HUMMERSKNOTT ACADEMY

YEAR 7 MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent:

Our aim is to give students the mathematical and numerical skills to thrive academically and function successfully in their future lives. We aim to ensure that all our students are fluent in mathematics through the embedding of key concepts and knowledge so that they can become confident mathematicians with a 'can do' attitude, irrespective of ability or background. Our curriculum is designed to ensure that all students receive a high-quality, ambitious mathematical education which supports and develops our students, whilst challenging the most able, through the development of mathematical reasoning, application and problem-solving. We intend to inspire a lifelong love of mathematics in our students so they are equipped with the skills and knowledge to succeed in all aspects of their lives.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Theme						
Topic	Numbers Properties	FDP	Solving problems with multiplication and division	Directed Numbers	Developing Number Sense	Sets and Probability
Links to prior learning	This reviews, consolidates and then extends the work pupils covered in KS2 on number properties	As part of the KS2 National Curriculum, pupils have looked at percentages as part of 100 and can use equivalences between simple fractions, decimals and percentages.	As part of the KS2 National Curriculum, pupils have looked at solving problems with multiplication & division so this unit builds upon this prior knowledge.	In the Autumn term, pupils looked at calculating with and substituting into expressions with positive numbers as well as solving one step equations.	In KS3 pupils worked with 2d shapes and began to calculate angles in simple examples and also in simple 2D shapes.	In the Autumn and Spring terms, pupils worked with fractions in a variety of context.

Substantive knowledge headlines	All pupils will be able to recognise and identify multiples, factors, primes, square and triangular numbers. This leads pupils to being able to find common multiples and factors, the LCM and HCF and to use product of prime factors. To further develop these skills pupils will use Venn diagrams to find the LCM and HCF.	All pupils will be able to represent decimals and fractions on number lines and convert fluently between simple fractions, decimals and percentages. This leads pupils to be able to convert and order fractions, decimals and percentages and use equivalent fractions. To further develop these skills, pupils explore fractions above one as decimals and percentages, as well as looking at how to add fractions to decimals.	All pupils will be able to multiply and divide integers and use these calculations to solve problems involving the area of rectangles and parallelograms. This leads pupils to be able to multiply and divide with decimals and use these calculations to solve problems with area of triangles and the mean. To further develop these skills, pupils will investigate the effect of multiplying by 0.1 and 0.01, solve problems involving the area of trapezia and use multiplication and division with algebra.	All pupils will be able to understand the concept of negative numbers and their relative size and to be able to calculate with them. This leads pupils to use directed number when substituting or solving equation, with order of operations, as well as when using a calculator. To further develop these skills, pupils will consider higher powers and roots.	All pupils will be able understand and use angles at a point, on a line, vertically opposite and in a triangle. This leads pupils to understanding and using angles in a quadrilateral and solving problems using triangles and quadrilaterals as well as more complex problems. To further develop these skills, pupils will understand and use angles in any polygon and also in parallel lines.	All pupils will be able to understand and calculate simple probability and use a probability line and a sample space diagram. This leads pupils to being able to interpret and create a Venn diagram. To further develop these skills pupils will be able to understand and use set notation.
Disciplinary knowledge headlines	This unit is covered at the start of the Autumn term in year 7 as pupils need these definitions and key number skills throughout the 5-year curriculum. To extend pupils it introduces Venn diagrams as an alternative method to find the HCF and LCM.	This unit is covered during the Autumn term of Y7 as pupils need these fundamental number skills, such as simplifying fractions and converting between fractions, decimals and percentages, throughout the 5-year curriculum. It also means these skills can be reviewed when teaching other concepts as they are fundamental basic numeracy skills.	This unit is covered during the Autumn term of Y7 as pupils need these fundamental number skills, such as simplifying fractions and converting between fractions, decimals and percentages, throughout the 5-year curriculum. It also means these skills can be reviewed when teaching other concepts as they are fundamental basic numeracy skills.	This unit is covered during the Spring term of Y7 as pupils need these fundamental number skills throughout the 5-year curriculum. It is covered after students have developing skills with positive numbers as well as looking a simple substitution and equations.	This unit is covered during the Summer term of Y7 as pupils need these fundamental shape and angles skills across the full curriculum. It is then reviewed and extended on a regular basis in each year until the end of the 5 year curriculum.	This unit is covered during the Summer term in year 7 as pupils have not seen probability before and it uses the fractional skills they have developed. It will then be reviewed and extended through the 5-year curriculum.

