



Maths Curriculum Overview - Year 7 Core

	Unit	Details
Autumn One	Algebra: Sequences Algebra: Understand and use algebraic notation Equality and equivalence	We start this year by linking arithmetic from Year 6 to future learning by covering some important 'number sense' concepts. Pupils will then study sequences given in diagram, graph and tabular forms. They will then describe and continue a sequence given diagrammatically, which will develop into using function machines for two step expressions and generating a sequence given an algebraic rule. pupils will then tackle the pivotal concept of equivalence, solving one-step and two-step linear equations involving using inverse operations. They will understand the meaning of like, unlike terms and equivalence and simplify algebraic expressions by collecting like terms, a skill developed further in Brackets, Equations and Inequalities in Year 8.
Autumn Two	Place value and ordering integers and decimals. Fraction, decimal and percentage equivalence. Solving problems with addition and subtraction.	We build on previous understanding of place value by rounding to decimal places and significant figures and writing numbers using standard index form. Pupils then learn to convert between fractions, decimals and percentages, before moving on to explore strategies for addition and subtraction, including solving problems involving finance, tables, timetables, frequency trees, bar charts and line charts. We finish the half term by bringing several topics together by adding and subtracting numbers in standard form.
Spring One	Solving problems with multiplication and division. Fractions and percentages of amounts. Operations and equations with directed number.	pupils will use multiplication knowledge to understand and use factors and multiples and multiply and divide integers and decimals by powers of 10. They will develop their use of order of operations and solve problems involving area and the mean. They will use these skills to find a fraction or percentage of a given amount. They will then add, subtract, multiply and divide, evaluate algebraic expressions and solve two-step equations with directed numbers.
Spring Two	Addition and subtraction of fractions. Constructing. Measuring and using geometric notation.	Concepts learned in half term 2 will now be used in converting between mixed numbers and fractions, adding and subtracting fractions with any denominator and using fractions in algebraic contexts. pupils will then spend time classifying angles, measuring and drawing angles and polygons and recognising types of triangle and quadrilateral. They will then construct triangles using SSS, SAS and ASA and draw and interpret pie charts.
Summer One	Developing geometric reasoning Developing number sense	We now build on the work of the last unit by using the sum of angles at a point, on a straight line, the equality of vertically opposite angles and the sum of angles in a triangle and quadrilateral. We then introduce the concept of proof in the context of angle facts. Pupils will then spend time developing strategies for mental calculations such as using factors to simplify calculations and using known number facts to derive other facts.
Summer Two	Sets and probability Prime numbers and proof	Firstly this half term pupils will be introduced to set notation for the first time and will draw and interpret Venn diagrams. They will develop this in generating sample spaces and using the probability scale. We then extend concepts from half term 3 and 4 by identifying types of numbers and finding the HCF and LCM. pupils will learn to write a number as a product of its prime factors, make and test conjectures and use counterexamples to disprove a conjecture.