



Year 7 Curriculum Overview:

Mathematics

	Topics / Content Outline	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	(1) Developing Number Sense (2) Number Properties (3) Place Value (4) Directed Number	- Order of operations - Factors, multiples & primes - Prime factors, HCF & LCM - Square & triangular numbers - Compare & order integers & decimals - Rounding to powers of 10 - Rounding to significant figures - Estimation - Four operations with negative numbers	A 'skills check' will be completed in the first few weeks of the year, which will help us assess the knowledge retained from KS2 topics so we can plan any amendments to the curriculum (if necessary). End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework, promoting resilience by encouraging students to try the homework independently using the attached support videos if needed.
Spring Term	(5) Algebraic Thinking (6) Solving Equations (7) Sequences (8) FDP Equivalence	- Like & unlike terms - Function machines - Substitution - One-step & two-step equations - Continuing sequences - Linear & non-linear sequences - Understanding tenths & hundredths - Understanding fifths & quarters - Converting fluently between FDP	A mid-year assessment will be completed on the topics covered up to that point in the year. Students will receive a revision checklist two weeks before and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework, promoting resilience by encouraging students to try the homework independently using the attached support videos if needed. Support students with revision (as required) ahead of the assessment.
Summer Term	(9) ... Of Amounts (10) Working With Shape (11) Fractional Thinking (12) Working With Angles (13) Real World Maths	- Fractions of amounts - Percentages of amounts - Understand & draw angles - Area & perimeter - Mixed numbers & improper fractions - Adding & subtracting fractions - Key angle facts - Angles in parallel lines - Financial maths	An end of year assessment will be completed on the topics covered across the year. Students will receive a revision checklist two weeks before and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework, promoting resilience by encouraging students to try the homework independently using the attached support videos if needed. Support students with revision (as required) ahead of the assessment.



Year 8 Curriculum Overview:

Mathematics

	Topics / Content Outline	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	(1) Multiply & Divide Fractions (2) Fluency With FDP (3) Ratio (4) Working With Percentages (5) Proportion	• Multiply fractions by integers & fractions • Divide fractions by integers & fractions • Expressing as a fraction or percentage • Simplify ratio • Divide into a given ratio • Percentage increase & decrease • Percentage change • Conversion graphs • Currency conversions	End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework, promoting resilience by encouraging students to try the homework independently using the attached support videos if needed.
Spring Term	(6) Brackets & Expressions (7) Probability Basics (8) Equations & Inequalities (9) Further Angles & Shape (10) Constructions	• Simplifying expressions • Expanding brackets • Factorising into a bracket • Probability scale • Probability of single events • Forming & solving equations & inequalities • Equations & inequalities (x on both sides) • Angles in parallel lines • Angles in polygons	A mid-year assessment will be completed on the topics covered up to that point in the year. Students will receive a revision checklist two weeks before and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework, promoting resilience by encouraging students to try the homework independently using the attached support videos if needed. Support students with revision (as required) ahead of the assessment.
Summer Term	(11) Area, Perimeter & Circles (12) Real World Maths (13) Sets & Venn Diagrams (14) The Cartesian Plane (15) Reflections	• Circumference of a circle • Area of a circle • Area of compound shapes • Metric units • Mean, median and range • Probability from Venn diagrams • Gradient of a line • Plotting linear graphs • Reflect across a mirror line	An end of year assessment will be completed on the topics covered across the year. Students will receive a revision checklist two weeks before and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework, promoting resilience by encouraging students to try the homework independently using the attached support videos if needed. Support students with revision (as required) ahead of the assessment.



