

Progression in Maths - Number and Place Value

Year 1	<ul style="list-style-type: none"> to count to and across 100, forwards and backwards in ones, twos, fives and tens to read and write numbers from 1-20 in numerals and words
Year 2	<ul style="list-style-type: none"> to count in steps of 2, 3, and 5 from 0, and count in tens from any number forward or backward to recognise the place value of each digit in a two-digit number to compare and order numbers from 0 to 100; use <, > and = signs to read and write numbers to at least 100 in numerals and in words
Year 3	<ul style="list-style-type: none"> to count from 0 in multiples of 4, 8, 50 and 100; to recognise the place value of each digit in a three-digit number (hundreds, tens, ones) to compare and order numbers up to 1000 to read and write numbers to at least 1000 in numerals and in words
Year 4	<ul style="list-style-type: none"> to count in multiples of 6, 7, 9, 25 and 1000 to count backwards through zero to include negative numbers to recognise the place value of each digit in a four-digit number to order and compare numbers beyond 1000 to round any number to the nearest 10, 100 or 1000 to read Roman numerals to 100 (I to C) and know how, over time, the numeral system changed to include the concept of zero and place value.
Year 5	<ul style="list-style-type: none"> to read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit to count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 to interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero to round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 to read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
Year 6	<ul style="list-style-type: none"> to read, write, order and compare numbers up to 10 000 000 and determine the value of each digit to round any whole number to a required degree of accuracy to use negative numbers in context, and calculate intervals across zero

Progression in Maths - Addition and subtraction

Year 1	<ul style="list-style-type: none"> to read, write and interpret mathematical statements involving addition (+), subtraction(-) and equals (=) signs within 20 including problem solving
Year 2	<ul style="list-style-type: none"> to recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 to add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> - a two-digit number and ones - a two-digit number and tens - two two-digit numbers - adding three one digit numbers to solve problems with addition and subtraction
Year 3	<ul style="list-style-type: none"> to add and subtract numbers mentally and using formal written methods, including: <ul style="list-style-type: none"> - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds to solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.
Year 4	<ul style="list-style-type: none"> to add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate including two-step problems
Year 5	<ul style="list-style-type: none"> to add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) to add and subtract numbers mentally with increasingly large numbers to use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy to solve addition and subtraction multi-step problems
Year 6	<ul style="list-style-type: none"> to perform mental calculations, including with mixed operations and large numbers to use their knowledge of the order of operations to carry out calculations involving the four operations to solve addition and subtraction multi-step problems

Progression in Maths - Multiplication and division

Year 1	<ul style="list-style-type: none"> to solve simple one-step problems involving multiplication and division, calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.
Year 2	<ul style="list-style-type: none"> to recall and use multiplication and division facts for the 2, 5, and 10 multiplication tables, including recognising odd and even numbers to calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (\div) and the equals (=) sign including problem solving
Year 3	<ul style="list-style-type: none"> to recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables to write and calculate mathematical statements for multiplication and division, including problem solving using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
Year 4	<ul style="list-style-type: none"> to recall multiplication and division facts for multiplication tables up to 12×12 including problem solving to use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers to multiply two-digit and three-digit numbers by a one-digit number using formal written layout
Year 5	<ul style="list-style-type: none"> to identify square numbers, prime numbers, multiples, factors and common factors of two numbers to solve problems involving multiplication and division where larger numbers are used by decomposing them into their factors to 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 to multiply and divide numbers mentally drawing upon known facts to 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 to multiply and divide whole numbers and those involving decimals by 10 to solve problems involving multiplication and division and a combination of these, including understanding the meaning of the equals sign
Year 6	<ul style="list-style-type: none"> to multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication to 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 rounding, as appropriate for the context to perform mental calculations, including with mixed operations and large numbers to identify common factors, common multiples and prime numbers to 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

Progression in Maths - Fractions (including decimals and percentages)

