Year 8	Big Questions	Small Questions
Autumn	Ratio and scale	• Understand the meaning and representation of ratio • Understand and use ratio notation • Solve problems involving ratios of the form 1:n (or n:1) • Solve problems involving ratios of the form m:n • Divide in a given ratio • Express rations in their simplest integer form • Express ratios in the form 1:n • Compare ratios and fractions • Understand pi as a ratio • Understand gradient as a ratio •
	MINI TEST	
	Multiplicative change	• Solve problems involving direct proportion • Explore conversion graphs • Convert between currencies • Explore direct proportion graphs • Explore relationships between similar shapes • Understand scale factors as multiplicative representations • Draw and interpret scale diagrams • Interpret maps using scale factors and ratio
	MINI TEST	
	Multiplying and dividing fractions	• Represent multiplication of fractions • Multiply fractions by an integer • Find the product of a pair of unit fractions • Find the product of a pair of any fractions • Divide an integer by a fraction • Understand and use the reciprocal • Divide any pair of fractions • Multiply and divide improper and mixed fractions • Multiply and divide algebraic fractions
	HALF TERM ASSESSMENT	

Year 8	Big Questions	Small Questions
Autumn 2	Place Working in the Cartesian plane	• Work with coordinates in all four quadrants • Identify and draw lines that are parallel to the axes • Recognise and use the line y=x • Recognise and use lines of the form y =kx • Link y=kx to direct proportion problems • Explore the gradient of the line y = kx • Recognise and use lines of the form y = x + a • Link graphs to linear sequences • Plot graphs of the form y = mx + c • Explore non linear graphs • Find the midpoint of a line segment •
	MINI TEST	
	Representing data	• Draw and interpret scatter graphs • Understand and describe linear correlation • Draw and use line of best fit • Identify different types of data • Read and interpret ungrouped frequency tables • Read and interpret grouped frequency tables • Represent grouped discrete data • Represent continuous data grouped into equal classes • Construct and interpret two-way tables
	Tables and probability	• Construct sample spaces for one or more events • Find probabilities from a sample space • Find probabilities from two way tables • Find probabilities from Venn Diagrams • Use the product rule for finding the total number of possible outcomes
	MINI TEST	
	HALF TERM ASSESSMENT	

Year 8	Big Questions	Small Questions
Spring 1	Brackets, equations and inequalities	• Form algebraic expressions • Use directed number with algebra • Multiply out a single bracket • Factorise into a single bracket • Expand multiples single brackets and simplify • Expand a pair of binomials • Solve equations, including brackets • Form and solve equations with brackets • Understand and solve simple inequalities • Solve equations and inequalities with unknowns on both sides • Form and solve equations and inequalities with unknowns on both sides • Identify and use formulae, expressions, identities and equations
	MINI TEST	
	Sequences	• Generate sequences given a rule in words • Generate sequences given a simple algebraic rule • Generate sequences given a complex algebraic rule • Find the rule for the nth term of a linear sequence
	MINI TEST	
	Indices	• Adding and subtracting expressions with indices • Simplifying algebraic expressions by multiplying indices • Using the addition law for indices • Using the addition and subtraction law for indices • Exploring powers of powers
	HALF TERM ASSESSMENT	

Year 8	Big Questions	Small Questions
Spring 2	Fractions and percentages	• Convert fluently between key fractions, decimal and percentages • Calculate key fractions, decimals and percentages of an amount without a calculator • Calculate fractions, decimals and percentages of an amount using a calculator method • Convert between decimals and percentages greater than 100% • Percentage decrease with a multiplier • Calculate percentage increase and decrease using a multiplier • Express one number as a fraction or percentage of another without a calculator • Express one number as a fraction or a percentage of another using calculator methods • Work with percentage change • Choose appropriate methods to solve percentage problems • Find the original amount given the percentage less than 100% • Find the original amount given the percentage greater than 100% • Choose appropriate methods to solve complex percentage problems
	MINI TEST	
	Standard form	• Investigate positive powers of 10 • Work with numbers greater than 1 in standard form • Investigate negative powers of 10 • Work with numbers between 0 and 1 in standard form • Compare and order numbers in standard form • Mentally calculate with numbers in standard form • Add and subtract numbers in standard form • Multiply and divide numbers in standard form • Use a calculator to work with numbers in standard form • Understand and use negative indices • Understand and use fractional indices

	Number sense	• Round numbers to powers of 10 and 1 significant figure • Round numbers to a given number of decimal places • Estimate the answer to a calculation • Understand and use error interval notation • Calculate using the order of operations • Calculate with money • Convert metric measures of lengths • Convert metric units of weight and capacity • Convert metric units of area • Convert metric units of volume • Solve problems involving time and the calendar
	MINI TEST	
	HALF TERM ASSESSMENT	

Year 8	**Big Questions**	**Small Questions**
	Number Sense	• Round numbers to powers of 10 and 1 SF • Round numbers to a given number of decimal places • Estimate the answer to a calculation • Understand and use error interval notation • Calculate using the order of operations • Calculate with money • Convert metric measures of length • Convert metric units of weight and capacity • Convert metric units of area • Convert metric units of volume

		• Solve problems involving time and the calendar
Summer 1	Angles in parallel lines and polygons	• Understand and use basic angle rules and notation • Investigate angles between parallel lines and the transversal • Identify and calculate with alternate and corresponding angles • Identify and calculate with co-interior, alternate and corresponding angles • Solve complex problems with parallel lines • Construct triangles and special quadrilaterals • Investigate the properties of special quadrilaterals • Identify and calculate with sides and angles in special quadrilaterals • Understand and use the properties of diagonals of quadrilaterals • Understand and use the sum of exterior angles of any polygon • Understand and use the sum of the interior angles in any polygon • Calculate missing interior angles in regular polygons • Prove simple geometric facts • Construct an angle bisector • Construct a perpendicular bisector of a line segment
	MINI TEST	
	Area of trapezia and circles	• Calculate the area of triangles, rectangles and parallelograms • Calculate the area of trapezia • Calculate the perimeter and area of compound shapes • Investigate the area of a circle • Calculate the area of a circle and parts of a circle without a calculator • Calculate the area of a circle and parts of a circle with a calculator • Calculate the perimeter and area of compound shapes •
	MINI TEST	
	HALF TERM ASSESSMENT	

Year 8	Big Questions	Small Questions
Summer 2	Line symmetry and reflection	• Recognise line symmetry • Reflect a shape in a horizontal or vertical line (shapes touching line) • Reflect a shape in a horizontal or vertical line (shapes not touching line) • Reflect a shape in a diagonal line (shapes touching line) • Reflect a shape in a diagonal line (shapes not touching line) •
	MINI TEST	
	The data handling cycle	• Set up a statistic enquiry • Design and criticise questionnaires • Draw and interpret pictograms, bar charts and vertical line charts • Draw and interpret multiple bar charts • Draw and interpret pie charts • Draw and interpret line graphs • Choose the most appropriate diagram for a given set of data • Represent and interpret grouped quantitative data • Find and interpret the range • Compare distributions using charts • Identify misleading graphs
	END OF YEAR ASSESSMENT	

	Measures of location	• Understand and use the mean, median and mode • Choose the most appropriate average • Find the mean from an ungrouped frequency table • Find the mean from a grouped frequency table • Identify outliers • Compare distributions using averages and the range