

Maths National Curriculum Objectives Key Stages 1&2

Year 6		
Place Value	Addition and subtraction Multiplication and division	Fractions
- 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 0 - solve number and practical problems that involve all of the above	- 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 4 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	- 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, $[\text{Fraction:}1/4] \times [\text{Fraction:}1/2] = [\text{Fraction:}1/8]$] - divide proper fractions by whole numbers [for example, $[\text{Fraction:}1/3] \div 2 = [\text{Fraction:}1/6]$] - associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $[\text{Fraction:}3/8]$] - identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places - multiply one-digit numbers with up to 2 decimal places by whole numbers - use written division methods in cases where the answer has up to 2 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

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Geometry-position and direction	Geometry-property of shapes		Measurement
- describe positions on the full coordinate grid (all 4 quadrants) - draw and translate simple shapes on the coordinate plane, and reflect them in the axes	- 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		- solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 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 up to 3 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] - 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]
Statistics	Algebra	Ratio and proportion	
- interpret and construct pie charts and line graphs and use these to solve problems - calculate and interpret the mean as an average	- use simple formulae - generate and describe linear number sequences - express missing number problems algebraically - find pairs of numbers that satisfy an equation with 2 unknowns - enumerate possibilities of combinations of 2 variables	- solve problems involving the relative sizes of 2 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	