Mathematics Curriculum

Why do we teach Mathematics?

Mathematics is a fundamental tool used to describe the world around us. It is an essential life skill. It helps children understand patterns and relationships in everything.
This understanding is critical for making sound decisions in their lives.
Mathematics forces children to slow down, analyse a problem and devise a logical solution. It encourages them to be creative and to think outside the box, considering different approaches to a problem.
In life, there will be many times when we fail. Mathematics teaches children to understand how to deal with failure. When they make a mistake while solving a problem, this can be used as an opportunity to learn and improve their skills.
Mathematics encourages persistency, to keep trying even when they encounter difficulty.
By understanding Mathematics, children can better understand the world around them. For example, how much money they need to buy something, how long it will take to get somewhere, and how big or small something is. These are essential skills used in their everyday lives.

How do we teach Mathematics? (Key concepts and skills)

We have a well-paced curriculum, designed to provide differentiation, fluency, problem solving and reasoning to boost student's confidence in the subject and support every student's progress.
We teach using an adaptive teaching approach which incorporates the teaching for mastery style.
We strengthen skills and knowledge by providing extra scaffolding and support on key concepts for each lesson, providing students with the Mathematical foundations they need to progress with confidence.
We also extend skills and knowledge by deepening student's understanding of key concepts and build problem solving skills for each lesson, so students can explore key concepts to their fullest.

What do we teach in Mathematics?

Our lessons are focussed on the key areas of Representation and structure, Mathematical thinking, Variation and Fluency.
This enables our students to apply Mathematics to problems, make connections, communicate concepts, access ideas, know key Mathematical facts, think flexibly and have procedural and conceptual variation in their knowledge and skills.
Our curriculum is designed around the 6 key strands of:

- Number,
- Algebra,
- Ratio, proportion and rates of change
- Geometry and Measures
- Probability
- Statistics

We have a coherent curriculum with clear sequencing, linking these key strands.

How is Mathematics personalised for our learners?

Mathematics is a life skill!
We have a diverse student body with different abilities and skills in Mathematics. Therefore, we nurture a mathematical point of view in each of our students and equip each student to think logically, spot patterns and communicate in a variety of ways.
In our curriculum, each student receives a thorough grounding in number skills which builds their confidence to solve Mathematical problems.
We foster a love of mathematics in each student through participation in mathematical competitions, including local and national competitions such as the Young Mathematician of the Year Awards and the UKMT bronze, silver and gold awards. We also have lunchtime puzzle clubs, and bring mathematics to life through enrichment trips.
We provide a level 2 further Mathematics programme for the more able students at KS4 which both challenges them and prepares them for A levels.

