

Werneth Mathematics
Curriculum KS3

		Year 7	Year 8	Year 9
Autumn 1	Content (Why)	These introductory units establish the core numerical knowledge and calculation skills that underpin all future mathematical learning. Students develop fluency with place value, integers and decimals, enabling them to perform accurate calculations and interpret numbers in a variety of forms. The unit provides the foundation for algebra, geometry, ratio and statistics throughout Key Stage 3 and prepares students for GCSE by introducing concepts such as powers, roots, standard form and the hierarchy of operations. Secure understanding of number is essential for students to reason mathematically, solve problems efficiently and apply mathematics confidently in a range of contexts.	These units develop students' understanding of geometry and proportional reasoning through the study of 2D shapes and percentages. Building on prior learning of number, measurement and basic shape properties, students develop the skills needed to calculate, interpret and solve problems involving perimeter and area. Multiplicative relationships are explored with finding percentages of amounts and calculating percentage change. These concepts are fundamental to later topics including angle reasoning, Pythagoras' Theorem, similarity, finance and proportional reasoning, providing an essential foundation for GCSE Mathematics.	These units develop students' understanding of geometric reasoning and algebraic patterns through the study of triangles and sequences. Building on earlier work with angles, shape properties and number patterns, students begin to solve problems using Pythagoras' Theorem and recognise relationships within numerical and pictorial sequences. These topics strengthen logical reasoning, mathematical proof and algebraic thinking, providing essential preparation for GCSE topics including congruence, similarity, trigonometry, graphs and quadratic relationships.
	Content (What)	Students investigate place value for integers and decimals of any size, ordering and comparing positive and negative numbers using number lines and inequality notation. They develop an understanding of powers, roots, reciprocals and standard form, recognising exact values and decimal approximations. The unit: Integers and Decimals, develops fluency with the four operations involving positive and negative integers as well as using the operations with decimals. Formal written methods will be explored and using the correct order of operations, including brackets, powers and roots will be deepened.	Students investigate the properties of 2D shapes, including triangles, quadrilaterals, circles and regular polygons, using correct mathematical terminology and notation. They calculate the perimeter and area of a range of shapes, including composite figures and circles, and solve problems involving measurement. Alongside this, students develop their understanding of percentages by interpreting percentages as fractions, decimals and operators. They calculate percentage increases, decreases and original values, compare quantities using percentages and solve real-life percentage problems.	Students investigate the properties of triangles, learning the standard conventions for labelling sides and angles and applying the criteria for triangle congruence. They explore angle relationships, similarity and the properties of quadrilaterals before using Pythagoras' Theorem and introducing trigonometric ratios to solve problems involving right-angled triangles. Alongside this, students generate sequences from term-to-term and position-to-term rules, identify arithmetic and geometric sequences, and derive and use the n th term of linear sequences to describe and predict patterns.
	Acquire (Knowledge)	- Understand place value for integers and decimals, using inequality symbols, powers, roots, reciprocals and standard form to represent and compare numbers. - Know how to apply the four operations	- Understand the properties of common 2D shapes. - Know how to calculate the perimeter and area of triangles, quadrilaterals, circles and composite shapes.	- Understand the properties of triangles. - Explain congruence and similarity - Use Pythagoras' Theorem and basic trigonometric ratios in right-angled triangles. - Know how to generate, recognise and

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		accurately to positive and negative integers and decimals using appropriate written and mental methods. Explain and apply the hierarchy of operations, including the use of brackets, powers and roots, when solving calculations and mathematical problems.	- Know how to interpret percentages as fractions, decimals and operators, including percentages greater than 100%. - Be able to calculate percentage increase, percentage decrease and original values using efficient mathematical methods.	describe arithmetic and geometric sequences using term-to-term and position-to-term rules. Explain how to derive and use the nth term of an arithmetic sequence to identify and predict patterns.
