Mathematics Key Stage 3 Curriculum

	Autumn Term	Spring Term	Summer Term
Y7	Logic and Venn Diagrams Scatter graphs and their analysis Manipulating algebraic expressions Rearranging formulae and solving equations Decimal arithmetic Triangles – angles and area Arithmetic sequences	Number patterns Negative numbers Combining fractions, decimals and percentages Averages and spread of discrete data Scale drawing and constructions of shapes Probability and mutually exclusive events Areas of quadrilaterals	Volume Density Prime factors Powers Graphs of linear functions Lines of best fit Vector arithmetic
Y8	Pythagoras' theorem Irrational numbers and surds Significant figures and estimation Frequency tables Nets and surface area Plans and elevations Ratio and proportionality Using fractions, percentages and decimals Probabilities of combined events Bearings	Polygons Circumference and area of circles Units of measure Similar shapes Data collection and analysis Speed, distance and time Recurring decimals Transformations	Expressions and Equations Time series graphs BIDMAS Indices and standard form Circle theorems Graphs of linear functions Simultaneous equations Proportion Graphing linear inequalities
Y9	Indices and Standard Form Exhaustive probability and mutual exclusivity Scatter graphs and correlation Conditional probability Transformations, Constructions & Loci Circles Linear sequences & inequalities Rearranging formulae Expanding binomials & factorising quadratics Quadratic sequences & graphs Estimation and rounding	Cumulative frequency Pythagoras' Theorem Trigonometric ratios Graphs of linear functions Simultaneous equations (linear/linear and linear/quadratic) Sampling Graphs of non-linear equations Quadratic inequalities Completing the square Direct and inverse proportionality – non-linear	Rationalising denominators Function notation Compound percentage changes Exponential graphs Kinematic graphs and pre-calculus Trigonometric graphs. Trigonometry and Pythagoras' theorem in 2D and 3D Equations with inverse terms Algebraic proof

Mathematics GCSE Curriculum Overview

	Autumn Term	Spring Term	Summer Term
Y10	Estimation, rounding and calculating bounds Factorising and rearranging equations Algebraic Fractions Indices Bearings Transformations Similar shapes Fractions, decimals, percentages and proportion Percentage changes Recurring decimals Frequency tables	Factorising quadratic equations Solving linear equations Theoretical probability and relative frequency Arcs and sectors Circle theorems Quadratic sequences Fibonacci and geometric sequences Standard form	Representations of 3D objects Volume and surface area of 3D shapes Constructions Linear inequalities Graphs of linear functions Quadratic inequalities Simultaneous equations
Y11	Pythagoras' Theorem Trigonometry Venn diagrams and tree diagrams Surds Rationalising denominators Completing the square and features of quadratic graphs The quadratic formula Cumulative frequency Histograms Scatter graphs and correlation Plotting and interpreting cubic, reciprocal and exponential graphs Graphs of trigonometric functions Tangents to, and area under curves	Proportionality –direct and inverse Compound units Rates of change of measures Growth and decay of variables Iterative methods Functions and proof Sine rule, cosine rule and areas of triangles Equation and graphs of circles Equations of tangents to circles	Vectors Extensive revision program before summer exams.

Mathematics A level Curriculum

	Autumn Term	Spring Term	Summer Term
Y12	Quadratics Surds and Indices Coordinate Geometry Polynomials Trigonometry Differentiation Binomial expansions	Integration Vectors Kinematics Exponentials and logarithms Radians Forces and motion Sequences Variable acceleration	Data collection Functions Data Processing and interpretation Trigonometrical functions Probability The Binomial Distribution Partial fractions Hypothesis testing using the binomial distribution
Y13	Differentiation Vectors Proof Trigonometrical identities Parametric equations Integration Kinematics Projectiles Numerical methods	Differential equations Probability Forces and motion Moments Statistical distributions Hypothesis testing Friction	Revision