Mathematics Curriculum

Year 7	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key content	Unit 1: Analysing and displaying data Unit 2: Number skills	Unit 3: Expressions, functions and formulae Unit 4: Decimals and measures	Unit 5: Fractions and percentages Unit 6: Probability	Unit 7: Ratio and proportion End of spring term assessment.	Unit 8: Lines and angles Unit 9: Sequences and graphs	Unit 10: Transformations Projects and investigations
Key concepts and skills	1.1 Mode, median and range 1.2 Displaying data 1.3 Grouping data 1.4 Averages and comparing data 1.5 Line graphs and more bar charts 2.1 Mental maths 2.2 Addition and subtraction 2.3 Multiplication 2.4 Division 2.5 Money and time 2.6 Negative numbers 2.7 Factors, multiples and primes 2.8 Square numbers	3.1 Functions 3.2 Simplifying expressions 1 3.3 Simplifying expressions 2 3.4 Writing expressions 3.5 Substituting into formulae 3.6 Writing formulae 4.1 Decimals and rounding 4.2 Length, mass and capacity 4.3 Scales and measures 4.4 Working with decimals mentally 4.5 Working with decimals 4.6 Perimeter 4.7 Area 4.8 Units of measure	5.1 Comparing fractions 5.2 Simplifying fractions 5.3 Working with fractions 5.4 Fractions and decimals 5.5 Understanding percentages 5.6 Percentages of amounts 6.1 The language of probability 6.2 Calculating probability 6.3 More probability calculations 6.4 Experimental probability 6.5 Expected outcomes	7.1 Direct proportion 7.2 Writing ratios 7.3 Using ratios 7.4 Ratios, proportions and fractions 7.5 Proportions and percentages	8.1 Measuring and drawing angles 8.2 Lines, angles and triangles 8.3 Drawing triangles accurately 8.4 Calculating angles 8.5 Angles in a triangle 8.6 Quadrilaterals 9.1 Sequences 9.2 Pattern sequences 9.3 Coordinates and midpoints 9.4 Extending sequences 9.5 Straight-line graphs 9.6 Position-to-term rules	10.1 Congruency and enlargements 10.2 Symmetry 10.3 Reflection 10.4 Rotation 10.5 Translations and combined transformations
Summative assessment	Unit 1 assessment Unit 2 assessment (both 30 marks)	Unit 3 assessment Unit 4 assessment (both 30 marks) End of Autumn term assessment (40 marks)	Unit 5 assessment Unit 6 assessment (both 30 marks)	Unit 7 assessment (30 marks) End of Spring term assessment (40 marks)	Unit 8 assessment Unit 9 assessment (both 30 marks)	Unit 10 assessment (30 marks) End of year assessment (50 marks)
Build on		Unit 4 ← Unit 2	Unit 5 ← Unit 4	Unit 7 ← Unit 5	Unit 9 ← Unit 3	Unit 10 ← Unit 2 and Unit 7
Builds towards	Unit 1 → year 8 Unit 3 and 5 Unit 2 → year 8 Unit 1	Unit 3 → year 8 Unit 4 Unit 4 → year 8 Unit 2 and 6	Unit 5 → year 8 Unit 8 and 10 Unit 6 → year 9 Unit 9	Unit 7 → year 8 Unit 6	Unit 8 → year 8 Unit 7 Unit 9 → year 8 Unit 9	Unit 10 → year 10 (F) Unit 10 and year 10 (H) Unit 8

ASPIRING TO EXCELLENCE TOGETHER

HARD WORK AMBITION RESPECT KINDNESS

Mathematics Curriculum

Year 8	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key content	Unit 1: Number Unit 2: Area and volume	Unit 3: Statistics, graphs and charts Unit 4: Expressions and equations	Unit 5: Real-life graphs Unit 6: Decimals and ratio	Unit 7: Lines and angles End of spring term assessment.	Unit 8: Calculating with fractions Unit 9: Straight-Line graphs	Unit 10: Percentages, decimals and fractions Projects and investigations
Key concepts and skills	1.1 Calculations 1.2 Divisibility and division 1.3 Calculating with negative integers 1.4 Powers and roots 1.5 Powers, roots and brackets 1.6 More powers, multiples and factors 2.1 Area of a triangle 2.2 Area of a parallelogram and a trapezium 2.3 Volume of cubes and cuboids 2.4 2D representations of 3D solids 2.5 Surface area of cubes and cuboids 2.6 Measure	3.1 Pie charts 3.2 Using tables 3.3 Stem and leaf diagrams 3.4 Comparing data 3.5 Scatter graphs 3.6 Misleading graphs 4.1 Algebraic powers 4.2 Expressions and brackets 4.3 Factorising expressions 4.4 One-step equations 4.5 Two-step equations 4.6 The balancing method	5.1 Conversion graphs 5.2 Distance-time graphs 5.3 Line graphs 5.4 More line graphs 5.5 Real-life graphs 5.6 Curved graphs 6.1 Ordering decimals and rounding 6.2 Place value calculations 6.3 Calculations with decimals 6.4 Ratio and proportion with decimals	7.1 Quadrilaterals 7.2 Alternate angles and proof 7.3 Angles in parallel lines 7.4 Exterior and interior angles 7.5 Solving geometric problems	8.1 Ordering fractions 8.2 Adding and subtracting fractions 8.3 Multiplying fractions 8.4 Dividing fractions 8.5 Calculating and mixed numbers 9.1 Direct proportion on graphs 9.2 Gradients 9.3 Equations of straight lines	10.1 Fractions and decimals 10.2 Equivalent proportions 10.3 Writing percentages 10.4 Percentages of amounts
Summative assessment	Unit 1 assessment Unit 2 assessment (both 30 marks)	Unit 3 assessment Unit 4 assessment (both 30 marks) End of Autumn term assessment (40 marks)	Unit 5 assessment Unit 6 assessment (both 30 marks)	Unit 7 assessment (30 marks) End of Spring term assessment (40 marks)	Unit 8 assessment Unit 9 assessment (both 30 marks)	Unit 10 assessment (30 marks) End of year assessment (50 marks)
Build on	Unit 1 ← year 7 Unit 2 Unit 2 ← year 7 Unit 4	Unit 3 ← year 7 Unit 1 Unit 4 ← year 7 Unit 3	Unit 5 ← year 7 Unit 1 Unit 6 ← year 7 Unit 4 and 7	Unit 7 ← year 7 Unit 8	Unit 8 ← year 7 Unit 5 Unit 9 ← year 7 unit 9	Unit 10 ← year 7 Unit 5
Builds towards	Unit 1 → year 9 Unit 1 Unit 2 → year 9 Unit 7	Unit 3 → year 9 Unit 3 Unit 4 → year 9 Unit 2	Unit 5 → year 9 Unit 8 Unit 6 → year 9 Unit 4	Unit 7 → year 10(F) Unit 6 and year 10(H) Unit 5 Unit 8 → year 10(F) Unit 4 and year 10(H) Unit 4	Unit 9 → year 9 Unit 8	Unit 10 → year 9 Unit 4

