Year 6   Mathematics Curriculum Overview

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately

- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

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Autumn Term

Topic	Skills
Number - Number and place value	• Read and write seven-digit numbers • Identify the value of each digit in a seven-digit number • Use the value of the digits to compare and order numbers • Round any whole number to the required degree of accuracy
Number - Addition and subtraction	• Add a multiple of 10, 100 or 1000, 10 000, 100 000 from a six- or seven-digit number • Subtract a multiple of 10, 100 or 1000, 10 000, 100 000 from an even six- or seven-digit number • Add and subtract decimals with both one or two decimal places • Add and subtract decimals a combination of one or two decimal places
Geometry - Properties of shape	• Recognise, describe and build simple 3-D shapes • Use knowledge of the properties of cubes to identify and draw different nets of cubes • Use knowledge of the properties of cubes and cuboids to construct nets of a cube and a cuboid • Construct the nets of a tetrahedron, an octahedron and a square-based pyramid
Number - Multiplication and division	• Make a reasonable estimate of the answer to a calculation and use this to check the answer • Use a written method to calculate multiplication of ThHTO x O • Use a written method to calculate multiplication of TO xTO
Number - Fractions	• Recognise common factors and common multiples • Simplify fractions by cancelling common factors • Identify and create equivalent fractions • Order a set of fractions by converting them to fractions with a common denominator • Add and subtract fractions with different denominators and mixed numbers
Geometry- Position and direction	• Use coordinates to describe the positions of shapes in all four quadrants • Plot and label rectangles, squares, parallelograms and rhombuses in all four quadrants • Use the properties of shapes to predict missing coordinates • Translate shapes into all four quadrants using coordinates • Use the properties of shapes to predict missing coordinates • Use coordinates to reflect shapes in the axes into all four quadrants
Number - Addition and subtraction	• Add six- seven-digit numbers using the formal written method of columnar addition • Subtract six- seven-digit numbers using the formal written method of columnar subtraction

Year 6 Mathematics Curriculum Overview

	• Add numbers with up to two decimal places using the formal written method of columnar addition • Subtract numbers with up to two decimal places using the formal written method of columnar subtraction • Estimate and check the answer to a calculation
Number - Decimals	• Identify the value of each digit in numbers with three decimal places • Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • Multiply decimals by whole numbers, using and applying known multiplication tables, and in the context of measures and money • Solve problems which require the answer to be rounded to specified degrees of accuracy
Measurement - Length	• Convert from one unit of length to another, using decimal notation up to three decimal places where appropriate • Calculate and convert between standard units of length to solve problems • Convert and make approximate conversions between miles and kilometres • Interpret a miles to kilometres graph
Number - Multiplication and division	• Identify common factors and common multiples • Make a reasonable estimate of the answer to a calculation and use this to check the answer • Use the formal method of short division to calculate ThHTO ÷ 0, ThHTO ÷ 11 and ThHTO ÷ 12 • Express a remainder in a division calculation as a whole number, a fraction or a decimal • Determine whether to round up or down a remainder in a division calculation according to the context
Number – Fractions (including decimals and percentages)	• Associate a fraction with division • Calculate decimal fraction equivalents • Recall equivalences between simple fractions, decimals and percentages • Solve problems involving the calculation of percentages
Measurement (time)	• Convert from smaller to larger standard units of time and vice versa • Calculate and convert between standard units of time to solve problems • Calculate the average speed of a journey in kilometres per hour and in miles per hour • Calculate the average speed of travel using a range of compound units • Apply the calculation of speed to subjects such as science