Maths Overview

Class	Year overview
Early Years Foundation Stage	**Birth to Three (prior learning)** • Combine objects like stacking blocks and cups. Put objects inside others and take them out again. • Take part in finger rhymes with numbers. • React to changes of amount in a group of up to three items. • Compare amounts, saying 'lots', 'more' or 'same'. • Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. • Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.' • Climb and squeeze themselves into different types of spaces. • Build with a range of resources. • Complete inset puzzles. • Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. • Notice patterns and arrange things in patterns. **Three and Four-Year-Olds (Nursery)** • 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 small set objects tells you how many there are in total ('cardinal principle'). • 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. • Experiment with their own symbols and marks as well as numerals. • Solve real world mathematical problems with numbers up to 5. • Compare quantities using language: 'more than', 'fewer than'. • Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. • 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'. • Make comparisons between objects relating to size, length, weight and capacity. • 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. • Talk about and identifies 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. • Begin to describe a sequence of events, real or fictio **Children in Reception** • Count objects, actions and sounds. • Subitise. • Link the number symbol (numeral) with its cardinal number value. • Count beyond ten. • Compare numbers. • Understand the 'one more than/one less than' relationship between consecutive numbers. • Explore the composition of numbers to 10. • Automatically recall number bonds for numbers 0–5 and some to 10. • Select, rotate and manipulate shapes in order 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. • Continue, copy and create repeating patterns. • Compare length, weight and capacity. **Early Learning Goals** Number • Have a deep understanding of number to 10, including the composition of each number. • Subitise (recognise quantities without counting) up to 5. • 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. Numerical Patterns

	• Verbally count beyond 20, recognising the pattern of the counting system. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Hedgehog Class (Nursery)

Nursery children will explore and experience the maths areas outlined below through continuous provision and carefully planned enhancements within the Early Years environment. Please refer to the Early Years Curriculum Overview for further detail.

Autumn term:

Autumn 1	Week 1	Week 2	Week 3	Week 4	Area 1	Week 5
Focus	Subitising	Counting, ordinality and cardinality	Composition	Subitising	Moving through space	Comparison
Autumn 2	Week 6	Week 7	Week 8	Area 2	Week 9	Week 10
Focus	Counting, ordinality and cardinality	Comparison	Composition	Noticing and visualising	Composition	Counting, ordinality and cardinality

Spring term:

Spring 1	Week 11	Week 12	Week 13	Area 3	Week 14	Week 15
Focus	Subitising	Counting, ordinality and cardinality	Composition	Block play	Composition	Comparison
Spring 2	Week 16	Week 17	Area 4	Week 18	Week 19	Week 20
Focus	Counting, ordinality and cardinality	Comparison	Shape	Composition	Composition	Composition

Summer term:

Summer 1	Area 5	Week 21	Week 22	Week 23	Week 24	Week 25
Focus	Pattern	Counting, ordinality and cardinality	Subitising	Composition	Composition	Comparison
Summer 2	Area 6	Week 26				
Focus	Measure	Subitising				

followed by further consolidation opportunities.

Hedgehog Class (Reception)

Reception children will have daily maths sessions, and also explore and experience the maths areas outlined below through continuous provision and carefully planned enhancements within the Early Years environment. Please refer to the Early Years Curriculum Overview for further detail.

Autumn term:

