MATHEMATICS Curriculum Progression at Merebrook Infant School

	EYFS		Year 1	Year 2	Year 3
	3 and 4 year olds	**Reception**			
Number and Place Value	•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 of object 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 mathematics problems with numbers up to 5. Compare quantities using language 'More than', 'fewer than'.	• Count objects, actions and sounds. •Subitise. • Link the number symbol (numeral) with its cardinal number value. • Count beyond 10. • Compare numbers • Understand the 'one more than/less than' relationship between consecutive numbers. • Explore the composition of numbers to 10. • Automatically recall number bonds for numbers 1- 10	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 twos, fives and tens 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. Given a number, identify one more and one less	Count in steps of 2, 3 and 5 from 0, and in tens from any number, forward or backward. Recognise the place value of each digit in a two-digit number (tens, ones) Identify represent and estimate numbers using different representations, including 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.	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 three-digit number, (Hundreds, tens, ones) Identify, represent and estimate numbers using different representations. Compare and order up to 1000. Read and write numbers up to 1000 in numerals and in words Solve number problems and practical problems involving these ideas.

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Addition and Subtraction	Shows an interest in number problems. •Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.	Finds the total number of items in two groups by counting all of them. In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting. •Records, using marks that they can interpret and explain. •Begins to identify own mathematical problems based on own interests and fascinations.	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 zero Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, recognising coins and notes and missing number problems such as 7=□ -9	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 ones A two-digit number and tens Two two-digit numbers Adding three one-digit numbers Show addition of two numbers can be done in any order (commutative) and subtraction of one number from another number. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing numbers problems.	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 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
Multiplication and Division			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.	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 (x), division () and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one 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.	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 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.

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Fractions			Recognise, find and name a half as one of two equal parts of an object, shape or quantity Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	Recognise find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity Write simple fractions e.g. ½ of 6 = 3 and recognise the equivalence of 2/4 and ½	Count up and down in tenths; recognise that tenths arise form dividing an object into 10 equal parts and 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 diagram, equivalent fractions with small denominators. Add and subtract fractions with same denominator within one whole Compare and order unit fractions with the same denominator. Solve problems
Measurement	Make a comparison between objects relating to size, length, weight and capacity.	• Compare length, weight and capacity.	Compare, describe and solve practical problems for: -lengths, 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, inc. 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.	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 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 pass/to the hour and draw 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.	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 (£ and p) Tell and write the time for 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 appropriate vocabulary. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events

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Geometry: Properties of shape	• 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'. • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. • Combine shapes to make new ones – an arch, a bigger triangles 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.	• 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.	Recognise and name 2-D and 3-D shapes, including: 2-D shapes (e.g. rectangles (including squares), circles and triangles) 3-D shapes (e.g. Cuboids (including cubes), pyramids and spheres.	Recognise and name common 2-D and 3-D shapes, including: 2-D shapes (e.g. rectangles (including squares), circles and triangles) 3-D shapes (e.g. cuboids (including cubes), pyramids and spheres	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 two right angles make a half-turn, three make three quarters of a turn and four make a complete turn; identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs if perpendicular and parallel lines.
Geometry: Position & Direction	• 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'. •Begin to describe a sequence of events, real or fictional using words such as 'first, 'then'.	• Select rotate and manipulate shapes in order to develop spatial reasoning skills.	Describe position, directions and movements, including half, quarter and three quarter turns	Order and arrange combinations of mathematical objects in patterns 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 straight line	Recognise angles as a property of shape and as an amount of rotation Identify right angles, recognise that 2 right angles make half a turn and 4 make a whole turn. Identify angles that are greater than a right angle. (This section is not statutory as it is included within the properties of shape)
Statistics				Interpret and construct simple pictograms, tally charts, block diagrams and simple 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.	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.