AHP Maths Yellow - Green - Blue Curriculum Map

(H) denotes higher strand and not necessarily content for Higher Tier GCSE
(R) denotes "review step" – content should have been covered earlier in KS3

	Yellow	Green	Blue
Aut 1	**Algebraic thinking** ***Unit 1 - Sequences - 2 weeks*** **The pupils will be learning to:** • *Describe and continue a sequence given diagrammatically.* • *Predict and check the next term(sH of a sequence.* • *Represent sequences in tabular and graphical forms.* • *Recognise the difference between linear and non-linear sequences.* • *Continue numerical linear sequences.* • *Continue numerical non-linear sequences.* • *Explain the term-to-term rule of numerical sequences in words.* • *Find missing numbers within sequences. (H)* ***Unit 2 - Understand and use algebraic quotations - 2 weeks*** **The pupils will be learning to:** • *Given a numerical input, find the output of a single function machine.* • *Use inverse operations to find the input given the output.* • *Use diagrams and letters to generalise number operations.* • *Use diagrams and letters with single function machines.* • *Find the function machine given a simple expression.* • *Substitute values into single operation expressions.*	**Proportional Reasoning** **Unit 1 - Ratio and Scale - 2 weeks** **The pupils will be learning to:** • *Understand the meaning and representation of ratio.* • *Understand and use ratio notation.* • *Solve problems involving ratios of the form 1 : n (or n : 1).* • *Solve proportional problems involving the ratio m : n.* • *Divide a value into a given ratio.* • *Express ratios in their simplest integer form.* • *Express ratios in the form 1 : n. (H)* • *Compare ratios and related fractions.* • *Understand π as the ratio between diameter and circumference.* • *Understand the gradient of a line as a ratio. (H)* **Unit 2 - Multiplicative change - 2 weeks** **The pupils will be learning to:** • *Solve problems involving direct proportion.* • *Explore conversion graphs.* • *Convert between currencies.* • *Explore direct proportion graphs. (H)* • *Explore relationships between similar shapes.* • *Understand scale factors as multiplicative representations.* • *Draw and interpret scale diagrams.* • *Interpret maps using scale factors and ratios.*	**Reasoning with Algebra** **Unit 1 - Straight Line graphs - 2 weeks** **The pupils will be learning to:** • *Lines parallel to the axes, $y = x$ and $y = -x$.* (R) • *Using tables of values.* (R) • *Compare gradients.* • *Compare intercepts.* • *Understand and use $y = mx + c$.* • *Write an equation in the form $\boldsymbol{y = mx + c}$. (H)* • *Find the equation of a line from a graph.* • *Interpret gradients and intercepts of real-life graphs.* • *Model real-life graphs involving inverse proportion. (H)* • *Explore perpendicular lines. (H)* **Unit 2- Forming and solving equations - 2 weeks** **The pupils will be learning to:** • *Solve one- and two-step equations and inequalities.* (R) • *Solve one- and two-step equations and inequalities with brackets.* (R) • *Inequalities with negative numbers.* • *Solve equations with unknowns on both sides.* • *Solve inequalities with unknowns on both sides.* • *Solving equations and inequalities in context.* • *Substituting into formulae and*