Links to knowledge in future units	Pupils will use definitions and number skills later in key stage 3. The skills will be revisited and built upon again in key stage 4.	Pupils will use this knowledge in the Spring term to carry out calculations with percentages and fractions. This knowledge is then built upon further throughout the 5-year curriculum.	Pupils will use the key number skills covered in this unit to solve problems throughout the 5-year curriculum. All pupils need to be confident with mental calculations as well as formal written methods in order to be successful in Maths.	Pupils will use their knowledge of directed number in the summer term when mental strategies are considered. In year 8 negative numbers are linked to coordinates and solving equations is revisited and extended.	Pupils will use angle skills in more detail in the Summer term in year 8 and then link this with algebra in year 9. At GCSE work is extended to look at bearings too.	Pupils will use probability skills to solve more complex problems involving sample spaces, Venn diagrams and tree diagrams in KS3. Pupils will also build upon this knowledge of probability in year 10.
Key vocabulary	Multiple, factor, prime, square number, triangular number, common factor, highest common factor (HCF), common multiple, lowest common multiple (LCM), product Venn diagram	Percentage, decimal, fraction	Integer, multiply, divide, product, area, mean	Negative, descending, ascending, add, subtract multiply, product, divide, evaluate, substitute, solve, BIDMAS, powers, square number, roots, square root, cube, cube root	Sum, opposite, isosceles, equilateral, quadrilateral, polygon, interior angles, exterior angle, parallel, alternate, corresponding, co-interior, prove	Probability, impossible, certain, even chance, likely, unlikely, sample space, event , outcome, sum, set, element, Venn diagram, intersection, union, complement

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YEAR 8 MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent:

Our aim is to give students the mathematical and numerical skills to thrive academically and function successfully in their future lives. We aim to ensure that all our students are fluent in mathematics through the embedding of key concepts and knowledge so that they can become confident mathematicians with a 'can do' attitude, irrespective of ability or background. Our curriculum is designed to ensure that all students receive a high-quality, ambitious mathematical education which supports and develops our students, whilst challenging the most able, through the development of mathematical reasoning, application and problem-solving. We intend to inspire a lifelong love of mathematics in our students so they are equipped with the skills and knowledge to succeed in all aspects of their lives.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Theme						
Topic	Ratio and Scale	Working in the Cartesian plane	Tables & probability	Brackets, Equations & Inequalities	Standard index form	Angles
Links to prior learning	Pupils were introduced in ratio in Y7 so this unit build upon this prior knowledge	Pupils first looked co-ordinates at KS2 and direct proportion graphs in Y8.	In the summer term of Y7 pupils looked at sets and probability.	In the autumn term of Y7 pupils covered equality and equivalence where they simplified expressions and solved simple equations.	In Y7 pupils have looked at place value, adding and subtracting decimals and negative numbers which are all skills that will be useful in this unit.	In the summer term of Y7 pupils looked at basic angle facts when developing their geometric reasoning.
Substantive knowledge headlines	All pupils will be able to simplify ratios, share into a given ratio, use conversion graphs and solve direct proportion problems. This leads pupils to be able to convert between currencies, use map scales and draw and interpret scale diagrams. To further develop these skills, pupils compare and combine two ratios and explore direction proportion on graphs. They also start to explore the link between ratios and scale factors in similar shapes.	All pupils will understand co-ordinates and lines parallel to the axes. This then leads to pupils looking at lines in the form $y = mx + c$ and how it links to direct proportion. To further develop these skills, pupils will look at the gradient, midpoint and also non-linear graphs.	All pupils will be able to construct and calculate probabilities from sample space diagrams and two-way tables. This leads pupils to be able to find probabilities from Venn diagrams. To further develop these skills, pupils use the product rule for counting to find the total number of possible outcomes.	All pupils will be able to form algebraic expressions and factorise and expand single brackets. This leads pupils to be able to expand multiple single brackets and form and solve equations with brackets. Pupils also understand the difference between equations, inequalities and formula. To further develop these skills, pupils expand pairs of binomials and form & solve equations/inequalities with unknowns on both sides.	All pupils will be able to write numbers in and out of standard form. This leads pupils to be able to calculate with all four operations with numbers in standard form, with and without a calculator. To further develop these skills, pupils use fractional and negative indices.	All pupils will be able to identify allied, alternate and corresponding angles and work out angles & sides in special quadrilaterals. This leads pupils to be able to find interior and exterior angles of polygons, including regular polygons. To further develop these skills, pupils use angle facts to prove simple geometric facts. They also construct angle and perpendicular bisectors.

