Mathematics Year Eleven	**Curriculum Intent:** The Year 11 curriculum will consolidate and extend the differing areas of mathematics covered during Year 10. Students will continue to study Number, Algebra, Geometry and Data Handling as they prepare for the GCSE Mathematics examinations at the end of the year. Opportunities to revisit key concepts through retrieval practice will be frequent parts of the curriculum. Key knowledge and skills will be developed with the use of problem solving activities and the frequent use of 'problem solving' style GCSE questions. Students will be required to identify which part of their knowledge and skills will be best suited to the question.			
	Term One	**Term Two**	**Term Three**	**Term Four**
Knowledge **(Red indicates 'Higher tier only' topic areas)**	**Geometry** • Pythagoras • Right-angled trigonometry • **Further trigonometry** **Algebra** • Generating sequences • Nth term of linear sequences • **Nth term of quadratic sequences** • Plotting straight line graphs • Plotting quadratic graphs • y = mx + c • Gradient • **Equation of a line – gradient and a point)** • **Equation of line – 2 coordinates** • **Parallel and perpendicular lines** • Other graphs • Real life graphs	**Geometry** • Nets • Properties of 2D shapes • Properties of 3D shapes • Plans and elevations • Surface area and volume of prisms • Surface area and volume of non-prisms (pyramid, cone, sphere) • Compound measures **Data** • Probability of a single event • Relative frequency • Expectation • Systematic listing strategies • Probability of combined events (mutually exclusive and independent) • Probability with Venn diagrams • Frequency trees • Tree Diagrams	**Geometry** • Symmetry • All transformations • Translation and basic vectors • Reflection • Rotation • Enlargement • Similarity and congruence **Algebra** • Solving linear simultaneous equations • **Solving non-linear simultaneous equations** • Linear inequalities • **Graphical and quadratic inequalities**	**Algebra** • **Equation of a circle** • **Graphs of trigonometric functions** • **Functions** • **Transformation of functions** • **Iteration** • **Estimating area under a curve** • **Estimating gradient of curves** • **Algebraic proof** Consolidation and preparation for GCSE examinations.
Understanding	Completion of exam questions and problem solving activities to develop application of knowledge and skills	Completion of exam questions and problem solving activities to develop application of knowledge and skills	Completion of exam questions and problem solving activities to develop application of knowledge and skills	Completion of exam questions and problem solving activities to develop application of knowledge and skills
Skills	Use and apply standard technique Reason, interpret and communicate mathematically Solve problems within mathematics and in other contexts		Use and apply standard technique Reason, interpret and communicate mathematically Solve problems within mathematics and in other contexts	
Interleaving	Regular consolidation of all prior teaching Reviewing skills for future learning Use of Mathsbox 10 and 20 question starters Use of Dr Frost for exam question tasks		Regular consolidation of all prior teaching Reviewing skills for future learning Use of Mathsbox 10 and 20 question starters Use of Dr Frost for exam question tasks Completion of Weekly Past Papers	
Assessment	Regular 'low stakes' testing in class Formal assessment at end of Term One		Regular 'low stakes' testing in class PPE Exams at start of Term 3; GCSE exams during Terms Five and Six	