



## Maths Curriculum Map Michaelmas Term 2022

	Michaelmas 1	Michaelmas 2
Nursery	<p><b>Number</b> – 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. Understand the cardinal principle. Show ‘finger numbers’ up to 5. Link numerals and amounts. Experiment with own symbols, mark making and numerals. Solve real world problems with numbers to 5. Compare quantities using language ‘fewer than’, ‘more than’.</p> <p><b>Shape, Space, Measure</b>- talk about 2D and 3D shapes using informal language: sides, corners, straight, flat, round. Understand position through words alone e.g. the bag is under the table (without needing to point). Describe a familiar route. Discuss a familiar route and location 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. Combine shapes to make new ones – an arch, bigger triangle.</p> <p><b>Pattern</b> – Talk about and identify patterns around them. Use informal language like ‘spotty, stripy’. Extend and create ABAB patterns – leaf stick leaf stick. Notice and correct an error in a repeating pattern. Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then’....</p>	
Reception	<p><b>Number</b> – count objects, actions and sounds. Subitise. Link the number symbol (numeral) with it’s cardinal number value. Count beyond 10. Compare numbers. Understand the ‘one more than/one less than’ relationship between numbers. Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0-10.</p> <p><b>Shape, space and measure</b> – Select, rotate and manipulate shapes in order to develop spatial skills. Compose and decompose shapes so that children recognise a shape can have other shapes <i>within</i> it, just as numbers can. Compare length, weight and capacity.</p> <p><b>Pattern</b> – continue, copy and create repeating patterns.</p>	
Year 1	<p><b>Number</b> – can count in 2, 5 &amp; 10. Begin to formalise multiplication using repeated addition and arrays. Solve problems with doubling and halving. Equal or unequal groups and remainders. Recognise and use the +, -, = symbols. Use the number bonds up to 20 along with adding and subtracting multiples of ten. Count forwards and back from a given number up to 100. Recognise place value and compare numbers up to 100. Solve problems involving estimation, ordering and comparison. Recognise and describe odd and even numbers. Use of concrete objects to solve sharing and grouping problems.</p> <p><b>Measure</b> – telling the time, O Clock and Half Past. Can draw the hands on a clock. Can measure time in minutes, hours and seconds with equipment. Can sequence events in time. Can describe position and movement. Can comment on capacity using labels such as full, half full etc. Can read units on a scale. Can name 3d shapes and relate to everyday objects. Problem solving with money to find coins relating to a fixed amount. Can solve practical problems and find change</p>	

	<p><b>Fractions</b> – sharing into equal groups, equal or unequal parts of shapes, find fractions of continuous quantities including capacity.</p>
<p>Year 2</p>	<p><b>Number</b> – recognise place value and develop fluency in counting. Use pictorial representations and compare amounts. Can find sums and differences. Can use formal written methods. Can use the x symbol and learn 2, 5, 10 times tables, including distributive nature. Begin 3, 4, 8 times tables. Can use the division symbol along with inverse of 2, 5, 10 times table facts.</p> <p><b>Fractions</b> – Finding halves, quarters and thirds of amounts and shapes. Find equivalence and fractions of continuous quantities.</p> <p><b>Measure</b> – Can tell and write the time to the nearest 5 mins on analogue and digital clocks. Can compare and order masses and capacities. Can record quantities using scales. Can use more than and less than.</p> <p><b>Geometry</b> – properties of 2D and 3D shapes, classifying and sorting, symmetry. Sequencing. Rotation and right angles.</p>
<p>Year 3</p>	<p><b>Number</b> - Fractions: Making the whole: look at whole shapes and quantities and see that when a fraction is equivalent to a whole, the numerator and denominator are the same. Tenths: recognise that tenths arise from dividing one whole into 10 equal parts. Represent tenths in a variety of ways, count in tenths, tenths as decimals. Fractions on a number line: use a number line to represent fractions beyond one whole. They count forwards and backwards in fractions. Find a unit fraction of an amount by dividing an amount into equal groups. Understand that the denominator of the fraction tells us how many equal parts the whole will be divided into. Understand that the numerator tells them how many parts of the whole there are. Find fractions of a set of objects. Equivalent fractions. Compare fractions. Order fractions. Add and subtract fractions. Solve problems in various contexts.</p> <p><b>Measure</b> - Time: <b>Recap the following areas: O'clock and half past, quarter past and to.</b> Months and years, hours in a day, telling the time to 5 minutes, tell time to the nearest minute using an analogue clock. Use the terms 'past' and 'to', use 'morning', 'afternoon', 'a.m.' and 'p.m.' to describe the time of day. 24-hour clock, find the durations of events using both analogue and digital clocks, comparing durations, start and end times, measuring time in seconds. Solve time problems in various contexts.</p> <p><b>Geometry</b> - Turns and angles, right angles in shapes: recognise that a right angle is a quarter turn, 2 right angles make a half-turn, 3 right angles make three-quarters of a turn and 4 right angles make a complete turn, compare angles: identify whether an angle is greater than or less than a right angle in shapes and turns, by measuring, comparing and reasoning in practical contexts, draw accurately: measure and draw straight lines accurately in centimetres and millimetres, horizontal and vertical, parallel and perpendicular: identify and find parallel and perpendicular lines in a range of practical contexts, recognise, draw and describe 2-D and 3-D shapes, make 3-D shapes</p> <p><b>Measure</b> - Mass and Capacity: <b>Recap</b> Compare mass.</p>