ASPIRING TO EXCELLENCE TOGETHER

HARD WORK AMBITION RESPECT KINDNESS

Mathematics Curriculum

Year 9	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key content	Unit 1: Indices and standard form Unit 2: Expressions and formulae	Unit 3: Dealing with data Unit 4: Multiplicative reasoning	Unit 5: Construction Unit 6: Sequences, inequalities, equations and proportion	Unit 7: Circles, Pythagoras and prisms	Unit 8: Graphs Unit 9: Probability	Unit 10: Comparing shapes Projects and investigations
Key concepts and skills	1.1 Indices 1.2 Calculations and estimates 1.3 More indices 1.4 Standard form 2.1 Solving equations 2.2 Substituting into expressions 2.3 Writing and using formulae 2.4 Using and rearranging formulae 2.5 Index laws and brackets 2.6 Expanding double brackets	3.1 Planning a survey 3.2 Collecting data 3.3 Calculating averages 3.4 Displaying and analysing data 3.5 Presenting and comparing data 4.1 Enlargement 4.2 Negative and fractional scale factors 4.3 Percentage change 4.4 Compound measures 4.5 Direct and inverse proportion	5.1 Using scales 5.2 Basic constructions 5.3 Constructing triangles 5.4 Using accurate scale diagrams 6.1 nth term of arithmetic sequences 6.2 Non-Linear sequences 6.3 Inequalities 6.4 Solving equations 6.5 Proportion	7.1 Circumference of a circle 7.2 Area of a circle 7.3 Pythagoras' Theorem 7.4 Prisms and cylinders 7.5 Errors and bounds	8.1 Using y=mx+c 8.2 More straight-line graphs 8.3 Simultaneous equations 8.4 Graphs of quadratic functions 8.5 More non-linear graphs 9.1 Mutually exclusive events 9.2 Experimental and theoretical probability 9.3 Sample space diagrams 9.4 Two-way tables 9.5 Venn diagrams	10.1 Congruent and similar shapes 10.2 Ratios in triangles 10.3 The tangent ratio 10.4 The sine ratio 10.5 The Cosine ratio 10.6 Using trigonometry to find angles
Summative assessment	Unit 1 assessment Unit 2 assessment (both 30 marks)	Unit 3 assessment Unit 4 assessment (both 30 marks) End of Autumn term assessment (40 marks)	Unit 5 assessment Unit 6 assessment (both 30 marks)	Unit 7 assessment (30 marks) End of Spring term assessment (40 marks)	Unit 8 assessment Unit 9 assessment (both 30 marks)	Unit 10 assessment (30 marks) End of year assessment (50 marks)
Build on	Unit 1 ← year 8 Unit 1 Unit 2 ← year 8 Unit 4	Unit 3 ← year 8 Unit 3 Unit 4 ← year 8 Unit 6	Unit 5 ← Unit 6 ← Unit 2	Unit 7 ← year 8 Unit 2 Unit 8 ← year 8 Unit 5	Unit 9 ←	Unit 10 ← Unit 7
Builds towards	Unit 1 → year 10/11(F) Unit 1 and 18 Unit 1 → year 10/11(H) Unit 1 and 2 Unit 2 → year 10/11(F) Unit 2, 5, 8, 12, 16, 17 and 20 Unit 2 → year 10/11(H) Unit 2, 7, 9, 13, 15 and 17	Unit 3 → year 10/11(F) Unit 3 and 7 Unit 3 → year 10/11(H) Unit 3 and 14 Unit 4 → year 10/11(F) Unit 4, 10, 11, 14 and 19 Unit 4 → year 10/11(H) Unit 4, 8, 11 and 19	Unit 5 → year 10/11(F) Unit 15 Unit 5 → year 10/11(H) Unit 8 Unit 6 → year 10/11(F) Unit 5, 11, 14, 16 and 20 Unit 6 → year 10/11(H) Unit 2, 4, 9, 11, 15, 17 and 19	Unit 7 → year 10/11(F) Unit 8, 12, 15 and 17 Unit 7 → year 10/11(H) Unit 5 and 7	Unit 8 → year 10/11(F) Unit 9, 16 and 20 Unit 8 → year 10/11(H) Unit 6, 9, 15 and 19 Unit 9 → year 10/11(F) Unit 13 Unit 9 → year 10/11(H) Unit 10	Unit 10 → year 10/11(F) Unit 12 and 19 Unit 10 → year 10/11(H) Unit 5, 12 and 13

