



Year 2 Maths Scope and Sequence

Aim:

Our aim is for all students to develop a mathematical mind and be able to tackle real life problems. Maths is organised into distinct strands; however, connections should continually be made across the mathematical curriculum to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. We teach a spiral curriculum maths where every strand is taught each term, the basics are revisited and when children are secure new concepts are introduced.

In key stage 1 it is important to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools]. At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

A minimum of 5 hours of mathematics should be taught each week.

The mathematical strands for KS1 are:

- Number: Number & Place value
- Number: Addition and Subtraction
- Number: Multiplication and Division
- Number: Fractions
- Measurement
- Geometry: Properties of Shape, Position & Direction
- Statistics



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Number: Number & Place value			
All children	Most children	Some children	Numicon Ref
Count on and back in 10's, 100's and 5's from different multiples to develop their recognition of patterns in the number system (for example, odd and even numbers)	Count on and back in 3's and 4's. Include varied and frequent practice through increasingly complex questions. Count in multiples of 3 to support their later understanding of a third.	Describe and extend number sequences with more complex rules e.g. 1,2,4,7,11	Pattern & Algebra 5.1 • 5.2 • 5.3 • 5.4 • 5.5 • 5.6 • 5.7 • 5.8 • 5.9 • 5.10 • 5.11 • 5.12 Numbers & the Number System 1.1 • 1.3 • 1.4 • 1.5 • 1.6 • 2.6 Calculating 4.1 • 4.2 • 4.4 • 4.5 • 4.8 • 5.6 • 5.7 • 5.8
Identify, represent and estimate the number of objects.	Identify, represent and estimate numbers using different representations, including the number line	Estimate in a variety of contexts e.g. money, measurement	Pattern & Algebra 5.1 • 5.4 • 5.7 • 5.9 • 5.10 • 5.11 Numbers & the Number System 1.4 • 1.5 • 1.6 • 2.1 • 2.3 • 2.4 • 2.6 • 2.7 • 3.2 • 3.6 • 3.8 Calculating 4.8 • 6.4
Complete and describe simple number patterns forwards and backwards e.g. 50, 40, 30	To complete more complex number patterns e.g. 9, 6, 3 and describe the rule.	To make predicts and test number patterns with examples.	
Read and write numbers from 1 to 100 in numerals and words	Read and write numbers beyond 1000 in numerals and words	Read and write numbers beyond 100,000 in numerals and words	Numbers & the Number System 1.1 • 1.2 • 1.3 • 1.4 • 1.5 • 1.6 • 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 2.6 • 2.7 • 4.1 • 4.2 • 4.3 • 4.4 • 4.5
Recognise place value (tens and units) in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100 including 0 as a place holder	Recognise place value (hundreds, tens and units) in numbers beyond 100, including 0 as a place holder	Recognise place value (thousands, hundreds, tens and units) in numbers beyond 1000, including 0 as a place holder	Numbers & the Number System 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 2.6 • 2.7 • 3.1 • 3.2 • 3.3 • 3.4 • 3.6 • 3.8 Calculating 6.1 • 6.2 • 6.3 • 6.4 • 6.5 • 6.6 • 6.7 • 6.9
Partition two digit numbers in different ways (for example, $23 = 20 + 3$ and $23 = 10 + 13$)	Partition three digit numbers in different ways.	Partition numbers up to 100,000 in different ways.	
Compare and order numbers from 0 up to 100; use <, > and = signs	Compare and order numbers from 0 up to 1000; use <, > and = signs	Use the < > = signs between equations e.g. $6+4 > 6+3$	Pattern & Algebra 3.1 • 3.6 Numbers & the Number System 1.2 • 1.4 • 1.5 • 2.4 • 4.1 • 4.2 • 4.3 • 4.4 • 4.5 • 4.6 Calculating 4.13



