

Year 1 Maths curriculum overview

<u>Number and place value</u>	<u>Addition and subtraction</u>	<u>Multiplication and division</u>	<u>Fractions</u>	<u>Measurement</u>	<u>Geometry – shape</u>	<u>Geometry – position and direction</u>
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	Read and write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	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	Recognise, find and name a half as one of two equal parts of an object, shape or quantity	Compare, describe and solve practical problems for lengths and heights, mass/weight, capacity and volume time	Recognise and name common 2-D and 3-D shapes, including: <i>2-D shapes (rectangles (including squares), circles and triangles)</i> <i>3-D shapes (cuboids (including cubes), pyramids and spheres)</i>	Describe position, direction and movement, including whole, half, quarter and three-quarter turns
Count, read and write numbers to 100 in numerals count in multiples of twos, fives and tens	Represent and use number bonds and related subtraction facts within 20		Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	Measure and begin to record <i>lengths and heights, mass/weight, capacity and volume, time</i>		
Given a number, identify one more or one less	Add and subtract one-digit and two-digit numbers to 20, including zero			Recognise and know the value of different denominations of coins and notes		
Identify and represent numbers using objects and pictorial representations	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems			Sequence events in chronological order		
Read and write numbers from 1 to 20 in numerals and words				Recognise and use language relating to dates		
				Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times		

Year 2 Maths curriculum overview - Number

<u>Number and place value</u>	<u>Addition and subtraction</u>	<u>Multiplication and division</u>	<u>Fractions</u>
Count in steps of 2, 3 and 5 from 0, and in tens from any numbers, forward and backwards	Solve problems with addition and subtraction using concrete objects and pictorial representations	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity
Recognise the place value of each digit in a two-digit number (tens, ones)	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	Calculate mathematical statements for multiplication and division within the multiplication tables and write them	Write simple fractions for example $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$
Identify, represent and estimate numbers using different representations, including the number line	Add and subtract numbers using concrete objects, pictorial representations, and mentally	Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	
Compare and order numbers from 0 up to 100; use <, > and = signs	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts	
Read and write numbers to at least 100 in numerals and words	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems		
Use place value and number facts to solve problems			

Year 2 Maths curriculum overview – Shape, Measure, Data

<u>Measurement</u>	<u>Geometry – shape</u>	<u>Geometry – position and direction</u>	<u>Statistics</u>
Choose and use appropriate standard units to estimate and measure length/height, mass, temperature, capacity	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	Order and arrange combinations of mathematical objects in patterns and sequences	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
Compare and order lengths, mass, volume/capacity and record the results using >, < and =	Identify and describe the properties of 3-D shapes, including number of edges, vertices and faces	Use mathematical vocabulary to describe position, direction and movement	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]		Ask and answer questions about totalling and comparing categorical data.
Find different combinations of coins that equal the same amounts of money	Compare and sort common 2-D and 3-D shapes and everyday objects.		
Solve simple problems in a practical context involving addition and subtractions of money of the same unit, including giving change			
Compare and sequence intervals of time			
Tell and write the time to five minutes			
Know the number of minutes in an hour and the number of hours in a day.			

Year 3 Maths curriculum overview - Number

<u>Number and place value</u>	<u>Addition and subtraction</u>	<u>Multiplication and division</u>	<u>Fractions</u>
Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Add and subtract numbers mentally	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	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 the place value of each digit in a three-digit number (hundreds, tens, ones)	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Write and calculate mathematical statements for multiplication and division using the multiplication tables they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
Compare and order numbers up to 1000	Estimate the answer to a calculation and use inverse operations to check answers	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.	Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
Identify, represent and estimate numbers using different representations	Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction		Recognise and show, using diagrams, equivalent fractions with small denominators
Read and write numbers up to 1000 in numerals and words			Add and subtract fractions with the same denominator within one whole
Solve number problems and practical problems involving these ideas			Compare and order unit fractions, and fractions with the same denominators
			Solve problems that involve all of the above

Year 3 Maths curriculum overview – Shape, Measure, Data

<u>Measurement</u>	<u>Geometry – shape</u>	<u>Statistics</u>
Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.	Interpret and present data using bar charts, pictograms and tables
Measure the perimeter of simple 2-D shapes	Recognise angles as a property of shape or description of a turn	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.
Add and subtract amounts of money to give change, using both £ and p in practical contexts	Identify right-angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	
Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	
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, am/pm, 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].		

Year 4 Maths curriculum overview - Number

Number and place value	Addition and subtraction	Multiplication and division	Fractions
Count in multiples of 6, 7, 9, 25 and 1000	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	Recall multiplication and division facts for multiplication tables up to 12×12	Recognise and show, using diagrams, families of common equivalent fractions.
Find 1000 more or less than a given number	Estimate and use inverse operations to check answers to a calculation	Use place value, known and derived facts to multiply and divide mentally	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
Count backwards through zero to include negative numbers	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Recognise and use factor pairs and commutativity in mental calculations.	Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones)		Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	Add and subtract fractions with the same denominator
Order and compare numbers beyond 1000		Solve problems involving multiplying and adding.	Recognise and write decimal equivalents of any number of tenths or hundredths
Identify, represent and estimate numbers using different representations		<i>HTO/O with symbols</i> <i>HTO/O using skip counting</i> <i>HTO/O with remainders</i>	Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
Round any number to the nearest 10, 100 or 1000			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 ones, tenths and hundredths
Solve number and practical problems that involve all of the above and with increasingly large positive numbers			Round decimals with one decimal place to the nearest whole number
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.			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.

