

Key Stage 3: Year 7

Overall Curriculum Goals – Students will study the Foundations of the 5 key strands: Number, Proportion, Algebra, Geometry and Statistics, building on their prior knowledge from Key Stage 2									
	WC 02/09	WC 16/09	WC 30/09	WC 14/10	WC 04/11	WC 18/11	WC 02/12	WC 16/12	
Term 1	Type of Numbers Indices, factors, multiples, LCM, HCF	Integers, Decimals, Rounding and Estimation Place value, 4 operations, BIDMAS	Integers, Decimals, Rounding and Estimation Negative numbers, significant figures	Fractions 4 operations, fraction of an amount, mixed numbers	Algebra Notation, simplifying, index laws	Algebra Manipulation including expansion of brackets Assessment 1	Measures Units of measure, speed, distance, time, conversion graphs	Equations and Inequalities Notation, function machines, linear equations	
	Key Vocabulary/Concepts/ideas								
	Half Term 1 Multiplying, Dividing, Powers of 10, Square Numbers, Prime Numbers, Cube Numbers, Square/Cube Roots, Factors, Multiples				Half Term 2 Indices, Notation, Expression, Expand, convert, less than, greater than, equal				
Term 2	WC 06/01	WC 20/01	WC 03/02	WC 24/02	WC 10/03	WC 24/03			
	Perimeter and 2D area Area and Perimeter of rectangles, triangles, parallelograms, rhombus and compound shapes	Sequences Term to term rule, picture sequences, nth term	Transformations Reflection, Rotation, Enlargement, Translation	Percentages Percentage of an amount, increase and decrease Assessment 2	Fractions, Decimals and Percentages (FDP) Convert between FDP	Proportion and Ratio Write and simplify a ratio, share in a given ratio, direct proportion, recipe proportion, best value			
	Key Vocabulary/Concepts/ideas								
Half Term 3 Area, Perimeter, units, sequence, term, transformation				Half Term 4 Increase, Decrease, Convert, share, scaling					
Term 3	WC 21/04	WC 05/05	WC 19/05	WC 09/06	WC 23/06	07/07			
	Angles Angles on a straight line, around a point, in polygons, notation	Data Collection Averages from ungrouped data, averages from frequency tables	Statistics Tally charts, frequency tables, pictograms, bar charts, lines graphs, pie charts	Probability Probability scale, theoretical probability, two-way tables, Venn diagrams, sample space diagrams Assessment 3	Project Based Learning	Project Based Learning			
	Key Vocabulary/Concepts/ideas								
Half Term 5 Polygons, Discrete, Continuous, Primary, Secondary				Half Term 6 Chance, likely, unlikely, even chance, very likely, very unlikely					
CEIAG									
<ul style="list-style-type: none"> • Maths in Construction Presentation (HT4) • Visit to a College (Hair and Beauty) (HT2) • Statistics in Sports Analysis Presentation (HT5) 									
Personal Development									
Through carefully consideration of scenario-based questions and classroom discussions, students will explore the impact that Maths has upon their daily lives. The ever-increasing complexity of tasks develops resilience and confidence, and the opportunity to measure data and understand risk supports an understanding of online and offline risks to wellbeing, as well as the cultural differences when considering financial risk.									