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Number: Number & Place value			
All children	Most children	Some children	Numicon Ref
Order two digit numbers and position them on a number line	Order three digit numbers and position them on a number line	To develop awareness of negative numbers on a number line	Pattern & Algebra 3.1 • 3.6 Numbers & the Number System 1.2 • 1.4 • 1.5 • 2.4 • 4.1 • 4.2 • 4.3 • 4.4 • 4.5 • 4.6 Calculating 4.13
Round two digit numbers to the nearest 10	Round three digit numbers to the nearest 10/100	Round two or three digit numbers in a variety of context e.g. money, measurement	
<p>Problem solving: Discuss and solve problems that emphasise the value of each digit. Use place value and number facts to solve problems Using materials and a range of representations practise counting, reading, writing and comparing numbers to at least 100 and solving a variety of related problems to develop fluency.</p>			Numbers & the Number System 3.2 • 3.3 • 3.4 • 4.5 • 4.6 Calculating 6.1 • 6.2 • 6.3 • 6.4 • 6.5 • 6.6 • 6.7 • 6.8 • 6.9 • 7.5 • 7.6

Number: Addition and Subtraction			
All children	Most children	Some children	Numicon Ref
To estimate numbers sensibly	To estimate numbers and measurements sensibly	To use estimation to calculate sums mentally	
Extend understanding of the language of addition and subtraction to include sum and difference. Use the symbols + - = signs to record and interpret numbers sentences.	Use a variety of vocabulary for addition and subtraction.		
Recall number bonds to 10 and 20 Sums and differences of multiples of 10 e.g. the difference between 30 and 50.	Recall all pairs of multiples of 10 with totals to 100. Recall all addition and subtractions facts for each number to 20.	Recall all pairs of multiples of 5 with totals to 100.	Pattern & Algebra 2.5 • 3.3 • 7.1 • 7.2 • 7.3 • 7.4 • 7.5 • 7.6 • 7.7 Calculating 3.1 • 3.2 • 3.3 • 3.4 • 3.5 • 3.6 • 3.7 • 3.8 • 3.9 • 3.10 • 13.8 • 14.1 • 14.2 • 14.3 • 14.4 • 14.5 • 14.6 • 14.7 • 14.8 • 14.9
Add and subtract mentally a multiple of 10 to or from a two digit number	Add and subtract mentally a one digit number from a two digit number	Add and subtract mentally a two digit number from a two digit number	



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Number: Addition and Subtraction			
All children	Most children	Some children	Numicon Ref
Know that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 number from another cannot	Understand the subtraction is the inverse of addition and vice versa	Use this to derive and record related addition and subtraction number sentences (family of facts)	Pattern & Algebra 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 2.6 • 3.4 • 3.5 • 7.2 Calculating 1.4 • 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 6.6 • 10.2 • 10.3 • 11.1 • 12.3 • • 13.7 • 14.3 • 14.4 • 14.6 • 14.7 • 14.8 • 15.5
Understand inverse is the opposite equation (sum)	Recognise and use the inverse relationship between addition and subtraction.	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems e.g. $\div 2 = 6$	Pattern & Algebra 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 2.6 • 3.4 • 3.5 • 7.2 Calculating 1.4 • 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 6.6 • 10.2 • 10.3 • 11.1 • 12.3 • • 13.7 • 14.3 • 14.4 • 14.6 • 14.7 • 14.8 • 15.5
Use practical and informal methods to add and subtract: <ul style="list-style-type: none"> ○ a two-digit number and 1s ○ a two-digit number and 10s ○ 2 two-digit numbers ○ adding 3 one-digit numbers 	Use formal methods to add and subtract 2 two digit numbers	Use formal methods to add and subtract 2 or 3 digit numbers involving carrying and decomposition.	Calculating two-digit number and ones 5.1 • 5.2 • 5.3 • 5.4 • 5.5 • 5.10 • 7.1 • 7.3 • 7.4 • 7.5 • 7.6 • 7.7 • 10.8 • 10.9 • 10.10 two-digit number and tens 5.6 • 5.7 • 5.10 • 7.8 • 11.1 • 11.2 • 11.3 • 11.4 • 13.1 • 13.2 • 13.3 • 13.4 two two-digit numbers 5.6 • 5.7 • 5.8 • 5.9 • 10.1 • 10.2 • 13.5 • 13.6 • 13.7 adding three one-digit numbers 1.4 • 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 10.3 • 11.1 • 12.3 • 14.6
Problem solving: 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. Use numbers, images and diagrams to represent the information in a problem to find a solution and present it in context. To solve problems involving addition and subtraction in the contexts of money, measures and numbers, include multiple steps if appropriate.			Calculating 1.1 • 1.2 • 1.3 • 1.4 • 1.5 • 1.7 2.3 • 2.4 • 4.1 • 4.7 • 4.12 • 4.13 • 5.1 • 5.2 • 5.3 • 5.4 • 5.5 • 5.6 • 5.7 • 5.9 • 9.3



