

## LONG TERM CURRICULUM PLANNING OVERVIEW:

### Mathematics

	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11
<b>Autumn A Skills</b>	<p>Using whole numbers. Multiplying and dividing by multiples of 10.</p> <p>Writing and ordering decimal numbers.</p> <p>Rounding to the nearest 10 and 100.</p> <p>Rounding larger numbers.</p> <p>Factors, Multiples, Primes and Powers.</p> <p>Length, Mass, Time, Volume.</p> <p>Interpreting scales.</p> <p>Using the Metric system.</p> <p>Cartesian coordinates including in all four quadrants.</p>	<p>Multiplying whole numbers.</p> <p>Multiplying and dividing by powers of 10.</p> <p>Writing and ordering decimal numbers.</p> <p>Rounding larger numbers.</p> <p>Adding and subtracting negative numbers.</p> <p>Multiplying and dividing negative numbers.</p> <p>Order of operations (BIDMAS).</p> <p>Factors, Primes and Powers.</p> <p>Sequences.</p>	<p>Real-life graphs. Plotting graphs of linear functions.</p> <p>The equation of a straight line.</p> <p>Using frequency tables.</p> <p>Designing a questionnaire.</p> <p>Scatter graphs.</p> <p>Grouped frequency tables. Displaying grouped data.</p> <p>Area and Perimeter. Circumference. Area of circles.</p> <p>Using the number system effectively.</p> <p>Multiplying and dividing decimals.</p>	<p>Using the number system effectively.</p> <p>Multiplying decimals.</p> <p>Multiplying and dividing by powers of 10.</p> <p>Standard Form.</p> <p>Approximating.</p> <p>Rules of indices.</p> <p>Plotting graphs of linear functions.</p> <p>The equation of a straight line.</p> <p>Plotting quadratic and cubic graphs.</p> <p>Quadratic equations.</p>	<p>Multiplying and Dividing fractions.</p> <p>Factorising - including harder quadratics and solving equations.</p> <p>Completing the square. The quadratic formulae. Solving equations with brackets.</p> <p>Pythagoras Theorem.</p> <p>Arcs and Sectors.</p> <p>The Sine and cosine rule.</p> <p>Enlargement in 2 and 3 dimensions.</p> <p>Using graphs to solve simultaneous equations.</p>

	Translations.	Angle facts – including triangles and quadrilaterals.  Angles in parallel lines.  Problem solving within number, sequences, and shape.	Standard Form.	Factorising - including quadratics and solving equations.  Compound units. Volume and Surface Area of cuboids.  Enlargement in 2D and 3D.	Simultaneous equations with quadratics.  Circular Functions.  Bearings.  Trigonometry.  Trig for special angles.  Trig functions.
<b>Autumn B Skills</b>	Adding and subtracting decimals.  Rounding decimals to the nearest integer.  Using tables and charts, including frequency tables.  Pie Charts.  Stem and Leaf Diagrams.  Using mean, median, mode and range.  Properties of common shapes.  Lines of symmetry.	Making and using word formulae.  Combining variables.  Setting up and solving simple equations.  Using brackets.  Vertical line charts. Pie charts.  Stem and leaf diagrams.  Collecting data.  Scatter diagrams.  Using mean, median, mode and range.	Setting up and solving simple equations.  Using brackets.  Working with more complex equations.  Solving equations with brackets.  Simplifying harder expressions.  BIDMAS.  Area of circles. Circumference. Pythagoras' theorem.  Multiplying fractions.	Converting between fractions, decimals, and percentages.  Applying percentage increases and decreases to amounts.  Finding the percentage change from one amount to another.  Repeated percentage increase/decrease.  Geometric progressions. Angles in triangles and quadrilaterals.  Angles and parallel lines. Angles in a polygon.	Sharing in a given ratio. The constant of proportionality.  Reverse percentages.  Rearranging more formulae. Solving equations numerically.  Scale drawing.  Constructions with a ruler and protractor.  Loci.  Combining transformations. Translations and reflections of functions.