Key Stage 3: Year 8

Overall Curriculum Goals – Students will develop their understanding of the 5 key strands: Number, Proportion, Algebra, Geometry and Statistics.								
	WC 02/09	WC 16/09	WC 30/09	WC 14/10	WC 04/11	WC 18/11	WC 02/12	WC 16/12
Term 1	Types of number Prime Factor Decomposition, Standard Form	Integers, Decimals, Rounding and Estimation Estimation, Dividing decimals by decimals	Fractions Mixed numbers, improper fractions, reasoning with fractions	Fractions Mixed numbers, improper fractions, reasoning with fractions	Algebra Expansion of brackets, substitution into worded formulae, SUVAT equations, factorise	Algebra SUVAT equations, factorise Assessment 1	Equations and Inequalities Linear Equations with unknown on both sides, linear inequalities	Perimeter and 2D Area Circles, in terms of pi, functional problems
	New Key Vocabulary/Concepts/ideas							
	Half Term 1 Number Multiplying, Dividing, Powers of 10, Square Numbers, Prime Numbers, Cube Numbers, Square/Cube Roots, Factors, Multiples				Half Term 2 Indices, Notation, Expression, Expand, convert, less than, greater than, equal			
Term 2	WC 06/01	WC 20/01	WC 03/02	WC 24/02	WC 10/03	WC 24/03		
	Graphs – Drawing and Reading Coordinates, mid-points, horizontal, vertical, and diagonal graphs	Percentages One number as a percentage of another, Percentage change, reasoning	Fractions, Decimals, Percentages (FDP) Recall common conversions, order FDP Assessment 2	Proportion and Ratio Inverse / indirect proportion, reasoning	Angles Angles in parallel lines, reasoning	Angles Interior and exterior angles in regular and irregular polygons		
	New Key Vocabulary/Concepts/ideas							
Half Term 3 Increase, Decrease, Convert, share, scaling				Half Term 4 Polygons, Interior, Exterior, Regular, irregular				
Term 3	WC 21/04	WC 05/05	WC 19/05	WC 09/06	WC 23/06	07/07		
	Constructions, Loci, Elevations and Bearings Bearing notation, apply Bearings	Trigonometry and Pythagoras Theorem Applying Pythagoras Theorem to calculate missing sides in a right-angle triangle and a line segment	Measures compound measures	Surface Area and Volume Nets, volume, and surface area of prisms	Probability Relative Frequency, missing probability Assessment 3	Project Based Learning		
	Key Vocabulary/Concepts/ideas							
Half Term 5 Clockwise, North, Hypotenuse				Half Term 6 Face, Edge, Vertices, Chance, likely, unlikely, even chance, very likely, very unlikely				
CEIAG								
<ul style="list-style-type: none"> • Nursing Presentation (HT2) • Visit to an Architects (HT5) • Game Designer Presentation (HT3) 								
Personal Development								
Students will be given the opportunity to discuss, through classroom discussions and framing of questions, the value in standardised working practices, including the impact upon teamwork and collaboration, which allows students to understand the consequences of behaviour and actions, including real life examples of when standardised practice haven't been followed and the outcomes that this has lead to.								