Year 4 Maths curriculum overview – Shape, Measure, Data

Measurement	<u>Geometry – properties of shapes</u>	<u>Geometry – position and direction</u>	<u>Statistics</u>
Convert between different units of measure [for example, kilometre to metre; hour to minute]	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Describe properties on a 2-D grid as co-ordinates in the first quadrant	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
Measure and calculate the perimeter of rectilinear figure (including squares) in centimetres and metres	Identify acute and obtuse angles and compare and order angles up to two right angles by size	Describe movements between positions and translations of a given unit to the left/right and up/down	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
Find the area of rectilinear shapes by counting squares	Identify lines of symmetry in 2-D shapes presented in different orientations.	Plot specified points and draw sides to complete a given polygon	
Estimate, compare and calculate different measures, including money in pounds and pence	Complete a simple symmetric figure with respect to a specific line of symmetry.		
Read, write and convert time 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 day.			

Year 5 Maths curriculum overview - Number

Number and place value	Addition and subtraction	Multiplication and division	Fractions
Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	Add and subtract whole numbers with more than 4 digits, including using formal written methods	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	Compare and order fractions whose denominators are all multiples of the same number
Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Add and subtract numbers mentally with increasingly large numbers	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	Identify, name and write equivalent fractions of a given fraction
Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	Use rounding to check answers to calculations and determine, in the context of a problem, level of accuracy	Establish whether a number up to 100 is prime and recall prime numbers up to 19	Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number
Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	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	Add and subtract fractions with the same denominator and denominators that are multiples of the same number
Solve number problems and practical problems that involve all of the above		Multiply and divide numbers mentally drawing upon known facts	Multiply proper fractions and mixed numbers by whole numbers
Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.		Divide numbers up to 4 digits by a one-digit number using the formal written method of short division	Read and write decimal numbers as fractions [for example, $0.71 = 71/100$]
		Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
		Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	Round decimals with two decimal places to the nearest whole number and to one decimal place
		Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	Read, write, order and compare numbers with up to three decimal places
		Solve problems involving addition, subtraction, multiplication and division	Solve problems involving number up to three decimal places
		Solve problems involving multiplication and division, including scaling by simple fractions and involving simple rates.	Recognise the per cent symbol (%) and write percentages as a fraction with denominator 100, and as a decimal
			Solve problems which require knowing percentage & decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and fractions with a denominator of a multiple of 10 or 25.

Year 5 Maths curriculum overview – Shape, Measure, Data

<u>Measurement</u>	<u>Geometry – properties of shapes</u>	<u>Geometry – position and direction</u>	<u>Statistics</u>
Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	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.	Solve comparison, sum and difference problems using information presented in a line graph
Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds, and pints	Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles		Complete, read and interpret information in tables, including timetables.
Measure and calculate the perimeter of composite rectilinear shapes and centimetres and metres	Draw given angles, and measure them in degrees ($^{\circ}$)		
Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	Identify: <ul style="list-style-type: none"> Angles at a point and one whole turn (total 360°) Angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°) Other multiples of 90° 		
Estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]	Use the properties of rectangles to deduce related facts and find missing lengths and angles.		
Solve problems involving converting between units of time	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.		
Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.			

Year 6 Maths curriculum overview – Number

Number and place value	Addition, subtraction, multiplication and division	Fractions (including decimals and percentages)	Ratio and proportion	Algebra
Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using long multiplication	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Solve problems involving the relative sizes of two quantities	Use simple formulae
Round any whole number to a required degree of accuracy	Divide numbers up to 4 digits by a two-digit whole number	Compare and order fractions, including fractions > 1	Solve problems involving the calculation of percentages	Generate and describe linear number sequences
Use negative numbers in context, and calculate intervals across zero	Divide numbers up to 4 digits by a two-digit number using the formal written method	Add and subtract fractions with different denominators and mixed numbers	Solve problems involving similar shapes	Express missing number problems algebraically
Solve number and practical problems that involve all of the above.	Perform mental calculations, including with mixed operations and large numbers	Multiply simple pairs of proper fractions, writing the answer in its simplest form	Solve problems involving unequal sharing and grouping using knowledge of fractions & multiples.	Find pairs of numbers that satisfy an equation with two unknowns
	Identify common factors, common multiples and prime numbers	Divide proper fractions by whole numbers [for example, one third $\div 2 =$ one sixth]		Enumerate possibilities of combinations of two variables.
	Use their knowledge of the order of operations to carry out calculations	Associate a fraction with division and calculate decimal fraction equivalents		
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Identify the value of each digit in numbers to three decimal places and multiply and divide numbers by 10, 100 and 1000		
	Solve problems involving addition, subtraction, multiplication and division	Multiply one-digit numbers with up to two decimal places by whole numbers		
	Use estimation to check answers to calculations	Use written division methods in cases where the answer has up to two decimal places		
		Solve problems which require answers to be rounded		
		Recall and use equivalences between simple fractions, decimals and percentages,		

Year 6 Maths curriculum overview – Shape, Measure, Data

Measurement	<u>Geometry – properties of shapes</u>	<u>Geometry – position and direction</u>	<u>Statistics</u>
Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	Draw 2-D shapes using given dimensions and angles	Describe positions on the full coordinate grid (all four quadrants)	Interpret and construct pie charts and line graphs and use these to solve problems
Use, read, write 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	Recognise, describe and build simple 3-D shapes, including making nets	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	Calculate and interpret the mean as an average.
Convert between miles and kilometres	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons		
Recognise that shapes with the same areas can have different perimeters and vice versa	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius		
Recognise when it is possible to use formulae for area and volume of shapes	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.		
Calculate the area of parallelograms and triangles			
Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units [for example, mm ³ and km ³].			