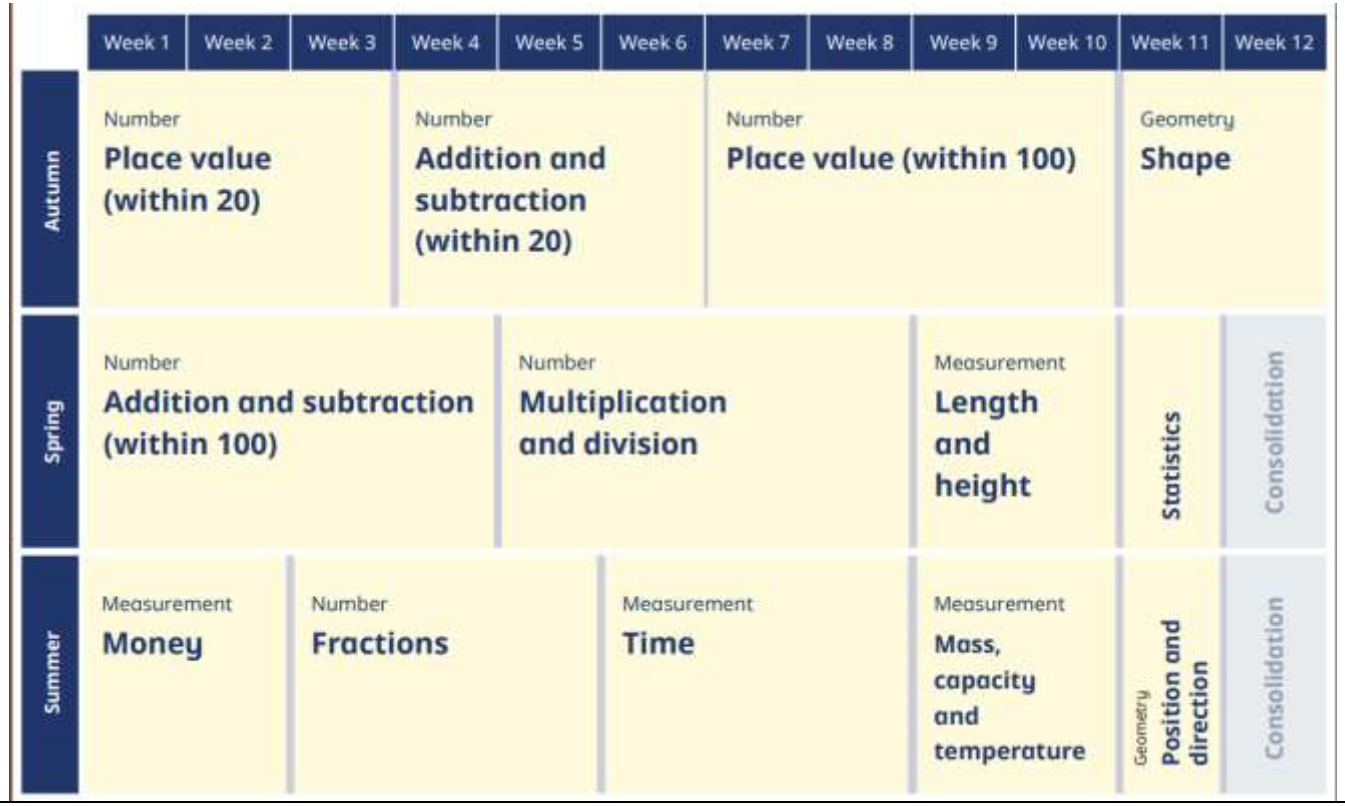
Autumn 1	Week 1	Week 2	Week 3	Week 4	Area 1	Week 5
Focus	**Subitising**	**Counting, ordinality and cardinality**	**Composition**	**Subitising**	**Moving through space**	**Comparison**
Set 1	Subitise within 3	Focus on counting skills	Explore how all numbers are made of 1s Focus on the composition of 3 and 4	Subitise objects and sounds	Develop spatial understanding, using prepositional language and gestures	Compare sets – 'just by looking' Use the language of comparison: *more than* and *fewer than*
Autumn 2	**Week 6**	**Week 7**	**Week 8**	**Area 2**	**Week 9**	**Week 10**
Focus	**Counting, ordinality and cardinality**	**Comparison**	**Composition**	**Noticing and visualising**	**Composition**	**Counting, ordinality and cardinality**
Set 2	Focus on counting skills Focus on the 'five-ness of 5' using one hand and the die pattern for 5	Compare sets – by matching Use the language of comparison: *more than, fewer than, an equal number*	Explore the concept of 'whole' and 'part'	Practical exploration of 'parts' and 'wholes' Focus on matching, turning and flipping	Focus on the composition of 3, 4 and 5	Practise object counting skills Match numerals to quantities within 10 Verbal counting beyond 20

Spring term:

Spring 1	Week 11	Week 12	Week 13	Area 3	Week 14	Week 15
Focus	**Subitising**	**Counting, ordinality and cardinality**	**Composition**	**Block play**	**Composition**	**Comparison**
Set 3	Subitise within 5, focusing on die patterns Match numerals to quantities within 5	Counting – focus on ordinality and the 'staircase' pattern See that each number is '1 more' than the previous number	Focus on 5	Compose 3D constructions Explore difference and equivalence	Focus on 6 and 7 as '5 and a bit'	Compare sets and use the language of comparison: *more than, fewer than, an equal number to* Make unequal sets equal
Spring 2	**Week 16**	**Week 17**	**Area 4**	**Week 18**	**Week 19**	**Week 20**
Focus	**Counting, ordinality and cardinality**	**Comparison**	**Shape**	**Composition**	**Composition**	**Composition**
Set 4	Focus on the 'staircase' pattern and ordering numbers	Focus on the ordering of numbers to 8 Use the language of *less than*	Sort and classify 2D shapes Compose pictures with shapes	Focus on 7	Doubles – explore how some numbers can be made with 2 equal parts	Sort numbers according to attributes – odd and even numbers

Summer term:

Summer 1	Area 5	Week 21	Week 22	Week 23	Week 24	Week 25	
Focus	**Pattern**	**Counting, ordinality and cardinality**	**Subitising**	**Composition**	**Composition**	**Comparison**	
Set 5	Patterns – focus on copying, continuing and creating	Counting – focus on larger sets and things that cannot be seen	Subitise to 6, including in structured arrangements	Composition – '5 and a bit'	Composition of 10	Comparison – linked to ordinality Play track games	
Summer 2	**Area 6**	**Week 26**	**Review and assess**	**Review and assess**	**Review and assess**	**Review and assess**	**Review and assess**
Focus	**Measure**	**Subitising**					
Set 6	Make connections in meaningful contexts	Subitise to 5 Introduce the rekenrek	Automatic recall of bonds to 5	Composition of numbers to 10	Comparison	Number patterns	Counting

Key Stage 1: Year 1 and Year 2	The principal focus of mathematics teaching in key stage 1 is 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 4 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. By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.
Fox Class (Year 1 and Year 2)	

Year 1: National Curriculum	**Number - number and place value** Pupils should be taught to: ● count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number ● count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s ● given a number, identify 1 more and 1 less ● 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 ● read and write numbers from 1 to 20 in numerals and words **Number - addition and subtraction** Pupils should be taught to: read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs represent and use number bonds and related subtraction facts within 20 add and subtract one-digit and two-digit numbers to 20, including 0 solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? – 9 **Number - multiplication and division** Pupils should be taught 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 **Number - fractions** Pupils should be taught to: ● 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

Measurement
Pupils should be taught to:

- compare, describe and solve practical problems for:
  - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
  - mass/weight [for example, heavy/light, heavier than, lighter than]
  - capacity and volume [for example, 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
  - time (hours, minutes, seconds)
  - recognise and know the value of different denominations of coins and notes
  - 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

Geometry - properties of shapes
Pupils should be taught to:

- recognise and name common 2-D and 3-D shapes, including:
  - 2-D shapes [for example, rectangles (including squares), circles and triangles]
  - 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]

Geometry - position and direction
Pupils should be taught to:

- describe position, direction and movement, including whole, half, quarter and three-quarter turns

Year 2: National Curriculum	**Number - number and place value** Pupils should be taught to: count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward recognise the place value of each digit in a two-digit number (10s, 1s) identify, represent and estimate numbers using different representations, including the number line compare and order numbers from 0 up to 100; use <, > and = signs read and write numbers to at least 100 in numerals and in words use place value and number facts to solve problems **Number - addition and subtraction** Pupils should be taught 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 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 objects, pictorial representations, and mentally, including: a two-digit number and 1s a two-digit number and 10s 2 two-digit numbers adding 3 one-digit numbers show that addition of 2 numbers can be done in any order (commutative) and subtraction of 1 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 **Number - multiplication and division** Pupils should be taught to: recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

	Number - fractions Pupils should be taught to: recognise, find, name and write fractions [Fraction:1/3], [Fraction:1/4], [Fraction:2/4] and [Fraction:3/4] of a length, shape, set of objects or quantity write simple fractions, for example [Fraction:1/2] of 6 = 3 and recognise the equivalence of [Fraction:2/4] and [Fraction:1/2] Measurement Pupils should be taught to: 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 compare and order lengths, mass, volume/capacity and record the results using >, < and = 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 amounts of money solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change 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 Geometry - properties of shapes Pupils should be taught to: identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line 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] compare and sort common 2-D and 3-D shapes and everyday objects **Geometry - position and direction** Pupils should be taught to: 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) Statistics Pupils should be taught to: interpret and construct simple pictograms, tally charts, block diagrams and tables ask and answer simple 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

