

Yr7	<p><b>Topics:</b></p> <p>Analysing and displaying data; number skills;, equations, functions and formulae; fractions, decimals and percentages; probability, ratio and proportion; angles, lines and shapes; sequences and graphs; transformations.</p>	<p><b>Learning Outcomes:</b></p> <p>We follow the Pearson Edexcel KS3 scheme of work for Year 7, 8 and 9. This covers the target areas of Number, Ratio and proportion, Algebra, Geometry and Measures and Data Handling. The scheme of work has three levels of difficulty to provide challenge at all levels of ability. It provides a progress towards the GCSE course which begins in Year 10. Pupils learn problem solving skills, reasoning, fluency and applications of mathematics to real life situations, such as engineering and technology.</p>
Yr8	<p><b>Topics:</b></p> <p>Number properties and calculations; area and volume; statistics and graphs; expressions and equations; real life graphs; fractions, decimals and percentages; probability and ratio; angles and constructions.</p>	
Yr9	<p><b>Topics:</b></p> <p>Number and calculations; algebra, equations and inequalities; interpreting and representing data; fractions, decimals and percentages; geometry, transformation and angles; sequences and trigonometry.</p>	
Yr10	<p><b>Foundation Topics:</b></p> <p>Written calculations; Decimals; Graphs; Transformations; Ratio and proportion; Angles; Fractions, decimals and percentages; right-angled triangles; Probability; Constructions, loci and bearings; Perimeter, area and volume.</p> <p><b>Higher Topics:</b></p> <p>Equations and inequalities; Ratio and percentages; Quadratic equations and graphs; Probability; Multiplicative reasoning; Similarity and congruence; More trigonometry; Further Statistics; Equations and graphs; Circle Theorems; More algebra.</p>	<p><b>Learning Outcomes:</b></p> <p>Pupils will start a 2-year GCSE Mathematics course, which will continue into Year 11. This is a linear course, which means that all external testing is done at the end of year 11. There is no coursework required for GCSE Mathematics. This means that the entire qualification is examination based, with three examinations.</p> <p>There are two tiers of study: Foundation and Higher. Both courses cover the target areas of Number, Ratio and proportion, Algebra, Geometry and Measures and Data Handling.</p>

<p><b>Yr11</b></p>	<p>Throughout year 11 we will be using the idea of diagnosis, therapy, test to ensure our year 11 are filling in any gaps in learning that have appeared over time to ensure they are fully prepared.</p> <p><b>Foundation Topics:</b></p> <p>Factors, powers, roots; linear and quadratic graphs, 3D Shape; statistics; standard form; Pythagoras and trigonometry; probability; sequences; units and proportionality; exam revision.</p> <p><b>Higher Topics:</b></p> <p>Graphs of Linear, quadratic, cubic and reciprocal functions; working with 3D shapes; statistics; calculating in standard form; Pythagoras and trigonometry; combined events (probability); quadratic sequences; units and proportionality; exam revision.</p>	<p><b>Learning Outcomes:</b></p> <p>Pupils continue with a 2-year GCSE Mathematics course started in year 10. This is a linear course, which means that all external testing is done at the end of year 11. There is no coursework required for GCSE Mathematics. This means that the entire qualification is examination based, with three examinations.</p> <p>There are two tiers of study: Foundation and Higher. Both courses cover the target areas of Number, Ratio and proportion, Algebra, Geometry and Measures and Data Handling.</p>
<p><b>Yr12</b></p>	<p><b>Core 1 Topics:</b></p> <p>Linear graphs and equations, surds, quadratic graphs and equations, Inequalities, polynomials, equation of a circle, rates of change, differentiation, integration and area under a graph</p> <p><b>Core 2 Topics:</b></p> <p>Indices, graphs and transformations, sequences and series, binomial expansion, trigonometry, exponentials and logarithms, differentiation and integration</p> <p><b>Statistics 1 Topics:</b></p> <p>Collecting and processing data, variance and standard deviation, probability, discrete random variables, binomial distribution, normal distribution, estimations, confidence intervals, regression and correlation</p>	<p><b>Learning Outcomes:</b></p> <p>Pupils begin a 2-year A-Level Mathematics course in year 12. This is a linear course, which means that all external testing is done at the end of each year.</p> <p>The two year course covers the four main core units and then two applied units.</p>
<p><b>Yr13</b></p>	<p><b>Core 3 Topics:</b></p> <p>Functions, the modulus function, transforming graphs, trigonometry, natural logarithms and <math>e^x</math>, differentiation, integration, solids of revolution, numerical methods, proof.</p> <p><b>Core 4 Topics:</b></p> <p>Rational expressions, parametric equations, the binomial expansions, trigonometric</p>	<p><b>Learning Outcomes:</b></p> <p>Pupils begin a 2-year A-Level Mathematics course in year 12. This is a linear course, which means that all external testing is done at the end of each year.</p> <p>The two year course covers the four main core units and then two applied units.</p>

formulae, differential equations,  
differentiation, integration, vectors.

**Decision 1 topics:**

Algorithms, graphs and networks, minimum  
connector (Prim, Kruskal), Shortest path  
algorithm, route inspection, travelling  
salesman and linear programming.