Maths: Whole-School Curriculum Progression Map

Number and Place Value	Foundation Stage		Key Stage One	
	Nursery	Reception	Year One	Year Two
Counting	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 small set of objects tells you how many there are in total ('cardinal principle').	Count objects, actions and sounds. Count beyond ten. ELG Verbally count beyond 20, recognising the pattern of the counting system.	To count to and across 100 forwards and backwards beginning with 0 or 1, or from any given number. To count in multiples of 2, 5 and 10 from different multiples to develop their recognition of pattern	To count in steps of 2, 3 and 5 from 0 and in tens from any number forwards and backwards.
Reading and writing Numbers	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.	Link the number symbol (numeral) with its cardinal number value.	To read and write numbers from 1 to 20 in numerals and words. To count, read and write numbers to 100 in numerals.	To read and write numbers to at least 100 in numerals and in words.
Compare and order numbers	Compare quantities using language: 'more than', 'fewer than'. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers. ELG Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	Use the language of equal to, more than, less than, (fewer) most, least. Identify numbers using objects and pictorial representations. To identify one more and one less than a given number.	To compare and order numbers from 0 up to 100; use <, > and = signs.
Understand place value		Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Have a deep understanding of numbers to 10, including the composition of each number.	Recognise place value in numbers beyond 20 by reading writing and comparing numbers up to 100 supported by objects and pictorial representations. Identify and represent numbers using objects and pictorial representations including the number line.	*To recognise the place value of each digit in a two-digit number (tens, ones) to become fluent and apply their knowledge of numbers to reason with, discuss and solve problems.* *To begin to understand zero as a place holder.* *Use place value to solve problems*

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Addition and subtraction	Foundation Stage		Key Stage One	
	Nursery	Reception	Year One	Year Two
Mental calculation	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). Show 'finger numbers up to 5	ELG Subitise (recognise quantities without counting) up to 5. ELG Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. ELG Have a deep understanding of numbers to 10, including the composition of each number. Explore the composition of numbers to 10.	To add and subtract one-digit and two-digit numbers to 20, including zero. To realise the effect of adding or subtracting zero. Memorise and reason with number bonds to 10 and 20.	*To extend the language of addition and subtraction to include sum and difference.* To show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Add and subtract mentally a 2-digit number and ones, a 2-digit number and tens, 2 2-digit numbers, 3 single digit numbers.
Number bonds	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). Show 'finger numbers' up to 5.	ELG Subitise (recognise quantities without counting) up to 5. ELG Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. ELG Have a deep understanding of numbers to 10, including the composition of each number. Explore the composition of numbers to 10.	To represent and use number bonds and related subtraction facts within 20.	To recall and use addition and subtraction facts to 20 *to become fluent in deriving associative facts (e.g. 3+7=10. 10 – 7 = 3, 100 – 70 = 30)* and derive and use related facts up to 100. Add and subtract numbers using concrete objects and pictorial representations.
Written calculations			To read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs.	To begin to record addition and subtraction in columns to support place value and

				prepare for formal written methods with larger numbers.
Inverse operations	Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').	Explore the composition of numbers to 10.	Begin to recognise related operations through work on number bonds to 10 and 20.	To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
Problem solve	Solve real world mathematical problems with numbers up to 5. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	ELG Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.	To discuss and solve one-step problems (in familiar practical contexts) that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems. Problems include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than, so that pupils develop the concept of addition and subtraction and are enable to use these operations flexibly	To 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.

	Foundation Stage		Key Stage One	
Multiplication and division	Nursery	Reception	Year One	Year Two
Mental calculations		ELG Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.	Count in multiples of 2 5 and 10 to develop their recognition of patterns in the number system. Make connections between arrays, number patterns and counting in 2's 5s and 10's.	To begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations. To begin to relate multiplication and division facts to fractions and measures (e.g., 40 ÷ 2 = 20, 20 is a half of 40). To show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot, to develop multiplicative reasoning.
Multiplication and division facts			To make connections between arrays, number patterns, and counting in twos, fives and tens. Through grouping and sharing small quantities, pupils begin to understand: multiplication and division; doubling numbers and quantities; and finding simple fractions of objects, numbers and quantities.	Recall and use multiplication and division facts for the 2-, 5- and 10-times tables, including recognising odd and even numbers.

