

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	Unit 1: Analysing and displaying data <ul style="list-style-type: none"> - Tables and pictograms - Bar charts - Grouped data - Mode and modal class - Range and median 	Unit 3: Expressions, functions and formulae <ul style="list-style-type: none"> - Using functions - Function machines - Simplifying expression - Writing expressions - Writing formulae - Using formulae 	Unit 5: Factors and multiples <ul style="list-style-type: none"> - Number rules and relationships - Multiples - Multiplication - Division - Solving problem - Factors and primes - Common factors and multiples 	Unit 7 Angles and Lines <ul style="list-style-type: none"> - Right angles and lines - Measuring angles - Drawing and estimating angles - Putting angles together 	Unit 8 Measuring and shapes <ul style="list-style-type: none"> - Shapes - Symmetry in shapes - Regular polygons - Perimeter - Area 	Unit 9 Fractions, decimals percentages <ul style="list-style-type: none"> - Comparing fractions - Equivalent fractions - Calculating with fractions - Adding and subtracting fractions - Introducing percentages - Finding percentages
	Unit 2: Calculating <ul style="list-style-type: none"> - Adding - Subtracting - Multiplying - Dividing - Multiplying and dividing by 10, 100 and 1000 - Using the four operations - Positive and negative numbers 	Unit 4: Graphs <ul style="list-style-type: none"> - Real life graphs - Coordinates - Graphs of functions - Scientific graphs 	Unit 6: Decimals and measures <ul style="list-style-type: none"> - Estimates and measures - Decimal numbers - Metric Units - Adding and subtracting decimals - Rounding - Multiplying and dividing decimals 		Unit 10 Transformations <ul style="list-style-type: none"> - Reflections - Translation - Rotation - Congruency 	

Year 8	<p>Unit 1: Number properties and calculations</p> <ul style="list-style-type: none"> - Adding and subtracting with large numbers - Calculations - Negative numbers - Writing ratios - Using ratios to solve problems - Multiplicative reasoning <p>Unit 2: Shapes and measures in 3D</p> <ul style="list-style-type: none"> - 3D solids - Nets of 3D solids - Surface area - Volume - Working with measures 	<p>Unit 3: Statistics</p> <ul style="list-style-type: none"> - Data collection sheets - Interpreting bar charts - Drawing bar charts - Pie charts <p>Unit 4: Expressions and equations</p> <ul style="list-style-type: none"> - Simplifying expression - Functions - Solving equations - Using brackets 	<p>Unit 5: Decimal calculations</p> <ul style="list-style-type: none"> - Adding and subtracting decimals - Ordering and rounding decimals - Problem solving decimals <p>Unit 6: Angles</p> <ul style="list-style-type: none"> - Measuring and drawing angles - Vertically opposite angles - Angles in triangles - Drawing triangles accurately - Designing nets 	<p>Unit 7 Number properties</p> <ul style="list-style-type: none"> - Squares, cubes and roots - Calculating with brackets and indices - LCM and HCF - Prime factor decomposition 	<p>Unit 8 Sequences</p> <ul style="list-style-type: none"> - Generating sequences - Extending sequences - Special sequences - Position-to-term rules - Finding the nth term <p>Unit 9 Fractions, percentages</p> <ul style="list-style-type: none"> - Comparing fractions - Fractions of amounts - Adding and subtracting fractions - Fractions and percentages - Calculating percentages - Percentages and proportion 	<p>Unit 10 Probability</p> <ul style="list-style-type: none"> - The language of probability - Outcomes - Probability calculations - Comparing probabilities

