St Cecilia's R. C. High School

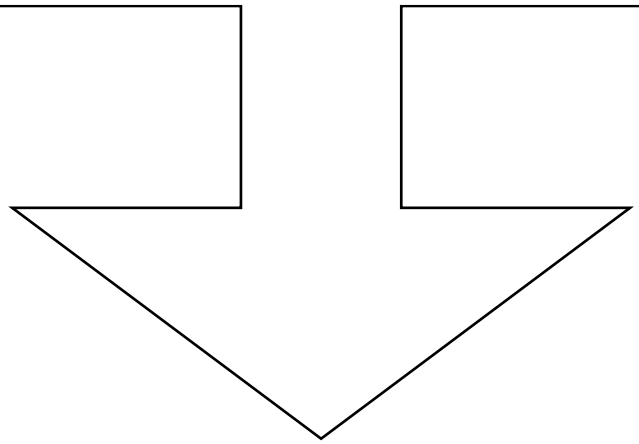
Key Stage 1 and 2

Aims of Study

Key Substantive Knowledge Carried Forward (subject knowledge)

Key Disciplinary Knowledge Carried Forward (methods/framework to establish knowledge)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/425601/PRIMARY_national_curriculum.pdf



Year 7

Concept	Number	Algebra	Geometry and Measures	Ratio, proportion and rates of change	Statistics	Probability
Unit Title	Place Value (U1) 1.1.1 Properties of number (U2) 1.2.1 1.2.2 1.2.3 Arithmetic procedures with integers and decimals (U3) 2.1.1 2.1.2 2.1.5 Arithmetic procedures including fractions (U7) 1.3.1 1.3.2 2.1.3 2.1.4	Expressions and equations (U4) 1.4.1 1.4.2 1.4.3 Plotting coordinates (U5) 4.2.1	Perimeter and area (U6) 6.2.1 6.2.2 Transformations (U9) 6.3.1 6.3.2 6.3.3 6.3.4	Understand multiplicative relationships: fractions and ratios (U8) 3.1.1 3.1.2 3.1.3 3.1.4		

Examples of Key Disciplinary Knowledge – procedural- (methods/framework to establish knowledge)	Understand the values of digits in decimals, measure and integers. Understand multiples. Understand integer exponents and roots understand and use the unique prime factorisation of a number. Understand and use the structures that underpin addition and subtraction strategies, multiplication and division strategies. Use the laws and conventions of arithmetic to calculate efficiently. Work interchangeably with terminating decimals and their corresponding fractions Compare and order positive and negative integers, decimals and fractions Know and understand and use fluently a range of calculation strategies for addition, subtraction multiplication and division of fractions	Understand and use the conventions and vocabulary of algebra including forming and interpreting algebraic expressions and equations. Simplify algebraic expressions by collecting like terms to maintain equivalence. Manipulate algebraic expressions using the distributive law to maintain equivalence. Connect coordinates, equations and graphs.	Understand the concept of perimeter and use it in a range of problem-solving situations. Understand the concept of area and use it in a range of problem-solving situations. Understand and use translations. Understand and use rotations. Understand and use reflections. Understand and use enlargements.	Understand the concept of multiplicative relationships. Understand that multiplicative relationships can be represented in a number of ways and connect and move between those different representations. Understand that fractions are an example of a multiplicative relationship and apply this understanding to a range of contexts. Understand that ratios are an example of a multiplicative relationship and apply this understanding to a range of contexts.		

