



Curriculum Overview: Mathematics

Year group GCSE Higher

What your child will learn each half term

This overview shows the key topics, skills, and knowledge your child will be learning in **Maths in Year 10 and 11** on the **Higher curriculum**. It helps families understand what's being taught, how it builds on previous learning, and how you can support your child at home.

- **What we are learning:** The topic or focus for the half term.
- **Key knowledge & skills:** What students should understand and be able to do.
- **How we assess learning:** knowledge checks, practical tasks, written responses and formal assessments.
- **Key words to know:** Vocabulary students will learn and use.

Year 10

Half term	What we are learning	Key Knowledge and Skills	How we will assess learning in this unit	Homework	Key vocabulary for this unit
HT 1	Upper and Lower Bounds Algebra Manipulation Statistical Diagrams	Use inequality notation to specify error intervals Apply and interpret limits of accuracy Calculate with limits of accuracy Convert recurring decimals to fractions algebraically. Factorise Quadratics Solve quadratics by factorising Sketch quadratic graphs Draw and interpret cumulative frequency curves, box plots and histograms. Compare distributions	Check knowledge and understanding during class activities and homework tasks. Regularly use exam style questions.	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Upper bound Lower bound Limits Recurring Factorise Roots Quartiles Medians Frequency density
HT 2	Indices, Standard Form and Surds Circles and Pythagoras Ratio and Proportion	Evaluate zero, negative and fraction powers Covert number into and out of standard form Calculate with numbers in standard form (with and without a calculator) Simplify surds Rationalise the denominator Expand Brackets with surds Calculate arc lengths, angles and areas of sectors of circles Solve problems involving Pythagoras' Theorem Calculate compound measures Solve problems involving direct and inverse proportion	Check knowledge and understanding during class activities and homework tasks. Regularly use exam style questions. Formal 1hr exam Covering Topics 1-4	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Irrational Rationalise Surds Hypotenuse Speed Density Pressure
HT 3	Sequences Probability Percentages	Recognise and extend geometric and Fibonacci sequences Use recursive sequences Calculating the nth term of a quadratic sequence.	Check knowledge and understanding during class activities and homework tasks.	Weekly Fluency Booklet + Shorter tasks to consolidate	Geometric Recursive Quadratics Combinations Intersection

		Find combinations of sets systematically, using tree diagrams Calculate and interpret conditional probability Understand set notation Interpret and draw Venn diagrams Calculate compound percentages Reverse percentages Solve mixed fraction and % problem	Regularly use exam style questions. Formal 1hr exam Covering Topics 5-8	understanding or to assist with revision.	Union Compound Interest Depreciate
HT 4	Congruence and Similarity Linear Graphs Scatter Graphs	Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS) Calculate missing sides in similar shapes Identify gradient and intercepts Find the gradient between two points. Identify parallel and perpendicular lines Find the equation of a straight line through 2 points. Draw and interpret scatter graphs Find the equation of a line of best fit Understand causation	Check knowledge and understanding during class activities and homework tasks. Regularly use exam style questions. Formal 1hr exam Covering Topics 9-12	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Congruent Similar Gradient Correlation Causation
HT5	Solving Equations Proofs Volume and Surface Area	Solve equations with fractional terms Expand two or more binomials Rearrange formulae Substitute into a formula Algebraic proofs Calculate the volume and surface area of cones, spheres, pyramids and compound solids.	Check knowledge and understanding during class activities and homework tasks. Regularly use exam style questions.	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Binomial Substitute
HT 6	Simultaneous Equations Trigonometry Graphs	Know the difference between an expression, equation and an identity Solve simultaneous equations algebraically and graphically. Finding missing sides and angles in right angles triangles Exact trig values for 30 60 45 Plot quadratic, cubic and reciprocal graphs Recognise sin cos and tan graphs	Check knowledge and understanding during class activities and homework tasks. End of year assessment Paper 1 Non-Calculator Paper 2 Calculator Covering Topic 1 -16	Weekly Fluency Booklet + Shorter tasks to consolidate understanding or to assist with revision.	Simultaneous Adjacent Hypotenuse Opposite Quadratic Cube Reciprocal

Year 11

Half term	What we are learning	Key Knowledge and Skills	How we will assess learning in this unit	Homework	Key vocabulary for this unit
HT 1	Solve inequalities Loci Vector Algebraic fractions	Solve linear inequalities and display on a number line Solve inequalities graphically Solve simple quadratic inequalities Construct perpendicular lines and angle bisectors Solve loci problems Solve problems involving vectors Simplify algebraic fractions Calculate with algebraic fractions	Check knowledge and understanding during class activities and homework tasks. Regularly use exam style questions. Formal 1hr exam Covering Topics 13-16	Weekly Fluency Booklet + Ace the Start exam booklet + Shorter tasks to consolidate understanding or to assist with revision.	Inequality Perpendicular Bisect Locus Vector
HT 2	Circle Theorems Graphs Similarity	Apply the standard circle theorems Calculate the gradient of a tangent Calculate the area under a curve Calculate lengths, area and volume of similar shapes/solids	Check knowledge and understanding during class activities and homework tasks. Regularly use exam style questions. MOCK EXAM	Fluency Booklet + Ace the Start exam booklet + Shorter tasks to consolidate understanding or to assist with revision	Chord Radius Tangent Segment Gradient Similar
HT 3	Frequency Trees Sampling Transformations	Draw and interpret Frequency trees Understand sampling Understand capture-recapture Reflect, rotate, translate and enlarge shapes (inc negative scale factor)	Check knowledge and understanding during class activities and homework tasks. Regularly use exam style questions. Formal 1hr exam Covering Topics 17-20	Weekly Fluency Booklet + Ace the Start exam booklet + Weekly MathsWatch Past Paper + Shorter tasks to consolidate understanding or	Random Stratified Rotate Reflect Enlarge Translate Invariant

				to assist with revision.	
HT 4	Functions Trigonometry Transforming Graphs	Use function notation Calculate inverse and composite functions Solve problems involve Trigonometry and Pythagoras in 3D Use and apply the sine and cosine rule Calculate the area of a triangle using $\frac{1}{2}ab\sin C$ Sketch translations and reflections of a given function Deduce roots by completing the square	Check knowledge and understanding during class activities and homework tasks. Regularly use exam style questions. Formal 1hr exam Covering Topics 21-24	Weekly Fluency Booklet + Weekly MathsWatch Past Paper + Shorter tasks to consolidate understanding or to assist with revision.	Composite Inverse Roots
HT5	Algebraic Fraction Equations Revision	Algebraic fractional equations include those which involve solving quadratics Use and apply the quadratic formula Revise key tops Past Paper Practice			
HT 6					