Disciplinary knowledge headlines	This unit is covered during the Autumn term of Y8 as it builds on knowledge from Y7. Ratio tends to be used in different units, such as percentages and similar shapes, therefore it is essential pupils have a secure understanding of ratio before being taught these other topics.	This unit is covered during the Autumn term of Y8 as it allows pupils to build on their skills on sequences from Y7 and link this to geometric representations. It also means these skills can be reviewed in Y9 and then extended and applied to non-linear situations in KS4.	This unit is covered during the Spring term of Y8 as it builds on knowledge from Y7 by using set notation and recapping how to find probabilities. This unit is then developed further in Y9 and Y10 where pupils look at tree diagrams and construct Venn diagrams, as well as using more set notation.	This unit is covered during Y8 so it builds on pupils prior knowledge from Y7 and also develops some fundamental skills, such as expanding and factorising, that will be built on over the next few years.	This unit is covered during the Summer term of Y8 as it builds on knowledge from Y7 and the previous indices unit in Y8. It also introduces standard form so pupils can use this knowledge in Y9 and throughout Y10 and Y11 to solve problems with really large and really small numbers.	This unit is covered during the Summer term of Y8 as it builds on knowledge from Y7 by recapping basic angle facts and extending these facts to investigate angles in polygons. This unit is then developed further in Y9 and Y10 where pupils look at regular polygons, bearings and circle theorems.
Links to knowledge in future units	Pupils revisit ratio and proportion in Y9 where they investigate inverse proportion, as well as looking at more algebraic methods.	Pupils develop their knowledge of graphs further in Y9 by looking at comparing gradients and intercepts in more detail and then at gradients in more detail in Y11 and extending this to perpendicular lines and non-linear graphs	Pupils will use this knowledge in Y9 and Y10 to further develop their knowledge of probability.	Pupils will use this knowledge later in Y8 when they explore index laws and develop this further in Y9 to look at rearranging formula.	Pupils will use this knowledge in Y9 and Y10 to further develop their knowledge of standard form.	Pupils will use this knowledge in Y9 and Y10 to further develop their knowledge of angles and use these facts to solve problems
Key vocabulary	Proportion, ratio, scale factor	Co-ordinate, parallel, proportion, gradient, mid-point	Probability, sample space, two-way table, Venn diagram, product rule	Factorise, expand, inequality, formula, expression, equation	Indices	Alternate, corresponding, allied, parallel, polygon, interior, exterior, regular, bisector, perpendicular

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YEAR 9 MATHS CURRICULUM PROGRESSION OVERVIEW

Subject Curriculum Intent:

Our aim is to give students the mathematical and numerical skills to thrive academically and function successfully in their future lives. We aim to ensure that all our students are fluent in mathematics through the embedding of key concepts and knowledge so that they can become confident mathematicians with a 'can do' attitude, irrespective of ability or background. Our curriculum is designed to ensure that all students receive a high-quality, ambitious mathematical education which supports and develops our students, whilst challenging the most able, through the development of mathematical reasoning, application and problem-solving. We intend to inspire a lifelong love of mathematics in our students so they are equipped with the skills and knowledge to succeed in all aspects of their lives.

