Year 1 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 (1, 2, 3…), ordering (for example, first, second, third…), and to indicate a quantity (for example, 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent	Know that 20 objects are 20 objects regardless of how they are placed. Recognise and create repeating patterns with objects and with shapes	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	Pattern & Algebra 1.1 • 1.2 • 1.3 • 1.4 • 1.5 • 1.6 • 1.8 Numbers & the Number System 2.1 • 2.2 • 3.1 • 3.2 • 3.3 • 3.4 • 3.5 • 3.6 • 4.3 • 4.5 Calculating: 2.1 • 2.6 • 3.6 • 6.1 • 6.2 • 8.6 • 9.4
Read and write numbers from 1 to 20 in numerals and words	Read and write numbers from 1 to 50 in numerals and words	Read and write numbers from 1 to 100 in numerals and words	Numbers & the Number System 1.5 • 2.1 • 2.2 • 3.2 • 3.3 • 3.4 • 3.5 • 3.7 • 3.8
Given a number, identify 1 more and 1 less	Given a number, identify 10 more and 10 less	Given a number, identify 11 or 9 more and 11 or 9 less	Calculating 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 2.6 • 2.7 • 3.1 Numbers & the Number System 1.1 • 1.2 • 1.3 • 1.4 • 1.5 • 2.1 • 2.2 SF3.4 • SF5.2 • SF6.2 • SF6.3 SF5.1 • SF5.2
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number in 1s or 2s	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.	Numbers & the Number System 3.1 • 3.2 • 3.3 • 3.4 • 3.5 • 3.6 • 3.7 • 3.8 • 4.6 Securing Foundations SF1.1 • SF1.2 • SF1.3 • SF2.1 • SF11.1
Compare and order numbers to 20	Compare and order numbers to 50	Compare and order numbers to 100	
Place numbers to 20 on a number line	Recognise place value (tens and units) in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by objects and pictorial representations	Recognise place value (hundreds, tens and units) in numbers beyond 100	
To complete simple number patterns e.g. 2,4,6,8	To complete 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.	

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Number: Addition and Subtraction			
All children	**Most children**	**Some children**	**Numicon Ref**
Represent and use number bonds and related subtraction facts within 10	Represent and use number bonds and related subtraction facts within 20	Represent and use number bonds and related subtraction facts within 100 Memorise number bonds to 10 and 20 in several forms (for example, 9 + 7 = 16; 16 − 7 = 9; 7 = 16 − 9). Should realise the effect of adding or subtracting 0.	Calculating 8.5 • 8.9 • 8.10 • 8.11 • 8.12 • 8.13 • 9.5
Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. Use correct vocabulary.	Understand < ,> and = symbols. Use correct vocabulary.	Use a variety of vocabulary for addition and subtraction.	Calculating 1.4 • 1.5 • 2.2 • 3.2 • 3.4 • 4.1 • 4.2 • 4.3 • 4.4 • 7.5 • 8.1 • 8.2 • 8.10 • 8.12 SF12.2 • SF12.3
Combine and increase numbers, counting forwards	To know that addition is counting on	To know that addition can be done in any order	
Combine and increase numbers, counting backwards	To understand subtraction is takeaway	To find the difference by counting up	
Recall doubles to 10+10	Recall near doubles to 10+10	Recall doubles and near doubles to 20+20	
Addition of 1 digit numbers to 1 digit	Addition of 1 digit numbers to a 2 digit numbers Addition of a 1 digit number to a multiple of 10	Addition of a multiple of 10 to a 2 digit number Addition of 2 digit numbers	Calculating 1.4 • 1.6 • 2.1 • 2.3 • 2.5 • 2.7 • 4.19 • 4.20 • 8.5 • 8.7 • 8.8 • 8.9 • 8.10 • 8.11 • 8.12 • 8.13
Add 2 numbers to total 20 in any order	Add 3 numbers to a total of 20	Add 2 or 3 numbers to any total 20 or less	
Add 2 numbers using different contexts e.g. money, measures and word problems	To apply doubling and halving to solve problems in different contexts e.g money, measures and word problems	To apply multiplication to solve problems in different contexts e.g money, measures and word problems	
Subtract numbers under 20, knowing to put the larger number first	Subtract a 1 digit number from a 2 digit number	Subtract a 2 digit number from a multiple of 10	
To use practical and informal written methods for addition and subtraction	To write addition and subtraction number sentences.	To write addition and subtraction number sentences with a missing addend.	
Problem solving: Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? − 9			Calculating 1.1 • 3.1 • 4.7 • 4.14 • 4.15 • 4.19 • 4.20 • 4.22 • 7.5 • 8.2

