Year 7	Big Questions	Small Questions
Autumn	Sequences	• Describe and continue sequences • Predict and check next terms • Sequences in a table and graphically • Linear and non linear sequences • Continue linear sequences • Continue non linear sequences • Explain the term to term rule • Find missing terms
	MINI TEST	
	Understand and use algebraic notation	• Find outputs for a function machine • Use inverse operations to fin the input given the output • Use diagrams and letters to generalise number operations • Use diagrams and letters with single function machines • Find the function machine given a simple expression • Substitute values into single operation expressions • Find numerical inputs and outputs for a series of two functions • Use diagrams and letters of two function machines • Find the function machines given a two step expression • Substitute values into two step expressions • Generate sequences given an algebraic rule • Represent one and two step functions graphically
	MINI TEST	
	Equality and equivalence	• Understand the meaning of equality • Understand and use the fact families, numerically and algebraically • Solve one-step linear equations involving +/- using inverse operations • Solve one-two step equations using x/÷ using inverse operations • Understand the meaning of like and unlike terms • Understand the meaning of equivalence • Simplify algebraic expressions by collecting like terms, using the ≡ symbol

	HALF TERM ASSESSMENT	
Year 7	**Big Questions**	**Small Questions**
Autumn 2	Place value and ordering integers and decimals	• Recognise the place value of any number in an integer up to one billion • Understand and write integers up to one billion in words and figures • Work out intervals on a number line • Position integers on a number line • Round integers to the nearest power of ten • Compare two numbers using =, <, >, u, ≤, ≥ • Order a list of integers • Find the range of a set of numbers • Find the median of a set of numbers • Understand place value for decimals • Position decimals on a number line • Compare and order any number up to one billion • Round a number to 1 significant figure • Write 10, 100, 1000 as powers of ten • Write positive integers in the form $Ax10^n$ • Investigate negative powers of ten • Write decimals in the form $Ax10^n$ •
	MINI TEST	
	Fractions, decimals and percentage equivalence	• Represent tenths and hundredths as diagrams • Represent tenths and hundredths on a number line • Interchange between fractional and decimal number lines • Convert between fractions and decimals – tenths and hundredths • Convert between fractions and decimals – fifths and quarters • Convert between fractions and decimals – eights and thousandths • Understand the meaning of percentage using a hundred square • Convert fluently between simple fractions, decimals and percentages • Use and interpret pie charts • Represent any fraction on number lines • Identify and use simple equivalent fractions • Understand fractions as division • Convert fluently between fractions decimals and percentages • Explore fractions above one, decimals and percentages
	MINI TEST	

	HALF TERM ASSESSMENT

Year 7	Big Questions	Small Questions
Spring 1	Solving problems with addition and subtraction	• Properties of addition and subtraction • Mental strategies for addition and subtraction • Use formal methods for addition of integers • Use formal methods for addition of decimals • Use formal methods for subtraction of integers • Use formal methods of subtraction of decimals • Choose the most appropriate mental, formal or written • Solve problems in the context of perimeter • Solve financial maths problems • Solve problems involving tables and timetables • Solve problems with frequency trees • Solve problems with bar charts and line charts • Add and subtract numbers given in standard form
	MINI TEST	
	Solve problems with multiplication and division	• Properties of multiplication and division • Understand and use factors • Understand and use multiples • Multiply and divide integers and decimals by powers of 10 • Multiply by 0.1 and 0.01 • Convert metric units • Use formal methods to multiply integers • Use formal methods to multiply decimals • Use formal methods to divide integers • Use formal methods to divide decimals • Understand and use order of operations • Solve problems using the area of rectangle and parallelograms • Solve problems using the area of triangles • Solve problems using the area of trapezia

		• Solve problems using the mean • Explore multiplication and division in algebraic form
	MINI TEST	
	Fractions and percentages of amounts	• Find a fraction of a given amount • Use a given fraction to find the whole and/or other fractions • Find a percentage of a given amount using mental methods • Find a percentage of a given amount using a calculator • Solve problems with fraction greater than 1 and percentages greater then 100%
	HALF TERM ASSESSMENT	

Year 7	**Big Questions**	**Small Questions**
Spring 2	Operations and equations with directed number	• Understand and use representations of directed numbers • Order directed numbers using lines and appropriate symbols • Perform calculations that cross zero • Add directed numbers • Subtract directed numbers • Multiplication of directed numbers • Multiplication and division of directed numbers • Use a calculator for directed number calculations • Evaluate algebraic expressions with directed number • Introduction to two-step equations

		• Solve two-step equations • Use order of operations with directed numbers • Roots of positive numbers • Explore higher powers and roots
	MINI TEST	
	Addition and subtraction of fractions	• Understand representation of fractions • Convert between mixed numbers and fractions • Add and subtract unit fractions with the same denominator • Add and subtract fractions with the same denominator • Add and subtract fractions from integers expressing the answer as a single fraction • Understand and use equivalent fractions • Add and subtract fractions where the denominators share a simple common multiple • Add and subtract fractions with any denominator • Add and subtract improper fractions and mixed numbers • Use fractions in algebraic contexts • Add and subtract simple algebraic fractions
	MINI TEST	
	HALF TERM ASSESSMENT	

Year 7	**Big Questions**	**Small Questions**

Summer 1	Constructing, measuring and using geometric reasoning	• Understand and use letter and labelling conventions including those for geometric figures • Draw and measure line segments including geometric figures • Understand angles as a measure or turn • Classify angles • Measure angles up to 180 • Draw angles up to 180 • Draw and measure angles between 180 and 360 • Identify perpendicular and parallel lines • Recognise types of triangle • Recognise types of quadrilaterals • Identify polygons up to a decagon • Construct triangles using SSS • Construct triangle using SSS, SAS and ASA • Construct more complex polygons • Interpret simple pie charts using proportion • Interpret pie charts using a protractor • Draw pie charts
	MINI TEST	
	Developing geometric reasoning	• Understand and use the sum of angles at a point • Understand and use the sum of angles on a straight line • Understand and use the equality of vertically apposite angles • Know and apply the sum of angles in a triangle • Know and apply the sum of angles in a quadrilateral • Solve complex angles problems • Find and use the angle sum of any polygon • Investigate angles in parallel lines • Understand and use parallel line angles rules • Use known facts to obtain simple proofs
	MINI TEST	
	HALF TERM ASSESSMENT	

Year 7	Big Questions	Small Questions
Summer 2	Developing number sense	• Know and use mental addition and subtraction strategies for integers • Know and use mental multiplication and division strategies for integers • Know and use mental arithmetic strategies for decimals • Know and use mental arithmetic strategies for fractions • Use factors to simplify calculations • Use estimation as a method for checking mental calculations • Use known number facts to derive other facts • Use known algebraic facts to derive other facts • Know when to use a mental strategy, formal written method or a calculator •
	MINI TEST	
	Sets and Probability	• Identify and represent sets • Interpret and create Venn diagrams • Understand and use the intersection of sets • Understand and use the union of sets • Understand and use the compliment of sets • Know and use the vocabulary of probability • Generate sample spaces for single events • Calculate the probability of a single event • Understand and use the probability scale • Know that the sum of probabilities for all possible outcomes is 1
	END OF YEAR ASSESSMENT	
	Prime numbers and proof	• Find and use multiples • Identify factors of numbers and expressions • Recognise and identify prime numbers

		• Recognise square and triangular number • Find common factors of a set of numbers including the HCF • Find common multiples of a set of numbers including the LMC • Write a number as a product of its prime factors • Use a Venn diagram to calculate the HCF and LCM • Make and test conjectures • Use counter examples to disprove a conjecture