Mathematics Curriculum

Year 10 (F)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key content	Unit 1: Number Unit 2: Algebra	Unit 3: Graphs, tables and charts Unit 4: Fractions and percentages	Unit 5: Equations, inequalities and sequences Unit 6: Angles	Unit 7: Averages and range Unit 8: Perimeter, area and volume 1	Unit 9: Graphs Unit 10: Transformations	Unit 11: Ratio and proportion Unit 12: Right-angled triangles
Key concepts and skills	1.1 Calculations 1.2 Decimal numbers 1.3 Place value 1.4 Factors and multiples 1.5 Squares, cubes and roots 1.6 Index notation 1.7 Prime factors 2.1 Algebraic expressions 2.2 Simplifying expressions 2.3 Substitution 2.4 Formulae 2.5 Expanding brackets 2.6 Factorising 2.7 Using expressions and formulae	3.1 Frequency tables 3.2 Two-way tables 3.3 Representing data 3.4 Time series 3.5 Stem and leaf diagrams 3.6 Pie charts 3.7 scatter graphs 3.8 Line of best fit 4.1 Working with fractions 4.2 Operations with fractions 4.3 Multiplying fractions 4.4 Dividing fractions 4.5 Fractions and decimals 4.6 Fractions and percentages 4.7 Calculating percentages 1 4.8 Calculating percentages	5.1 Solving equations 1 5.2 Solving equations 2 5.3 Solving equations with brackets 5.4 Introducing inequalities 5.5 More inequalities 5.6 Using Formulae 5.7 Generating sequences 5.8 Using the nth term of a sequence 6.1 Properties of shapes 6.2 Angles in parallel lines 6.3 Angles in triangles 6.4 Exterior and interior angles 6.5 More exterior and interior angles 6.6 Geometrical problems	7.1 Mean and range 7.2 Mode, median and range 7.3 Types of average 7.4 Estimating the mean 7.5 Sampling 8.1 Rectangles, parallelograms and triangles 8.2 Trapezia and changing units 8.3 Area of compound shapes 8.4 Surface area of 3D solids 8.5 Volume of prisms 8.6 More volume and surface area	9.1 Coordinates 9.2 Linear graphs 9.3 Gradient 9.4 y = mx + c 9.5 Real-life graphs 9.6 Distance-time graphs 9.7 More Real-life graphs 10.1 Translation 10.2 Reflection 10.3 Rotation 10.4 Enlargement 10.5 Describing enlargements 10.6 Combining transformations	11.1 Writing ratios 11.2 Using ratios 1 11.3 Ratios and measures 11.4 Using ratios 2 11.5 Comparing using ratios 11.6 Using proportion 11.7 Proportion and graphs 11.8 Proportion problems 12.1 Pythagoras' Theorem 1 12.2 Pythagoras' Theorem 2 12.3 Trigonometry: the sine ratio 1 12.4 Trigonometry: the sine ratio 2 12.5 Trigonometry: the cosine ratio 12.6 Trigonometry: the tangent ratio 12.7 Finding lengths and angles using trigonometry
Summative assessment	Unit 1 assessment Unit 2 assessment (all 50 marks)	Unit 3 assessment Unit 4 assessment (all 50 marks)	Unit 5 assessment Unit 6 assessment (all 50 marks)	Unit 7 assessment Unit 8 assessment (all 50 marks)	Unit 9 assessment Unit 10 assessment (all 50 marks) End of year assessment	Unit 11 assessment Unit 12 assessment (all 50 marks)
Build on	Unit 1 ← year 9 Unit 1 Unit 2 ← year 9 Unit 2	Unit 3 ← year 9 Unit 3 Unit 4 ← year 9 Unit 4	Unit 5 ← year 9 Unit 2 **Unit 6 ← year 9 Unit**	Unit 7 ← year 9 Unit 3 Unit 8 ← year 9 Unit 2 and 7	Unit 9 ← year 9 Unit 8 Unit 10 ← year 9 Unit 4	Unit 11 ← year 9 Unit 4 and 6 Unit 12 ← year 9 Unit 7 and 10
Builds towards	Unit 1 → year 11 unit 18 Unit 2 → year 11 unit 16	Unit 3 → year 11 unit 13 Unit 4 → year 11 unit 18	Unit 5 → year 11 unit 20	Unit 8 → year 11 unit 15 and 17	Unit 9 → year 11 unit 16 and 20	Unit 11 → year 10 unit 12 → year 11 unit 15

