



## Maths Curriculum Map Michaelmas Term 2023

	Term 1	Term 2
EYFS	<p><b>Comparison:</b> Compare quantities: more/less most/least. Make predictions/estimations about the numbers of things</p> <p><b>Counting: Stable order</b> Know that we always count in the same order .....1, 2, 3, 4, 5. <b>One-one correspondence.</b> Know that each number has only one count. Say one number for each item in order to 5. Link numerals and amounts to 5. Count objects and sounds up to 10. Understand relationship between consecutive numbers. Count objects and sounds up to 20 and beyond. Count in groups of 2's 5's and 10's</p> <p><b>Cardinality:</b> Know that the last number we say when counting a set of objects tells you how many there are (cardinal principle). Experiment with own symbols and recording. Counting out a smaller amount from a larger amount. Put objects into 5 frames and tens frames (structure of number system). Discuss ways in which children might record quantities. Develop accuracy in counting (cardinal principle). Know that it doesn't matter which object we start counting from, the total number on the set will still be the same.</p> <p><b>Subitising:</b> Fast recognition of up to 5 objects e.g. dots on a dice face and then with random arrays of objects.</p> <p><b>Conservation of Number and Abstraction:</b> Know that 3 is 3, however it is arranged ie whether the 3 objects are set apart or closely together. Know that the size of the objects being counted does not change how many objects are in a set – three elephants are not numerically larger than 3 small mice. Also, know that we can count things we can not touch such as sounds but these quantities can be represented by real objects such as cubes/counters.</p> <p><b>Movement is Magnitude:</b> As we move up the counting sequence, numbers get bigger by one each time.</p> <p><b>Composition:</b> Solve real world mathematical problems with up to 5 numbers. Understand 1 more/1 less than. Explore composition of numbers to 10 e.g. different ways of making 5) How many more will I need if I have 3..... Use Number Stories to develop problem skills e.g. Maisie's Tent, Sharing Stories. Introduce recording methods such as tallying. Addition and subtraction with two single-digit numbers. Prompt children to subitise first when enumerating groups e.g count on from 5 or 10 by showing that we have 5/10 fingers all at once without having to count from 1. Addition and subtraction with one and two-digit numbers. Discuss ways in which children can record methods for solving problems. More complex Problem solving/Maths Stories to provoke discussion and develop strategies/vocabulary e.g. what happens if I share 7 ice-creams between 3 children? Composition of numbers to 10 – begin to recall number pairs. Doubling – begin to recall number pairs</p>	
Year 1	<p><b>Number:</b> Finding patterns in Numbers (including subitising). Counting and Comparison (more, less, fewer)</p> <p><b>Operations:</b> Doubling and Halving to 20. Odd and Even Numbers to 20. Represent and use number bonds and related subtraction facts to 10/20. Add and Subtract one-digit number and two-digit numbers to 20 (including zero). Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, using part or whole unknown. Making 10 and some more. Estimating and ordering, 1 more, 1 less</p> <p><b>Geometry: Position/Direction:</b> Use everyday language to talk about position to compare objects including ordinal numbers. <b>Shape:</b> Use mathematical language to describe shapes. Recognise and name common 2D shapes. Recognise and name common 3D shapes</p> <p><b>Measure: Time:</b> Sequencing events: Recognise and use language relating to dates, including days of the week, weeks, months and years</p>	

