Year 7	AUTUMN				
	Sequences	**Algebraic Thinking**	**Equality and Equivalence**	**Place Value**	**Fraction, decimal and Percentage Equivalence**
Declarative *What should they know?* *What key facts/concepts/knowledge do we want all students to know?*	Describe and continue sequences in diagram and number forms. Explore linear and non-linear sequences	Use a variety of representations to explore algebraic notation.	Understand the idea of equivalence. Understand 'like terms'.	Understand the number system and place value to include decimals. Interpret the median and the range in a given context. Interpret numbers in standard form.	Move freely between different numerical representations of fractions, decimals and percentages. Express one quantity as a fraction of another. Compare two quantities using percentages. Use knowledge of fractions to interpret pie charts.
Procedural *What should they be able to do?* *What things should all students be able to do?*	Work out next terms in a linear and non-linear sequences Substitute into function machines Generate sequences from a rule	Substitute into function machines Form and substitute into expressions Collect like terms Generate sequences	Solve one-step and two-step equations Form and solve equations. Simplify expressions	Order positive and negative integers, fractions and decimals, using representations such as number lines Use the symbols =, ≠, ≤, ≥, < and > Round numbers to an appropriate degree of accuracy. Compare numbers in standard form Range	Wok with fractions, decimal and percentage equivalence Interpret pie- charts

				Median	
Disciplinary Literacy **(Tier 3 Vocab)**	Linear, non-linear, arithmetic, geometric, Fibonacci	Expressions, functions, input, output, solve, simplify, substitute, 'like' terms.	Equation, identity	Integers, decimals, difference, terminating decimals, recurring decimals significant figures, approximate, rounding,	Equivalent, percentage, range, median, index, improper, convert.
Assessment	1 x Sequences Assessment	1 x Algebraic Notation Assessment	1 x Equality and equivalence Assessment	1 x Place Value assessment	1 x Autumn Progress Test

Year 7		SPRING	
	Application of number	**Directed Numbers**	**Fractional Thinking**
Declarative *What should they know?* *What key facts/concepts/knowledge do we want all students to know?*	Work out the perimeter of shapes Interpret and use frequency trees Understand factors and multiples Work out areas of triangles, rectangles and parallelograms Use order of operations Construct and interpret tables, charts and diagrams. Describe and interpret the mean.	Use the four operations, extending this to negative numbers Use square and square roots, applying this to negative numbers. Substitute numerical values into formulae and expressions including scientific formulae.	Add and subtract fractions with common and different denominators Manipulate mixed numbers and improper fractions
Procedural *What should they be able to do?*	Multiply by powers of ten Use formal written methods applied to positive integers and decimals (4 operations)	Order negative numbers Understand what a negative number is	Add and subtract simple algebraic fractions Move between numerical, graphical and diagrammatical representations (e.g. for

What things should all students be able to do?	Derive and apply formulae for perimeter and area Calculate and solve problems involving perimeter and area of triangles, parallelograms and trapezia. Recognise and use inverse operations.	Recognise square numbers Use function machines	fractions, decimals and percentages). Order positive and negative integers, decimals and fractions. Convert between mixed and improper fractions. Express a quantity as a fraction of another, where the fraction is less than or greater than one. Factors and multiples
Disciplinary Literacy **(Tier 3 Vocab)**	Integers, commutative, associative, partition, divisor, dividend, perimeter, area, product, perpendicular, factors, multiples, highest common factor, lowest common multiple, parallelogram, profit, loss, balance, credit	Sea-level, positive, negative, zero,	highest common factor, lowest common multiple
Assessment	1 x Multiplication and Division Assessment 1 x Fractions of an Amount Assessment	1 x Negative Number Assessment	1 x Fractions of an Amount Assessment 1 x Adding & Subtracting Fractions Assessment

Year 7	SUMMER			
	Lines and Angles	**Geometric Reasoning**	**Developing number sense**	**Sets and Probability**
Declarative *What should they know?* *What key facts/concepts/knowledge do we want all students to know?*	Measure and draw lines and angles Know the properties of triangles, quadrilaterals and other polygons Draw angles, given certain criteria (SSS, SAS, ASA) Draw and interpret pie charts	Calculate angles at a point, on a straight line and vertically opposite angles. Calculate missing angles in triangles and quadrilaterals Angles in polygons	Use of mental methods for four operations for integers, decimals and fractions Use factors to simplify calculations Use estimation as a method for checking calculations	Identify and represent sets and Venn diagrams Create and use sample spaces Calculate the probability of a single event
Procedural *What should they be able to do?* *What things should all students be able to do?*	Draw and measure lines and angles using a protractor. Understand standard conventions for labelling lines and angles.	Describe, sketch and draw 2D shapes with standard conventions Understand and use angles facts and properties of triangles and other polygons	Use mental and formal written methods of calculations Round to different degrees of accuracy	Use appropriate language and the 0-1 probability scale. Understand that all probabilities add to 1. Work with fractions and decimals

	Use language and properties precisely to analyse or classify 2D shapes.			Use tables, grids and Venn diagrams to categorise data in a systematic way.
Disciplinary Literacy **(Tier 3 Vocab)**	Acute, obtuse, reflex, adjacent, vertically opposite, isosceles, quadrilateral, polygon, regular,.	alternate, corresponding, co-interior, supplementary, parallel, perpendicular	Squared, cubed, triangular numbers, prime, prime factor decomposition	union/intersection, conjecture, systematic, counter-example.
Assessment	1 x Angles Assessment	1 x Geometric Reasoning Assessment	1 x Number sense Assessment	1 x Probability Assessment Summer Progress Test