	• *Find numerical inputs and outputs for a series of two function machines.* • *Use diagrams and letters with a series of two function machines.* • *Find the function machines given a two-step expression.* • *Substitute values into two-step expressions.* • *Generate sequences given an algebraic rule.* • *Represent one- and two-step functions graphically.* ***Unit 3 - Equality and Equivalence - 2 weeks*** **The pupils will be learning to:** • *Understand the meaning of equality.* • *Understand and use fact families, numerically and algebraically.* • *Solve one-step linear equations involving +/− using inverse operations.* • *Solve one-step linear equations involving ×/÷ using inverse operations.* • *Understand the meaning of like and unlike terms.* • *Understand the meaning of equivalence.* • *Simplify algebraic expressions by collecting like terms, using the ≡ symbol*	**Unit 3 - Multiplying and Dividing Fractions - 2 weeks** **The pupils will be learning to:** • *Represent multiplication of fractions.* • *Multiply a fraction by an integer.* • *Find the product of a pair of unit fractions.* • *Find the product of a pair of any fractions.* • *Divide an integer by a fraction.* • *Divide a fraction by a unit fraction.* • *Understand and use the reciprocal* • *Divide any pair of fractions.* • *Multiply and divide improper and mixed fractions. (H)* • *Multiply and divide algebraic fractions (H)*	*equations.* • *Rearrange formulae (one-step).* • *Rearrange formulae (two-step).* • *Rearrange complex formulae including brackets and squares. (H)* **Unit 3 - Testing conjectures - 2 weeks** **The pupils will be learning to:** • *Factors, Multiples and Primes* • *True or False? (R)* • *Always, Sometimes, Never true* • *Show that.* • *Conjectures about numbers.* • *Expand a pair of binomials.* • *Conjectures with algebra.* • *Explore the 100 grid.* • *Expand three binomials. (H)*

Aut 2

Place Value and Proportion

Unit 1 Place value and ordering - 3 weeks

The pupils will be learning to:

- *Recognise the place value of any number in an integer up to one billion.*
- *Understand and write integers up to one billion in words and figures.*
- *Work out intervals on a number line.*
- *Position integers on a number line.*
- *Round integers to the nearest power of ten.*
- *Compare two numbers using =, ≠, <, >, ≤, ≥.*
- *Order a list of integers.*
- *Find the range of a set of numbers.*
- *Find the median of a set of numbers.*
- *Understand place value for decimals*
- *Position decimals on a number line.*
- *Compare and order any number up to one billion.*
- *Round a number to 1 significant figure.*
- *Write 10, 100, 1000 etc. as powers of ten. (H)*
- *Write positive integers in the form A x 10n. (H)*
- *Investigate negative powers of ten. (H)*
- *Write decimals in the form A x 10n. (H)*

Unit 2 - Fraction, decimal and percentage equivalence - 3 weeks

- *Represent tenths and hundredths as diagrams.*
- *Represent tenths and hundredths on number lines.*
- *Interchange between fractional and*

Representations

Unit 1 - Working in the Cartesian plane - 3 weeks

The pupils will be learning to:

- *Work with coordinates in all four quadrants.*
- *Identify and draw lines that are parallel to the axes.*
- *Recognise and use the line $y = x$.*
- *Recognise and use lines of the form $y = kx$.*
- *Link $y = kx$ to direct proportion problems.*
- *Explore the gradient of the line $\boldsymbol{y = kx}$. (H)*
- *Recognise and use lines of the form $y = x + a$.*
- *Explore graphs with negative gradient ($y = -kx$, $y = a - x$, $x + y = a$).*
- *Link graphs to linear sequences.*
- *Plot graphs of the form $y = mx + c$.*
- *Explore non-linear graphs. (H)*
- *Find the midpoint of a line segment. (H)*

Unit 2 - Representing Data - 2 weeks

The pupils will be learning to:

- *Draw and interpret scatter graphs.*
- *Understand and describe linear correlation.*
- *Draw and use line of best fit.*
- *Identify non-linear relationships.*
- *Identify different types of data.*
- *Read and interpret ungrouped frequency tables.*
- *Read and interpret grouped frequency tables.*
- *Represent grouped discrete data.*
- *Represent continuous data grouped into equal classes.*
- *Represent data in two-way tables.*

Constructing in 2 and 3 Dimensions

Unit 1 - Three-dimensional shapes - 3 weeks

The pupils will be learning to:

- *Know names of 2-D and 3-D shapes.*
- *Recognise prisms.*
- *Accurate nets of cuboids and other 3-D shapes.*
- *Sketch and recognise nets of cuboids and other 3-D shapes.*
- *Plans and elevations.*
- *Find the area of 2-D shapes. (R)*
- *Surface area of cubes and cuboids.*
- *Surface area of triangular prisms.*
- *Surface area of a cylinder.*
- *Volume of cubes and cuboids.*
- *Volume of other 3-D shapes – prisms and cylinders.*
- *Explore volumes of cones, pyramids and spheres. (H)*