Year 9	<p>Unit 1: Number calculations</p> <ul style="list-style-type: none"> - Adding and subtracting - Multiplying and dividing with negative numbers - Squares, cubes and roots - More powers - Calculations <p>Unit 2: Sequences and equations</p> <ul style="list-style-type: none"> - Algebraic expression - Using the nth term - Finding the nth term - Solving equations 	<p>Unit 3: Statistics</p> <ul style="list-style-type: none"> - Planning a survey - Statistics from tables - Comparing data - Tables - Pie charts and scatter graphs <p>Unit 4: Fractions, decimals, percentages</p> <ul style="list-style-type: none"> - Equivalent proportions - Recurring decimals - Adding and subtracting fractions - Multiplying fractions - Comparing proportion 	<p>Unit 5: Geometry in 2D and 3D</p> <ul style="list-style-type: none"> - Angles - Maps and scales - Constructions - 3D solids <p>Unit 6: Algebraic and real-life graphs</p> <ul style="list-style-type: none"> - Reading graphs - Plotting graphs - Distance-time graphs - Midpoint - Intercepts and gradients 	<p>Unit 7 Multiplicative reasoning</p> <ul style="list-style-type: none"> - Using ratios - Using proportion - Problem solving proportions - Measures and conversions 	<p>Unit 8 Algebraic and geometric formulae</p> <ul style="list-style-type: none"> - Substituting into formulae - Formulae in geometry - Compound shapes - Circles <p>Unit 9 Probability</p> <ul style="list-style-type: none"> - Probablility experiments - Sample space diagrams - Two way tables - Tree diagrams 	<p>Unit 10 Polygons and Transformations</p> <ul style="list-style-type: none"> - Quadrilaterals - Triangles - Transformations - Enlargements - Congruents Shapes

Year 10	<p>Unit 1: Number</p> <ul style="list-style-type: none"> - Calculations - Decimal numbers - Place value - Factors and multiples - Squares, cubes and roots - Index notation - Prime factors <p>Unit 2: Algebra</p> <ul style="list-style-type: none"> - Algebraic expressions - Simplifying expressions - Substitutions - Formulae - Expanding brackets - Factorising - Using expressions and formulae <p>Unit 3 Graphs, tables,</p>	<p>Unit 4: Fractions and percentages</p> <ul style="list-style-type: none"> - Working with fractions - Operations with fractions - Multiplying fractions - Dividing fractions - Fractions and decimals - Fractions and percentages - Calculating percentages <p>Unit 5: Equations, inequalities and sequences</p> <ul style="list-style-type: none"> - Solving equations - Solving equations with brackets - Introducing inequalities - Using formulae - Generating sequences <p>Using the nth term of a</p>	<p>Unit 6: Angles</p> <ul style="list-style-type: none"> - Properties of shapes - Angles in parallel lines - Angles in triangles - Exterior and interior angles - Geometrical problems <p>Unit 7: Averages and range</p> <ul style="list-style-type: none"> - Mean and range - Mode, Median and range - Types of averages - Estimating the mean <p>Sampling</p>	<p>Unit 8: perimeter, area, volume</p> <ul style="list-style-type: none"> - Rectangles, parallelograms and triangles - Trapezia and changing units - Area of compound shapes - Surface area of 3D shapes - Volume of prisms <p>Unit 9: Graphs</p> <ul style="list-style-type: none"> - Coordinates - Linear graphs - $y=mx + c$ - Real life graphs - Distance time graphs 	<p>Unit 10: Transformations</p> <ul style="list-style-type: none"> - Translation - Rotation - Reflection - Enlargement - Describing transformations - Combining transformations <p>Unit 11 Ratio and proportion</p> <ul style="list-style-type: none"> - Writing ratios - Using ratios - Ratios and measures - Comparing using ratios - Using proportion - Proportion and graphs - Proportion problems 	<p>Unit 12: Right angled triangles</p> <ul style="list-style-type: none"> - Pythagoras' theorem - Finding angles and lengths using trigonometry <p>Unit 13: Probability</p> <ul style="list-style-type: none"> - Calculating probability - Two events - Experimental probability - Venn diagrams - Tree diagrams

	<p>charts</p> <ul style="list-style-type: none"> - Frequency tables - Two-way tables - Representing data - Time series - Stem and leaf diagrams - Pie charts - Scatter graphs - Line of best fit 	sequence				
Year 11	<p>Unit 14: multiplicative reasoning Foundation</p> <ul style="list-style-type: none"> - Percentage - Growth and Decay - Compound measures - Distance, Speed and Time - Direct and inverse proportion <p>Unit 15: Construction, loci, bearings Foundation</p> <ul style="list-style-type: none"> - 3D Solids - Plans and elevations - Scale Drawings and Maps - Accurate Drawings - Construction 	Revision	Revision	Exam	Exam	

