

MATHEMATICS

	AUTUMN TERM 1	AUTUMN TERM 2	SPRING TERM 1	SPRING TERM 2	SUMMER TERM 1	SUMMER TERM 2
	Topics	Topics	Topics	Topics	Topics	Topics
<b>YEAR 7</b>	Problem solving/number work Algebra simplifying, sub, solving	Factors, multiples and powers Set notation Sequences	Problem solving with fractions Perimeter, area and volume Shape properties	Handling Data MMM Angle facts parallel lines	Forming and solving equations Graphs of straight lines Probability	Constructions and scale drawings, elevation and depression and bearings
<b>YEAR 8</b>	Solving equations with fractions Linear Inequalities Decimal problems and rounding Area and circumference of a circle	Sectors SA and Volume of prisms Density Percentage increase and decrease	Equation of straight line, $y = mx + c$ Transformations	Ratio problems Averages from tables Indices +,-	Pythagoras theorem Simultaneous equations	Graphical solutions to sim eqns Plotting quadratic graphs Tree diagrams
<b>YEAR 9</b>	Fractional indices and standard form Simple quadratic inequalities Scatter graphs Compound measures Bounds of numbers	Probability mut. Excl and indep. Percentage problems (incl reverse) Expanding 2 brackets	Factorising quadratics Solving by factorising Trial and error Cumulative frequency Box plots	Sequences, nth terms Plotting graphs of quadratic, cubic and reciprocal functions Similarity	Trigonometry Volume of pyramids and cones Geometry and proof	Loci Statistical calculations and diagrams (histograms)
<b>YEAR 10</b>	Rational numbers Surds Solving quadratic equations (all methods)	Using graphs to solve equations Probability, venn and tree diagrams Multiplication principle Indices and standard form revision	HCF and LCM revision Coordinate Geometry Sampling methods	Algebraic fractions Changing the subject Simultaneous equations (linear and quadratic) Geometric sequences and recurrence relation)	Quadratic inequalities Graphs of functions, tangents and area	Algebraic proof Ratio
<b>YEAR 11</b>	Direct and inverse proportion 3D trigonometry Congruency and similarity	Sine and cosine rules Area of triangle Segments of circles Volume and SA (all) Loci revision	Circle theorems Functions Sketching graphs	Graph transformations Vectors Iteration <a href="#">Level 2 FM differentiation</a>	Problem solving Revision <a href="#">Level 2 FM matrices</a>	

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<b>YEAR 12</b>	<p>Surds</p> <p>Quadratic functions and graphs</p> <p>Sim eqns</p> <p>Factor theorem</p> <p>Inequalities</p> <p>Graph sketching</p> <p>Coordinate geometry</p>	<p>Binomial expansion</p> <p>Indices</p> <p>Differentiation</p> <p>Trigonometry</p>	<p>Integration</p> <p>Proof</p> <p>Exponentials and logs</p>	<p>Sampling methods</p> <p>Summary statistics and statistical diagrams</p> <p>Suvat equations and graphs</p>	<p>Correlation</p> <p>Probability</p> <p>Discrete random variables</p> <p>Forces</p>	<p>Binomial distribution</p> <p>Hypothesis testing</p> <p>F=Ma and connected particles</p> <p>Vectors in 2D</p>
<b>FM</b>	<p>Year 12 Pure Work</p>	<p>Year 12 statistics work</p> <p>Year 12 mechanics work</p> <p>FM Pure - Complex Numbers</p> <p>Roots of Polynomials</p>	<p>FM Pure - Rational Functions &amp; Inequalities</p> <p>Ellipse, Hyperbola &amp; Parabola</p> <p>Hyperbolic Functions</p> <p>Year 12 statistics work</p> <p>FM Statistics - Discrete random variables</p> <p>Year 12 mechanics work</p> <p>FM Mechanics - Work, energy and power 1</p>	<p>FM Pure - Polar Coordinates</p> <p>Matrices &amp; Transformations</p> <p>FM Statistics - Poisson distribution incl. hypothesis testing</p> <p>Contingency tables</p> <p>FM Mechanics - Dimensional Analysis</p>	<p>FM Pure - Further Calculus</p> <p>Series</p> <p>Proof by Induction</p> <p>FM Statistics - Continuous random variables</p> <p>FM Mechanics - Momentum and collisions</p> <p>Circular motion 1</p>	<p>Year 13 Pure Work – Radians and Trigonometry</p> <p>FM Pure – Further application of vectors</p> <p>FM Mechanics - Work, energy and power 2</p>
<b>Core Maths</b>	<p>Fermi Estimation</p>	<p>Sampling and statistical techniques</p>	<p>Bodmas</p> <p>Percentages (VAT interest rates)</p>	<p>Income tax and NI</p> <p>Budgets</p>	<p>Student loans</p> <p>mortgages</p>	<p>Project work to consolidate and recap stats work</p>
<b>YEAR 13</b>	<p>Partial Fractions</p> <p>Binomial expansions</p> <p>Radians</p> <p>Trigonometry</p> <p>Differentiation</p>	<p>Functions</p> <p>Numerical methods</p> <p>Integration</p>	<p>Sequences</p> <p>Proof</p> <p>Parametric equations</p> <p>Differential Equations</p>	<p>Normal distribution</p> <p>Resolving forces to components</p> <p>Statics</p>	<p>Hypothesis testing</p> <p>Dynamics</p> <p>Moments</p> <p>Projectiles</p> <p>Vectors in 3D</p>	

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<b>FM</b>	Y13 Pure  Year 13 Statistics – Normal distribution Further hypothesis testing Y13 Mech - Projectiles Forces in Context Moments	FM Pure - Complex Nos (Powers, roots and trig) Transformations Graphs and inequalities Further vectors FM Statistics – Yates Correction Continuous random variables Exponential distribution FM Mech – Circular Motion 2 Centres of Mass Moments and Couples	FM Pure - First order diff eqns Second order diff eqns Further calculus Further matrices Further hyperbolic functions  FM Statistics – t-tests Type I and II errors Confidence intervals	FM Pure - Further polar co-ords Maclaurins & limits Numerical Methods Application of diff eqns incl. Harmonic motion	Finishing off Revision	
	<b>Core Maths</b>	Correlation and regression	The Normal Distribution Exchange rates	Estimators and Confidence intervals	Critical analysis	Using preliminary materials