Unit 2 - Constructions and congruency - 3 weeks

The pupils will be learning to:

- *Draw and measure angles. (R)*
- *Construct and interpret scale drawings. (R)*
- *Locus of distance from a point.*
- *Locus of distance from a straight line/shape.*
- *Locus equidistant from two points.*
- *Construct a perpendicular bisector.*
- *Construct a perpendicular from a point.*
- *Construct a perpendicular to a point.*
- *Locus of distance from two lines.*
- *Construct an angle bisector.*

	decimal number lines. • *Convert between fractions and decimals – tenths and hundredths.* • *Convert between fractions and decimals – fifths and quarters.* • *Convert between fractions and decimals – eighths and thousandths. (H)* • *Understand the meaning of percentage using a hundred square.* • *Convert fluently between simple fractions, decimals and percentages.* • *Use and interpret pie charts.* • *Represent any fraction as a diagram.* • *Represent fractions on number lines.* • *Identify and use simple equivalent fractions.* • *Understand fractions as division.* • *Convert fluently between fractions, decimals and percentages.* • *Explore fractions above one, decimals and percentages. (H)*	**Unit 3 - Tables and Probability - 1 week** **The pupils will be learning to:** • *Construct sample spaces for 1 or more events.* • *Find probabilities from a sample space.* • *Find probabilities from two-way tables.* • *Find probabilities from Venn diagrams.* • *Use the product rule for finding the total number of possible outcomes. (H)*	• *Construct triangles from given information. (R)* • *Identify congruent figures.* • *Explore congruent triangles.* • *Identify congruent triangles.*
Spr 1	**Application of Number** **Unit 1 - Addition and Subtraction - 2 weeks** **The pupils will be learning to:** • *Properties of addition and subtraction.* • *Mental strategies for addition and subtraction.* • *Use formal methods for addition of integers.* • *Use formal methods for addition of decimals.* • *Use formal methods for subtraction of*	**Algebraic Techniques** **Unit 1 -Brackets, equations and Inequalities - 4 weeks** **The pupils will be learning to:** • *Form algebraic expressions.* • *Use directed number with algebra.* • *Multiply out a single bracket.* • *Factorise into a single bracket.* • *Expand multiple single brackets and simplify.* • *Expand a pair of binomials. (H)* • *Solve equations, including with*	**Reasoning with Number** **Unit 1 - Numbers - 2 weeks** **The pupils will be learning to:** • *Integers, real and rational numbers.* • *Understand and use surds. (H)* • *Work with a directed number. (R)* • *Solve problems with integers.* • *Solve problems with decimals* • *HCF and LCM. (R)* • *Adding and subtracting*

