Year 8:

	Topic	Content
Autumn 1	Integers, Powers and Roots	Students will learn about index laws for raising a power to a power, negative indices and unitary fractional indices
	Calculations and checking	Students will learn about reciprocals, rounding to different numbers of significant figures and to be able to convert to and from numbers in standard form and perform standard for calculations on a calculator
Autumn 2	Interpreting and discussing data	Students will learn about finding quartiles from a set of data, plotting and interpreting cumulative frequency graphs and plotting box plots
	Lines angles and shapes	Students will learn about calculating and measuring bearings, exterior angles of polygons, Pythagoras's Theorem and some circle theorems
	Algebraic manipulation	Students will learn about expanding brackets and factorising expressions
Spring 1	Perimeter, Area and volume	Students will learn about calculating volumes and surface areas of prisms, calculating arc length and sector area and converting between units of area and volume
	Sequences	Students will learn about special number sequences, finding and using the rule fore the nth term of a linear and simple quadratic sequence and about geometric sequences
	Fractions, decimals and percentages	Students will learn about simplifying simple algebraic fractions, terminating and recuring decimals and performing percentage calculations using a calculator efficiently
Spring 2	Probability	Students will learn about the "and" and "or" rules for probability, drawing and using tree diagrams for independent events and constructing and interpreting Venn diagrams
	Ratio and Proportion	Students will learn about problems involving connected ratios and solving problems involving direct and indirect proportion
	Transformations	Students will learn about reflecting shapes in diagonal lines, enlarging by negative and fractional scale factors from a point and the effect this has on perimeter and area
Summer 1	Equations and inequalities	Students will learn about solving equations with unknowns on both sides, changing the subject of the formula where powers and roots are involved and solving inequalities
	Functions and graphs	Students will learn about calculating the length of a line segment, finding the equation of a linear graph and plotting quadratic and cubic graphs
Summer 2	Constructions	Students will learn to construct the path of an object and to construct the line that is equidistant from two points
	Consolidation	