Year 1	<ul style="list-style-type: none"> to recognise , find and name a half as one of two equal parts of an object, shape or quantity to recognise, find and name a quarter as one of four equal parts of an object, shape or quantity
Year 2	<ul style="list-style-type: none"> to 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 to write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of two quarters and one half
Year 3	<ul style="list-style-type: none"> to 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 to recognise, find and write fractions of a discrete set of objects to recognise and show, using diagrams, equivalent fractions with small denominators to add and subtract fractions with the same denominator within one whole to compare and order unit fractions with the same denominator to solve problems that involve all of the above
Year 4	<ul style="list-style-type: none"> to recognize and show using diagrams , families of common equivalent fractions to count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten to solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities to add and subtract fractions with the same denominator. to recognise and write decimal equivalents of any number of tenths or hundredths to recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ to 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 units, tenths and hundredths to round decimals with one decimal place to the nearest whole number to compare numbers with the same number of decimal places up to two decimal places to solve simple measure and money problems involving fractions and decimals to two decimal places.
Year 5	<ul style="list-style-type: none"> to compare and order fractions whose denominators are all multiples of the same number to identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths to recognise mixed numbers and improper fractions and convert from one form to the other to add and subtract fractions with the same denominator and multiples of the same number to multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. to read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$) to recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents to round decimals with two decimal places to the nearest whole number and to one decimal place to read, write, order and compare numbers with up to three decimal places to solve problems involving number up to three decimal places. to 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 hundred, and as a decimal fraction to solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those with a denominator of a multiple of 10 or 25.
Year 6	<ul style="list-style-type: none"> to use common factors to simplify fractions; use common multiples to express fractions in the same denomination



- to compare and order fractions, including fractions >1
- to add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
- to multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)
- to divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$).
- to associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)
- to identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
- to multiply one-digit numbers with up to two decimal places by whole numbers
- to use written division methods in cases where the answer has up to two decimal places
- to solve problems which require answers to be rounded to specified degrees of accuracy.
- to recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Progression in Maths - Ratio and Proportion

Year 6	<ul style="list-style-type: none"> • to solve problems involving the relative sizes of two quantities where missing values can be found using integer multiplication and division facts • to solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360 and the use of percentages for comparison • to solve problems involving similar shapes where the scale factor is known or can be found • to solve problems involving unequal sharing and grouping using knowledge of fractions and multiples • to enumerate all possibilities of combinations of two variables
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Progression in Maths - Algebra

Year 6	<ul style="list-style-type: none"> • to use simple formulae • to generate and describe linear number sequences • to express missing number problems algebraically • to find pairs of numbers that satisfy an equation with two unknowns • to enumerate possibilities of combinations of two variables.
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Progression in Maths - Statistics

Year 2	<ul style="list-style-type: none"> • to interpret and construct simple pictograms, tally charts, block diagrams and simple tables • to ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • to ask and answer questions about totaling and compare categorical data.
Year 3	<ul style="list-style-type: none"> • to interpret and present data using bar charts, pictograms and tables • to solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables.
Year 4	<ul style="list-style-type: none"> • to interpret and present discrete data using bar charts and continuous data using bar charts and time graphs • to solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
Year 5	<ul style="list-style-type: none"> • to solve comparison, sum and difference problems using information presented in a line graph • to complete, read and interpret information in tables, including timetables.
Year 6	<ul style="list-style-type: none"> • to interpret and construct pie charts and line graphs and use these to solve problems • to calculate and interpret the mean as an average.