	integers. • *Use formal methods for subtraction of decimals.* • *Choose the most appropriate method: mental strategies, formal written or calculator.* • *Solve problems in the context of perimeter.* • *Solve financial maths problems.* • *Solve problems involving tables and timetables* • *Solve problems with frequency trees* • *Solve problems with bar charts and line charts* • *Add and subtract numbers given in standard form (H)* **Unit 2 - Multiplication and division - 3 weeks** **The pupils will be learning to:** • *Properties of multiplication and division.* • *Understand and use factors.* • *Understand and use multiples.* • *Multiply and divide integers and decimals by powers of 10.* • *Multiply by 0.1 and 0.01. (H)* • *Convert metric units.* • *Use formal methods to multiply integers.* • *Use formal methods to multiply decimals.* • *Use formal methods to divide integers.* • *Use formal methods to divide decimals.* • *Understand and use order of operations.* • *Solve problems using the area of rectangles and parallelograms.* • *Solve problems using the area of triangles.* • *Solve problems using the area of trapezium. (H)* • *Solve problems using the mean.* • *Explore multiplication and division in*	*brackets.* • *Form and solve equations with brackets.* • *Understand and solve simple inequalities.* • *Form and solve inequalities.* • *Solve equations and inequalities with unknowns on both sides. (H)* • *Form and solve equations and inequalities with unknowns on both sides. (H)* • *Identify and use formulae, expressions, identities and equations. (H)* **Unit 2 - Sequences - 1 week** **The pupils will be learning to:** • *Generate sequences given a rule in words.* • *Generate sequences given a simple algebraic rule.* • *Generate sequences given a complex algebraic rule.* • *Find the rule for the nth term of a linear sequence. (H)* **Unit 3 - Indices - 1 week** **The pupils will be learning to:** • *Adding and subtracting expressions with indices.* • *Simplifying algebraic expressions by multiplying indices.* • *Simplifying algebraic expressions by dividing indices.* • *Using the addition law for indices.* • *Using the addition and subtraction law for indices.* • *Exploring powers of powers. (H)*	*fractions. (R)* • *Multiplying and dividing fractions. (R)* • *Solving problems with fractions.* • *Numbers in standard form. (R)* **Unit 2 - Using percentages - 2 weeks** **The pupils will be learning to:** • *Use the equivalence of fractions, decimals and percentages. (R)* • *Calculate percentage increase and decrease. (R)* • *Express a change as a percentage. (R)* • *Solve 'reverse' percentage problems.* • *Recognise and solve percentage problems (non-calculator).* • *Recognise and solve percentage problems (calculator). (R)* • *Solve problems with repeated percentage change. (H)* **Unit 3 - Maths and money - 2 weeks** **The pupils will be learning to:** • *Solve problems with bills and bank statements.* • *Calculate simple interest.* • *Calculate compound interest.* • *Solve problems with Value Added Tax.* • *Calculate wages and taxes.* • *Solve problems with exchange rates.* • *Solve unit pricing problems.*

	algebraic expressions. (H) **Unit 3 - Fractions and percentages of amounts - 1 week** **The pupils will be learning to:** ● *Find a fraction of a given amount.* ● *Use a given fraction to find the whole and/or other fractions.* ● *Find a percentage of a given amount using mental methods.* ● *Find a percentage of a given amount using a calculator.* ● *Solve problems with fractions greater than 1 and percentages greater than 100%. (H)*		
Spr 2	**<u>Directed Number and Fractional Thinking</u>** **Unit 1 - Directed Number - 3 weeks** **The pupils will be learning to:** ● *Understand and use representations of directed numbers.* ● *Order directed numbers using lines and appropriate symbols.* ● *Perform calculations that cross zero.* ● *Add directed numbers.* ● *Subtract directed numbers.* ● *Multiplication of directed numbers.* ● *Multiplication and division of directed numbers.* ● *Use a calculator for directed number calculations.* ● *Evaluate algebraic expressions with directed numbers.* ● *Introduction to two-step equations.* ● *Solve two-step equations.* ● *Use order of operations with directed numbers.* ● *Roots of positive numbers. (H)* ● *Explore higher powers and roots. (H)*	**<u>Developing Number</u>** **Unit 1 - Fraction and Percentages - 3 weeks** **The pupils will be learning to:** ● *Convert fluently between key fractions, decimals and percentages. (R)* ● *Calculate key fractions, decimals and percentages of an amount without a calculator. (R)* ● *Calculate fractions, decimals and percentages of an amount using calculator methods. (R)* ● *Convert between decimals and percentages greater than 100%* ● *Percentage decrease with a multiplier.* ● *Calculate percentage increase and decrease using a multiplier.* ● *Express one number as a fraction or a percentage of another without a calculator.* ● *Express one number as a fraction or a percentage of another using calculator methods.*	**<u>Reasoning with Geometry</u>** **Unit 1 - Deduction - 2 weeks** **The pupils will be learning to:** ● *Angles in parallel lines. (R)* ● *Solving angles problems (using chains of reasoning).* ● *Angles problems with algebra.* ● *Conjectures with angles.* ● *Conjectures with shapes.* ● *Link constructions and geometrical reasoning. (H)* **Unit 2 - Rotation and translation - 2 weeks** **The pupils will be learning to:** ● *Identify the order of rotational symmetry of a shape.* ● *Compare and contrast rotational symmetry with line symmetry.* ● *Rotate a shape about a point on a shape.* ● *Rotate a shape about a point not on a shape.*

Unit 2 - Adding and Subtracting fraction - 3 weeks.

