Maths Progression Framework

Skills

STRAND	FS (Development Matters)	Year 1 (WRM)	Year 2 (WRM)	Year 3 (WRM)	Year 4 (WRM)	Year 5 (WRM)	Year 6 (WRM)
Place Value							
Counting	**3-4** Develop fast recognition of up to 3 objects, without having to count them individually (subitising). Recite numbers past 5. Say one number for each item in order: 1, 2, 3, 4, 5. Know that the last number reached when counting a set of objects tells you how many there are in total (cardinal principle). **Reception** Count objects, actions, and sounds. Subitise. Count beyond 10.	Count to and across 100, forwards and backwards, beginning from any given number. Count numbers to 100 in numerals; count in multiples of twos, fives and tens.	Count in steps of 2, 3 and 5 from 0 and in tens from any number, forward and backward.	Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Count in multiples of 6, 7, 9, 25 and 1000. Count backwards through zero to include negative numbers.	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. Count forwards and backwards with positive and negative whole numbers, including through zero.	
Represent	**3-4** Show 'finger numbers' up to 5.	Identify and represent numbers using objects and pictorial representations.	Read and write numbers to at least 100 in numerals and words.	Identify, represent and estimate numbers using different representations.	Identify, represent and estimate numbers using different representations.	Read, write, (order and compare) numbers to at least 1,000,000 and	Read, write, (order and compare) numbers to at least 1,000,000 and

	Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as numerals. **Reception** Link the number symbol (numeral) with its cardinal number value.	Read and write numbers to 100 in numerals. Read and write numbers from 1 to 20 in numerals and words.	Identify, represent and estimate numbers using different representations, including the number line.	Read and write numbers up to 1000 in numerals and words.	Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	determine the value of each digit. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	determine the value of each digit.
Use PV and Compare	**3-4** Compare quantities using language: 'more than', 'fewer than'. **Reception** Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers.	Given a number, identify one more and one less.	Recognise the place value of each digit in a two-digit number (tens, ones). Compare and order numbers from 0 up to 100; use <, > and = signs.	Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1000.	Find 1000 more or less than a given number. Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones). Order and compare numbers beyond 1000.	(Read, write) order and compare numbers to at least 1,000,000 and determine the value of each digit.	(Read, write) order and compare numbers up to 10,000,000 and determine the value of each digit.
Problems & Rounding	**3-4** Solve real world mathematical problems with numbers up to 5.		Use place value and number facts to solve problems.	Solve number problems and practical problems involving these ideas.	Round any number to the nearest 10, 100 or 1000. Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	Interpret negative numbers in context. Round any number up 1,000,000 to the nearest 10, 100, 1000, 10,000, 100,000. Solve number problems and practical problems that involve all of the above.	

Addition & Subtraction							
Recall, represent, use	**Reception** Explore the composition of numbers to 10. Split a group of objects in different ways, understanding that there are still the same amount altogether Recognise the composition of numbers to 10 using subitising e.g. I can see 3 here and 2 there which is 5 altogether. Automatically recall number bonds for numbers to 5. Know some number bonds to 10	Read, write, and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Represent and use number bonds and related subtraction facts within 20.	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Estimate the answer to a calculation and use inverse operations to check answers.	Estimate and use inverse operations to check answers the answer to a calculation.	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	
Calculations	Know some double facts up to double 5	Add and subtract one-digit and two-digit numbers to 20, including zero.	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: *- A two-digit number and ones* *- A two-digit number and tens* *- Two two-digit numbers* *- Adding three one-digit numbers*	Add and subtract numbers mentally, including: *- A three-digit number and ones* *- A three-digit number and tens* *- A three-digit number and hundreds* *Add and subtract numbers with up to three digits, using formal written methods*	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). Add and subtract numbers mentally with increasingly large numbers.	Perform mental calculations, including with mixed operations and large numbers. Use their knowledge of the order of operations to carry out calculations involving the four operations.

				of columnar addition and subtraction.			
Solve Problems		Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ___ - 9.	Solve problems with addition and subtraction: - *using concrete objects and pictorial representations, including those involving numbers, quantities and measures.* - *Applying their increasing knowledge of mental and written methods.*	Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
Multiplication & Division							
Recall, represent, Use	Share quantities of objects fairly		Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.	Recall multiplication and division facts for multiplication tables up to 12x12. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. Recognise and use factor pairs and commutativity in mental calculations.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19. Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).	Identify common factors, common multiples and prime numbers. Use estimations to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

