



Wanstead High School

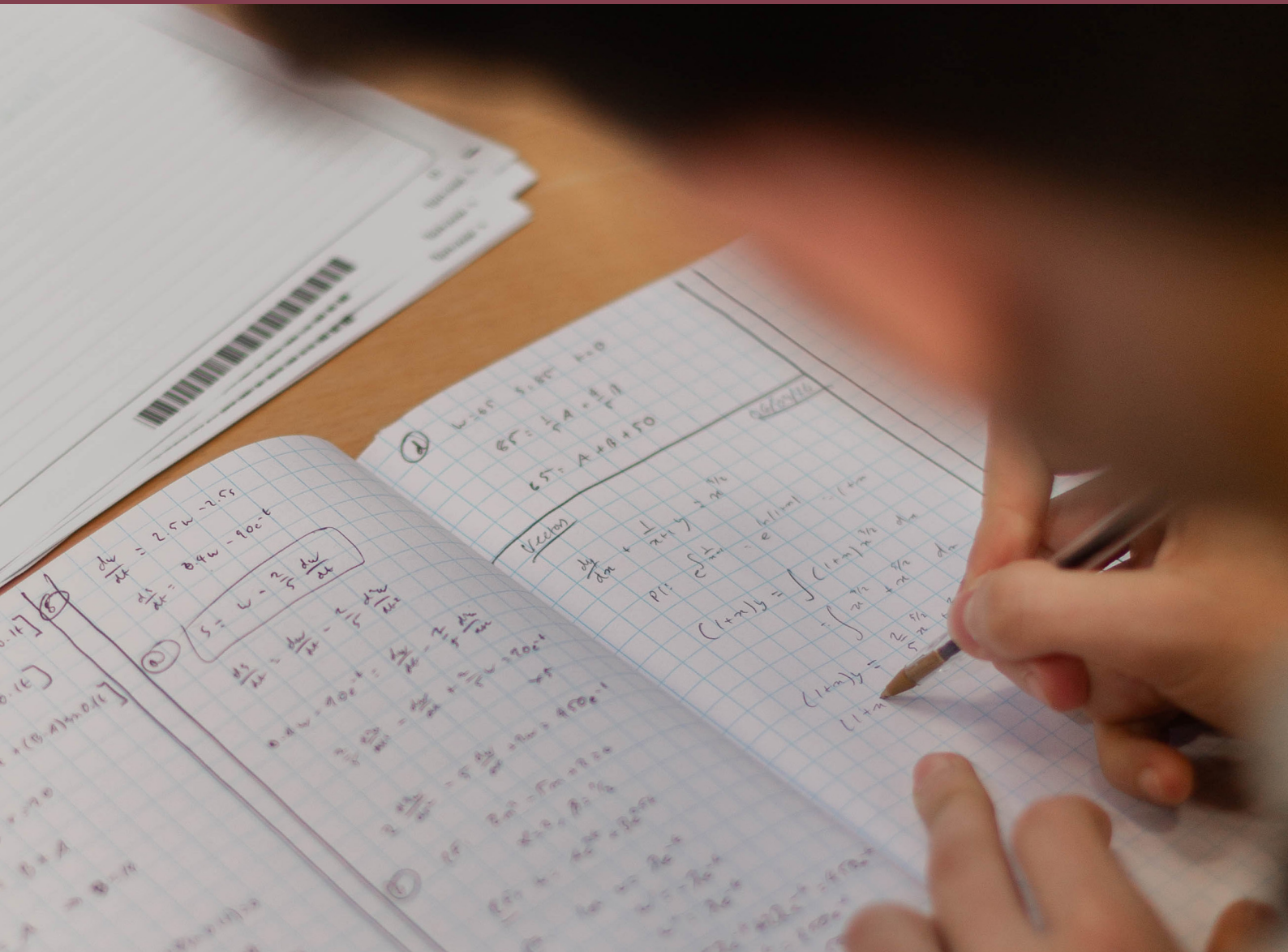
Education with Character

Maths Curriculum Content 2026 - 2027

Key Stage 3 - Year 7, 8 & 9

Key Stage 4 - Year 10 & 11

Key Stage 5 - Year 12 & 13



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Mathematics Year 7

Year 7 pupils receive 7 lessons of Mathematics each fortnight.

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives. Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills. Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is Taught	When is it Taught	Reading lists and Literacy (DWOTS)	Where is Curriculum Ambition?
Number 1	Autumn 1	Integer, decimal, place value, negative number, inverse operation, power of 10	Pupils develop secure fluency with positive and negative numbers, decimals and place value up to millions. They apply number skills in real-life contexts including money, perimeter, area and unit conversion.
Number 2: BIDMAS, Powers & Roots	Autumn 1	BIDMAS, index, square, cube, root, power	Pupils learn formal order of operations, extend knowledge of powers and roots, and are introduced to index laws and surds to provide challenge and prepare for higher-level algebra.
Algebra 1: Notation & Expressions	Autumn 1	Variable, coefficient, term, expression, simplify	Pupils move from arithmetic to algebra, using correct mathematical notation and simplifying expressions. They begin to reason algebraically and recognise equivalent expressions.
Algebra 2: Substitution	Autumn 1	Substitute, evaluate, formula, expression	Pupils apply numerical skills within algebraic contexts, including expressions involving negatives, powers and formulae.
Number 3: Factors, Multiples & Primes	Autumn 1	Factor, multiple, prime, HCF, LCM	Pupils investigate number structure, use prime factor decomposition and solve problems involving HCF and LCM using Venn diagrams.
Number 4: Rounding	Autumn 1	Estimate, significant figures, decimal places, truncate	Pupils develop accuracy and efficiency by using calculators effectively while understanding the importance of estimation and checking solutions.
Number 5: Fractions	Autumn 2	Fraction, numerator, denominator, equivalent, mixed number	Pupils master the four operations with fractions, including mixed numbers, and make links to algebra and real-life applications.
Number 6: Fractions, Decimals & Percentages	Autumn 2	Percentage, decimal, recurring, terminating	Pupils make connections between different numerical representations and develop confidence converting fluently between them.

