

## Maths Curriculum Overview - Year 9 Foundation Plus

	Unit	Details
Autumn One	<b>Number</b>	The GCSE foundation course will start with some consolidation of number concepts encountered in previous years, while extending the scope of both pupils' knowledge and skills. Pupils will use their understanding of place value to round decimals, and use this in estimation. They will then move on to considering different types of number, such as squares, cubes, multiples, factors and primes, and will develop their understanding to write integers as a product of primes, and find Highest common factors and Lowest common multiples. This then leads on to writing numbers using surd notation on a calculator and index notation for powers of ten.
Autumn Two	<b>Algebra Graphs, tables and charts</b>	This half term pupils will develop their understanding of algebraic methods and notation. They will learn how to simplify expressions and use their understanding of indices from the previous topic to generalise into algebra. They will multiply, divide, expand and factorise expressions. Their knowledge of notation will develop when looking at the difference between identities, equations and formulae, and they will learn how to substitute into formulae from different contexts. We will then move on to designing tables and data collection sheets. Pupils will appreciate the data that is represented around us, and will both read data in context and interpret it. They will design and use two-way tables, composite bar charts, histograms, time series graphs and back-to-back stem and leaf diagrams. Scatter graphs will be used to determine whether or not there is a relationship between sets of data and to predict values.
Spring One	<b>Fractions and Percentages</b>	Pupils will consolidate previous learning of fractions by finding fractions of an amount and fluently converting between fractions, decimals and percentages. They will then find percentages of an amount and use percentages to solve problems. This then leads to calculating percentage increases and decreases, using percentages in real-life situations and calculating VAT (value added tax).
Spring Two	<b>Equations, inequalities and sequences</b>	At the start of this half term pupils will develop their understanding of equations. This will start with rearranging simple linear equations, building up to equations with unknowns on both sides. This naturally leads to inclusive and exclusive inequalities which we will solve and represent on a number line. Pupils will then use formulae to substitute and change the subject, before working on continuing arithmetic sequences and finding the nth term.
Summer One	<b>Angles. Averages and Range</b>	Pupils will extend their previous work on geometry by finding missing angles on parallel lines and in triangles. They will develop this into looking at angles in polygons and explaining why some polygons tessellate. They will then work on handling data, looking again at averages and range but extending this to summarising the data in grouped frequency tables and stem and leaf diagrams. We will also relate this work to real life, discussing how to sample and whether data is affected by bias.
Summer Two	<b>Perimeter, area and volume</b>	In this unit pupils will calculate the perimeter and area of rectangles, parallelograms, triangles, trapezia and compound shapes. We will then use these skills to find the surface area of a prism. Pupils will then develop this understanding to calculate the volume of cuboids and other prisms. We will then round up by solving problems involving surface area and volume and converting between measures of volume.