# MATHS 5 YEAR CURRICULUM PLAN

#### **Intent Statement**

The goal of the Mathematics department is to provide mathematics instruction that will encourage and **empower** students to become accurate, efficient, and flexible problem solvers. We can no longer predict and plan for the problems that our students will need to solve when they enter the work force. Therefore, we have designed a curriculum that will give our students the core knowledge, and transferable skills to apply to unfamiliar situations so that they can function as productive citizens. The curriculum has been written in line with the national curriculum but more importantly with the context of the students in our care in mind. Building on the challenging nature of updates to KS2, the curriculum has been designed to support our vision of every child achieving in mathematics, regardless of background. The cumulative nature of our curriculum also provides students with opportunities to apply previously learnt concepts in a different area of mathematics. It has been designed with interleaving and spacing as key elements to ensure that our learners retain what they have learnt. For example, Year 7 starts with developing algebraic thinking and further development of algebraic skills is then woven throughout the year so pupils reinforce and extend their knowledge and understanding. We recognise that our pupils enter the Academy with a wide range of prior attainment, therefore we have designed the curriculum so that students follow one of two distinctive pathways in KS4 (Foundation or Higher). Our Knowledge organisers identify the most powerful knowledge that our students need to know and we continue to use best practice research to inform planning and next steps. Eg We have been using some of the ideas in 'Teaching WalkThrus' to Lead CPD in Maths in an attempt to develop the quality of teaching in the department. All our lessons start with a recall starter to activate students' prior knowledge and Hinge auestions is an integral part of our

lessons slides to check learning and understanding.

Finally, we **PROMOTE** resilience amongst students using our responsive teaching strategies such as 'no-opt out' combined with turn and Talk so that they get an opportunity to rehearse and refine their answer.



# MATHS 5 YEAR CURRICULUM PLAN

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
	ALGEBRA - Algebraic Thinking	NUMBER - Place Value and Proportion	NUMBER -Applications of Number	NUMBER - Directed Number and Fractional Thinking	Geometry and Measures - Lines and Angles	NUMBER and PROBABILITY - Reasoning with Number
YEAR 7	<ol> <li>Sequences</li> <li>Understand and use algebraic notation.</li> <li>Equality and Equivalence</li> </ol>	1. Place Value and Ordering Integers and Decimals. 2. Fractions, Decimals and Percentages Equivalence.	<ol> <li>Fractions, Decimals and Percentages Equivalence 2.</li> <li>Solving Problems with Addition and Subtraction.</li> <li>Solving Problems with Multiplication and Division.</li> <li>Fractions and Percentages of Amounts 2.</li> </ol>	1. Four Operations with Directed Numbers. 2. Addition and Subtraction of Fractions.	<ol> <li>Constructing, Measuring and Using Geometry Notation.</li> <li>Developing Geometric Reasoning.</li> </ol>	<ol> <li>Developing Number Sense.</li> <li>Sets and Probability.</li> <li>Prime Numbers and Proofs.</li> </ol>
	RATIO, PROPORTION, RATES of CHANGE - Proportional Reasoning	ALGEBRA, PROBABILITY and STATISTICS - Representation	ALGEBRA - Algebraic Techniques	NUMBER - Developing Number	Geometry and Measures - Developing Geometry	STATISTICS & PROBABILITY - Reasoning with Data
YEAR 8	1. Ratio and Scale. 2. Multiplicative Change. 3. Multiplying and Dividing Fractions.	1. Working in the Cartesian Plane. 2. Representing Data. 3. Tables & Probability.	1. Brackets, Equations and Inequalities. 2. Sequences. 3. Indices.	1. Fractions and Percentages. 2. Standard Form. 3. Number Sense.	1. Angles in Parallel Lines and Polygons. 2. Area of Trapezia and Circles. 3. Line Symmetry and Reflection.	1. The Data Handling Cycle. 2. Measures of Location.
YEAR 9	ALGEBRA - Reasoning with Algebra	Geometry and Measures - Constructing in 2 and 3 Dimensions	NUMBER - Reasoning with Number	Geometry and Measures - Reasoning with Geometry	RATIO, PROPORTION, RATES of CHANGE - Reasoning with Proportion	ALL FIVE STRANDS - Representation
	<ol> <li>Straight Line Graphs.</li> <li>Forming and Solving Equations.</li> <li>Testing and Conjectures.</li> </ol>	1. Three Dimensional Shapes. 2. Construction and Congruency.	1. Numbers. 2. Using Percentages. 3. Maths and Money.	1. Deductions. 2. Rotation and Translation. 3. Pythagoras' Theorem.	1. Enlargement and Similarity. 2. Solving Ratio and Proportion Problems. 3. Rates.	1. Solving Problems Using Graphs, Tables and Algebra
	Geometry and Measures - Similarity	ALGEBRA -Developing Algebra	Geometry and Measures - Geometry	RATIO, PROPORTION, RATES of CHANGE - Proportions and Proportional Change	STATISTICS & PROBABILITY - Delving into Data	NUMBER - Using Number
YEAR 10	1. Congruence, Similarity and Enlargement. 2. Trigonometry.	1. Representing Solutions of Equations and Inequalities. 2. Simultaneous Equations.	1.Simultaneous Equations 2. 2. Angles and Bearings. 3. Working with Circles. 4. Vectors.	1. Ratios and Fractions. 2. Percentages and Interests. 3. Probability.	1. Collecting Representing and Interpreting Data	1. Non Calculator Methods. 2. Indices and Roots
	ALGEBRA - Graphs	ALGEBRA - More Algebra	ALL SIX STRANDS - Reasoning	ALL FIVE STRANDS - Revision and Communication	ALL FIVESTRANDS - Revision	EXAMINATION
YEAR 11	1. Gradient & Lines. 2. Non- Linear Graphs. 3. Using Graphs.	1. Expanding and Factorising. 2. Changing the Subject. 3. Functions.	<ol> <li>Use QLA to identify and address gaps</li> <li>Multiplicative Reasoning.</li> <li>Geometric Reasoning.</li> <li>Algebraic Reasoning.</li> </ol>	1. Use QLA to identify and address gaps 2. Data Representation. 3. Quadratics. 4. Problem Solving Questions	REVISION	GCSE EXAMS

What's the

**ALGEBRA** 

#### **Notes:**

We teach responsively and teachers are given autonomy to address gaps identified in students learning before moving on to new learning.

NUMBERGeometry and<br/>MeasuresSTATISTICS &<br/>PROBABILITYRATIO, PROPORTION,<br/>RATES of CHANGE

### **Progression of Big Ideas**

NC Subject Content Area	Strands
Number	<ul> <li>Number: Understand and represent number</li> <li>Number: Calculations</li> <li>Number: Understand fractions and decimals</li> <li>Number: Percentages</li> </ul>
Algebra	<ul> <li>Algebra: Understand Notation and Substitute</li> <li>Algebra: Equivalence and Proof</li> <li>Algebra: Solve Equations and Inequalities</li> <li>Algebra: Linear Graphs</li> <li>Algebra: Non-linear Graphs</li> <li>Algebra: Sequences</li> </ul>
Ratio, proportion and rates of change	<ul> <li>Ratio, Proportion, Rates of Change: Multiplicative Relationships</li> <li>Ratio, Proportion, Rates of Change: Ratio &amp; Rates</li> </ul>
Geometry and measures	<ul> <li>Geometry and Measures: Perimeter, Area and Volume</li> <li>Geometry and Measures: Construct and Transform Geometric Figures</li> <li>Geometry and Measures: Shape properties</li> <li>Geometry and Measures: Angles</li> <li>Geometry and Measures: Pythagoras and Trigonometry</li> <li>Geometry : Geometrical Proof</li> </ul>
Probability	Probability
Statistics	<ul> <li>Statistics: Represent and Interpret Data</li> <li>Statistics: Statistical Measures</li> <li>Statistics: Bivariate Data</li> </ul>

what's the BIC idea?

### **Progression of Big Ideas - Number**

	Year 7	Year 8	Year 9	Year 10	Year 11
Number: stand & Represent	<ul> <li>Autumn block 4</li> <li>Understand and use place value</li> <li>Compare and order numbers</li> <li>Round to powers of 10 and 1sf</li> <li>Additional Higher content</li> <li>Write 1sf numbers in standard form</li> <li>Spring block 2</li> <li>Use factors and multiples</li> <li>Spring block 4</li> <li>Order directed number</li> <li>Summer block 5</li> <li>Prime factorisation</li> <li>HCF and LCM</li> </ul>	<ul> <li>Spring block 5</li> <li>Revisit Y7 comparing and ordering</li> <li>Write numbers of any size in standard form</li> <li>Additional Higher content</li> <li>Use negative and fractional indices</li> <li>Spring block 6</li> <li>Revisit Y7 rounding</li> <li>Round to given numbers of dp and sf</li> </ul>	<ul> <li>Spring block 1</li> <li>Revisit and extend Y7/8 content including:</li> <li>Types of number</li> <li>Standard form</li> <li>HCF and LCM</li> <li>Rational and real numbers</li> </ul> Summer block 4 <ul> <li>Revisit and extend Y7/8 content including:</li> <li>Standard form</li> <li>Prime factorisation</li> </ul>	<ul> <li>Summer block 2</li> <li>Revise and extend KS3 content: Rounding and limits of accuracy</li> <li>Higher tier content</li> <li>Upper and lower bounds</li> <li>Converting recurring decimals</li> <li>Summer block 3</li> <li>Revise and extend KS3 content including: factors, multiples and primes</li> <li>Summer block 4</li> <li>Revise and extend KS3 content including standard form</li> </ul>	<ul> <li>Spring block 5</li> <li>Making ordered lists Higher tier content</li> <li>Product rule for counting</li> <li>Spring block 6</li> <li>Proving equivalence of different forms of number</li> <li>Summer block 1</li> <li>Revision</li> </ul>
dei		KS3 National Curriculum	KS4 National Curriculum		
Unc	<ul> <li>understand and use place values order positive and negative in for ordering of the real numbers and vocabulations, common multiples, la factors, common multiples, la factorisation, including using</li> <li>interpret and compare numbers or negative integer or zero</li> <li>round numbers and measure of decimal places or significations</li> <li>appreciate the infinite nature</li> </ul>	alue for decimals, measures and in ntegers, decimals and fractions; us pers; use the symbols =, $\neq$ , <, >, $\leq$ , $\geq$ ulary of prime numbers, factors (o highest common factor, lowest co product notation and the unique f pers in standard form $A \times 10^n$ , 1 es to an appropriate degree of acc ant figures] e of the sets of integers, real and ra	<ul> <li>In addition to consolidating subjuices should be taught to:</li> <li>apply systematic listing strate product rule for counting</li> <li>{change recurring decimals fractions and vice versa}</li> <li>apply and interpret limits of truncating, {including upper</li> </ul>	ect content from key stage 3, egies, <b>{including use of the</b> <b>into their corresponding</b> accuracy when rounding or <b>and lower bounds}</b>	



### **Progression of Big Ideas - Number**

	Year 7	Year 8	Year 9	Year 10	Year 11	
Number: Calculations	<ul> <li>Spring blocks 1/2</li> <li>Use the four operations with positive integers and decimals</li> <li>Use a calculator</li> <li>Multiply and divide by positive powers of 10</li> <li>Order of operations</li> <li>Additional Higher content</li> <li>Multiply by 0.1 and 0.01</li> <li>Spring block 4</li> <li>Use the four operations with directed number</li> <li>Spring block 5</li> <li>Add and subtract fractions including mixed numbers</li> <li>Summer block 3</li> <li>Use known facts</li> </ul>	<ul> <li>Autumn block 3</li> <li>Multiply and divide fractions</li> <li>Additional Higher content</li> <li>Multiply and divide mixed numbers</li> <li>Spring block 6</li> <li>Revisit and extend Y7 work including:</li> <li>Convert between units of time</li> <li>Order of operations</li> <li>Calculate with money</li> <li>Use estimation</li> <li>Additional Higher content</li> <li>Convert metric units of length and area</li> <li>Use error interval notation</li> </ul>	<ul> <li>Spring block 1</li> <li>Revisit fraction arithmetic</li> <li>Spring block 3</li> <li>Revisit and extend Y7/8 work in the context of financial mathematics</li> </ul>	<ul> <li>Summer block 2</li> <li>Revisit and extend KS3 number work</li> <li>Work with exact answers Higher tier content</li> <li>Calculate with surds</li> </ul> Summer block 4 <ul> <li>Work with powers and roots</li> <li>Calculate with standard form</li> <li>Higher tier content</li> <li>Calculate with surds</li> </ul>	<ul> <li>Spring block 1</li> <li>Revisit and extend KS3 number work</li> <li>Summer block 1</li> <li>Revision</li> </ul>	
	KS3 National Curriculum			KS4 National Curriculum		
	<ul> <li>use the four operations, incluproper and improper fraction</li> <li>use conventional notation fo</li> <li>use standard units of time</li> <li>recognise and use relationsh</li> <li>use integer powers and asso 3, 4, 5 and distinguish betwee approximations</li> <li>use approximation through rerrors expressed using inequal use a calculator and other terrors appropriately</li> </ul>	uding formal written methods, applies, and mixed numbers, all both points, and mixed numbers, all both points, and mixed numbers, all both points in the priority of operations including i ciated real roots (square, cube and en exact representations of roots a counding to estimate answers and evality notation $a < x \leq b$ choologies to calculate results accounts and the count of the points of counts and the count of the points of the	lied to integers, decimals, ositive and negative ng brackets, powers, roots inverse operations d higher), recognise powers of 2, and their decimal calculate possible resulting curately and then interpret them	In addition to consolidating subject content from key stage 3, pupils should be taught to: • {estimate powers and roots of any given positive number} • calculate with roots, and with integer {and fractional} indices • calculate exactly with fractions, {surds} and multiples of $\pi$ ; {simplify surd expressions involving squares [for example $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$ ] and rationalise denominators} • calculate with numbers in standard form $A \times 10^n$ , $1 \le n < 10$ and $n$ is an integer		



**ALGEBRA** 

Geometry and Measures

STATISTICS & PROBABILITY



# **Progression of Big Ideas - Number**

	Year 7	Year 8	Year 9	Year 10	Year 11
Number: Fractions and Decimals	<ul> <li>Autumn block 5</li> <li>Interchange between fractions and decimals below 1</li> <li>Additional Higher content</li> <li>Explore fractions above 1</li> <li>Spring block 3</li> <li>Find fractions of an amount (up to 1)</li> <li>Additional Higher content</li> <li>Solve problems with fractions greater than 1</li> </ul>	<ul> <li>Spring block 4</li> <li>Revise and extend Y7 coverage</li> <li>Express one number as a fraction of another</li> <li>Explore calculator and non-calculator methods</li> </ul>	Spring block 1: • Revise and extend Y7/8 coverage	<ul> <li>Spring block 4</li> <li>Working with ratios and fractions</li> <li>Spring block 5</li> <li>Revise and extend KS3 conversions</li> <li>Spring block 5</li> <li>Revisit converting fractions and decimals</li> </ul>	<ul> <li>Spring block 1</li> <li>Review multiplicative change including fractions and decimals</li> <li>Spring block 6</li> <li>Proving equivalence</li> <li>Summer block 1</li> <li>Revision</li> </ul>
ЫБ		KS3 National Curriculum	KS4 National Curriculum		
Understan	<ul> <li>work interchangeably with terminating decimals and their corresponding fractions (such as 3.5 and <sup>7</sup>/<sub>2</sub> or 0.375 and <sup>3</sup>/<sub>8</sub>)</li> <li>interpret fractions and percentages as operators</li> <li>express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1</li> </ul>			In addition to consolidating subject pupils should be taught to: <ul> <li>identify and work with fraction</li> </ul>	ect content from key stage 3, ons in ratio problems