Examples of Key Substantive – declarative) Knowledge (specific subject knowledge relied upon for later study or to grasp the composite idea for that unit)	Understand place value in integer, decimals and fractions. Understand place value in context of measure Order and compare numbers and measure Understand multiples, factors and primes Understand square, square root, cube, cube root and other powers Use prime factorisation including with HCF and LCM Understand the structures that underpin the four operations of positive and negative integers and decimals Know and use the commutative law, associative law and distributive law to calculate efficiently, Order of operations Fluently use certain calculator functions Understand and convert between improper fractions and mixed numbers Understand that fraction represents division Understand that a terminating decimal can be written as fractions	Understand that a letter can be used to represent a generalised number Know the meaning of and identify term, coefficient, factor, product, expression, formula and equation Substitution Be able to simplify expressions Use distributive law to multiply an expression by a term Be able to describe and plot coordinates in all 4 quadrants	Use properties of a range of polygons to find perimeters Derive and use the formula for the area of a trapezium Understand that areas of composite shapes can be found different ways Understand the nature of translation, reflection, rotation and enlargements and appreciate what changes and what is invariant Translate objects from information of a variety of different forms Reflection object using a range of lines of reflection Rotate objects using information about centre, size and direction of rotations Enlarge objects using information about the centre of enlargement and scale factor	Appreciate that 2 numbers can be connected in a multiplicative relationship and can be expressed by a ratio and as a fraction Calculate the multiplier of any 2 given numbers Appreciate there is an infinite number of pairs of numbers for any given multiplicative relationship Use a double number line Understand the language and notation of ratio Find a fraction of a given amount Given a fraction and the result, find the original amount Express one number as a fraction of another Divide a quantity into a given ratio Determine the whole given one part of the ratio Determine one part given the other part and the ratio Use ratio to describe rates eg exchange rates, conversions		

	Convert between fractions and decimals using a calculator Compare/order negative integers, decimals and fractions					
Examples of Reading Opportunity	HISTORY OF PLACE VALUE WHAT'S SO SPECIAL ABOUT PRIMES WHO INVENTED THE ZERO		A BRIEF HISTORY OF GEOMETRY FOOTBLL PITCH DIMENSIONS	A BRIEF HISTORY OF FRACTIONS		
Examples of Key Tier 2 Vocabulary	Terminating, compare, order,	Expression, manipulate, like, collecting, variable	Translate, rotate, reflect, area,	Proportion, expressed		
Examples of Key Tier 3 Vocabulary	Integer, fraction, decimal, LCM, HCF	Algebraic, coefficient, factor,	Shape, perimeter, formula	Multiplicative, ratio, fraction		

Year 8

	PROPORTIONAL REASONING	REPRESENTATIONS	ALGEBRAIC TECHNIQUES	DEVELOPING NUMBER	DEVELOPING GEOMETRY	REASONING WITH DATA
Unit Title	Ratio and Scale	Working in the Cartesian plane	Brackets, equations and inequalities	Fractions and percentages	Angles in parallel lines and polygons	Data handling Cycle
	Multiplicative Change	Representing data	Sequences	Standard Index form	Area of trapezia and circles	Measures of location
	Multiplying and dividing fractions	Tables and probability	Indices	Number sense	Line symmetry and reflection	
Composite Knowledge/End Point (big idea that should be answered at the end of a unit) - conditional	Understand and use ratio Understand and use Scale Multiply and divide any fraction	Draw, name and use straight line graphs Draw and interpret scatter graphs, understand and use tables List outcomes and find probabilities	Manipulate/Solve Equations, expressions and inequalities Generate sequences, understand and use the nth term Manipulate expressions with indices	Develop understanding of fractions, decimals and percentages Percentage increase, decrease Understand and use standard index form Convert between metric measures and round numbers	Understand and use rules of angles in parallel lines and polygons Calculate the area of a trapezium or circle or parts of a circle Recognise symmetry and reflect shapes	Understand types of data and use and complete various charts Be able to calculate averages and spread from lists and tables
Examples of Key Substantive – declarative) Knowledge (specific subject knowledge relied upon for later study or to grasp the composite idea for that unit)	Understand ratio notation, manipulate ratio Use scale factors, convert currencies Scale diagrams Multiply and divide any fraction by another fraction, integer	Draw a straight-line graph, equation of a line, proportion Draw scatter graphs, understand correlation, read and use tables Find probabilities from different situations Use the product rule	Expand and factorise Understand inequalities, solve equations including unknowns on both sides Linear sequences General rule for a sequence	Understand and use percentage multipliers and convert between FDP Use of powers of 10 and decimals Convert metric units round to a given number of decimal	Alternate, corresponding, co-interior angle rules Angle sum of interior and exterior angles of polygons Know the formula for the different shapes Calculate area of compound shapes	Be able to distinguish different sources of data, questionnaires, and draw various charts Calculate the mean, median, mode and range from lists and tables. Understand grouped and