Year 2 Maths Scope and Sequence

Number: Multiplication and Division			
All children	Most children	Some children	Numicon Ref
Use the symbols multiplication (\times), division (\div) and equals (=) signs to record and interpret numbers sentences.	Use a variety of language to describe multiplication and division.		
Understand that halving is the inverse of doubling	Recall doubles of all numbers to 20 and corresponding halves.	Recall doubles of all numbers to 50 and corresponding halves.	
Represent repeated addition and arrays as multiplication. Sharing and repeated subtraction as division.	Sharing and repeated subtraction as division. Including remainders.	To understand that division is the inverse of multiplication.	
Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Recall and use multiplication and division facts for 11, 9 and 3 and 4 multiplication tables	To know all multiplication tables up to 12 and to be able to use understanding to work out larger multiplication tables	Pattern & Algebra 4.1 • 4.2 • 4.3 • 5.1 • 5.2 • 5.3 • 5.7 • 5.9 • 5.10 • 5.11 • 5.12 Numbers & the Number System 2.6 Calculating 8.4 • 8.5 • 8.7 • 8.8 • 9.1 • 9.3 • 9.4 • 9.6 • 9.9 • 15.1 • 15.3 • 15.4 • 15.6 • 15.7
Use practical methods to multiply and divide 2 digit numbers. Show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot	Use written methods to multiply and divide 2 digit numbers.	Use written methods to multiply and divide 2/3 digit numbers, round remainders up or down.	Calculating 8.1 • 8.4 • 9.2 • 9.3 • 9.4 • 9.5 • 9.6 • 9.7 • 9.8 • 9.9 • 15.1 • 15.2
Problem solving: To solve problems involving multiplication and division in the contexts of money, measures and numbers that made include multiple steps. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts			Calculating 8.1 • 8.2 • 8.3 • 9.8 • 9.9 • 15.1 • 15.5 • 15.6



Year 2 Maths Scope and Sequence

Number: Fractions			
All children	Most children	Some children	Numicon Ref
Read and write proper fractions.	Understand what is meant by the numerator and denominator.	Change improper fractions into mixed numbers	
To know that $\frac{1}{2}$ and $\frac{2}{4}$ are the same. To find $\frac{1}{2}$ and $\frac{2}{4}$ of a given number.	Use the vocabulary of fractions of whole, half, quarter, third.	Count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line (for example, $1\frac{1}{4}$, $1\frac{2}{4}$ or $1\frac{1}{2}$, $1\frac{3}{4}$, 2). This reinforces the concept of fractions as numbers and that they can add up to more than 1.	
Recognise, find, name and write fractions $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ of a length, shape, set of objects or quantity	Recognise, find, name and write fractions $\frac{1}{3}$ of a length, shape, set of objects or quantity	Write simple fractions, for example $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	Numbers & the Number System 6.1 • 6.2 • 6.4 • 6.5 Calculating 16.1 • 16.2 • 16.4 • 16.5 • 16.6 • 16.7 Measurement 6.2 • 6.3
Identify and estimate fractions of shapes.	Use diagrams (fraction walls) to compare fractions and establish equivalents.		
Problem solving: Use fractions as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. They connect unit fractions to equal sharing and grouping, to numbers when they can be calculated, and to measures, finding fractions of lengths, quantities, sets of objects or shapes. They meet $\frac{3}{4}$ as the first example of a non-unit fraction.			