	- Loci					
--	--------	--	--	--	--	--

YEAR 7 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links
Autumn 1	Unit 1: Analysing and displaying data Unit 2: Calculating	<ul style="list-style-type: none"> -Interpret data in tables, charts and diagrams -Record data in a frequency table -Find the mode, median and mean and range of a set of data. -Find the modal class for grouped data -Add and subtract numbers in different ways -Solve simple ratio and proportion problems -Continue number sequences -Round and approximate numbers -Multiply numbers and recognise multiples -Recognise square numbers -Multiply and divide by 10, 100 and 1000 -Use simple negative numbers 		<ul style="list-style-type: none"> <u>Cross Curricular</u> Recording experiment results; bar charts, pie charts, time graphs <u>Work related</u> Market research Sports coaching <u>Cross Curricular</u> DT: working out material costs, weights and Quantities Food Tech: scaling recipes, portion sizes Science: speed = distance+time <u>Work related</u> Retail; tills, giving change, discount
Autumn 2	Unit 3: Expressions, functions and formulae Unit 4: Graphs	<ul style="list-style-type: none"> -Find outputs of simple functions -Describe simple functions -Simplify expressions by collecting like terms -Write expressions from a description in words -Substitute positive integers into simple formulae expressed in words -Substitute integers into simple formulae expressed in letter symbols -Write simple formulae using letter symbols -Read information from a reallife graph -Plot coordinates -Read x- and y-coordinates -Plot graphs of simple functions 		<ul style="list-style-type: none"> <u>Cross Curricular</u> Computing: algorithms, spreadsheets (formulas In Excel). <u>Work related</u> Finance: interest calculations, wages <u>Cross Curricular</u> Sci: plotting experiment results <u>Work related</u> Transport: timetables and routes

Summer 1	<p>Unit 8 Measuring and shapes</p> <p>Unit 10 Transformations</p>	<p>-Give the names of regular polygons and triangles</p> <p>-Recognise properties of squares and rectangles</p> <p>-Calculate perimeters of rectangles and regular polygons</p> <p>-Calculate the perimeter and area of shapes made from rectangles</p> <p>-Describe the symmetry of triangles and other shapes</p> <p>-Solve problems involving the perimeter of squares and rectangles</p> <p>-Understand reflections and reflect a shape in a mirror line</p> <p>-Understand translation and translate a shape</p> <p>-Draw and describe rotations</p> <p>-Understand the term 'congruent' and identify congruent shapes</p>		<p>Cross Curricular</p> <p>PE: measuring long jump, shot put</p> <p>Art: geometric patterns</p> <p>Work related</p> <p>Building trades – flooring, tiling</p> <p>Cross curricular</p> <p>Art: symmetry, tessellations, patterns</p> <p>Work related</p> <p>Graphic: logos, patterns</p>
Summer 2	Unit 9 Fractions, decimals percentages	<p>-Order fractions</p> <p>-Relate fractions to division and parts of shapes.</p> <p>-Identify equivalent fractions</p> <p>-Change an improper fraction to a mixed number</p> <p>-Find simple fractions of whole number quantities</p> <p>-Add and subtract simple fractions</p> <p>-Understand a percentage as the number of parts per 100</p>		<p>Cross Curricular</p> <p>Food: dividing recipes, converting measures</p> <p>Work related</p> <p>Retail:sales and offers</p>

- | | | | |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| | <ul style="list-style-type: none">-Convert a percentage to a number of hundredths or tenths-Write a percentages as a fraction or decimal-Find simple percentages of whole number quantities | | |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