	Apply (Skills)	Students apply their knowledge by selecting efficient calculation strategies and using accurate mathematical notation to solve increasingly complex numerical problems. They compare and interpret numbers in different forms, including standard form and powers, and justify their methods using mathematical reasoning. The fluency developed in this unit supports future learning in algebraic manipulation, substitution, financial mathematics, graphing, Pythagoras' Theorem, indices and unit conversions, ensuring students are well prepared for the progression of Key Stage 3 and the demands of GCSE Mathematics.	Students apply their knowledge by solving geometric problems involving perimeter and area, using mathematical reasoning to justify their methods and selecting appropriate formulae for different shapes. They solve increasingly complex percentage problems, interpreting percentages multiplicatively and comparing quantities accurately. The skills developed in this unit provide the foundation for future learning in angle properties, congruence, similarity, Pythagoras' Theorem, surface area, financial mathematics, proportional reasoning and compound growth, supporting progression towards GCSE Mathematics.	Students apply their knowledge by solving geometrical problems involving missing lengths and angles. This may be using congruence, similarity or Pythagoras' Theorem to justify their reasoning. They identify patterns within sequences, derive algebraic rules and use these to calculate missing terms. The reasoning and algebraic skills developed in this unit provide the foundation for future study of graphs, trigonometry and more advanced sequence work at GCSE, while strengthening students' confidence in constructing logical mathematical arguments and proofs.
Autumn 2	Content (Why)	This unit develops students' understanding of fractions as numbers, operators and representations of proportion. Building on prior work with whole numbers and decimals, students develop fluency in calculating with fractions and recognising the relationships between fractions and decimals. Secure understanding of fractions is fundamental to success across Key Stage 3 and GCSE Mathematics, underpinning topics including algebra, ratio, probability, geometry, formulae and scale. The unit promotes both computational fluency and conceptual understanding of proportional reasoning.	This unit develops students' understanding of geometric relationships through the study of angles. Building on prior knowledge acquired during their study of 2D Shapes, students develop a secure understanding of angle properties and practice their geometrical reasoning. These concepts form an essential foundation for future learning in constructions, transformations and geometric proof, preparing students for the increasing complexity of GCSE Mathematics.	These units develop students' understanding of geometric transformations and solving equations. Building on prior learning of shape properties, coordinates and algebra, students investigate how shapes can be transformed within a 2D plane and develop increasingly sophisticated methods for solving equations, first introduced in Year 7, deepening understanding to include solving for two variables through introducing simultaneous equations. These concepts underpin many areas of GCSE Mathematics, including graph transformations, coordinate geometry, algebraic reasoning and mathematical proof.

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	Content (What)	Students investigate equivalent fractions and convert between terminating decimals and their fractional equivalents. They express one quantity as a fraction of another, interpret fractions as operators and order fractions using appropriate strategies. Students develop confidence in performing the four operations with proper fractions, improper fractions and mixed numbers, including positive and negative values, using efficient written and mental methods to solve increasingly complex problems.	Students will be using correct mathematical notation and terminology to describe and draw geometrical figures. They investigate angle properties, including angles on a straight line, around a point, vertically opposite angles, and angles formed by parallel lines. Students derive and apply the angle sums of polygons and use these properties to solve increasingly complex geometrical problems.	Students investigate transformations by describing and constructing translations, rotations, reflections and enlargements using coordinate grids, scale factors and scale drawings. Alongside this, students solve linear equations using algebraic methods, interpret relationships algebraically, and model real-life situations by forming and solving equations. Students are also introduced to simultaneous equations through graphical and algebraic representations.
	Acquire (Knowledge)	- Understand the relationships between fractions and terminating decimals and express one quantity as a fraction of another. - Know how to compare, order and interpret fractions as numbers and operators. - Explain and apply the four operations to proper fractions, improper fractions and mixed numbers, including positive and negative values.	- Know the key angle facts involving parallel lines, triangles, quadrilaterals and polygons, - Use correct angle notation and terminology. - Explain how missing angles can be found and apply these angle facts to solve geometrical problems.	- Understand the properties of translations, rotations, reflections and enlargements, including the application of congruence and similarity. - Know how to solve linear equations with a single variable on one or both sides of the equals sign. - Explain how to form and solve simultaneous equations including those that have a real-life context.
	Apply (Skills)	Students apply their knowledge by selecting efficient methods to calculate with fractions and decimals, solving multi-step problems and interpreting fractions in a range of mathematical contexts. They use fractions confidently when working with formulae, measurement, ratio, probability and scale, applying proportional reasoning to justify their solutions. The fluency developed in this unit provides the foundation for future learning in algebra, equations, geometry, transformations, ratio and probability, while strengthening students' mathematical reasoning and problem-solving skills in preparation for GCSE Mathematics.	Students use angle properties to find missing angles, constructing clear mathematical arguments and communicating solutions with accurate notation. The reasoning and problem-solving skills developed in this unit provide the foundation for future learning in geometrical constructions, algebraic equations involving angles, preparing students for the demands of GCSE Mathematics.	Students apply their knowledge by accurately transforming geometric figures, interpreting scale diagrams and explaining the effects of different transformations using mathematical language. They solve increasingly complex linear equations, model practical situations algebraically and interpret solutions graphically and numerically. The skills developed in this unit provide the foundation for future learning in graph transformations, inequalities, non-linear equations and advanced geometrical reasoning, while strengthening students' confidence in mathematical reasoning, problem solving and proof in preparation for GCSE Mathematics.