			Understand and use index laws	places or significant figures, use estimation	Understand symmetry, reflect shapes in vertical, horizontal and diagonal lines	ungrouped frequency tables
Examples of Key Disciplinary Knowledge – procedural- (methods/framework to establish knowledge)	Multiply and divide, simplify	Use coordinates, add subtract, multiply and divide, substitution Plot points, draw lines of best fit, read 2-way tables Use sample spaces, Venn diagrams, two-way tables Product rule for counting	Manipulate algebra Multiply terms Factors Simplify Solve Manipulate algebra expressions, substitution, 4 operations 4 operations, index rules, simplifying	Multiplication, division, converting, use of decimals, understanding money 4 operations, indices Multiplication and division, use of metric units, rounding, place value	Basis angle rules Addition division multiplication subtraction Substitute, 4 operations, parts of a circle To be able to find lines of symmetry in shapes and draw reflected shapes	Be able to represent data in bar charts, pie charts and line graphs and identify misleading data 4 operations, reading data from lists and tables, ordering
Examples of Reading Opportunity	Alan Turing Pt1	Alan Turing Pt2	Alan Turing Pt3	Alan Turing Pt4	Alan Turing Pt5	Alan Turing Pt6
Examples of Key Tier 2 Vocabulary	• Evaluate • Simplify	• Evaluate • Outcome	• Solve • Simplify • Expand	• Equivalent • Convert • Estimate • Significant		• Analyse • Appropriate • Deduce • Imply • Hypothesis
Examples of Key Tier 3 Vocabulary	• Proportion • Ratio • Scale • Reciprocal	• Coordinate • Parallel • Formula	• Formula • Identity • Index	• Equivalent • Percent • Index • Convert • Estimate	• Parallel • Compound • Area • Significant • Correspond	• Data • Range • Survey • Statistic • Mode

				• Significant • Capacity		• Cycle • Chart

Year 9

	Reasoning with Algebra	Constructing in 2D and 3D	Reasoning with Number	Reasoning with Geometry	Reasoning with Proportion	Representations
Unit Title	Straight Line Graphs	3D Shapes	Numbers	Deduction	Enlargement and Similarity	Probability
	Forming and Solving Equations	Constructions and Congruency	Using Percentage	Rotation and Translation	Solving Ratio and Proportion Problems	Algebraic Representations
	Testing Conjectures		Maths and Money	Pythagoras' Theorem	Rates	
Composite Knowledge/End Point (Big idea that should be answered at the end of a unit) - conditional	Interpreting straight line graphs Finding the equation of a straight line Reduce equations to the form y=mx + c Compare to linear sequences and finding the rule for the nth term Extend to equations and inequalities with	Understand the language of faces, edges and vertices Know the names of the prisms and non-prisms Identifying 2D shapes within 3D shapes Work out the volume and surface area of cuboids and cylinders Work out the volume of any prism	Types of number – extend to include rational and real numbers Fraction arithmetic Extend knowledge of HCF and LCM Standard form Percentage increase and decrease Use percentages over 100%	Angle rules, including with special quadrilaterals and algebraic situations Find angles using algebraic methods Use chains of reasoning to evaluate angles Identifying the order of rotational symmetry of a shape	Enlarge shapes by a positive scale factor, including from a given point Calculate the lengths of missing sides in similar shapes Direct proportion problems and graphs Conversion graphs	Relative frequency Expected number of outcomes Independent events Drawing and reading from quadratics Interpreting other graphs e.g., reciprocal, piecewise Representing inequalities