# **Progression of Big Ideas**

	Year 7	Year 8	Year 9	Year 10	Year 11
ercentages	<ul> <li>Autumn block 5</li> <li>Interchange between fractions, decimals and percentages up to 100%</li> <li>Additional Higher content</li> <li>Explore over 100%</li> <li>Spring block 3</li> <li>Find percentage of amount using mental and calculator methods (up to 100%)</li> <li>Additional Higher content</li> <li>Explore over 100%</li> </ul>	<ul> <li>Spring block 4</li> <li>Revise and extend Y7 coverage</li> <li>Percentage increase and decrease</li> <li>Using multipliers</li> <li>Express one quantity as a percentage of another, compare two quantities using percentages</li> <li>Work with percentages</li> <li>Work with percentages greater than 100%</li> <li>Additional Higher content</li> <li>Finding the original after percentage change</li> </ul>	<ul> <li>Spring blocks 2/3</li> <li>Revise and extend Y7/8 coverage</li> <li>Reverse percentages</li> <li>Financial maths</li> <li>Additional Higher content</li> <li>Repeated percentage change</li> </ul>	<ul> <li>Spring block 5</li> <li>Revise and extend KS3 content</li> <li>Simple and compound interest</li> <li>Finding original values</li> <li>Repeated percentage change</li> <li>Summer block 2</li> <li>Revisit conversions and non-calculator methods</li> </ul>	<ul> <li>Spring block 6</li> <li>"Show that" problems with percentages</li> <li>Summer block 1</li> <li>Revision</li> </ul>
		KS3 National Curriculum	KS4 National Curriculum		
	<ul> <li>Define percentage as 'number fraction or a decimal, interpresentation of a decimal, interpresentation of a decimal, interpresentation of a decimal, interpresentation of a decimal value problems and percesentations and percesentations</li></ul>	er of parts per hundred', interpret p et these multiplicatively, express o ities using percentages, and work w ntages as operators reentage change, including: percen simple interest in financial mather	<ul> <li>In addition to consolidating subject pupils should be taught to:</li> <li>set up, solve and interpret the problems, including compound</li> </ul>	ect content from key stage 3, e answers in growth and decay nd interest	



Number:

	Year 7	Year 8	Year 9	Year 10	Year 11	
	<ul> <li>Autumn block 2</li> <li>Function machines</li> <li>Algebraic notation</li> <li>Substitute into expressions</li> </ul> Spring block 4 <ul> <li>Revisit notation and substitution in the context of directed number</li> </ul> Spring block 5 Additional Higher content <ul> <li>Simple algebraic fractions</li> </ul> Summer 3 <ul> <li>Explore related algebraic expressions</li> </ul>	<ul> <li>Spring block 1</li> <li>Revise and extend Y7 coverage to include more complex expressions</li> <li>Spring block 3</li> <li>Work with indices</li> <li>Additional Higher content</li> <li>Explore powers of powers</li> </ul>	<ul> <li>Autumn blocks 1/2/3</li> <li>Revise and extend Y7/8 coverage</li> <li>Summer block 4</li> <li>Revise algebraic representation</li> </ul>	<ul> <li>Autumn block 3/4</li> <li>Revise and extend KS3 content</li> <li>Summer block 4</li> <li>Work with powers and roots</li> </ul>	<ul> <li>Autumn block 6</li> <li>Substitute in kinematics formulae</li> <li>Functions</li> <li>Higher tier content</li> <li>Composite and inverse functions</li> </ul>	
		KS3 National Curriculum		KS4 National Curriculum		
01106121411	<ul> <li>use and interpret algebraic n         <i>ab</i> in place of a × b         <i>3y</i> in place of y + y +         <i>a<sup>2</sup></i> in place of a × a         <i>ab</i> in place of a × b         <u>a</u> in place of a × b         <u>a</u> in place of a ÷ b         coefficients written as f         brackets</li> <li>substitute values into formul         understand and use the cond         and factors</li> </ul>	otation, including: $y$ and $3 \times y$ fractions rather than decimals ae expressions, rearrange and sim- cepts and vocabulary of expression	<ul> <li>In addition to consolidating subject content from key stage 3, pupils should be taught to:</li> <li>simplifying expressions involving sums, products and powers, including the laws of indices</li> <li>where appropriate, interpret simple expressions as functions with inputs and outputs; {interpret the reverse process as the 'inverse function'; interpret the succession of two functions as a 'composite function'}</li> </ul>			



Algebra:



	Year 7	Year 8	Year 9	Year 10	Year 11
Algebra: puivalence and Proof	<ul> <li>Autumn block 3</li> <li>Understand the difference between equality and equivalence</li> <li>Collecting like terms</li> <li>Spring block 4</li> <li>Revisit collecting like terms in the context of directed number</li> <li>Spring block 5</li> <li>Additional Higher content</li> <li>Simple algebraic fractions</li> <li>Summer 3</li> <li>Explore related algebraic expressions</li> </ul>	<ul> <li>Spring block 1</li> <li>Expand over a single bracket</li> <li>Simplify expressions involving brackets</li> <li>Identify and use formulae, expressions, identities and equations</li> <li>Additional Higher content</li> <li>Expand a pair of binomials</li> </ul>	<ul> <li>Autumn blocks 1/2/3</li> <li>Revise and extend Y7/8 coverage</li> <li>Rearranging to the form y = mx + c</li> <li>Change the subject of a formula</li> <li>Testing algebraic conjectures</li> <li>Additional Higher content</li> <li>Change the subject of a more complex formula</li> <li>Summer block 4</li> <li>Revise algebraic representation</li> <li>Expand a pair of binomials</li> </ul>	<ul> <li>Autumn block 3</li> <li>Revise and extend KS3 content</li> <li>Higher tier content</li> <li>Factorising quadratics of the form x<sup>2</sup> + bx + c</li> <li>Summer block 4</li> <li>Maintain equivalence using the rules of indices</li> </ul>	<ul> <li>Autumn block 4</li> <li>Factorising quadratics of the form x<sup>2</sup> + bx + c</li> <li>Higher tier content</li> <li>Completing the square</li> <li>Autumn block 5</li> <li>Change the subject of a formula</li> <li>Higher tier content</li> <li>Change the subject of a formula where the subject appears more than once</li> <li>Spring block 3</li> <li>Review and extend previous content</li> <li>Higher tier content</li> <li>Algebraic proof</li> </ul>
		KS3 National Curriculum	KS4 National Curriculum		
Eq	<ul> <li>simplify and manipulate algement</li> <li>multiplying a single term over</li> <li>taking out common factors</li> <li>expanding products of two o</li> <li>understand and use the condand factors</li> </ul>	ebraic expressions to maintain equ er a bracket r more binomials cepts and vocabulary of expression	<ul> <li>In addition to consolidating subject pupils should be taught to:</li> <li>know the difference between argue mathematically to show equivalent, and use algebra to arguments {and proofs}</li> <li>simplify and manipulate algebra those involving surds {and and factorising quadratic expressions of the quadratic expressions of the simplify and manipulate algebra those involving surds and and factorising quadratic expressions of the simplify and manipulate algebra those involving surds and factorising quadratic expressions of the simplify and manipulate algebra those involving surds and factorising quadratic expressions of the simplify and manipulate algebra those including the difference of the simplify and manipulate algebra the simplif</li></ul>	ect content from key stage 3, an equation and an identity; by algebraic expressions are to support and construct ebraic expressions (including <b>lgebraic fractions</b> }) by: sions of the form $x^2 + bx + c$ , vo squares; <b>{factorising</b> <b>e form</b> $ax^2 + bx + c$ }	



	Year 7	Year 8	Year 9	Year 10	Year 11	
Algebra: Solve Equations and Inequalities	<ul> <li>Autumn block 3</li> <li>Form and solve one-step equations</li> <li>Spring block 4</li> <li>Form and solve two-step equations</li> </ul>	<ul> <li>Spring block 1</li> <li>Revise and extend Y7 coverage</li> <li>Solve inequalities</li> <li>Form and solve equations with brackets</li> <li>Identify and use formulae, expressions, identities and equations</li> <li>Additional Higher content</li> <li>Form and solve equations and inequalities with unknowns on both sides</li> </ul>	<ul> <li>Autumn block 2</li> <li>Revise and extend Y7/8 coverage</li> <li>Form and solve equations and inequalities with unknowns on both sides</li> </ul>	<ul> <li>Autumn block 3</li> <li>Revise and extend KS3 content</li> <li>Represent solutions to inequalities on number lines</li> <li>Autumn block 4</li> <li>Form and solve linear simultaneous equations</li> <li>Higher tier content</li> <li>Solve quadratic equations and inequalities by factorising</li> <li>Solve simultaneous equations equations, one linear and one quadratic</li> </ul>	<ul> <li>Autumn block 4</li> <li>Form and solve quadratic equations by factorising</li> <li>Higher tier content</li> <li>Solve quadratic equations using the formula and completing the square</li> <li>Summer 1</li> <li>Revision</li> </ul>	
	KS3 National Curriculum			KS4 National Curriculum		
	<ul> <li>understand and use the cond and factors</li> <li>simplify and manipulate alge</li> <li>understand and use standard subject</li> <li>use algebraic methods to sol require rearrangement)</li> </ul>	cepts and vocabulary of expression ebraic expressions to maintain equ d mathematical formulae; rearrang lve linear equations in one variable	ns, equations, inequalities, terms ivalence by collecting like terms ge formulae to change the e (including all forms that	<ul> <li>In addition to consolidating subject should be taught to:</li> <li>know the difference between a quadratic equations {including rearrangement} algebraically square and by using the quade</li> <li>identify and interpret roots; de turning points by completing</li> <li>solve two simultaneous equat {or linear/quadratic}) algebrai using a graph</li> <li>translate simple situations or p expressions or formulae; deriv simultaneous equations), solve solution</li> <li>solve linear inequalities in one quadratic inequalities in one v set on a number line, {using solution</li> </ul>	tt content from key stage 3, pupils an equation and an identity; solve <b>s those that require</b> by factorising, <b>{by completing the</b> <b>ratic formula}</b> duce roots algebraically <b>{and</b> <b>the square}</b> ions in two variables (linear/linear cally; find approximate solutions procedures into algebraic e an equation (or two e the equation(s) and interpret the <b>{or two}</b> variable <b>{s}, {and</b> <b>traiable}</b> ; represent the solution <b>et notation and on a graph</b> }	



	Year 7	Year 8	Year 9	Year 10	Year 11
Algebra: Linear Graphs	Autumn block 2 <ul> <li>Represent functions graphically</li> </ul>	Autumn block 2 • Conversion graphs Additional Higher content • Direct proportion graphs Autumn block 4 • Using coordinates • Plotting graphs: > $y = k, x = k$ > $y = kx$ > $y = kx$ > $y = x + a$ > $y = mx + c$ Additional Higher content • Exploring gradient • Exploring non-linear graphs	<ul> <li>Autumn block 1</li> <li>Revise and extend Y7/8 coverage</li> <li>Simplify, use and interpret y = mx + c</li> <li>Parallel lines</li> <li>Additional Higher content</li> <li>Solve simultaneous equations graphically</li> <li>Explore perpendicular lines</li> <li>Summer block 4</li> <li>Interpret graphs in various forms including piecewise linear</li> </ul>	<ul> <li>Autumn block 3</li> <li>Revise and extend KS3 content</li> <li>Autumn block 4</li> <li>Solve linear simultaneous equations graphically</li> </ul>	<ul> <li>Autumn block 1</li> <li>Revise and extend KS3 and Y10 content</li> <li>Higher tier content</li> <li>Perpendicular lines</li> <li>Autumn block 2</li> <li>Higher tier content</li> <li>Equation of the tangent to a circle</li> </ul>
		KS3 National Curriculum	KS4 National Curriculum		
	<ul> <li>model situations or procedures by translating them into algebraic expressions or formulae and by using graphs</li> <li>work with coordinates in all four quadrants</li> <li>recognise, sketch and produce graphs of linear functions of one variable with appropriate scaling, using equations in x and y and the Cartesian plane</li> <li>interpret mathematical relationships both algebraically and graphically</li> <li>reduce a given linear equation in two variables to the standard form y = mx + c</li> <li>calculate and interpret gradients and intercepts of graphs of such linear equations numerically, graphically and algebraically</li> <li>use linear graphs to estimate values of y for given values of x and vice versa and to find approximate solutions to contextual problems from given graphs of a variety of functions, including piece-wise linear</li> </ul>			<ul> <li>In addition to consolidating subject pupils should be taught to:</li> <li>use the form y = mx + c to perpendicular} lines; find the two given points, or through recognise, sketch and interpret plot and interpret graphs</li> <li>find approximate solutions u equations)</li> <li>{find the equation of a tangeneric solution of a tangeneric</li></ul>	ect content from key stage 3, b identify parallel <b>{and</b> e equation of the line through one point with a given gradient ret graphs of linear functions sing a graph (simultaneous ent to a circle at a given point}





	Year 7	Year 8	Year 9	Year 10	Year 11
	<ul> <li>Autumn block 2</li> <li>Represent functions graphically</li> </ul>	<ul> <li>Autumn block 4</li> <li>Using coordinates</li> <li>Additional Higher content</li> <li>Exploring gradient</li> <li>Exploring non-linear graphs</li> </ul>	Summer block 4 • Interpret graphs in various forms (including quadratic, piece-wise, exponential, speed/distance/time)	<ul> <li>Autumn block 4</li> <li>Higher tier content</li> <li>Solve linear and quadratic simultaneous equations graphically</li> </ul>	<ul> <li>Autumn block 2</li> <li>Roots, quadratic, cubic and reciprocal graphs</li> <li>Higher tier content</li> <li>Equations of circles</li> <li>Autumn block 2</li> <li>Real-life graphs including speed/distance/time</li> <li>Spring block 4</li> <li>Higher tier content</li> <li>Trig graphs</li> <li>Transforming graphs</li> </ul>
hq	KS3 National Curriculum			KS4 Nationa	l Curriculum
Algebra: Non-linear Graph	<ul> <li>model situations or procedures by translating them into algebraic expressions or formulae and by using graphs</li> <li>work with coordinates in all four quadrants</li> <li>recognise, sketch and produce graphs of quadratic functions of one variable with appropriate scaling, using equations in x and y and the Cartesian plane</li> <li>interpret mathematical relationships both algebraically and graphically</li> <li>use quadratic graphs to estimate values of y for given values of x and vice versa</li> <li>find approximate solutions to contextual problems from given graphs of a variety of functions, including piece-wise linear, exponential and reciprocal graphs</li> </ul>			<ul> <li>In addition to consolidating subject should be taught to:</li> <li>identify and interpret roots, interquadratic functions graphically</li> <li>recognise, sketch and interpret simple cubic functions, the recip {the exponential function y = 1 trigonometric functions (with an any size}</li> <li>{sketch translations and reflect function}</li> <li>plot and interpret graphs (include exponential graphs)) and graph contexts, to find approximate sce estimate gradients of graphs and quadratic and other non-linear cases such as distance-time graphs in financial contexts}</li> <li>{recognise and use the equation origin}</li> <li>find approximate solutions usin simultaneous equations)</li> </ul>	content from key stage 3, pupils rcepts and turning points of graphs of quadratic functions, procal function $y = \frac{1}{x}$ with $x \neq 0$ $k^x$ for positive values of $k$ , and the rguments in degrees) for angles of tions of the graph of a given ding reciprocal graphs {and is of non-standard functions in real polutions to problems {calculate or ind areas under graphs (including graphs), and interpret results in aphs, velocity-time graphs and in of a circle with centre at the g a graph (quadratic equations and



