

Maths Curriculum Overview - Year 9 Foundation

	Unit	Details
Autumn One	Prime numbers and proof Algebra: Understand and use algebraic notation Fractions and percentages	<p>We extend concepts from half term 3 and 4 by identifying types of number 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. This will develop into using function machines for two step expressions and generating a sequence given an algebraic rule. Pupils then learn to calculate percentage increase and decrease using a multiplier, work with percentage change and develop their problem-solving skills by choosing appropriate methods to solve percentage problems.</p>
Autumn Two	Equality and equivalence Angles in parallel lines and polygons	<p>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. They will then identify and calculate with co-interior, alternate and corresponding angles and use this in special quadrilaterals. They will then understand, calculate and use the sum of interior and exterior angles of any polygon and calculate missing interior angles in regular polygons.</p>
Spring One	Area of trapezia and circles Brackets, equations and inequalities	<p>We learn how to calculate the area of a trapezium, circle and parts of a circle with and without a calculator. Pupils will then use this to calculate the perimeter and area of compound shapes. Pupils will then learn to factorise into a single bracket and expand a pair of binomials before using these skills to solve equations and inequalities with an unknown on both sides.</p>
Spring Two	Numbers Using Percentages	<p>Pupils will first spend time consolidating some number concepts such as primes, factors and multiples, fractions and directed numbers, before solving problems involving decimals. We then extend this learning to using decimal multipliers and tackling reverse percentages both with and without a calculator.</p>
Summer One	3D shapes Maths and Money	<p>We will develop geometrical concepts from term 1 to calculate volume and surface area using formulae, moving on to plans and elevations. The language that pupils will acquire during this topic is pivotal for future learning of geometry. Pupils will then learn to apply their mathematical skills to real world situations such as tax, interest and wages. They will select appropriate methods to solve problems involving money and financial mathematics.</p>
Summer Two	Enlargement and Similarity Forming and solving equations	<p>We start this half term extending prior knowledge of transformation by constructing enlargements, then develop this to compare similar shapes and find unknown sides. Pupils will then consolidate the concept of equivalence from Year 8 before solving equations with unknowns on both sides and rearranging formulae.</p>