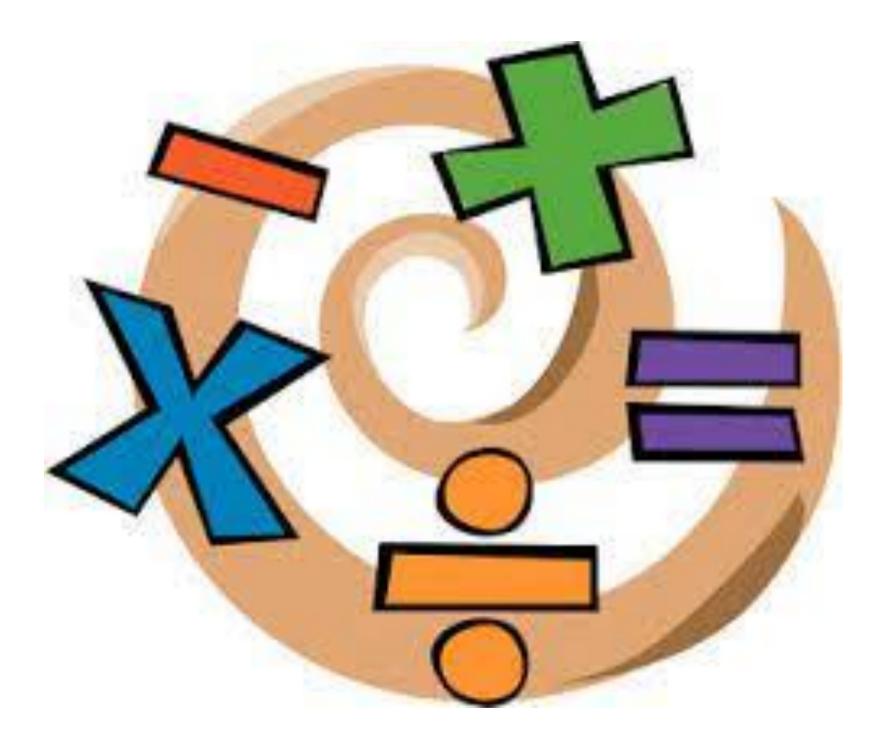
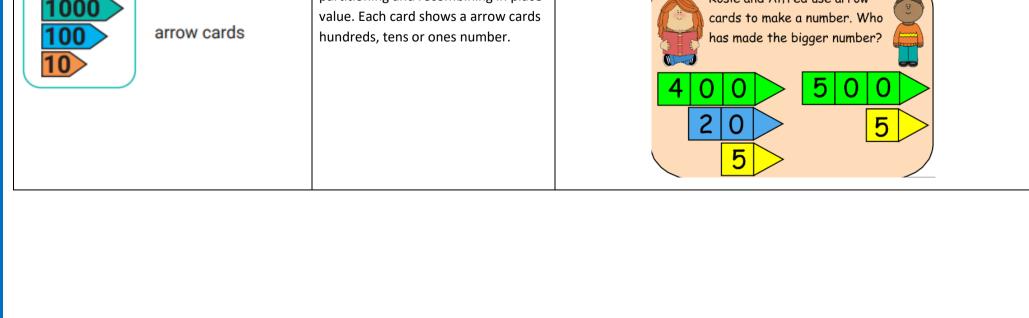
## Maths Vocabulary Help Booklet