	Year 7	Year 8	Year 9	Year 10	Year 11
lgebra: quences	<ul> <li>Autumn block 1</li> <li>Recognise linear and non- linear sequences</li> <li>Autumn block 2</li> <li>Generate sequences from an algebraic rule</li> </ul>	<ul> <li>Spring block 2</li> <li>Revise and extend Y7 coverage to include more complex rules</li> <li>Additional Higher content</li> <li>Find the rule for the n<sup>th</sup> term of a linear sequence</li> </ul>	<ul> <li>Autumn block 3</li> <li>Testing conjectures about sequences</li> <li>Summer block 4</li> <li>Representing sequences</li> <li>Find the rule for the n<sup>th</sup> term of a linear sequence</li> </ul>	<ul> <li>Summer block 3</li> <li>Revise and extend KS3 content, including names and types of sequences</li> <li>Higher tier content</li> <li>Find the rule for the n<sup>th</sup> term of a quadratic sequence</li> <li>Sequences with surds</li> </ul>	<ul> <li>Spring block 3</li> <li>Review KS3 and Y10 coverage</li> </ul>
Se		KS3 National Curriculum		KS4 Nationa	l Curriculum
	<ul> <li>generate terms of a sequence from either a term-to-term or a position-to-term rule</li> <li>recognise arithmetic sequences and find the <i>n</i><sup>th</sup> term</li> <li>recognise geometric sequences and appreciate other sequences that arise</li> </ul>			<ul> <li>In addition to consolidating subject content from key stage 3, pupils should be taught to:</li> <li>recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions, Fibonacci type sequences, quadratic sequences, and simple geometric progressions (r<sup>n</sup> where n is an integer, and r is a positive rational number {or a surd}) {and other sequences}</li> <li>deduce expressions to calculate the n<sup>th</sup> term of linear {and quadratic} sequences</li> </ul>	



#### **Progression of Big Ideas – Ratio and Proportion**

	Year 7	Year 8	Year 9	Year 10	Year 11
rtion, Rates of Change: ative Relationships	<ul> <li>Spring block 2</li> <li>Convert metric units</li> <li>Summer block 3</li> <li>Use multiplicative relationships between known facts</li> </ul>	<ul> <li>Autumn block 2</li> <li>Understand and use scale factors</li> <li>Scale diagrams and maps</li> <li>Currency conversions</li> <li>Conversion graphs</li> <li>Similar shapes</li> <li>Additional Higher content</li> <li>Direct proportion graphs</li> </ul> Spring block 6 <ul> <li>Review and extend Y7 work on metric units</li> <li>Additional Higher content</li> <li>Convert area and volume measures</li> </ul>	<ul> <li>Autumn block 5</li> <li>Revisit scale drawings</li> <li>Summer block 2</li> <li>Revisit conversion graphs</li> <li>Solve direct proportion problems</li> <li>Inverse proportion</li> <li>Additional Higher content</li> <li>Inverse proportion graphs</li> </ul>	<ul> <li>Autumn block 1</li> <li>Similar shapes</li> <li>Enlargement</li> <li>Higher tier content</li> <li>Area and volume similarity</li> <li>Spring block 2</li> <li>Higher tier content</li> <li>Revisit area and volume similarity with cones etc.</li> <li>Spring block 4</li> <li>Revise and extend KS3 content including:</li> <li>Unit prising ('best buys')</li> <li>Currency conversions</li> <li>Higher tier content</li> <li>Revisit area and volume</li> <li>Similarity</li> </ul>	<ul> <li>Spring block 1</li> <li>Direct and inverse proportion numerically and graphically</li> <li>Pressure and density</li> <li>Higher tier content</li> <li>Variation with powers and roots</li> </ul>
oor lica		KS3 National Curriculum	KS4 National Curriculum		
Ratio, Prog Multip	<ul> <li>change freely between related standard units [for example time, length, area, volume/capacity, mass]</li> <li>use scale factors, scale diagrams and maps</li> <li>understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction</li> <li>solve problems involving direct and inverse proportion, including graphical and algebraic representations</li> </ul>			<ul> <li>In addition to consolidating subject pupils should be taught to:</li> <li>compare lengths, areas and and/or scale factors; make list trigonometric ratios)</li> <li>understand that X is inversely to X is proportional to <sup>1</sup>/<sub>Y</sub></li> <li>{construct and} interpret equinverse proportion</li> <li>interpret the gradient of a strict change; recognise and interpret and inverse proportion</li> </ul>	ect content from key stage 3, volumes using ratio notation nks to similarity (including y proportional to Y is equivalent uations that describe direct and aight line graph as a rate of ret graphs that illustrate direct



#### **Progression of Big Ideas – Ratio and Proportion**

	Year 7	Year 8	Year 9	Year 10	Year 11	
tio, Proportion, Rates of Change: Ratio and Rates		<ul> <li>Autumn block 1</li> <li>Understand and use ratio notation</li> <li>Divide in a ratio</li> <li>Work out parts and wholes</li> <li>π as a ratio</li> <li>Additional Higher content</li> <li>Use the form 1: n</li> <li>Link gradient and ratio</li> </ul>	<ul> <li>Spring block 2</li> <li>Revise and extend Y7/8 coverage</li> <li>Additional Higher content</li> <li>Repeated percentage change</li> <li>Summer block 3</li> <li>Speed, distance and time</li> <li>Density</li> <li>Compound units</li> <li>Additional Higher content</li> <li>Converting compound measures</li> <li>Summer block 2</li> <li>Unit pricing problems</li> </ul>	<ul> <li>Spring block 4</li> <li>Ratios and fractions Higher tier content</li> <li>Ratios in the context of area and volume</li> <li>Spring block 5</li> <li>Repeated percentage change including compound interest</li> <li>Growth and decay problems</li> <li>Higher tier content</li> <li>Iterative processes</li> </ul>	<ul> <li>Autumn block 2</li> <li>Higher tier content</li> <li>Gradients of curves</li> <li>Estimate the area under a curve</li> <li>Spring block 1</li> <li>Revisit KS3 and Y10 content</li> <li>Pressure and density</li> </ul>	
rtio tio	KS3 National Curriculum			KS4 National Curriculum		
Ratio,  Propo Ra	<ul> <li>use ratio notation, including reduction to simplest form</li> <li>divide a given quantity into two parts in a given part : part or part : whole ratio; express the division of a quantity into two parts as a ratio</li> <li>relate the language of ratios and the associated calculations to the arithmetic of fractions and to linear functions</li> <li>use compound units such as speed, unit pricing and density to solve problems</li> </ul>			<ul> <li>In addition to consolidating subj pupils should be taught to:</li> <li>convert between related com pay, prices, density, pressure contexts {interpret the gradi instantaneous rate of change</li> <li>apply the concepts of instan change (gradients of tanger algebraic and graphical con</li> <li>set up, solve and interpret th problems, including compou general iterative processes}</li> <li>{find approximate solutions iteration}</li> </ul>	ect content from key stage 3, npound units (speed, rates of e) in numerical and algebraic ent at a point on a curve as the re}; taneous and average rate of nts and chords) in numerical, texts} e answers in growth and decay and interest {and work with to equations numerically using	



	Year 7	Year 8	Year 9	Year 10	Year 11
etry and Measures: ter, Area and Volume	<ul> <li>Spring block 1</li> <li>Solve perimeter problems</li> <li>Spring block 2</li> <li>Areas of rectangles, parallelograms and triangles</li> <li>Additional Higher content</li> <li>Area of a trapezium</li> </ul>	<ul> <li>Autumn block 1</li> <li>Circumference of a circle</li> <li>Summer block 2</li> <li>Area of a trapezium</li> <li>Area of a circle</li> <li>Area of compound shapes</li> </ul>	<ul> <li>Autumn block 4</li> <li>Surface area of cuboids and cylinders</li> <li>Volume of cuboids, cylinders and other prisms</li> <li>Additional Higher content</li> <li>Explore volume of cones, spheres and compound shapes</li> <li>Surface area of prisms</li> </ul>	<ul> <li>Spring block 2</li> <li>Review area and circumference of a circle</li> <li>Arc length</li> <li>Area of a sector</li> <li>Surface areas and volumes of cylinders, cones and spheres</li> </ul> Summer block 2 <ul> <li>Review KS3 and earlier Y10 content as a context for non-calculator methods</li> </ul>	<ul> <li>Autumn block 5</li> <li>Review perimeter, area and volume formulae as a context for rearrangement</li> <li>Volume of a pyramid</li> <li>Summer block 1</li> <li>Revision</li> </ul>
om mei	KS3 National Curriculum			KS4 National Curriculum	
Ge Perii	<ul> <li>derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders)</li> <li>calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes</li> </ul>			<ul> <li>In addition to consolidating subject pupils should be taught to:</li> <li>calculate arc lengths, angles</li> <li>calculate surface areas and success and composite solids</li> </ul>	ect content from key stage 3, and areas of sectors of circles volumes of spheres, pyramids,





	Year 7	Year 8	Year 9	Year 10	Year 11	
and Measures: iform Geometric Figures	<ul> <li>Summer block 1</li> <li>Geometric notation</li> <li>Draw lines, angles and simple shapes</li> <li>Parallel and perpendicular lines</li> <li>Name and construct polygons</li> </ul>	<ul> <li>Autumn block 2</li> <li>Work with scale factors</li> <li>Summer block 1</li> <li>Revise and extend Y7 notation</li> <li>Summer block 3</li> <li>Recognise line symmetry</li> <li>Reflect shapes in a given line</li> <li>Additional Higher content</li> <li>Standard ruler and compass constructions</li> </ul>	<ul> <li>Autumn block 5</li> <li>Standard ruler and compass constructions</li> <li>Additional Higher content</li> <li>Loci</li> <li>Spring block 5</li> <li>Revise Y7/8 coverage</li> <li>Recognise rotational symmetry</li> <li>Rotate points about a given point</li> <li>Translate shapes and describe translations</li> <li>Additional Higher content</li> <li>Perform a series of transformations</li> </ul>	<ul> <li>Autumn block 1</li> <li>Similarity and enlargement</li> <li>Higher tier content</li> <li>Negative scale factors of enlargement</li> <li>Spring block 2</li> <li>Parts of a circle</li> </ul>	<ul> <li>Spring block 4</li> <li>Revisit/extend KS3 and year 10 work</li> <li>Loci</li> <li>Spring block 5</li> <li>Plans and elevations</li> </ul>	
/ ar Isfo	KS3 National Curriculum			KS4 National Curriculum		
Geometry Construct and Tran	<ul> <li>draw and measure line segments and angles in geometric figures, including interpreting scale drawings</li> <li>derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle); recognise and use the perpendicular distance from a point to a line as the shortest distance to the line</li> <li>describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that are reflectively and rotationally symmetric</li> <li>identify properties of, and describe the results of, translations, rotations and reflections applied to given figures</li> <li>use the standard conventions for labelling the sides and angles of triangle ABC</li> <li>identify and construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids</li> <li>know and use the criteria for congruence of triangles</li> </ul>			<ul> <li>In addition to consolidating subj pupils should be taught to:</li> <li>interpret and use fractional { enlargements</li> <li>{describe the changes and i combinations of rotations, r</li> <li>construct and interpret plans</li> <li>describe translations as 2D of</li> </ul>	ect content from key stage 3, [and negative] scale factors for nvariance achieved by eflections and translations] s and elevations of 3D shapes vectors	





	Year 7	Year 8	Year 9	Year 10	Year 11
etry and Measures: ape Properties	Summer block 1 • Properties of triangles and quadrilaterals	<ul> <li>Summer blocks 1/2/3</li> <li>Revise and extend Y7 coverage</li> <li>Additional Higher content</li> <li>Explore diagonals of quadrilaterals</li> </ul>	<ul> <li>Autumn block 3</li> <li>Testing conjectures about shapes</li> <li>Autumn block 4</li> <li>Properties of 3-D shapes</li> <li>2-D shapes in 3-D shapes</li> </ul>	<ul> <li>Autumn block 1</li> <li>Revisit shape names and properties in the context of enlargement</li> <li>Spring block 2</li> <li>Parts of a circle</li> </ul>	<ul> <li>Spring block 2</li> <li>Revisit shape properties in the context of reasoning</li> </ul>
Sh	KS3 National Curriculum			KS4 National Curriculum	
Ged	<ul> <li>derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures [for example, equal lengths and angles] using appropriate language and technologies</li> <li>use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D</li> </ul>			<ul> <li>In addition to consolidating subject pupils should be taught to:</li> <li>identify and apply circle defining centre, radius, chord, diameter sector and segment</li> </ul>	ect content from key stage 3, nitions and properties, including: er, circumference, tangent, arc,



	Year 7	Year 8	Year 9	Year 10	Year 11
try and Measures: Angles	<ul> <li>Summer block 2</li> <li>Angles at a point</li> <li>Adjacent angles on a straight line</li> <li>Vertically opposite angles</li> <li>Angles in triangles and quadrilaterals</li> <li>Additional Higher content</li> <li>Angles in parallel lines</li> <li>Simple angle proofs</li> </ul>	<ul> <li>Summer block 1</li> <li>Revise Y7 coverage</li> <li>Angles in parallel lines</li> <li>Additional Higher content</li> <li>Angles formed by diagonals of quadrilaterals</li> </ul>	<ul> <li>Spring block 4</li> <li>Revise and extend Y7/8 coverage</li> <li>Chains of reasoning to find angles</li> </ul>	<ul> <li>Spring block 1</li> <li>Review and extend KS3 coverage</li> <li>Interpret and use bearings</li> </ul>	<ul> <li>Spring block 2</li> <li>Review and extend KS3 and Year 10 coverage</li> </ul>
me	KS3 National Curriculum			KS4 National Curriculum	
Geol	<ul> <li>apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles</li> <li>understand and use the relationship between parallel lines and alternate and corresponding angles</li> <li>derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons</li> </ul>			In addition to consolidating subj pupils should be taught to: • interpret and use bearings	ect content from key stage 3,





	Year 7	Year 8	Year 9	Year 10	Year 11
y and Measures: s and Trigonometry			<ul> <li>Spring block 6</li> <li>Understand and use Pythagoras' theorem</li> <li>Show that a triangle is right-angled</li> <li>Additional Higher content</li> <li>Use Pythagoras' theorem in 3-D shapes</li> <li>Summer block 1</li> <li>Additional Higher content</li> <li>Explore ratios in right- angled triangles</li> </ul>	<ul> <li>Autumn block 2</li> <li>Revise Pythagoras' theorem</li> <li>Use trigonometry to find missing sides and angles in right-angles triangles</li> <li>Exact trig values</li> <li>Higher tier content</li> <li>Using the sine and cosine rules</li> <li>Area of a general triangle</li> <li>Spring block 1</li> <li>Revisit Pythagoras and trigonometry in the context of bearings</li> </ul>	<ul> <li>Autumn block 6</li> <li>Revisit trigonometry on the context of functions</li> <li>Spring block 2</li> <li>Revisit Pythagoras and trigonometry</li> <li>Spring block 4</li> <li>Higher tier content</li> <li>Revisit trigonometry when exploring trigonometric graphs and transformations of these</li> </ul>
try as a	KS3 National Curriculum			KS4 National Curriculum	
Geome Pythagora	<ul> <li>use Pythagoras' Theorem and trigonometric ratios in similar tria involving right-angled triangles</li> </ul>		angles to solve problems	In addition to consolidating subject content from key stag pupils should be taught to: • apply Pythagoras' Theorem and trigonometric ratios to angles and lengths in right-angled triangles {and, whe possible, general triangles} in two {and three} dimen- figures • know the exact values of sin $\theta$ , cos $\theta$ , tan $\theta$ for required • {know and apply the sine rule and cosine rule to find unknown lengths and angles} • {know and apply $A = \frac{1}{2}ab \sin C$ to calculate the area	