	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer Term 1	Summer Term 2
Theme						
Topic	Equations	3D Shape	Using Percentages	Pythagoras Theorem	Ratio and Proportion	Probability
Links to prior learning	In years 7 and 8 solving equations and inequalities as well as substitution were introduced and then developed further.	In year 7 area and perimeter of simple shapes are covered which is then consolidated and extended in year 8 as well as linking it to volume and surface area.	In year 7 percentage skills from KS2 and reviewed and extended as well as linked to simple financial maths and then these are consolidated and extend further in year 8	In year 7 pupils looked at area and perimeter and then consolidated and extended this shape work by looking at volume of shapes in year 8.	In year 7 pupils were introduced to ratio and simple proportion which was consolidated and then consolidated and extended including looking at some applications of ratio and proportion in year 8.	In Key Stage 3, pupils were introduced to proportional reasoning through work on ratio, fractions, and scaling in earlier topics. In Year 8, they explored the concept of speed as a measure of rate and worked with units of measurement. These foundational skills prepare pupils to compare quantities using different units and understand the structure of rate problems.

Substantive knowledge headlines	All pupils will be able to solve equations with unknowns on both sides, represent inequalities, substitution, and rearranging one-step formula. This leads pupils to solve inequalities involving negatives and with unknowns on both sides and rearranging two-step formulae. To further develop these skills, pupils will rearrange complex formulae.	All pupils will be able to name 2D and 3D shapes, find the area and perimeter of common 2D shapes including circles, find the volume and surface areas of cuboids and triangular prism and draw accurate nets. This leads pupils to being able to find the volume and surface area of cylinders and to draw plans and elevations. To further develop these skills pupils will explore the area and perimeter of sectors.	All pupils will be able to use multipliers to calculate percentage increase and decrease and calculate simple interest. This leads pupils to being able to calculate compound interest, solve problems involving VAT, wages, taxes and exchange rates and also reverse percentages problems. To further develop these skills pupils will solve problems with repeated percentage change.	All pupils will be able to calculate any missing side in a right-angled triangle. This leads pupils to being able to determine if a triangle is right-angled and working on a co-ordinate axes. To further develop these skills pupils will solve Pythagoras' theorem in 3D	All pupils will consolidate previous ratio skills and solve best value problems. This leads pupils to being able to solve direct and inverse proportion, and best value problems. To further develop these skills pupils will consider graphs of inverse relationships and linking ratio with algebra.	All pupils will be able to calculate and interpret rates, including speed, density, and pressure. They will convert compound units where necessary and solve problems involving average rates of change. This leads pupils to explore real-world contexts where rates are used and manipulate rate-related formulae. Pupils will also work with direct and inverse proportion in graphical and algebraic contexts.
Disciplinary knowledge headlines	This unit is covered in the Autumn term in year 9 as these algebraic skills are a vital skill within the Maths curriculum. By reviewing, consolidating and extending these skills on a regular basis this allows these skills to become fully embedded.	This unit is covered in the Autumn term in year 9 as pupils first saw some of these concepts at KS3 and they have been reviewed and developed each ear since then. They are then reviewed, consolidated, and extended in years 10 and 11 as well as being linked with other areas of the curriculum eg algebra.	This unit is covered in the Autumn term in year 9 as it allows pupils to consolidate and build on these vital mathematical skills before reaching KS4. As percentages are fundamental Maths skills pupils will review, consolidate and extend percentages skill right across the 5 year curriculum.	This unit is covered in the Spring term in year 9 as it allows pupils to consolidate and build on the skills, they have previously covered in KS3 whilst extending them to calculate missing sides in any right-angled triangle. In KS4 these concepts will be reviewed and extended to link to other situations such as trigonometry in right angles triangles, and if appropriate 3D Pythagoras theorem and trigonometry in non-right-angled triangles	This unit is covered in the Spring term in year 9 as it allows pupils to consolidate and build on the skills, they have previously covered in KS3 whilst extending them to consider inverse proportion and simple links to graphs. In KS4 these concepts will be reviewed and extended to link to other areas of the curriculum such as similar shapes and algebra.	This unit supports mathematical modelling and problem solving in real-life scenarios. Pupils are encouraged to reason mathematically about the relationships between quantities, interpret and compare rates, and justify their solutions using appropriate units and conversions. Building fluency with compound units and representations helps develop their confidence in approaching unfamiliar multi-step problems.