	unknowns on both sides using all previous contexts: angles, probability, area etc. Change the subject of the formula Sums and products about odd and even numbers, primes Is a given term in a sequence? Is this shape…? Are these lines parallel? What would happen if…?	Work out missing lengths given area and/or volume Construct 3d shapes from nets, and construct the net of a given 3d shape Construct and use scale drawings Constructing perpendiculars and bisectors Understand congruency Explore congruency via construction	Finding percentage changes Using multipliers in a variety of contexts Solve "reverse percentage" problems Financial mathematics including: Bills and bank statements Interest Unit pricing (best buys)	Find the result of rotating shapes Translating points and shapes by a given vector Understand variance and invariance in the context of transformations Identifying the hypotenuse of a right-angled triangle Determine whether a triangle is right-angled Calculating missing sides in right angled triangles	Solving ratio problems given the whole or a part Simple inverse proportion Unit pricing problems ('best buys') Work with speed, distance, time Solve problems involving density Working with compound units	
Examples of Key Substantive (declarative) Knowledge (specific subject knowledge relied upon for later study or to grasp the composite idea for that unit)	Read and write coordinates Write the equations of vertical and horizontal lines Understand y=mx+ c Identify the graphs which go through a given point Use a real-life graph and find its equation Recognise inverse proportion Solve 1-step linear equations Solve 2-step linear equations Solve a linear equation containing brackets Solve a linear inequality	Matching 3D shapes Recognise prisms Complete the net of a cube Calculate the volume of a cuboid Draw elevations Calculate the volume of a prism Calculate the surface area of a cube and a cylinder Calculate the volume of a sphere Types of angles Use a scale Identify pairs of congruent shapes Construct an equilateral triangle	Recognise an integer Multiplication Addition of Fractions Directed Numbers Highest Common Factor Subtraction Division of Fractions Standard Form Surds Convert a fraction to a percentage Identify the multiplier for a percentage change. Calculate the new amount following a simple percentage increase	Calculate missing angle on a straight line and give reasons Know and use that vertically opposite angles are equal Know and use that the opposite angles in a parallelogram are equal Know the reasons for equal angles in parallel lines Know and use that fact that there are 360° in a full turn Know properties of quadrilaterals Form and solve an equation to show that	Identify similar shapes Know that a scale factor is always a multiplier Draw an enlargement with a positive integer scale factor Calculate scale factors and sides in similar shapes Draw an enlargement using a centre of rotation with a positive integer scale factor Draw an enlargement using a coordinate point as the centre of enlargement with a positive integer scale factor	Write the simple probabilities for single events Probabilities about even and prime numbers Understand and use relative frequency Know that probabilities add up to one and use a probability to make an estimate Complete and use a 2-way table Combine probabilities for independent events Complete and use a tree diagram

	Write an equation with the unknown on both sides and solve it Solve an inequality when the term containing the unknown is negative Rearrange the equation of a straight line Change the subject of a formula Identify prime numbers Use true or false statements about factors, multiples, and solving equations Use always true, sometimes true, and never true statements about multiples and primes Show that a percentage of a quantity is the same as the fraction of another quantity Expand single brackets Expand a pair of binomials Test conjectures about a sequence given its nth term Explore the 100-hundred grid	Construct the locus of points equidistant from a line Construct the bisector of an angle Construct the perpendicular from a point to a line Draw the locus of points that are equidistant from a point Identify congruent triangles and state the condition for congruency	Compare a fraction with a percentage Calculate the percentage profit Calculate the new amount following a percentage increase Calculate the monthly payments following a deposit. Find an original amount Compare percentage change Compound depreciation Read and use a bank statement Calculate a price including VAT Calculate weekly earnings Use an exchange rate Determine the best value for money Calculate the amount of compound interest Calculate the monthly payments of a credit agreement Calculate the amount of income tax	a triangle is right-angled Justify whether a conjecture about angles in a pentagon is correct or not Construct a perpendicular bisector of the diagonal of a rectangle Know the name of the quadrilateral formed. Identify shapes which have rotational symmetry of order 2 Understand column vectors for translations Rotate a shape about a point on the shape Translate a shape by a given vector Know that for some shapes the order of rotational symmetry is equal to the number of lines of symmetry Describe a reflection Describe a rotation Find the coordinates of a point on a shape before a translation Show the position of a shape following a combined transformation Calculate the area of a square	Calculate scale factors, sides, and angles in similar shapes Draw an enlargement using the origin as the centre of enlargement with a negative integer scale factor Complete a table for direct proportion Identify graphs for direct proportion Sharing an amount in a given ratio problem Inverse proportion problem Sharing an amount in a given ratio involving a difference Best value for money problem Algebra problem Find distance given speed and time Write a decimal time in hours and minutes Calculate speed given distance and time Hours, days, and weeks problem Reading a distance-time graph Read a flow graph Calculate the density of a block Average speed problem	Draw a quadratic graph Read an exponential graph Show and write inequalities on a number line Write an inequality represented by a region on a graph Draw graphs and shade a region to represent an inequality Draw graphs and shade a region to represent 2 inequalities Draw and use straight line graphs to solve a pair of simultaneous equations