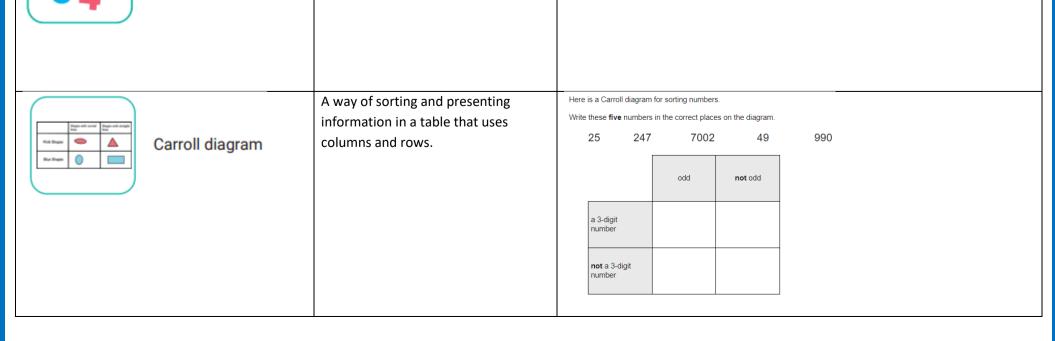




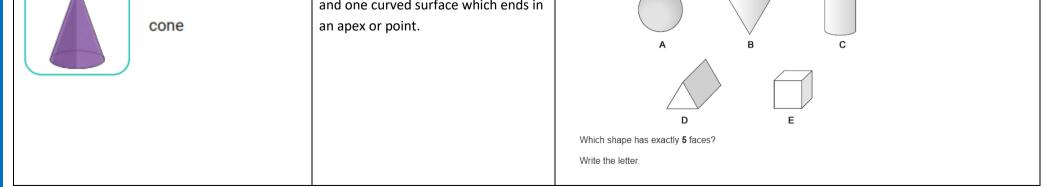
	Number & Place Value			
Vocabulary	Description	Question Type		
acute angle	An angle of less than 90°.	Circle the pentagon with exactly four acute angles.		
addition	Finding the total value of two or more numbers. Denoted by the symbol '+'.	Write in the missing number.		
		1 + 10 + = 100		
analogue clock	A clock that uses an hour hand to show the hour and a minute hand to show minutes to and past the hour.	The time is $past 5$ .		
		This can also be written as minutes past 5.		
12 345 arithmetic	Maths that deals with the properties of numbers and how to calculate using the four operations.	222 = 100 + + 2		
		- 100 = 150		
array	A pictorial representation to help children understand multiplication and division. Typically shown as rows of dots, for example 2 × 4 would be shown as two rows of four dots.	Write 2 multiplication facts and 2 division facts for each group of peas. $ \begin{array}{ccccccccccccccccccccccccccccccccccc$		
1000	Used to help children understand partitioning and recombining in place value. Each card shows a arrow cards	Rosie and Alfred use arrow cards to make a number. Who		



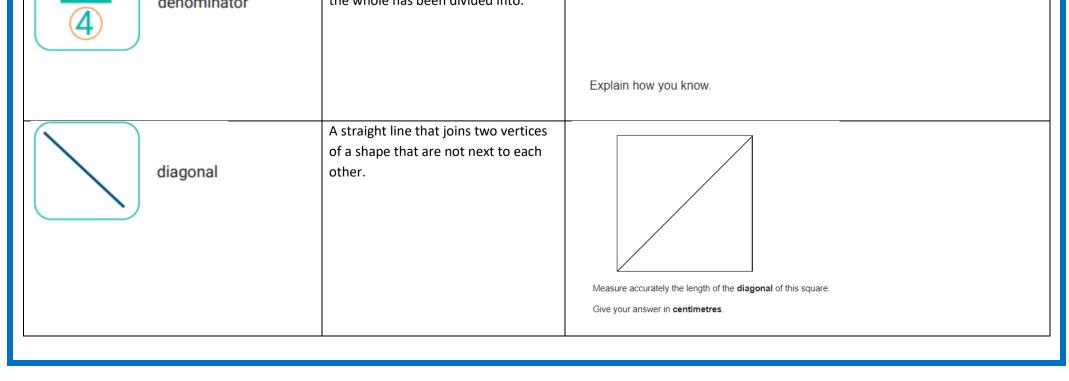
		A chart that displays information	The children in Vijay's class vote for their favourite day out.
		using blocks of different heights	Here are their results.
-		displayed on axes.	
		uispiayeu on axes.	Our favourite day out
3	bar chart		•
			12
remany Robits Supp Cats	-		
			10
			8
			number
			of 6
			2
			0
			seaside zoo farm circus
			How many children vote for the zoo?
		Wooden or plastic cubes, rods and	
$\left( \right)$		flats used to support children in	William is making 543 can up work
			William is making 543, can you work out the Base 10 pieces covered by the
04	base ten blocks	understanding place value. Each small	out the Base 10 pieces covered by the
		cube represents 1: a rod represents	
		10, a flat represents 100 and a large	sploda
		cube represents 1000. Also known as	
		Dienes.	
		A mental method of adding two	
( )		numbers whose total is greater than	
7+9=7+(3+6)			14 + 15 + 16 =
7+9=7+(3+6) 7+3=10	bridging through ten	ten. Pupils are taught to count on to	
10 + 6 = 16		the next ten, and then add the	
		remainder of the number to ten. For	
		example, take 7 + 9: bridging from 7	
		to 10 requires 3, which leaves 6 (from	
		the original 9). 10 + 6 = 16.	
		The term used when measuring how	Vijay has a jug with some water in.
		much fluid a container can hold.	
5. Silve	aanaait	Measured in millilitres and litres.	
+ n izre	capacity		1 litre
vs läve			800ml
			– 600ml
			— 400ml
			200ml
			How many <b>more</b> millilitres must he add to make 1 litre?
		Numbers used to count a set of	No specific questions for year 3.
		objects and give information about	
12	cardinal numbers	quantity – one, two, three, four and	
		cardinal numbers so on	



