



## Mathematics Curriculum Map Michaelmas Term 2020



Nursery	<p><b>Number</b> – can select a number of objects from a group and recite the numbers in sequence. Can begin to make comparisons between quantities. Can use the language of quantity. Can take part in number rhymes. Can represent numbers with finger and pencil marks. Can recognise numbers important to them and count up to three or four objects.</p> <p><b>Geometry</b> – can notice shapes and patterns in pictures, can use the language of size, can anticipate time based activities.</p>
Reception	<p><b>Number</b> – recognise and order numbers. Count beyond ten and recognise numerals for groups of objects. Can count irregular arrangements of shapes. Can mark make for numerals.</p> <p><b>Number</b> – can use the language of more and fewer in relation to objects. Can fill in numbers in order, recognising which come before and after.</p> <p><b>Measure</b> – can relate objects to a position, can compare lengths and heights of objects. Can use the language of weight and compare objects.</p> <p><b>Geometry</b> – can begin to recognise 2D Shapes.</p> <p><b>Geometry</b> – can sequence objects to form a pattern.</p>
Year 1	<p><b>Number</b> – recognise, write and order numbers. Understand place value within their counting range.</p> <p><b>Number</b> – count on and back from varying start points. Secure number bonds to 10.</p> <p><b>Number</b> – can subtract using a number line.</p> <p><b>Number</b> – can recognise and use money up to £1.</p> <p><b>Number</b> – can understand the vocabulary of double and half and apply to numbers and shapes.</p> <p><b>Measure</b> – understand the vocabulary of length and measure objects using a ruler.</p> <p><b>Measure</b> – can sequence the days of the week, know the months of the year and solve word problems.</p> <p><b>Geometry</b> – recognise and name 2D shapes and identify them in the real world.</p>
Year 2	<p><b>Number</b> – count in steps, recognise place value, read and write numerals and words.</p> <p><b>Number</b> – recall and use addition facts to 20, add numbers using pictures and numerals, add three one digit numbers, use related facts to 100.</p> <p><b>Number</b> - recall and use subtraction facts to 20, subtract numbers using pictures and numerals, use related facts to 100.</p> <p><b>Number</b> – recall and use 2, 5, and 10 times table, include odd and even numbers, using x and = signs.</p> <p><b>Number</b> – recall and use division facts for 2, 5, and 10 times table, include odd and even numbers, using ÷ and = signs.</p> <p><b>Number</b> – recognise, find and name halves, quarters and three quarters of shapes using formal signs.</p> <p><b>Geometry</b> – describe properties of 2D shapes including symmetry.</p> <p><b>Measure</b> – write the time to the o'clock, quarter and half past the hour. Know the number of minutes in an hour and hours in a day.</p> <p><b>Measure</b> – Estimate and measure lengths, use coins to find amounts of money.</p> <p><b>Statistics</b> – Sort information into categories, draw and interpret pictograms and block drawings.</p>