				Calculate the side of a square given the area Know Pythagoras' Theorem Use Pythagoras' Theorem to calculate the hypotenuse of a right-angled triangle Use Pythagoras' Theorem to calculate a shorter side of a right-angled triangle Work out the diagonal of a square given its perimeter Given the sides of a triangle, use Pythagoras' Theorem to decide if it is right-angled Find the distance between a pair of coordinates Calculate the height of a square-based pyramid given the length of the base and the slant height	Calculate time taken to fill a tank Convert and compare compound units	
Examples of Key Disciplinary Knowledge (methods/framework to establish knowledge)	Complete a table of points and draw a graph Work out the gradient of a line segment by drawing a triangle Write down the gradient and intercept given the equation of a line Work out the equation of a line from a graph	Know the formulas for the area of plane shapes and know how to substitute into them to calculate areas Use the area of a cross-section/base when calculating the volume of a prism/pyramid	Formal methods for 4-rules with integers, decimals and fractions Work interchangeably with factors, multiples and primes Know methods to convert between fractions, decimals and percentages both	Methods for calculating missing angles and giving reasons where appropriate Know how to use tracing paper for reflections, line symmetry, rotations and rotational symmetry	Know how to find scale factors Know methods how to draw enlargements given a centre of enlargement Know a variety of methods when working with direct and inverse	Know methods for adding, subtracting and multiplying fractions. Know how to use a variety of diagrams: Eg sample space and tree Know how to complete a table of points for a quadratic and draw a graph

	Solve equations by using a variety of methods: function machines, bar diagrams and balancing method. Solve inequalities using the balancing method Use prime factor trees Know methods to find percentages of amounts Know methods to expand brackets	Work systematically to identify the faces of a 3D shape Know the formal constructions for triangles and bisectors Understand the link between constructions and congruency	non-calculator and calculator. Use multipliers for percentage increase and decrease.	Know how to use a column vector to describe a translation Know the methods how to use Pythagoras' Theorem to find any side in a right-angled triangle	proportion: tables, formulae Know various strategies when calculating 'best buys' Know how to use a distance-time graph to calculate the speed Know how to convert with time between hours and minutes effectively.	Know how to read and draw inequalities on a number line
Examples of Reading Opportunity	Ada Lovelace pt 1	Ada Lovelace pt 2	Ada Lovelace pt 3	Ada Lovelace pt 4	Ada Lovelace pt 5	Ada Lovelace pt 6
Examples of Key Tier 2 Vocabulary	Sequence Interpret Formula Equate Equivalent Expand Eliminate	Construct Define Compound	Index Percent Income Finance Credit Invest Annual Accurate Currency	Transform Rotate	Transform Positive Factor Compound Direct Proportion Speed	Data Charts Schedule Error Predict Statistic Sequence Simultaneous
Examples of Key Tier 3 Vocabulary	Coordinate Parallel and perpendicular Gradient y-intercep Coefficients	Parallel Volume Area	Factor Multiple Prime	Coordinate Parallel Translation Vector Hypotenuse	Coordinate Enlargement Similar shapes Inverse	Outcome Quadratic