Links to knowledge in future units	Pupils will consolidate these skills and extend then to more complex situations in year 10 and 11.	Pupils will review and embed these geometric in years 10 and 11and makes links to arcs and sectors as well as finding lengths in similar shape and extending this to consider similar areas and volumes. .	In year 10 these percentages skills will be consolidated again to ensure automaticity in these key skill areas as well as making further links with fractions and ratios in problem situations.	In year 10 these skills will be consolidated to ensure they are fully embedded as well as extending the work on right angled triangle to look at trigonometry and then review and extend this again in year 11.	In KS4 these skills will be consolidated to ensure they are fully embedded as well as making links to similar shapes, fractions, graphs and algebra.	The skills developed in this unit are essential for topics in Year 10 and 11, including work on graphs of real-life situations, proportionality, and functions. Understanding rates also underpins key content in Science and Geography, supporting cross-curricular connections.
Key vocabulary	Equation, solve, inverse, inequality, less than, less than or equal to, greater than, greater than or equal to, integer, negative, formula, substitute, rearrange	2-D shape, 3-D shape, area, perimeter, radius, diameter, cube, cuboid, triangular prism, volume, surface, cylinder, surface area, net, plan, front elevation, side elevation, sector	Multiplier, increase, decrease, interest, per annum, tax, VAT, exchange rate, original amount, change	Square number, cube number, square root, cube root, right angled triangle, hypotenuse, co-ordinate axes,	Ratio, simplify, best value, proportion, direct proportion, inverse proportion, inverse relationship, best value, best buy, algebra	Rate, speed, distance, time, density, pressure, unit, conversion, compound unit, proportion, average, inverse, direct, constant, per, graph, formula.

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Year 10 Maths Curriculum (Foundation)

Subject Intent - Our aim is to give students the mathematical and numerical skills to thrive academically and function successfully in their future lives. We aim to ensure that all our students are fluent in mathematics through the embedding of key concepts and knowledge so that they can become confident mathematicians with a 'can do' attitude, irrespective of ability or background. Our curriculum is designed to ensure that all students receive a high-quality, ambitious mathematical education which supports and develops our students, whilst challenging the most able, through the development of mathematical reasoning, application and problem-solving. We intend to inspire a lifelong love of mathematics in our students so they are equipped with the skills and knowledge to succeed in all aspects of their lives.

	Autumn Term 1	**Autumn Term 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Theme	Basic Number work leading to more complex concepts	Development progresses in problem solving skills with real life concepts	More abstract applications of Algebra being introduced	Complex ratio and percentage problems	Use of balancing method to solve real – in abstract and real life problems.	
Topic	Calculations	Area, perimeter and volume	Expressions, formulae and sequences	Ratio and Proportion 1	Equations and inequalities	Angles
Links to Prior Learning	Number skills from Key stage 3 are built upon and refined.	Number skills from the previous topic are now applied to real life concepts involving shape.	Algebra taught at Key stage 3 is revisited and built upon.	Links in particular to the calculations unit in year 10	Skills taught in the expressions and formulae unit are revisited and built upon.	Angle skills from Key stage 3 are built upon and refined.