ASPIRING TO EXCELLENCE TOGETHER

HARD WORK AMBITION RESPECT KINDNESS

Mathematics Curriculum

Year 11(F)	Autumn 1	Autumn 2	Spring 1	Spring 2
Key content	Unit 13: Probability Unit 14: Multiplicative reasoning	Unit 15: Constructions, Loci and bearings Unit 16: Quadratic equations and graphs	Unit 17: Perimeter, area and volume 2 Unit 18: Fractions, indices and standard form	Unit 19: Congruence, similarity and vectors Unit 20: More algebra
Key concepts and skills	13.1 Calculating probability 13.2 Two events 13.3 Experimental probability 13.4 Venn diagrams 13.5 Tree diagrams 13.6 More tree diagrams 14.1 Percentages 14.2 Growth and decay 14.3 Compound measures 14.4 Distance, speed and time 14.5 Direct and inverse proportion	15.1 3D solids 15.2 Plans and elevations 15.3 Accurate drawings 1 15.4 Scale drawings and maps 15.5 Accurate drawings 2 15.6 Constructions 15.7 Loci and regions 15.8 Bearings 16.1 Expanding double brackets 16.2 Plotting quadratic graphs 16.3 Using Quadratic graphs 16.4 Factorising quadratic expressions 16.5 Solving quadratic equations	17.1 Circumference of a circle 1 17.2 Circumference of a circle 2 17.3 Area of a circle 17.4 Semicircles and sectors 17.5 Composite 2D shapes and cylinders 17.6 Pyramids and cones 17.7 Spheres and composite solids 18.1 Multiplying and dividing fractions 18.2 The laws of indices 18.3 Writing large numbers in standard form 18.4 Writing small numbers in standard form 18.5 Calculating with standard form	19.1 Similarity and enlargement 19.2 More similarity 19.3 Using similarity 19.4 Congruence 1 19.5 Congruence 2 19.6 Vectors 1 19.7 Vectors 2 20.1 Graphs of cubic and reciprocal functions 20.2 Non-linear graphs 20.3 Solving simultaneous equations graphically 20.4 Solving simultaneous equations algebraically 20.5 Rearranging formulae 20.6 Proof
Summative assessment	Unit 13 assessment Unit 14 assessment (all 50 marks)	Unit 15 assessment (50 marks) December PPE (3 papers: 1 non-calculator and 2 calculator papers. Each 80 marks)	Unit 17 assessment Unit 18 assessment (all 50 marks)	Unit 19 assessment Unit 20 assessment (all 50 marks)
Build on	Unit 13 ← year 9 Unit 9 Unit 14 ← year 10 Unit 4 and 11	Unit 15 ← year 10 unit 8 Unit 16 ← year 10 Unit 2	Unit 17 ← year 9 Unit 7 Unit 18 ← year 9 Unit 1	Unit 19 ← year 9 Unit 10 Unit 20 ← year 9 Unit 8
Builds towards		Unit 16 → year 11 unit 20		