Spring 1	Content (Why)	These units introduce students to algebraic manipulation and numerical accuracy, providing the foundation for	This unit develops students' understanding of financial mathematics, enabling them to apply	These units develop students' algebraic reasoning and spatial awareness through the study of 3D shapes and

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		much of the mathematics studied throughout Key Stage 3 and GCSE. Building on prior work with number and arithmetic, students learn to represent mathematical relationships using algebra, develop confidence in simplifying expressions and substituting values. Alongside this, students refine their skills in rounding, estimation and the use of calculators, enabling them to judge the reasonableness of answers and solve problems with appropriate accuracy. These skills underpin future work in equations, formulae, geometry, probability and higher-level algebra.	mathematical knowledge in both theoretical and real-life contexts. Building on prior learning of number, including fractions and percentages, students will be gaining the financial literacy needed to interpret money, banking and interest calculations. The unit provides a strong foundation for future applied financial mathematics at GCSE and beyond their time at school.	Indices. Building on prior work with algebraic expressions, geometry and measurement, students extend their understanding of shape by investigating the properties, surface area and volume of three-dimensional objects. These topics provide an essential foundation for GCSE Mathematics, supporting future work in algebra, inequalities, simultaneous equations, geometry and mensuration. Students learn how powers and roots can be used to simplify calculations and represent very large and very small numbers efficiently,
	Content (What)	Students begin to use algebraic notation, learning to interpret and write expressions using correct mathematical conventions. They identify terms, substitute numerical values into expressions, and simplify algebraic expressions by collecting like terms. Expanding brackets and factorising simple expressions is introduced. The Rounding and Approximation unit also develops students' understanding of rounding numbers and measures to an appropriate degree of accuracy, estimating calculations using rounding, expressing error intervals using inequalities and using calculators efficiently to obtain and interpret accurate solutions.	Students develop financial mathematics skills by performing calculations involving money. Profit and loss, bank statements and interest will be explored. They learn the meanings of financial terminology such as credit, debit and balance and apply the four operations and their knowledge of fractions and percentages to solve practical financial problems.	Students explore the properties of common 3D shapes, including cubes, cuboids, prisms, cylinders, pyramids, cones and spheres. They calculate the surface area and volume of cuboids, cubes, prisms and cylinders, applying formulae to solve increasingly complex problems. Students investigate the laws of indices, using powers, roots and reciprocals to simplify numerical and algebraic expressions. They work with standard form, estimate powers and roots, and are introduced to more advanced concepts including fractional indices and surds where appropriate.
	Acquire (Knowledge)	- Understand and use algebraic notation. - Know how to simplify and manipulate algebraic expressions by collecting like terms, expanding brackets and factorising simple expressions - Be able to substitute numerical values correctly into expressions. - Explain how to round numbers and measures appropriately, estimate calculations using approximation and express error intervals using inequality notation.	- Know how to calculate profit / loss - Be able to interpret simple financial documents such as utility bills, wage slips and bank statements. - Explain how percentages are used to calculate income tax.	- Understand how to use formulae to calculate surface area and volume. - Know the properties of common 3D shapes, including their faces, edges and vertices, and how to identify prisms - Understand and apply the laws of indices, including powers, roots, reciprocals - Explain how to use standard form to represent very large or very small numbers.
	Apply (Skills)	Students apply their knowledge by forming and	Students will be applying their prior learning on the four operations, percentages and fractions	Students solve problems involving the surface area and volume of three-dimensional shapes, using accurate

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		simplifying algebraic expressions, modelling mathematical and real-life situations using algebra, and substituting values into expressions and formulae. They use estimation to check the accuracy and reasonableness of calculations, apply appropriate rounding in different contexts and use calculators efficiently to solve problems. The fluency and reasoning developed in this unit provide the foundation for future work involving equations, formulae, probability, algebraic geometry, area and perimeter, percentages, Pythagoras' Theorem and trigonometry, while strengthening students' confidence in selecting appropriate methods and communicating mathematical solutions accurately.	to work with a range of problems within the context of personal finance. Calculating expenses, interest on loans and investments or interpreting pay slips to calculate the amount of PAYE applicable will provide more than just an introduction to applications seen at GCSE but will provide skills for life.	mathematical notation and appropriate units throughout. They apply their knowledge by simplifying numerical and algebraic expressions using the laws of indices, representing numbers in standard form and solving increasingly complex problems involving powers and roots. The reasoning and problem-solving skills developed in this unit provide the foundation for future work on non-linear algebra and advanced mensuration, preparing students for the demands of GCSE Mathematics.
