

Maths Progression Document



	Nursery	Reception	Year 1	Year 2
Number – number and place value				
Knowledge				
	<ul style="list-style-type: none"> Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). 	<ul style="list-style-type: none"> Have a deep understanding of number 10, including the composition of each number. Understand the 'one more than/one less than' relationship between consecutive numbers. Understand the meaning of greater than, less than or the same as and use this to compare numbers. 	<ul style="list-style-type: none"> Read and write numbers from 1-20 in numerals and words Identify and represent numbers using objects and pictorial representations Identify tens and ones (within 20 and extend to 100 by end of year) Use the language of: equal to, more than, less than (fewer), most, least 	<ul style="list-style-type: none"> Count in steps of 2, 3, 5 and 10 from 0 Count in 10s from any number, on and back Identify tens and ones (within 100 and extend by the end of the year) Represent numbers in different ways Estimate Compare and order numbers up to 100 using symbols Read and write numbers to at least 100 in numerals and words Partition numbers in different ways (secure knowledge of place value) Understand 0 as a place holder

Skills				
	<ul style="list-style-type: none"> • 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. • Show 'finger numbers' up to 5. • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. • Compare quantities using language: 'more than', 'fewer than'. • Experiment with their own symbols and marks as well as numerals. 	<ul style="list-style-type: none"> • Count objects, actions and sounds • Subitise. • Link the number symbol (numeral) with its cardinal number value. • Count beyond ten. • Compare numbers. • Verbally count beyond 20, recognising the pattern of the counting system 	<ul style="list-style-type: none"> • Counting on and back from a given number (within 100) – one more/one less • Counting 1, 2, 3... and ordinal numbers first, second, third... • Count in 2s – identify odd/even numbers • Compare and order numbers up using symbols • Count in multiples of 10 • Count in multiples of 5 	<ul style="list-style-type: none"> • Use place value and number facts to solve problems
Number – addition and subtraction				
Knowledge				
	<ul style="list-style-type: none"> • Begin to identify that combining two groups will give a greater total amount. • Begin to identify that a smaller amount can be 	<ul style="list-style-type: none"> • To begin to know some addition and subtraction facts for numbers up to ten. • To understand that numbers can be added together to make more 	<ul style="list-style-type: none"> • Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods) 	<ul style="list-style-type: none"> • Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 • Add and subtract numbers using concrete

	taken from a greater amount.	or taken away to make less.	<ul style="list-style-type: none"> • Represent and use number bonds and related subtraction facts within 20 • Add and subtract one-digit and two-digit numbers to 20, including zero • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot 	<p>objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none"> • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one-digit numbers • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot •
Skills				
	<ul style="list-style-type: none"> • Solve real world mathematical problems with numbers up to 5. 	<ul style="list-style-type: none"> • Explore the composition of numbers to 10. • Automatically recall number bonds for numbers 0–5 and some to 10. 	<ul style="list-style-type: none"> • Solve one-step problems that involve addition and subtraction, using concrete objects, pictorial representations and missing box problems e.g. $7 = ? - 9$ • Memorise and reason with number bond knowledge 	<ul style="list-style-type: none"> • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. • Solve problems with addition and subtraction: • using concrete objects and pictorial representations, including those involving

				numbers, quantities and measures <ul style="list-style-type: none"> • Applying their increasing knowledge of mental and written methods
Number – multiplication and division				
Knowledge				
		<ul style="list-style-type: none"> • To know evens and odds up to 10, some double facts and to equally distribute quantities. 	<ul style="list-style-type: none"> • Count in multiples of 2, 10 and 5 • Doubling and halving numbers within 20 • Find simple fractions of numbers 	<ul style="list-style-type: none"> • Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs •
Skills				
		<ul style="list-style-type: none"> • Explore and represent patterns within numbers up to 10, including 	<ul style="list-style-type: none"> • Through grouping and sharing small quantities, begin to understand 	<ul style="list-style-type: none"> • Recall and use multiplication and division facts for the 2, 5

		evens and odds, double facts and how quantities can be distributed equally.	concept of multiplication and division, in context <ul style="list-style-type: none"> 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 	and 10 multiplication tables, including recognising odd and even numbers <ul style="list-style-type: none"> Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts
Number - fractions				
Knowledge				
		<ul style="list-style-type: none"> To know that amounts and objects can be shared. 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> <i>Pupils should count in fractions up to 10, starting from any number and using the $1/2$ and $2/4$ equivalence on the number line (Non-Statutory Guidance)</i> Recognise, find, name and write fractions $1/3$, $1/4$, $2/4$ and $3/4$ of a length, shape, set of objects or quantity Write simple fractions e.g. $1/2$ of 6 = 3 and recognise the equivalence of $2/4$ and $1/2$.