ALGEBRA NUMBER Measures PROBABILITY RATES of CHA
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	Summer block 2 Additional Higher content	Summer block 1			
ry ano measures: metric Proof	Simple angle proofs	<ul> <li>Find and prove simple geometric facts</li> </ul>	Autumn block 5 Explore congruency Spring block 4 • Revise and extend Y7/8 coverage • Developing chains of reasoning Additional Higher content • Develop more complex geometrical proofs Spring block 6 • Prove a triangle is/isn't right angled Additional Higher content • Explore proofs of Pythagoras' theorem	<ul> <li>Autumn block 1</li> <li>Revisit proof with angle rules</li> <li>Prove shapes are similar</li> <li>Congruent triangles</li> <li>Proving triangles are congruent</li> </ul> Spring block 2 Higher tier content <ul> <li>Prove and use the first four circle theorems</li> </ul> Spring block 3 <ul> <li>Understand and use vectors</li> <li>Higher tier content</li> <li>Geometric proof with vectors</li> </ul>	<ul> <li>Spring block 2</li> <li>Revisit KS3 and Y10 proof Higher tier content</li> <li>Prove and use the remaining circle theorems</li> <li>Spring block 6</li> <li>Using correct language in 'show that'/proof questions</li> <li>Higher tier content</li> <li>Revisit congruent triangle proofs</li> </ul>
Geor	KS3 National Curriculum			KS4 National Curriculum	
	<ul> <li>Apply angle facts, triangle congruence, similarity and properties of quadrilaterals to derive results about angles and sides, including Pythagoras' Theorem, and use known results to obtain simple proofs</li> <li>interpret mathematical relationships both algebraically and geometrically</li> </ul>			<ul> <li>In addition to consolidating subjupuls should be taught to:</li> <li>{apply and prove the standar angles, radii, tangents and constraints and constra</li></ul>	ect content from key stage 3, rd circle theorems concerning hords, and use them to prove uence and similarity, including ngths, <b>{areas and volumes}</b> in on of vectors, multiplication of rammatic and column use vectors to construct roofs <b>}</b>

NUMBER

Measures

PROBABILITY

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# **Progression of Big Ideas – Probability**

	Year 7	Year 8	Year 9	Year 10	Year 11
oility	<ul> <li>Summer block 4</li> <li>Use the language of probability</li> <li>Calculate simple probabilities</li> <li>Use the probability scale</li> <li>Sample spaces</li> <li>Understand and use set notation, including Venn diagrams</li> <li>Know the sum of probabilities is 1</li> <li>Additional Higher content</li> <li>Complement of a set</li> </ul>	<ul> <li>Autumn block 6</li> <li>Review and extend Y7 coverage</li> <li>Construct sample spaces for more than one event</li> <li>Use sample spaces to find probabilities</li> <li>Use tables and Venn diagrams to find probabilities</li> <li>Additional Higher content</li> <li>Use the product rule for finding total number of outcomes</li> </ul>	<ul> <li>Summer block 4</li> <li>Review and extend Y7/8 coverage</li> <li>Compare experimental and theoretical probability</li> <li>Use frequency trees to find probabilities</li> <li>Additional Higher content</li> <li>Simple tree diagrams</li> </ul>	<ul> <li>Spring block 6</li> <li>Review and extend KS3 coverage</li> <li>Effect of sample size on estimated probabilities</li> <li>Use tree diagrams</li> <li>Mutually exclusive and independent events</li> <li>Higher tier content</li> <li>Conditional probabilities</li> </ul>	<ul> <li>Spring block 5</li> <li>Review using sample spaces and probability rules</li> <li>Summer block 1</li> <li>Revision</li> </ul>
bal		KS3 National Curriculum		KS4 Nationa	l Curriculum
Pro	<ul> <li>record, describe and analyse involving randomness, fairne language and the 0-1 probabi understand that the probabil</li> <li>enumerate sets and unions/ diagrams</li> <li>generate theoretical sample mutually exclusive outcomes</li> </ul>	the frequency of outcomes of simess, equally and unequally likely ou pility scale ities of all possible outcomes sum intersections of sets systematically spaces for single and combined er s and use these to calculate theore	nple probability experiments tocomes, using appropriate to 1 y, using tables, grids and Venn vents with equally likely, etical probabilities	<ul> <li>In addition to consolidating subject content from key stage 3, pupils should be taught to:</li> <li>apply the property that the probabilities of an exhaustive set of mutually exclusive events sum to one</li> <li>use a probability model to predict the outcomes of future experiments; understand that empirical unbiased samples tend towards theoretical probability distributions, with increasing sample size</li> <li>calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underlying assumptions</li> <li>{calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables tree diagrams and Venn diagrams.</li> </ul>	



RATIO, PROPORTION, RATES of CHANGE

#### **Progression of Big Ideas – Statistics**

	Year 7	Year 8	Year 9	Year 10	Year 11	
tics: Interpret Data	<ul> <li>Spring block 1</li> <li>Solve problems with line charts and bar charts</li> <li>Summer block 1</li> <li>Construct and interpret pie charts</li> </ul>	<ul> <li>Autumn block 5</li> <li>Recognise different types of data</li> <li>Construct and interpret frequency tables, grouped and ungrouped, and two- way tables</li> <li>Summer block 4</li> <li>Revise and extend Y7 coverage</li> <li>Collecting data</li> <li>Multiple bar charts</li> <li>Line graphs</li> <li>Misleading graphs</li> </ul>	Summer block 4 • Revise Y7/8 coverage	<ul> <li>Summer block 1</li> <li>Revise and extend KS3 coverage</li> <li>Comparing distributions using diagrams</li> <li>Frequency polygons</li> <li>Time series</li> <li>Higher tier content</li> <li>Cumulative frequency diagrams</li> <li>Box plots</li> <li>Histograms</li> </ul>	<ul> <li>Spring block 5</li> <li>Revisit comparing distributions using diagrams</li> <li>Describing a population</li> </ul>	
atis nd I	KS3 National Curriculum			KS4 National Curriculum		
Sta Represent al	<ul> <li>describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving discrete, continuous and grouped data</li> <li>construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data</li> </ul>			<ul> <li>In addition to consolidating subject pupils should be taught to:</li> <li>infer properties of population sample, whilst knowing the liter interpret and construct table data</li> <li>{construct and interpret diaged ta and continuous data, i.e. unequal class intervals and and know their appropriate of interpret, analyse and comparison univariate empirical disgraphical representation invogrouped data, {including box</li> <li>apply statistics to describe a stati</li></ul>	ect content from key stage 3, ins or distributions from a imitations of sampling s and line graphs for time series grams for grouped discrete e. histograms with equal and cumulative frequency graphs, use} are the distributions of data sets tributions through appropriate olving discrete, continuous and cupolation	



ALGEBRA	NUMBER	Geometry and Measures	STATISTICS & PROBABILITY	RATIO, PROPORTION, RATES of CHANGE
		Weasures	FROBABILITT	NATES OF CHANGE

# **Progression of Big Ideas – Statistics**

	Year 7	Year 8	Year 9	Year 10	Year 11	
Statistics: tical Measures	<ul> <li>Autumn block 4</li> <li>Find the median and the range</li> <li>Spring block 2</li> <li>Find the mean</li> </ul>	<ul> <li>Summer block 5</li> <li>Revise and extend Y7 coverage</li> <li>Find the mode</li> <li>Identify outliers</li> <li>Compare distributions using statistical measures</li> <li>Additional Higher content</li> <li>Find the mean from a grouped or ungrouped frequency table</li> </ul>	Summer block 4 • Revise and extend Y7/8 coverage	<ul> <li>Summer block 1</li> <li>Revise and extend KS3 coverage</li> <li>Find the modal class</li> <li>Comparing distributions</li> <li>Higher tier content</li> <li>Finding the median and quartiles from cumulative frequency diagrams</li> </ul>	<ul> <li>Spring block 5</li> <li>Revisit comparing distributions using data</li> <li>Describing a population</li> </ul>	
atis		KS3 National Curriculum		KS4 National Curriculum		
Ste	<ul> <li>describe, interpret and comp appropriate graphical repres appropriate measures of cen consideration of outliers)</li> </ul>	pare observed distributions of a sin entation involving discrete, continu ntral tendency (mean, mode, media	<ul> <li>In addition to consolidating subject pupils should be taught to:</li> <li>interpret, analyse and comparison of the properties of</li></ul>	ect content from key stage 3, are the distributions of data sets riate measures of central lass) and spread <b>{including</b> range}		



# **Progression of Big Ideas – Statistics**

	Year 7	Year 8	Year 9	Year 10	Year 11		
cs: Data		<ul><li>Autumn block 5</li><li>Scatter graphs</li><li>Correlation</li><li>Lines of best fit</li></ul>	Summer block 2 <ul> <li>Revise Y8 coverage</li> </ul>	Summer block 1       Summer block 1         • Revise and extend KS3 coverage       • Revision         • Understand the risks of extrapolation       • Revision			
isti ite		KS3 National Curriculum	KS4 National Curriculum				
Statis Bivariate	<ul> <li>describe simple mathematic observational and experimer</li> </ul>	al relationships between two varia Ital contexts and illustrate using so	bles (bivariate data) in catter graphs	<ul> <li>In addition to consolidating subject content from key stage 3, pupils should be taught to:</li> <li>use and interpret scatter graphs of bivariate data; recognise correlation and know that it does not indicate causation; draw estimated lines of best fit; make predictions; interpolate and extrapolate apparent trends whilst knowing the dangers of so doing</li> </ul>			

NUMBER

**Geometry and** 

**Measures** 

**STATISTICS &** 

PROBABILITY

RATIO, PROPORTION,

**RATES of CHANGE** 



**ALGEBRA** 

Schemes of Learning



ALGEBRA

NUMBER

Geometry and Measures STATISTICS & PROBABILITY

RATIO, PROPORTION, RATES of CHANGE

# Year 7 – Scheme of Learning

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
		Α	lgebraic	: Thinkin	g			Place	Value a	nd Prop	ortion	
Autumn	Sequ	ences	Under and algel nota	stand use Equality and braic equivalence tion		Place value and ordering integers and decimals		Fraction, decimal and percentage equivalence				
Spring	Applications of Number						Directed Number			Fractional Thinking		
	Solving problems with addition with addition & subtraction & subtraction & subtraction & subtraction & and division				Fractions & percentages of amounts	Four operations with directed number		ns with Nber	Addition and subtraction of fractions		nd i of	
		L	ines an	d Angle	S			Rea	soning v	vith Nun	nber	
Summer	Constructing, measuring and using geometric notation				ometric g	Devel num ser	oping nber nse	Sets proba	and ability	Prii numbe pro	me ers and pof	



# Year 7 – Autumn 1 and 2 Scheme of Learning

	Autumn Half Term 1 – Algebraic Thinking							
Block 1 – Weeks 1 and 2	Block 2 – W	eeks 3 and 4	Block 3– Weeks 5 and 6					
<ul> <li>Exploring sequences</li> <li>Describe and continue sequences in diagram and number forms, both linear and non-linear</li> <li>Compare numerical and graphical forms</li> </ul>	<ul> <li>Understanding and using a</li> <li>Use single function machines with letters</li> <li>Use and interpret algebric Understand and use involutions</li> <li>Form and substitute interpret sequences.</li> <li>Represent functions grammatical sequences in the sequence sequence sequence sequences in the sequence sequence sequence sequence sequences.</li> </ul>	<b>lgebraic notation</b> hines and series of two numbers, bar models and raic notation erse operations o expressions, including to phically	<ul> <li>Equality and equivalence</li> <li>Understand equality</li> <li>Use fact families</li> <li>Form and solve one-step equations</li> <li>Understand equivalence of algebraic expressions</li> <li>Collect like terms</li> </ul>					
<ul> <li>Notes/Links/Interleaving</li> <li>Calculators should be used throughout this unit, build of calculators and informal estimation</li> <li>All material is this unit is revisited and extended in formal estimation</li> </ul>	ing in teaching efficient use thcoming units	This introductory unit is des documents will illustrate tas attainment including challe	Additional Higher Content signed to be accessed by all students – exemplification sks suitable for students of different levels of prior nge for higher attainers.					

Autumn Half Term 2 – P	lace Value and Proportion
Block 4 – Weeks 7 to 9	Block 5 – Weeks 10 to 12
<ul> <li>Place value and ordering</li> <li>Recognise and use integer place value up to one billion</li> <li>Recognise and use decimal place value to at least hundredths</li> <li>Work out intervals and use number lines</li> <li>Compare and order numbers</li> <li>Use ordered lists to find the range and the median of a set of numbers</li> <li>Round numbers to positive powers of ten</li> <li>Round numbers to one significant figure</li> </ul>	<ul> <li>Fraction, decimal and percentage equivalence</li> <li>Represent tenths and hundredths on diagrams and number lines</li> <li>Interchange between fractions, decimals and percentages for multiples of one tenths and one quarter</li> <li>Interpret pie charts</li> <li>Equivalent fractions</li> <li>Convert between other fractions, decimals and percentages</li> </ul>
<ul> <li>Notes/Links/Interleaving</li> <li>Solve equations with fractions, including fractional coefficients</li> <li>Consider sequences with fractions</li> </ul>	<ul> <li>Additional Higher Content</li> <li>Explore and use standard index form</li> <li>Explore fractions above one</li> <li>Convert multiples of one eighth to decimals and percentages</li> </ul>



STATISTICS & PROBABILITY



# Year 7 – Autumn Term Key Vocabulary

	BIG lea?	ALGEBRA	N	JMBER	Ge	eometry and Measures	STAT	STICS BABILIT	& 'Y	RATIO, P RATES	ROPORTIO	N,
	nat's the											
Coefficient	Index		Aver	age				Not ea	qual	Greate	r than L	ess than
Term	Like	Unlike	Medi	an	Mic	dle	Order	Comp	oare	Digit	E	qual
_			Lead	ing digit	Sig	nificant figure		Scientif	fic nota	ation Negative	9	
Is equal to			Rour	d	Ар	proximate		Power		Index	Standard	Form
Equality	Equation	Equals	Gra	ih /	Axis	Axes	S	cale	51	mpury	COllect	
Expression	Evaluate	Substitute	-				Cup		Si	molify	Collect	
Estimate	Operation	Inverse	Comr	nutative	Expr	ression	Gap		Spac	res	Approximate	
FUNCTION		Output	Variat	le	Coe	fficient	Equal div	vision	Inter	val	Scale	
Function	land	Ortent	Geo	metric		Fibonacci						
Rule	Term-to-ter	m	Sec	ond differe	ence	Ascending	Descen	ding		Placeholder	Integer	
Sequence	Term	Position	Line	ar	I	Non-linear	Differer	nce		Place value	Digit	Billion

# Year 7 – Spring 1 and 2 Scheme of Learning

	Spring Half Term 1 – Application of Number							
Block 1 – Weeks 1 and 2		Block 2 – Weeks 3 to 5	Block 3 – Week 6					
<ul> <li>Addition and Subtraction</li> <li>Use mental and formal written methods of addition with integers and decimals, including choosing the most appropriate method</li> <li>Solve problems in the context of perimeter, money and frequency trees and tables</li> <li>Solve problems in the context of bar charts and line charts</li> </ul>	<ul> <li>Multiplication and division</li> <li>Multiply by 10, 100 and</li> <li>Use mental and formal ways of the HCF and LCM of Evaluate areas of triangle</li> <li>Find the mean of a set of Find simple fractions an</li> <li>Begin to use the order of the order of the the the the the the the the the the</li></ul>	1000, 0.1 and 0.01, and convert metric units written methods of multiplication and division of small numbers es, rectangles and parallelograms f numbers d percentages of amounts f operations	<ul> <li>Fractions and percentages of amounts</li> <li>Work out simple fractions and percentages of amounts, with and without a calculator</li> </ul>					
Notes/Links/Interleaving <ul> <li>Perimeter problems to revisit equations and simplifyin</li> <li>Tables to include distance charts and simple timetable</li> <li>Revisit rounding</li> <li>Choosing when to use mental, written or calculator means</li> <li>Order of operations to be revisited with negative numbers</li> </ul>	ng les iethods ibers	Additional Higher Content <ul> <li>Explore addition of numbers given in standard form</li> <li>Evaluate the area of a trapezium</li> <li>Find the HCF and LCM of algebraic expressions</li> <li>Find areas involving algebraic expressions</li> <li>Use fractions greater than 1</li> </ul>						

