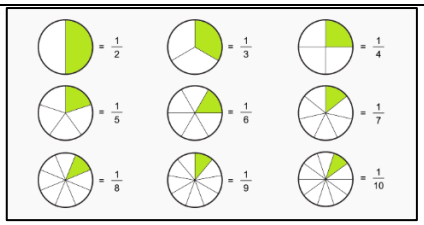
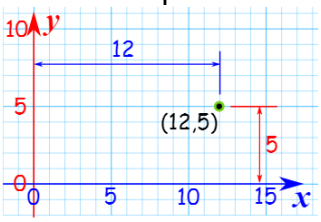
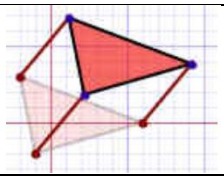
Godalming Junior School

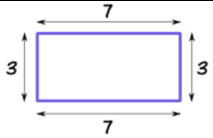
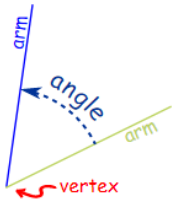
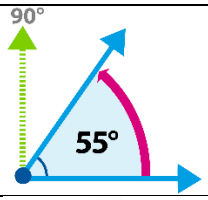
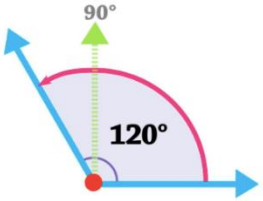
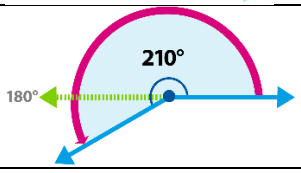
GLOSSARY BOOKLET

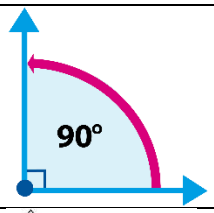
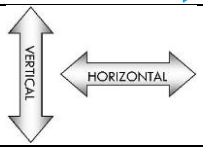
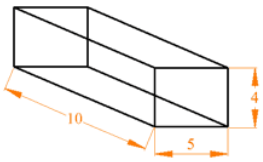
Number

	Definition	Example
=	A symbol that means 'the same as'	7 x 8 = 56 6 x 8 = 12 x 4
>	Greater than symbol	10 > 8 15 + 2 > 20 - 5
<	Less than symbol	6 < 12 4 x 3 < 6 x 5
Fraction	Part of a whole. • the top number (the numerator) says how many parts we have. • the bottom number (the denominator) says how many parts the whole is divided into Fractions can also mean division. We divide by the denominator.	 $\frac{12}{4}$ = 12 ÷ 4 = 3
Percentage	Percent means parts per 100 The symbol is %	25% means 25 per 100, which is the same as 0.25 and $\frac{1}{4}$
Ratio	It is when we compare one part with another part.	If there were 4 children with 1 boy and 3 girls we would write the ratio as: 1:3 (for every 1 boy there are 3 girls)
Multiple	The result of multiplying a number.	12 is a multiple of 3, as 3 × 4 = 12
Factor	Factors are the numbers which can be divided equally into a number.	The factors of 6 are: 1, 2, 3 and 6 because each of these numbers can be divided into 6 equally.
Round	Rounding means making a number simpler but keeping its value close to what it was. The result is less accurate, but easier to use. There are many ways to round. This is the most common method: • Decide which is the last digit to keep • Leave it the same if the next digit is less than 5 (this is called rounding down) • Increase it by 1 if the next digit is 5 or more (this is called rounding up)	73 rounded to the nearest ten is 70. But 76 goes up to 80. 4,693 rounded to the nearest 1,000 is 5,000.
Co-ordinates	Coordinates are a set of values that show an exact position. On graphs it is common to have a pair of numbers to show where a point is: the first number shows the distance along (x-axis) and the second number shows the distance up or down (y-axis). We sometimes say 'along the corridor and then up the stairs'.	Example: the point (12,5) is 12 units along, and 5 units up. 
Translate	To "slide" a shape without rotating or flipping it. The shape still looks exactly the same, just in a different place.	