ASPIRING TO EXCELLENCE TOGETHER

HARD WORK AMBITION RESPECT KINDNESS

Mathematics Curriculum

Year 10 (H)	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Key content	Unit 1: Number Unit 2: Algebra	Unit 3: Interpreting and representing data Unit 4: Fractions, ratio and percentages	Unit 5: Angles and trigonometry Unit 6: Graphs	Unit 7: Area and volume Unit 8: Transformations and constructions	Unit 9: Equations and inequalities Unit 10: Probability	Unit 11: Multiplicative reasoning Unit 12: Similarity and congruence
Key concepts and skills	1.1 Number problems and reasoning 1.2 Place value and estimating 1.3 HCF and LCM 1.4 Calculating with powers (indices) 1.5 Zero, negative and fractional indices 1.6 Powers of 10 and standard form 1.7 Surds 2.1 Algebraic indices 2.2 Expanding and factorising 2.3 Equations 2.4 Formulae 2.5 Linear sequences 2.6 More expanding and factorising	3.1 Statistical diagrams 1 3.2 Time series 3.3 Scatter graphs 3.4 Line of best fit 3.5 Averages and range 3.6 Statistical diagrams 2 4.1 Fractions 4.2 Ratios 4.3 Ratio and proportion 4.4 Percentages 4.5 Fractions, decimals and percentages	5.1 Angle properties of triangles and quadrilaterals 5.2 Interior angles of a polygon 5.3 Exterior angles of a polygon 5.4 Pythagoras' theorem 1 5.5 Pythagoras' theorem 2 5.6 Trigonometry 1 5.7 Trigonometry 2 6.1 Linear graphs 6.2 More linear graphs 6.3 Graphing rates of change 6.4 Real-life graphs 6.5 Line segments 6.6 Quadratic graphs 6.7 Cubic and reciprocal graphs 6.8 More graphs	7.1 Perimeter and area 7.2 Units and accuracy 7.3 Prisms 7.4 Circles 7.5 Sectors of circles 7.6 Cylinders and spheres 7.7 Pyramids and cones 8.1 3D solids 8.2 Reflection and rotation 8.3 Enlargement 8.4 Translations and combinations of different transformations 8.5 scale drawings and bearings 8.6 Constructions 1 8.7 Constructions 2 8.8 Loci	9.1 Solving linear inequalities 9.2 Solving quadratic equations 2 9.3 Solving quadratic equations 2 9.4 Completing the square 9.5 Solving simple simultaneous equations 9.6 More simultaneous equations 9.7 Solving linear and quadratic simultaneous equations 10.1 Combined events 10.2 Mutually exclusive events 10.3 Experimental probability 10.4 Independent events and tree diagrams 10.5 Conditional probability 10.6 Venn diagrams and set notation	11.1 Growth and decay 11.2 Compound measures 11.3 More compound measures 11.4 Ratio and proportion 12.1 Congruence 12.2 Geometric proof and congruence 12.3 Similarity 12.4 More similarity 12.5 Similarity in 3D solids
Summative assessment	Unit 1 assessment Unit 2 assessment (all 50 marks)	Unit 3 assessment Unit 4 assessment (all 50 marks)	Unit 5 assessment Unit 6 assessment (all 50 marks)	Unit 7 assessment Unit 8 assessment (all 50 marks)	Unit 9 assessment Unit 10 assessment (all 50 marks) End of year assessment	Unit 11 assessment Unit 12 assessment (all 50 marks)
Builds on	Unit 1 ← year 9 Unit 1 Unit 2 ← year 9 unit 2	Unit 3 ← year 9 Unit 3 Unit 4 ← year 9 Unit 4	Unit 5 ← year 9 unit 7 Unit 6 ← year 9 unit 8	Unit 7 ← year 9 unit 7 Unit 8 ← year 9 unit 4 and 5	Unit 9 ← year 9 unit 2 and 6 Unit 10 ← year 9 unit 9	Unit 11 ← year 9 unit 4 Unit 12 ← year 9 unit 10
Builds towards	Unit 1 → year 11 unit 15 and 17 Unit 2 → year 11 unit 17	Unit 3 → year 11 unit 14 Unit 4 → year 10 unit 11 → year 11 unit 17	Unit 5 → year 11 unit 13, 16 and 19 Unit 6 → year 11 unit 13, 15 and 19	Unit 8 → year 11 unit 13 and 19	Unit 9 → year 11 unit 15 and 17	Unit 11 → year 11 unit 19