Skills				
		<ul style="list-style-type: none"> To begin to share objects and shapes. 	<ul style="list-style-type: none"> Solve problems involving halves and quarters 	<ul style="list-style-type: none"> Solve problems involving halves, quarters, three-quarters and thirds
Measurement				
Knowledge				
	<ul style="list-style-type: none"> To know some basic mathematical terminology used to describe size. 	<ul style="list-style-type: none"> To understand that objects can be compared and measured by weight, length and capacity. 	<ul style="list-style-type: none"> Compare, describe and solve practical problems for: Lengths and heights Mass/weight Capacity/volume Time Measure and begin to record: Lengths and heights Mass/weight Capacity/volume Time Recognise and know the value of different denominations of coins and notes Sequence events in chronological order Days of the week, weeks, months and years Tell the time to the hour and half past the hour (draw hands on clock face) 	<ul style="list-style-type: none"> Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ Compare and sequence intervals of time Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}$C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Find different combinations of coins

				<p>that equal the same amounts of money</p> <ul style="list-style-type: none"> • 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. • Know the number of minutes in an hour and the number of hours in a day.
Skills				
	<ul style="list-style-type: none"> • Make comparisons between objects relating to size, length, weight and capacity. • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' 	<ul style="list-style-type: none"> • Compare length, weight and capacity. 		<ul style="list-style-type: none"> • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
Geometry – properties of shape				
Knowledge				
	<ul style="list-style-type: none"> • To recognize some shapes (although not necessarily name them) 	<ul style="list-style-type: none"> • To know the names of basic shapes 	<ul style="list-style-type: none"> • Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [e.g. rectangles/oblongs 	<ul style="list-style-type: none"> • Identify and describe the properties of 2-D shapes, including the number of sides and line

		<ul style="list-style-type: none"> To know the different basic properties of shape. 	(including squares), circles and triangles] 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]. <ul style="list-style-type: none"> Recognise common 2-D and 3-D shapes in different orientations Recognise the shapes of everyday objects 	symmetry in a vertical line <ul style="list-style-type: none"> Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] Read and write names for shapes
Skills				
	<ul style="list-style-type: none"> Talk about and explore 2D and 3D shapes (using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'). Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. Combine shapes to make new ones – an arch, a bigger triangle, etc. 	<ul style="list-style-type: none"> 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, just as numbers can. 		<ul style="list-style-type: none"> Compare and sort common 2-D and 3-D shapes and everyday objects
Geometry – position and direction				
Knowledge				

	<ul style="list-style-type: none"> To know some basic terms to describe position and direction. 	<ul style="list-style-type: none"> To understand simple positional and directional language. To identify simple patterns 	<ul style="list-style-type: none"> Describe position, direction and movement, including half, quarter and three-quarter turns. 	<ul style="list-style-type: none"> 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)
Skills				
	<ul style="list-style-type: none"> Understand position through words alone – eg, "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'. Talk about and identify the patterns around them. eg: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Extend and create ABAB patterns. 	<ul style="list-style-type: none"> Continue, copy and create repeating patterns To accurately give and follow simple instructions using position and direction. 	<ul style="list-style-type: none"> Order and arrange combinations of mathematical objects in simple patterns and sequences 	<ul style="list-style-type: none"> Order and arrange combinations of mathematical objects in patterns and sequences

	<ul style="list-style-type: none"> • Notice and correct an error in a repeating pattern. 			
Statistics				
Knowledge and Skills			<ul style="list-style-type: none"> • Construct simple pictograms, block diagrams using information gathered as a class. Cross curricular learning/book week opportunities 	<ul style="list-style-type: none"> • Interpret and construct simple pictograms, tally charts, block diagrams and simple tables • Ask and answer questions by counting the number of objects in each category and sorting the categories by quantity • Ask and answer questions about totalling and comparing categorical data