Year 2	<p><b>Number:</b> Place Value: making tens and some more. Place Value and regrouping Two-Digit numbers. Counting on and back in ones and tens from any number. Representing, Ordering and Comparing Numbers from 0 up to 100; use <math>&lt;</math> <math>&gt;</math> <math>=</math> signs. Estimation and magnitude.</p> <p><b>Operations:</b> Represent and use number bonds and related subtraction facts within 20. Add and subtract one-digit and two-digit numbers to 20, including zero. Add and subtract numbers mentally using 1 and 2-digit numbers – applying their increasing knowledge of mental and written methods. Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.</p> <p><b>Statistics:</b> Totalling and Comparing Amounts in Block Graphs, Pictograms, Tables and Tally Charts</p> <p><b>Fractions:</b> Finding halves, quarters and thirds of amounts. Finding halves, quarters and thirds of shapes. Finding three-quarters of shapes and amounts</p> <p><b>Measure:</b> Compare, describe and solve practical problems for: lengths and heights e.g. long/short, longer/shorter, tall/short, double/half Measure and begin to record lengths and heights</p>
Year 3	<p><b>Number:</b> Place Value: Represent numbers to 100. Tens and ones using addition. Represent numbers to 1,000, 100's, 10's and 1's. Use a number line to 1,000. Find 1, 10, 100 more or less than a given number. Compare objects and numbers to 1,000. Order numbers. Count in 50's and 100's (begin to count in 4's and 8's)</p> <p><b>Operations:</b> Add and subtract numbers mentally including: A three-digit number and ones. A three-digit number and tens. A three-digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of column addition and subtraction. <b>Money:</b> Solve a variety of addition and subtraction problems using money: Recognise and use symbols for £ and p – combine amounts to make a particular value. Add and subtract amounts to give change, using both £ and p in practical contexts. <b>Multiplication and Division:</b> Recall and use the multiplication and division facts for the 2, 5, 10, 4 and 8 times tables <b>Algebra:</b> Solve problems including missing number problems, involving multiplication and division</p> <p><b>Statistics:</b> (Revise) Interpret and draw data using bar charts, pictograms and tables. Solve on-step and two-step questions (how many more/fewer) using information presented in scaled bar charts, pictograms and tables</p> <p><b>Fractions:</b> (Revise) Recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</p> <p><b>Geometry: Shape:</b> (Revise) Identify and describe properties of 2D shapes, including the number of sides and line symmetry in a vertical line Identify and describe the properties of 3D shapes including the number of vertices and faces Use mathematical vocabulary to describe movement, distinguishing between rotation as a turn and in terms of right angles for quarter turns (clockwise and anti-clockwise)</p> <p><b>Measure: Compare and Estimate:</b> Choose and use appropriate standard units to estimate and measure capacity (litres/ml) to the nearest appropriate unit: using rulers, scales, thermometers and measuring vessels. Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm)</p>
Year 4	<p><b>Number:</b> Represent numbers to 1,000. Number line to 1,000, 10,000. Round to the nearest 100, 1,000. Find 1, 10, 100, 1,000 more or less. Partitioning</p> <p><b>Operations: Addition and Subtraction:</b> 1s, 10's, 100's and 1,000's. Add and subtract numbers with 4 digits using the formal written methods of column addition and subtraction. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, deciding which operation to use and why. Recognise and use factor pairs and commutativity. <b>Multiplication and Division:</b> recall and use multiplication and division facts for the 4, 8, 3, 6, 12, 7, 9, 11 times tables. Multiply and divide by 10. Multiply and divide by 100. Multiply and divide by 1 and itself. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. <b>Algebra:</b> Solve problems involving multiplying and adding, including the distributive law to multiply two-digit numbers by one-digit - integer scaling problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects</p> <p><b>Fractions:</b> (Revision) Recognise, find and write fractions of a discrete set of objects. Unit fractions and non-unit fractions with small denominators. Recognise and show, using diagrams, equivalent fractions with small denominators</p> <p><b>Measure: Measure and Calculating:</b> Length and Perimeter. Revise equivalent lengths (mm/cm, cm/m), Kilometres. Measure and calculate the perimeter (on a grid, rectangle, including squares - rectilinear shapes)</p>

Year 5	<p><b>Number:</b> Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. Read, write, order and compare numbers to at least 1,000,000. Interpret negative numbers in context, count forwards and backwards with positive and negative whole number, including through zero. Solve number problems and practical problems to include the above areas</p> <p><b>Operations: Multiplication:</b> recall and use multiplication and division facts for the 4, 8, 3, 6, 12, 7, 9, 11, times tables. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. Identify multiples and factors, including finding all factor pairs of a number and common factors of two numbers. Recognise and use square and cube numbers and the notation. Multiply and divide numbers mentally drawing upon known facts (supported during 5 a Day). Use all 4 operations to solve problems involving all areas covered: measure, number facts, multiplication and division, fractions</p> <p><b>Algebra:</b> Solve problems involving multiplying and adding, including using distributive law to multiply two-digit numbers by one digit, integer (correspondence) scaling problems and harder correspondence problems such as <math>n</math> objects are connected to <math>m</math> objects. Solve problems involving addition, subtraction, multiplication and division and a combination of these including understanding the meaning of the equals sign.</p> <p><b>Fractions:</b> Recognise mixed numbers and improper fractions and convert from one form to the other; write mathematical statements <math>&gt; 1</math> as a mixed number (e.g. <math>2/5 + 4/5 = 6/5 = 1 \frac{1}{5}</math>). Identify name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Compare and order fractions whose denominators are all multiples of the same number</p> <p><b>Statistics:</b> Complete, read and interpret information in tables, including timetables. Solve comparison, sum and difference problems using information presented on a line graph</p> <p><b>Geometry: Angles:</b> (revision) angles – greater/less than a right angle, recognise that one right angle makes a <math>\frac{1}{4}</math> turn, two right angles make a half turn, three make <math>\frac{3}{4}</math> turn and 4 is a complete turn. <b>Shape:</b> (revision) Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify 3D shapes, including cubes and other cuboids, from 2D representations</p> <p><b>Measure: Measuring and Calculating:</b> (revision) Convert between different units of measure (e.g. km/m hour/min). Calculate different measures, including money in £ and p. Compare duration of events. Calculate areas of rectangles (inc squares) and estimate the area of irregular shapes</p>
Year 6	<p><b>Number:</b> Use negative numbers in context, and calculate intervals across zero. Solve number problems and practical problems</p> <p><b>Operations:</b> Recall multiplication and division facts for all tables up to <math>12 \times 12</math>, multiply and divide whole numbers and those involving decimals by 10, 100, 1,000, identify all factors (inc finding factor pairs), multiples, prime numbers, square and cube numbers, place value to determine digit value in numbers up to 1,000,000. <b>Algebra:</b> Express missing number problems algebraically. Use simple formulae. Generate and describe linear number sequences. Perform mental calculations, including with mixed operations and large numbers. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. Use knowledge of the order of operations to carry out calculations involving the four operations (BIDMAS).</p> <p><b>Fractions: Decimals/Fractions:</b> Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375 as a fraction <math>3/8</math> or 0.53 as a fraction is <math>53/100</math>)</p> <p><b>Percentages:</b> Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts (e.g. <math>0.53 = 53\% = 53/100</math>)</p> <p><b>Percentages:</b> Solve problems involving the calculation of percentages (e.g. of measures such as 15% of 360) and the use of percentages for comparison. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</p> <p><b>Statistics:</b> (revise) Solve comparison, sum and difference problems using information in a line graph. Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</p> <p><b>Geometry: Shape:</b> Describe simple 3D shapes. Recognise and build simple 3D shapes, including making nets. Describe positions on the full co-ordinate grid (all 4 quadrants)</p> <p><b>Measure: Calculate and Measure:</b> Calculate the area of parallelograms and triangles. Recognise that shapes with the same areas can have different perimeters. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate</p>
Assessment Week: week 10/11	

