Curriculum Summary Document
Year 9 Mathematics

Module/Unit of Learning	Term Taught	What will students learn?	What does this prepare students for?	Links to other subjects
To understand Pythagoras' Theorem and introduction to Trigonometry	Autumn	Complex problems using Pythagoras' Theorem; Understand Sine, Cosine and Tangent.	3D Pythagoras and Trigonometry	
To solve ratio and proportion problems	Autumn	Ratios in algebraic form; Conversion graphs; Direct/inverse proportion	Direct and inverse proportion equations.	Science
To build an understanding of the connections between numbers, factors and multiples	Autumn	Use prime factors to find HCF and LCM, and roots of a number.	Find roots of large numbers; algebraic proof.	
To understand coordinates and linear graphs	Autumn	Calculate gradient of straight lines; Equations in form y=mx+c	Equations of parallel and perpendicular lines; tangents.	
To understand the limitations of rounding	Autumn	Find upper and lower bounds; Understand error intervals.	Error intervals for compound measures	Science
To calculate the Perimeter and area of any shape	Spring	Circles; sectors; Surface area.	Histograms; area under graphs	
To collect and represent data in order to gain an insight	Spring	Grouped frequency; Cumulative frequency; Box plots.	Histograms.	Science Geography
To understand the effects of different transformations	Spring	Reflection, Rotation, translations and enlargements.	Graph Transformations.	Art
To draw and interpret real life graphs	Spring	Kinematics; Interpret area under graphs; Interpret gradient	Constant acceleration equations.	Science - Motion
To understand the properties of polygons	Summer	Interior and exterior angles of polygons	Finding area of regular polygons using trigonometry	
To understand the concept of algebra and equations	Summer	Expanding, simplifying and factorizing;	Quadratics.	
To understand how to operator with numbers expressed as indices or in standard form	Summer	Convert between standard form and ordinary numbers	Finding roots of large and small numbers	Science: Mass of planets
To calculate using surds	Summer	Simplify surds; Calculate with surds	Exact trigonometric values.	
To use advanced methods to solve probability problems	Summer	Probability tree diagrams	Conditional probability	