Data 1: Representing Data	Autumn 2	Frequency, graph, chart, coordinates, timetable	Pupils collect, organise and interpret data while developing graphical representation skills and confidence with real-world data.
Data 2: Averages	Spring 1	Mean, median, mode, range, bias, sample	Pupils learn statistical analysis skills and begin critically evaluating data reliability, sampling methods and bias.
Ratio & Proportion 1: Ratio	Spring 1	Ratio, proportion, scale factor, share	Pupils develop multiplicative reasoning through ratio and proportion and make links between fractions, equations and real-life problems.
Algebra 3: Expanding & Factorising	Spring 1	Expand, factorise, equivalent, bracket	Pupils build strong algebraic manipulation skills that support future GCSE algebra topics.
Algebra 4: Equations	Spring 1	Equation, solve, inverse, formula	Pupils form and solve equations, apply inverse operations and begin rearranging formulae.
Geometry 1: Units, Measuring & Notation	Spring 2	Metric, imperial, angle, parallel, perpendicular	Pupils develop precision through measurement and are introduced to formal geometric notation used throughout secondary mathematics.
Data 3: Pie Charts	Spring 2	Sector, frequency, angle, proportion	Pupils connect geometry, ratio and statistics by constructing and interpreting pie charts.
Geometry 2: 2D Shapes & Perimeter	Spring 2	Perimeter, circumference, symmetry, diameter, radius	Pupils explore geometric properties and apply algebraic thinking to perimeter and circumference problems.
Probability 1: Introduction to Probability	Summer 1	Probability, event, outcome, likelihood	Pupils develop understanding of chance and represent probabilities using fractions, decimals and percentages.
Probability 2: Probability Diagrams	Summer 1	Relative frequency, experimental probability, estimate	Pupils compare theoretical and experimental probability and solve increasingly complex probability problems.
Ratio & Proportion 2: Real-Life Ratio & Proportion	Summer 1	Scale, currency, proportion, unitary method	Pupils apply mathematics to authentic contexts such as recipes, currency exchange, maps and scale drawings.
Geometry 3: Area	Summer 2	Area, trapezium, parallelogram, circle, compound shape	Pupils extend area calculations to complex shapes and introduce algebraic methods linked to geometry.
Geometry 4: Angles	Summer 2	Angle, triangle, quadrilateral, straight line, deduction	Pupils develop logical reasoning by solving increasingly complex angle problems and justifying their methods.

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Algebra 5: Inequalities	Summer 2	Inequality, solution set, boundary, number line	Pupils extend equation-solving skills and represent mathematical relationships graphically and algebraically.
How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – one per term.		
Developing Independent and Home Learning Skills	Sparx Maths is used for home learning tasks, as well as a platform for independent study.		
Useful e-Learning Resources (e.g., web links)	www.sparxmaths.com www.dr frostmaths.com www.corbettmaths.com www.mathsgenie.co.uk		
Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.		
Enrichment activities			
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.		
KS3 Maths Co-ordinator	Mr A Chauhan a.chauhan@wansteadhigh.co.uk		

Mathematics Year 8

Year 8 pupils receive 7 lessons of Mathematics each fortnight.

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives. Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills. Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is taught	When is it taught?	Reading list and Literacy focus (DWOTs)	Where is the curriculum ambitious?
Algebra 2: Substitution	Autumn 1	substitution, expression, formula, powers, negative numbers	Pupils evaluate increasingly complex algebraic expressions and compare mathematical representations.
Algebra 3: Expanding & Factorising	Autumn 1	expand, factorise, expression, identity, indices	Introduces formal algebraic manipulation and concepts that underpin GCSE Higher algebra.
Data 1: Representing Data	Autumn 1	frequency, coordinates, graph, timetable, data	Develops interpretation of real-world data through a range of representations.
Data 2: Averages Mean, median, mode	Autumn 1	mean, median, mode, range, sample	Encourages multiplicative reasoning and builds foundations for proportional thinking.
Ration & Proportion 1: Ratio	Autumn 1	ratio, proportion, scale, fraction	Moves pupils from experimental evidence to theoretical modelling.
Geometry 2: 2D Shapes & Perimeter	Autumn 2	perimeter, symmetry, circumference, radius, polygon	Connects geometric reasoning with algebraic expressions and problem solving.
Probability 2: Probability Diagrams	Autumn 2	probability, outcome, relative frequency	Moves pupils from experimental evidence to theoretical modelling.
Ratio & Proportion 2: Real-Life Ratio & Proportion	Autumn 2	proportion, scale, currency, unitary method	Applies mathematical reasoning to authentic real-world situations.
Algebra 5: Inequalities	Autumn 2	inequality, solution set, number line	Introduces multiple-solution reasoning and GCSE-style algebraic thinking.
Geometry 3: Area	Spring 1	area, circle, trapezium, compound shape	Requires pupils to select and apply appropriate formulae in unfamiliar contexts.
Data 4: Representing Data	Spring 1	scatter graph, frequency polygon, correlation	Explores more sophisticated statistical representations and interpretation.
Number 8: Percentages (Calculator)	Spring 1	percentage, multiplier, compound interest	Builds financial literacy and prepares pupils for GCSE percentage methods.
Algebra 7: Straight Line Graphs	Spring 2	graph, coordinate, midpoint, line	Introduces graphical representations of algebraic relationships.