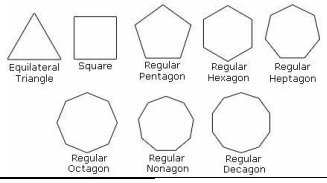
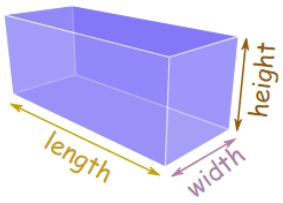
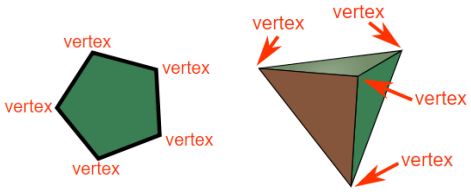
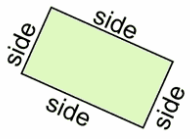
Roman Numerals	How ancient Romans used to write numbers. I means 1 V means 5 X means 10 L means 50 C means 100 D means 500 M means 1000	**Roman Numeral Table** 1 I, 2 II, 3 III, 4 IV, 5 V, 6 VI, 7 VII, 8 VIII, 9 IX, 10 X, 11 XI, 12 XII, 13 XIII, 14 XIV, 15 XV, 16 XVI, 17 XVII, 18 XVIII, 19 XIX, 20 XX, 21 XXI, 22 XXII, 23 XXIII, 24 XXIV, 25 XXV, 26 XXVI, 27 XXVII, 28 XXVIII, 29 XXIX, 30 XXX, 31 XXXI, 40 XL, 50 L, 60 LX, 70 LXX, 80 LXXX, 90 XC, 100 C, 101 CI, 150 CL, 200 CC, 300 CCC, 400 CD, 500 D, 600 DC, 700 DCC, 800 DCCC, 900 CM, 1000 M, 1600 MDC, 1700 MDCC, 1900 MCM 2,018 = MMXVIII MMMCCXLIX = 3,249

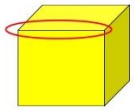
Measures

	Definition	Example
Area	The size of a surface. The amount of space inside the boundary of a flat (2-dimensional) object such as a triangle or rectangle.	Formula for finding the area of a: Rectangle = length x width Parallelogram = length x height Triangle = length x height ÷ 2
Perimeter	The distance around a two-dimensional shape.	 The perimeter of this rectangle is 3+7+3+7 = 20
Angle	The amount of turn between two straight lines that have a common end point (the vertex).	
Degrees	A measure for angles. There are 360º in a full rotation and 180º in half a turn	The symbol for degrees is ° 90 degrees (90°) is a right angle.
Acute	An angle less than 90° (90° is called a Right Angle)	
Obtuse	An obtuse angle is one which is more than 90° but less than 180° In other words, it is between a right angle and a straight angle.	
Reflex angle	A Reflex angle is one which is more than 180° but less than 360°	

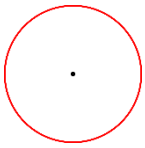
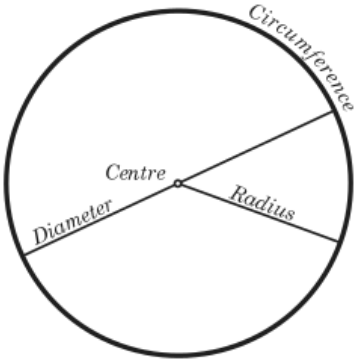
Right angle	An angle which is equal to 90°, one quarter of a full revolution.	
Vertical	In an up-down direction or position.	
Horizontal	Going side-to-side, like the horizon.	
Volume	The amount of 3-dimensional space an object occupies. Can also be called capacity.	 For this example the volume is 4×5×10 = 200 units^3
Mean Average	The mean is the average of the numbers: a calculated "central" value of a set of numbers. To calculate: just add up all the numbers, then divide by how many numbers there are.	What is the mean of 2, 7 and 9? Add the numbers: 2 + 7 + 9 = 18 Divide by how many numbers (i.e. we added 3 numbers): 18 ÷ 3 = 6 So the Mean is 6.

Properties of Shape

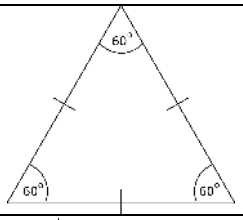
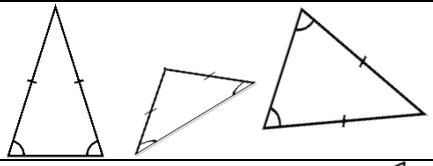
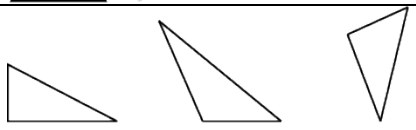
	Definition	Example
2D Shape	A shape with only two dimensions (such as width and height) and no thickness. Also known as "2D".	Squares, Circles, Triangles, etc
Polygon	Any 2D shape made up of **straight** lines.	
Regular and irregular	A polygon is regular when all angles are equal **AND** all sides are equal length (otherwise it is "irregular").	
3D Shape	An object with three dimensions (such as height, width and depth) like any object in the real world. Also known as "3D".	
Vertex (on 2D and 3D shapes)	A point where two or more line segments meet. A corner. (The plural of vertex is "vertices".)	• Any corner of a pentagon (a 2D shape) • Any corner of a tetrahedron (a 3D shape) 
Sides	One of the lines that make a flat (2D) shape.	