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Number: Addition and Subtraction			
All children	**Most children**	**Some children**	**Numicon Ref**
Problem solving: Discuss and solve problems in familiar practical contexts, including using quantities. Problems should 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 enabled to use these operations flexibly.			

Number: Multiplication and Division			
All children	**Most children**	**Some children**	**Numicon Ref**
Make connections between arrays, number patterns, and counting in 2s.	Know 2, 10 and 5 times tables	To know 2, 10, 5 times tables for numbers above 12 times	
Through grouping and sharing small quantities, pupils begin to understand: multiplication and division.	To find doubles of numbers and quantities.	Find simple fractions of objects, numbers and quantities.	
To share objects into groups equally	To share objects into groups equally and understand that there can be a remainder	To understand sharing is division	
Solve practical problems that involve groupings of 2	Solve practical problems that involve groupings of 10	Solve practical problems that involve groupings of 5	
Problem solving: 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			Calculating 5.2 • 5.3 • 5.4 • 5.5

Number: Fractions			
All children	**Most children**	**Some children**	**Numicon Ref**
Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity	Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity	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.	Calculating 5.1 • 5.2 • 5.3 • 5.4 • 5.5 Measurement 6.4
Problem solving: Understand half and quarter as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. For example, they could recognise and find half a length, quantity, set of objects or shape. Pupils 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.			

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Measurement			
All children	**Most children**	**Some children**	**Numicon Ref**
Recognise and use language relating to dates: order the days of the week	Recognise and use language relating to dates: order the months of the year	Recognise and use language relating to dates: gather information from a calendar	Measurement 3.1 • 3.2 • 3.3 • 3.4 • 3.5 • 6.1 • 6.2 • 6.3 • 6.4 • 6.5
Use the language of time, including telling the time throughout the day, first using o'clock and then half past	Sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	Use the language of time [for example, quicker, slower, earlier, later] Record time in (days, hours, minutes, seconds)	
Tell time to the hour	Tell time to the half past the hour and quarter past. Draw the hands on a clock face to show these times	Tell time to in 5 minute intervals. Draw the hands on a clock face to show these times	
Solve time problems to the hour	Solve time problems to the half past the hour and quarter past.	Solve time problems that involve adding on time and working out how much time has passed	
Recognise and know the value of different denominations of coins	Recognise and know the value of different denominations of coins and notes	Recognise which coins do not exist e.g. 3p, 7p	Calculating 3.1 • 3.2 • 3.3 • 3.4 • 3.5 Measurement 2.2 • 2.3 • 2.4 • 2.5
To make a given amount using coins	To make totals under £1 without bridging over 10	To make totals under £2 bridging over 10	
To give change from 10p	To give change from 50p using multiples of 5 or 10	To give change from £1	
To use uniform non-standard units to estimate and measure length, weight and capacity	To be aware of the standard units of measure for length, weight and capacity	To select the correct standard unit of measure for length, weight and capacity	
Length: Compare, describe and solve practical problems using the words for lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]	Measure and begin to record the measurements for length	To understand that a unit of measure is the same in different forms e.g. cm, mm, m.	Geometry 1.1 • 1.3 • 2.1 • 2.5 Measurement 1.1 • 1.2 • 1.3
Mass: Compare, describe and solve practical problems using the words for mass/weight [for example, heavy/light, heavier than, lighter than]	Measure and begin to record the measurements for mass/weight. To practically read and make a unit of measure e.g. 10cm, 100ml, 1kg.	Understand the terms mass and weight are used interchangeably at this stage. To understand that a unit of measure is the same in different forms e.g. which is heavier a kilogram of feathers or a kilogram of flour?	Measurement 4.1 • 4.2 • 4.3 • 4.4

