Key Stage 3 Curriculum Map : Maths

	Autumn 1			Autumn 2	
Year 7	**Place Value**	**Properties of Number**	**Arithmetic**	**Expressions and Equations**	**Coordinates**
	Place value in integers, decimals and working with powers of 10. Ordering and comparing numbers. Converting and comparing measurements.	Multiples, powers and roots. Factorisation and prime factorisation, including highest common factor and lowest common multiple.	Four operations with negative numbers and decimals. Know and use the commutative, associative and distributive laws. Calculate using the priority of operations and calculator fluency.	Understand and use algebraic notation. Understand and use algebraic terminology. Simplifying expressions, expanding and factorising brackets.	Plotting coordinates. Coordinates, formulae and graphs.
	Spring 1			**Spring 2**	
	Perimeter and Area			**Fractions**	**Circles**
	Properties of quadrilaterals and triangles. Perimeters and areas of polygons. Perimeters and areas of composite polygons.			Working with fractions and decimals. Comparing and ordering fractions and decimals, including negatives. Four operations with fractions and mixed numbers.	Parts of circles. Circumference and area of a circle. Perimeter and area of composite shapes.
	Summer 1			**Summer 2**	
	Ratio and Proportion	**Probability**		**Transformations**	**Data**
	Multiplicative relationships and their representations. Fractions in context. Applying ratios.	Probability vocabulary and notation. Sum to one, and its application.		Recognise, describe and conduct translations, rotations and reflection. Scale drawings, plans and elevations, and isometric drawings. Recognise, describe and conduct enlargements.	Mean, median, mode and range. Bar charts, pie charts and line graphs. Interpretation in context.
	Pre unit diagnostic tests to assess prior knowledge of a topic, common fortnightly homework assignments which test problem solving from any topic across prior taught material, questions for mastery to formatively assess progress Common class tests (as well as Mid-Year and End-of-Year assessments) will be issued to test curriculum knowledge.				

Key Stage 3 Curriculum Map: Maths

	Autumn 1			Autumn 2		
Year 8	**Sequences and functions**	**Calculations**	**Shape**	**Fractions, Decimals and Percentages**	**Sampling and Discrete Data**	**Expressions, formulae**
	Generating linear and non-linear sequences; finding simple nth term rules; mapping diagrams; inverse functions.	BiDMAS in more complex calculations; further arithmetic with negative numbers; efficient use of a calculator.	Circles (circumference and area); surface area and volume of prisms (including cylinders); units in area and volume.	Further percentage change using a multiplying factor; reverse percentages; more complex calculations with fractions.	Types of data; sampling and bias; averages from discrete data; representing discrete data with a variety of diagrams.	Manipulating expressions using indices; further substitution; changing the subject of a simple formula.
	Spring 1			**Spring 2**		
	Place value, ordering and rounding	**Linear Equations**		**Lines and Angles**	**Graphs**	**Continuous and Bivariate Data**
	Rounding and estimation; standard form notation and simple calculations.	Form and solve more complicated linear equations.		Angles in polygons; three-figure bearings; geometrical reasoning; Pythagoras' Theorem.	Equation of a straight line; graphs in context; calculating and interpreting gradients.	Averages from grouped data; graphs and tables using continuous data; scatter graphs and correlation.
	Summer 1			**Summer 2**		
	Probability	**Equations and Inequalities**	**Transformations**	**Ratio and Proportion**	**Construction and Loci**	
	Mutually exclusive events; sample space and Venn diagrams; relative frequency.	Trial and improvement; solve linear inequalities and represent solution on a number line; creating and solve equations from contextual problems.	Further transformations; enlargement by a negative or fractional scale factor; combined transformations; planes of symmetry in 3D shapes.	Further direct proportion; inverse proportion; calculations with ratios; comparing ratios.	Scale drawing; further ruler and compass constructions; simple loci.	
	Pre unit diagnostic tests to assess prior knowledge of a topic, common fortnightly homework assignments which test problem solving from any topic across prior taught material, questions for mastery to formatively assess progress Common class tests (as well as Mid-Year and End-of-Year assessments) will be issued to test curriculum knowledge.					

Key Stage 3 Curriculum Map: Maths

	Autumn 1			Autumn 2			
Year 9	**Graphs 1**	**Pythagoras and Trigonometry**	**Fractions/Decimals/ Percentages**	**Equations**	**Indices**	**Transformations**	**Simultaneous Equations**
	Further linear graphs, intersections, mid points.	Further use of Pythagoras' theorem. Use of trigonometry to find angles and sides.	Further calculations with fractions and decimals, recurring decimals, reciprocals, use of calculator and compound percentage change.	Complex linear equations. Solving inequalities. Regions on a graph.	Powers and roots, laws of indices, using prime factor decomposition, simple surds and standard form.	Combinations of transformations, congruence and similarity, and units in length, area and volume.	Solve pairs of equations with two unknowns.
	Spring 1			**Spring 2**			
	Data Handling and Analysis	**Probability**	**Brackets and Quadratics**	**Graphs 2**	**Angles, Construction and Loci**		
	Calculating averages, range, IQR, statistical diagrams and comparing data sets.	Further probability work including compound events, independent events and use of tree diagrams.	Expand and factorise expressions. Solving quadratic equations by factorisation.	Using graphs in context. Plotting and simple use of quadratic, cubic and reciprocal graphs. Graphs of the trigonometric functions.	Use of angle properties, circle theorems, constructions and loci.		
	Summer 1			**Summer 2**			
	Estimation and Place Value	**Sequences and Functions**	**Formulae**	**Proportion**	**Mensuration**	**Further Quadratics**	
	Further ratio problems, direct and inverse proportion, upper and lower bounds, and estimation.	Finding the nth term. Fractional sequences, Fibonacci-type sequences, simple quadratic sequences.	Further change of subject and substitution. Function notation.	Further ratio problems, direct and inverse proportion.	Area and perimeter, circles, arcs and sectors, surface area and volume of prisms.	Further expansion and factorisation, the quadratic formula. Completing the square.	
	Pre unit diagnostic tests to assess prior knowledge of a topic, common fortnightly homework assignments which test problem solving from any topic across prior taught material, questions for mastery to formatively assess progress Common class tests (as well as Mid-Year and End-of-Year assessments) will be issued to test curriculum knowledge.						