Face	Any of the individual surfaces of a solid object.	
Edge	An edge is a line that joins two vertices (on the boundary of where faces meet) on a 3D shape.	

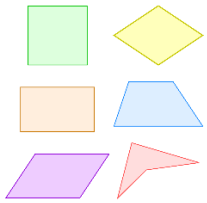
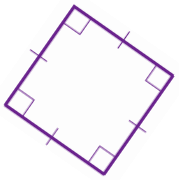
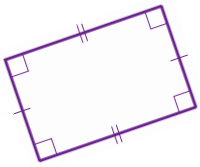
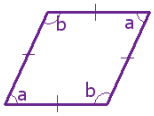
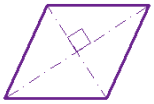
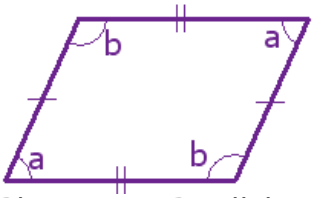
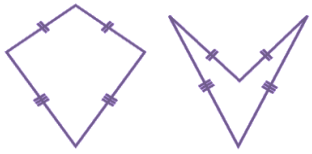
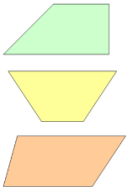
Circles

	Definition	Example
Circle	A 2D shape made by drawing a curve that is always the same distance from a centre.	
Diameter	A straight line going through the centre of a circle connecting two points on the circumference. It is always twice the size of the radius.	
Radius	The distance from the centre to the circumference of a circle It is always half of the circle's diameter.	
Circumference	The distance around the edge of a circle. It is the name given for the perimeter of a circle.	

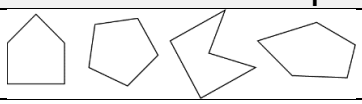
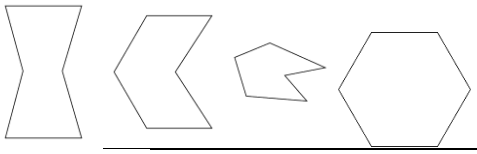
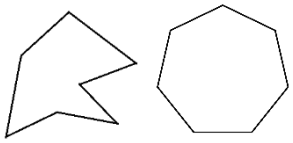
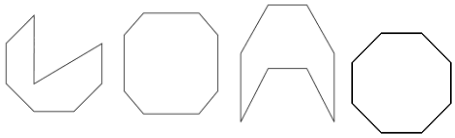
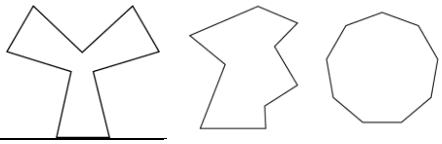
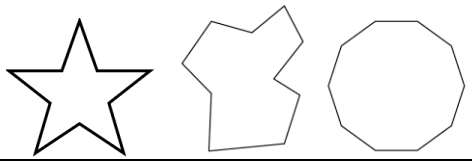
Triangles

	Definition	Example
Triangle	A 3-sided polygon (a flat shape with straight sides).	
Equilateral	A triangle with all three sides of equal length. All the angles are 60°	
Isosceles	A triangle with two equal sides. The angles opposite the equal sides are always equal.	
Scalene	A triangle with all sides of different lengths and angles.	