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Written calculations				To calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. *To begin to use other multiplication tables and recall multiplication facts, including using related division facts to perform written and mental calculations*
Solve problems		ELG Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.	To solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	To solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

	Foundation Stage		Key Stage One	
Fractions	Nursery	Reception	Year One	Year Two
Recognising, finding and naming fractions.			To recognise, find and name a half as one of two equal parts of an object, shape or quantity *by solving problems*. To recognise, find and name a quarter as one of four equal parts of an object, shape or quantity *by solving problems*. *To connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.*	To recognise, find, name and write fractions 1/3 ¼ 2/4 ¾ of a length, shape, set of objects or quantity. To count up in fractions up to 10 e.g. 1¼ 1 2/4 or 1 ½ 1 ¾ 2
Equivalence				To recognise the equivalence of 2/4 and 1/2

	Foundation Stage		Key Stage One	
Measurement	Nursery	Reception	Year One	Year Two
Describe, measure, compare and solve.	Make comparisons between objects relating to size, length, weight and capacity.	Compare length, weight and capacity. Order items	To compare, describe and solve practical problems for: lengths and heights, mass/weight, capacity and volume, time. To measure and begin to record the following: lengths and heights, mass/weight, capacity and volume, time. To move from using and comparing different types of quantities and measures using	To choose and use appropriate standard units *with increasing accuracy using their knowledge of the number system* to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.

			non-standard units, including discrete (for example, counting) and continuous (for example, liquid) measurement, to using manageable common *standard units using measuring tools, such as a ruler, weighing scales and containers.*	*To use the appropriate language and record using standard abbreviations.* To compare and order lengths, mass, volume/capacity and record the results using >, < and =.
Time	Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...	Use and understand before/after. Order and sequence familiar events.	To sequence events in chronological order using language. (before/after, next, first, today, yesterday, tomorrow, morning, afternoon, evening). To recognise and use language relating to dates, including days of the week, weeks, months and years. To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	To read, tell and write the time to five minutes, including quarter past/to the hour/half hour and draw the hands on a clock face to show these times. To become fluent in telling the time on analogue clocks and recording it. To know the number of minutes in an hour and the number of hours in a day. To compare and sequence intervals of time.
Money		Begin to use everyday language related to money	Recognise and know the different denominations of coins and notes.	Recognise and use symbols for pounds and pence £ p combine amounts to make a particular value. Find different combinations of coins that equal the same amount of money. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.

	Foundation Stage		Key Stage One	
Geometry	Nursery	Reception	Year One	Year Two
Shape Recognise 2d and 3d shapes and their properties.	Talk about and identify the patterns around them stripes on clothes, designs on rugs and wallpaper. Use language such as "pointy" "spotty" "blobs". Select shapes appropriately. Combine shapes to make new ones – an arch, a bigger triangle.	Select rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it.	Recognise and name 2d and 3d shapes -circles, triangles, rectangle, square, pentagon, hexagon, and octagon. -cuboids, cubes, pyramids, spheres, cones. Recognise shapes in different orientations and sizes.	Identify and describe properties of 2d shapes including number of sides and lines of symmetry.. Identify and describe 3d shapes including number of edges, vertices and faces. Identify 2d shapes on the surface of 3d shapes. Compare and sort everyday objects.
Position and direction	Understand position through words alone – "The bag is under the table".	Use spatial language including giving and following directions using relative terms and describing what they see.	Describe position, direction and movement including whole, half, quarter and three quarter turns.	Order and arrange combinations of mathematical objects in patterns and sequences.

	Describe a familiar route. Discuss routes and locations using words like "in front of" "behind".		Understand and use the language of position direction and motion (left, right, top, bottom, on top, in front, above, between) Make whole half quarter and three quarter turns connecting turning clockwise on a clock face.	Use mathematical vocabulary to describe position and direction and movement (describe rotation in terms of right angles for quarter, half and three-quarter turns - clockwise and anticlockwise.

	Foundation Stage		Key Stage One	
Statistics	Nursery	Reception	Year One	Year Two
				Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer simple questions by counting the number of objects. Ask and answer questions about totalling and comparing categories. Use 2 5 and 10 ratios.