	<p>Measure mass: read a range of scales to measure mass, including scales with missing intervals. Measure the mass of objects and record them as a mixed measurement in kilograms and grams, compare mass: use 'lighter' and 'heavier' to compare mass. Add and subtract mass: use a range of mental and written methods.</p> <p><b>Recap</b> Compare volume: compare the volume of containers using <math>&lt;</math>, <math>&gt;</math> and <math>=</math></p> <p>Measure capacity: use litres, millilitres and standard scales to explore capacity, compare capacity, add and subtract volumes and capacities.</p> <p><b>Recap</b> Temperature</p>
Year 4	<p><b>Measure</b> - Time <b>Recap the following areas:</b> Telling the time to 5 minutes, telling the time to the minute, using a.m. and p.m. 24-hour clock. Reasoning and problem solving in a variety of contexts to include: hours, minutes and seconds, years, months, weeks and days, analogue to digital - 12 hour, analogue to digital - 24 hour.</p> <p><b>Measure</b> - Money - Using decimal notation with pounds and pence, ordering amounts of money, estimating the total of two amounts, <b>Recap</b> Converting pounds and pence, <b>Recap</b> Adding with money, <b>Recap</b> Subtracting with money, <b>Recap</b> finding change, reasoning and solving simple problems with money, involving all four operations</p> <p><b>Statistics</b> - Interpret charts, solve comparison, sum and difference problems using discrete data with a range of scales, introducing line graphs, read a line graph accurately and create their own graphs to represent continuous data. Can decide on most appropriate scale, gather information and present as a bar chart,</p> <p><b>Geometry</b> - Properties of Shape <b>Recap the following areas:</b> Turns and angles, right angles in shapes, compare angles. Identify angles, compare and order angles - develop their understanding of obtuse and acute angles by comparing with a right angle.</p> <p><b>Recap the following areas:</b> Recognise and describe 2-D shapes.  Triangles, - classify triangles for the first time using the names 'isosceles', 'scalene' and 'equilateral'.  Quadrilaterals - name quadrilaterals including a square, rectangle, rhombus, parallelogram and trapezium. Describe their properties and highlight the similarities and differences between different quadrilaterals</p> <p><b>Recap</b> Horizontal and Vertical  Lines of symmetry, complete a symmetric figure - find and identify lines of symmetry within 2-D shapes.</p> <p><b>Geometry</b> - Position and Direction Describe position. Read, write and use pairs of coordinates. Draw on a grid, move on a grid, describe movement on a grid</p> <p><b>Consolidation</b></p>