Spring 2	Content (Why)	This unit builds on prior knowledge obtained in the Expressions unit to introduce students to equations as a fundamental tool for representing and solving mathematical relationships. Students develop an understanding of inverse operations and the principles of maintaining equality when solving equations. Mastery of equations underpins almost every area of mathematics, providing the foundation for future work in algebra, geometry, sequences, formulae, trigonometry and statistics throughout Key Stage 3 and GCSE.	These units develop students' understanding of proportional reasoning and measurement, two fundamental concepts that underpin many areas of mathematics and science. Building on prior learning of fractions, decimals and percentages, students explore how quantities can be compared, scaled and converted using ratio and proportion. They also develop confidence in working with standard and compound units, preparing them for future work in geometry, similarity, scale drawings, density and GCSE applications of mathematics in real-life contexts.	This unit develops students' understanding of representing data, building on earlier work with statistics. Students develop statistical literacy by representing, interpreting and analysing data, enabling them to identify patterns, draw conclusions and communicate mathematical information effectively.
	Content (What)	Students are introduced to the concept of equations and learn how to solve linear equations using inverse operations and algebraic methods. They will use representations of equations and formal notation to model real-life situations with increasingly more complex equations needing solutions to be found.	Students investigate ratio notation, simplifying ratios and dividing quantities in given ratios. They explore the relationship between ratio, fractions and multiplicative reasoning before solving problems involving direct and inverse proportion using numerical and algebraic methods. Alongside this, students develop	Students construct and interpret a range of tables, charts and diagrams, including bar charts, pie charts, pictograms and scatter graphs. They explore relationships between two variables with scatter graphs, interpreting correlation hence, using graphical representations to identify trends and patterns in data.

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			fluency in converting between standard units of time, mass, length, area, volume and capacity, and apply compound units such as speed and density to solve practical problems.	
	Acquire (Knowledge)	- Understand that inverse operations are used to solve linear equations and that equality must be maintained. - Know how to form and solve linear equations, including equations including where the unknown is on both sides of the equals sign. - Know how to use equations to model mathematical relationships and solve real-life problems.	- Understand how ratios represent multiplicative relationships. - Know how to simplify ratios and divide quantities in given ratios. - Know how to solve problems involving direct and inverse proportion using a range of strategies. - Explain how to convert between related metric and imperial units and apply compound units such as speed and density in calculations.	- Know how to plot a variety of statistical diagrams including, bar charts, pie charts and scatter graphs. - Understand how to identify patterns and relationships using charts and scatter graphs. - Explain how a particular chart or graph may be more appropriate for a given set of data and desired analysis.
	Apply (Skills)	Students apply their knowledge by selecting efficient algebraic methods to solve linear equations and use equations to represent and solve a range of problems. They interpret solutions in context, justify their methods using mathematical reasoning and communicate solutions using accurate algebraic notation. The fluency and reasoning developed in this unit provide the foundation for future learning in formulae, geometry, simultaneous equations and trigonometry enabling students to solve increasingly complex problems with confidence.	Students apply their knowledge by solving proportional reasoning problems in mathematical and real-life contexts. Pupils should be able to move between finding parts given a whole and finding the whole given a part. They convert accurately between standard units, use compound units to solve practical measurement problems and justify their solutions using mathematical reasoning. The skills developed in this unit provide the foundation for future learning in unit conversions, scale diagrams, similarity, density, geometry and proportional reasoning at GCSE, while strengthening students' confidence in applying mathematics across a wide range of contexts.	Students select and construct appropriate statistical diagrams, interpret patterns and relationships within data, and communicate conclusions using accurate mathematical language. The skills developed in this unit strengthen students' ability to analyse data and to be critical of data portrayed in the media.