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Measurement			
All children	**Most children**	**Some children**	**Numicon Ref**
Capacity: Compare, describe and solve practical problems using the words for capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]	Measure and begin to record the measurements for capacity and volume	Understand the terms volume and capacity are used interchangeably at this stage.	Measurement 5.1 • 5.2 • 5.3 • 5.4
To select and use suitable equipment depending on what you are measuring e.g. capacity, weight or length	To select and use suitable equipment depending on what you are measuring within each type of measurement e.g. a 30cm ruler or a metre ruler.	Start to use and recognise the different terms (e.g. mm, cm, m) for each type of measure.	
To apply basic addition and subtraction to solve problems in the contexts of numbers, measures or money	To apply doubling and halving to solve problems the contexts of numbers, measures or money	To decide on the appropriate operation to use to solve a problem the contexts of numbers, measures or money	
To estimate numbers and measurements sensibly			

Geometry: Properties of Shape			
All children	**Most children**	**Some children**	**Numicon Ref**
Complete a simple 2 object pattern in colour or shape e.g or 	Complete simple patterns e.g. 	To complete patterns with 2 factors 	
To visualise and name common 2D shapes [for example, rectangles (including squares), circles and triangles]	To describe the features of 2D shapes. To name these and relate to everyday objects	To understand that 2D shapes 5 sides or over can be an irregular shape Recognise shapes in different orientations and sizes, and know that rectangles, triangles, not always similar to each other.	Geometry 1.1 • 1.2 • 1.3 • 1.4 • 1.5 • 2.1 • 2.2 • 2.3 • 2.4 • 2.5 • 2.6
To visualise and name common 3D shapes [for example, cuboids (including cubes), pyramids and spheres]	To describe the vertices and edges of 3D shapes. To name these and relate to everyday objects	To describe all the features of 3D shapes. Recognise shapes in different orientations and sizes, and know that cuboids and pyramids are not always similar to each other.	Geometry 3.1 • 3.2 • 3.3 • 3.4 • 3.5 • 4.1 • 4.2 • 4.3 • 4.4 • 4.5 • 4.6

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Geometry: Properties of Shape			
All children	**Most children**	**Some children**	**Numicon Ref**
To find the line of symmetry in symmetrical pictures.	To find the line of symmetry in a regular 2D shape.	To find the line of symmetry in a variety of shapes.	
To use the line of symmetry to finish a symmetrical picture.	To use the line of symmetry to finish a regular 2D shape.	To use the line of symmetry to finish a variety of shapes.	

Geometry: Position & Direction			
All children	**Most children**	**Some children**	**Numicon Ref**
Use everyday language to describe position, e.g. over, under, next to, on top of.	Use directional language to describe a position on a grid e.g. up, down, left, right,	Use a range of everyday language to describe position, direction and movement including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside. Use directional language of the compass points.	
Recognise and make whole turns in both directions and connect turning clockwise with movement on a clock face.	Recognise and make half turns directions and connect turning clockwise with movement on a clock face.	Recognise and make quarter and three-quarter turns directions and connect turning clockwise with movement on a clock face.	Geometry 5.1 • 5.2 • 5.3 • 5.4 • 5.5 • 5.6 • 5.7 • 5.8

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	
Interpret information and answer questions e.g. Are there more blue cars or red cars?	Interpret information and answer questions e.g. how many more?	Interpret information and answer questions e.g. How many children DID NOT choose red?	
Sort objects, shapes or information into groups	Sort objects, shapes or information into groups using different criterion	Sort the same objects, shapes or information into different groups using different criterion.	

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