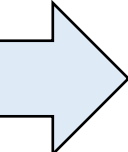
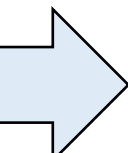
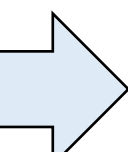
Year 9 Curriculum Overview: Mathematics

	Topics / Content Outline	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	(1) Number Sense (2) Indices and Surds (3) Expanding and Factorising expressions (4) Representing data (5) Forming and solving equations	- Multiply and divide decimals with decimals - Estimate the answer to a calculation - Product rule for counting - Apply index laws including negative & fractional indices - Work with numbers in standard form - Simplify, multiply and divide simple surds - Expand brackets up to three linear expressions - Factorise expressions including quadratics - Draw and interpret Composite/dual bar charts - Draw and interpret pie charts and scatter graphs - Construct and interpret frequency and two-way tables - Set up and solve linear equations and inequalities	End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths
Spring Term	(6) Pythagoras' Theorem (7) Formulae (8) Sequences (9) Linear Graphs	- Calculate missing sides in a right-angled triangle - Use Pythagoras' theorem to solve problems in context - Substitute into formulae - Rearrange formulae - Generate linear, geometric and other sequences given an algebraic rule - Find the nth terms of linear and quadratic sequences - Understand, use and construct graphs of the form $y=mx+c$ - Find the equation of a line graphically and algebraically - Explore parallel and perpendicular lines	A mid-year assessment will be completed on the topics covered up to that point in the year. Students will receive a revision checklist and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths
Summer Term	(10) Percentages (11) Data analysis (12) Ratio and Proportion (13) Similarity	- Recognise and solve percentage problems (including using a multiplier) - Solve reverse percentage problems - Solve problems with repeated change and compound interest - Find averages from frequency tables - Compare distributions - Solve various ratio and proportion problems including scale diagrams, currencies, recipes and best buys - Solve problems involving direct and inverse proportion - Solve problems to do with similarity (linear only)	An end of year assessment will be completed on the topics covered in years 7, 8 and 9. Students will receive a revision checklist and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths



Year 10 Curriculum Overview:

Mathematics

	Topics / Content Outline	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term 	(1) Trigonometry (2) Perimeter, Area, Volume (3) Accuracy and Bounds (4) Straight Lines and Coordinates (5) Real Life Graphs (6) Compound Measures (7) Quadratics	• Trigonometric Ratios (Sine, Cosine, Tangent) • Areas of sectors and arc length • Volume and surface area of prisms, cylinders, pyramids, cones and spheres • Error intervals • Equations of parallel and perpendicular lines • Distance/time and speed/time graphs • Speed, density, pressure • Plotting quadratic graphs and using to solve equations • Solving quadratic equations by factorising, completing the square and using the quadratic formula	An end of term assessment will be completed on the topics covered up to that point in the year. Students will receive a revision checklist and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths
Spring Term 	(8) Cubic and other Graphs (9) Simultaneous Equations (10) Similarity (11) Representing Data (12) Inequalities (13) Probability (14) Further Trigonometry	• Plot and recognise cubic, reciprocal and exponential graphs • Solve simultaneous equations graphically, by elimination and by substitution • Frequency polygons, cumulative frequency graphs, box plots and histograms • Solve linear and quadratic inequalities • Represent inequalities on number lines and graphs • Use Venn diagrams, two-way tables and tree diagrams to find probabilities • Sine Rule, Cosine Rule and area of a triangle for non-right-angled triangles	A mid-year assessment will be completed on the topics covered up to that point in the year. Students will receive a revision checklist and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths
Summer Term 	(15) Further Algebra (16) Circle Theorems (17) Direct and Inverse Proportion (18) Data and Sampling (19) Transformations	• Expand three binomials • Calculate with surds including rationalising denominators • Algebraic fractions • Algebraic proof • Understand and use Circle Theorems • Write and use proportion equations using the constant of proportionality • Stratified sampling and capture-recapture method • Draw and describe transformations including, enlargements with fractional and negative scale factors	An end of year assessment will be completed on the topics covered in years 9 and 10. Students will receive a revision checklist and full information will be posted on ClassCharts. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths



Year 11 Curriculum Overview:

Foundation Mathematics

	Topics / Content Outline	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	(1) Quadratic and other graphs (2) Plans and Elevations (3) Circles, cylinders, cones and spheres (4) Constructions, loci and bearings (5) Vectors	- Plot and recognises the of graphs of quadratic, cubic and reciprocal functions - Draw plans and elevations of 3D shapes, and sketch 3D shapes from plans and elevations. - Area and circumference of circles, parts of circles and composite shapes - Volume and Surface Area of Cylinders, Cones and Spheres - Compass constructions, loci and bearings - Column vectors - Add, subtract vectors, find scalar multiples of vectors in diagrammatic and column form.	The Mock Examination in November will assess content from across the whole of the GCSE curriculum that has been taught so far. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Encourage students to attend lunch time and after-school revision sessions as required. Encourage students to complete the mixed practice revision homework Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths
Spring Term	(6) Formulae and Simultaneous Equations (7) Indices and Standard Form (8) Reciprocals and Fractions	- Rearrange formulae to change the subject - Recap solving linear equations - Solve linear simultaneous equations in two unknowns graphically and algebraically - Index laws with integer indices including negative indices - Calculate with numbers in standard form both with and without a calculator - Recap finding reciprocals and calculating with fractions without a calculator.	The Mock Examination in March will assess content from across the whole of the GCSE curriculum. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Encourage students to complete the mixed practice revision homework Encourage students to attend lunch time and after-school revision sessions as required. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths
Summer Term	Revision Problem Solving Exam Preparation	- Revision in class of specific topic - Practise of applying problem solving skills to examination style questions - Completing past examination papers	Paper 1- No Calculator Allowed – 90 minutes Paper 2 - Calculator Allowed – 90 minutes Paper 3 - Calculator Allowed – 90 minutes	Encourage students to complete past paper homeworks. Encourage students to attend lunch time and after-school revision sessions as required. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths



Year 11 Curriculum Overview:

Higher Mathematics

	Topics / Content Outline	Powerful Knowledge (key concepts, skills)	What will you be assessed on?	How can you help at home?
Autumn Term	(1) Functions (2) Circle Geometry (3) Trigonometric Functions (4) Constructions, Loci and Bearings (5) Vectors (6) Geometric Proof	- Composite and Inverse Functions - Equations of circles and equations of tangents to circles - Graphs of trigonometric functions - Compass constructions, loci and bearings - Column vectors - Using vectors for geometric proofs - Proofs of congruency (SSS, SAS, ASA, RHS) - Proofs of the circle theorems	The Mock Examination in November will assess content from across the whole of the GCSE curriculum that has been taught so far. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Encourage students to complete the mixed practice revision homework Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths
Spring Term	(8) Gradients of curved graphs and area under a curve (9) Transforming functions (10) Plans and Elevations	- Gradients of curved graphs, and using these to find speed from a distance-time graph - Area under a curve, and using this to find distance travelled from a velocity-time graphs - Transformations of graphs of related functions - Draw plans and elevations of 3D shapes, and sketch 3D shapes from plans and elevations.	The Mock Examination in March will assess content from across the whole of the GCSE curriculum. End of topic tests will be completed in lessons every 2 – 3 weeks.	Encourage active participation in weekly Sparx Maths 'Compulsory' homework. Encourage students to complete the mixed practice revision homework Encourage students to attend lunch time and after-school revision sessions as required. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths
Summer Term	Revision Problem Solving Exam Preparation	- Revision in class of specific topic - Practise of applying problem solving skills to examination style questions - Completing past examination papers	Paper 1- No Calculator Allowed – 90 minutes Paper 2 - Calculator Allowed – 90 minutes Paper 3 - Calculator Allowed – 90 minutes	Encourage students to complete past paper homeworks. Encourage students to attend lunch time and after-school revision sessions as required. Support students with revision (as required) ahead of the assessment using quality resources such at Maths Genie Dr Frost Maths Corbett Maths