Lower Key Stage 2: Year 3 and Year 4	The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the 4 operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.
Stag Class (Year 3)	

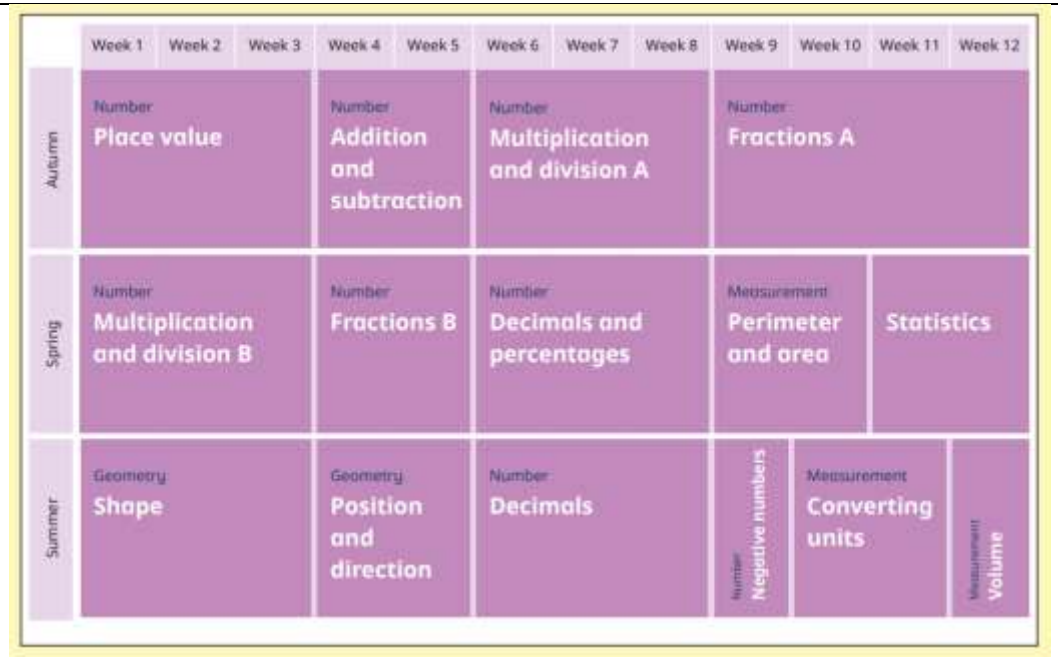
Year 3: National Curriculum	**Number - number and place value** Pupils should be taught to: count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) compare and order numbers up to 1,000 identify, represent and estimate numbers using different representations read and write numbers up to 1,000 in numerals and in words solve number problems and practical problems involving these ideas **Number - addition and subtraction** Pupils should be taught to: add and subtract numbers mentally, including: a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction estimate the answer to a calculation and use inverse operations to check answers solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction **Number - multiplication and division** Pupils should be taught to: recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 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 solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

	Number - fractions Pupils should be taught to: count up and down in tenths; recognise that tenths arise from dividing an object into 10 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 recognise and show, using diagrams, equivalent fractions with small denominators add and subtract fractions with the same denominator within one whole [for example, [Fraction:5/7]+[Fraction:1/7] = [Fraction:6/7]] compare and order unit fractions, and fractions with the same denominators solve problems that involve all of the above **Measurement** Pupils should be taught to: measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes add and subtract amounts of money to give change, using both £ and p in practical contexts 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, am/pm, morning, afternoon, noon and midnight know the number of seconds in a minute 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 events or tasks] **Geometry - properties of shapes** Pupils should be taught to: draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them recognise angles as a property of shape or a description of a turn identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 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 **Statistics** Pupils should be taught to: interpret and present data using bar charts, pictograms and tables solve one-step and two-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables

Dormouse Class (Year 4)	
Year 4: National Curriculum	**Number - number and place value** Pupils should be taught to: count in multiples of 6, 7, 9, 25 and 1,000 find 1,000 more or less than a given number count backwards through 0 to include negative numbers recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s) order and compare numbers beyond 1,000 identify, represent and estimate numbers using different representations round any number to the nearest 10, 100 or 1,000 solve number and practical problems that involve all of the above and with increasingly large positive numbers read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value **Number - addition and subtraction** Pupils should be taught to: add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate estimate and use inverse operations to check answers to a calculation solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

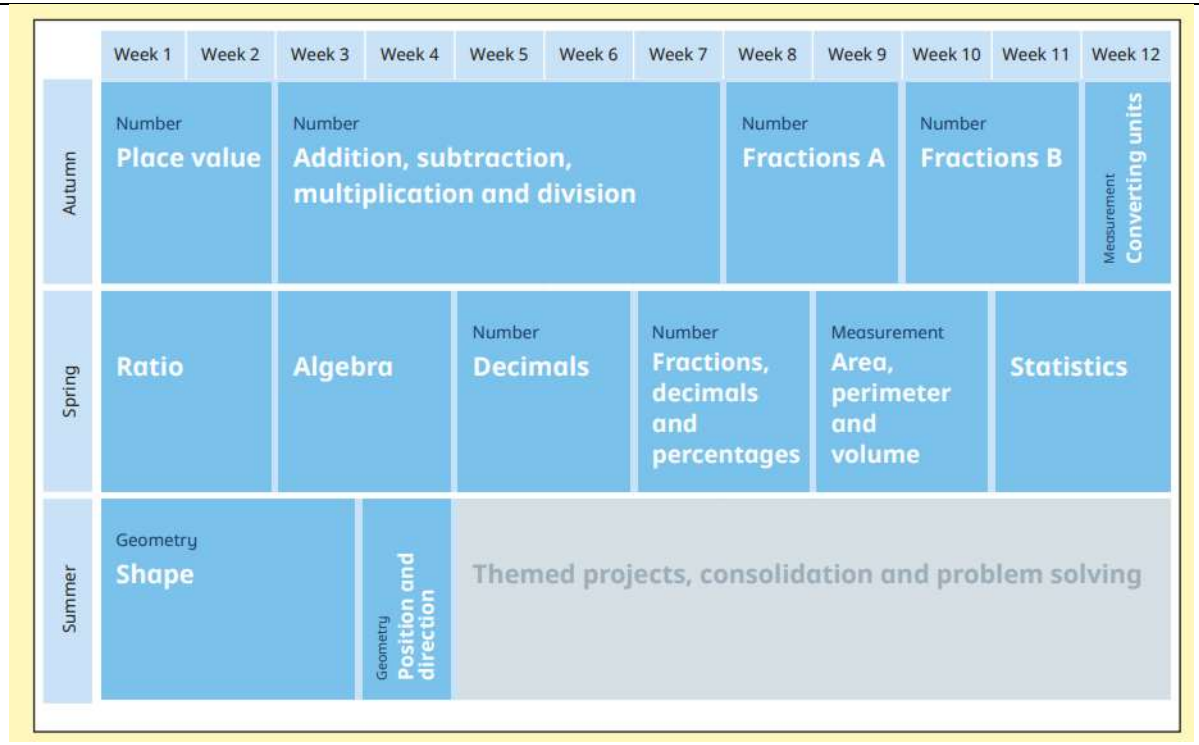
	Number - multiplication and division Pupils should be taught to: recall multiplication and division facts for multiplication tables up to 12 × 12 use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers recognise and use factor pairs and commutativity in mental calculations multiply two-digit and three-digit numbers by a one-digit number using formal written layout solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects **Number - fractions (including decimals)** Pupils should be taught to: recognise and show, using diagrams, families of common equivalent fractions count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 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 add and subtract fractions with the same denominator recognise and write decimal equivalents of any number of tenths or hundreds recognise and write decimal equivalents to [Fraction:1/4], [Fraction:1/2], [Fraction:3/4] 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 round decimals with 1 decimal place to the nearest whole number compare numbers with the same number of decimal places up to 2 decimal places solve simple measure and money problems involving fractions and decimals to 2 decimal places **Measurement** Pupils should be taught to: convert between different units of measure [for example, kilometre to metre; hour to minute] measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres find the area of rectilinear shapes by counting squares estimate, compare and calculate different measures, including money in pounds and pence read, write and convert time between analogue and digital 12- and 24-hour clocks solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days