Calculations			Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs.	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods.	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. Multiply and divide numbers mentally drawing upon known facts. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding as appropriate for the context. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. Perform mental calculations, including with mixed operations and large numbers
Solve problems		Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and	Solve problems involving multiplication and division, using materials arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Solve problems including missing number problems, involving multiplication, and division, including positive integer scaling problems and correspondence	Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. Solve problems involving multiplication and division,	Solve problems involving addition, subtraction, multiplication and division.

		arrays with the support of the teacher.		problems in which n objects are connected to m objects.	problems such as n objects are connected to m objects.	including scaling by simple fractions and problems involving simple rates.	
Combined operations						Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	Use their knowledge of the order of operations to carry out calculations involving four operations.
Fractions							
Recognise and write		Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Recognise, find and name a quarter as one of four equal parts of an object shape or quantity.	Recognise, find, name and write fractions 1/3, ¼, 2/4, ¾ of a length, shape, set of objects or quantity.	Count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing one-digit numbers or quantities by 10. Recognise, find and write fractions of a discrete set of objects; unit fractions and non-unit fractions with small denominators. Recognise and use fractions as numbers; unit fractions and non-unit fractions with small denominators.	Count up and down in hundredth; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one to the other and write mathematical statements > 1 as a mixed number (for example, 2/5 + 4/5 = 6/5 = 1 1/5)	
Compare			Recognise the equivalence of 2/4 and 1/2.	Recognise and show, using diagrams, equivalent fractions with small denominators.	Recognise and show, using diagrams, families of common equivalent fractions.	Compare and order fractions whose denominators are all multiples of the same number.	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.

				Compare and order unit fractions, and fractions with the same denominators.			Compare and order fractions including fractions >1
Calculations			Write simple fractions for example, ½ of 6 = 3.	Add and subtract fractions with the same denominator within one whole (for example, 5/7 + 1/7 = 6/7)	Add and subtract fractions with the same denominator.	Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers, supported materials and diagrams.	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, ¼ x ½ = 1/8). Divide proper fractions by whole numbers (for example, 1/3 ÷ 2 = 1/6)
Solve problems				Solve problems that involve all of the above.	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.		
Decimals							
Recognise and write					Recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to ¼, ½, ¾	Read and write decimal numbers as fractions (for example, 0.71 = 71/100). Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	Identify the value of each digit in numbers given to three decimal places.

Compare					Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places.	Round decimals with two decimal places to the nearest whole number and to one decimal place. Read, write, order and compare numbers with up to three decimal places.	
Calculation & Problems					Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	Solve problems involving number up to three decimal places.	Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. Multiply one-digit numbers with up to two decimal places by whole numbers. Use written division methods in cases where the answer has up to two decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy.
Fractions, decimals & percentages							
Fractions, decimals & percentages					Solve simple measure and money problems involving fractions and decimals to two decimal places.	Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.	Associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, 3/8).

						Solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Ratio and Proportion							
Ratio and Proportion							Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplications and division facts. Solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison. Solve problems involving similar shapes where the scale factor is known or can be found. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Algebra							
Algebra		Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ___ - 9.	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Solve problems, including missing number problems.			Use simple formulae Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two values.
Measurement							
Using Measures	<u>3-4</u> Make comparisons between objects relating to size, length, weight and capacity. <u>Reception</u> Compare 2 towers saying which is taller/shorter Compare 2 measuring length saying which is longer/shorter Using balance scales say which object is heavier/lighter. Say when the objects weigh the same/ are equal	Compare, describe and solve practical problems for: - Length and heights *e.g. example, long/short, longer/shorter, tall/short, double/half)* - Mass/weight (for example, heavy/light, heavier than, lighter than) - Capacity and volume *e.g. full/empty, more than, less than, half, half full, quarter* - Time (for example, quicker, slower, earlier, later) Measure and begin to record the following: - Lengths and heights - Mass/weight - Capacity and volume	Choose and use appropriate standard units to estimate and measure length/height in any direction (cm/m); mass (g/kg); temperature (C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using >,< and =.	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Convert between different units of measure (for example, kilometre to metre; hour to minute). Estimate, compare and calculate different measures.	Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use appropriate equivalences between metric units and common imperial units such as inches, pounds and pints. Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Use, read, write and convert between standard units, converting measurements of length, mass, volume, and time from a unit of measure t a larger unit, and vice versa, using decimal notation up to three decimal places. Convert between miles and kilometres.

