of individuals from which the data has been obtained.
2	Sample	A selection of individuals taken from the population.
3	Biased sample	A sample that doesn't represent the whole population.
4	Data	A collection of facts.
5	Primary Data	Data that has been collected from the original source.
6	Secondary Data	Data obtained from another source.
7	Quantitative	Information that can be counted or measured.
8	Qualitative	Information that describes something in words.
9	Discrete data	Data that can only take certain values.
10	Continuous data	Data that can take any value within a unit of measurement.
11	Grouped data	Data that is combined within a range of values.

Averages and Range		
1	Mean	The total value of a set of numbers divided by the number of values or total frequency.
2	Median	The middle value of set of numbers after they are put in ascending order.
3	Mode	The most common/frequent value from a set of data.
4	Range	Largest value – smallest value.
5	Frequency	The number of times something happens.
6	Tally Chart	Table that records frequency with each mark representing |.
7	Frequency Table	A table that lists a set of discrete variables and their frequency.
8	Stem and leaf	A plot where each data value is split into a "leaf" (the last digit) and a "stem" (the other digits).

Metric Units			
1	Metric measures - length	millimetres	mm
		centimetres	cm
		metres	m
		kilometres	km

2	Converting metric units - length	
3	Convert between metric units of area	
4	Convert between metric units of volume	
5	Convert between units of time	
6	Convert between measures of volume and capacity	$1l = 1000cm^3$
		$1ml = 1cm^3$
		$1000l = 1m^3$

Perimeter and Area		
1	Perimeter	The distance around the outside of a shape.
2	Compound shape	Is a shape that is made up of two or more smaller shapes.
3	Area	The space inside a shape.

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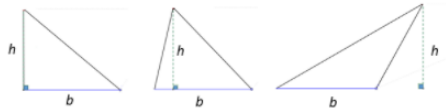
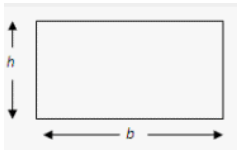
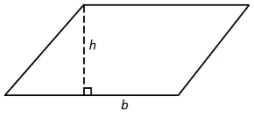
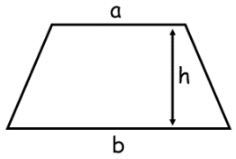
4	Perpendicular height	The height that meets the base of a shape at 90°.	
5	Area of a Triangle	$\frac{b \times h}{2}$	
6	Area of a square/ rectangle	$b \times h$	Base x perpendicular height 
7	Area of a parallelogram	$b \times h$	Base x perpendicular height 
8	Area of a trapezium	$\frac{1}{2}(a+b)h$	Where a and b are the two parallel sides 
9	Surface Area	The total area of all faces of a 3D shape.	

3D Shapes		
1	Prism	A solid object with identical faces at each end. The cross-section is the same all along its length.
2	Three-dimensional (3-D) shape	A shape with three dimensions, width, height and length.
3	Cube	A 3D shape with 6 identical square faces.
4	Cuboid	A prism with 6 sides, all the faces are rectangles.
5	Cylinder	A prism where the cross section is a circle.
6	Pyramid	A 3D shape with sloping sides that meet in a point at the top.
7	Sphere	A round 3D shape with every point at equal distance from the centre.
8	Cone	A 3D object that has a circular base joined to a point by a curved face.

Properties of 3D Shapes		
1	Face	Any flat surface of a 3D shape.
2	Edge	Where two faces meet.
3	Vertex	A point where two or more edges meet.
4	Net	A Pattern of 2D shapes you can fold to make a 3D shape.

Volume		
1	Volume	The amount of space inside a shape.
2	Volume of a prism	area of the cross section x length
3	Volume of a cuboid	base x width x length
4	Volume of a cylinder	$\pi r^2 x\ length$