Spring Half Term 2 – Directed	Number and Fractional Thinking
Block 4 – Weeks 7 to 9	Block 5 – Weeks 10 to 12
<ul> <li>Directed Number</li> <li>Order directed numbers, both in contextualised and abstract situations</li> <li>Revisit four operations to include directed number</li> <li>Use a calculator with directed number</li> <li>Solve two-step equations (with and without a calculator)</li> <li>Use the order of operations</li> </ul>	<ul> <li>Adding and subtracting fractions</li> <li>Represent tenths and hundredths on diagrams and number lines</li> <li>Convert mixed numbers and improper fractions</li> <li>Add and subtracting fractions with <ul> <li>the same denominator</li> <li>one denominator a multiple of the other</li> <li>different denominators</li> </ul> </li> <li>Add and subtract fractions and decimals e.g. <sup>3</sup>/<sub>4</sub> + 0.2</li> </ul>
<ul> <li>Notes/Links/Interleaving</li> <li>Include inequality number lines</li> <li>Revisit sequences, substitution and equations</li> </ul>	Additional Higher Content <ul> <li>Negative square roots</li> <li>Higher powers</li> </ul>



NUMBER

STATISTICS & PROBABILITY

RATIO, PROPORTION, RATES of CHANGE

### Year 7 – Spring Term Key Vocabulary

Positive

**STATISTICS &** 

PROBABILITY

**ALGEBRA** 

Iotal	otal Sum		ifference	Number L			e
Commutativ	ve	Asso	ciative	Inv	/erse		
Bridging	Corr	npens	ation	Partitio	n		
Difference	Сои	nt On		Numbe	er bond	ls	
Place value		Deci	mal point	Ec	quivale	nce	9
Place holde	er	Estir	mating	Pa	artition		
Formal met	hod	Estin	nate	Me	ental		
Written		Jottir	ngs	Ca	lculato	or	
Length		Path		Distan	се		
Units		Edge	S	Polygo	n		
Profit	Loss		Balance	Cre	edit	F	ra
Debit	Staten	nent	Change	Bill		D	)e
	wh	at's	the				

ine		Factor	Array	Venn diagram			
		Odd	Even		Integer		
		Multiple	Common	Low	est Common	Multip	
5		Metric	Milli-	Centi-	Kilo-		
ce		Convert	Litre	Gram	Metre		
		Divisor	Div	idend	Quotient		
		Base		Perpen			
		Parallelogra	am	Parallel	L		
	1	Mean	Average	Median	Range	A	
Fr	Fraction		Equivaler	nt	Numerator	Po	
Denominator		ominator	Whole		Original		

NUMBER

**Geometry and** 

**Measures** 

					0				
	Sy	mr	netric	Se	a leve	l			
ti	ole				<b>N A 1 1</b>		0		
Produc		t	Multi	ply	Commu	tative	Ģ		
			Inverse	;					
		P	ower		Indic	<b>e</b> s			
		Root			more	00			
					Ехро	nent			
	6						an fan al'na		
	C	on	nmon de	enominat	or I	mprop	er fraction		
Ascending D		Descen	ding	Sma	Smaller/bigger than				
F	Positive		Negative		Greater/less than		n		

RATIO, PROPORTION,

**RATES of CHANGE** 

Negative

Reflection

# Year 7 – Summer 1 and 2 Scheme of Learning

Summer Half Term 1 – Lines and angles								
Block 1 – Weeks 1 to 3	Block 2 – Weeks 4 to 6							
<ul> <li>Construction and measuring</li> <li>Understand and use letting and labelling notation for lines and angles</li> <li>Draw and measure lines and angles accurately</li> <li>Classify angles</li> <li>Identify and draw parallel and perpendicular lines</li> <li>Recognise types of triangle, quadrilateral and other polygons</li> <li>Construct triangles given SSS, SAS, ASA</li> <li>Draw and interpret pie charts</li> </ul>	<ul> <li>Geometric Reasoning</li> <li>Calculate and use angles at a point, angles on a straight line and vertically opposite angles</li> <li>Calculate missing angles in triangles and quadrilaterals</li> </ul>							
<ul> <li>Notes/Links/Interleaving</li> <li>Revisit simplifying and perimeter in e.g. polygons</li> <li>Form and solve equations in geometric settings</li> <li>Revisit mental and formal methods of addition and subtraction, including with decimals</li> </ul>	<ul> <li>Additional Higher Content</li> <li>Understand and use parallel lines rules</li> <li>Understand and use the sum of angles in any polygon</li> <li>Derive simple proofs using angles rules</li> </ul>							

Summer Half Term 2 – Reasoning with number								
Block 3 – Weeks 7 and 8	Block 4 – W	eeks 9 and 10	Block 5 –	Weeks 11 and 12				
<ul> <li>Developing Number Sense</li> <li>Mental arithmetic strategies</li> <li>Use known facts to derive other facts,</li> <li>Evaluate an algebraic expression given a related fact</li> <li>Use estimation</li> </ul>	Sets and Probability <ul> <li>Understand and use se</li> <li>Draw and interpret Ven</li> <li>Understand and use the</li> <li>Calculate the probabilit</li> <li>Use the sum of probability</li> </ul>	Prime numbers and proofnotationRecognise prime, square and triangle numbersdiagramsExpress a number as a product of prime factorslanguage of probabilityPowers and rootsof a single eventMake and test conjecturesities of an event is 1Understand and use counterexamples						
Notes/Links/Interleaving <ul> <li>Revisit FDP equivalence, and simple FDP addition a</li> <li>Revisit factors and multiples, both numerically and a</li> </ul>	nd subtraction algebraically	<ul><li>Understand and use</li><li>Use prime factors to</li></ul>	Additional Higher Conte the complement of a set o find HCFs and LCMs	ent				
What's the								
ALGEBRA	NUMBER	Geometry and	STATISTICS &	RATIO, PROPOR				

Measures

PROBABILITY

N.

**RATES of CHANGE** 

### Year 7 – Summer Term Key Vocabulary

Line	Seg	ment	Length	Line Segmer	nt Notation	Adjacent	Venn Diagram	Intersection	Element	Both
Height	Wid	th	Figure	Parallel	Intersect	Transversal	Intersect	Complement	And	Not
Quarter/Hal	lf/Three Qua	arter/Full Turn		Co-interior	Corresponding	Alternate	Impossible L	ikely Even	u Unlikely	
Degrees	Angl	es	Rotation	Partition	Multiply	Divide	Certain F	Random Bias	Event	
Angle	Acute	Obtuse	Right-angl	e Commut	ative Associativ	ve Factors	Sample Space	Possibilities	Convex	Concave
Reflex	Interior	Exterior		Equivalen	t Addend	Compensate	Outcomes	Element		
Equilateral	lsoso	celes	Scalene	Product	Quotient		Triangular Nu	umber Relation	nship Investig	gate
Square	Rectang	gle Kite	Rhombus	Estimate	e Mental	Calculate	or Square Num	ber Express	sion	
Parallelogra	am Trapeziu	um Parallel	Perpendicu	lar Formal	Efficient	Interpret				
Polygon	Edges	Vertices		Factor	Common Facto	or Factorising	Conjecture	Always Syst	ematic Never	
Proportion	Freq	uency	Fraction	Factoris	e Highest Comm	ion Factor	Sometimes	Assumption Cou	nterexample	
Total	Com	nparison	Sector	Universal Se	et Inclusive	Element	Common Mu	ltiple	Product	
11/	1			Member	Set		Lowest Com	mon Multiple	Multiple	
			ALGE	BRA	NUMBER	Geometry and Measures	STATISTICS PROBABILIT	& RATIO, Y RATE	PROPORTIO	N,

# Year 8 – Scheme of Learning

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
	Proportional Reasoning								Represe	ntations		
Autumn	Ratio and scale		Multiplicative change fractions Working in the Cartesian plane		Multiplicative change		1ultiplicative change fractions Multiplying Working in the Cartesian plane		Repres da	enting ta	Tables & Probability	
		Alı	gebraic t	techniqu	ies			De	evelopin	g Numb	er	
Spring	Brad	Brackets, equations and inequalities		Indices	Fractions and Standard percentages index form			dard form	Num ser	nber 1se		
		Dev	veloping	Geome	try			Re	easoning	with Da	ita	
Summer	Angl paralle and po	es in el lines olygons	Are trapez circ	a of ia and :les	Lir symr and ref	ne netry lection	The data handling cycle loca			Measu loca	ires of tion	





# Year 8 – Autumn 1 and 2 Scheme of Learning

Autumn Half Term 1 – Proportional Reasoning							
Block 1 – Weeks 1 and 2	Block 2 – W	eeks 3 and 4	Block 3– Weeks 5 and 6				
<ul> <li>Ratio and Scale</li> <li>Understand ratio and its link to multiplication</li> <li>Use ratio notation</li> <li>Reduce ratios to simplest form</li> <li>Solve ratio problems</li> <li>Calculate the circumference of a circle</li> </ul>	<ul> <li>Multiplicative Change</li> <li>Use scale factors, linking direct proportion proble</li> <li>Convert between currer</li> <li>Draw and interpret scale</li> </ul>	g to ratio, to solve simple ms icies, including using graphs e diagrams and maps	<ul> <li>Multiplying and dividing fractions</li> <li>Multiply and divide a fraction by an integer</li> <li>Multiply and divide a fraction by a fraction</li> <li>Understand and use the reciprocal</li> </ul>				
Notes/Links/Interleaving			Additional Higher Content				
<ul> <li>Revisit area</li> <li>Revisit equations</li> <li>Revisit converting improper fractions and mixed num</li> <li>Link to fractions of an amount</li> </ul>	bers	<ul> <li>Express any ratio in the</li> <li>Explore direct proportion</li> <li>Multiply and divide mixe</li> <li>Multiply and divide simple</li> </ul>	form 1: <i>n</i> n graphs ed numbers ble algebraic fractions				

Autumn Half Term 2 – Representation							
Block 4 – Weeks 7 to 9	Block 5 – Weeks 10 and 11	Block 6- Week 12					
<ul> <li>Woking in the Cartesian plane</li> <li>Plot and interpret straight line graphs</li> <li>Understand ad use the equations of a straight line, including lines parallel to the axes</li> <li>Make links between direct proportion and straight lines of the form y = kx</li> <li>Model situations by translating them into expressions, formulae and graphs</li> </ul>	<ul> <li>Representing data</li> <li>Draw and interpret scatter graphs</li> <li>Understand correlation</li> <li>Draw and use lines of best fit</li> <li>Understand grouped and ungrouped ,discrete and continuous data</li> <li>Design and use one and two-way tables</li> </ul>	<ul> <li>Probability</li> <li>List outcomes using sample space diagrams for one and two events</li> <li>Find probabilities using tables and Venn diagrams</li> </ul>					
Notes/Links/Interleaving• Revisit calculation with directed number• Link to solving one and two-step linear equations• Revisiting Venn diagrams and set notation• Links to representing data and using graphs in other areas of the curriculum	Additional Higher Content <ul> <li>Find the mid-point of a line segment</li> <li>Explore gradient</li> <li>Explore non-linear graphs</li> <li>Use the product rule for counting</li> </ul>						



ALGEBRA

NUMBER

Geometry and S Measures P

STATISTICS & PROBABILITY RATIO, PROPORTION, RATES of CHANGE

#### Year 8 – Autumn Term Key Vocabulary

	idea?									
	BIG	ALC	GEBRA	NUMBER	Geometr Measu	y and ires	STATISTICS PROBABILIT	& RAT	IO, PROPO	ORTION HANGE
	eciprocal	Convert	Vertical	Axis	Ori	gin	Counted	Qualitative	Qua	ntitative
		0	Quadrant	Coordina	tes Hor	izontal	Discrete	Continuous	Mea	sured
Units	Conversion	Approximation	Expression	Simplest F	Form		<u> </u>			
Linear	Axes	Labelling	Generalise	Cancel	Tern	۲	Straight	Extrapolate	e Out	tlier
Slope	Steep	,	Equally like	ly Unbiase	ed P(e	event)	Line of best fit	Origin	Est	imate
Right-angled t	riangle Gradi	ent	Sample spa	ace Probab	ility Eve	nt	Negative	Strong	We	eak
Pi (π)	Regular	Diamete	er Image	Length			Relationship	Correlation	n Po	sitive
Perimeter	Circumferer	nce Constar	nt Scale facto	or Enlarger	ment Ob	oject	Difference	Mean		
Simplify	Common fa	actors	Proportion					Equivisiant	OCE	nent
Factors	Equivalent	Divide	Orientation	Similar	Correspond	ding	Midpoint	Fouidistant	Sea	ment
Placeholder	Units		Constant	Relationship	Li	near	Intercept	Linear	Straigh	it line
Proportional	Equal Parts	Multiplie	er Rate	Directly propo	rtional O	rigin	Equation	Input	Output	
Ratio	Colon	ł	Estimate	Sterling		Table	Slope	Scale	Axes	
Equal parts	Order	Proportion I	Exchange rate	Currency	Conversion	Multipl	le Steep	Linear	Substitute	

# Year 8 – Spring 1 and 2 Scheme of Learning

Spring Half Term 1 – Algebraic Techniques								
Block 1 – Weeks 1 to 4		Block 2 – Week 5	Block 3 – Week 6					
<ul> <li>Brackets, equations and inequalities</li> <li>Expand, and factorise into, single brackets</li> <li>Form and use expressions, formulae and identities</li> <li>Form and solve equations and inequalities with and without brackets</li> <li>Distinguish between equations, expressions, formulae and identities</li> </ul>		<ul> <li>Sequences</li> <li>Generate sequences using more complex rules, e.g. with brackets and squared terms, both in words and algebraically</li> </ul>	<ul> <li>Indices</li> <li>Form expressions using indices</li> <li>Understand and use the addition and subtraction rules</li> </ul>					
<ul> <li>Notes/Links/Interleaving</li> <li>Revisit the use of directed number</li> <li>Solve equations set in the context of earlier contexts – shapes, angles, probability, ratio etc.</li> </ul>	<ul> <li>Expand a pair of binomia</li> <li>Solve equations and inee</li> <li>Find the rule for the n<sup>th</sup></li> <li>Explore powers of power</li> </ul>	Additional Higher Content als qualities with unknowns on bo term of a linear sequence rs	oth sides					

Spring Half Term 2 – Developing number							
Block 4 – Weeks 7 and 8	eeks 9 and 10	Block 6 – Weeks 11 and 12					
<ul> <li>Fractions and percentages</li> <li>Develop understanding of fractions, decimals and percentages</li> <li>Evaluate percentage increases and decreases</li> <li>Use multipliers to solve percentage problems</li> <li>Express one number as a percentage of another</li> </ul>	<ul> <li>Standard index form</li> <li>Convert between numb standard form</li> <li>Compare numbers give</li> <li>Calculate with numbers with and without a calculate</li> </ul>	ers in ordinary and n in standard form given in standard form, Jlator	<ul> <li>Number sense</li> <li>Develop mental strategies</li> <li>Convert between metric measures and units</li> <li>Estimation, including rounding to a given number of decimal places</li> <li>Use the order of operations</li> </ul>				
<ul> <li>Notes/Links/Interleaving</li> <li>Revisit fraction, decimal and percentage equivalence</li> <li>Revisit formal methods for calculation, for integers an</li> <li>Compare and use ratios in the context of FDP</li> </ul>	nd fractions	<ul> <li>Finding the original given</li> <li>Understand and use sure</li> <li>Understand and use neg</li> <li>Convert between units of</li> <li>Use error interval notation</li> </ul>	Additional Higher Content In any percentage d notation gative and simple fractional indices of area and volume				



ALGEBRA	NUMBER	Geometry and Measures	STATISTICS & PROBABILITY	RATIO, PROPORTION, RATES of CHANGE
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# Year 8 – Spring Term Key Vocabulary