Key Stage 3: Year 9

Overall Curriculum Goals – Students will Deepen their understanding of Number, Algebra, Statistics, Proportion and Geometry with added emphasis on techniques to solve problems in unfamiliar contexts								
Term 1	WC 02/09	WC 16/09	WC 30/09	WC 14/10	WC 04/11	WC 18/11	WC 02/12	
	Type of Number Standard form, HCF/LCM with Venn Diagrams, negative and fractional induces	Integers, Decimals, Rounding and Estimation Error intervals, bounds	Algebra Expand and factorise quadratics, solve quadratics requiring factoring	Algebra Functions, difference of two squares, quadratic formula, expand triple brackets	Measures Distance-Time graphs, Force-Pressure-Area, Mass-Density- Volume	Measures Rates of change, Velocity-Time graphs, Area under a curved graph Assessment 1	Equations and Inequalities Solve equations involving brackets, change the subject of a formula	Perimeter and 2D Area Trapezium, arcs length and area of a sector
	New Key Vocabulary/Concepts/ideas							
	Half Term 1 Multiplying, Dividing, Powers of 10, Square Numbers, Prime Numbers, Cube Numbers, Square/Cube Roots, Factors, Multiples				Half Term 2 Solving, Expand, Rearrange, Formulae, Subject, In terms of, Sector, Area, Circumference,			
Term 2	WC 06/01	WC 20/01	WC 03/02	WC 24/02	WC 10/03	WC 24/03		
	Sequences and Patterns Nth term, quadratic sequences	Graphs – Drawing and Reading Quadratic graphs, gradient, parallel and perpendicular graphs	Transformations, Congruence and Similarity Fractional and negative scale factors, congruence, and similarity	Percentages VAT, profit / loss, simple interest, taxation, multipliers, reverse percentage, repeat percentage Assessment 2	Proportion and Ratio Three-part ratios, combining ratios, direct and inverse proportion including graphs	Angles Interior and exterior angles, circle theorems		
	New Key Vocabulary/Concepts/ideas							
	Half Term 3 Term to Term, Position to Term, Pattern Sequences, Axis, Plotting, Scale Factor, Centre of.				Half Term 4 Sharing, Equal Parts, Percentage Increase / Decrease, Multipliers, Polygon, Regular, Irregular, Interior / Exterior			
Term 3	WC 21/04	WC 05/05	WC 19/05	WC 09/06	WC 23/06	07/07		
	Constructions, Loci, Elevations and Bearings Plans and Elevations, scale drawings, bisecting lines and angles	Trigonometry and Pythagoras Theorem Use Trigonometric ratios to find missing angles and sides in a right-angle triangle	Surface Area and Volume Cylinders, combined problems	Data Collection and Analysis Distributions, estimating the mean from grouped data, sample size, stratified samples	Statistics Frequency polygons, scatter graphs, box plots, cumulative frequency graphs	Probability Tree diagram, “and” - “or” rules, set notation, Venn diagrams Assessment 3		
	Key Vocabulary/Concepts/ideas							
	Half Term 5 Bisecting, Equidistant, Hypotenuse, Opposite, Adjacent, Cross Section				Half Term 6 Grouped Data, Estimate, Sample, Population, Chance, Notation, Intersection			
CEIAG								
<ul style="list-style-type: none"> • Landscape Designer presentation (HT5) • Visit to a College (Construction) (HT1) • Mortgage Advisor presentation (HT4) 								
Personal Development								
During the work on graphs and proportion, students will develop responsibility and consider how to become active citizens through investigating the impact that diet and exercise have upon both physical and mental health, which will support students to understand how to remain physically healthy, eat healthily and maintain an active lifestyle.								

Key Stage 4: Year 10 (topics in *italic* will only be studied by those students sitting the Higher Tier)