<p>Autumn 2</p>	<p>Unit 3: Statistics</p> <p>Unit 4: Expressions and equations</p>	<ul style="list-style-type: none"> - Design a data collection sheet - Interpret data from compound and comparative bar charts - Construct a frequency table for grouped discrete data - Construct compound bar graphs - Interpret simple charts - Use arithmetic operations with algebra -Simplify algebraic expressions by collecting like terms -Find outputs and inputs of simple functions -Construct functions -Solve linear equations with whole number coefficients -Use the distributive law with brackets -Understand that expressions can be written in more than one way -Multiply a positive integer over a bracket 	<p>Cross Curricular</p> <p>PE: recording times and distances</p> <p>Sci: data from experiments</p> <p>Work related</p> <p>Sports analysis, performance tracking</p> <p>Cross Curricular</p> <p>Computing: formulas in spreadsheets, coding</p> <p>Work related</p> <p>Finance: working out wages, tax</p>
<p>Spring 1</p>	<p>Unit 5: Decimal calculations</p> <p>Unit 6: Angles</p>	<ul style="list-style-type: none"> -Add decimals with varying numbers of decimal places -Add more than two decimals with up to two decimal places -Subtract integers and decimals with varying numbers of decimal places -Multiply decimals with two places by single-digit whole numbers -Multiply integers and decimals -Calculate the squares of decimal numbers -Solve problems involving decimal numbers -Use a protractor to measure reflex angles to the nearest degree -Use a protractor to draw reflex angles to the nearest degree -Calculate angles around a point -Use a protractor to draw obtuse angles to the nearest degree -Calculate angles in a triangle - Use a ruler and protractor to construct a triangle given SAS or ASA - Use ruler and protractor to construct simple nets of 3-D shapes 	<p>Cross Curricular</p> <p>Food tech: weighing ingredients</p> <p>Sci: precise measuring</p> <p>Work related</p> <p>Retail: prices with decimals</p> <p>Costruction: decima measures</p> <p>Cross Curricular</p> <p>Art: perspective drawing</p> <p>Work related</p> <p>Retail: prices with decimals</p>

Summer 2	Unit 9 Fractions, percentages	<ul style="list-style-type: none">- Compare two or more fractions with different denominators- Calculate fractions of quantities and measurements- Add and subtract fractions by writing with a common denominator- Simplify fractions by cancelling all common factors- Express one number as a fraction of another- Multiply a fraction by an integer- Calculate simple percentages- Use percentages to compare simple proportions- Express one given number as a percentage of another		Cross Curricular Food tech: halving/ doubling recipes, portion sizes PSHE: budgeting, money management Work related Retail: discount, offers, sales Finance: tax, savings, interest
-----------------	--------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

YEAR 9 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources
Autumn 1	<p>Unit 1: Number calculations</p> <p>Unit 2: Sequences and equations</p>	<ul style="list-style-type: none"> - Convert between numbers such as 2 360 000 and 2.36 million - Multiply and divide integers, decimals negatives - Use index notation for small integer powers - Find the prime factor decomposition of a number - Work with expressions that contain brackets, squares, cubes and square roots as well as the four operations - Construct expressions from a description in words - Simplify expressions in more than one variable, by collecting like terms - Generate terms of a linear sequence using position-to-term - Generate terms from a complex context - Use linear expressions to describe the nth term in a twostep arithmetic sequence - Find outputs of functions - Solve simple two-step linear equations 	<p>Cross Curricular</p> <p>Sci: calculations with forces, energy, speed</p> <p>Food: scaling recipes, calorie totals</p> <p>Work related</p> <p>Retail, tills, discount, cash handling</p> <p>Construction: costing materials</p> <p>Cross curricular</p> <p>Art: tessellations, repeating designs</p> <p>Work related</p> <p>Robotics: programming movement sequences</p>

				<p>Gaming industry: odds in games</p>
<p>Summer 2</p>	<p>Unit 10 Polygons and Transformations</p>	<ul style="list-style-type: none"> - Solve geometrical problems using properties of triangles - Know that in congruent shapes, corresponding sides and angles are equal - Solve simple geometrical problems showing reasoning - Transform 2D shapes by combinations of rotations, reflections and rotations - Plot points on a grid and identify resulting geometric shapes - Classify quadrilaterals by their geometric properties - Know that translations, rotations and reflections preserve length and angle - Enlarge 2D shapes, given a centre of enlargement and a positive whole-number scale factor 		<p>Cross Curricular</p> <p>Art: symmetry, teselations, patterns</p> <p>Work related</p> <p>DT: Logos and layouts</p> <p>ICT: movement mapping</p>