Expression	Simplify	Term	Base		Index/I	ndices		Metr	ric	Metre	Prefix
Substitute	Coefficient	Equivalent	Power		Expone	ent		Kilo		Milli	Centi
Expand	Multiply out	Coefficient	Fraction k	еу	Decima	al	Percentage	Area	1	Perpendicular	Units
Bracket	Identity	Product	Estimate		Roundi	ng	Conversion	Squa	are units	Dimensions	
Factor	Factorise	Factorise fully	Profit	Loss	Int	terest	Change		12-hour clock	24-hour clock	Week
Common	Common factor	HCF	Original	Invest	Nu	umerator	Denominato	r	Month	Year	Leap year
Inequality	Satisfy	Solution set	Round	Signi	ficant						
Solve	Greater/less t	han (or equal)	Nearest	Integ	er		Continuou	JS	Bound		
Sequence	Position	Term									
Linear	Non-linear	Fibonacci	Operat	tion	Ord	ler	Priority		Coefficient	Index/Indices	Power(s)
Difference	Constant	Term-to-term		Chang	je	Dep	osit	Interes	t		
\1/				Debit		Crea	dit	Balanc	e		
	What's the BIG	ALGEB	RA	NUM	BER	Geor Me	netry and asures	STAT PROE	ISTICS & BABILITY	RATIO, PROF RATES of C	PORTION, CHANGE

# Year 8 – Summer 1 and 2 Scheme of Learning

Summer Half Term 1 – Developing geometry							
Block 1 – Weeks 1 and 2	Block 2 – We	eeks 3 and 4	Block 3– Weeks 5 and 6				
<ul> <li>Angles in parallel lines and polygons</li> <li>Review Y7 angles rules</li> <li>Understand and use parallel lines and angles</li> <li>Revisit geometric notation</li> <li>Work out angles in special quadrilaterals</li> <li>Find and use the sum of interior and exterior angles of a polygon</li> <li>Prove simple geometric facts</li> </ul>	<ul> <li>Area of a trapezia and circl</li> <li>Review area of shapes of</li> <li>Calculate the area of a transmission</li> <li>Calculate the area of a construction of a circle</li> <li>Use significant figures</li> <li>Calculate the area of construction</li> </ul>	<b>es</b> overed in year 7 rapezium ircle, and the area of parts mpound shapes	<ul> <li>Line symmetry and reflection</li> <li>Recognise line symmetry in polygons and other shapes</li> <li>Reflect shapes in horizontal, vertical and diagonal lines</li> </ul>				
Notes/Links/Interleaving <ul> <li>Revisit forming and solving equations</li> <li>Revisit properties of shapes</li> <li>Revisit equations of straight lines</li> </ul>		<ul><li>Perform standard const</li><li>Understand and use the</li></ul>	Additional Higher Content ructions including perpendiculars properties of diagonals of quadrilaterals				

Summer Half Term 2 – Reasoning with data											
Block 4 – Weeks 7 to 10 Block 5 – Weeks 11 and 12											
<ul> <li>The data handling cycle</li> <li>Understand and use primary and secondary sources of data</li> <li>Collect data, including using questionnaires</li> <li>Interpret and construct statistical diagrams, including multiple bar charts</li> <li>Construct and interpret pie charts</li> <li>Compare distributions using charts</li> <li>Identify misleading graphs</li> </ul>		<ul> <li>Measures of location and dispersion</li> <li>Revisit the median and mean, including finding the total given the mean</li> <li>Find the mean of grouped data</li> <li>Work out the mode and modal class</li> <li>Choose the appropriate average</li> <li>Comparing distributions using measures</li> </ul>									
<ul> <li>Notes/Links/Interleaving</li> <li>Revisit finding the range</li> <li>Use algebraic substitution to form lists for averages and the range</li> <li>Links to data collection and representation in other areas of the curriculum</li> </ul>	<ul> <li>Find unknown data value</li> <li>Explore histograms for u</li> <li>Find the median from a</li> </ul>	Additional Higher Content es given the mean or changes in the mean inequal groups table of values									



#### Year 8 – Summer Term Key Vocabulary

Adjacent	Angles at a point	Angles at a point Vertically Opposite		Bisect Bisector		Bisector		Acute		Pictogram	Bar chart	Line chart
Straight	Acute/Obtuse/Ref	eflex/Right angle		Obtuse	Obtuse Reflex			Compasses Tally		Tally	Frequency	
Angle	Parallel Transversal Compo		ound Components		mponent shap	pes	Pie chart		Frac	tion		
Line	Supplementary	Points	Estin	nate	Infinity	Ra	adius	Full turn		Pro	portion	
Alternate	Correspond	ing		Defle	- -	ing oursester		`*		Grouped data	Frequency dia	gram
Isosceles	Equilateral	Scalen	е	Obio	ect L		y C	ongruent	zontal	Discrete	Continuous	Intervals
Right-angled Rhombus Parallelogram							v	Entical/Holi	zontat	Range	Spread	
Exterior	Interior Regu	lar Polygor	n	Primary/secondary data			Enqu	iry	Consistent	Average	e	
Sum	Total Penta	agon/Hexagon	etc.				Dosign	Jie	Scale	Broken axis	Mislead	
Demonstra	tion Justify	Proof		Multiple	e choice	Response	e hox	Biased		Difference	Proportion	
				Tiottipt		Response	, oon	Diddeo		Outlier	Median	Range
Mean												
	BIG	ALG	EBRA		NUM	BER G	eome Meas	try and sures	STA PRO	TISTICS & BABILITY	RATIO, PROPOR	ORTION, IANGE

# Year 9 – Scheme of Learning

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12			
		Rea	soning v	vith Alge	ebra	C	onstruct	ing in 2	and 3 Di	imensio	ns				
Autumn	Straight line graphs equations			Tes <sup>:</sup> conjec	ting ctures	Three	e dimens shapes	sional	Constructions and Congruency						
		Rea	soning v	vith Nun	nber		Reasoning with Geometry								
Spring	Num	Numbers Using Ma percentages r			Math: moi	s and ney	Dedu	oction	Rotatio trans	on and lation	Pytha Theo	goras' prem			
		Reaso	oning wi	th Propo	ortion				Represe	ntations					
Summer	Enlarg and sir	ement nilarity	Solv propor	ing ratio tion pro	and blems	Rates	Solvi	ng probl	lems usi alge	ng grapł ebra	ns, tables	and			

RATIO, PROPORTION,

**RATES of CHANGE** 



# Year 9 – Autumn 1 and 2 Scheme of Learning

Autumn Half Term 1 – Reasoning with Algebra											
Block 1 – Weeks 1 and 2	Block 2 – Weeks 3 and 4	Block 3– Weeks 5 and 6									
<ul> <li>Straight line graphs</li> <li>Interpret straight line graphs</li> <li>Find and use the equation of a straight line</li> <li>Reduce equations to the form y = mx + c</li> <li>Compare to linear sequences and fining the rule for the n<sup>th</sup> term</li> </ul>	<ul> <li>Forming and solving equations and inequalities</li> <li>Revisit and extend to equations and inequal with unknowns on both side using all previor contexts: angles, probability, area etc.</li> <li>Change the subject of a formula</li> </ul>	<ul> <li>Testing conjectures</li> <li>Test conjectures in a wide range of context e.g.</li> <li>Sums and products of odd and even numbers</li> <li>Is a given number in a sequence?</li> <li>Is this shape?</li> <li>Are these lines parallel?</li> <li>What would happen if?</li> </ul>									
Notes/Links/Interleaving <ul> <li>Link equations of graphs to solving equations</li> <li>Revisit key topics through equations</li> <li>Review use of brackets</li> <li>Review geometric properties and rules</li> </ul>	<ul> <li>Solve a pair of sir</li> <li>Change the subjet</li> <li>Explore the gradie</li> </ul>	Additional Higher Content nultaneous equations using graphical methods ct of a complex formula ents of perpendicular lines									

Autumn Half Term 2 – Constructing in 2 and 3 Dimensions										
Block 4 – Weeks 7 to 9 Block 5 – Weeks 10 to 12										
<ul> <li>Three dimensional shapes</li> <li>Understand the language of faces, edges and vertices</li> <li>Know the names of common prisms and non-prisms</li> <li>Identify 2-D shapes within 3-D shapes</li> <li>Work out the volume and surface area of cuboids and cylinders</li> <li>Work out the volume of any prism</li> <li>Work out missing lengths given area and/or volume</li> </ul>	<ul> <li>Constructions and congruency</li> <li>Construct 3-D shapes from nets, and construct the net of a given 3-D shape</li> <li>Construct and use scale drawings</li> <li>Construct perpendiculars and bisectors</li> <li>Understand congruency</li> <li>Exploring congruency via construction</li> </ul>									
Notes/Links/Interleaving <ul> <li>Revisit estimation</li> <li>Revisit rounding to nearest integer, decimal places, significant figures</li> <li>Revisit unit conversions, including area and volume units</li> </ul>	Additional Higher Content <ul> <li>Explore volume of cones, spheres and complex shapes</li> <li>Work out he surface area of any prism</li> <li>Explore the locus of a path</li> </ul>									



# Year 9 – Autumn Term Key Vocabulary

Linear	Equat	tion	Graph	Conject	ture	True/Fal	lse	Verify		Circu	Imferenc	e	Area	π	
Straight line	Table	of values	Function	Counte	rexample	Demons	strate	Prove		Curv	ed surfac	ce area	Cylind	er	
Gradient	<i>y</i> -int	tercept	Interpret	Expand		Factorise	9	Binomi	al	Cut	e	Cuboid	Heigh	it	
Curve	Asymptote			Term		Expressi	on	Quadra	atic	Wid	th	Length	Comr	nutative	
Parallel	Perpendicul	lar Gra	adient	Din	nensions	Cub	e/Cuboid	Су	linder		Pyramic	ł	Cone	Vertex	(
Product	Reciprocal	Ne	gative reciprocal	Co	ne S	Sphere	Pyramid	Te	trahedro	n	Sphere		Base	Perpe	ndicular heigh
Equation	Inequa	lity	Substitute	Face	Edge	Ve	ertex	F	Prism		Locus	s P	Path	Equidistan	t
Solve	Unknov	wn	Check	Polygor	n Prism	n Cr	ross-section	n ç	Surface	Area	Cons	truction l	ines	Point	
Make the su	bject of	Inve	erse operation	Net	Din	nensions	Area	•	Perpend	icular		Bisec	tor	Arc	
Factor	Multiple	Prime	Common	Plan		Front/Si	ide Elevatio	n	Face	Cor	ngruent	ld	lentical		
Odd	Even	Express		Perspe	ctive	Isometri	ic		Solid	Inva	ariant	R	eflection		
	what Bl ide	a?	ALGEBF	RA	NUM	BER	Geome Meas	try an ures	d ST PF	ATIS ROB/		R	RATIO, PI RATES	ROPORTION OF CHANC	ON, E

# Year 9 – Spring 1 and 2 Scheme of Learning

Spring Half Term 1 – Reasoning with number											
Block 1 – Weeks 1 and 2	Block 2 – We	eeks 3 and 4	Block 3– Weeks 5 and 6								
<ul> <li>Numbers</li> <li>Revisit types of number – extend to include rational and real numbers</li> <li>Revisit fraction arithmetic</li> <li>Extend knowledge of HCF and LCM</li> <li>Revisit standard form</li> </ul>	Using percentages • Revisit percentage increa • Use percentages over 10 • Find percentage change • Use multipliers in a varie • Solve "reverse percentage	ase and decrease )0% s ety of contexts ge" problems	<ul> <li>Mathematics and money</li> <li>Explore financial mathematics including: <ul> <li>Bills and bank statements</li> <li>Interest</li> <li>Unit pricing (best buys)</li> </ul> </li> </ul>								
Notes/Links/Interleaving <ul> <li>Add and subtract fractions (lowest common denomin</li> <li>Working out fractions of amounts</li> <li>FDP equivalence</li> <li>Ratio</li> </ul>	ator)	Work with repeated percenter	Additional Higher Content entage change								

Spring Half Term 2 – Reasoning with geometry													
Block 4 – Weeks 7 and 8	Block 5 – W	/eeks 9 and 10	Blo	ck 6– Weeks 11 and 12									
<ul> <li>Deduction</li> <li>Revisit angles rules, including within special quadrilaterals</li> <li>Find angles using algebraic methods</li> <li>Use chains of reasoning to evaluate angles</li> </ul>	<ul> <li>Rotation and translation</li> <li>Identify the order of roshape</li> <li>Find the result of rotati</li> <li>Translate points and slip</li> <li>Understand variance a of transformations</li> </ul>	<ul> <li>Pythagoras' theorem</li> <li>Identify the hypotenuse of a right-angled tria</li> <li>Determine whether a triangle is right-angled</li> <li>Calculate missing sides in right-angled triang</li> <li>Calculate missing sides in right-angled triang</li> </ul>											
Notes/Links/Interleaving <ul> <li>Revisit fractions and directed number in the context of</li> <li>Compare and contrast rotational symmetry with line</li> <li>Identify 2-D and 3-D shapes</li> <li>Link constructions and geometric reasoning</li> </ul>	of rotation symmetry	Additional Higher Content <ul> <li>Develop more complex geometrical proofs</li> <li>Find the result of a series of transformations</li> <li>Explore proofs of Pythagoras' theorem</li> <li>Use Pythagoras' theorem in 3-D shapes</li> </ul>											
ALGEBRA	NUMBER	Geometry and Measures	STATISTICS & PROBABILITY	RATIO, PROPORTION, RATES of CHANGE									

1

# Year 9 – Spring Term Key Vocabulary

Integer	Re	al		Ration	al	Pro	Profit Lo		DSS	Curren	ency		Convert	Value	Cost	Pro	portion
Irrational	Ro	ot				Ori	Original		Change Exchange		nge			Unit	Unitary		
Square root	oot Cube root Surd			Deprec	ciate Power		er/Index/Exponent			Angles at a point		Alternate	Correspon	ding			
Integer	D	ecimal		Rema	ainder	Total		Debi	it	Cre	Credit		llel	Co-interior	Isosceles		
Adjust	С	ompens	ate	Opera	ation	Balan	се	Expe	ense	Bill			Interior	Exterior	Regular	Equ	ation
Factor	Multiple	Cor	mmon Fa	ictor/M	Nultiple	Com	npound	Inte	erest	М	ultipli	er	Polygon	Sum	Total		
Prime	HCF/LC	LCM Product of primes			Principal Rat		te	Pe	er ann	num	Conjecture	Prov	re Just	tify			
Operation	F	raction		Nume	erator	Тах	ſ	Data	Value	Addad			Example	Cou	nterexample		
Denominator	м	ixed nun	nber	Impro	per		r		value	AUUEU	Par	rallelog	gram Rho	ombus	Kite		
	-				10	VAT	(	Original			Dia	agonal	Bis	ect	Regular		
Standard forr	n Po	ower	Index		Income	9	Sala	ary	W	age	Det	ation	Direction	Inverient	Clealauise		
Exponent	М	illion	Billion		Annual	l	Exe	mption	O	vertime	Rota	ation	Direction	Invariant	Clockwise		
	What'	s the									Obj	ect	Image	Centre	Anti-clock	wise	
	BI	G		ALG	EBRA		NUM	BER	Geom Mea	netry and asures	d S	STAT PROB	STICS & ABILITY	RATIO, RATE	PROPOR S of CHAI	TION, NGE	,
	TOLE																

# Year 9 – Summer 1 and 2 Scheme of Learning

Summer Half Term 1 – Reasoning with proportion											
Block 1 – Weeks 1 and 2 Block 2 – Weeks 3 and 4 Block 3 – Weeks 5 and 6											
<ul> <li>Enlargement and similarity</li> <li>Enlarge shapes by a positive scale factor, including from a given point</li> <li>Calculate the lengths of missing sides in similar shapes</li> </ul>	<ul> <li>Solving ratio and proportion</li> <li>Direct proportion problem</li> <li>Conversion graphs</li> <li>Solve ratio problems give</li> <li>Simple inverse proportion</li> <li>Unit pricing problems (4)</li> </ul>	n problems ms and graphs en the whole or a part on pest buys')	<ul> <li>Rates</li> <li>Work with speed, distance, time</li> <li>Solve problems involving density</li> <li>Work with compound units</li> </ul>								
<ul> <li>Notes/Links/Interleaving</li> <li>Links to ratio notation</li> <li>Revisit circumference</li> <li>Revisit y = mx</li> <li>Revisit unit pricing</li> </ul>		<ul> <li>Enlarge shapes by a neg</li> <li>Similar triangles - explo</li> <li>Inverse proportion graph</li> <li>Converting compound r</li> </ul>	Additional Higher Content gative scale factor pring ratios in right-angled triangles ns neasures								

