

Maths Progression Framework

Number and Place Value

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-Identify and represent all numbers to 20 -subitise to 10 -identify 1 more, 1 less -partition numbers to 10 -count beyond 20	-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 one more and one less than a given number -Identify and represent numbers using objects and	-Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and 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	-Count from 0 in multiples of 4, 8, 50 and 100; -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	-Count in multiples of 6, 7, 9, 25 and 1000 -Find 1000 more or less than a given number -Count backwards through zero to include negative numbers -Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) -Order and compare numbers beyond 1000	-Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit -Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 -Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers,	-Read, write, order and compare numbers up to 10,000 000 and determine the value of each digit -Round any whole number to a required degree of accuracy -Use negative numbers in context, and calculate intervals across zero -Solve number and practical problems that involve all of the above.

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	pictorial representations including the number line - 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.	using <, > and = signs -Read and write numbers to at least 100 in numerals and in words -Use place value and number facts to solve problems	and in words -Solve number problems and practical problems involving these ideas. -Find 10 or 100 more or less than a given number	-Identify, represent and estimate numbers using different representations round any number to the nearest 10, 100 or 1000 -Solve number and practical problems that involve all of the above and with increasingly large positive numbers -Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	including through zero -Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 -Solve number problems and practical problems that involve all of the above -Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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Addition and Subtraction

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-add numbers to 20 -subtract numbers to 20 -represent and use number bonds and related subtraction facts to 10	-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,	-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 -Solve 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	-Add and subtract numbers with up to 4 digits using the formal written methods of column addition and subtraction where appropriate -Estimate and use inverse operations to check answers to a calculation -Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	-Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) -Add and subtract numbers mentally with increasingly large numbers -Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy -Solve addition and subtraction	Perform mental calculations, including with mixed operations and large numbers Use their knowledge of the order of operations to carry out calculations involving the four operations -Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	using concrete objects and pictorial representations, and missing number problems such as $7 = - + 9$.	with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures -apply increasing knowledge of mental and written methods -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 solve missing	operations to check answers -Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.		multi-step problems in contexts, deciding which operations and methods to use and why.	

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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		number problems.				
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Multiplication and Division

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-make doubles to 10 -explore sharing and grouping -share using even and odd	-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 ($\times$), division ($\div$) and equals (=) signs	-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	-Recall multiplication and division facts for multiplication tables up to 12×12 -Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1 and multiplying together three numbers -Recognise and use factor pairs and	-Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers -Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers -Establish whether a number up to 100 is prime and recall prime numbers up to 19	-Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication -Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by

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		-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.	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.	commutativity in mental calculations -Multiply two-digit and three-digit numbers by a one-digit number using formal written layout -Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	-Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers -Multiply and divide numbers mentally drawing upon known facts -Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context -Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	rounding, as appropriate for the context -Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context -Perform mental calculations, including with mixed operations and large numbers identify common factors, common multiples and prime numbers -Use their knowledge of the order of operations to carry out

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						calculations involving the four operations

Fractions

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	-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 $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$ of a length, shape, set of objects or quantity -Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and 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 and write fractions of a discrete set of objects including unit fractions and non-unit fractions with small denominators -Recognise and	-Recognise and show, using diagrams, families of common equivalent fractions -Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. -Solve problems involving increasingly harder fractions	-Compare and order fractions whose denominators are all multiples of the same number -Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths -Recognise mixed numbers and improper fractions and convert from one form to the other	-Use common factors to simplify fractions; -use common multiples to express fractions in the same denomination -Compare and order fractions, including fractions > 1 -Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

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			use fractions as numbers -Recognise and show, using diagrams, equivalent fractions with small denominators -Add and subtract fractions with the same denominator within one whole (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$) -Compare and order unit fractions, and fractions with the same denominators -Solve problems that involve all of the above.	to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number -Add and subtract fractions with the same denominator -Recognise and write decimal equivalents of any number of tenths or hundredths -Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ -Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as	and write mathematical statements > 1 as a mixed number -Add and subtract fractions with the same denominator and denominators that are multiples of the same number -Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams -Read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$] -Recognise and use thousandths and relate them to tenths, hundredths and	-Multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$] -Divide proper fractions by whole numbers [for example, $\frac{1}{3}$ divided by 2 = $\frac{1}{6}$] -Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$] -Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				ones, tenths and hundredths -Round decimals with one decimal place to the nearest whole number -Compare numbers with the same number of decimal places up to two decimal places -Solve simple measure and money problems involving fractions and decimals to two decimal places.	decimal equivalents -Round decimals with two decimal places to the nearest whole number and to one decimal place -Read, write, order and compare numbers with up to three decimal places -Solve problems involving number up to three decimal places -Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal	by 10, 100 and 1000 giving answers up to three decimal places

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					-Solve problems which require knowing percentage and decimal equivalents and those fractions with a denominator of a multiple of 10 or 25.	

