

<b>Curriculum Map</b>	<b>Subject</b>	<b>Math</b>	<b>Year</b>	<b>10</b>
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Unit	Summary	Skills	Assessment	British Values and SMSC	Career links	Cross-curricular links
Similarity	Congruence, similarity and enlargement	Compare lengths, areas and volumes using ratio notation and/or scale factors; make links to similarity Interpret and use fractional (and negative) scale factors for enlargements Apply the concepts of congruence and similarity including the relationships between lengths, (areas and volumes) in similar figures	Reviews at the end of each block.  Term 2 – GCSE style paper on topics covered in class, as well as KS3. Total of 40 marks.  Term 4 – GCSE style paper on topics covered in class, as well as KS3. Total of 40 marks.	Historical life and the history of mathematics.  Shapes in real world and in nature. Walk in the countryside – wellbeing	Landscaping and gardening. Hairdressers. Engineering. Designers. Games designer. Roller coaster designer.	Design technology. PE – dance and drama. Science – drawing and interpreting speed, distance time graphs. Calculate density.
	Trigonometry	Apply Pythagoras' Theorem and trigonometric ratios to find angles and lengths in right-angled triangles in two (and three) dimensional figures. (know and apply the sine and cosine rule to find unknown angles and lengths)	Term 6 – GCSE style paper on topics covered in class, as well as KS3. Total of 80 marks.			
Developing algebra	Representing solutions of equations and inequalities  Simultaneous equations	Extend understanding of algebraic simplification and manipulation to include quadratic expressions Solve quadratic equations algebraically by factorising Solve linear inequalities in (or two) variable(s), (and quadratic inequalities in one variable); represent the solution set on a number line, (using set notation and on a graph) Solve two simultaneous equations in two variables (linear/linear (or linear/quadratic) algebraically. Recognise, sketch and interpret graphs of linear and quadratic functions.			Most careers in science require strong algebra skills, for example geology, chemistry, physics, forensic science, astronomy and medicine	Science

Proportions and proportional change	Ratios and fractions	Relate the language of ratios and the associated calculations to the arithmetic of fractions and to linear functions. Apply the concepts of congruence and similarity, including the relationships between lengths (areas and volumes) in similar figures.				
	Percentages and interest	Set up, solve and interpret the answers in growth and decay problems, including compound interest (and work with general iterative processes)		Theory versus reality. Modelling pandemic – analysis. Prime minister and politics. Rule of law.	Cryptanalyst. Stocks and shares. Stock broker. Jet fighter pilot. Forensic scientist. Actuary. Statistical analysis. Forensic scientist. Prime minister.	Science Geography
	Probability	Calculate the probability of independent and dependent combined events, including using tree diagrams and other representations. (Calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams)				
Delving into data	Collecting, representing and interpreting data	Construct and interpret tables, charts and diagrams. (construct and interpret diagrams for grouped discrete data and continuous data i.e. histograms)		Study of the creation of questionnaires and examine bias and sampling methods. Statistics can also be used to identify the impact of legislative change. At all times within the subject, students are encouraged to recognise an individual's strength and support their development.	Stock market. Medicine. Most scientific careers Weather predictions. Market analyst	Geography – world data History – historical information PE – Olympic data

Using number	Non-calculator methods	Calculate exactly with fractions, (surds) and multiples of pi, (simplify surd expressions involving squares and rationalise denominators)		Fibonacci sequences are found in nature and everyday life. The magic of pi and circles in the world around us. The use of pi in technology.	Computer programmer Medical scientist	Computer science – programming link to function machines.
	Types of number and sequences	Deduce expressions to calculate the nth term of linear (and quadratic) sequences.				
	Indices and roots	Calculate with roots and with integer (and fractional) indices. Simplifying expressions involving sums, products and powers including the laws of indices.				
	Manipulating expressions	Simplify and manipulate algebraic expressions (including those involving surds {and algebraic fractions} by factorising quadratic expressions Argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments {and proofs}				