Overall Curriculum Goals – Students will deepen their understanding of Number, Algebra, Statistics, Proportion and Geometry with added emphasis on techniques to solve problems in unfamiliar contexts								
	WC 02/09	WC 16/09	WC 30/09	WC 14/10	WC 04/11	WC 18/11	WC 02/12	WC 16/12
Term 1	Algebra Collecting like terms, forming expressions, index laws, expanding and factorising, difference of two squares, algebraic proof, <i>factorising quadratics with coefficient, advanced algebraic proof</i>	Equations and Inequalities Function machines, solving linear equations, listing integers, inequalities on number lines, solving inequalities, substitution, SUVAT, changing the subject, simultaneous equations, <i>solving advanced inequalities, shading regions</i>	Equations and Inequalities Function machines, solving linear equations, listing integers, inequalities on number lines, solving inequalities, substitution, SUVAT, changing the subject, simultaneous equations, <i>solving advanced inequalities, shading regions</i>	Decimals, Integers, Rounding and Estimation Negative and Directed numbers, order of operations, rounding, estimation, using a calculator, error intervals, <i>identifying bounds, calculating with bounds</i>	Angles Applying, combining, and justifying angles facts, Angles in parallel lines, interior angles of polygons, external angles in polygons, combining polygon angle facts, recalling, and applying circle theorems	Transformations, Congruence and Similarity Translations, rotations, reflections, enlargements, combined transformations, congruence, similarity (length), <i>advanced congruence problems, similarity (area and volume)</i> Assessment 1	Transformations, Congruence and Similarity Translations, rotations, reflections, enlargements, combined transformations, congruence, similarity (length), <i>advanced congruence problems, similarity (area and volume)</i>	Constructions, Loci, Elevations and Bearings Properties of 3D shapes. Plans and elevations, map scales, bearings, bisecting lines and angles, simple loci, <i>complex loci</i>
	New Key Vocabulary/Concepts/ideas							
	Half Term 1 – Simplifying, manipulating, solving, calculating, inverse operations, rounding, estimating				Half Term 2 – Reasoning, explaining, scale factor, direction, loci, equidistance, combination			
Term 2	WC 06/01	WC 20/01	WC 03/02	WC 24/02	WC 10/03	WC 24/03		
	Trigonometry, Pythagoras, and Bearings Finding any length in a right angle triangle using Pythagoras theorem, length of a line segment, finding any length or angle in a right angle triangle using trigonometry, <i>area using the sine, sine and cosine rules, 3D Pythagoras and trigonometry, bearings requiring Pythagoras and trigonometry</i>	Fractions Equivalent fractions, simplify fractions, value between 2 fractions, ordering fractions and combined fractions, decimals and percentages, 4 operations using fractions, mixed numbers and integers/fractions, fraction of amounts, reverse fraction of amounts, reciprocals, <i>algebraic fractions (simplify, 4 operations, solve)</i>	Types of number HCF and LCM (including worded problems), prime factor decomposition, index laws, standard form, negative index notation, <i>fractional index notation, surds (simplifying, 4 operations, expanding brackets, rationalising the denominator), manipulating powers</i>	Sequences and Patterns Sequences basics (vocabulary, next number, justify if number is / isn't in a sequence), nth term, generating a sequence, picture sequences, <i>algebraic Fibonacci sequences, quadratic sequences, advanced geometric sequences</i> Graphs – Drawing and reading Plotting linear graphs, sketching linear graphs, gradient of a line, y-intercept, equation of a line (including when given a point), equation of parallel lines, <i>Equations of perpendicular lines (including equation of a tangent), midpoint of a line</i> Assessment 2	Quadratics and non-linear graphs Plotting quadratic graphs, turning points, applying, and solving using quadratic graphs, factorising, and solving quadratics, <i>quadratic formula, completing the square, sketching quadratic graphs, quadratic simultaneous equations, quadratic inequalities</i>	Quadratics and non-linear graphs Plotting quadratic graphs, turning points, applying, and solving using quadratic graphs, factorising, and solving quadratics, <i>quadratic formula, completing the square, sketching quadratic graphs, quadratic simultaneous equations, quadratic inequalities</i> Percentages Percentage of an amount, percentage increase / decrease, percentage change, <i>compound interest and depreciation, reverse percentage</i>		
	New Key Vocabulary/Concepts/ideas							
Half Term 3 – Hypotenuse, Adjacent, Opposite, ratio, formula, equivalent, “equal parts”				Half Term 4 – Justification, plotting, coordinates, simultaneous, “out of 100”				
	WC 21/04	WC 05/05	WC 19/05	WC 09/06	WC 23/06	07/07		

