

Mathematics Curriculum Map

Year 7 Algebraic expressions Analysing data sets Fractions, decimals and percentages Angle facts Area and perimeter Solving simple equations Using simple ratio	Year 8 Indices 3D shapes Transformation of 2D shapes Pythagoras' Theorem Solving harder equations Straight line graphs Percentage change Using probability diagrams
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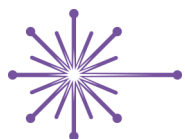
Year 9 Standard form Nth term of sequences Quadratic expressions Angles in polygons Using and interpreting statistical diagrams Trigonometry Simultaneous Equations	Year 10 Using ratio and proportion Real life graphs Compound transformation of 2D shapes Probability tree diagrams Solving quadratic equations Loci and constructions Financial maths	Year 11 Non right-angled trigonometry Circle Theorems Vectors Proof of congruence Direct and inverse proportion
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Year 12 Problem solving Surds and indices Coordinate geometry Quadratic functions Equations and inequalities Polynomials Trigonometry Binomial expansion Graphs and transformations Differentiation Integration Exponentials and logarithms Data collection Data processing and interpretation Probability Vectors Binomial distribution Statistical hypothesis testing Forces and Newton's law of motion Variable acceleration Sequences and series Functions Proof	Year 13 Differentiation Algebra Trigonometric functions Further differentiation Integration Parametric equations Differential equations Vectors Numerical methods Kinematics Force and motion Moments Projectiles Friction Probability and distributions Hypothesis testing
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Further Mathematics Curriculum Map

Year 12	Year 13
Matrices and transformations	Vectors
Complex numbers	Matrices
Matrices and their inverses	Series and induction
Complex numbers and geometry	Further calculus
Roots of polynomials	Polar coordinates
Sequences and series	Maclaurin series
Vectors and 3D space	Hyperbolic functions
Kinematics	Applications of integration
Forces and motion	Approximation
Statistical problem solving	The solution of equations
Discrete random variables	Numerical integration
Discrete probability distributions	First order differential equations
Friction	Complex numbers
Moments of forces	Approximating functions
Work energy and power	Numerical differentiation
Impulse and momentum	Rates of convergence
Bivariate data	Vectors
Centre of mass	Second order differential equations
Dimensional analysis	Review mock examinations
Bivariate data	Revision on preparation or final examinations
Chi-squared tests	
Revision in preparation for AS examinations	



Core Mathematics Curriculum Map

Year 12

Analysis of data
Maths for personal finance
The normal distribution
Estimation
Critical analysis of given data and models
Probabilities and estimation
Correlation and regression
Examination



Mathematics

Assessment Guidance

Formative Assessment

Assessment takes place in every maths lesson. Starter activities and multiple choice questions are used to assess previous learning or to identify misconceptions and teacher observation and questioning are used to assess current learning. In Years 7-9 ICCAMS pre-tests and impact evaluations are used to identify specific weaknesses and whether they have been overcome. At the end of each unit of work we also use “check ups”, which allow us to strengthen weak areas and extend areas of good practice. In Year 11, practice examination papers are used to identify areas of weakness, and personalised PinPoint Learning booklets are then used to target and overcome these weaknesses.

Summative Assessment

Baseline assessments are given to Year 7 upon entry to assess current knowledge and gaps. We also do a multiplication assessment and provide immediate intervention to those who are unable to multiply successfully with a consolidated method. There are three summative assessments taken in Years 7-10. These assessments are termly and will focus primarily on material from that term but also assess all learning to date. Two of these assessments will have multiple choice elements to them, while the third will require fully worked solutions to all questions. In Year 11 students will have two mock examinations, one in November and one in March, in order to determine the correct tier of entry for each student. In Sixth form, topic assessments are used at the end of each chapter in order to assess learning, and mock examinations covering all material learned to date take place in both Year 12 and Year 13.