The pupils will be learning to:

- *Understand representations of fractions.*
- *Convert between mixed numbers and fractions.*
- *Add and subtract unit fractions with the same denominator.*
- *Add and subtract fractions with the same denominator.*
- *Add and subtract fractions from. integers expressing the answer as a single fraction.*
- *Understand and use equivalent fractions.*
- *Add and subtract fractions where denominators share a simple common multiple.*
- *Add and subtract fractions with any denominator.*
- *Add and subtract improper fractions and mixed numbers.*
- *Use fractions in algebraic contexts.*
- *Use equivalence to add and subtract decimals and fractions.*
- *Add and subtract simple algebraic fractions.*

- *Work with percentage change.*
- *Choose appropriate methods to solve percentage problems.*
- *Find the original amount given the percentage less than 100%. (H)*
- *Find the original amount given the percentage greater than 100%. (H)*
- *Choose appropriate methods to solve complex percentage problems. (H)*

Unit 2 - Standard Index form - 1 and ½ weeks.

The pupils will be learning to:

- *Investigate positive powers of 10.*
- *Work with numbers greater than 1 in standard form.*
- *Investigate negative powers of 10.*
- *Work with numbers between 0 and 1 in standard form.*
- *Compare and order numbers in standard form.*
- *Mentally calculate with numbers in standard form.*
- *Add and subtract numbers in standard form.*
- *Multiply and divide numbers in standard form.*
- *Use a calculator to work with numbers in standard form.*
- *Understand and use negative indices. (H)*
- *Understand and use fractional indices. (H)*

Unit 3 - Number sense - 1 and ½ weeks.

The pupils will be learning to:

- *Round numbers to powers of 10, and 1 significant figure. (R)*
- *Round numbers to a given number of decimal places.*
- *Estimate the answer to a calculation.*

- *Translate points and shapes by a given vector.*
- *Compare rotation and reflection of shapes.*
- *Find the result of a series of transformations. (H)*

Unit 3 - Pythagoras' Theorem - 2 weeks

The pupils will be learning to:

- *Squares and square roots. (R)*
- *Identify the hypotenuse of a right-angled triangle.*
- *Determine whether a triangle is right-angled.*
- *Calculate the hypotenuse of a right-angled triangle.*
- *Calculate missing sides in right-angled triangles.*
- *Use Pythagoras theorem on coordinate axes.*
- *Explore proofs of Pythagoras' theorem.*
- *Use Pythagoras' theorem in 3-D shapes. (H)*

		• *Understand and use error interval notation. (H)* • *Calculate using the order of operations. (R)* • *Calculate with money.* • *Covert metric measures of length.* • *Convert metric units of weight and capacity.* • *Convert metric units of area. (H)* • *Convert metric units of volume. (H)* • *Solve problems involving time and the calendar.*	

