Mathematics Curriculum Overview

"The essence of math is not to make simple things complicated, but to make complicated things simple." Stan Gudder

We seek excellence by providing opportunities for our students to develop their Mathematical skills, knowledge and understanding to be able to solve problems and work logically. The curriculum is sequenced to allow previous learning to enhance the understanding of a new topic; ensuring students are fluent with key mathematical concepts whilst deepening their understanding. The curriculum is planned to ensure the foundation building blocks are in place to enable learners to make progress.

Mathematics will provide students with the opportunities to develop communication skills – both written through logical steps and verbally, speaking like a Mathematician to convince others. It will support students in their future lives; helping them to use their 'maths sense' in everyday problems to make informed decisions, as well as developing a love and curiosity for the subject.

	Autumn	Spring	Summer
Year 7	Sequences Algebraic Notation Equality and Equivalence Place value and ordering numbers Fractions, decimals and percentages	Solving problems with addition and subtraction Solving problems with multiplication and division Fractions and percentages of amounts Operations and equations with directed numbers Addition and subtraction of fractions	Constricting, measuring and using geometric notation Developing geometric reasoning Sets and probability Prime numbers and proof Developing number sense
Year 8	Ratio and scale Multiplicative change Multiplying and dividing fractions Working in the cartesian plane Representing data Tables and probability	Brackets, equations and inequalities Sequences Indices Fractions and percentages Standard index form Number sense	Angles in parallel lines and polygons Area of trapezia and circles Line symmetry and reflection The data handing cycle Measures of location

Year 9	Straight line graphs Forming and solving equations Testing conjectures Three dimensional shapes Constructions and congruency	Numbers Using percentages Maths and money Deduction Rotation and translation Pythagoras' theorem	Enlargement and symmetry Solving ratio and proportion problems Rates Probability Algebraic representation Circle geometry Polygon geometry
Year 10	**Foundation** Powers and roots HCF and LCM Standard form Upper and lower bounds Statistics Pythagoras' theorem Solving equations Factorising Sequences **Higher** Powers and roots Standard form and surds Using limits of accuracy Statistics Pythagoras' theorem and Trigonometry Developing algebra Quadratics	**Foundation** Fractions, decimals and percentages Money – interest Simultaneous equations Bearings Interior and exterior angles of polygons Volume and surface area Graphs **Higher** Quadratics Sequences Converting decimals to fractions Money problems – interest Simultaneous equations Bearings Circle theorems Proofs	**Foundation** Transformations Plans and elevations Proportion Ratio Time Venn diagrams Probability **Higher** Surface area and volumes Coordinate geometry Transformations Similarity Direct and inverse proportion Inequalities Ratio
Year 11	**Foundation** Solve equations by factorising Trigonometry Substitution Rearranging Loci Speed Functions	**Foundation** Venn diagrams Probability with tree diagrams Working with the mean Sampling **Higher** Set notation for venn diagrams	Exam preparation

	<u>Higher</u> Further quadratics Further trigonometry Rearranging Iteration Loci Functions Area under graphs	Probability trees Sampling Histograms Cumulative frequency Box plots	