Learning overview for: Mathematics			Year group: Year 8	
Term	Key topics	What most pupils will learn (prior assessment may alter starting point & content)	How might this learning be extended?	How will this learning be assessed?
	Number	Written methods of calculations Decimals Rounding BIDMAS Rounding to significant figures	Estimation Standard form	To be assessed by end of unit assessments
	Percentages	To calculate percentages with and without a calculator To calculate percentage increases and decreases	To calculate profit and loss	
	Negative Numbers	To understand the place of negative numbers To add and subtract negative numbers To use the rules of negative numbers for addition, subtraction, multiplication and division	To solve complex calculations using negative numbers	
	Algebra	To collect like terms and simplify To expand a single bracket To expand a set of brackets To factorise a simple expression	To expand double brackets	
	Averages	To calculate averages for discrete data To calculate averages for grouped	To draw/interpret a stem and leaf diagram	To be assessed by end of unit assessments

			data	
		Angles	To identify properties of 2D shapes To estimate, measure and draw angles To use angle facts to solve basic problems Calculate angles on parallel lines	Calculate interior and exterior angles To solve more complex angle problems	
		Equations	To use function machines To solve basic and 2-stage equations To solve equations with brackets	To solve double sided equations To use trial and improvement	
		Coordinates	To plot coordinates in one quadrant To plot coordinates in four quadrants To solve problems involving coordinates	To find the midpoints of lines	
		Number	To identify types of numbers To use a calculator to find squares and cubes To find HCF and LCM of two numbers	To use a calculator to solve more complex problems involving powers and roots	To be assessed by end of unit assessments
		Algebra	To substitute a variety of numbers into expressions To use indices rules for multiplying and dividing	To form equations and solve	
		Pythagoras	Not all students will study this topic	To calculate missing lengths in right angled triangles. Solve problems using Pythagoras	
		Area & Volume	To use metric units To calculate perimeter and area of	To calculate area and circumference of circles	

		simple and compound shapes. To calculate the volume of cuboids and prisms	To calculate surface area of cuboids and triangular prisms	
	Fractions	To find equivalent fractions and fractions of amounts To add and subtract fractions To change between improper and mixed numbers To solve problems with fractions	To add, subtract, multiply and divide with mixed numbers	To be assessed by end of unit assessments
	Sequences	To describe and complete sequences To find the nth term of a sequence	To use the formula for the nth term of a sequence to solve problems.	
	Data Handling	To collect and interpret data To draw and interpret bar charts, pie charts and pictograms	To draw and interpret scatter diagrams To understand correlation	
	Probability	To understand probability scale To calculate simple probabilities To calculate probabilities adding to 1	To use sample space diagrams	
	Graphs	To interpret real life graphs (conversion, distance/time) To construct linear graphs from an equation	To identify gradients and intercepts from graphs To find the equation of a line	To be assessed by end of unit assessments
	Transformations	To understand line and rotational symmetry To complete reflections, translations and rotations To complete enlargements	To describe transformations	
	Ratio	To simplify ratios To solve ratio problems	To solve problems involving proportion	

		To share amounts into a ratio		
	Algebra	To collect terms and simplify To expand sets of brackets To solve equations with brackets and with fractional/negative solutions To factorise a simple expression	To factorise more complex expressions To solve double sided equations	
	Number	To calculate percentages of amounts To solve problems involving percentages To solve problems involving fractions	To solve more complex questions with percentages and fractions	
	Probability	To calculate probabilities of events To calculate probabilities using sample space diagrams	To understand relative frequency	To be assessed by end of unit assessments
	Trigonometry	Not all students will study this	To calculate missing sides and angles in right angled triangles	
	Construction	To construct triangles	To construct angle and line bisectors	
	Inequalities	To understand inequality signs To show an inequality on a number line	To write down integer solutions to inequalities	