Sum 1	**<u>Line and Angles</u>** **Unit 1 - Construction and measuring - 3 weeks** **The pupils will be learning to:** • *Understand and use letter and labeling conventions including those for geometric figures.* • *Draw and measure line segments including geometric figures.* • *Understand angles as a measure of turn.* • *To be able to classify angles.* • *Measure angles up to 180°.* • *Draw angles up to 180°.* • *Draw and measure angles between 180° and 360°.* • *Identify perpendicular and*	**<u>Developing Geometry</u>** **Unit 1 - Angles in parallel lines & polygons - 3 weeks** **The pupils will be learning to:** • *Understand and use basic angles, rules and notation.(R)* • *Investigate angles between parallel lines and the transversal.* • *Identify and calculate with alternate and corresponding angles.* • *Identify and calculate with co-interior, alternate and corresponding angles.* • *Solve complex problems with parallel line angles.* • *Construct triangles and special quadrilaterals.*	**<u>Reasoning with Proportion</u>** **Unit 1 - Enlargement and similarity - 2 weeks** **The pupils will be learning to:** • *Recognise enlargement and similarity.* • *Enlarge a shape by a positive integer scale factor.* • *Enlarge a shape by a positive integer scale factor from a point.* • *Enlarge a shape by a positive fractional scale factor.* • *Enlarge a shape by a negative scale factor. (H)* • *Work out missing sides and angles in a pair of given*

	parallel lines. • *Recognise types of triangles.* • *Recognise types of quadrilaterals.Identify polygons up to a decagon.* • *Construct triangles using SSS.* • *Construct triangles using SSS, SAS and ASA.* • *Construct more complex polygons.* • *Interpret simple pie charts using proportion.* • *Interpret pie charts using a protractor.* • *Draw pie charts.* ***Unit 2 - Geometric Reasoning - 3 week*** **The pupils will be learning to:** • *Understand and use the sum of angles at a point.* • *Understand and use the sum of angles on a straight line.* • *Understand and use the equality of vertically opposite angles.* • *Know and apply the sum of angles in a triangle.* • *Know and apply the sum of angles in a quadrilateral.* • *Solve angle problems using properties of triangles and quadrilaterals.* • *Solve complex angle problems.* • *Find and use the angle sum of any polygon. (H)* • *Investigate angles in parallel lines. (H)* • *Understand and use parallel line angle rules. (H)* • *Use known facts to obtain simple proofs. (H)*	• *Investigate the properties of special quadrilaterals. (R)* • *Identify and calculate with sides and angles in special quadrilaterals.* • *Understand and use the properties of diagonals of quadrilaterals.* • *Understand and use the sum of exterior angles of any polygon. (H)* • *Calculate and use the sum of the interior angles in any polygon.* • *Calculate missing interior angles in regular polygons.* • *Prove simple geometric facts. (H)* • *Construct an angle bisector. (H)* • *Construct a perpendicular bisector of a line segment. (H)* ***Unit 2 -Area of Trapeziums and Circles - 2 week*** **The pupils will be learning to:** • *Calculate the area of triangles, rectangles and parallelograms. (R)* • *Calculate the area of a trapezium.* • *Calculate the perimeter and area of compound shapes (1).* • *Investigate the area of a circle.* • *Calculate the area of a circle and parts of a circle without a calculator.* • *Calculate the area of a circle and parts of a circle with a calculator.* • *Calculate the perimeter and area of compound shapes (2).* ***Unit 2 -Line symmetry and reflection - 1 week.*** **The pupils will be learning to:** • *Recognise line symmetry* • *Reflect a shape in a horizontal or vertical line 1 (shapes touching the line)* • *Reflect a shape in a horizontal or vertical line 2 (shapes not touching the line)* • *Reflect a shape in a diagonal line 1*	*similar shapes.* • *Solve problems with similar triangles. (H)* • *Explore ratios in right-angled triangles. (H)* **Unit 2 - Solving ratio & proportion problems - 2 weeks** **The pupils will be learning to** • *Solve problems with direct proportion. (R)* • *Direct proportion and conversion graphs. (R)* • *Solve problems with inverse proportion.* • *Graphs of inverse relationships.* • *Solve ratio problems given the whole or a part. (H)* • *Solve 'best buy' problems. (R)* • *Solve problems ratio and algebra. (H)* **Unit 3 - Rates - 2 weeks** **The pupils will be learning to:** • *Solve speed, distance and time problems without a calculator.* • *Solve speed, distance and time problems with a calculator.* • *Use distance/time graphs.* • *Solve problems with density, mass and volume.* • *Solve flow problems and their graphs.* • *Rates of change and their units.* • *Convert compound units. (H)*