Algebra 8: Equations of Straight Lines	Spring 2	gradient, equation, rate of change	Develops understanding of functions and prepares pupils for GCSE graph work
Data 5: Averages	Spring 2	average, grouped data, mean	Extends statistical reasoning through increasingly complex problems.
Geometry 5: 3D Shapes & Surface Area	Summer 1	prism, net, cylinder, surface area	Strengthens spatial reasoning and visualisation skills.
Ratio & Proportion 3: Compound Measures	Summer 1	speed, density, pressure, units	Links mathematics directly to concepts encountered in science and engineering.
Probability 3: Probability Diagrams	Summer 1	tree diagram, Venn diagram, probability	Develops structured mathematical reasoning and problem solving.
Geometry 6: Volume	Summer 2	volume, prism, cylinder, cross-section	Extends understanding from area to three-dimensional measures.
Ratio & Proportion 4: Distance-Time & Velocity-Time Graphs	Summer 2	distance-time, velocity-time, gradient	Applies algebra and graph skills to real-world modelling.
Geometry 7: Angles in Parallel Lines & Bearings	Summer 2	bearing, parallel lines, scale drawing	Requires logical deduction and application in navigation contexts.
Algebra 9: Simultaneous Equations	Summer 2	simultaneous equations, solution, graph	A challenging GCSE topic requiring pupils to connect multiple algebraic methods.

How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – one per term.
Developing Independent and Home Learning Skills	Sparx Maths is used for home learning tasks, as well as a platform for independent study.
Useful e-Learning Resources (e.g., web links)	www.sparxmaths.com www.dr frostmaths.com www.corbettmaths.com www.mathsgenie.co.uk
Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.
Enrichment activities	
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.
Head of Department and email contact	Mr A Chauhan a.chauhan@wansteadhigh.co.uk

Mathematics Year 9

Year 9 pupils receive 8 lessons of Mathematics each fortnight.

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives.

Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills.

Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is taught	When is it taught?	Reading list and Literacy focus (DWOTs)	Where is the curriculum ambitious?
Number	Autumn 1	indices, BIDMAS, prime factors, HCF, LCM, estimation	Pupils strengthen fluency with number techniques that underpin GCSE success, developing reasoning through estimation and factor methods.
Algebra	Autumn 1	expression, equation, factorise, substitute, index laws	Students develop mathematical language and manipulation skills, preparing them for more advanced algebra encountered later in GCSE study.
Graphs, Tables & Charts	Autumn 2	correlation, pie charts, scatter graphs, cumulative frequency, box plots	Pupils interpret and compare increasingly sophisticated statistical representations, drawing conclusions from real-world data.
Fractions & Percentages	Autumn 2	FDP, percentage, multiplier, VAT, interest	Students apply mathematical skills to financial literacy contexts and develop efficient percentage methods needed for GCSE examinations.
Equations, Inequalities & Sequences	Spring 1	equations, inequalities, nth term, sequence, error intervals	Pupils move beyond procedural methods to generalising patterns and modelling situations using algebra.
Angles	Spring 1	alternate angles, corresponding angles, polygons, quadrilaterals, exterior angles	Students justify solutions using geometric reasoning and develop formal mathematical argument.
Averages & Range	Spring 2	mean, median, mode, range, grouped data	Pupils are encouraged to interpret data critically and select appropriate statistical measures.
Perimeter, Area & Volume 1	Spring 2	perimeter, area, volume, surface area, prism	Students apply formulae in increasingly complex contexts and make connections between 2D and 3D geometry.
Graphs	Summer 1	gradient, rate of change, coordinates, $y=mx+c$, quadratic graph	Pupils connect graphical, algebraic and contextual representations to model real-life situations mathematically.

Transformations	Summer 1	reflection, rotation, translation, vector, enlargement	Students develop spatial reasoning and precision through transformational geometry and coordinate methods.
Ratio & Proportion	Summer 2	ratio, proportion, scale, unitary method, inverse proportion	Pupils apply multiplicative reasoning in authentic contexts including finance, scale drawing and problem solving.
Right-Angled Triangles	Summer 2	Pythagoras, trigonometry, SOHCAHTOA, hypotenuse, exact values	Students encounter key GCSE concepts that combine geometry, algebra and problem solving, preparing them for higher levels of mathematical reasoning.

How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – one per term.
Developing Independent and Home Learning Skills	Sparx Maths is used for home learning tasks, as well as a platform for independent study.
Useful e-Learning Resources (e.g., web links)	www.sparxmaths.com www.dr frostmaths.com www.corbettmaths.com www.mathsgenie.co.uk

Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.
Enrichment activities	
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.

Head of Department and email contact	Mr A Chauhan a.chauhan@wansteadhigh.co.uk
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Mathematics Foundation Year 10

Year 10 pupils receive 8 lessons of Mathematics each fortnight.

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives. Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills. Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is taught	When is it taught?	Reading list and Literacy focus (DWOTs)	Where is the curriculum ambitious?
Number	Autumn 1	indices, BIDMAS, prime factors, HCF, LCM, estimation	Pupils strengthen fluency with number techniques that underpin GCSE success, developing reasoning through estimation and factor methods.
Algebra	Autumn 1	expression, equation, factorise, substitute, index laws	Students develop mathematical language and manipulation skills, preparing them for more advanced algebra encountered later in GCSE study.
Fractions & Percentages	Autumn 1	FDP, percentage, multiplier, VAT, interest	Students apply mathematical skills to financial literacy contexts and develop efficient percentage methods needed for GCSE examinations.
Graphs, Tables & Charts	Autumn 2	correlation, pie charts, scatter graphs, cumulative frequency, box plots	Pupils interpret and compare increasingly sophisticated statistical representations, drawing conclusions from real-world data.
Equations, Inequalities & Sequences	Autumn 2 Spring 1	equations, inequalities, nth term, sequence, error intervals	Pupils move beyond procedural methods to generalising patterns and modelling situations using algebra.
Angles	Spring 1	alternate angles, corresponding angles, polygons, quadrilaterals, exterior angles	Students justify solutions using geometric reasoning and develop formal mathematical argument.
Averages & Range	Spring 1	mean, median, mode, range, grouped data	Pupils are encouraged to interpret data critically and select appropriate statistical measures.
Perimeter, Area & Volume 1	Spring 2	perimeter, area, volume, surface area, prism	Students apply formulae in increasingly complex contexts and make connections between 2D and 3D geometry.
Graphs	Spring 2	gradient, rate of change, coordinates, $y=mx+c$, quadratic graph	Pupils connect graphical, algebraic and contextual representations to model real-life situations mathematically.
Transformations	Summer 1	reflection, rotation, translation, vector, enlargement	Students develop spatial reasoning and precision through