11	Another term for a graph or other	Three children measure the height of their sunflowers.
chart	way of presenting information.	Here are the results.
clockwise, anticlockwise	A way of indicating the direction of a turn. Clockwise involves a turn to the right as if following the hands of a clock; anticlockwise involves a turn to the left, against the direction of a clock's hands	Starting Shape for Each Instruction     Half Turn Clockwise     Whole Turn Anti-Clockwise     Three Quarter Turn Clockwise
HTO 123 +231 column method	A method of calculation where the numbers to be added or subtracted are set out above one another in columns. The calculation is done by 'regrouping' or 'exchanging' numbers from column to column.	546 + 423 =
3 + 2 = 5 2 + 3 = 5 commutativity	Addition and multiplication have the property of commutativity. This means that when two numbers are added or multiplied, this can be done in any order and the same answer will be obtained. $3 + 2 = 5$ and $2 + 3 = 5$ . $4 \times 6 = 24$ and $6 \times 4 = 24$ . Subtraction and division are not commutative.	Circle the groups on the array and circle the groups in a different way on the second array. Write sentences for what you see.
complementary addition	Also known as the 'jump method'. A method of addition using a number line where children are taught to start with the largest number in the calculation and count on along the number line to find the total.	234 + 5 =
concrete materials	Anything which children may use to help them carry out practical maths activities, e.g. counters to help with addition, cubes and rods for place value or playdough to make 3D shapes.	
	A 3D shape with one face, one edge and one curved surface which ends in	



converting into the same units	Understanding the connection between units of measurement and how they can be converted one to another. For example, length can be measured in centimetres or metres; there are 100cm in a metre. 500cm = 5m	The tree outside Cecily's house is 308cm tall. Cecily's bedroom window is 3m 68cm from the ground.
		How much taller must the tree grow to reach the bottom of Cecily's bedroom window?
corner	Also known as a vertex. The place on a 3D shape where three or more edges meet. Also used to describe the angles of a 2D shape where two sides meet. DfE guidance from 2020 states that from Y2 onwards all children should be using the terminology of vertex/ vertices, and not 'corners'.	How many vertices does a square-based pyramid have?
	A 3D shape with six square faces, 12	Write the missing numbers in the 2 empty boxes.
cube	edges and eight vertices.	Number of squareNumber of triangularNumber of circularfacesfacesfaces
		cube 🗊 0 0
		pyramid 1 4 0
cuboid	A 3D shape with six faces (all of which are rectangular, some of which may be square), 12 edges and eight cuboid vertices.	cylinder 0 0
cylinder	A 3D shape with two circular faces, one curved surface, two curved edges and no vertices.	
1.6 decimal	Numbers are referred to as decimal if they contain a decimal point and represent an integer plus a fraction (tenths, hundredths, etc). For example, 5.2 or 6.08.	Here is part of a number line. Write the missing numbers in the <b>two</b> empty boxes.
denominator	The 'bottom number' in a fraction. This describes how many equal parts the whole has been divided into.	Which is larger, $\frac{6}{8}$ or $\frac{3}{8}$ ?