Year 3	<p><b>Number</b> – can count on and back in steps with varying start points. Understand and apply the vocabulary of more and less than. Recognise multiples.</p> <p><b>Number</b> – can recognise place value of whole numbers. Understand the place value of decimals and fractions and where they fit on a number line.</p> <p><b>Number/ Measure</b> – can estimate, compare, round numbers including measurements</p> <p><b>Number</b> – can add and subtract three-digit numbers, using written and mental strategies. Can write and continue number sentences.</p> <p><b>Number</b> – can solve problems through formal, mental and informal strategies.</p> <p><b>Geometry</b> – know the properties for the different types of angles and recognise the types of angles. Can estimate the size of angles.</p> <p><b>Geometry</b> – know the properties of perpendicular, parallel, vertical and horizontal lines.</p> <p><b>Geometry</b> – can draw 2D shapes accurately, classify shapes including symmetry in different orientations, introduce 3d shapes.</p> <p><b>Geometry</b> – understand the perimeter of a 2D shape, calculate using written and mental methods, problem solve.</p> <p><b>Statistics</b> – can use a table and represent information in a pictogram and bar chart.</p>
Year 4	<p><b>Number</b> – can count on and back in steps with varying start points. Understand and apply the vocabulary of more and less than including measures. Recognise multiples and link to multiplication tables.</p> <p><b>Number</b> – can order and compare numbers greater than 1000.</p> <p><b>Number</b> – can round, compare and estimate numbers and extend to fractions and decimals.</p> <p><b>Number</b> – can add and subtract three (or more) digit numbers using formal written methods and mental strategies.</p> <p><b>Number</b> – can recall and use multiplication and division facts up to 12 x 12 including number sentences.</p> <p><b>Number</b> – can find all the factors of a number, scaling integer and solve problems</p> <p><b>Number</b> – can understand the effect on place value of multiplying and dividing by 10 and 100. Develop mental strategies for multiplication. Can estimate calculations and solve problems.</p> <p><b>Number</b> – can solve problems through formal, mental and informal strategies involving measure and place value.</p> <p><b>Geometry</b> – can compare and classify shapes including symmetry in different orientations. Can complete diagrams with lines of symmetry.</p> <p><b>Geometry</b> – can calculate the perimeter of a 2D shape using written and mental methods. Can apply to problem solving.</p> <p><b>Measure</b> – can convert different metric units, add and subtract lengths, masses, capacities.</p> <p><b>Measure</b> – can compare, estimate and calculate units of measure.</p> <p><b>Statistics</b> – can read discrete and continuous data – time graphs – and identify the difference</p>
Year 5	<p><b>Number</b> – can recognise the place value of digits from hundredths to millions. Can read, write and order numbers. Can calculate factors and use multiples, linking to knowledge of times tables. Can round whole numbers to the nearest 10, 100 and 1000, can round decimals to the nearest whole number. Can divide and multiply by powers of ten and understand the effect on the place value of digits. Can recognise prime numbers and develop understanding of square numbers and square roots.</p> <p><b>Number</b> – can use mental strategies to add, subtract, multiply and divide numbers. Can use formal written methods for the four operations and apply to solve problems.</p> <p><b>Number</b> – can understand basic percentages and can find simple percentages of quantities. Develop understanding of negative numbers, perform basic calculations with negative numbers and apply negative numbers to everyday problems.</p> <p><b>Number</b> – can represent fractions visually. Can compare and order fractions using equivalent fractions, can simplify fractions to the lowest form. Can convert between mixed numbers and improper fractions. Can find fractions of quantities. Can add and subtract fractions.</p>

	<p><b>Geometry</b> – can identify types of angles. Can measure and draw angles with a protractor. Can identify parallel and perpendicular lines. Can draw lines of symmetry and identify rotational symmetry. Can give properties of 2D and 3D shapes. Can visualise 3D shapes from nets, plans and elevation views. Can draw 3D shapes on isometric paper</p> <p><b>Geometry</b> – can find the perimeter and area of rectangles, squares and triangles using formal methods. Can accurately read metric measuring instruments. Can convert basic metric units in both directions. Can convert simple imperial to metric units in both directions.</p>
Year 6	<p><b>Number</b> – can round numbers to the nearest 1, 10, 100 and 1000. Can round to up to 3 decimal places. Can multiply and divide by powers of 10. Develop understanding of indices. Can find the product of prime factors. Can recognise common number patterns including squares and triangular numbers. Can understand and use negative numbers. Can use the rules of BIDMAS.</p> <p><b>Number</b> – can add, subtract, multiply and divide using decimals. Can express remainders as a fraction and as a decimal. Can use formal methods for long multiplication and division factors. Can solve problems using formal calculations.</p> <p><b>Number</b> – can add and subtract fractions with different denominators. Can multiply and divide fractions using formal methods. Can convert between fractions, decimals and percentages. Can find fractions and percentages of a quantity. Can calculate complex percentages of a quantity. Can solve written problems involving fractions and percentages.</p> <p><b>Algebra</b> – can simplify expressions by collecting like terms, can describe an event by forming an expression, can substitute values, including negatives, into simple expressions and solve.</p> <p><b>Algebra</b> – can solve simple one and two stage equations using formal methods accurately. Can apply learning to problem solving including area and volume.</p> <p><b>Geometry</b> – can construct triangles and simple quadrilaterals using ruler, protractor and compass. Can calculate the area and perimeter of rectangles, squares and triangles using formal methods. Can apply to calculate the area and perimeter of compound shapes.</p> <p><b>Geometry</b> – can plot coordinates in 4 quadrants. Can form shapes on a grid including missing coordinates. Can draw simple linear functions on a grid and label. Can translate shapes in all 4 quadrants. Can reflect shapes in linear functions. Can rotate shapes round the origin.</p>