			transformational geometry and coordinate methods.
Ratio & Proportion	Summer 1	ratio, proportion, scale, unitary method, inverse proportion	Pupils apply multiplicative reasoning in authentic contexts including finance, scale drawing and problem solving.
Right-Angled Triangles	Summer 1	Pythagoras, trigonometry, SOHCAHTOA, hypotenuse, exact values	Students encounter key GCSE concepts that combine geometry, algebra and problem solving, preparing them for higher levels of mathematical reasoning.
Probability	Summer 2	probability, relative frequency, tree diagrams, conditional probability, Venn diagrams, sample space	Pupils move beyond simple probability calculations to analysing dependent and independent events, comparing experimental and theoretical probability, and using formal representations such as tree diagrams and Venn diagrams.
Multiplicative Reasoning	Summer 2	percentages, compound interest, growth and decay, speed, density, pressure	Students apply proportional reasoning to increasingly complex financial and scientific contexts, developing mathematical modelling skills through compound measures and multi-step percentage problems.

How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – one per term.
Developing Independent and Home Learning Skills	Sparx Maths is used for home learning tasks, as well as a platform for independent study.
Useful e-Learning Resources (e.g., web links)	www.sparxmaths.com www.dr frostmaths.com www.corbettmaths.com www.mathsgenie.co.uk
Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.
Enrichment activities	Weekly homework support club.
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.
Head of Department and email contact	Ms M Sharee m.sharee@wansteadhigh.co.uk

Mathematics Year 10 Higher

Year 10 pupils receive 8 lessons of Mathematics each fortnight.

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives. Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills. Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is taught	When is it taught (Terms or Half Terms)	Reading list and Literacy focus	
Algebra	Autumn 1	factorising, quadratic, proof, formulae, sequences, indices	Pupils move from procedural fluency to mathematical generalisation and proof, introducing Higher-only content such as quadratic sequences and algebraic proof.
Interpreting & Representing Data	Autumn 1	averages, histogram, correlation, scatter graph, frequency polygon, data	Pupils analyse increasingly sophisticated statistical representations and evaluate trends, reliability and relationships within data.
Fractions, Ratio & Percentages	Autumn 1	recurring decimals, compound interest, ratio, proportion, percentage	Pupils connect numerical, graphical and algebraic representations of proportional relationships and solve complex real-life financial problems.
Angles & Trigonometry	Autumn 2	polygons, Pythagoras, trigonometry, SOHCAHTOA, exact values	Higher-level problem solving is developed through exact values, surd solutions and multi-step trigonometric reasoning.
Graphs	Autumn 2	gradient, rate of change, midpoint, circle equation, coordinates	Pupils develop a deeper understanding of graphical modelling and are introduced to Higher-only coordinate geometry.
Area & Volume	Autumn 2	area, volume, surface area, sectors, bounds, circles	Pupils solve complex geometric problems requiring accurate application of formulae, reasoning with π and working with upper and lower bounds
Transformations, Loci & Bearings	Spring 1	transformations, enlargement, loci, bearings, constructions	Higher-tier concepts such as negative scale factor enlargements, invariant points and combined transformations deepen geometric reasoning.
Equations & Inequalities	Spring 1	quadratics, inequalities, simultaneous equations, roots, algebra	Students engage with some of the most challenging GCSE topics, developing multiple approaches to solving algebraic problems and reasoning mathematically.
Probability	Spring 2	probability, tree diagrams, Venn diagrams, conditional probability, relative frequency	Pupils explore sophisticated probabilistic models and learn to interpret and solve complex probability situations using multiple representations.

Multiplicative Reasoning	Spring 2	compound interest, depreciation, density, pressure, direct proportion, inverse proportion	Mathematics is applied across finance, science and real-world contexts, requiring pupils to model and solve problems using advanced proportional reasoning.
Similarity & Congruence	Spring 2	congruence, similarity, scale factor, proof, frustum, volume	Students develop formal mathematical proof and apply multiplicative reasoning to geometric contexts, including Higher-only work on area and volume scale factors and frustums.
Further Trigonometry & Graphs	Summer 1	sine rule, cosine rule, trigonometric graphs, exact values, bearings, 3D trigonometry	Pupils move beyond right-angled triangle trigonometry to advanced Higher-only applications requiring algebraic reasoning, graphical interpretation and multi-step problem solving in 2D and 3D contexts.
Further Statistics	Summer 1	stratified sampling, cumulative frequency, box plot, histogram, frequency density, IQR	Students evaluate the reliability of data and compare populations using sophisticated statistical techniques that extend well beyond Foundation GCSE requirements.
Equations and Graphs	Summer 2	simultaneous equations, inequalities, quadratic graphs, cubic graphs, iteration	Pupils connect algebraic and graphical methods to solve increasingly complex problems, developing a deeper understanding of functions and mathematical modelling.
Circle Theorems	Summer 2	tangent, chord, cyclic quadrilateral, alternate segment theorem, circle theorem	Students develop advanced deductive reasoning through geometric proof, making links between geometry, algebra and coordinate geometry in Higher-only contexts.

How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – one per term.
Developing Independent and Home Learning Skills	Sparx Maths is used for home learning tasks, as well as a platform for independent study.
Useful e-Learning Resources (e.g., web links)	www.sparxmaths.com www.dr frostmaths.com www.corbettmaths.com www.mathsgenie.co.uk

Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.
Enrichment activities	
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.

Head of Department and email contact	Ms M Sharee m.sharee@wansteadhigh.co.uk
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Mathematics Year 11 Foundation

Year 11 pupils receive 8 lessons of Mathematics each fortnight.

