



Progression of Skills in Mathematics



	3-4 years	EYFS	Year 1	Year 2	Year 3
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 objects 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 mathematical 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/one less than' relationship between consecutive numbers. Early Learning Goals Number - Have a deep understanding of number to 10, including the composition of each number. - Subitise (recognise quantities without counting) up to 5. - 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. Numerical Patterns - Verbally count beyond 20, recognising the pattern of the counting system. - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.	- 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 - given a number, identify one more and one less - identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more/greater than, less/fewer than, most, least and introduce <, > and = symbols. - read and write numbers from 1 to 20 in numerals and words.	- 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 the 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) - compare and order numbers up to 1000 - identify, represent and estimate numbers using different representations - read and write numbers up to 1000 in numerals and in words - solve number problems and practical problems involving these ideas.

Addition and Subtraction

	3-4 years	EYFS	Year 1	Year 2	Year 3
		• 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. • ELG – Explore and represent double facts.	• 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, and missing number problems such as $7 = ? - 9$.	• 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 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 • 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	• 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.

	3-4 years	EYFS	Year 1	Year 2	Year 3
Multiplication and Division		ELG – Explore and represent how quantities can be distributed equally.	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 & 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 ($\times$), division ($\div$) 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 the 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.

	3-4 years	EYFS	Year 1	Year 2	Year 3
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 $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity. • write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 • recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	• count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • recognise, find & 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 diagrams, equivalent fractions with small denominators • add & subtract fractions with the same denominator within one whole [eg $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$] • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above.

	3-4 years	EYFS	Year 1	Year 2	Year 3
	• Make comparisons between objects relating to size, length, weight and capacity. • Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then...’	• Compare length, weight and capacity.	• compare, describe and solve practical problems for: ➤ lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) ➤ mass or weight (e.g. heavy/light, heavier than, lighter than) ➤ capacity/volume (full/empty, more than, less than, quarter) ➤ time (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 such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening • recognise and use language relating to dates, including 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 a 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 past/to the hour and draw the hands on a clock face to show these times • know the number of minutes in an hour and hours in a day.	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • add and subtract amounts of money to give change, using both £ and p in practical contexts • tell and write the time from 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 vocabulary such as o’clock, a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks]. • measure the perimeter of simple 2-D shapes

		3 – 4 years	EYFS	Year 1	Year 2	Year 3
Geometry	Properties of Shape	Properties of shapes: • 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 triangle etc • Talk about and identify 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 patterns ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern.	Properties of shapes: • Select, rotate and manipulate shapes in order to develop spatial reasoning skills. • 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.	Properties of shapes: • 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).	Properties of shapes: • 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 • identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid • compare and sort common 2-D and 3-D shapes and everyday objects.	Properties of shapes: • 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. • identify right angles, identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
	Position and 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’.		• describe position, directions and movements, including half, quarter and three quarter turns.	• order and arrange combinations of mathematical objects in patterns and sequences. • use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti- clockwise)	• Recognise angles as a description of a turn • Recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn.

	3-4 years	EYFS	Year 1	Year 2	Year 3
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, pictograms and tables.