Year 7	<p><b>Number:</b> Order positive and negative integers, decimals and fractions using the number line as a model for ordering and using the symbols &lt; and &gt; (Revision). Use mental strategies with the four operations including all types of numbers. Use a secure written method for all four operations. Use the order of operations including fractions and indices. Convert between fractions, decimals, and percentages. Recognise and apply knowledge of factors and multiples. Can use index notation.</p> <p><b>Algebra:</b> Simplify algebraic expressions with addition &amp; subtraction. Simplify algebraic expressions with multiplication. Simplify algebraic expressions with division. Substitute whole numbers, including negative numbers, into simple expressions. Substitute fractions and decimals. Recognise how substitution can be used to check answers to equations. Apply to real life formulae. Write a sequence from an nth term – linear and more complex; Find the nth term of a sequence. Use pictorial sequences. State whether terms are in a sequence. Solve simple two stage equations. Solve equations with negative variables. Use substitution to check answers to equations. Be able to form equations from statements including the use of shapes</p> <p><b>Geometry:</b> Convert metric units. Solve real life problems involving mixed units of measure. Tell the time, use a clock, convert between 12/ 24-hour time. Can read and interpret timetables. Can use speed, distance, and time. Can use area and perimeter formulas for polygons.</p> <p><b>Statistics:</b> Interpret data from a pie chart. Interpret Frequency tables and graphs. Construct a frequency graph from given data. Interpret data from a line graph. Construct a line graph from given data. Find the MMR from a given set of data. Find the MMR from a frequency table. Interpret given data and discuss in reference to the probability scale. Express probabilities as fractions.</p>
Year 8	<p><b>Number</b> – Use mental strategies with the four operations including all types of numbers. Use a secure written method for all four operations including decimals. Revision of adding, subtracting, multiplying and dividing using fractions including mixed numbers and improper fractions. Revision of the order of operations including fractions and indices. Apply knowledge of fraction, decimal, and percentage conversion to worded problems. Calculate FDP of amounts as well as solve increase and decrease problems with one or more of FDP and apply to profit and loss problems. Revision of squares, cubes and roots. Use factors and multiples to solve HCF and LCM problems. Understand and apply index laws including simplifying and evaluating indices. <b>Can use reciprocals/ negative powers.</b></p> <p><b>Algebra</b> – Revision of simplifying algebraic expressions. Revision of substitution involving integers, including negative numbers, as well as fraction and decimal values. Expand and factorise including negatives numbers and fractions. Can solve equations with one and two stages, with variables on both sides and with brackets, including generating and solving equations from worded problems and shape. Solve equations involving brackets. Solve equations with variables on both sides. <b>Solve equations with fractions including non-unit fractions. Can solve quadratics by factorising, can solve simultaneous equations.</b> Apply to real life formulae. Write a sequence from an nth term – linear and more complex. Find the nth term of a sequence and state whether terms are in a sequence.</p> <p><b>Data Handling</b> – Use a range of graphs and tables to solve problems including; conversion graphs, scatter graphs, pie charts, and frequency tables.</p> <p><b>Ratio</b> – Express amounts in a ratio, simplify and share totals in a ratio. Convert ratios to fractions and solve problems including ratios in contexts. Apply knowledge to direct proportion. Convert between currencies using exchange rates. Interpret conversion graphs.</p> <p><b>Geometry</b> – Revise reading analogue clocks, convert between 12/ 24-hour time. Revise interpreting timetables. Recognise and apply scale factor enlargements. Use speed, distance, and time. Use area and perimeter formulas for polygons and circles. Evaluate 3d shapes based on their properties, including isometric drawing and calculations with 2d faces.</p>