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives. Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills. Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is taught	When is it taught (Terms or Half Terms)	Reading list and Literacy focus	Where is the curriculum ambitious?
Sequences	Autumn 1	sequences, nth term, arithmetic sequence, geometric sequence, Fibonacci	Pupils develop algebraic thinking by generalising patterns and predicting terms using formal rules, preparing them for higher-level algebraic reasoning.
Indices & Standard Form	Autumn 1	indices, powers, roots, standard form, calculator skills	Pupils extend numerical fluency by working with very large and very small numbers in scientific contexts and applying index laws efficiently.
Further Algebra	Autumn 1	factorising, formulae, substitution, proof, function machines	Pupils move beyond procedural methods and begin to justify and generalise mathematically through algebraic argument and proof.
Quadratic Equations & Graphs	Autumn 1	quadratic graphs, roots, turning points, factorising, cubic graphs	Pupils make links between algebraic and graphical representations, developing deeper understanding of mathematical relationships.
Perimeter, Area & Volume 2	Autumn 2	sectors, arc length, surface area, volume, composite solids	Pupils solve increasingly complex geometric problems involving multi-step reasoning and accurate use of formulae.
Transformations	Autumn 2	reflection, rotation, translation, enlargement, transformation	Pupils develop spatial reasoning while communicating mathematical ideas precisely using formal geometrical language.
Constructions & Loci	Autumn 2	loci, constructions, compass, bisector, regions	Pupils develop accuracy, precision and logical reasoning through geometric constructions and locus problems.
Averages, Grouped Data & Comparing Distributions	Autumn 2	mean, median, mode, range, grouped data	Pupils evaluate and compare data critically, selecting appropriate statistical measures and interpreting results in context.
Direct & Inverse Proportion	Autumn 2	proportion, unitary method, inverse proportion, graphs, ratio	Pupils apply proportional reasoning to increasingly sophisticated real-world contexts and graphical representations.
Revision Period & Closing Gaps	Spring 1 Spring 2		

How are pupils informally and formally assessed?	Pupils have weekly low-stakes formative mini-tests in lessons based on homework, as well as two mock exams – one in Autumn and one in Spring.
Developing Independent and Home Learning Skills	Pupils will complete exam practice for homework.
Useful e-Learning Resources (e.g., web links)	www.sparxmaths.com www.drfrostmaths.com www.corbettmaths.com www.mathsgenie.co.uk
Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.
Enrichment activities	
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.
Head of Department and email contact	Ms M Sharee m.sharee@wansteadhigh.co.uk

Mathematics Year 11 Higher

Year 11 pupils receive 8 lessons of Mathematics each fortnight.

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives. Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills. Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is taught	When is it taught (Terms or Half Terms)	Reading list and Literacy focus	Where is the curriculum ambitious?
Further Trigonometry & Graphs	Autumn 1	sine rule, cosine rule, exact values, trigonometry, 3D trig, trig graphs	Pupils extend beyond right-angled trigonometry and apply advanced methods in multi-step geometric problems, graphical analysis and three-dimensional contexts.
Quadratics & Algebraic Methods	Autumn 1	quadratics, completing the square, quadratic formula, inequalities, proof	Students develop sophisticated algebraic reasoning by selecting efficient solution methods and constructing mathematical proofs using identities and quadratics.
Functions	Autumn 1	functions, composite functions, inverse functions, notation, mapping	Pupils encounter abstract algebraic structures and develop a deeper understanding of mathematical relationships and transformations.
Transformations of Functions	Autumn 1	transformations, circle equation, tangent, graph, function	Students connect algebra, geometry and graphical representations through Higher-only concepts such as circle equations and function transformations.
Gradients of Curves, Area Under Graphs & Iteration	Autumn 2	gradient, rate of change, iteration, trapezium rule, area under graph	Pupils are introduced to concepts that underpin further mathematical study, including numerical methods and the foundations of calculus.
Proportion & Exponential Models	Autumn 2	direct proportion, inverse proportion, exponential growth, decay, modelling	Students move from procedural proportional reasoning to mathematical modelling using algebraic representations and exponential relationships.
Further Statistics	Autumn 2	cumulative frequency, box plots, histogram, frequency density, sampling	Pupils develop critical statistical literacy by evaluating distributions, analysing variation and interpreting complex data sets.
Probability	Autumn 2	conditional probability, Venn diagrams, sets, tree diagrams, probability	Students tackle some of the most demanding GCSE probability content, combining multiple representations and applying logical reasoning to unfamiliar situations.
Further Maths Content Set 1	Spring 1		High-attaining students may study the AQA Level 2 Certificate in Further Mathematics, which extends the GCSE curriculum through advanced algebra, proof, trigonometry, functions,

Revision Period & Closing Gaps Sets 2 & 3	Spring 1 Spring 2	calculus and matrices, providing excellent preparation for A Level study.
How are pupils informally and formally assessed?	Pupils have weekly low-stakes formative mini-tests in lessons based on homework, as well as two mock exams – one in Autumn and one in Spring.	
Developing Independent and Home Learning Skills	Pupils will complete exam practice for homework.	
Useful e-Learning Resources (e.g., web links)	www.sparxmaths.com www.dr frostmaths.com www.corbettmaths.com www.mathsgenie.co.uk	
Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.	
Enrichment activities		
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.	
Head of Department and email contact	Ms M Sharee m.sharee@wansteadhigh.co.uk	

A Level Mathematics Year 12

SUBJECT: Mathematics	HEAD OF DEPARTMENT: Ms M Sharee
QUALIFICATION: A-Level	LENGTH: 2 years (Year 12 & 13)
EXAM BOARD: EDEXCEL	SPECIFICATION NO. 9MA0

ENTRY REQUIREMENTS:

Grade 7 in Mathematics and 5 in Physics.

Pupils receive 9 lessons of Mathematics each fortnight.

Mathematics is a discipline of profound importance, underpinning a vast range of academic subjects and professional fields, and equipping pupils with the analytical tools needed to understand an increasingly complex world. At A Level, the subject demands rigour, precision, and resilience, qualities central to the school's ethos of Education with Character, whilst developing the logical reasoning, problem-solving, and analytical thinking skills that prepare pupils for higher education and professional life.