		- Time (hours, minutes, seconds)					
Money		Recognise and know the value of different denominations of coins and notes.	Recognise and use symbols for pounds (£) and pence (p); combine to make a particular value. Find different combinations of coins that equal the same amounts of money. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	Add and subtract amounts of money to give change, using both £ and p in practical contexts.	Estimate, compare and calculate different measures, including money in pounds and pence.	Use all four operations to solve problems involving measure (for example, money).	
Time	**3-4** Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then…' **Reception** Discuss whether it is morning or afternoon Visual timetable – what have we done now, what are we doing next Daily Calendar Understand that we do certain things on certain days e.g. PE	Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) Recognise and use language relating to dates including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	Compare and sequence intervals of time. Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day.	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. Estimate and read time with increasing accuracy, to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. Know the number of seconds in a minute	Read, write and convert time between analogue and digital 12-hour and 24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Solve problems involving converting between units of time.	Use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit, and vice versa.

				and the number of days in each month, year and leap year. Compare durations of events (for example to calculate the time taken by particular tasks)			
Perimeter. Area, Volume				Measure the perimeter of simple 2-D shapes.	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Find the area of rectilinear shapes by counting squares.	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes. Estimate volume (for example, using 1 cm3 blocks to build cuboids (including cubes)) and capacity (for example, using water).	Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3), and extending to other units (for example, mm3 and km3).
Geometry							
2-D shapes	**3-4** Talk about and explore 2-D shapes (for example, circles rectangles, including squares, and triangles) using	Recognise and name common 2-D shapes (for example, rectangles (including squares), circles and triangles)	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	Draw 2-D shapes.	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Use the properties of rectangles to deduce related	Draw 2-D shapes using given dimensions and angles. Compare and classify geometric shapes

	informal and mathematical language: 'sides', 'corners'. Combine shapes to make new ones – an arch, a bigger triangle etc. **Reception** Identify 2D shapes Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.	Begin to describe their properties.	Identify 2-D shapes on the surface of 3-D shapes, (for example, a circle on a cylinder and a triangle on a pyramid). Compare and sort common 2-D shapes and everyday objects.		Identify lines of symmetry in 2-D shapes presented in different orientations.	facts and find missing lengths and angles.	based on their properties and sizes. Illustrate and name parts of circle, including radius, diameter and circumference and know that the diameter is twice the radius.
3-D shapes	**3-4** Talk about and explore 3-D shapes (cube/cuboid, pyramid, sphere, cone) using informal and mathematical language: 'straight', 'flat', 'round'. Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. Reception Sort 3D shapes by different criteria *e.g. can it roll, can it stack, does it have corners?*	Recognise and name common 3-D shapes (for example, cuboids (including cubes), pyramids and spheres).	Recognise and name common 3-D shapes (for example, cuboids (including cubes), pyramids and spheres). Compare and sort common 3-D shapes and everyday objects.	Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.		Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	Recognise, describe and build simple 3-D shapes, including making nets.

Angles & Lines				Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	Identify acute and obtuse angles and compare and order angles up to two right angles by size. Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry.	Know angles are measured in degrees; estimate and compare accurate acute, obtuse and reflex angles. Draw given angles, and measure them in degrees. Identify: - Angles at a point and one whole turn (total 360 degrees) - Angles at a point on a straight line and ½ a turn (total 180 degrees) - Other multiples of 90 degrees	Find unknown angles in any triangles, quadrilaterals, and regular polygons. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
Patterns	**<u>3-4</u>** Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. **<u>Reception</u>** Continue, copy and create repeating patterns (including AB, ABB, ABBC).						