YEAR 10 — MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	<p>Cross Curricular links</p> <p>Personal Development Links</p> <p>Careers Related Learning Links</p>
Autumn 1	<p>Unit 1: Number</p> <ul style="list-style-type: none"> - Calculations - Decimal numbers - Place value - Factors and multiples - Squares, cubes and roots - Index notation - Prime factors <p>Unit 2: Algebra</p> <ul style="list-style-type: none"> - Algebraic expressions - Simplifying expressions - Substitutions - Formulae - Expanding brackets - Factorising - Using expressions and formulae <p>Unit 3 Graphs, tables, charts</p> <ul style="list-style-type: none"> - Frequency tables - Two-way tables - Representing data - Time series - Stem and leaf diagrams - Pie charts - Scatter graphs - Line of best fit 	<ul style="list-style-type: none"> - calculate with brackets, powers and roots. - multiply and divide decimal numbers - simplify a calculation by cancelling - use one calculation to work out the answer to another - recall prime numbers - find the LCM and HCF of two numbers, by listing or writing the numbers as products of their prime factors. <ul style="list-style-type: none"> - collect like terms and find common factors to simplify algebraic expressions - write expressions and find their values - expand brackets and factorise expressions completely - understand and use correct mathematical vocabulary and notation - write formulae and substitute values into them <ul style="list-style-type: none"> - complete and read information from tables and distance charts - draw pie charts and read information from them - draw and interpret data from bar charts and stem and leaf diagrams - draw and interpret time series graphs and scatter graphs and draw a line of best fit - design data collection sheets and two-way tables and use them to solve problems 		<p>Cross Curricular</p> <p>Sci: Formula in physics: speed = distance \div time</p> <p>Food: converting units</p> <p>Work related</p> <p>Retail/ shop work: money handling, giving change, discounts</p> <p>Cross curricular</p> <p>Science: graphing linear relationships (distance/time)</p> <p>Work related</p> <p>Finance/ banking: simple and compound interest calculations</p> <p>Gardening: calculating areas, predicting Growth patterns.</p>

				<p>Cross curricular</p> <p>Sci: experiment data</p> <p>ICT: spreadsheets</p> <p>Work related</p> <p>Data analyst, marketing.</p>
<p>Autumn 2</p>	<p>Unit 4: Fractions and percentages</p> <ul style="list-style-type: none"> - Working with fractions - Operations with fractions - Multiplying fractions - Dividing fractions - Fractions and decimals - Fractions and percentages - Calculating percentages <p>Unit 5: Equations, inequalities and sequences</p> <ul style="list-style-type: none"> - Solving equations - Solving equations with brackets - Introducing inequalities - Using formulae - Generating sequences - Using the nth term of a sequence 	<ul style="list-style-type: none"> - add and subtract fractions and mixed numbers - multiply and divide fractions and mixed numbers - convert fractions to percentages and percentages to fractions - convert decimals to fractions and fractions to decimals - write one number as a fraction or percentage of another number - compare the size of decimals, fractions and percentages; arrange them in size order - calculate fractions or percentages of amounts - calculate percentage increase or decrease - calculate simple interest and VAT - solve one- and two-step equations - solve more complex equations involving brackets and/or with the unknown on both sides - understand expression, multiple, equation, factor, formula, identity, term and inequality - substitute values into a formula and solve the resulting equation - rearrange a formula to make a different letter the subject - represent and interpret inequalities on a number line - solve inequalities and identify integers that satisfy an inequality - generate terms of an arithmetic sequence and find the nth term - generate terms of sequences given either the first few terms, or the nth term 		<p>Cross Curricular</p> <p>Food: recipe, portions</p> <p>PE: fitness results</p> <p>Work related</p> <p>Retail, finance, catering</p> <p>Cross Curricular</p> <p>Sci: physics (motion and forces)</p> <p>Work related</p> <p>IT: programming</p>