What is taught?	When is it taught?	Reading list and Literacy focus	Where the curriculum is ambitious
Pure Mathematics - Algebraic Expressions - Quadratics - Equations and Inequalities - Straight Line Graphs - Circles Applied: Statistics - Probability - Statistical Distributions	Autumn 1	Core Text Edexcel A Level Mathematics Year 1/AS (Pearson) Wider Reading Alex's Adventures in Numberland — Alex Bellos Why Do Buses Come in Threes? — Rob Eastaway & Jeremy Wyndham	Pupils extend GCSE algebra into coordinate geometry and abstract reasoning from the very first half term, reflecting high expectations from the outset. These foundations directly support progression into engineering, data science, economics, and the physical sciences.
Pure Mathematics - Binomial Expansion - Graphs and Transformations - Differentiation Applied: Statistics - Hypothesis Testing Applied: Mechanics - Vectors - Mathematical Modelling	Autumn 2	Wider Reading The Calculus Story — David Acheson	The introduction of calculus is deliberately ambitious: pupils are expected to understand the concept of the derivative, not merely apply it as a procedure. The YEAR 12 Challenge Cycle 1 extends learning beyond routine examination questions, building the resilience and independent thinking valued across analytical careers in finance, engineering, and medicine.
Pure Mathematics - Differentiation (continued) - Integration	Spring 1	Wider Reading The Maths Behind — Colin Beveridge	Pupils develop Integration alongside Differentiation, grasping the profound connection between the two that underpins all of calculus. The Mechanics strand requires

Applied: Mechanics • Constant Acceleration • Forces			pupils to apply these skills to physical problems, developing the cross-strand thinking sought by universities and employers in STEM fields.
Pure Mathematics • Exponentials and Logarithms • Trigonometric Ratios • Trigonometric Identities and Equations Applied: Mechanics • Variable Acceleration • Applied: Statistics • Data Collection • Location and Spread	Spring 2	Wider Reading The Maths Behind — Colin Beveridge	Variable Acceleration in Mechanics requires pupils to apply calculus in a physical context, making a direct connection between the Pure and Applied strands that reflects university-level mathematical thinking. Exponentials and logarithms are of fundamental importance across science, finance, and computing, and the Year 12 Challenge Cycle 2 provides further stretch beyond examination requirements.
Pure Mathematics • Exponentials and Logarithms • Trigonometric Ratios • Trigonometric Identities and Equations Applied: Mechanics • Variable Acceleration Applied: Statistics • Data Collection • Location and Spread	Summer 1	Wider Reading The Maths Behind — Colin Beveridge	Variable Acceleration in Mechanics requires pupils to apply calculus in a physical context, making a direct connection between the Pure and Applied strands that reflects university-level mathematical thinking. Exponentials and logarithms are of fundamental importance across science, finance, and computing, and the Year 12 Challenge Cycle 2 provides further stretch beyond examination requirements.
Pure Mathematics • Algebraic Methods (consolidation) • Trigonometric Functions • Trigonometric Modelling Applied: Statistics • Regression • Moments	Summer 2	Examination Preparation Pupils are expected to engage independently with past papers and mark schemes as part of their revision, developing the self-directed study habits essential for success at A Level and beyond.	The Year 12 Mock Examinations at the end of the year are treated as a genuine assessment milestone. Pupils are expected to draw on the full breadth of Year 12 learning across all Pure and Applied strands

How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – 1 per term.
Developing Independent and Home Learning Skills	Pupils are expected to complete consolidation exercises after every lesson, with home learning set through the Pearson Edexcel textbook and Dr Frost Maths, both of which are also available for independent revision and further study.
Useful e-Learning Resources (e.g., web links)	www.dr frostmaths.com www.physicsandmathstutor.com www.mathsgenie.co.uk www.madasmaths.com www.examsolutions.net www.youtube.com/@BicenMaths

Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.
Enrichment activities	Pupils are encouraged to attend Maths Clinic for additional support and challenge, and those aspiring to study Mathematics at a competitive university are invited to join the Oxbridge Prep Club.
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.
Head of Department and email contact	Ms M Sharee Head of Mathematics m.sharee@wansteadhigh.co.uk Ms M Tayeba KS5 Maths Lead m.tayeba@wansteadhigh.co.uk

A Level Mathematics Year 13

SUBJECT: Mathematics	HEAD OF DEPARTMENT: Ms M Sharee
QUALIFICATION: A-Level	LENGTH: 2 years (Year 12 & 13)
EXAM BOARD: EDEXCEL	SPECIFICATION NO. 9MA0
ENTRY REQUIREMENTS: Grade 7 in Mathematics.	

Pupils receive 10 lessons of Mathematics each fortnight.

Mathematics is a discipline of profound importance, underpinning a vast range of academic subjects and professional fields, and equipping pupils with the analytical tools needed to understand an increasingly complex world. At A Level, the subject demands rigour, precision, and resilience, qualities central to the school's ethos of Education with Character, whilst developing the logical reasoning, problem-solving, and analytical thinking skills that prepare pupils for higher education and professional life.

What is taught?	When is it taught?	Reading list and Literacy focus	Where the curriculum is ambitious
Pure Mathematics - Trigonometry and Modelling - Differentiation Applied: Statistics - Regression - Moments - Projectiles - Forces and Friction	Autumn 1	Core Text Edexcel A Level Mathematics Year 2 (Pearson) Wider Reading The Calculus Story — David Acheson	Year 13 opens with advanced differentiation and trigonometric modelling, demanding a level of fluency and conceptual understanding that directly reflects the rigour of university mathematics. The mechanics topics require pupils to model complex real-world scenarios, developing the precision and critical reasoning highly valued in physics, engineering, and applied science degrees.
Pure Mathematics - Integration Applied: Statistics - Application of Forces - Further Kinematics - Normal Distribution Y13 Mocks	Autumn 2	Wider Reading The Art of Statistics — David Spiegelhalter	Advanced integration techniques, including integration by parts and substitution, represent some of the most demanding Pure content of the course. The Y13 Mock examinations at the end of this half term require pupils to draw on two years of accumulated knowledge, and results are used to inform targeted intervention and support ahead of the final examinations.
Pure Mathematics - Parametric Equations - Binomial Expansion (Year 2) - Functions and Graphs Applied: Mechanics - Vectors	Spring 1	Wider Reading Things to Make and Do in the Fourth Dimension — Matt Parker	Parametric equations and the extended Binomial Expansion introduce pupils to powerful new ways of representing and analysing mathematical relationships, directly bridging to university-level pure mathematics. The combination of Pure and Applied content in this half term demands sophisticated cross-strand thinking under increasing time pressure as examinations approach.