Position & Direction	**3-4** Understand position through words alone – for example, 'the bag is under the table,' – with no pointing. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. **Reception** Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Use positional language to describe where things are – behind, next to, in front of, on top of, under	Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	Order and arrange combinations of mathematical objects in patterns and sequences. Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).		Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a polygon.	Identify, describe, and represent the position of a shape following a reflection or translation, using appropriate language, and know that the shape has not changed.	Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Statistics							
Present & Interpret			Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	Interpret and present data using bar charts, pictograms and tables.	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	Complete, read and interpret information in tables, including timetables.	Interpret and construct pie charts and line graphs and use these to solve problems.
Solve problems			Ask and answer simple questions by counting the number of objects in each category and	Solve one-step and two-step questions (for example, 'How many more?' and 'how many	Solve comparison, sum and difference problems using information presented	Solve comparison, sum and difference problems using information presented in a line graph.	Calculate and interpret the mean as an average.

			sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data.	fewer?') using information presented in scaled bar charts and pictograms and tables.	in bar charts, pictograms, tables and other graphs.		

Vocabulary

STRAND	FS	Year 1	Year 2	Year 3	Year 4	Year 5	Y6
Number & Place Value							
Number	zero number one, two, three … to twenty and beyond teens numbers, eleven, twelve … twenty none how many …? count, count (up) to, count on (from, to), count back (from, to) count in ones is the same as more, less odd, even few, pattern, pair	numeral twenty-one, twenty-two … one hundred forwards backwards equal to equivalent to most, least, many multiple of count in twos, fives, tens	count in threes tally sequence continue predict rule > greater than < less than	count in fours, eights, fifties and so on to hundreds factor of relationship roman numerals one hundred, two hundred … one thousand	ten thousand, hundred thousand, million count in sixes, sevens, nines, twenty-fives next, consecutive integer, positive, negative above/below zero, minus negative numbers	factor pair ≥ greater than or equal to ≤ less than or equal to formula divisibility square number prime number ascending/descending order	factorise prime factor digit total
Place Value	the same number as, as many as more, larger, bigger, smaller, less smallest, least most, biggest, largest, one more, one less, compare, order, size first, second, third… twentieth	equal to half-way between above, below digit between fewest, fewer, greatest, greater Ones, tens	one- or two--digit number place, place value stands for, represents exchange twenty first, twenty second… ten more ten less	hundreds three-digit number one hundred more one hundred less	one thousand more one thousand less		

	last, before, after, next						
Estimating and rounding	Guess how many …? Nearly, close to about the same as just over, just under too many, too few enough, not enough	roughly estimate	Exact, exactly	approximate approximately round, nearest, round to the nearest ten, hundred round up, round down	round to the nearest thousand	round to the nearest ten thousand	
Addition & Subtraction							
	add, more, and make, sum, total, altogether double one more, two more … how many more to make …? take away how many are left/left over? how many have gone? one less, two less,	addition near double half, halve subtract equals is the same as number bonds/pairs missing number how many more is … than …? how many fewer is … than …? difference between	number facts tens boundary ten more ten less	one hundred more one hundred less hundreds boundary	inverse	ones boundary, tenths boundary	
Multiplication & Division							
	doubling halving number patterns	array row, column grouping sharing share equally equal groups of unequal	groups of times once, twice, three times … ten times repeated addition divide, divided by, divided into left, left over one each, two each, three each … ten each group in pairs, threes … tens multiplication table multiplication fact, division fact	factor product remainder	inverse square, squared cube, cubed		

Fractions, Decimals & Percentages (including ratio and proportion)							
	parts of a whole	fraction equal part equal grouping equal sharing one of two equal parts one of four equal parts half, quarter	equivalent fraction mixed number two halves two quarters, three quarters one third, two thirds one of three equal parts	sixths, sevenths, eighths, tenths …	hundredths decimal, decimal fraction, decimal point, decimal place, decimal equivalent proportion	proper/improper fraction equivalent, reduced to, cancel thousandths in every, for every percentage, per cent, %	ratio
Algebra							
							formula, formulae equation unknown variable
Measurement							
Measurement	Measure, size, compare guess, estimate enough, not enough too much, too little too many, too few nearly, close to, about the same as just over, just under	measurement roughly	Measuring scale	Division approximately	unit, standard unit metric unit	Imperial unit	
Length	length, height, long, short, tall wide, narrow thick, thin longer, shorter, taller, higher … and so on longest, shortest, tallest, highest … and so on	centimetre ruler metre stick metre width, depth high, low far, near, close	further, furthest tape measure	millimetre, kilometre, mile distance apart … between … to … from perimeter	breadth edge, area, covers square centimetre (cm2)	square metre (m2), square millimetre (mm2)	yard, foot, feet, inch, inches circumference
Mass/Weight	weigh, weighs, balances heavy, light heaviest, lightest scales equal to weighs the same	kilogram heavier than, lighter than	half-kilogram gram		mass: big, bigger, small, smaller weight: heavy/light, heavier/lighter, heaviest/lightest		tonne, pound, ounce