Summer Half Term 2 – Representations											
Block 4 – Weeks 1 and 2	Block 5 – Weeks 3	Block 6– Weeks 4 to 6									
<ul> <li>Probability</li> <li>Relative frequency</li> <li>Expected number of outcomes</li> <li>Independent events</li> </ul>	<ul> <li>Algebraic representation</li> <li>Drawing and reading from quadratics</li> <li>Interpreting other graphs e.g. reciprocal, piece-wise</li> <li>Representing inequalities</li> </ul>	<ul> <li>Revision</li> <li>Teachers to chose topics bases on assessment throughout the Key Stage</li> </ul>									
Notes/Links/Interleaving <ul> <li>Revisit frequency trees, tables and Venn diagrams</li> <li>Inequalities</li> </ul>		Additional Higher Content <ul> <li>Tree diagrams</li> <li>Graphical solution of simultaneous equations</li> </ul>									
What's the											



#### Year 9 – Summer Term Key Vocabulary

Similar	Ratio	Enlargemen	t	Equation		action	Divide	е	Event	Outcom	ne E	Equally likely
Scale factor	Correspond	ling Object/Imag	(e	Equivale	nt Eo	qual parts			Probability	Biased/	unbiased f	air
Object	Distance	Position	Spee	ed D	Distance	Time		Exper	iment O	)utcome	Biased	/unbiased
Orientation	Centre		Per	F	lours	Minutes		Trial	F	requency	Relativ	e Frequency
Opposite	Adjacent	Hypotenuse	, C	Convert	Rounding	Imperial		Metric		Unite	cost	
Linear	Non-linear	Gradient	Д	Accuracy	Average	Replacement	ŀ	At least one		Direc	t proportion	
Inverse	Variables	Constant		Density	Mass	Volume	Per		Venn diagra	am I	Intersection	Union
Non-linear	Proportiona	al Relationship		Units	Substitu	ute Rearrange			Sample Sp	ace	Two-way tab	le
Divide	Share	Equal parts		Con	stant rate	Straight line	(	Curve				
Equivalent	Factor	More than/less tha	n	Flov	v rate	Prism	١	Volume				
	What's the	•										
	BIG	ALGEB	RA	N	UMBER	Geometry Measure	and es	STATIS PROBA	TICS & BILITY	RATIO RAT	O, PROPO TES of CH	RTION, ANGE

# Year 10 – Scheme of Learning

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12				
	Similarity							Developing Algebra								
Autumn	Congruence, similarity and Trigonometry enlargement					Representing solutions of equations and inequalities					ous S					
	Geometry							Proportions and Proportional Change								
Spring	Angl bear	les & rings	Workir circ	ng with cles	Vec	tors	Ratio fract	os & ions	Percer and In	ntages iterest	Proba	ability				
	Delving into data								Using r	number						
Summer	Collecting, representing and interpreting data							Non- Types of calculator number and methods sequences				s and ots				





# Year 10 – Autumn 1 and 2 Scheme of Learning

Autumn Half Term 1 – Similarity											
Block 1 – Weeks 1 to 3	Block 2 – Weeks 4 to 6										
<ul> <li>Congruence, similarity and enlargement.</li> <li>Understand the difference between congruence and similarity</li> <li>Enlarge a shape about a given point; understand and use similarity</li> <li>Find missing sides in similar shapes including pairs of similar triangles</li> <li>Understand and use the conditions for a pair of congruent triangles</li> </ul>	<ul> <li>Trigonometry</li> <li>Understand trigonometric ratios</li> <li>Work out missing lengths and angles in right-angled triangles</li> <li>Know and use the exact values of key angles</li> </ul>										
<ul> <li>Notes/Links/Interleaving</li> <li>Revisit angle rules, including angles in parallel lines</li> <li>Revisit equations, especially variants of ax = b</li> <li>Revisit Pythagoras' theorem</li> </ul>	Additional Higher Content         • Area and volume of similar shapes         • Formal proof of congruency of triangles         • Enlarge a shape by a negative scale factor         • Use trigonometry in 3-D shapes         • Derive and use the sine and cosine rules         • Use the formula $\frac{1}{2}absinC$ to find the area of non-right angled triangles.										

Autumn Half Term 2 – Developing Algebra											
Block 3 – Weeks 7 to 9	Block 4– Weeks 10 to 12										
<ul> <li>Representing solutions of equations and inequalities</li> <li>Form and solve equations and inequalities in a variety of contexts, including with unknowns on both sides</li> <li>Represent solutions to inequalities on a number line</li> <li>Represent solutions to equations graphically</li> </ul>	<ul> <li>Simultaneous equations</li> <li>Understand the meaning of solution, appreciating that some equations have multiple solutions</li> <li>Form and solve a pair of linear simultaneous equations graphically</li> <li>Form and solve a pair of linear simultaneous equations algebraically</li> </ul>										
<ul> <li>Notes/Links/Interleaving</li> <li>Context for equations to include probability, area, angles, ratio problems etc.</li> </ul>	Additional Higher Content <ul> <li>Use set notation for solutions</li> <li>Solve Inequalities in two variable, identifying regions</li> <li>Solve quadratic equations and inequalities (by factorisation only)</li> <li>Solve simultaneous equations with one linear and one quadratic</li> </ul>										



#### Year 10 – Autumn Term Key Vocabulary

Enlarge	Fractional	scale factor	Image	Surds	5	Exact value	e Sim	nplifying		Gra	adient	Positive/Neg	ative	Linear	
Origin	Centre of	enlargement	Object		Infinity	Apr	proaching	Increas	sing	y-i	ntercept	Coordinate		Plot	
Parallel	(	Corresponding	Congrue	ent	Decreasing	g Lim	nit	moreut			Inequality	y Sat	isfy	Reg	ion
Alternate	(	Co-interior	In propo	ortion	<b>D</b> :						Dashed l	ine Soli	d line	Test	t point
Side-side-	side A	ngle-side-angle	e		Prism	Plane	Slope	Isosc	eles			Intersection			
Side-angle	e-side Ri	ight angle-hypo	otenuse-side	2	Midpoint	Diagona	l Square-	based righ	t pyran	nid		Non-linear			
Tangent	Opposite	Adjacent	Hypotenuse	, Of	oposite	Substitu	ute l	Equation		Roo	ts	Solutions		Intercept	
Formula	Rearrange	Subject		Fo	rmula	Rearran	ige			x-a	xis	Factorise		Sketch	
Sine	Cosine	Tangent		Set	notation	The solut	tion set is <i>x</i> s	such that		2	Sine Rule	Cosine Ru	le	Included A	ngle
Angle	Obtuse	Acute	Inverse												
Pythagoras	s' Theorem	Similar		Inequa	ality	Solve	Inverse		Εqu	ivale	ent	Solution	Co	efficient	
	Vori	abla	Vorify	Solutio	on set	Greater/les	s than (or eq	ual)	Vari	able	1	Multiplier			
11/	Valla	aole	veniy												
		G	ALGEB	RA	NUM	MBER	Geometry Measur	and S es F	TATIS PROB	STI ABII	CS & LITY	RATIO, PRO RATES o	OPORT f CHAN	'ION, IGE	
	106														

# Year 10 – Spring 1 and 2 Scheme of Learning

Spring Half Term 1 – Geometry												
Block 1 – Weeks 1 and 2	Block 2 – W	eeks 3 and 4	Block 3 – Weeks 5 and 6									
<ul> <li>Angles and bearings</li> <li>Review KS3 angles rules</li> <li>Understand and use bearings</li> </ul>	<ul> <li>Working with circles</li> <li>Review area and circum</li> <li>Name parts of a circle a calculations</li> <li>Find areas and volumes cylinder, cone, sphere e</li> </ul>	ference nd perform related related to circles – tc.	<ul> <li>Vectors</li> <li>Understand vector notation</li> <li>Vector arithmetic – addition, subtraction and multiplication by a scalar</li> <li>Vectors and translations</li> </ul>									
Notes/Links/Interleaving <ul> <li>Revisit trigonometry</li> <li>Revisit area and volumes of other shapes, and composite the structure of the s</li></ul>	ound shapes	Additional Higher Content <ul> <li>Derive, use and prove first four circle theorems (Note: The rest are covered in Y11)</li> <li>Understand and use the equation of a circle</li> <li>Construct geometric proofs with vectors</li> </ul>										

Sp	Spring Half Term 2 – Proportions and proportional change												
Block 4 – Weeks 7 and 8	Block 5 – We	eks 9 and 10	Block 6 – Weeks 11 and 12										
<ul> <li>Ratio and fractions</li> <li>Use ratios, including with mixed units</li> <li>Fractions in ratios</li> <li>Fractions from ratios</li> <li>Combining ratios</li> <li>Unit pricing ('best buys')</li> <li>Currency conversions</li> </ul>	<ul> <li>Percentages and interest</li> <li>Convert fractions, decim</li> <li>Find percentages and percentages and percentages and percentages and percentages and percentages and percentages are privaled by the second percentage are privaled by the second percentage are prival percentages.</li> <li>Find original values</li> </ul>	nals and percentages ercentage changes ercentage of another mpound interest ange e.g. depreciation	<ul> <li>Probability</li> <li>Review of single event probability – comparing theoretical and experimental</li> <li>Understand and work with mutually exclusive and independent events</li> <li>Construct and interpret tree diagrams</li> <li>Find probabilities from frequency trees, tables and Venn diagrams</li> </ul>										
Notes/Links/Interleaving <ul> <li>Revisit formal methods of calculation (also Summer 2</li> <li>Revisit fraction arithmetic</li> </ul>	2)	<ul> <li>Revise area and volume</li> <li>Use iterative methods</li> <li>Calculate and interpret of</li> </ul>	Additional Higher Content ratios conditional probabilities										

NUMBER

**Geometry and** 

**Measures** 

**STATISTICS &** 

PROBABILITY

RATIO, PROPORTION,

**RATES of CHANGE** 



**ALGEBRA** 

### Year 10 – Spring Term Key Vocabulary

Compass	Point	Ang	gle Radi	US	Diameter	Chord	Cent	re	Para	illel \	/ector jo	urney	Equal	
Turn	Three letter	notation	Tang	gent	Arc	Sector	Segr	nent	Орр	osite N	Multiple		Magnitu	de
Enlarge	Scale factor	Rati	o M	inor/Maj	jor Pro	portion			Pa	arallel		Common	point	
Protractor	Convert	Sim	ilar Ri	ght angle	e Cir	cumfere	nce Py	thagoras	C	ollinear		Same line		
Bearing	Bearing of	. from	Quadri	ateral	Cyclic		Spher	e	Sho	w	Justify	/	Prove	
North line	Clock	wise		Cone	e In ter	ms of $\pi$	Hemis	phere	Dire	ct proportion	Ratio	Gradie	ent	
Parallel	Alternate	Correspon	ding	Base	- Frust	um	For eve	rv the	ere are	Inte	pper	Variable		Inknown
Co-interior	North line	Due South,	/West	Dust		0111	101010	,		-	.801			
Trigonometry	$\sin heta$ ,	$\cos heta$ , tan $ heta$	9	Surfa	ace Area	Curve	ed Surface	Grov	vth	Deca	ау	Equivalent	t	_xpress
Due East	Perper	ndicular	Slant	Slant height Pe		rpendicular height		Enlarg	Enlarge		Length/Area so		ctor	
Sine Rule	Cosine	e Rule	Colum	n vector	Direction	٦	Scalar	Length	n/Area	Ratio	Similar			
Opposite	Includ	ed angle	Size		Magnitu	de		Simple	è	Compo	ound	Interest		
	What's the	Ū						Repea	ted	Power/	/Index/E	xponent		
	BIG	AL	GEBRA		NUMBE	R	Geometry Measu	v and res	STAT PRO	TISTICS & BABILITY	R/	ATIO, PROP RATES of (	PORTIC CHANG	DN, E
	uea:													

# Year 10 – Summer 1 and 2 Scheme of Learning

Summer Half Term	Summer Half Term 1 – Delving into data										
Block 1 – Weeks 1 to 6											
<ul> <li>Collecting, representing and interpreting data</li> <li>Understand sampling, including the possible limitations</li> <li>Construct and interpret tables and line graphs for time series data</li> <li>Understand and represent with grouped data</li> <li>Understand and identify correlation</li> <li>Use lines of best fit, understanding the dangers of extrapolation</li> <li>Construct and interpret frequency polygons</li> <li>Evaluate measures of location and dispersion</li> <li>Use statistical diagrams and measures to compare distributions</li> </ul>											
<ul> <li>Notes/Links/Interleaving</li> <li>Use equations e.g. solving problems about the mean</li> <li>Use non-calculator methods when appropriate</li> </ul>	<ul> <li>Additional Higher Content</li> <li>Construct and interpret cumulative frequency diagrams, box-plots and histograms</li> <li>Understand quartiles; use and interpret the inter-quartile range</li> </ul>										

Summer Half Term 2 – Using Number												
Block 2 – Weeks 7 and 8	Block 3 – We	eeks 9 and 10	Block 4– Weeks 11 and 12									
<ul> <li>Non-calculator methods</li> <li>Use four operations with integers (positive and negative), decimals and fractions with and without context (include all areas of previous study)</li> <li>Work with exact answers e.g. area and volume</li> <li>Evaluate calculations involving percentages</li> </ul>	<ul> <li>Types of number and seque</li> <li>Use factors, multiples, p factorisation</li> <li>Recognise arithmetic an</li> <li>Recognise and use othe</li> </ul>	<b>ences</b> rimes and prime d geometric sequences r sequences	<ul> <li>Indices and roots</li> <li>Work out powers and roots</li> <li>Use the rules of indices</li> <li>Calculate with numbers in standard index form</li> </ul>									
<ul> <li>Notes/Links/Interleaving</li> <li>Convert FDP</li> <li>Revisit exact trigonometrical values</li> <li>Revisit area and volume formulae (without a calculate</li> <li>Find exact answers in terms of π</li> <li>Solve problems involving financial mathematics</li> </ul>	or)	Additional Higher Content         • Calculate with surds         • Find the rule for the n <sup>th</sup> term of a quadratic sequence         • Understand and use fractional indices         • Work with rational and irrational numbers, including recurring decimals         • Work with limits of accuracy including upper and lower bounds										



# Year 10 – Summer Term Key Vocabulary

Population	Sample	Representa	tive	Angle	Angle Secto		Radius	s	Variable	Relationship		Linear Se		Squ	uare root
Biased	Random			Subtend					Positive/n	egative co	rrelation	S	cale	Rat	ionalise
Proportion	Stratified	Interquar	tile range	Scale		Bias	Misleadii	ng	Line of t	oest fit	Origin		Estimate	e	
Primary Se	condary S	Source		Broke	n axis				Correlat	ion	Interpolate		Interpola	ation	
Data Qu	Jestionnaire E	Experiment		Histogram	Are	a l	Frequency densi	ity	Exact	In term	ns of	Square	/Cube Ro	oot	
Frequency poly	rgon Midp	oint End	point	Class interva	l Cla	ss width			Sine	Cosine	1	Tangen	t		
Frequency	Class	s Inter	rval	Mean	M	edian	Mode		Recurrin	g	Infinite		Root		
Table	Row	Column		Representa	ative O	utlier	Average		Truncate	2	Cradit/Dak	sit	Profit/L	200	VAT
Total	Difference						0		noneau	-	Cleon/Dec	Л	FIOII(/LC	155	VAI
Force	Pressure	Area		Upper/Lowe	r Quartile	Limit	Error interval		Upper/Lov	ver bound	Standing C	Charge	Allowan	се	Tax
Density	Mass	Volume				Stem	Leaf			Degree of	Accuracy		Decin	nal pla	асе
Line/Bar chart	Frequency	Time	e Series	Qu	arter	Range	e Moda	al cla	SS	Round	Approxin	nate	Signif	ficant	Figure
Dual/Multiple	Composite	Tren	nd			Cumulative	e Frequency		Graph	Upper/lo	wer bound	Maxim	um/minim	um	
11/	Reciprocal	Mixed nu	umber	Improper fr	action	Polygon	End point		Class	Sum	Difference	Produc	t Quo	otient	
-			ALG	EBRA	NUM	IBER	Geometry a Measures	and s	STAT PROE	ISTICS & BABILITY	RAT RA	IO, PR ATES d	OPOR <sup>®</sup>	TION NGE	,

