

Maths Overview: Year 6

Number and Place Value	-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.
Vocabulary	Numbers to 10 million
Algebra	-Use simple formulae -Generate and describe linear number sequences -Express missing number problems algebraically -Find pairs of numbers that satisfy an equation with two unknowns - Enumerate possibilities of combinations of two variables.
Vocabulary	Linear number, sequence, substitute, variables, symbol, known value
Calculations	-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 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 calculations involving the four operations -Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why -Solve problems involving addition, subtraction, multiplication and division -Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
Vocabulary	Order of operation, common factors, common multiples
Fractions, decimals and percentages	-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 -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, $\frac{1}{3} \div 2 = \frac{1}{6}$] -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 by 10, 100 and 1000 giving answers up to three decimal places -Solve problems involving number up to three decimal places

	-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 fractions with a denominator of a multiple of 10 or 25. -Multiply one-digit numbers with up to two decimal places by whole numbers -Use written division methods in cases where the answer has up to two decimal places -Solve problems which require answers to be rounded to specified degrees of accuracy -Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
Vocabulary	Degree of accuracy, simplify
Measurement	-Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate -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 -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 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].
Vocabulary	Decimal, area, parallelogram, estimate, volume, convert
Geometry – Properties of Shape	-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 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.
Vocabulary	Vertically, opposite angles, circumference, radius, diameter
Ratio and proportion	-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 shapes where the scale factor is known or can be found -Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
Vocabulary	Ratio, proportion, scale, relative size, comparison
Geometry – Position and Direction	-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.

Vocabulary	4 quadrants, plane, reflect, axes
Statistics	-Interpret and construct pie charts and line graphs and use these to solve problems -Calculate and interpret the mean as an average.
Vocabulary	Mean, range, pie chart, construct