Applied: Statistics Sequences and Series			
Pure Mathematics - Numerical Methods - Proof by Contradiction Applied: Statistics - Revision Y13 Mocks	Spring 2	Examination Preparation Pupils are expected to work independently through past papers and mark schemes, developing the exam technique and self-assessment skills essential for success at A Level and beyond.	Proof by Contradiction is one of the most elegant and intellectually demanding topics of the entire course, requiring pupils to construct rigorous logical arguments of the kind central to university mathematics. Numerical Methods introduce pupils to computational thinking and iterative problem-solving, skills of growing importance across science, finance, and technology careers.
Revision Structured revision of all Pure and Applied content across both years of the course, with a focus on past paper practice, examination technique, and consolidation of weaker areas identified through mock performance.	Summer 1	Examination Preparation Past papers, mark schemes, and examiner reports are available via www.physicsandmathstutor.com and www.madasmaths.com	The structured revision programme ensures that all pupils approach the final examinations with confidence across the full breadth of the specification. Pupils are expected to take significant ownership of their revision, drawing on two years of study to identify and address gaps independently.
A Level Examinations Pupils sit three Edexcel A Level Mathematics papers: two Pure Mathematics papers and one Statistics and Mechanics paper, each of two hours duration.	Summer 2		The Edexcel A Level Mathematics qualification is widely recognised by universities and employers as evidence of analytical ability, logical precision, and intellectual rigour. It provides a strong foundation for degree-level study in mathematics, science, engineering, economics, computing, and many other disciplines.
How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – 1 per term.		
Developing Independent and Home Learning Skills	Pupils are expected to complete consolidation exercises after every lesson, with home learning set through the Pearson Edexcel textbook and Dr Frost Maths, both of which are also available for independent revision and further study.		
Useful e-Learning Resources (e.g. web links)	www.drfrstmaths.com www.physicsandmathstutor.com www.mathsgenie.co.uk www.madasmaths.com www.examsolutions.net www.youtube.com/@BicenMaths		
Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.		
Enrichment activities	Pupils are encouraged to attend Maths Clinic for additional support and challenge, and those aspiring to study Mathematics at a competitive university are invited to join the Oxbridge Prep Club.		
Careers curriculum	A Level Mathematics is highly regarded by universities and employers across a broad range of fields, and pupils are regularly reminded of the diverse career pathways the subject supports. Careers linked to Mathematics include engineering, finance, data science, computing, medicine, economics, and research, reflecting the universal value of strong analytical and problem-solving skills.		

Head of Department and email contactMs M Sharee | Head of Mathematics | m.sharee@wansteadhigh.co.ukMs M Tayeba | KS5 Maths Lead | m.tayeba@wansteadhigh.co.uk

A Level Further Mathematics Year 12

SUBJECT:

Further Mathematics

HEAD OF DEPARTMENT:

Ms M Sharee

QUALIFICATION:

A-Level

LENGTH:

2 years (Year 12 & 13)

EXAM BOARD:

EDEXCEL

SPECIFICATION NO.

9FM0

ENTRY REQUIREMENTS:

Grade 8 in Mathematics and must take A-Level Mathematics.

Pupils receive 9 lessons of Mathematics each fortnight.**Pupils receive 9 lessons of Mathematics each fortnight.**

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives.

Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills.

Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is taught?	When is it taught?	Reading list and Literacy focus	Where the curriculum is ambitious
Pure Mathematics - Trigonometry and Modelling - Differentiation Applied: Statistics - Regression - Moments - Projectiles - Forces and Friction	Autumn 1	Wider Reading The Calculus Story — David Acheson Particularly valuable for pupils extending their understanding of differentiation into more advanced techniques.	Year 13 opens with advanced differentiation and trigonometric modelling, demanding a level of fluency and conceptual understanding that directly reflects the rigour of university mathematics. The mechanics topics require pupils to model complex real-world scenarios, developing the precision and critical reasoning highly valued in physics, engineering, and applied science degrees.
Pure Mathematics - Integration Applied: Statistics - Application of Forces - Further Kinematics - Normal Distribution Y13 Mocks	Autumn 2	Wider Reading The Art of Statistics — David Spiegelhalter An accessible and engaging read for pupils studying the Normal Distribution; explores how statistics is used to make sense of the real world.	Advanced integration techniques, including integration by parts and substitution, represent some of the most demanding Pure content of the course. The Y13 Mock examinations at the end of this half term require pupils to draw on two years of accumulated knowledge, and results are used to inform targeted intervention and support ahead of the final examinations.
Pure Mathematics - Parametric Equations - Binomial Expansion - Functions and Graphs	Spring 1	Wider Reading Things to Make and Do in the Fourth Dimension — Matt Parker	Parametric equations and the extended Binomial Expansion introduce pupils to powerful new ways of representing and analysing mathematical relationships, directly bridging to university-level pure mathematics.

Applied: Mechanics • Vectors Applied: Statistics Sequences and Series		Supports the study of functions, series, and mathematical structure in an engaging and accessible way.	The combination of Pure and Applied content in this half term demands sophisticated cross-strand thinking under increasing time pressure as examinations approach.
Pure Mathematics • Numerical Methods • Proof by Contradiction Applied: Statistics • Revision Y13 Mocks	Spring 2	Examination Preparation Pupils are expected to work independently through past papers and mark schemes, developing the exam technique and self-assessment skills essential for success at A Level and beyond.	Proof by Contradiction is one of the most elegant and intellectually demanding topics of the entire course, requiring pupils to construct rigorous logical arguments of the kind central to university mathematics. Numerical Methods introduce pupils to computational thinking and iterative problem-solving, skills of growing importance across science, finance, and technology careers.
Revision Structured revision of all Pure and Applied content across both years of the course, with a focus on past paper practice, examination technique, and consolidation of weaker areas identified through mock performance.	Summer 1	Examination Preparation Past papers, mark schemes, and examiner reports are available via www.physicsandmathstutor.com and www.madasmaths.com	The structured revision programme ensures that all pupils approach the final examinations with confidence across the full breadth of the specification. Pupils are expected to take significant ownership of their revision, drawing on two years of study to identify and address gaps independently.
A Level Examinations Pupils sit three Edexcel A Level Mathematics papers: two Pure Mathematics papers and one Statistics and Mechanics paper, each of two hours duration.	Summer 2		The Edexcel A Level Mathematics qualification is widely recognised by universities and employers as evidence of analytical ability, logical precision, and intellectual rigour. It provides a strong foundation for degree-level study in mathematics, science, engineering, economics, computing, and many other disciplines.

