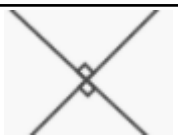
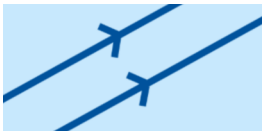
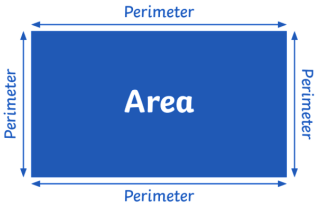
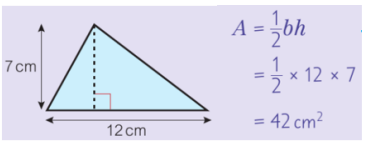
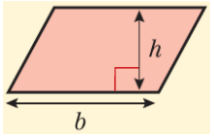
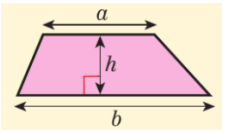
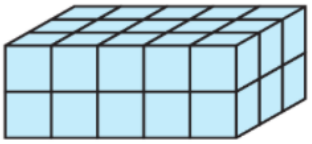
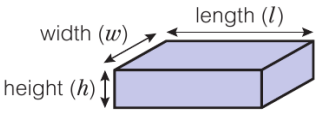
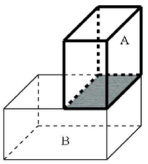
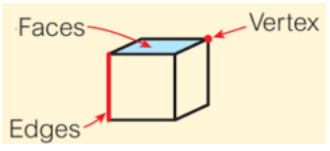
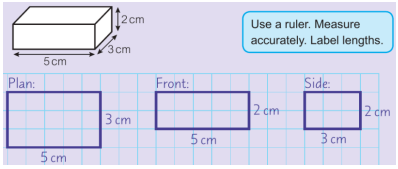
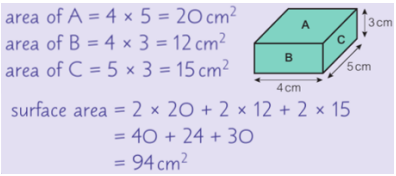
KS3 2: Unit 2 Area and Volume **Knowledge Organiser**

Core Knowledge			
1	Perpendicular		Two lines are perpendicular if they meet at a right angle.
2	Parallel		Lines are parallel if they are always the same distance apart and will never meet when extended. Parallel lines are marked with matching arrows.
3	Congruent		Same shape and same size.
4	Perimeter		The distance around a shape.
5	Area		The size a surface takes up, measured in square units. e.g. cm^2, m^2, km^2
6	Area of a triangle		Area of triangle = ½ x base x perpendicular height A = ½ bh
7	Area of a parallelogram		Area of parallelogram = base x perpendicular height A = bh
8	Area of a trapezium		Area of a trapezium: Add the parallel sides, multiply by the perpendicular height then half it. A = ½ (a + b)h
9	Compound shapes		Compound shapes can be divided into standard shapes. To find the area, work out the area of each part and add together (or subtract if necessary).
10	Volume		The volume of a 3D solid is the amount of 3D space it takes up. Volume is measured in cubic units eg mm^3, cm^3 or m^3
11	Volume of a cuboid		Volume = length x width x height V = lwh
12	Compound solids		Compound solids can be split into cubes and cuboids. To find the volume, work out the volume of each part and add together.
13	Face		The side
14	Edge		Where two sides meet
15	Vertex (pl. vertices)		Where edges meet
16	Net		A net is a 2D shape that folds to make a 3D shape

17	Isometric paper		You can draw 3D solids on isometric paper. Draw vertical and diagonal lines, do not draw horizontal lines.
18	Plan		The view from the top
19	Front elevation		The view from the front
20	Side elevation		The view from the side
21	Surface area		Surface area of a 3D solid is the total area of all its faces.
22	Capacity		The capacity of an object is the volume it can hold.
23	Metric conversions	1 litre (l) = 1000 millilitres (ml) 1 ml = 1 cm^3 1 l = 1000 cm^3 1tonne (t) = 1000 kg 1 cm^2 = 100 mm^2 1 m^2 = 10 000 cm^2 1 hectare (ha) = 10 000 m^2	Convert all lengths to the same units before calculating areas or volumes.
24	Imperial units	1 foot (ft) ≈ 30 cm 1 mile ≈ 1.6 km 1 kg ≈ 2.2 pounds (lb) 1 litre ≈ 1.75 pints 1 gallon ≈ 4.5 litres	You should learn these conversions.