Mathematics

Year 11 Higher
Curriculum Overview

Intent: During year 11, students will continue to build on learning from KS3 and then develop this into the next stages further. Students will embed skills by practise and learn new aspects of maths which they will continue to build upon in key stage 4. Building deeper connections between topics is key and students will begin during year 11 to embed the links between mathematical concepts.

	Unit 9: Construction, Loci and Vectors	Unit 10: Representing and Interpreting Data	Unit 11: Circles and Angles	Unit 12: Iteration and Interpreting Graphs	Unit 12: Individualised Focus
	7 Weeks	**2 Weeks**	**6 Weeks**	**6 Weeks**	**7 Weeks**
Core Course Topic: These topics are taught through the identified terms. They are taught in small bitesize chunks and revisited regularly.	• Construction • Transformations • Loci • Vectors	• Displaying data • Interpreting data and diagrams • Cumulative frequency diagrams • Histograms • Scatter diagrams	• Angles in parallel lines; interior and exterior angles and basic rules of angles. • Circles and sectors Circle theorems	• Graph transformation • Iteration • Interpreting graphs • Area under a curve • Estimating gradients • Sequences Repeated percentage change	Address gaps from Assessment Content (cumulative). Focus on exam technique and exam practise. Students will be taught in blocks following the 5 segments of mathematics. Students will undergo regular examination practice sessions with feedback from staff.
Additional support links:	Sparx maths is a platform which students use to complete their mathematics homework. There is also independent practise on there for the students to complete. Students will be supported with revision lists for all assessments, through the module introduction sheet or revision guide for larger assessments. The mathematics team also assist with homework club as well as the whole school Homework Club.				
Knowledge: Included here is the specific knowledge your child will learn in detail	All students will learn to • construct triangles • compass methods for loci. • algebraic proof • geometric proof.	All students will learn to • representing and interpreting data both from diagrams and from raw data. • bivariate data by exploring scatter diagrams • understand that correlation does not imply causation.	All students will learn to • Finding missing angles in parallel lines • Find angles in polygons and exterior angles • Find the area, circumference and perimeter of circles and sectors • Know the circle theorems • Apply the circles theorems Prove the circle theorems	All students will learn to • produce statistical charts • box plots; • cumulative frequency graphs • histograms. capture/ recapture	All students will learn to • Revise key segments of the curriculum following a class specific SOW

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Common Lexicon: These are the key words and terms learnt. These can be found on knowledge organisers.	Area, perimeter, surface area, volume, face, edge, vertex, Pythagoras, trigonometry, similarity, ratio, transformation, translation, rotation, reflection, enlargement	Data, correlation, estimation, infer, outlier, frequency	Angle, Arc, Sector, Radius, Diameter, Centre, Circumference, Subtend, Semi-Circle, Right-Angle and Tangent.	Median, cumulative frequency, class width, maximum and minimum	Order of operations, power, root, LCM and HCF, rounding, truncation, error interval, inequality Equations, inequalities, substitute, simultaneous, equals, term, factor Numerator, denominator, compound, multiplier, simple, terminate, recurring Ratio, proportion, sharing, unitary method, fraction, equal, direct, inverse, scale factor, constant of proportionality, unitary method Probability, chance, independent, exhaustive, mutually exclusive, tree diagram, Venn diagram, two-way table Base, index, power, commutativity, scale Function, graph, linear, non-linear, kinematic Translation, Reflection, Rotation, Enlargement, Scale Factor, Vector, Magnitude,
Ambition Curriculum	This link to wider contexts in construction, engineering and decision math's, History of Trigonometry using early Astronomy Link Astronomy- using Trigonometry to find if the perfect Eclipse can happen on Earth Link	Links to data in the real world. Use of statistical data in predications with the corona virus Video Link Predications with Dr Hannah Fry using statistics Video Link Data in the real world link How accurate is the data we see? Link			