Measurement: Length, Mass, Weight and Capacity

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-compare mass and capacity -find a balance -compare length and height	-Measure and begin to record lengths and heights -Compare, describe and solve practical problems for lengths and heights (long/short,	-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	-Measure, compare, add and subtract; lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) -Measure the perimeter of simple 2-D shapes	-Convert between different units of measure [for example, kilometre to metre; hour to minute] -Estimate, compare and calculate different measures.	-Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	-Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate -Use, read, write

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	longer/shorter, tall/short, double/half) -Introduce weight and mass -Measure mass and compare mass -Introduce capacity, measure capacity & compare capacity (for example, full/empty, more than, less than, half, half full, quarter)	nearest appropriate unit, using rulers, scales, thermometers and measuring vessels -Compare and order lengths, mass, volume/capacity and record the results using >, < and =		-Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres -Find the area of rectilinear shapes by counting squares	-Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints -Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres -Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes	and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places -Convert between miles and kilometres -Recognise that shapes with the same areas can have different perimeters and vice versa -Recognise when it is possible to use formulae for area and volume of shapes -Calculate the area of parallelograms

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					-Estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water] -Solve problems involving converting between units of time -Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling	and triangles calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]

Measurement: Money

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
/	-Recognise coins	-Recognise and	-Add and subtract	-Estimate,	-Use all four	Use all four

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	-Recognise notes -Count in coins	- 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	amounts of money to give change, using both £ and p in practical contexts	compare and calculate money in pounds and pence	operations in problems involving money including conversions	operations in problems involving money including conversion

Measurement: Time

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-order and sequence time	- Sequence events in	-Compare and sequence	-Tell and write the time from an	-Read, write and convert time	-Use all four operations in	Solve problems involving different

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. -use language relating to dates -tell the time to the hour and half hour - draw hands on clock face -Measure and begin to record time (hours, minutes, seconds)	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 the number of hours in a day.	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	between analogue and digital 12- and 24-hour clocks -Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	problems involving time including conversions for example days-weeks.	measures of time and converting different units of time.

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			-Compare durations of events [for example to calculate the time taken by particular events or tasks].			

Geometry: Properties of Shapes

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-identify circles and triangles -identify 4-sided shapes -recognise and name 3D shapes -find 2D shapes within 3D shapes -	-Recognise and name 2D shapes eg.rectangles (including squares), circles and triangles) -Sort 2D shapes -Recognise and name 3D shapes eg cuboids (including cubes), pyramids and spheres	-Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line -Identify and describe the properties of 3-D shapes, including the number of edges, vertices	-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	-Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes -Identify acute and obtuse angles and compare and	-Identify 3-D shapes, including cubes and other cuboids, from 2-D representations -Use the properties of rectangles to deduce related facts and find missing lengths and angles	-Draw 2-D shapes using given dimensions and angles -Recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	-Sort 3D shapes -Find and make patterns with 2D and 3D shapes	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.	description of a turn -Identify right angles, -Identify whether angles are greater than or less than a right angle	order angles up to two right angles by size -Identify lines of symmetry in 2-D shapes presented in different orientations -Complete a simple symmetric figure with respect to a specific line of symmetry.	-Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. -Know angles are measured in degrees -Estimate and compare acute, obtuse and reflex angles -Draw given angles, and measure them in degrees (o) -Identify: -angles at a point and one whole turn (total 360o) -angles at a point on a straight line and 2 1 a turn (total 180o) -other multiples of 90o	unknown angles in any triangles, quadrilaterals, and regular polygons -Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius -Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

Geometry: Position and Direction

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
-I can describe positions -I can visualise from different positions	-Describe position, direction and movement, including whole, 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 , a turn and in terms of right angles for quarter, half and three-quarter	-Recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; -Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	-Describe positions on a 2-D grid as coordinates in the first quadrant -Describe movements between positions as translations of a given unit to the left/right and up/down -Plot specified points and draw sides to complete a given polygon.	-Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language and know that the shape has not changed.	-Describe positions on the full coordinate grid (all four quadrants) -Draw and translate simple shapes on the coordinate plane, and reflect them in the axes

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		turns (clockwise and anti-clockwise).				

Statistics

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
/	/	-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.	-Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. -Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	-Solve comparison, sum and difference problems using information presented in a line graph -Complete, read and interpret information in tables, including timetables	/

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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Ratio and Proportion

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
/	/	/	/	/	/	-Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts -Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison -Solve problems involving similar

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						shapes where the scale factor is known or can be found -Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Algebra

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
/	/	/	/	/	/	-Use simple formulae. Generate and describe linear number sequences. -Express missing number problems algebraically.

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						-Find pairs of numbers that satisfy an equation with two unknowns. -Enumerate possibilities of combinations of two variables