ASPIRING TO EXCELLENCE TOGETHER

HARD WORK AMBITION RESPECT KINDNESS

Mathematics Curriculum

Year 11(H)	Autumn 1	Autumn 2	Spring 1	Spring 2
Key content	Unit 13: More trigonometry Unit 14: Further Statistics	Unit 15: Equations and graphs Unit 16: Circle theorems	Unit 17: More Algebra Unit 18: Vectors and geometric proof	Unit 19: proportion and graphs
Key concepts and skills	13.1 Accuracy 13.2 Graph of the sine function 13.3 Graph of the cosine function 13.4 Graph of the tangent function 13.5 Calculating areas and the sine rule 13.6 The cosine rule and 2D trigonometric problems 13.7 Solving problems in 3D 13.8 Transforming trigonometric graphs 1 13.9 Transforming trigonometric graphs 2 14.1 Sampling 14.2 Cumulative frequency 14.3 Box plots 14.4 Drawing histograms 14.5 Interpreting histograms 14.6 Comparing and describing distributions	15.1 Solving simultaneous equations graphically 15.2 Representing inequalities graphically 15.3 Quadratic equations 15.4 Using quadratic graphs 15.5 Cubic equations 15.6 Using iteration to solve equations 16.1 Radii and chords 16.2 Tangents 16.3 Angles in circles 1 16.4 Angles in circles 2 16.5 Applying circle theorems	17.1 Rearranging formulae 17.2 Algebraic fractions 17.3 Simplifying algebraic fractions 17.4 More algebraic fractions 17.5 Proof 17.6 Surds 17.7 Solving algebraic fraction equations 17.8 Functions 18.1 Vectors and vector notation 18.2 Vector arithmetic 18.3 More vector arithmetic 18.4 Parallel vectors and collinear points 18.5 Solving geometric problems	19.1 Direct proportion 19.2 More direct proportion 19.3 Inverse proportion 19.4 Exponential functions 19.5 Non-linear graphs 19.6 Translating graphs of functions 19.7 Reflecting graphs of functions
Summative assessment	Unit 13 assessment Unit 14 assessment (all 50 marks)	Unit 15 assessment (50 marks) December PPE (3 papers: 1 non-calculator and 2 calculator papers. Each 80 marks)	Unit 17 assessment Unit 18 assessment (all 50 marks)	Unit 19 assessment Unit 20 assessment (all 50 marks)
Build on	Unit 13 ← year 10 unit 5 Unit 14 ← year 10 unit 3	Unit 15 ← year 10 unit 9 Unit 16 ← year 10 unit 7	Unit 17 ← year 10 unit 9 Unit 18 ← year 10 unit 8	Unit 19 ← year 10 unit 6 and 8
Builds towards		Unit 15 → year 11 unit 17 and Unit 19		

ASPIRING TO EXCELLENCE TOGETHER

HARD WORK AMBITION RESPECT KINDNESS