Maths Milestones

Year Group	Maths
End of EYFS	• Learn new vocabulary. • Use new vocabulary throughout the day. • Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. • Count objects, actions and sounds. • Count beyond ten. • Verbally count beyond 20, recognising the pattern of the counting system. • Subitise. • Link the number symbol (numeral) with its cardinal number value. • Subitise (recognising quantities without counting) up to 5. • Link the number symbol (numeral) with its cardinal number value. • Compare numbers. • Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. • 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. • Automatically recall number bonds for numbers 0-5 and some to 10. • 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. • Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly • Compare length, weight and capacity. • Select, rotate and manipulate shapes in order to develop spatial reasoning skills. • Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can. • Draw information from a simple map. • Continue, copy and create repeating patterns.
End of Year 1	• Count to and across 100, forward and backward, beginning with 0 or 1, or from any given number. • Count in multiples of 2, 5 and 10. • Carry out + and – to 20. • Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations. • Measure and record lengths and heights, mass/weight, capacity and volume, and time (hours, minutes and seconds). • Recognise and know the value of different denominations of coins and notes.

End of Year 2	- Recognise the place value of each digit in a two-digit number (tens, ones) - Compare and order numbers from 0 up to 100; use <, > and = signs - Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot - Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems - Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot - 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 - Write simple fractions e.g. 1/2 of 6 = 3 and recognise the equivalence of two quarters and one half - Choose and use appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit using measuring vessels - 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 - Find combinations of coins to equal the same amounts of money and use symbols for pounds (£) and pence (p) - Identify and describe the properties of 2-D shapes, including the number of sides and symmetry in a vertical line - Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces - Use mathematical vocabulary to describe position, direction and movement, including distinguishing between rotation as a turn and in terms of right angles for quarter, half and three- quarter turns (clockwise and anti-clockwise), and movement in a straight line - Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
End of Year 3	- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. - Solve problems, including missing number problems, involving multiplication and division. - Solve simple measure and money problems involving fractions. - Add and subtract amounts of money to give change, using both £ and p in practical contexts. Add and subtract units of length (m/cm/mm), mass (kg/g) and capacity (l/ml).
End of Year 4	- Solve addition and subtraction two-step problems in context, **deciding which operations and methods to use and why.** - Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit. - Solve simple measure and money problems involving fractions and decimals to two decimal places. - Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. - Compare and classify geometric shapes, including quadrilaterals and triangles based on their properties and sizes. - Solve comparison sum and difference problems using information presented in bar charts, pictograms tables and other graphs.

End of Year 5	• Solve addition and subtraction multi-step operations and **knowing methods to use and why.** • Solve problems involving multiplication and division including: factors, squares, multiples and cubes, scaling by simple fractions and problems involving simple rates. • Solve problems which require knowledge of decimal and percentage equivalents. • Use all four operations to solve problems involving measures, money, length, mass, volume and capacity using decimal notation, including scaling. • Identify, describe and represent the position of a shape following a reflection or translation, **using the appropriate language.** • Solve comparison, sum and difference problems using information presented in a line graph.
End of Year 6	• Round any whole number to a required degree of accuracy • Use negative numbers in context, and calculate intervals across zero • Perform mental calculations, including with mixed operations and large numbers • Perform mental calculations, including with mixed operations and large numbers • 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 • Use their knowledge of the order of operations to carry out calculations involving the four operations • Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$) Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$) • Multiply 1 digit numbers with up to 2 decimal places by whole numbers • Use common factors to simplify fractions; use common multiples to express fractions in the same denomination • Recall and use equivalences between simple fractions, decimals and percentages including in different contexts. • Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) • Express missing number problems algebraically Use simple formulae Generate and describe linear number sequences • Find pairs of numbers that satisfy an equation with two unknowns Enumerate possible combinations of 2 variants • Calculate the area of parallelograms and triangles • Convert between miles and kilometres • Illustrate and name parts of circles, including radius, diameter and circumference • Find unknown angles in any triangles, quadrilaterals, and regular polygons • Describe positions on the full coordinate grid (all four quadrants) • Interpret and construct pie charts