		(shapes touching the line) • *Reflect a shape in a diagonal line 2 (shapes not touching the line)*	
Sum 2	**Reasoning with Number** **Unit 1 - Developing Number Sense - 2 weeks** **The pupils will be learning to:** • *Know and use mental addition and subtraction strategies for integers.* • *Know and use mental multiplication and division strategies for integers.* • *Know and use mental arithmetic strategies for decimals.* • *Know and use mental arithmetic strategies for fractions.* • *Use factors to simplify calculations.* • *Use estimation as a method for checking mental calculations.* • *Use known number facts to derive other facts.* • *Use known algebraic facts to derive other facts.* • *Know when to use a mental strategy, formal written method or a calculator.* **Unit 2 - Sets and Probability - 2 weeks** **The pupils will be learning to:** • *Identify and represent sets.* • *Interpret and create Venn diagrams.* • *Understand and use the intersection of sets.* • *Understand and use the union of sets.* • *Understand and use the complement of a set. (H)*	**Reasoning with Data** **Unit 1 - The data handling cycle - 4 weeks** **The pupils will be learning to:** • *Set up a statistical enquiry.* • *Design and criticise questionnaires.* • *Draw and interpret pictograms, bar charts and vertical line charts. (R)* • *Draw and interpret multiple bar charts.* • *Draw and interpret pie charts. (R)* • *Draw and interpret line graphs.* • *Choose the most appropriate diagram for a given set of data.* • *Represent and interpret grouped quantitative data.* • *Find and interpret the range.* • *Compare distributions using charts.* • *Identify misleading graphs.* • **Unit 2 - Measures and Location - 2 weeks** **The pupils will be learning to:** • *Understand and use the mean, median and mode.* • *Choose the most appropriate average.* • *Find the mean from an ungrouped frequency table. (H)* • *Find the mean from a grouped frequency table. (H)* • *Identify outliers.* • *Compare distributions using averages and the range.*	**Representations and Revision** **Unit 1 - Probability - 2 weeks** **The pupils will be learning to:** • *Single event probability. (R)* • *Relative frequency – include convergence.* • *Expected outcomes.* • *Independent events.* • *Use tree diagrams. (H)* • *Use tree diagrams to solve 'without replacement' problems. (H)* • *Use diagrams to work out probabilities.* **Unit 2 - Algebraic representation - 2 weeks** **The pupils will be learning to:** • *Draw and interpret quadratic graphs.* • *Interpret graphs, including reciprocal and piece-wise.* • *Investigate graphs of simultaneous equations. (H)* • *Represent inequalities.* **Unit 3 - Revision - 2 weeks** **Some suggested topic areas to revise (may differ depending on the cohort).** **Representing Number** • *Standard form.* • *Product of primes.* • *Error intervals.* ***Representing Data*** • *Scatter graphs.* • *Statistical graphs.* • *Measures.* • *Tables and timetables.* • *Data handling project.*

	• *Know and use the vocabulary of probability.* • *Generate sample spaces for single events.* • *Calculate the probability of a single event.* • *Understand and use the probability scale.* • *Know that the sum of probabilities of all possible outcomes is 1.* **Unit 3 - Prime numbers and proof** **The pupils will be learning to:** • *Find and use multiples.* • *Identify factors of numbers and expressions.* • *Recognise and identify prime numbers.* • *Recognise square and triangular numbers.* • *Find common factors of a set of numbers including the HCF.* • *Find common multiples of a set of numbers including the LCM.* • *Write a number as a product of its prime factors.* • *Use a Venn diagram to calculate the HCF and LCM. (H)* • *Make and test conjectures.* • *Use counterexamples to disprove a conjecture.*		***Algebraic Representations*** • *Find the rule for the nth term of a sequence.* • *Investigating algebraic Proof.* **Representing Problems** • *Using graphs, equations, tables etc. to solve complex word problems*