

Studying Mathematics at GCSE

All students will study Mathematics which will lead to a GCSE qualification. The subject terminates in Year 11 with 3 examination papers, each 1 & 1/2 hours long. Each paper has an equal weighting and each are worth 80 marks each. The first paper is a non-calculator paper and the second and third papers are calculator papers.

Mathematics GCSE - This course is made up of 2 elements:

1—Building fluency

Differentiated unit structure will increase the depth of understanding of maths, build fluency and nurture student's confidence.

2— Problem Solving & Reasoning

The mastery approach is a specific focus on problem- solving and develops higher-order mathematical reasoning skills.

Mathematical Content – Foundation and Higher:

Maths now has 5 domains. Each of these domains have different weighting in the new examinations as follows:

	Geometry & Measures	Number	Statistics & Probability	Algebra	Ratio. Proportion & Rates of Change
Higher	20%	15%	15%	30%	20%
Foundation	15%	25%	15%	20%	25%

Teaching and Support

Pupils will be taught 5 periods over the weekly timetable and will complete set homework each week.

Pupils will have options to come to extra support sessions and revision sessions will be available as pupils approach key assessment points throughout the course.

Material can be accessed from home to support pupils learning

	Year 7	Year 8	Year 9
Autumn 1	Whole numbers and decimals Measures, perimeter and area Expressions and formulae	Whole numbers and decimals Measure, perimeter and area Expressions and formulae and Identities. Index Notation	Probability Indices and Standard Form Formulae Sequences Integers and place value Algebra: the basics Tables, charts and graphs
Autumn 2	Fractions, decimals and percentages Angles and 2D shapes Graphs	Fractions, decimals and percentages Angles Graphs Collect and Organise small sets of data Sequences	Graphs Perimeter, Area and Volume Pie charts Interior and exterior angles of polygons
Spring 1	Whole number calculations Statistics Transformations and symmetry	Decimal calculations Statistics Transformations and scale	Angles Pythagoras and Trigonometry Scatter graphs Factors, multiples and primes Percentages
Spring 2	Equations Factors and multiples Constructions and 3D shapes	Equations Powers and roots Constructions and Pythagoras	Ratio and Proportion Statistics
Summer 1	Sequences Decimal calculations Ratio and proportion	Sequences 3D shapes Ratio and proportion	Properties of shapes, parallel lines and angle facts Decimals Expressions and substitution into formulae
Summer 2	Probability Everyday maths Whole numbers and decimals	Probability Case study Everyday maths	Interior and exterior angles of polygons Indices, powers and roots Equations and inequalities

	Year 10 Foundation	Year 10 Higher
Autumn 1	Properties of shapes, parallel lines and angle facts Decimals Pythagoras' Theorem and trigonometry Factors, multiples, primes, standard form and surds	Calculations, checking and rounding Sequences Representing and interpreting data and scatter graphs Pythagoras' Theorem and trigonometry Factors, multiples, primes, standard form and surds Graphs: the basics and real-life graphs Perimeter, area and circles
Autumn 2	Expressions and substitution into formulae Indices, powers and roots Equations and inequalities Fractions and percentages	Indices, roots, reciprocals and hierarchy of operations Algebra: the basics, setting up, rearranging and solving equations Polygons, angles and parallel lines Linear graphs and coordinate geometry
Spring 1	Sequences Statistics, Sampling and the averages Ratio and proportion	3D forms and volume, cylinders, cones and spheres Quadratic, cubic and other graphs Averages and range Transformations
Spring 2	Fractions, decimals and Percentages Perimeter, area and volume Real-life graphs Right-angled triangles: Pythagoras and trigonometry	Solving quadratic and simultaneous equations Probability Inequalities Similarity and congruence in 2D and 3D
Summer 1	Percentages Ratio Straight-line graphs Transformations Proportion	Cumulative frequency, box plots and histograms Constructions, loci and bearings Accuracy and bounds Circle theorems
Summer 2	Probability Multiplicative reasoning Plans and elevations Constructions, loci and bearings	Changing the subject of formulae (more complex), algebraic fractions, solving equations arising from algebraic fractions, rationalising surds, proof Multiplicative reasoning Quadratics, expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics Circle geometry

	Year 11 Foundation	Year 11 Higher
Autumn 1	Integers and decimals Coordinates Fractions Number Ratio Collecting and recording data	Integers and decimals Collecting data Fractions Ratio and proportion Fractions, percentages and decimals Index notation Surds Displaying data Algebra Formulae and equations
Autumn 2	Algebra Representing and interpreting data Graphs Algebra	Linear graphs Measures and compound measures Simultaneous equations Trial and improvement Averages and range Shapes and angles
Spring 1	Graphs Formulae 2D/3D shapes Measure Angles Circles	Construction and loci Perimeter and area Circle Theorems Pythagoras Theorem Trigonometry Sine and Cosine Rule Surface area and volume
Spring 2	Pythagoras Theorem Line and scatter graphs Perimeter and area Angles Construction and Loci Transformations	Transformations Probability Vectors Graphs Similarity and Congruence
Summer 1	Revision	Revision

