

Mathematics Curriculum Overview

KS3	Term One	Term Two	Term Three	Term Four	Term Five	Term Six
<p>Year 7 will focus on the fundamental skills required to succeed in mathematics. The first half of the year focuses on the essential number skills before introducing students to important concepts in algebra, geometry, and statistics. This year lays the foundations for developing the more complex ideas that follow in later years.</p> <p>Employability Skills Learnt:</p> <ul style="list-style-type: none"> - Numeracy. - Develop problem solving skills. - Data analysis. 	<p>Number Sense:</p> <ul style="list-style-type: none"> • Place Value • Addition & subtraction • Perimeter • Rounding & estimating 	<p>Multiplication:</p> <ul style="list-style-type: none"> • Multiplication & Division • Factors & Multiples • Area of rectangles, triangles & parallelograms 	<p>Fractions:</p> <ul style="list-style-type: none"> • Fractions as part of a whole • Adding & subtracting fractions • Comparing fractions • Fractions as an operation 	<p>Algebra:</p> <ul style="list-style-type: none"> • Order of operations (BIDMAS) • Basic rules of algebra • Expanding & factorising • Substitution 	<p>Geometry:</p> <ul style="list-style-type: none"> • Properties of angles at a point • Polygons • Symmetry & reflection • Coordinates 	<p>Statistics:</p> <ul style="list-style-type: none"> • Mean • Two-way tables
<p>Year 8 will begin to explore each strand in more detail and expand on the ideas and skills introduced in year 7. The introduction to linear equations enables them to solve a lot more problems in other areas of mathematics and begin to generalise more. Ratio is encountered for the first time in year 8 with a strong focus on the different representations of proportionality.</p> <p>Employability Skills Learnt:</p> <ul style="list-style-type: none"> - Numeracy. - Proportional reasoning. - Geometric reasoning. - Enhance problem solving skills. - Data analysis and representation. 	<p>Number Sense:</p> <ul style="list-style-type: none"> • Indices • Prime factorisation • Rounding & estimation • Fractions • Decimals & percentages • Multiplying & dividing fractions • Equivalent fractions: decimals & percentages 	<p>Linear Equations:</p> <ul style="list-style-type: none"> • One step and two step • Multi-step including fractions and decimals • Form & solve linear equations • Coordinates & basic graphs 	<p>Geometry:</p> <ul style="list-style-type: none"> • Angles on parallel lines • Interior & external angles in a polygon • Circumference of a circle & inverse problem solving 	<p>Fraction, Decimals & Percentages:</p> <ul style="list-style-type: none"> • Proportional reasoning • Fractions, decimals & percentages with & without a calculator • Percentage increase & decrease • Ratio 	<p>Statistics:</p> <ul style="list-style-type: none"> • Bar charts & pictograms • Tally & frequency charts • Pie charts • Mean, median, mode 	<p>Geometry:</p> <ul style="list-style-type: none"> • Area of shapes including trapeziums, circle & part circles • Solids including prisms and pyramids, finding surface area