Temperature			temperature degree	centigrade			
Capacity & Volume	full empty half full holds container	litre, half litre capacity volume more than less than quarter full	millilitre contains		measuring cylinder	pint, gallon	centilitre cubic centimetres(cm3), cubic metres (m3), cubic millimetres (mm3), cubic kilometres (km3)
Money		money coin penny, pence, pound price, cost buy, sell spend, spent pay	change dear, costs more cheap, costs less, cheaper costs the same as how much …? how many …? Total, Bought, sold			discount, currency	profit, loss
Time	time days of the week, Monday, Tuesday … day, week birthday, holiday morning, afternoon, evening, night bedtime, dinner time, playtime today, yesterday, tomorrow before, after next, last now, soon, early, late quick, quicker, quickest, quickly slow, slower, slowest, slowly old, older, oldest new, newer, newest	months of the year seasons: S, S, A, W weekend, month, year earlier, later first midnight date once, twice how long ago? how long will it be to …? how long will it take to …? how often? always, never, often, half past clock face hour hand, minute hand hours, minutes	fortnight 5, 10, 15… minutes past quarter past, quarter to digital/analogue clock/watch, timer seconds	century calendar earliest, latest a.m., p.m. roman numerals 12-hour clock time, 24-hour clock time	leap year millennium noon date of birth timetable, arrive, depart		Greenwich Mean Time, British Summer Time, International Date Line
Geometry							
Properties of shape	shape, pattern flat round	Symmetry symmetrical pattern curved, straight	surface line symmetry	perimeter	line, construct, sketch centre angle, right-angled	circumference, concentric, arc net, open, closed	radius, diameter congruent

	sort, make, build, draw size, bigger, larger, smaller symmetrical pattern, repeating pattern match				base, square-based reflect, reflection regular, irregular	intersecting, intersection plane	axis of symmetry, reflective symmetry
2-D shape	corner, side rectangle (including square) circle triangle	point, pointed	rectangular triangular circular pentagon hexagon octagon	pentagonal hexagonal octagonal quadrilateral right-angled parallel, perpendicular	2-D, two-dimensional oblong rectilinear equilateral triangle, isosceles triangle, scalene triangle heptagon parallelogram, rhombus, trapezium polygon	kite	x-axis, y-axis, quadrant
3-D shape	face, edge, corner cube/cuboid pyramid sphere cone	Cylinder	triangular prism vertex, vertices	prism hemisphere	3-D, three-dimensional Spherical, cylindrical tetrahedron, polyhedron	dodecahedron net, open, closed	octahedron
Position & Direction	Position, over, under above, below top, bottom, in outside, inside, around in front, behind front, back middle, edge, corner next to, up, down forwards, backwards, sideways, across next to, close, near, far along, through to, from, towards, away from, movement slide, roll, turn stretch, bend whole turn, half turn	underneath centre journey quarter turn, three quarter turn side, beside, opposite apart, between direction left, right	route higher, lower clockwise, anticlockwise straight line	compass point north, south, east, west, N, S, E, W horizontal, vertical, diagonal angle … is a greater/smaller angle than right angle acute angle obtuse angle	north-east, north-west, south-east, south-west, NE, NW, SE, SW translate, translation rotate, rotation degree, reflection ruler, set square angle measurer, compass	reflex angle	coordinate protractor
Statistics							
	count, sort group, set list	vote table	tally graph, block graph, pictogram	chart, bar chart, frequency table	survey, questionnaire, data	pie chart mean (mode, median, range as estimates	database bar line chart line graph

			represent label, title most popular, most common least popular	Carroll diagram, Venn diagram axis, axes diagram		for this) statistics, distribution	maximum/minimum value outcome
General							
	pattern puzzle what could we try next? how did you work it out? Recognise, describe, draw, compare, sort	problem, problem solving mental, mentally explain your thinking	show how you… explain your method describe the pattern describe the rule investigate mental calculation written calculation	greatest value, least value statement Explain your reasoning	justify make a statement		