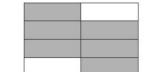
	A clock that talls the time write	Mark got into the pool at 3.30 pm.
	A clock that tells the time using	ETA
	numbers only	
digital clock		M With
للالك لك لك		
		3 : 30
		He was in the pool for 40 minutes.
		At what time did he get out?
	Division in maths is the process of	
	breaking a number up into equal	
division	parts, finding out how many equal	39 ÷ 3 =
	parts can be made and whether there	
	is a remainder. For example, dividing	
	15 by 3 means splitting 15 into 3	
	equal groups of 5 or 5 equal groups of	
	3. Division is represented by the	
	symbol'÷' or sometimes '/'	
	-,,	
	A division calculation related to the	
	times tables. For example, the	
16÷4	division fact $16 \div 4 = 4$ is related to	16 ÷ 4 =
= division fact		
	the 4 division fact times table.	
	The number of groups that a number	No specific questions to year 3.
	is divided into in a division calculation.	
10÷5 divisor	E.g. in the calculation 10 ÷ 5, the	
	divisor divisor is 5.	
	The place on a 3D shape where two	Two shapes have <b>more than 8</b> edges. Tick them.
	faces or surfaces meet.	
edge		
	A calculation where both sides are	1 (1991) - 10 (1991) - 10 (1992) - 10 (1992)
10+2	equal. equation For example: 10 + 2 =	16 + 26 = + 27
	8 + 4.	
= equation		104
8+4		
	Two or more fractions that are equal	

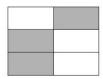


equivalent fractions

Two or more fractions that are equal. They represent the same amount, but have been divided into different numbers of equal parts. For example, 1/3 is the same as 2/6 and 4/12.

Tick the	shape	that	$has \frac{1}{2}$	shaded.	
----------	-------	------	-------------------	---------	--







		Deck back has 40 source
estimate	Sometimes called an 'educated guess'. Estimating is roughly guessing a number of objects or the answer to a calculation based on existing knowledge.	Dan's book has <b>42</b> pages.
<b>246</b> even numbers	Numbers that are divisible by two with no remainder. Even numbers	About how many pages could this be? Circle the number. 10 20 30 40 50 Write the number Divan might be thinking of.
810	always end with 0, 2, 4, 6 or 8.	t is more than 211. It is less than 223. It is an even number.
43 = 40 + 3 26 = 20 + 6 expanded notation	Writing calculations where the numbers have been partitioned. For example, 43 + 26 could be written as 40 + 3 + 20 + 6.	
face	Any flat surface of a 3D shape. Faces can be many different shapes.	Write the missing numbers in the 2 empty boxes.         Number of square faces       Number of triangular faces         cube       0       0
		pyramid     1     4     0       cylinder     0     0
finding the difference	A way of carrying out subtraction calculations by finding the numerical difference between two numbers. For example, to solve the calculation 47 - 34, we can find the difference between 34 and 47. Most often taught by using a number line to count on from the smaller to the greater number. See also jump method.	$ \begin{array}{c} 82 - 49 = \\                                   $
fraction	A fraction is a number that represents part of a whole. It is represented using a numerator and denominator, e.g. fraction 1/2, 3/4.	Sarah has a bag of 24 marbles. <sup>1</sup> / <sub>3</sub> of the marbles are red. How many marbles are red?
geometry	The study of shape, position and movement. Includes aspects such as 2D and 3D shapes, angles, symmetry, geometry pattern, tessellation, turns and position.	
		Υ

graph	A pictorial way of representing and comparing information. Types taught in primary school include block graphs, bar charts, pictograms, pie charts and line graphs.	How many pupils? This question is about pupils in class 7Y. The graph shows how many of these pupils were at school each day.
> < greater than (>) and less than (<)	Symbols used to compare numbers. The wide end of the symbol always faces the larger number, e.g. 25 > 10. Also known as inequality symbols or comparison symbols.	Here are some signs. $\begin{array}{c c}                                    $
13 * 9 =           x           y           9           9           27   grid method	The grid method is a written technique used to teach children multiplication. It involves partitioning numbers into tens and units before they are multiplied, and placing them in a grid. The numbers are then multiplied two by two and the results are added together to give a total answer.	56 × 5 =
hexagon	A 2D shape with six sides and six vertices.	Use the dots to draw a <b>different</b> hexagon. You may use a ruler.
horizontal	A horizontal line runs from left to right. It can join equivalent points on two opposite sides of a shape.	Match the image to the correct statement. A B C C Z D D D D D D D D D D D D D
2 integer	See whole number. Integers can be positive or negative. 0 is also an integer but is neither positive nor negative	
inverse operation	The operation opposite to a given operation. Addition is the inverse of subtraction and multiplication is the inverse of division. So for the calculation $4 + 3 = 7$ , the following calculations also apply: $3 + 4 = 7$ (commutativity), $7 - 4 = 3$ and $7 - 3 =$ 4. For the calculation $3 \times 2 = 6$ , we can also say $2 \times 3 = 6$ (commutativity), $6 \div$ $2 = 3$ and $6 \div 3 = 2$ .	Use the inverse operation to complete the calculations below. A. $+ 432 = 566$ B. $67 + = 93$ C. $- 341 = 395$ D. $- 36 = 46$