<p>Spring 1</p>	<p>Unit 6: Angles</p> <ul style="list-style-type: none"> - Properties of shapes - Angles in parallel lines - Angles in triangles - Exterior and interior angles - Geometrical problems <p>Unit 7: Averages and range</p> <ul style="list-style-type: none"> - Mean and range - Mode, Median and range - Types of averages - Estimating the mean - Sampling 	<p>- find missing angles in lines meeting at a point, parallel lines, triangles and quadrilaterals, giving reasons for my answers</p> <p>- form and solve equations to find angles expressed algebraically</p> <p>- find the size of the interior and exterior angles of polygons</p> <p>- find the sum of the interior angles of a polygon and find the size of one interior angle</p> <p>- calculate the mean, mode, median and range from a list, and identify outliers</p> <p>- calculate the mean, mode, median and range from a frequency table, and draw a frequency polygon</p> <p>- estimate the mean and range of grouped data, and identify the class containing the median and the modal class</p> <p>- compare two sets of data using an average and the range</p> <p>- select the most appropriate average to represent a set of data</p> <p>- describe how to select a fair sample and recognise bias in a sample</p> <p>- predict results for a population from a sample</p>		<p>Cross Curricular</p> <p>Art/ design: perspective</p> <p>Physics: reflection/ refraction</p> <p>Work related</p> <p>Carpentry/ joinery, surveying, game design</p> <p>Cross Curricular</p> <p>Sci: recording results</p> <p>PE: scores/times</p> <p>Work related</p> <p>Sports coaching, quality control</p>
<p>Spring 2</p>	<p>Unit 8: perimeter, area, volume</p> <ul style="list-style-type: none"> - Rectangles, parallelograms and triangles - Trapezia and changing units - Area of compound shapes - Surface area of 3D shapes - Volume of prisms <p>Unit 9: Graphs</p> <ul style="list-style-type: none"> - Coordinates - Linear graphs - $y=mx + c$ 	<p>- find the perimeter and area of rectangles, triangles, parallelograms and trapeziums</p> <p>- work backwards to find a missing length</p> <p>- find the area of compound shapes made from rectangles and triangles</p> <p>- find the area of compound shapes made from rectangles and triangles</p> <p>- convert between metric units of area, volume and capacity</p> <p>- recognise and draw lines parallel to the axes and the lines $y = x$ and $y = -x$</p> <p>- draw and read values from straight-line graphs</p> <p>- find the midpoint of a line segment</p> <p>find the equation of a line and understand the meaning of m and c in</p>		<p>Cross Curricular</p> <p>Sci: surface area, reactions</p> <p>DT: designing objects</p> <p>PE: sports pitches</p> <p>Work related</p> <p>Construction, architecture, farming</p>

	<ul style="list-style-type: none">- Real life graphs- Distance time graphs	<p>$y = mx + c$</p> <ul style="list-style-type: none">- interpret distance-time graphs and other real-life graphs- use the line of best fit on a scatter graph to make predictions- interpret/sketch a range of graphs, including graphs showing real-life situations such as filling a container		<p><u>Cross Curricular</u></p> <p><u>Sci: motion graphs</u></p> <p><u>Work related</u></p>
--	---------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------

<p>Summer 1</p>	<p>Unit 10: Transformations</p> <ul style="list-style-type: none"> - Translation - Rotation - Refelction - Enlargement -Describing transformations -Combining transformations 	<ul style="list-style-type: none"> - translate and reflect given shapes on a grid - describe fully a translation or reflection - enlarge an object by an integer or fractional scale factor - find the area of an enlarged shape - rotate an object about a given centre of rotation - describe fully a rotation or enlargement; work out a scale factor - combine transformations and describe the single equivalent transformation 		<p>Cross Curricular</p> <p>Art: symmetry</p> <p>ICT: Image editing</p> <p>Work related</p> <p>Graphic design, game design, animation</p>
------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>Unit 11 Ratio and proportion</p> <ul style="list-style-type: none"> - Writing ratios - Using ratios - Ratios and measures - Comparing using ratios - Using proportion - Proportion and graphs - Proportion problems 	<ul style="list-style-type: none"> - combine transformations and describe the single equivalent transformation - use ratios to convert units and enlarge shapes - divide a quantity in a given ratio - solve word problems using ratios - solve proportion problems - use the unitary method to solve proportion problems and work out which product is better value - recognise and use direct proportion on a graph - solve word problems involving direct and inverse proportion 	<p>Cross Curricular Food- Recipes CDT – mixing adhesives</p> <p>Work related Kitchen/hospitality Construction</p>
<p>Summer 2</p>	<p>Unit 12: Right angled triangles</p> <ul style="list-style-type: none"> - Pythagoras' theorem - Finding angles and lengths using trigonometry <p>Unit 13: Probability</p> <ul style="list-style-type: none"> - Calculating probability - Two events - Experimental probability - Venn diagrams - Tree diagrams 	<ul style="list-style-type: none"> - use Pythagoras' theorem to find the length of a side in a right-angled triangle - use Pythagoras' theorem to find the length of a line segment, given the coordinates of the end-points - use Pythagoras' theorem to prove whether a triangle contains a right angle - use trigonometry to find the length of a side or the size of an angle in a right-angled triangle - recall the exact values of the sine, cosine and tangent of some angles - calculate probabilities from a single event or for simple combined events - calculate experimental probabilities - draw a sample space diagram and use it to calculate probabilities - draw Venn diagrams; use Venn diagrams to work out probabilities - draw tree diagrams for independent events and use them to calculate probabilities - draw tree diagrams for dependent events and use them to calculate probabilities - use two-way tables to calculate probabilities 	<p>Cross Curricular Tech - Construction</p> <p>Work related Architecture, Civil engineering, carpentry, surveying</p>