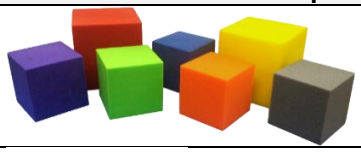
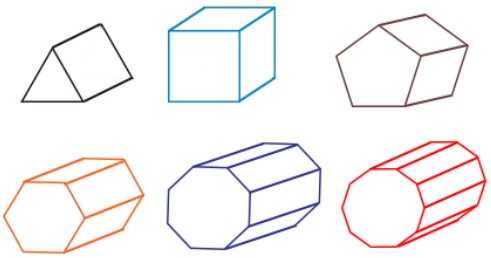
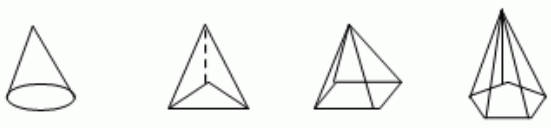
Quadrilaterals

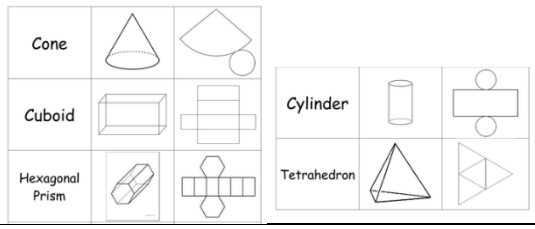
	Definition	Example
Quadrilaterals	Any 4-sided shape. There are 6 types of quadrilaterals that have their own names: Square, rhombus, rectangle, trapezium, parallelogram and kite.	
Square	A 4-sided flat shape with straight sides where: • all sides have equal length, and • every interior angle is a right angle (90°) It is a regular quadrilateral.	
Rectangle	A 4-sided flat shape with straight sides where all interior angles are right angles (90°). AND opposite sides are parallel and of equal length.	
Rhombus	A 4-sided flat shape with straight sides where all sides have equal length. Also opposite sides are parallel and opposite angles are equal. It is a type of parallelogram (a parallelogram with equal length sides).	 
Parallelogram	A 4-sided flat shape with straight sides where: • opposite sides are parallel. • opposite sides are equal in length, and • opposite angles are equal (angles "a" are the same, and angles "b" are the same) **NOTE: Squares, Rectangles and Rhombuses are all Parallelograms!**	 Please note: Parallelograms have NO lines of symmetry.
Kite	A 4-sided flat shape with straight sides that: • has two pairs of equal length sides. • The equal length sides are NOT opposite but next to each other. • the angles are equal where the different pairs meet.	 The dashed lines are diagonals, which meet at a right angle. And one of the diagonals bisects (cuts equally in half) the other.
Trapezium	A 4-sided flat shape with straight sides and NO parallel sides. Sometimes called a trapezoid.	

Other 2D Shapes

	Definition	Example
Pentagon	A 5-sided polygon.	
Hexagon	A 6-sided polygon.	
Heptagon	A 7-sided polygon. A 20p and 50p coin are regular heptagons.	
Octagon	An 8-sided polygon.	
Nonagon	An 9-sided polygon.	
Decagon	An 10-sided polygon.	

3D Shapes

	Definition	Example
Cube	A box-shaped solid object that has six identical square faces. A dice is a cube.	
Cuboid	A cuboid is a box-shaped solid object. It has six rectangular faces and all angles are right angles.	
Prisms	A solid object with two identical ends and flat faces. The shape of the ends usually give the prism the name, e.g. triangular prism. • The cross section is the same all along its length. • The side faces are always rectangles.	
Pyramids	A solid object where: • The base is a polygon • The side faces are triangles which meet at the top. The shape of the base usually gives the name of the pyramid, e.g. square based pyramid.	

Tetrahedron	A 3D shape made up of 4 equilateral triangle faces.	
Net	A pattern that you can cut and fold to make a model of a 3D shape.	

Unit Conversions

	Definition	Example
Time	1 minute = 60 seconds 1 hour = 60 minutes 1 hour = 3600 seconds (60x60) 1 day = 24 hours 1 week = 7 days 1 year = 365 days 1 year = 12 months 1 year = 52 weeks (about) 1 decade = 10 years 1 century = 100 years 1 millennium = 1,000 years	2 and a half minutes = 150 seconds 1 and half hours = 90 minutes 3 days = 72 hours A fortnight = 2 weeks A leap year = 366 days 
Length	10mm = 1cm 100cm = 1m 1,000m = 1km	1.6cm = 16mm; 0.4cm = 4mm 3.6m = 360cm; 16.05m = 1605cm 4.5km = 4,500m; 2.07km = 2070m
Capacity	1,000ml = 1 litre	4.5 L = 4,500ml; 2.07 L = 2070ml Half a litre = 500ml Quarter of a litre = 250ml
Mass	1,000g = 1 kg	4.5g = 4,500g; 2.07kg = 2070g Half a kilogram = 500g Quarter of a kilogram = 250g