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Substantive knowledge headlines	Multiplying and divinding integers and decimals. Fraction arithmetic.	Caluclating area, perimeter, volume and surface area of a variety of 2D and 3D shapes	Simplifying, expanding and factorising expressions. Rearranging formulae and working with the Nth term of linear sequences.	Calculating percentage increase decrease, finding percentages of amounts, finding reverse percentages, calculating interest and solving problems involving ratio.	Solving equations and inequalities and using number lines to display solutions	Using basic and more complex angle fact to finding missing angles in 2d shapes
Disciplinary knowledge headlines	Real life application and problem solving skills	Mathematical reasoning, real life problems and problem solving skills	Mathematical reasoning and problem solving skills	Mathematical reasoning, real life application and problem solving skills	Mathematical reasoning and problem solving skills	Mathematical reasoning and problem solving skills
Links to knowledge in future units	Skills from this unit will be used in all future units.	Skills taught in this unit will be used in expressions and equations units	These skills will be used in all future units	Skill will be built upon in the ratio and proportion 2 unit.	Solving equations will be useful in the angles unit that follows	These skills will be used particularly in the geometry unit in year 11.
Key Vocabulary	Indices, powers, product, sum, factors, primes, standard form, error	Area, perimeter, volume, surface area, radius diameter, circumference	Expand, factorise, rearrange, expression	Interest, profit, percentage, ratio	Equations, inequalities, solve, rearrange	Regular, polygon, interior angle, exterior angle,

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Year 10 Maths Curriculum (Higher)

Subject Intent - Our aim is to give students the mathematical and numerical skills to thrive academically and function successfully in their future lives. We aim to ensure that all our students are fluent in mathematics through the embedding of key concepts and knowledge so that they can become confident mathematicians with a 'can do' attitude, irrespective of ability or background. Our curriculum is designed to ensure that all students receive a high-quality, ambitious mathematical education which supports and develops our students, whilst challenging the most able, through the development of mathematical reasoning, application and problem-solving. We intend to inspire a lifelong love of mathematics in our students so they are equipped with the skills and knowledge to succeed in all aspects of their lives.

	Autumn Term 1	**Autumn Term 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Theme	Basic Number work leading to more complex concepts	Development of number work progresses into problem solving skills with real life concepts	More abstract applications of Algebra being introduced	Skills from all three previous units are now being used	Use of balancing method to solve real – in abstract and real life problems.	
Topic	Calculations	Area, perimeter and volume	Expressions, formulae and sequences	Pythagoras and trigonometry	Equations and inequalities	Angles
Links to Prior Learning	Number skills from Key stage 3 are built upon and refined.	Number skills from the previous topic are now applied to real life concepts involving shape.	Algebra taught at Key stage 3 is revisited and built upon.	Skills from all three previous units are now being used	Skills taught in the expressions and formulae unit are revisited and built upon.	Angle skills from Key stage 3 are built upon and refined.
Substantive knowledge headlines	Multiplying and divinding integers and decimals.	Caluclating area, perimeter, volume and surface area	Simplifying, expanding and factorising	Finding missing angles and length in both right and	Solving both linear and quadratic equations and	Using simple and more complex angle rules to find the missing angles

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	Fraction arithmetic. Standard form. Surds	of a variety of complex 2D and 3D shapes	expressions. Rearranging complex formulae and working with the Nth term of linear and quadratic sequences.	non-right angles triangles	inequalities and using number lines to display solutions	in a variety of shapes, including circle theorems.
Disciplinary knowledge headlines	Real life life application and problem solving skills	Mathematical reasoning, real life application and problem solving skills	Mathematical reasoning and problem solving skills	Mathematical reasoning, real life application and problem solving skills	Mathematical reasoning, real life application and problem solving skills	Mathematical reasoning, real life application and problem solving skills
Key Vocabulary	Indices, powers, product, sum, factors, primes, standard form, error	Area, perimeter, volume, surface area, radius diameter, circumference, arc, sector	Expand, factorise, rearrange, exression,	Hypotenuse, opposite, adjacent, trigonometry, pythagoras	Equations, inequalities, solve, rearrange	Regular, polygon, interior angle, exterior angle, tangent, cyclic quadrilateral, radius

HUMMERSKNOTT ACADEMY

Year 11 Maths Curriculum (Foundation)

Subject Intent - Our aim is to give students the mathematical and numerical skills to thrive academically and function successfully in their future lives. We aim to ensure that all our students are fluent in mathematics through the embedding of key concepts and knowledge so that they can become confident mathematicians with a 'can do' attitude, irrespective of ability or background. Our curriculum is designed to ensure that all students receive a high-quality, ambitious mathematical education which supports and develops our students, whilst challenging the most able, through the development of mathematical reasoning, application and problem-solving. We intend to inspire a lifelong love of mathematics in our students so they are equipped with the skills and knowledge to succeed in all aspects of their lives.