Term 3	Perimeter and 2D Area Compound shapes, functional problems, circles, <i>sectors, arc length and perimeter</i>	Vectors Column vectors, vector sums, <i>geometric vectors, complex vectors</i>	Proportion and Ratio Equivalent ratios, simplify a ratio, share "in a given" ratio (all values known, one value known, difference known), reverse ratio, recipe proportion, exchange rates, conversion graphs, worded direct and indirect/inverse proportion, <i>combined ratios, algebraic direct / indirect / inverse proportion</i>	Measures Time calculations, reading timetables, distance charts, speed, Pressure, density, distance-time graphs, conversion graphs, converting units of measure, <i>velocity-time graphs</i>	Statistics Averages, frequency tables, bar charts, pie charts, line graphs, time series graphs, scatter graphs, frequency polygons, <i>cumulative frequency graphs, box plots, histograms, stratified samples</i>	Statistics Averages, frequency tables, bar charts, pie charts, line graphs, time series graphs, scatter graphs, frequency polygons, <i>cumulative frequency graphs, box plots, histograms, stratified samples</i>
	Assessment 3					
	Key Vocabulary/Concepts/ideas					
Half Term 5 – Area, Perimeter, formula, journey, unitary, best buys, exchange, currency			Half Term 6 – Interpreting, displaying, predictions, forecasting			
CEIAG						
<ul style="list-style-type: none"> • Electrician Presentation (HT4) • College / Employer visit (Catering) (HT2) • Astronauts Presentation (HT5) 						
Personal Development						
Through mastering percentages, including Value Added Tax, interest and profit / loss, student will become financially aware, which will support their understanding of the rule of law with regards to financial matters and the consequences of their behaviour and actions. Classroom discussions will also allow students to understand cultural differences and other people's faiths and beliefs with reference to debt and interest payments.						

Key Stage 4: Year 11 (topics in *italic* will only be studied by those students sitting the Higher Tier)

Overall Curriculum Goals – Students take a deep dive into GCSE Proportional reasoning, Geometry and Graphs. Students will consolidate their knowledge from key stage 3 and be guided on how to apply their knowledge to unfamiliar contexts.								
	WC 02/09	WC 16/09	WC 30/09	WC 14/10	WC 04/11	WC 18/11	WC 02/12	WC 16/12
Term 1	<p>QLA informed Revision</p> <p>Probability Intro to probability - vocab and simple probability questions. Emphasise that we only use words when asked! Relative frequency Listing outcomes Sample-space diagrams. Frequency trees Two-way tables Venn diagrams L1 – without set notation. Venn diagrams L2 – with set notation Tree diagrams L1 – completing. Tree diagrams L2 – calculating probabilities. <i>Tree diagrams – conditional</i> <i>Listing outcomes & product rule</i></p>	<p>QLA informed Revision</p> <p>Probability Intro to probability - vocab and simple probability questions. Emphasise that we only use words when asked! Relative frequency Listing outcomes Sample-space diagrams. Frequency trees Two-way tables Venn diagrams L1 – without set notation. Venn diagrams L2 – with set notation Tree diagrams L1 – completing. Tree diagrams L2 – calculating probabilities. <i>Tree diagrams – conditional</i> <i>Listing outcomes & product rule</i></p>	<p>QLA informed Revision</p> <p>Surface Area & Volume Volume by counting cubes Volume of cubes/cuboids Volume of triangular prisms Surface area of cubes/cuboids L1 Surface area of prisms <i>Volume of pyramids, spheres & cones</i> <i>Surface area of pyramids, spheres & cones</i> <i>Complex shapes incl, frustums, hemispheres etc. Problem-solving incl. spheres, cones, pyramids</i></p>	<p>QLA informed Revision</p> <p>Surface Area & Volume Volume by counting cubes Volume of cubes/cuboids Volume of triangular prisms Surface area of cubes/cuboids L1 Surface area of prisms <i>Volume of pyramids, spheres & cones</i> <i>Surface area of pyramids, spheres & cones</i> <i>Complex shapes incl, frustums, hemispheres etc. Problem-solving incl. spheres, cones, pyramids</i></p>	<p>QLA informed Revision</p> <p>Sequences & Patterns Intro to sequences – vocabulary, justify if a number is in a sequence etc Nth term Generating a sequence from nth term Using nth term to find if a number is in a sequence <i>Nth term with diagrams</i> <i>Fibonacci sequences – incl algebraic</i> <i>Nth term of quadratic sequence</i> <i>Geometric sequences</i></p>	<p>QLA informed Revision</p> <p>Sequences & Patterns Intro to sequences – vocabulary, justify if a number is in a sequence etc Nth term Generating a sequence from nth term Using nth term to find if a number is in a sequence <i>Nth term with diagrams</i> <i>Fibonacci sequences – incl algebraic</i> <i>Nth term of quadratic sequence</i> <i>Geometric sequences</i></p>	<p>QLA informed Revision</p> <p>Transformations, Congruence & Similarity Translation, incl describing Rotation, incl describing Reflection L1 Reflection L2, incl describing Enlargement without a centre. Enlargement L2 – with a centre Mixed transformations questions, incl describing – just a booklet of questions! Similarity – length Congruence</p> <p>Graphs – transforming & further graphs</p> <p><i>Types of graphs (proportional, reciprocal etc)</i> <i>Trig graphs – plotting.</i> <i>Extension – solve trig equations using graphs</i> <i>Transforming graphs L1 – introduction</i> <i>Transforming graphs L2 – GCSE-style</i> <i>Circular graphs</i></p>	<p>QLA informed Revision</p> <p>Transformations, Congruence & Similarity Translation, incl describing Rotation, incl describing Reflection L1 Reflection L2, incl describing Enlargement without a centre. Enlargement L2 – with a centre Mixed transformations questions, incl describing – just a booklet of questions! Similarity – length Congruence</p> <p>Graphs – transforming & further graphs</p> <p><i>Types of graphs (proportional, reciprocal etc)</i> <i>Trig graphs – plotting.</i> <i>Extension – solve trig equations using graphs</i> <i>Transforming graphs L1 – introduction</i> <i>Transforming graphs L2 – GCSE-style</i> <i>Circular graphs</i></p>
	Half Term 1 – Cross Section, Chance, Exhaustive, mutually exclusive, outcomes, experimental, set notation, intersection, union				Half Term 2 – term to term, Fibonacci, rule, nth term, scale factor, Centre of,			
Key Vocabulary/Concepts/ideas								