Year 10

Concept	Number	Algebra	Geometry and Measures	Ratio, proportion and rates of change	Statistics	Probabilty
Unit Title-Foundation	**Basic Number** N1, N2, N3, N14. **Factors and Multiples.** N4, N5. **Basic Fractions.** N1, N2, N8. **Decimals.** N1, N2, N10. **Rounding.** N15, N16. **Indices.** N6, N7. **Standard form.** N2, N9.	**Basic Algebra.** A1, N3, A3, A4. **Coordinates and Linear Graphs.** A8, G11, A9, A10. **Sequences.** A23, A24, A25. **Real Life Graphs.** A14, R14. **Equations.** A2, A17.	**Angles.** G1, G3. **Scale drawings and Bearings.** R2, G15. **Perimeter and Area.** G12, G17, G16. **Circumference and Area.** G9, G17, G18, N8. **Properties of polygons.** G3, G4. **Transformations.** G7, G24. **Congruence and Similarity.** G5, G6, G19. **2D Representations of 3D shapes.** G13. **Measures.** N16, G14, N13, R1, R11. **Constructions and Loci.** G2.	**Basic Percentages.** R9, N12. **Ratio and Proportion.** N11, R3, R4, R5, R6, R7, R8. **Calculating with Percentages.** R9.	**Collecting and representing data.** S2, S4. **Statistical Measures.** S4, S5, S1.	**Basic Probability.** P1, P4, P7. **Probability.** P2, P3, P5, P6, P8.

Unit Title-Higher	**Basic Number, Factors and Multiples.** N1, N2, N3, N14, N4, N5. **Fractions & Decimals.** N1, N2, N8, N10. **Rounding.** N15, N16. **Indices.** N6, N7. **Surds.** N8, A24. **Standard form.** N2, N9.	**Basic Algebra.** A1, N3, A3, A4. **Coordinates and Linear Graphs.** A8, G11, A9, A10. **Sequences.** A23, A24, A25. **Real Life Graphs.** A14, R14. **Equations.** A2, A17.	**Angles, Scale drawings and Bearings.** G1, G3, R2, G15. **Perimeter and Area.** G12, G17, G16. **Circumference and Area.** G9, G17, G18. **Properties of polygons.** G3, G4. **Measures.** N16, G14, N13, R1, R11. **Transformations.** G7, G24, G8. **Congruence and Similarity.** G5, G6, G19. **2D Representations of 3D shapes.** G13. **Constructions and Loci.** G2.	**Basic Percentages.** R9, N12. **Ratio and Proportion.** N11, R3, R4, R5, R6, R7, R8. **Calculating with Percentages.** R9.	**Collecting and representing data.** S2, S4, S3 **Statistical Measures.** S4, S5, S1.	**Basic Probability.** P1, P4, P7. **Probability.** P2, P3, P5, P6, P8.
Composite Knowledge/End Point (big idea that should be answered at the end of a unit)	Order positive and negative integers, decimals and fractions. Apply the four operations. to integers, decimals and fractions – both positive and negative. Inverse operations Estimate answers Prime numbers, factors (divisors),	Algebraic notation, Brackets. Algebraic vocabulary collecting like terms multiplying a single term over a bracket Factorisation. Coordinates. Straight-line Sequences nth term, Graphs, kinematic problems,	reflection and rotation symmetries Angle rules, inc paralell lines, scale factors, scale diagrams and maps. Identify properties of 2D/3D shapes. Perimeters and areas of 2D shapes and composite shapes	percentages and percentage changes ratio notation, divide a given quantity into two parts. Apply ratio to real contexts and problems, simple interest, including in financial mathematics	Tables, charts and diagrams, vertical line charts tables and line graphs for time series data. Interpret, analyse and compare the distributions of data sets. Median, mean, mode and modal class, range, population,	Fractions in ratio problems. Express one quantity as a fraction of another, Use ratio notation, Divide a given quantity into two parts, Express the division of a quantity into two parts as a ratio Apply ratio to real contexts and

	multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation, and the unique factorisation theorem. Systematic listing strategies. Work interchangeably with terminating decimals and their corresponding fractions. Round numbers and measures to an appropriate degree of accuracy. Error intervals. Standard form.	Substitutition Solve linear equations	Surface area of pyramids and composite solids. Circle definitions and properties, area and circumference of circles. Surface area of spheres, cones and composite solids. Arc lengths, angles and areas of sectors of circles. Calculate exactly with multiples of pi. construct congruent and similar shapes, Transformations, rule of congruency, similarity			problems. Record, describe and analyse the frequency of outcomes of probability experiments using tables and frequency trees. exhaustive set of outcomes sum to 1. mutually exclusive events sum to one. theoretical possibility spaces for single and combined experiments.
Examples of Key Substantive Knowledge (specific subject knowledge relied upon for later study or to grasp the composite idea for that unit)	Ordering, Use the symbols, =, <, >. place value, number lines, rounding, $_A$ x 10^n where 1 $_A$ < 10 and $_n$ is an integer, significant figures, inequality notation	Solving, equations, formula, term, coefficients, plotting, axis, kinematic, speed, distance time. Sequence, nth term, difference, quadratic, Fibonacci.	Use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries, alternate, corresponsding, cointerior, vertically opposite, polygons,	Percent as out of 100, percentage change, decimal multiplier, ratio, fraction, share, interest, financial, VAT, tax.	Frequency polygons, pie charts, pictograms, bar charts, averages, range as spread of data, discrete, continuous, sampling methods, random, stratified.	Ratio, divide in parts, probability, tree diagram, theoretical probability, mutual exclusivity, independent events.

			faces, edges, vertices, sss, asa, rhs, sas.			
Examples of Key Disciplinary Knowledge (methods/framework to establish knowledge)	Be able to work with number properties.	Work with algebra. Plot linear and real life graphs and read from them. Solve equations. Understand sequences.	Work with angles and shapes.	Work with percentages, ratio and proportion	Look at data and compare using mathematical methods	Understand and use probability.
Examples of Reading Opportunity	Famous Mathematicians	Engineering	Astronomy	Sport	Art	Cryptography
Examples of Key Tier 2 Vocabulary	Number, raised, square, cubed	Sequence, solve,	Shape, bearing, scale, drawing, compass, properties, degree, north line, interior, transformation, reflection, rotation, translation, enlargement	Proportion,		
Examples of Key Tier 3 Vocabulary	Factor, surd, real, irrationals, surd, multiple, standard form, power, index, exponential,	Algebra, variable, linear, axis, coordinate, inverse, equation,	Angle, protractor, polygon, axis, scale factor	Ratio, percentage,	Mean, mode, range, median, average, data, statistics	Probability,

Year 11

Unit Title	Gradients and Lines	Expanding and Factorising	Multiplicative Reasoning	Transforming and Constructing	Revision and Exams
	Non-Linear Graphs	Changing the Subject	Algebraic Reasoning	Listing and describing	
	Using Graphs	Functions	Geometric Reasoning	Show That	
Composite Knowledge/End Point (big idea that should be answered at the end of a unit) - conditional	Correctly display and evaluate data on Graphs and interpret the data.	Manipulating Algebra	Reasoning Mathematically	Revision and Communication	Revise and revisit content from the GCSE specification
Examples of Key Substantive – declarative) Knowledge (specific subject knowledge relied upon for later study or to grasp the composite idea for that unit)	Understand and use the equation of a line Be able to plot or identify points Understand and use data	Expand or factorise expressions Manipulate expressions Follow and understand given rules	Explain and reason, algebraically, multiplicatively and Geometrically within Mathematical representations.	Construct Mathematically.	Diagnostic tests and mock exam QLA's to identify common areas for revisiting.
Examples of Key Disciplinary Knowledge – procedural- (methods/framework to establish knowledge)	Use and understand the equation of a straight line.	Be able to manipulate equations	Make connections to argue Mathematically and show proofs.	Transformations Loci Construction Sample Space Product Rule Venn Diagrams Show That...	Revision strategies
Examples of Reading Opportunity	Hypatia		Pythagoras		
Examples of Key Tier 2 Vocabulary	Describe Analyse Predict Interpret Bracket	Formula Substitute Manipulate Input Output Function operation	Sequence Expression Term Simplify Adjacent Opposite	Equivalent Sum Difference Similar	

Examples of Key Tier 3 Vocabulary	Gradient Intercept Linear Axis Scale Equation Parallel Perpendiculars Plotting	Expand Factorise Coefficient Surd Significant Figures Variable Inverse	Index Power Coefficient Linear Non-Linear Angle Co-interior Corresponding Alternate Polygon	Loci Construct Translate Enlarge Reflect Rotate Bisect Perpendicular Product Angle	