	<p>Rotational symmetry.</p> <p>Angles.</p> <p>Reflections.</p> <p>Rotation.</p> <p>Properties of 3-D shapes.</p>	<p>Dividing whole numbers.</p> <p>Divisibility tests.</p> <p>Adding and subtracting fractions.</p> <p>Multiplying fractions.</p> <p>Dividing fractions.</p> <p>Finding equivalent fractions.</p> <p>Working with mixed numbers.</p> <p>Constructions with a ruler and protractor.</p> <p>Constructions with a pair of compasses.</p> <p>Properties of 3-D shapes.</p> <p>Types of quadrilateral.</p> <p>Rotational symmetry.</p> <p>Understanding nets.</p>	<p>Converting between fractions, decimals, and percentages.</p> <p>Applying percentage increases and decreases to amounts.</p> <p>Finding the percentage change from one amount to another.</p> <p>Reverse percentages.</p>	<p>Congruent triangles and proof.</p> <p>Proof using similar and congruent triangles.</p> <p>Trigonometry for special angles.</p> <p>Prisms.</p> <p>Vertical line charts.</p> <p>Pie charts.</p> <p>Scatter diagrams.</p> <p>Using lines of best fit.</p> <p>Understanding nets.</p> <p>2-D representations of 3-D shapes.</p> <p>Enlargement in two and three dimensions.</p>	<p>Using frequency tables including grouped frequency.</p> <p>Displaying grouped data.</p> <p>Histograms.</p>
<b>Spring A Skills</b>	<p>Adding and subtracting negative numbers.</p> <p>Multiplying and dividing negative numbers.</p>	<p>Working with formulae.</p> <p>Using letters.</p> <p>Real life graphs.</p>	<p>Working with more complex equations.</p> <p>Linear inequalities.</p>	<p>Setting up and solving simple equations.</p> <p>Working with more complex equations.</p>	<p>Approximating.</p> <p>Limits of accuracy.</p> <p>Compound units.</p>

	<p>Using frequency tables.</p> <p>Vertical line charts.</p> <p>Collecting data.</p> <p>Using mean, median, mode and range.</p> <p>Making and using word formulae.</p> <p>Using letters.</p> <p>Combining variables.</p> <p>Working with formulae.</p>	<p>Plotting graphs of linear functions.</p> <p>Adding and subtracting decimals.</p> <p>Multiplying decimals.</p> <p>Dividing decimals.</p> <p>Rounding decimals to the nearest integer.</p> <p>Order of operations BIDMAS.</p> <p>Interpreting scales.</p> <p>Bearings.</p> <p>Circumference.</p>	<p>Trial and improvement.</p> <p>Angles in triangles and quadrilaterals.</p> <p>Types of quadrilateral.</p> <p>Angles and parallel lines.</p> <p>Angles in a polygon.</p> <p>Bearings.</p> <p>Index notation.</p> <p>Prime factorisation.</p> <p>Using frequency tables including grouped frequency.</p> <p>Stem and leaf diagrams.</p> <p>Interquartile range.</p> <p>Displaying grouped data.</p>	<p>Finding equations of straight lines.</p> <p>Quadratic equations.</p> <p>Polynomial and reciprocal functions.</p> <p>Simplifying harder expressions.</p> <p>Identities.</p> <p>Adding and subtracting fractions.</p> <p>Working with mixed numbers.</p> <p>Dividing decimals.</p> <p>Finding area and perimeter.</p> <p>Volume and surface area of cuboids.</p> <p>Arcs and sectors.</p> <p>Prisms.</p> <p>Surface area and volume of 3-D shapes.</p>	<p>Using chords and tangents.</p> <p>Area under non-linear graphs.</p> <p>Real life graphs.</p> <p>Inverse and composite functions.</p> <p>Translations.</p> <p>Vectors.</p> <p>Proof with vectors.</p> <p>Identities.</p> <p>Proving general results.</p> <p>Working with proportional quantities.</p> <p>Working with inversely proportional quantities.</p> <p>Formulating equations to solve proportion problems.</p>
<b>Spring B Skills</b>	<p>Understanding fractions.</p> <p>Finding equivalent fractions.</p>	<p>Setting up and solving simple equations.</p>	<p>Multiplying and dividing negative numbers.</p>	<p>Multiplying fractions.</p> <p>Single event probability.</p>	<p>Congruent triangles and proof.</p>

