

Mathematics – Year 7

Curriculum Intent

In Year 7, Mathematics focuses on securing strong foundations in number, algebra, geometry and ratio, while developing confidence, accuracy and mathematical reasoning. Students build fluency in core numerical skills, learn to represent mathematical ideas in different ways and begin to apply mathematics to problem-solving contexts. The curriculum is carefully sequenced to move from secure number sense towards early algebraic thinking and geometrical reasoning, preparing students for more complex mathematical learning in Year 8 and beyond.

What Students Will Study Across the Year

Autumn Term – Place Value, Types of Numbers and the Four Operations

Students begin by developing secure understanding of place value, including large numbers, decimals and rounding. They explore different types of numbers, including factors, multiples, prime numbers, square and cube numbers, and apply divisibility rules. Building on this, students strengthen fluency in the four operations, working with positive and negative numbers, decimals and formal written methods. Problem-solving and estimation are used to support accuracy and confidence.

Spring Term – Fractions and Introduction to Algebra

Students develop fluency with fractions, decimals and percentages, learning to simplify, compare and order fractions and convert between forms. They apply the four operations to fractions, including mixed numbers, and explore fractional problem-solving in context. Alongside this, students are introduced to algebraic notation, learning to form and simplify expressions, substitute values into formulae, expand brackets and factorise simple linear expressions.

Spring and Summer Terms – Coordinates, Area and Geometry

Students study coordinates and the Cartesian plane, plotting points in all four quadrants and generating graphs from simple rules. They explore relationships between variables and begin to interpret linear graphs. In geometry, students develop understanding of perimeter and area, calculating these for a range of shapes including rectangles, triangles, parallelograms and composite shapes. Formulae are derived and applied, strengthening connections between algebra and geometry.

Summer Term – Ratio and Transformations

Students develop understanding of ratio as a multiplicative relationship, using ratio tables, fractions and scaling to solve problems. They divide quantities into given ratios, work with rates and use ratio in real-life contexts such as currency exchange. The year concludes with geometric transformations, where students describe and perform reflections, translations, rotations and enlargements, identifying invariant points and understanding congruence and similarity.

Assessment and Progression

Students are assessed through regular retrieval activities, end-of-unit assessments, problem-solving tasks and formal written tests. Assessment focuses on fluency, accuracy, use of mathematical language and the ability to apply methods independently. By the end of Year 7, students have secured core number skills, developed early algebraic reasoning and built confidence in geometry and ratio, preparing them for more advanced mathematical study in Year 8.