	Autumn Term 1	**Autumn Term 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2 NA**
Theme	Plotting algebraic functions	Direct and indirect proportion, fractions	Averages, graphs and charts	Revision of all aspects of the GCSE syllabus	Revision of all aspects of the GCSE syllabus	
Topic	Functions and Graphs	Ratio and Proportion 2	Handling Data	GCSE exam revision	GCSE exam revision	
Links to Prior Learning	Links to previous algebra units	Links to previous ratio and proportion unit.	Links to previous handling data units taught at key stage 3.	All units will be revised thoroughly with lots of exam practice	All units will be revised thoroughly with lots of exam practice	
Substantive knowledge headlines	Plot and understand the key characteristics of graphs such as linear, quadratics, cubics etc	Problems involving direct and inverse proportion and fraction arithmetic	Averages and different types of graph including stem and leaf, pie charts etc	Revision of all aspects of the GCSE syllabus	Revision of all aspects of the GCSE syllabus	

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Disciplinary knowledge headlines	Mathematical reasoning and problem solving skills	Real life application and problem solving skills	Mathematical reasoning, real life application and problem solving skills	Mathematical reasoning, real life application and problem solving skills	Mathematical reasoning, real life application and problem solving skills	
Links to knowledge in future units	Will be revisited in the revision units after christmas	Will be revisited in the revision units after christmas	Will be revisited in the revision units after christmas	N/A	N/A	
Key Vocabulary	Substitution, linear, quadratic, cubic, plot, y-intercept,	Addition, subtraction, division, proportion	Mean, median, mode, range, graph, chart	All key vocabulary will be used	All key vocabulary will be used	

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Year 11 Maths Curriculum (Higher)

Subject Intent - Our aim is to give students the mathematical and numerical skills to thrive academically and function successfully in their future lives. We aim to ensure that all our students are fluent in mathematics through the embedding of key concepts and knowledge so that they can become confident mathematicians with a 'can do' attitude, irrespective of ability or background. Our curriculum is designed to ensure that all students receive a high-quality, ambitious mathematical education which supports and develops our students, whilst challenging the most able, through the development of mathematical reasoning, application and problem-solving. We intend to inspire a lifelong love of mathematics in our students so they are equipped with the skills and knowledge to succeed in all aspects of their lives.

	Autumn Term 1	**Autumn Term 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2 NA**
Theme	Complex ratio and percentage problems	Plot and understand the key characteristics of graphs such as linear, quadratics, cubics etc.	Vectors and similarity will form the bulk of this unit.	Revision of all aspects of the GCSE syllabus	Revision of all aspects of the GCSE syllabus	
Topic	Ratio and Proportion	Functions and Graphs	Geometry	GCSE exam revision	GCSE exam revision	
Links to Prior Learning	Links in particular to the calculations unit in year 10	Links to previous algebra units	Links in particular to the area, perimeter and volume unit in year 10	All units will be revised thoroughly with lots of exam practice	All units will be revised thoroughly with lots of exam practice	

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Substantive knowledge headlines	Use multipliers to solve problems involving percentages and answer real life problems involving ratio.	Plot and understand the key characteristics of graphs such as linear, quadratics, cubics etc.	Use of column vectors, similar triangles and similarity involving area and volume	Revision of all aspects of the GCSE syllabus	Revision of all aspects of the GCSE syllabus	
Disciplinary knowledge headlines	Mathematical reasoning and problem solving skills	Mathematical reasoning	Mathematical reasoning, real life application and problem solving skills	Mathematical reasoning, real life application and problem solving skills	Mathematical reasoning, real life application and problem solving skills	
Links to knowledge in future units	Will be revisited in the revision units after christmas	Will be revisited in the revision units after christmas	Will be revisited in the revision units after christmas	N/A	N/A	
Key Vocabulary	Compound, profit, percentage, ratio	Substitution, linear, quadratic, cubic, plot, y-intercept, roots, turning point	Vector, column, similar, area volume	All key vocabulary will be used	All key vocabulary will be used	