Summer	Content	This unit introduces students to probability as a	This unit develops students' understanding of	This unit develops students' understanding of quadratic

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1	(Why)	mathematical model for describing chance and uncertainty. Building on prior work with fractions, decimals and percentages, students develop an understanding of how probabilities are represented, calculated and interpreted in both theoretical and experimental contexts. The unit provides the foundation for more advanced probability and statistical reasoning throughout Key Stage 3 and GCSE, supporting students in making predictions, analysing outcomes and interpreting data systematically.	graphical representation of functions, building on prior learning of coordinates, number and algebra. Students strengthen their fluency in co-ordinates and substitution before exploring how graphs can be used to represent mathematical relationships and model real-life situations such as distance time graphs.. These concepts are fundamental to future learning in algebra and sequences, providing a strong foundation for the graphing and modelling skills required at GCSE.	relationships, extending their prior learning of algebraic expressions, equations and graphs. Students explore how quadratic expressions can be represented algebraically and graphically, strengthening the links between symbolic manipulation and graphical interpretation. The unit provides a vital foundation for GCSE Mathematics, preparing students for solving quadratic equations, analysing curved graphs and applying models to increasingly complex mathematical problems.
	Content (What)	Students investigate probability using the 0–1 probability scale, exploring random events, fairness and equally and unequally likely outcomes. They record and analyse the results of probability experiments, recognising that the probabilities of all possible outcomes sum to one. Students use tables, trees and Venn diagrams to represent sets and possible outcomes, before calculating theoretical probabilities for single and combined events involving mutually exclusive outcomes.	Students develop their understanding of graphs by working confidently with coordinates in all four quadrants, plotting and interpreting linear and non-linear graphs, and exploring the relationship between equations, sequences and their graphical representations. Students calculate gradients and intercepts, estimate values from graphs, solve contextual problems graphically and use graphs to model situations involving distance and time.	Students investigate quadratic expressions by expanding and simplifying algebraic expressions, collecting like terms, expanding double brackets and factorising simple quadratic expressions. They explore methods of solving quadratic equations, including factorisation and graphical solutions, with more advanced methods introduced where appropriate. Students also sketch and interpret quadratic graphs, identifying key features and using graphs to estimate values, solve equations and model mathematical relationships.
	Acquire (Knowledge)	- Understand probability as a measure of chance and know how to represent probabilities on the 0–1 probability scale. - Know that the probabilities of all mutually exclusive and exhaustive outcomes sum to one. - Calculate probabilities from theoretical sample spaces and other models.. - Use a range of models, including sample spaces, trees and Venn diagrams to represent outcomes when solving probability problems.	- Know the features of linear and non-linear graphs, including coordinates, gradients, intercepts and the relationship between equations and graphs. - Be able to plot a range of graph types in all four quadrants - Explain how graphs can be used to represent, interpret and solve mathematical and real-life problems.	- Understand how to simplify, expand and factorise quadratic expressions while maintaining algebraic equivalence. - Know how to solve quadratic equations using factorisation and graphical methods, recognising when different methods are appropriate. - Explain the relationship between quadratic equations and their graphs, identifying key features and interpreting solutions.
	Apply (Skills)	Students apply their knowledge by carrying out and analysing probability experiments, comparing	Students apply their knowledge by plotting and interpreting linear graphs. Estimate values, identify patterns and solve problems using	Students apply their knowledge by manipulating quadratic expressions, selecting appropriate methods to solve quadratic equations and interpreting solutions

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		experimental results with theoretical probabilities and interpreting differences. They construct and use sample spaces, tables, grids and Venn diagrams to solve increasingly complex probability problems, selecting efficient strategies and justifying their reasoning. The skills developed in this unit provide the foundation for future work involving ratio and probability, statistical diagrams and the probability of combined events at GCSE, while strengthening students' confidence in mathematical reasoning and data analysis.	graphical methods. Students model real-life situations using equations and graphs. Find gradients and intercepts, accurately interpreting these within the context of the graph and communicating their reasoning using accurate mathematical language. The skills developed in this unit provide the foundation for future learning in sequences, transformations, simultaneous equations, quadratic graphs, graphical inequalities and mathematical modelling, preparing students for the analytical demands of GCSE Mathematics.	within a variety of contexts. They sketch and analyse quadratic graphs, estimate values, identify roots and use graphical representations to solve problems and model relationships. The algebraic reasoning and graphical skills developed in this unit provide the foundation for future learning in transforming quadratics, quadratic inequalities, algebraic fractions and the advanced study of curved graphs and quadratic equations at GCSE, strengthening students' confidence in mathematical reasoning and problem solving.