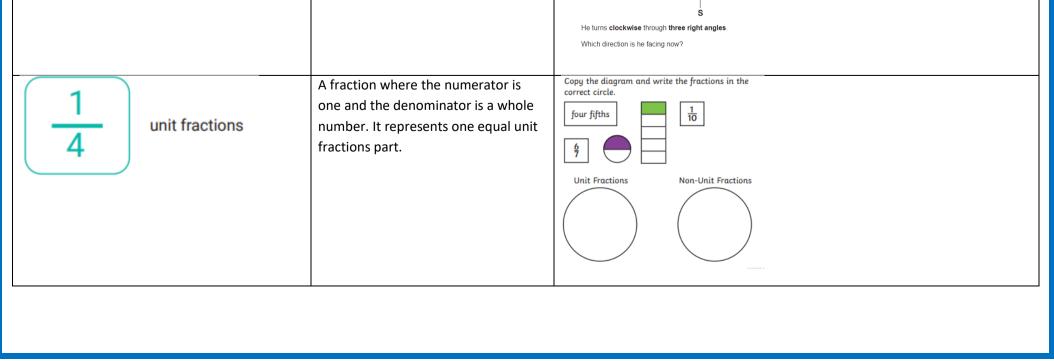
	2D shapes whose sides and angles are	
irregular shapes	not all equal.	
mass	A measurement of the quantity of matter in an object, measured for example in grams (g) and kilograms (kg). The word 'weight' is used in year 1, however from year 2 onwards the word 'mass' should be used, as these are technically not the same thing.	(a) What is the mass of this parcel?
measurement	In maths, children learn about different forms of measurement including length, mass, capacity and measurement volume, time and temperature.	E     A       D     B       C     B       Two sides of the shape are the same length.       Use a ruler to find them.
mental method	Calculations and problem-solving carried out mentally without the need to write down any working-out.	824 - 200 =
$4 \times 5 = 20$ $20 \div 4 = 5$ $20 \div 5 = 4$ multiple	A multiple is a number that can be divided by another number a certain number of times without a remainder. In the number sentence 4 × 5 = 20, 20 is a multiple of 4 and a multiple of 5.	Circle all the numbers that are multiples of four. 8 24 5 30 12
multiplication	Finding how many altogether in a given number of groups of equal sizes. Represented by the symbol '×'.	A spider has 8 legs.
3 × 3 = 9 multiplication fact	A multiplication calculation from the multiplication tables, including its answer. For example, 3 × 3 = 9.	Complete the multiplication wheels. 7 0 6 $x4$ 1 5 $4$ $31$ $x4$ $90$ $12$ $111$ $1$ $1012$ $11$
$1 \times 1 = 1$ $2 \times 2 = 4$ $3 \times 3 = 9$ multiplication tables	The multiplication calculations for all numbers from 1 × 1 to 12 × 12. Usually grouped by the number being multiplied. Children begin by learning the 2×, 5× and 10× tables, and the English curriculum requires that multiplication tables and the related division facts are known by heart by the end of year 4	
9 + 1 = 108 + 2 = 107 + 3 = 10 number bonds	Pairs of numbers that add up to a specific number. For example, the number bonds of 10 are 10 + 0, 9 + 1, 8 + 2, 7 + 3, 6 + 4 and 5 + 5. Children are taught these bonds early on as they help calculation skills and also show patterns that are repeated for other number bonds, for example of 20 or 100.	