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Measurements			
All children	Most children	Some children	Numicon Ref
<p>Telling the time on analogue clocks and record it.</p> <p>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</p>	<p>Tell time to 5 minute intervals and draw the hands on a clock face to show these times</p>	<p>Tell the time to the nearest minute.</p> <p>Have an understanding of 24 hour clock</p>	<p>Measurement 7.1 • 7.2 • 7.4</p>
<p>Use units of time (including vocabulary) seconds, minutes, hours and days.</p>	<p>Use units of time – seconds, minutes, hours and days and know the relationship between them. Read a calendar.</p>	<p>To be able to convert units of time e.g. 14 days is 2 weeks.</p>	<p>Measurement 6.4 • 7.3</p>
<p>Compare and sequence intervals of time</p> <p>Identify time intervals How much time has passed between 2:00 and 2:15?</p>	<p>Identify time intervals including those that cross the hour e.g. How much time has passed between 2:45 and 3:25?</p>	<p>Identify time intervals including those that cross the hour and experimenting with 24 hour clock.</p>	<p>Measurement 7.5</p>
<p>Solve time problems to the hour/half hour</p>	<p>Solve time problems that involve adding on time and working out how much time has passed.</p>	<p>Solve time problems involving analogue and digital clocks</p>	
<p>Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</p>	<p>Know the face value of coins and notes. Recognise which coins do not exist e.g. 3p, 7p</p>	<p>Read and say amounts of money confidently and use the symbols £ and p accurately, recording pounds and pence separately.</p>	<p>Measurement 2.3 • 2.4 • 2.5 • 2.6 • 3.1 • 3.2 • 3.3</p>
<p>Find different combinations of coins that equal the same amounts of money</p>	<p>To make totals under £10 without bridging over 10 e.g. £2.50 + £2.20</p>	<p>To make totals under £10 bridging over 10 e.g. £2.57 + £2.96</p>	<p>Measurement 2.3 • 2.4 • 2.5 • 2.6 • 3.1 • 3.2 • 3.3</p>
<p>Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</p> <p>To give change from £1 using multiples of 5 or 10</p>	<p>To give change from £5</p>	<p>To give change from any amount under £10.00</p>	<p>Calculating 2.2 • 2.4 • 2.5 • 4.11 • 4.12 • 4.13 • 5.11 • 6.9 • 9.1 • 12.6 • 12.7 • 13.10 • 14.9</p> <p>Measurement 2.3 • 2.4 • 3.2 • 3.4</p>
<p>Choose and use appropriate standard units 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</p>	<p>To know the standard units of measure for length, weight and capacity</p>	<p>Estimate, compare and measure length, weight and capacity choosing standard units and convert between larger and smaller measure. E.g. 1000g = 1kg</p>	<p>Measurement 1.3 • 4.1 • 4.2 • 4.3 • 4.4 • 5.1 • 5.2 • 5.3 • 5.4 • 6.1 • 6.2 • 6.3 • 6.4</p>