# Year 11 – Scheme of Learning

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12			
			Gra	phs			Algebra								
Autumn	Gradients & Non-linear lines graphs		Using graphs		Expanding & Factorising		Changing the subject		Functions						
	Reasoning							Revision and Communication							
Spring	Multiplicative Geometric		Algebraic		Transfo 8 Constr	orming 2 ructing	Listing & describing		Show	that					
Summer	Revision								Examir	nations					





# Year 11 – Autumn 1 and 2 Scheme of Learning

Autumn Half Term 1 – Graphs												
Block 1 – Weeks 1 and 2	Block 2 – W	eeks 3 and 4	Block 3 – Weeks 5 and 6									
<ul> <li>Gradients and lines</li> <li>Find and use equations of straight lines</li> </ul>	<ul> <li>Non-linear graphs</li> <li>Plot and read from quade</li> <li>Understand and find ro</li> <li>Plot cubic and reciprocation</li> </ul>	dratic curves ots Il graphs	<ul> <li>Using graphs</li> <li>Reflect shapes in a given line</li> <li>Construct and interpret speed, distance and time graphs</li> <li>Construct and interpret real-life graphs</li> </ul>									
Notes/Links/Interleaving <ul> <li>Revisit solving equations</li> <li>Incorporate proportional reasoning e.g. conversions</li> </ul>		<ul> <li>Understand and use exp</li> <li>Understand and use equ</li> <li>Find the equation of tang</li> <li>Estimate the area under</li> </ul>	Additional Higher Content ponential graphs pations of perpendicular lines gent to a curve a curve									

Autumn Half Term 2 – Algebra									
Block 4 – Weeks 7 and 8	Block 5 – We	eeks 9 and 10	Block 6 – Weeks 11 and 12						
<ul> <li>Expanding and factorising</li> <li>Expand a single bracket and binomials</li> <li>Factorise into a single bracket</li> <li>Factorise quadratics of the form x<sup>2</sup> + bx + c</li> <li>Solve quadratic equations</li> <li>Simplify complex algebraic expressions including algebraic fractions</li> </ul>	<ul> <li>Changing the subject</li> <li>Review solving linear eq</li> <li>Change the subject of a perimeter, area and volu</li> <li>Volume of a pyramid</li> </ul>	uations formula, including ume formulae	<ul> <li>Functions</li> <li>Find inputs and outputs</li> <li>Show algebraic expressions are equivalent</li> <li>Solve problems using the kinematics formulae</li> </ul>						
Notes/Links/Interleaving <ul> <li>Revisit directed number arithmetic</li> <li>Link to graphs</li> </ul>		<ul> <li>Solve quadratic equation formula</li> <li>Changing the subject of</li> <li>Solving equations by iter</li> <li>Work with composite an</li> </ul>	Additional Higher Content ns by completing the square and using the quadratic a formula where the subject appears more than once ration id inverse functions						

NUMBER

**ALGEBRA** 

**Geometry and** 

**Measures** 

**STATISTICS &** 

PROBABILITY

RATIO, PROPORTION,

**RATES of CHANGE** 



### Year 11 – Autumn Term Key Vocabulary

Linear		Equ	uation	Graph	Q	uadratio	e Parabo	ola Cur	ve	Substitute		Direct	Inv	rerse	Proportion		
Straig	nt line	Tab	ole of values		Ec	quation	Vertica	al Hor	izontal	Estimate		Speed	Pre	essure			
Gradie	ent	y-i	intercept	ot Simultane		eous		:	Asym	Asymptote Infinity Tends towards		finity Reciprocal		Like/unlike t	erms		
Point	Coordina	tes	Substitute	Inte	terception		Direct Proportion Te		Tends					Difference of two squ			
Radius	Diame	ter	Pythagoras'	theorem	Cube		Cubic	Tangent		Curve		Equidistant	Su	bject	Rearrange		
Equation	Origin		Simplify			Expar	nd	Factor	rise	Multiply	y out	Trapezium	A	rea	Approximate		
Comple	ato tho sour	aro	Quadratic	dratia la the form		Coefficient		Brack	icket Identity		1	Estimate	Estimate Speed/time graph		ph		
Produc	t Recip	oroca	l Neg	Negative reciprocal		ative reciprocal		Root	S	Factor Solut	ise fully ion	Meets		Exponential Rapid	G	Frowth Fends	Decay Infinity
Inp	ut		Output	utput Function		Distance		Speed		Time		Formula		Substitute	Surd		
Op	eration	Inverse Variable		ıble	Gra	Gradient Constar		stant	tant Scale Sir		Simplify		Significant figures				
			a?	ALGE	BRA		NUMBE	R	eomet Meas	try and survey and s	STAT PROE	ISTICS & BABILITY	RATI RA	O, PROPOF TES of CHA	TION, NGE		

# Year 11 – Spring 1 and 2 Scheme of Learning

Spring Half Term 1 – Reasoning									
Block 1 – Weeks 1 and 2	Block 2 – W	eeks 3 and 4	Block 3– Weeks 5 and 6						
<ul> <li>Multiplicative reasoning</li> <li>Review scale and enlargement</li> <li>Work with direct and inverse proportion</li> <li>Calculate with pressure and density</li> <li>Determine whether a problem requires additive or multiplicative reasoning</li> </ul>	<ul> <li>Geometric reasoning</li> <li>Review angle facts, focus reasons and chains of re</li> <li>Review Pythagoras' theo trigonometrical ratios</li> </ul>	sing on the language of easoning prem and using	<ul> <li>Algebraic reasoning</li> <li>Work with complex indices</li> <li>Review simplification of complex expressions and finding the n<sup>th</sup> term rule</li> <li>Justify e.g. why a number is/isn't in a given sequence</li> </ul>						
Notes/Links/Interleaving <ul> <li>Revise non-calculator methods</li> <li>Revisit other topics as detailed above</li> </ul>		<ul> <li>Solve problems involving</li> <li>Construct formal geome</li> <li>Construct formal algebra</li> </ul>	Additional Higher Content g variation with powers tric proofs, including the remaining circle theorems aic proofs						

Spring Half Term 2 – Revision and Communication									
Block 4 – Weeks 7 and 8	Block 5 – We	eeks 9 and 10	Block 6 – Weeks 11 and 12						
<ul> <li>Transforming and constructing</li> <li>Revisit transformations of shapes, linking to types of symmetry</li> <li>Perform standard constructions using ruler and protractor or ruler and compasses</li> <li>Solve loci problems</li> </ul>	<ul> <li>Listing and describing</li> <li>Work with organised lists</li> <li>Sample spaces and proba</li> <li>Complete and use Venn d</li> <li>Work with plans and eleva</li> <li>Use data to compare distr</li> </ul>	ibility liagrams ations ibutions	<ul> <li>Show that</li> <li>Illustrate equivalence, numerically and algebraically</li> <li>Justify answers</li> <li>Use the language of angles rules</li> <li>Use the conditions for congruent triangles</li> </ul>						
Notes/Links/Interleaving     Throughout		Ada Product rule for counting Understand and use trigor Sketch translations and re Formal proof with congrue	<b>ditional Higher Content</b> nometrical graphs eflections of the graph of a given function ent triangles						
What's the									

NUMBER

**ALGEBRA** 

**Geometry and** 

**Measures** 

**STATISTICS &** 

PROBABILITY

RATIO, PROPORTION,

**RATES of CHANGE** 

# Year 11 – Spring Term Key Vocabulary

Enlargement	S	cale	factor			
Multiplier	S	imila	ar			
Direct proportion	Equation	n	C	)rigin		
Constant ratio	line	L	inear			
Constant of propo	ortionality	Inv	erse pro	port		
Varies directly		Sn	nooth cu	irve		
Density	Mass		٧	olum		
Pressure	Force		rea			
Fraction	Percentag	ge				
Two-way table	LCM	Segme				
Interior	Interior Exterior					
	<b>D</b> 1 1					
Chord	Bisects			Right		
	hat's th	e				
- (19)-1	RTG					

A	1	NUMBE	ER	Ge	ometry ar Measures	nd S	TA		& R/	RATIO, PROPORTION, RATES of CHANGE		
	Cent	re	Order d	of rot	ational symi	metry						
e	C		Orde				Fouidi		nt Perpen	t Perpendicular Bisector		
	Rotat	te	Clockw	vise	Anti	clockwis	Se Construct		Construct Angle Bisecto		Loc	cus
Rati	D		Invers	se			Ve	ertex	Side		Mirror Line	
Equa	al		Tange	ent			Li	ne symmet	ry Refle	ection	Diagon	al
Stem-	and-L	eaf N	Median	I	Rang	e		Equation	Integer		Tes	st
Syster	matic	E	Exhaust	tive	Arrar	ngemen	it	Inequality	equality Re		Satisfy	
Centr	е	Right-a	angle		Cyclic quadrilateral		ι	Justify	Even		Odd	
Circle	1	Segme	ent		Circumference			Proof	Demor	nstration	n Counterexample	
Vertic	al	I	Positior	٦	Para	llel		Constant	Differenc	ce	Second difference	
Vecto	r	(	Columr	n Horizontal			Linear	Non-linear		Quadratic		
Alter	nate	Bearin	ıg (	Co-in	p-interior		P	ower	Index		Coefficient	
Angle	9	Paralle	el (	Corre	responding		Te	erm	Expression		Simplify	
	Angle Altern Vecto Vertic Circle Centr Systen Stem- Equa Ratio	Angle Alternate Vector Vertical Circle Centre Systematic Stem-and-L Equal Ratio Ratio	Angle       Paralle         Alternate       Bearing         Vector       Segme         Vertical       Segme         Circle       Segme         Centre       Right-a         Systematic       I         Stem-and-Leaf       I         Ratio       Rotate         Centre       Rotate         NUMB	Angle     Parallel       Alternate     Bearing       Vector     Column       Vertical     Position       Circle     Segment       Centre     Right-angle       Systematic     Exhauss       Stem-and-Leaf     Median       Ratio     Inverse       Ratio     Clockw       Centre     Order	Angle       Parallel       Corre         Alternate       Bearing       Corre         Vector       Column         Vertical       Position         Vertical       Segment         Circle       Right-angle         Systematic       Exhaustive         Stem-and-Leaf       Median         Ratio       Inverse         Ratio       Clockwise         Rotate       Clockwise         Orderoform       NUMBER	Angle       Parallel       Corresponding         Alternate       Bearing       Co-interior         Vector       Column       Horiz         Vertical       Position       Parallel         Circle       Segment       Circumfere         Contrematic       Right-angle       Cyclic quad         Systematic       Exhaustive       Arrand         Stem-and-Leaf       Median       Range         Ratio       Inverse       Antion         Ratio       Clockwise       Antion         Ratio       Order of rotational symmet       Antion         MUMBER       Geometry arr	Angle     Parallel     Corresponding       Alternate     Bearing     Co-interior       Vector     Column     Horizontal       Vertical     Position     Parallel       Circle     Segment     Circumference       Centre     Right-angle     Cyclic quadrilatera       Systematic     Exhaustive     Arrangement       Stem-and-Leaf     Median     Range       Ratio     Inverse     Anticlockwise       Ratio     Clockwise     Anticlockwise       Rotate     Clockwise     Anticlockwise	Angle     Parallel     Corresponding     Tale       Alternate     Bearing     Co-interior     P       Vector     Column     Horizontal     P       Vertical     Position     Parallel     P       Circle     Segment     Circumference     P       Centre     Right-angle     Cyclic quadrilateral     P       Systematic     Exhaustive     Arrangement     Stange       Equal     Tangent     Range     Linverse       Ratio     Inverse     Anticlockwise     Anticlockwise       Rotate     Clockwise     Anticlockwise     STA       NUMBER     Geometry and Stange     STA	Angle     Parallel     Corresponding     Term       Alternate     Bearing     Co-interior     Power       Vector     Column     Horizontal     Linear       Vertical     Position     Parallel     Constant       Vertical     Segment     Circumference     Proof       Circle     Right-angle     Cyclic quadrilateral     Justify       Systematic     Exhaustive     Arrangement     Inequality       Stem-and-Leaf     Median     Range     Equation       Ratio     Inverse     Vertex     Construct       Ratio     Inverse     Anticlockwise     Construct       Ratio     Order or rotational symmetry     Construct       NUMBER     Geometry and Massures     STISTICS	Angle     Parallel     Corresponding     Term     Expression       Alternate     Bearing     Co-interior     Power     Index       Vector     Column     Horizontal     Linear     Non-line       Vertical     Position     Parallel     Constant     Difference       Circle     Segment     Cyclic quadrilateral     Justify     Even       Circle     Segment     Cyclic quadrilateral     Inequality     Even       Systematic     Exhaustive     Arrangement     Inequality     Refe       Stem-and-Leaf     Median     Range     Equation     Refe       Ratio     Inverse     Anticlockwise     Construct     Angle       Ratio     Order of rotational symmetry     Construct     Angle       Ratio     NUMBER     Geometry and Massures     Statistics & Refe	Angle     Parallel     Corresponding     Term     Expression       Alternate     Bearing     Corresponding     Power     Index       Vector     Column     Horizontal     Linear     Non-linear       Vertical     Position     Parallel     Constant     Difference       Vertical     Segment     Circumference     Proof     Demonstration       Centre     Right-angle     Cyclic quadrilateral     Justify     Even       Systematic     Exhaustive     Arrangement     Inequality     Region       Stem-ord-Leaf     Median     Range     Equation     Integer       Ratio     Inverse     Anticlockies     Construct     Angle Bisector       Ratio     Inverse     Anticlockies     Construct     Angle Bisector       Ratio     NUMBER     Geometry and Massives     STATISTICS & RATIO, P	Angle         Parallel         Corresponding         Term         Expression         Simplify           Alternate         Bearing         Co-interior $Power$ Index         Coefficient           Vector         Column         Horizontal         Linear         Non-linear         Quadratic           Vertical         Position         Parallel         Corresponding         Constant         Difference         Second difference           Circle         Segment         Circumference         Proof         Demonstration         Counter           Centre         Right-angle         Cyclic quadrilateral         Inequality         Region         Satt           Systematic         Exhaustive         Arrangement         Inequality         Region         Satt           Stem-and-Leaf         Median         Range         Equation         Integer         Term           Ratio         Inverse         Anticlockwise         Construct         Angle Bisector         Loo           Ratio         Inverse         Anticlockwise         Equidistant         Perpendicular Bisector         Loo

# Year 11 – Summer 1 and 2 Scheme of Learning

Summer Half Term 1 – Revision
Block 1 – Weeks 1 to 6
<ul> <li>During this last half-term in the run up to the final examinations, we expect teachers to work with students on past papers and topics that have been identified that need further attention. We will provide some support material to help with key topics including:</li> <li>Number work, including multi-step problem solving</li> <li>Forming and solving equations and inequalities</li> <li>Working with formulae that students are expected to know e.g. area and volume formulae</li> <li>Probability</li> </ul>