Progression in Maths - Measures

Year 1	<ul style="list-style-type: none"> • to compare, describe, and solve practical problems for: <ul style="list-style-type: none"> - lengths and heights - mass or weight - capacity/volume - time • to measure and begin to record the following: <ul style="list-style-type: none"> - lengths and heights - mass or weight - capacity/volume - time • to recognise and know the value of different denominations of coins and notes • to sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening • to tell the time to the hour and half past the hour
Year 2	<ul style="list-style-type: none"> • to choose and use appropriate standard units to estimate and measure: <ul style="list-style-type: none"> - length/height in any direction (m/cm); - mass (kg/g); - temperature (°C); - capacity (litres/ml) to the nearest appropriate unit, using: <ul style="list-style-type: none"> - rulers, - scales, - thermometers - measuring vessels • to compare and order lengths, mass, volume/capacity and record the results using >, < and = • to recognise and use symbols for pounds (£) and pence (p); • to find different combinations of coins that equal the same value • to solve simple problems in a practical context involving addition and subtraction of money • to compare and sequence intervals of time • to 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. • to know the number of minutes in an hour and the number of hours in a day
Year 3	<ul style="list-style-type: none"> • to measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • to measure the perimeter of simple 2-D shapes • to add and subtract amounts of money to give change, using both £ and p in practical contexts • to tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • to estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight • to know the number of seconds in a minute and the number of days in each month, year and leap year • to compare durations of events, for example to calculate the time taken by particular events or tasks.
Year 4	<ul style="list-style-type: none"> • to convert between different units of measure (e.g. kilometre to metre; hour to minute) • to measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • to find the area of rectilinear shapes by counting squares

	<ul style="list-style-type: none"> • to estimate, compare and calculate different measures, including money in pounds and pence • to read, write and convert time between analogue and digital 12 and 24-hour clocks • to solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.
Year 5	<ul style="list-style-type: none"> • to convert between different units of measure (e.g. kilometre and metre; metre and centimetre; centimetre and millimetre; kilogram and gram; litre and millilitre) • to understand and use equivalences between metric and common imperial units such as inches, pounds and pints • to measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • to calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes • to estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water) • to solve problems involving converting between units of time • to use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling
Year 6	<ul style="list-style-type: none"> • to solve problems involving the calculation and conversion of units of measure, using decimal notation to three decimal places where appropriate • to 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 three decimal places • to convert between miles and kilometres • to recognise that shapes with the same areas can have different perimeters and vice versa • to recognize when it is possible to use formulae for area and volume of shapes • to calculate the area of parallelograms and triangles • to calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm³) and cubic metres (m³) and extending to other units, such as mm³ and km³.

Progression in Maths - Geometry: Properties of shape

Year 1	<ul style="list-style-type: none"> to recognise and name common 2-D and 3-D shapes, e.g.: <ul style="list-style-type: none"> - rectangles (including squares), circles and triangles - cuboids (including cubes), pyramids and spheres
Year 2	<ul style="list-style-type: none"> to identify and describe the properties of 2-D shapes to identify and describe the properties of 3-D shapes
Year 3	<ul style="list-style-type: none"> to draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations; and describe them to recognise angles as a property of shape or a description of a turn to 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 to identify horizontal, vertical, perpendicular and parallel lines in relation to other lines.
Year 4	<ul style="list-style-type: none"> to compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes to identify acute and obtuse angles and compare and order angles up to two right angles by size to identify lines of symmetry in 2-D shapes presented in different orientations to complete a simple symmetric figure with respect to a specific line of symmetry.
Year 5	<ul style="list-style-type: none"> to identify 3-D shapes, including cubes and cuboids, from 2-D representations to know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles to draw given angles, and measure them in degrees ($^{\circ}$) to 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° use the properties of rectangles to deduce related facts and find missing lengths and angles to distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
Year 6	<ul style="list-style-type: none"> to draw 2-D shapes given dimensions and angles to recognise, describe and build simple 3-D shapes, including making nets to compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles to illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius to recognize angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

Progression in Maths - Geometry: Position and direction

Year 1	<ul style="list-style-type: none"> to describe position, directions and movements , including half, quarter and three-quarter turns
Year 2	<ul style="list-style-type: none"> to 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 a straight line.
Year 3	<ul style="list-style-type: none"> to recognise angles as a property of shape or a description of a turn to 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
Year 4	<ul style="list-style-type: none"> to describe positions on a 2-D grid as coordinates in the first quadrant to describe movements between positions as translations of a given unit to the left/right and up/down to plot specified points and draw sides to complete a given polygon.
Year 5	<ul style="list-style-type: none"> to 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.
Year 6	<ul style="list-style-type: none"> to describe positions on the full coordinate grid (all four quadrants) to draw and translate simple shapes on the coordinate plane, and reflect them in the axes.