Year 7	<p><b>Number</b> – can convert between fractions, decimals and percentages. Can round decimals up to 3 decimal places. Can round integers and decimals up to 3 significant places. Can use the rules of BIDMAS.</p> <p><b>Number</b> – can add and subtract decimals including improper fractions and mixed numbers. Can use formal methods to multiply and divide fractions. Can use four operations with decimal numbers including multiplying and dividing by decimals.</p> <p><b>Algebra</b> – can simplify expressions including expressions with indices. Can expand and factorise brackets. Can substitute positive, negative and fractional amounts into expressions and can simplify expressions after substitution</p> <p><b>Algebra</b> – can solve one and two stage equations including equations with brackets. Can solve equations with negative variables. Can solve equations with variables on both sides. Can use symbols to show inequalities, can draw inequalities, can solve one stage inequalities and can find the greatest/lowest possible values of inequalities.</p> <p><b>Statistics</b> – can interpret data from a variety of graphs and charts. Can construct a variety of graphs and charts from given data (including pie, line, frequency, conversion, scatter and time). Can explain a correlation and can plot a line of best fit.</p> <p><b>Statistics</b> – can find the mean, mode, median and range of a data set.</p> <p><b>Geometry</b> – can draw and label simple linear functions. Can reflect shapes in linear functions including <math>y = x</math> and <math>y = -x</math>. Can rotate shapes about the origin and about a given point. Can translate shapes in all 4 quadrants. Can enlarge shapes and use ratio to find the new area.</p> <p><b>Geometry</b> – can calculate angles in parallel lines. Can calculate the polygons angles. Can apply angle rules to solve problems.</p>
Year 8	<p><b>Number</b> – can round decimals up to 3 decimal places. Can round integers and decimals up to 3 significant places. Can find the product of prime factors and apply to find Highest Common Factor and Lowest Common Multiple of set of numbers. Can write numbers using standard index form.</p> <p><b>Number</b> – can order fractions, decimals and percentages through conversion</p> <p><b>Number</b> – can use formal methods for all four operations involving fractions and apply to problem solving.</p> <p><b>Number</b> – can find fractions and percentages of amounts. Can calculate the percentage increase and decrease. Can calculate the percentage change.</p> <p><b>Algebra</b> – can simplify expressions including expanding brackets. Can substitute numbers into complex expressions and formulae including negative values and fractions.</p> <p><b>Algebra</b> – can solve one and two stage equations including equations with brackets. Can solve equations with negative variables. Can solve equations with variables on both sides. Can solve equations leaving answers as fractions or mixed numbers where appropriate.</p> <p><b>Geometry</b> – can reflect, rotate, translate and enlarge shapes in all 4 quadrants.</p> <p><b>Geometry</b> – can bisect lines and angles. Can construct 2D shapes accurately using geometric equipment.</p> <p><b>Geometry</b> – can measure and draw bearings using geometric equipment. Can convert map scales and apply to drawing a bearing map accurately.</p> <p><b>Geometry</b> – can calculate the area and circumference of whole circles and of fractions of circles. Can calculate the area and circumference of a circle when given the angle. Can apply to problem solving. Can use a scientific calculator accurately.</p>