	Geometry - properties of shapes Pupils should be taught to: compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order angles up to 2 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 **Geometry - position and direction** Pupils should be taught to: 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 given polygon **Statistics** Pupils should be taught to: interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
Upper Key Stage 2: Year 5 and Year 6	The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of year 6, pupils should be fluent in written methods for all 4 operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Otter Class (Year 5)	
Year 5: National Curriculum	**Number - number and place value** Pupils should be taught to: read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0 round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 solve number problems and practical problems that involve all of the above read Roman numerals to 1,000 (M) and recognise years written in Roman numerals Pupils should be taught to: 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 use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

	Number - multiplication and division Pupils should be taught to: identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 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 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 1,000 recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates **Number - fractions (including decimals and percentages)** Pupils should be taught to: compare and order fractions whose denominators are all multiples of the same number 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 form to the other and write mathematical statements > 1 as a mixed number [for example, [Fraction:2/5]+[Fraction:4/5] = [Fraction:6/5] = 1 [Fraction:1/5]] 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 by materials and diagrams read and write decimal numbers as fractions [for example, 0.71 = [Fraction:71/100]] recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents round decimals with 2 decimal places to the nearest whole number and to 1 decimal place read, write, order and compare numbers with up to 3 decimal places solve problems involving number up to 3 decimal places recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal fraction solve problems which require knowing percentage and decimal equivalents of [Fraction:1/2], [Fraction:1/4], [Fraction:1/5], [Fraction:2/5], [Fraction:4/5] and those fractions with a denominator of a multiple of 10 or 25

	Measurement Pupils should be taught to: 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 approximate equivalences between metric units and common imperial units such as inches, pounds and pints measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm^2) and square metres (m^2), and estimate the area of irregular shapes estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] solve problems involving converting between units of time use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling **Geometry - properties of shapes** Pupils should be taught to: identify 3-D shapes, including cubes and other cuboids, from 2-D representations know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (°) identify: angles at a point and 1 whole turn (total 360°) angles at a point on a straight line and half a turn (total 180°) other multiples of 90° use the properties of rectangles to deduce related facts and find missing lengths and angles distinguish between regular and irregular polygons based on reasoning about equal sides and angles **Geometry - position and direction** Pupils should be taught to: identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed **Statistics** Pupils should be taught to: solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables

Squirrel Class (Year 6)	
Year 6: National Curriculum	**Number - number and place value** Pupils should be taught to: read, write, order and compare numbers up to 10,000,000 and determine the value of each digit round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across 0 solve number and practical problems that involve all of the above **Number - addition, subtraction, multiplication and division**

	Pupils should be taught to: 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 identify common factors, common multiples and prime numbers use their knowledge of the order of operations to carry out calculations involving the 4 operations 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 use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy **Number - Fractions (including decimals and percentages)** Pupils should be taught to: use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions >1 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, [Fraction:1/4] × [Fraction:1/2] = [Fraction:1/8]] divide proper fractions by whole numbers [for example, [Fraction:1/3] ÷ 2 = [Fraction:1/6]] associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, [Fraction:3/8]] identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places multiply one-digit numbers with up to 2 decimal places by whole numbers use written division methods in cases where the answer has up to 2 decimal places solve problems which require answers to be rounded to specified degrees of accuracy recall and use equivalences between simple fractions, decimals and percentages, including in different contexts **Ratio and proportion** Pupils should be taught to: solve problems involving the relative sizes of 2 quantities where missing values can be found by using integer multiplication 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**

	Pupils should be taught to: use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with 2 unknowns enumerate possibilities of combinations of 2 variables **Measurement** Pupils should be taught to: solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places convert between miles and kilometres 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 (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3] **Geometry - properties of shapes** Pupils should be taught to: draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles **Geometry - position and direction** Pupils should be taught to: describe positions on the full coordinate grid (all 4 quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes **Statistics**

	Pupils should be taught to: interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average