Term 2	WC 06/01	WC 20/01	WC 03/02	WC 24/02	WC 10/03	WC 24/03
	QLA informed Revision Iteration & Functions <i>Intro to functions</i> <i>Composite functions</i> <i>Inverse functions & functions</i> <i>GCSE questions</i> <i>Iteration – estimating solutions</i> <i>Iteration - repeated substitution</i> <i>Iteration – rearranging & GCSE questions</i>	QLA informed Revision Iteration & Functions <i>Intro to functions</i> <i>Composite functions</i> <i>Inverse functions & functions</i> <i>GCSE questions</i> <i>Iteration – estimating solutions</i> <i>Iteration - repeated substitution</i> <i>Iteration – rearranging & GCSE questions</i>	QLA informed Revision Proportion & Ratio <i>Recipes</i> <i>Exchange rates</i> <i>Combining ratios</i> <i>Split line segment into given ratio</i> <i>Direct & inverse proportion</i> <i>Complex ratio & proportion</i> <i>GCSE questions</i>	QLA informed Revision Proportion & Ratio <i>Recipes</i> <i>Exchange rates</i> <i>Combining ratios</i> <i>Split line segment into given ratio</i> <i>Direct & inverse proportion</i> <i>Complex ratio & proportion</i> <i>GCSE questions</i>	QLA informed Revision	QLA informed Revision
	Key Vocabulary/Concepts/ideas					
Half Term 3 –						
Term 3	WC 21/04	WC 05/05	WC 19/05	WC 09/06	WC 23/06	07/07
	QLA informed Revision	QLA informed Revision	QLA informed Revision	QLA informed Revision	n/a	n/a
	CEIAG					
	<ul style="list-style-type: none"> • Pilot Presentation (HT2) • College / Employer visit (Engineering) (HT2) • Ship Captain Presentation (HT1) 					
Personal Development						
Students will be fine tuning their skills, in preparation for the next phase of their careers, which develops their resilience and confidence. Students will be able to identify which aspects of their study they have mastered and which they need to develop further, and will be aware of support networks they have formed throughout their studies, which will support them in understanding mutual respect and tolerance.						