How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – 1 per term.
Developing Independent and Home Learning Skills	We use the Sparx Maths for home learning tasks, as well as a platform for independent study.
Useful e-Learning Resources (e.g., web links)	www.uplearn.co.uk www.dr frostmaths.com www.physicsandmathstutor.com www.mathsgenie.co.uk
Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.
Enrichment activities	Weekly homework support club.
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.
Head of Department and email contact	Ms M Sharee Head of Mathematics m.sharee@wansteadhigh.co.uk Ms M Tayeba KS5 Maths Lead m.tayeba@wansteadhigh.co.uk

A Level Further Mathematics Year 13

SUBJECT: Further Mathematics	HEAD OF DEPARTMENT: Ms M Sharee
QUALIFICATION: A-Level	LENGTH: 2 years (Year 12 & 13)
EXAM BOARD: EDEXCEL	SPECIFICATION NO. 9FM0

ENTRY REQUIREMENTS:

Grade 8 in Mathematics and must take A-Level Mathematics.

Pupils receive 10 lessons of Mathematics each fortnight.

Mathematics is a vital part of the curriculum, pervading many other disciplines. It allows pupils to understand and make sense of a complex and ever-changing world, as well as providing the basic framework for navigating the numeracy we all encounter in our day-to-day lives.

Mathematics inspires pupils to develop Education with Character by promoting resilience through challenge and independent learning skills.

Mathematics develops skills including problem solving, reasoning and analytical thinking.

What is taught	When is it taught (Terms or Half Terms)	Reading list and Literacy focus	Where the curriculum is ambitious
Core Pure Mathematics Complex Numbers Series Hyperbolic Functions (6.1–6.4) Applied: Further Mechanics Momentum and Impulse Work, Energy and Power	Autumn 1	Wider Reading Unknown Quantity: A Real and Imaginary History of Algebra — John Derbyshire	The extension of complex numbers into further theory, alongside hyperbolic functions, represents university-level pure mathematics introduced at A Level. The Further Mechanics strand develops advanced modelling skills highly valued in physics and engineering degrees.
Core Pure Mathematics Series (continued) Hyperbolic Functions (6.5) Applied: Further Mechanics Work, Energy and Power Elastic Strings and Springs Y13 Mocks	Autumn 2	Wider Reading Humble Pi — Matt Parker	The Y13 Mocks at the end of this half term require pupils to draw on two full years of Further Mathematics, demanding the kind of synoptic thinking expected at university level. Results inform targeted support for the final examination period.
Core Pure Mathematics Methods of Calculus Volumes of Revolution Polar Coordinates Applied: Further Mechanics Elastic Strings and Springs	Spring 1	Wider Reading Things to Make and Do in the Fourth Dimension — Matt Parker	Polar Coordinates and advanced calculus techniques are encountered at university level in applied mathematics and theoretical physics. Elastic Collisions in One Dimension extends mechanics into abstract physical modelling, developing precision and rigour valued across STEM disciplines.

Elastic Collisions in One Dimension			
Core Pure Mathematics Methods in Differential Equations Modelling with Differential Equations Applied: Further Mechanics Elastic Collisions in Two Dimensions Y13 Mocks	Spring 2	Examination Preparation Past papers and mark schemes available via www.physicsandmathstutor.com and www.madasmaths.com	Differential equations at this level demand a depth of abstract reasoning that mirrors the expectations of first-year university mathematics. The Y13 Mocks require pupils to synthesise learning across both years of the course under examination conditions.
Revision Structured revision of all Core Pure and Applied content, with a focus on past paper practice and consolidation of weaker areas identified through mock performance.	Summer 1	Past papers available via www.physicsandmathstutor.com and www.madasmaths.com	Pupils are expected to take ownership of their revision across the full breadth of the specification, drawing on two years of Further Mathematics to identify and address gaps independently.
A Level Examinations Pupils sit four Edexcel A Level Further Mathematics papers: two Core Pure papers and two Further Mathematics Option papers, each of one hour thirty minutes duration.	Summer 2		A Level Further Mathematics is one of the most demanding qualifications available at sixth form, widely recognised by the most selective universities as strong evidence of mathematical ability, intellectual tenacity, and readiness for degree-level study in mathematics, physics, engineering, and computer science.
How are pupils informally and formally assessed?	Pupils have regular low-stakes formative mini-tests in lessons, as well as three formal summative assessments – 1 per term.		
Developing Independent and Home Learning Skills	We use the Pearson's Textbook & Uplearn for home learning tasks, as well as a platform for independent study.		
Useful e-Learning Resources (e.g. web links)	www.uplearn.co.uk www.dr frostmaths.com www.physicsandmathstutor.com www.mathsgenie.co.uk		
Equipment for lessons	Pens, pencils, rulers, protractors, scientific calculators. Compasses will be provided and pupils should not bring in their own for safeguarding reasons.		
Enrichment activities	Maths Clinic & Oxbridge Prep Club		
Careers curriculum	Relevant links made throughout the curriculum relevant to topics being learned.		
Head of Department and email contact	Ms M Sharee Head of Mathematics m.sharee@wansteadhigh.co.uk Ms M Tayeba KS5 Maths Lead m.tayeba@wansteadhigh.co.uk		