Summer 2	Content (Why)	These units develop students' ability to use mathematics to represent relationships through formulae and to interpret data using statistical methods. Building on prior learning of algebra, number and graphs, students learn how formulae can model real-life situations and how statistical measures can be used to describe and compare data. These skills underpin many areas of mathematics and science and provide an essential foundation for GCSE topics including algebraic manipulation, geometry, trigonometry, graphs and statistical analysis.	These units develop students' understanding of geometric accuracy and number properties, building on prior learning in geometry and number. Students learn how scale and constructions support accurate geometric reasoning, and how the properties of numbers underpin efficient calculation and can be used to make conjecture. Together, these topics provide essential preparation for GCSE Mathematics, strengthening students' reasoning, problem-solving and ability to derive mathematical proof across a range of contexts.	This unit develops students' fluency and confidence with fractions, extending prior learning from Key Stage 3 to support the more advanced demands of GCSE Mathematics. Students strengthen their understanding of fractions as numbers and operators, while making connections between fractions, decimals and percentages. Some will begin to explore algebraic fractions too. Mastery of fractions is essential across many areas of mathematics, including algebra, ratio, geometry, probability and financial mathematics, enabling students to solve increasingly complex multi-step problems with accuracy and efficiency.
	Content (What)	Students build on previous work with expressions and equations to begin to use algebraic formulae. Pupils will be substituting values into mathematical and scientific formulae, modelling situations with algebra and changing the subject by rearranging formulae. Alongside this, students develop their understanding of statistics by representing and interpreting discrete, continuous and grouped data. They calculate averages and measures of spread and use them to compare data sets. This includes the mean, median, mode, and range.	Students develop geometrical accuracy through scale diagrams and ruler-and-compass constructions, including perpendicular bisectors, angle bisectors and perpendicular lines. The final unit concludes with an exploration of the properties of numbers, including prime numbers, factors, multiples, highest common factors (HCF), lowest common multiples (LCM) and prime factorisation.	Students investigate equivalence, the ordering and comparison of positive and negative fractions, decimals and mixed numbers. They develop fluency in the four operations with proper fractions, improper fractions and mixed numbers, working with both positive and negative values. Students convert between fractions, terminating decimals and recurring decimals, express one quantity as a fraction of another and interpret fractions as operators. They will solve problems finding parts from a whole and finding the whole from a part. Some will extend their algebraic skills by simplifying algebraic fractions and applying fractional reasoning when solving linear and quadratic equations.

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	Acquire (Knowledge)	- Understand how to substitute values into mathematical and scientific formulae. - Rearrange formulae to change the subject. - Know how formulae can be used to model mathematical and real-life situations. - Be able to use averages and the range to compare data sets from lists and tables	- Know how to use scale factors, interpret scale drawings - Understand how to perform standard ruler-and-compass constructions accurately. - Explain the properties of numbers, including prime numbers, factors, multiples, HCF, LCM and prime factorisation, and how these support mathematical reasoning.	- Understand how to compare, order and calculate with positive and negative fractions, decimals and integers, using accurate mathematical notation. - Know how to convert between fractions, terminating decimals and recurring decimals, and interpret fractions as numbers, operators and proportions. - Explain how fractions are used within algebra, including simplifying algebraic fractions and solving equations involving fractional expressions.
	Apply (Skills)	Students apply their knowledge by selecting and using appropriate formulae to solve mathematical and practical problems, accurately substituting values and rearranging equations where required. They collect statistical data using tally and frequency tables and calculate averages and measures of spread to compare distributions and justify conclusions. The skills developed in this unit provide the foundation for future learning in geometry, sequences, graphs, trigonometry, volume, statistical analysis and GCSE problem solving, while strengthening students' confidence in modelling, interpreting and communicating mathematical information.	Students produce accurate geometric constructions and scale drawings using appropriate mathematical instruments and techniques, applying proportional reasoning to solve practical problems. Students also use number properties to simplify calculations, solve numerical problems efficiently and justify their reasoning using mathematical language. The skills developed in this unit provide the foundation for future learning in loci, constructions and making algebraic proof, preparing students for the analytical and reasoning demands of GCSE Mathematics.	Students apply their knowledge by selecting efficient methods to solve numerical and algebraic problems involving fractions, using accurate calculations and mathematical reasoning to justify their solutions. They manipulate algebraic fractions, solve equations involving fractional expressions and apply fractional reasoning across a range of mathematical contexts, including probability, ratio, percentages, geometry and formulae. The fluency and problem-solving skills developed in this unit provide the foundation for future work involving rearranging fractional formulae, inequalities, sectors, probability, ratio and higher-level GCSE algebra, ensuring students can confidently apply fractions across the full mathematics curriculum.