12 345 number facts	Basic addition, subtraction, multiplication and division facts that children should learn to recall instantly to support more complex calculations	$ \begin{array}{c c} 100 \\ 75 \\ -75 \\ -75 \\ -75 \\ -75 \\ -75 \\ -100 \\ 100 \\ -75 \\ -7$
number line	A visual representation of numbers along a horizontal line. Can start at zero or represent a set of numbers from elsewhere in the number system. Used to support counting, place value and calculation skills.	Kiz worked out the answer to 7 × 3 on a number line.         Show how Kiz could have worked out the answer on this number line.         • • • • • • • • • • • • • • • • • • •
number square	A set of numbers written in sequence in a square format. Often used with numbers from 1 to 100, it is a valuable primary school teaching aid as it teaches number sequences and patterns as well as basic addition and subtraction.	
1 numerator	The top number in a fraction. This describes how many of the equal parts are being counted.	
oblong	A quadrilateral with two pairs of parallel sides and adjacent sides of different lengths. (Referred to as a rectangle in the UK.)	
135 79 odd numbers	Whole numbers that are not exactly divisible by 2. Odd numbers always end in 1, 3, 5, 7 or 9.	The first <b>five</b> odd numbers add up to 25 What do the first <b>six</b> odd numbers add up to?
octagon	A 2D shape with eight sides and eight vertices.	This shape is divided into equal parts. What fraction of this shape is shaded?
1234567 7654321 ordering	Putting numbers in the correct order according to size. Ascending order goes from smallest to greatest; descending order goes from greatest to smallest. Ordering also involves using the greater than, less than and equals symbols ( and =).	Write these numbers in order of size, starting with the smallest.         801       1081       810       108       180
1st 2nd 3rd	Numbers that indicate order - 1st, 2nd, 3rd, etc.	

parallel 7 = 700 8 = 80 2 = 2 partitioning	Lines that are always the same distance apart and will never meet. See also recombining. Partitioning is dividing a number into the individual values of its digits. For example, 782 can be partitioned into 700 + 80 + 2. We can use partitioning to help children to understand the values of these digits.	Can you circle the pairs of parallel lines?         Image: Construction of parallel lines?
3 cm 3 cm 3 cm 3 cm	The distance all the way around a 2D shape – the total length of its sides.	Calculate the perimeter of each shape. Type your answer in the box.
perpendicular	Lines that cross each other at a right angle are perpendicular.	Draw a shape that has both parallel and perpendicular lines. Use a ruler.
pictogram	A chart or graph that uses pictures to represent data. They are set out the same way as bar charts but use pictures instead of bars. Each picture could represent one item or more than one.	Look at this pictogram.          Number of children in Class 5         girls         boys         Key         2 children         1 child         There are 12 boys in Class 5.         Show this on the pictogram.
6 = 600 2 = 20 7 = 7	The value of all the digits in a number. For example, in the number 627, the 6 is worth 600, the 2 is worth 20 and the 7 is worth 7.	Using grids         The grid shows the number 591 $100$ $200$ $300$ $400$ $500$ $600$ $700$ $800$ $900$ $10$ $20$ $30$ $400$ $500$ $600$ $700$ $800$ $900$ $10$ $20$ $30$ $40$ $50$ $60$ $70$ $80$ $900$ $1$ $2$ $3$ $4$ $5$ $6$ $7$ $8$ $9$ (a) Show the number 460 on the grid below.         100 $200$ $300$ $400$ $500$ $600$ $700$ $800$ $900$ $10$ $200$ $300$ $400$ $500$ $600$ $700$ $800$ $900$ $10$ $20$ $30$ $40$ $50$ $60$ $70$ $80$ $900$ $1$ $2$ $3$ $4$ $5$ $6$ $7$ $8$ $9$
polygon	A 2D shape with straight sides that are fully closed (they join up). A polygon can have any number of sides. Examples of polygons include triangles, squares, hexagons and so on.	
pyramid (square-based)	A 3D shape with four triangular faces, one square face and five vertices.	

image: pyramid (triangular-based)         image: pyramid (triangular-based)	A 3D shape with four triangular faces and four vertices. 2D shapes with closed sides, where all sides are the same length and all angles are the same.	What are the properties of a pyramid?         What are the properties of a pyramid?         Here are 5 vertices of a regular hexagon.         Mark the sixth vertex and join the points to draw the hexagon.         • • • • • • • • • • • • • • • • • • •
2 + 2 2 + 2 repeated addition	A way of teaching about multiplication as the repeated grouping of the same number. For example, $4 \times 2$ is the same as four groups of 2, or $2 + 2 + 2 + 2$ .	$2 + 2 + 2 = 3 \times 2 = 2 \times 4 \times$
$ \begin{array}{r} 15 - 5 \\ -5 - 5 \\ = 0 \end{array} $ repeated subtraction	A way of teaching about division as the repeated subtraction of the same number down to zero. For example, 15 ÷ 5 is the same as 15 shared into 3 groups of 5, or 15 - 5 - 5 - 5 = 0.	$3 + 3 = 2 \times 3 =$
right angle	An angle of exactly 90°. The two lines that make a right angle are perpendicular. A right angle can also be known as a quarter turn, because it is one quarter of a full turn.	Here are some angles. Tick (<) the two right angles.
sharing	Children learn early on how to share a number of objects into equal groups. This develops an early understanding of division.	There are <b>24</b> strawberries in a tub. I share them equally between the <b>4</b> people in my family. When the the two periods are as a straight for the
side	One of the lines, straight or curved, which encloses a 2D shape.	One side of a square is <b>5 cm</b> long. What is the total length around <b>all</b> it sides?
standard and non-standard units	Standard units are the common units used in measurement, for example centimetres, litres or grams. Non- standard units are used for measurement with younger children, to introduce them to the concept of measuring - for example, they might investigate how many cupfuls of sand fill a bucket, or how many cubes weigh the same as a book.	Fill the following three containers using a spoon. Write the items in order in the table below, from largest capacity to smallest.      teacup, egg cup, bottle cap      Container     Number of spoons     1.     2.     3.
statistics	The term used for teaching the collection, presentation and analysis of information or data.	