<p>Year 9 is a perfect example of our spiral curriculum in action. Lots of opportunities for students to revisit topics seen in previous years and extend these ideas further to solve more complex problems. There is a strong algebraic and geometric element in year 9 and students are introduced to some of the more famous ideas in mathematics such as Pythagoras' Theorem, quadratics and vectors.</p> <p>Employability Skills Learnt:</p> <ul style="list-style-type: none"> - Numeracy. - Proportional reasoning. - Geometric reasoning. - Problem solving. 	<p>Number Sense:</p> <ul style="list-style-type: none"> • Place value & number properties • Rounding & estimating • Indices, powers & routes • Factors, multiples, prime factorisation • Ratios 	<p>Proportion:</p> <ul style="list-style-type: none"> • Fractions • Fractions, decimals & percentages • Proportion • Direct & inverse proportion problem solving 	<p>Algebra:</p> <ul style="list-style-type: none"> • Algebraic notation • Simplifying algebra including index laws • Four operations of basic algebra • Expanding including double brackets • Factorising including quadratics • Expressions & substitutions • Linear equations 	<p>Algebra:</p> <ul style="list-style-type: none"> • Linear equations • Linear inequalities • Represent and interpret solutions <p>Geometry:</p> <ul style="list-style-type: none"> • Perimeter and areas of 2D shapes including algebraic problem solving • Converting between metric units & time • Pythagoras' Theorem 	<p>Geometry:</p> <ul style="list-style-type: none"> • Shape: angles in a triangle, geometric notation • Angles on a straight line • Interior & exterior angles • Polygons • Tessellation • Angles on parallel lines • Circle definitions: sectors & arcs • Volume of prisms & cylinders • Sketch nets • Volume of complex shapes 	<p>Geometry:</p> <ul style="list-style-type: none"> • Surface area of prisms & cylinders • Surface area of complex shapes • Basic 2D vectors & translation • Addition & subtraction of vectors • Parallel vectors <p>Algebra:</p> <ul style="list-style-type: none"> • Finding nth terms • Generating sequences • Quadratic sequence • Geometric sequence
<p>KS4</p>	<p>Term One</p>	<p>Term Two</p>	<p>Term Three</p>	<p>Term Four</p>	<p>Term Five</p>	<p>Term Six</p>
<p>Year 10 formally introduces students to the GCSE course. Students build on their knowledge base established through KS3 to access the more difficult topics at KS4. Students regularly work on the skills necessary to succeed at GCSE and there is a strong emphasis on exposing students to the command words and language used in GCSE exams.</p> <p>Employability Skills Learnt:</p> <ul style="list-style-type: none"> - Numeracy. - Literacy. - Geometric reasoning. - Problem solving. 	<p>Algebra:</p> <ul style="list-style-type: none"> • Rearrange formulae • Linear graphs <p>Geometry:</p> <ul style="list-style-type: none"> • Compound measures 	<p>Algebra:</p> <ul style="list-style-type: none"> • Quadratic graphs • Further expanding and factorising • Linear simultaneous equations • Further graphs 	<p>Probability:</p> <ul style="list-style-type: none"> • Independent events • Conditional probability • Tree diagrams • Frequency trees <p>Number sense:</p> <ul style="list-style-type: none"> • Standard form <p><u>Higher only</u></p> <p>Proportion:</p> <ul style="list-style-type: none"> • Capture & recapture • Further proportion 	<p>Number sense:</p> <ul style="list-style-type: none"> • Simple interest • Growth & decay <p>Proportion:</p> <ul style="list-style-type: none"> • Ratio <p><u>Higher only</u></p> <p>Number sense:</p> <ul style="list-style-type: none"> • Recurring decimals 	<p>Statistics:</p> <ul style="list-style-type: none"> • Data representation • Averages & spread • Correlation • Sampling <p><u>Higher only</u></p> <p>Number sense:</p> <ul style="list-style-type: none"> • Surds • Bounds 	<p>Revision:</p> <ul style="list-style-type: none"> • Number • Algebra • Geometry & measure • Ratio & proportion • Statistics • Probability <p><u>Higher only</u></p> <p>Geometry:</p> <ul style="list-style-type: none"> • Trigonometry • Similarity <p>Algebra:</p> <ul style="list-style-type: none"> • Quadratic sequence



<p>Year 11 focuses on preparing students for their final exams. The first section of the year focuses on completing all compulsory topics at GCSE – foundation tier students will typically be finished midway through the year whilst higher tier students will finish before Easter. Students will then move onto revision to ensure knowledge is properly embedded.</p> <p>Employability Skills Learnt:</p> <ul style="list-style-type: none"> - Time management and self-organisation. - Emotional literacy. - Problem solving. 	<p><u>Foundation</u></p> <p>Geometry:</p> <ul style="list-style-type: none"> • Pythagoras' Theorem • Trigonometry • Bearings <p><u>Higher</u></p> <p>Algebra:</p> <ul style="list-style-type: none"> • Algebraic proof • Quadratic formula • Further simultaneous equations • Functions • Iteration • Quadratic inequalities 	<p><u>Foundation</u></p> <p>Geometry:</p> <ul style="list-style-type: none"> • Transformations • Congruence <p><u>Higher</u></p> <p>Geometry:</p> <ul style="list-style-type: none"> • Bearings • Circle theorems • Further trigonometry • Trigonometric graphs 	<p><u>Foundation</u></p> <p>Geometry:</p> <ul style="list-style-type: none"> • Vectors • Similarity • Construction & loci <p><u>Higher</u></p> <p>Statistics:</p> <ul style="list-style-type: none"> • Cumulative frequency • Box plots • Histograms <p>Geometry:</p> <ul style="list-style-type: none"> • Transformations • Congruence • Vectors 	<p><u>Foundation</u></p> <p>Revision:</p> <ul style="list-style-type: none"> • Number • Algebra • Geometry & measure • Ratio & proportion • Statistics • Probability <p><u>Higher</u></p> <p>Algebra:</p> <ul style="list-style-type: none"> • Estimate the gradient of a curve • Area under a curve • Graphical transformations <p>Geometry:</p> <ul style="list-style-type: none"> • Kinematics • Constructions & loci 	<p><i>Revision programme</i></p>	<p><i>Revision programme</i></p>
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