<p>Multiplying fractions.</p> <p>Angle facts.</p> <p>What is a sequence?</p> <p>Generating sequences.</p>	<p>Combining variables.</p> <p>Using brackets.</p> <p>Working with more complex equations.</p> <p>Solving equations with brackets.</p> <p>Introduction to Probability. Single event probability. Combined events.</p> <p>The metric system. Metric-imperial conversions.</p> <p>Using the number system effectively.</p> <p>Understanding ratio notation. Sharing in a given ratio. Working with proportional quantities.</p> <p>Cartesian coordinates in four quadrants. Translation. Rotation. Enlargement. Scale drawing.</p>	<p>Linear sequences. Special sequences. Quadratic sequences.</p> <p>Plotting graphs of linear functions.</p> <p>The equation of a straight line. Plotting quadratic and cubic graphs.</p> <p>Volume and surface area of cuboids.</p> <p>2-D representations of 3-D shapes.</p> <p>Prisms.</p> <p>Compound units.</p> <p>Understanding ratio notation.</p> <p>Working with proportional quantities.</p> <p>The constant of proportionality.</p> <p>Working with mixed numbers.</p>	<p>Combined events. Estimating probability.</p> <p>The multiplication and addition rules of probability.</p> <p>Rotation. Finding centres of rotation.</p> <p>Vectors. BIDMAS.</p> <p>Writing numbers in standard form.</p> <p>Calculating with standard form.</p> <p>Fractional indices.</p> <p>Using indices in Algebra.</p> <p>Using complex formulae.</p> <p>Plotting quadratic and cubic graphs.</p> <p>Polynomial and reciprocal functions.</p>	<p>Trig in 2-D and 3-D.</p> <p>Proof using similar and congruent triangles.</p> <p>Area and volume in similar shapes.</p> <p>Finding the percentage change from one amount to another.</p> <p>Repeated percentage increase/decrease.</p> <p>Solving quadratic inequalities.</p> <p>Estimating probability.</p> <p>Conditional probability.</p>
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			Metric-imperial conversions.	Exponential functions. Growth and decay.	
<b>Summer A Skills</b>	<p>Understanding and using percentages.</p> <p>Calculating percentages of quantities.</p> <p>Converting between fractions, decimals and percentages.</p> <p>Introduction to probability. Single event probability.</p> <p>Angles in triangles and quadrilaterals.</p> <p>Constructions with a ruler and protractor.</p>	<p>Factors, primes and powers. Index notation.</p> <p>Adding and subtracting negative numbers.</p> <p>Working with formulae.</p> <p>Linear sequences. Special sequences.</p> <p>Understanding area. Properties of 3-D shapes. Finding area and perimeter.</p> <p>Understanding nets. Volume and surface area of cuboids.</p>	<p>Plotting graphs of linear functions</p> <p>Linear inequalities</p> <p>Solve pairs of equations by substitution</p> <p>Solve simultaneous equations using elimination</p> <p>Using graphs to solve simultaneous equations</p> <p>Rounding decimals</p> <p>Significance</p> <p>Approximating</p> <p>Limits of accuracy</p> <p>Metric-imperial conversions</p> <p>Bearings</p> <p>Constructions with a ruler and protractor</p> <p>Scale drawing</p>	<p>Circumference Area of circles</p> <p>Prime Factorisation</p> <p>Surds</p> <p>Enlargement Similarity Enlargement with negative scale factors</p> <p>Linear sequences Special sequences Quadratic sequences Geometric progressions Other sequences Nth term of quadratic sequences</p>	REVISION

			Constructions with a pair of compasses  Loci		
<b>Summer B Skills</b>	<p>Divisibility tests.</p> <p>Dividing whole numbers. Using the number system effectively.</p> <p>Rounding decimals. Significance.</p> <p>Real life graphs.</p> <p>Understanding area.</p> <p>Finding area and perimeter.</p>	<p>Setting up and solving simple equations.</p> <p>Trial and improvement. Using mean, median, mode and range.</p> <p>Stem and leaf diagrams. Collecting data.</p> <p>Using frequency tables including grouped frequency.</p> <p>Designing a questionnaire.</p> <p>Displaying grouped data.</p> <p>Understanding and using percentages.</p> <p>Calculating percentages of quantities.</p> <p>Applying percentage increases and decreases to amounts.</p>	<p>Working with proportional quantities.</p> <p>Sharing in a given ratio. Working with inversely proportional quantities. Working with formulae. Setting up and solving simple equations.</p> <p>Using brackets.</p> <p>Working with more complex equations.</p> <p>Solving equations with brackets.</p> <p>Simplifying harder expressions.</p> <p>Using complex formulae.</p> <p>Reflection. Rotation. Enlargement. Similarity.</p>	<p>Recurring decimals. Rounding decimals. Significance. Upper and lower bounds.</p> <p>Rules of indices.</p> <p>Types of quadrilaterals. Angles in a polygon. Congruent triangles and proof.</p> <p>Circle theorems.</p> <p>The equation of a straight line.</p> <p>Plotting quadratic and cubic graphs.</p> <p>Perpendicular lines.</p> <p>Solve pairs of equations by substitution.</p> <p>Solve simultaneous equations by elimination.</p>	

		<p>Converting between fractions decimals and percentages.</p> <p>Rounding decimals.</p> <p>Rotational symmetry. Understanding nets.</p> <p>Volume and surface area of cuboids.</p> <p>2-D representations of 3-D shapes.</p>	<p>Trigonometry.</p> <p>Introduction to probability.</p> <p>Single event probability.</p> <p>Combined events.</p> <p>Estimating probability.</p> <p>Adding and subtracting fractions.</p> <p>Dividing fractions.</p>	<p>Solving linear inequalities in two variables.</p>	
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