subtraction	Taking one number away from another; finding the difference between the two. Denoted by the symbol '-'.	Kate has a piece of ribbon <b>one metre</b> long. She cuts off 30 centimetres.
subtraction on a number line	See also finding the difference. Children are taught to use a number line to carry out subtraction calculations, either by counting back from the starting number or by finding the difference between the smaller and the greater number in the calculation	How many centimetres of ribbon are left? See finding the difference
10 + 5 = 15 sum	The result of adding two numbers together.	175 + 25 =
tally chart	A chart used for the initial collection of data. Usually presented as a table with different categories along the top or down the side, and tallies (groups of five marks) used to show how many in each category. One vertical mark represents one item, and when five are counted the fifth mark is crossed through the first four.	This chart shows the number of children at a school.         Write in the missing number on the chart.       Total         A       ### ### ### ### ### ### ### ###       28         B       ### ### ### ### ### ### ### ### ###       31         C       ### ### ### ### ### ### ### ###       29         D       ### ### ### ### ### ### ### ###       11         In which classes are there more boys than girls?       In which classes are there more boys than girls?
time interval	The length of time between two given times.	Rita takes half an hour to walk from home to the library.         Image: A state of the library of
$1 \times 1 = 1$ $2 \times 2 = 4$ $3 \times 3 = 9$ times tables	See multiplication tables.	See multiplication tables.
180° turns	A movement in a space, either clockwise or anticlockwise. A quarter turn is 90°, a half turn is 180°, a three- quarter turn is 270° and a full turn is 360°.	Turning direction (a) Terry is facing north.



V	vertex/vertices	The place on a 3D shape where three or more edges meet. Also used to describe the corners of a 2D shape. vertex/vertices See also corners.	How many vertices does a square-based pyramid have?		
	vertical	A line that runs up and down from top to bottom. It will intersect a horizontal line at right angles.	Label these lines as horizontal or vertical: a) b) c) Now, find two examples of: horizontal lines in the classroom. vertical lines in the classroom.		
<b>123</b> <b>45</b>	whole number	A number which contains no fractions or parts of a whole such as decimal numbers. Also called an integer.			
Rachel has 17 apples. She gives 9 to Sarah. How many apples does Rachel have now?	word problem	A mathematical calculation presented in words. Pupils are taught to find the key information, work out what type of calculation is needed and then work out the answer.	Zak has more than 10 counters and fewer than 20 counters. When he groups them in threes no counters are left over. How many counters could Zak have?		
	written method	A way of carrying out a calculation which is done on paper rather than entirely mentally.	Nisha writes: 538 + 46 = 585		
			Show why Nisha is <b>wrong</b> .		
2	24-hour clock	The 12-hour clock runs from 12 o'clock to 12 o'clock twice per day. The 24-hour clock runs from 00:00 (12 a.m.) through 24 hours to 23:59 (11:59 p.m.).	Fill in the gaps below.         a) 08:45       quarter to nine in the         b) 16:10       ten past four in the         c) 21:40       twenty to ten at         d):15       3:15 p.m.		
2	2D shapes	Shapes that are flat, having only two dimensions – length (sometimes called height) and width.	2) Circle the descriptions that match this shape: I have 6 sides. I have 5 vertices. All my sides are the same length. I am symmetrical. twinkLc		
3	3D shapes	Shapes that have a solid form, having three dimensions – length (sometimes called height), width and depth.	(a) Write numbers to complete the table below.         Number of faces that are triangles         cuboid         triangular prism		