Year 5	<p><b>Number</b> - recognise different types of number. Can multiply and divide by powers of ten including problem solving and multi stage problems.</p> <p><b>Number</b> - can add, subtract, multiply and divide fractions including equivalent fractions and simplifying. Can problem solve with fractions and percentages</p> <p><b>Geometry</b> - understand and use properties of quadrilaterals and triangles. Can find missing angles and name shapes from their properties.</p> <p><b>Measure</b> - can find areas and perimeters. Can problem solve in a variety of contexts. Can use scaling and find the volume of a cuboid.</p> <p><b>Number</b> - Can compare decimals up to 3 decimal places. Can convert decimals and fractions including ordering numbers. Can place one a number-line and use in money calculations. Can compare and order fractions, find fractions of amounts and link to division.</p> <p><b>Algebra</b> - can use symbols for unknowns simplifying expressions and substituting values into expressions. Can find pairs of values suiting an expression and draw resulting graphs.</p> <p><b>Data Handling</b> - can plot points in all four quadrants. Can reflect in a given line and translate on a coordinate grid.</p> <p><b>Statistics</b> - can read, interpret and create tables. Can draw and interpret line and bar graphs, including SDT graphs. Can read and interpret timetables.</p> <p><b>Number</b> - can problem solve with powers of ten. Can convert between units of length and area. Can understand the need for rounding to help estimate solutions.</p>
Year 6	<p><b>Number</b> - Can use four operations with fractions, decimals, negatives and mixed numbers. Can use the order of operations including powers. Can use mental adjustment and understand errors. Can calculate percentages of amounts with and without a calculator</p> <p><b>Geometry</b> - can identify similar shapes from angles and sides. Can draw nets, isometric drawings, plans and elevations. Can solve scale problems. Can use angle properties to find missing values. Can construct and measure angles accurately with a protractor. Can use parallel lines with associated properties.</p> <p><b>Geometry</b> - can identify parts of a circle calculating the area and circumference. Can calculate the volume and surface area of cuboids. Can understand and use nets of 3d shapes.</p> <p><b>Data Handling</b> - can calculate the mean, median, mode and range of data. Can calculate the mean from a table.</p> <p><b>Geometry</b> - Can draw vertical and horizontal lines, <math>y = x</math> and <math>y = -x</math> and reflections, rotations and translations.</p> <p><b>Number</b> - can understand and use negative numbers. Can use the order of operations.</p> <p><b>Algebra</b> - can use symbols in linear equations. Can use inverse operations and function machines. Can solve linear equations and expand a bracket.</p>

Year 7	<p><b>Number</b> - can use mental strategies with the four operations including all types of numbers. Can use the order of operations including powers. <b>Can use reciprocals.</b></p> <p><b>Number</b> - Can convert between fractions, decimals, and percentages.</p> <p><b>Ratio</b> - can express amounts in a ratio, simplify and share totals in a ratio. Can convert ratios to fractions and solve problems including ratios in contexts.</p> <p><b>Geometry</b> - can tell the time, use a clock, convert between 12/ 24-hour time. Can read and interpret timetables and graphs. Can use speed, distance, and time.</p> <p><b>Geometry</b> - Can use area and perimeter formulas for circles including interpreting radius and diameter information.</p> <p><b>Probability</b> - can use the probability scale. Can express probabilities from sample spaces, Carroll diagrams and Venn diagrams.</p> <p><b>Geometry</b> -Can evaluate 3d shapes based on their properties, including isometric drawing and calculations with 2d faces.</p> <p><b>Algebra</b> - Can substitute values into expressions and formulas from a range of contexts</p> <p><b>Geometry</b> - Can draw lines, angles and shapes accurately with a ruler, compass and protractor. Can construct 3d models.</p>
Year 8	<p><b>Number</b> - can use mental strategies with the four operations including all types of numbers. Can use the order of operations including powers. Can recall squares, cubes and roots. Can simplify and evaluate powers. <b>Can use reciprocals/ negative powers.</b></p> <p><b>Probability</b>- can solve problems involving Carroll, Venn and tree diagrams</p> <p><b>Algebra</b> - can simplify, expand, factorise and use negative numbers in expressions consistently. <b>Can use multinomials</b></p> <p><b>Algebra</b> - can solve equations with 1 &amp; 2 stages, multiple unknowns and fractions. <b>Can solve quadratics by factorising, can solve simultaneous equations</b></p> <p><b>Data Handling</b> - can use a range of graphs and tables to solve problems including; conversion graphs, scattergraphs, pie charts, pictograms and tables.</p> <p><b>Number</b> - can use factors and multiples alongside the use of a calculator to solve HCF and LCM problems. Can accurately evaluate expressions with multiple calculator functions</p> <p><b>Geometry</b> - Can use area and perimeter formulas for circles including interpreting radius and diameter information.</p> <p><b>Number</b> - Can convert between fractions, decimals, and percentages. Can calculate FDP of amounts as well as solve increase and decrease problems with one or more of FDP.</p> <p><b>Geometry</b> - Can draw triangles accurately with a compass, protractor, and ruler. Can evaluate uniqueness based on the sides and angles of a triangle.</p> <p><b>Data Handling</b> - can use a table, list and graph to calculate the mean, median, mode and range of data.</p>