YEAR 11 MEDIUM-TERM OVERVIEW

Half term / Key question:	Topic	Pupil Outcomes	Resources	Cross Curricular links Personal Development Links Careers Related Learning Links
Autumn 1	Unit 14: multiplicative reasoning Foundation <ul style="list-style-type: none"> - Percentage - Growth and Decay - Compound measures - Distance, Speed and Time - Direct and inverse proportion Unit 15: Construction, loci, bearings Foundation <ul style="list-style-type: none"> - 3D Solids - Plans and elevations - Scale Drawings and Maps - Accurate Drawings - Construction - Loci 	<ul style="list-style-type: none"> - calculate percentage increases and decreases and find the original amount before an increase or decrease - calculate repeated percentage increases and decreases, including compound interest - calculate with, and compare, compound measures, including rates of pay, speed, density and pressure - write and use formulae connecting values that are in direct or inverse proportion <ul style="list-style-type: none"> - identify faces, edges and vertices in 3D shapes - identify planes of symmetry - draw a 3D shape in 2D view and in isometric form - construct SAS and SSS triangles - draw lines and angles accurately; bisect lines and angles by construction - draw the locus of points from a point and from a line segment - draw the locus of points equidistant from two given points - use loci to identify regions - construct the perpendicular from a point on a line / from a point to a line - construct the perpendicular from a point on a line / from a point to a line - draw and measure bearings between two points; read reciprocal bearings 		<ul style="list-style-type: none"> Cross Curricular Sci: ratios in chemical reactions Food: recipe scaling <ul style="list-style-type: none"> Work related Retail: discounts, mark ups Construction: material mix ratios <ul style="list-style-type: none"> Cross curricular DT: Technical drawings, measuring Accurately Art: isometric drawing Work related Architecture, Civil engineering, carpentry, surveying

<p>Autumn 2</p>	<p>Unit 16: Fractions, Indices and standard form</p> <ul style="list-style-type: none"> - Multiplying and dividing fractions - Index laws - Writing small and large numbers in standard form - calculating with standard form <p>Unit 17: Congruence, similarities and vectors</p> <ul style="list-style-type: none"> - Similarity and enlargement - Using similarity - Congruence - Vectors 	<ul style="list-style-type: none"> - find the reciprocal of an integer or decimal (and write it in standard form) - multiply and divide mixed numbers by fractions and mixed numbers - use index laws to simplify and evaluate numbers and algebraic expressions - convert numbers between ordinary numbers and standard form - multiply and divide numbers in standard form - add and subtract numbers in standard form - use a calculator to work out answers using numbers in standard form - order numbers written as decimals, single powers and in standard form <ul style="list-style-type: none"> - work out the scale factor of an enlargement; find missing lengths in enlargements - identify corresponding sides and angles in similar shapes and work out missing lengths - identify congruent shapes and give conditions of congruence - combine column vectors and represent the resultant as a single column vector - add, subtract and multiply vectors - work out column vectors given properties of length and direction - solve problems using vectors 		<p>Cross Curricular</p> <p>Food: recipes, portion control</p> <p>Sci: measuring solutions</p> <p>Work related</p> <p>Catering, healthcare, retail</p> <p>Cross curricular</p> <p>Art: symmetry, pattern design</p> <p>DT: design accuracy</p> <p>Work related</p> <p>Architecture, graphic design, engineering</p>
------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Spring 1

**Revision using past
papers**

--	--	--	--	--

Spring 2				
Summer 1				

Summer 2