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Measurements			
All children	Most children	Some children	Numicon Ref
Read the number divisions on a scale.	Read the number divisions on a scale and interpret the divisions on a scale. e.g. on a scale from 0-25 with intervals of 1 shown but only the divisions 0,5,10,15,20 are numbered.	Read number divisions on a scale that involve decimals e.g. 3.3kg	
To use a ruler to draw and measure lines to the nearest cm.	To use a ruler to draw and measure lines to the nearest mm.	To use a ruler, tape measure to measure lines to the nearest m, cm and mm.	
Comparing measures includes simple multiples such as 'half as high'; 'twice as wide'.	Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Convert and compare between larger and smaller measure. E.g. 1000g = 1kg	Measurement 1.1 • 1.2 • 1.3 • 1.4 • 1.5 • 1.6 • 4.1 • 4.2 • 4.3 • 4.4 • 5.2 • 6.1 • 6.3



Geometry: Properties of Shape			
All children	Most children	Some children	Numicon Ref
<p>To complete patterns with 2 factors</p> 	Complete and describe patterns using shapes.	To make predictions about patterns and test these with examples	
Identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line	To visualise and name complex 2D shapes (up to 10 sides) and describe their features.	To sort 2D shapes into regular and irregular and to describe their features. Identify right angles in 2D shapes.	Geometry 1.1 • 1.2 • 1.3 • 1.4 • 3.1 • 3.2 • 3.3 • 3.4
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]. To use nets for cubes and cuboids.	To identify common 3D shapes from different positions and orientations. To use nets for cylinders and prisms.	Geometry 2.1 • 2.2 • 2.3 • 2.4 • 4.1 • 4.2 • 4.3 • 4.4
Compare and sort common 2-D and 3-D shapes and everyday objects	Compare and sort 2-D and 3-D shapes including: quadrilaterals and polygons and cuboids, prisms and cones, and identify the properties of each shape (for example, number of sides, number of faces). Pupils identify, compare and sort shapes on the basis of their properties and use vocabulary precisely, such as sides, edges, vertices and faces.	Read and write names for shapes that are appropriate for their word reading and spelling.	Geometry 3.1 • 4.1 • 4.2 • 4.3 • 4.4
To identify reflective symmetry and patterns in 2D shapes	To draw lines of symmetry in 2D shapes	To use the line of symmetry to finish a variety of shapes.	
Draw lines and shapes using a straight edge.	Draw lines and shapes using a straight edge and to a degree of measure.	Draw lines and shapes using a straight edge and to a 1mm degree of measure.	



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Geometry: Position and Direction

All children	Most children	Some children	Numicon Ref
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)	To use co-ordinates and compass points to describe a position on a grid.	To use co-ordinates and compass points to describe a route on a grid.	Geometry 5.1 • 5.2 • 5.3 • 5.4
Use the concept and language of angles to describe 'turn' by applying rotations, including in practical contexts (for example, pupils themselves moving in turns, giving instructions to other pupils to do so, and programming robots using instructions given in right angles). Recognise and use whole, half and quarter turns	Recognise and use whole, half and quarter turns both clockwise and anti-clockwise	Know that a right angle represents a quarter turn	
Order and arrange combinations of mathematical objects in patterns and sequences Work with patterns of shapes, including those in different orientations.	Recognise the rule for the pattern	Determine the nth term based on the pattern	Measurement 1.2 • 1.4



Year 2 Maths Scope and Sequence

Statistics			
All children	Most children	Some children	Numicon Ref
Present information in a simple list or table, using practical equipment or pictures and pictograms	Present information in a tally chart and block graphs	Present information on a graph with correct labelling	Measurement 1.4 • 4.1 • 4.2 • 4.4 • 6.1
Collect and present data in a simple list, frequency table and draw conclusions. Draw and use ICT to present data.	Present information on a bar graph or pictogram with correct labelling. Record, interpret, collate, organise and compare information (for example, using many-to-one correspondence in pictograms with simple ratios 2, 5,10).	Make comparisons between data presentation.	
Ask-and-answer questions about totalling and comparing categorical data Interpret information and answer questions e.g. Are there more grapes or bananas?	Interpret information and answer questions e.g. how many more grapes than bananas?	Interpret information and answer questions e.g. How many children DID NOT choose kiwifruit?	Measurement 1.4