

	Year 7			Year 8			Year 9			Year 10			Year 11		
	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3	Term 1	Term 2	Term 3
Algebra	Know the meaning of expression, term, formula, equation, function	Notation, vocabulary and manipulation. Understanding linear sequences	Recognise simple arithmetic progressions	Use and interpret algebraic notation, including: $a^2 b$ in place of $a \times a \times b$, coefficients written as fractions rather than as decimals	Notation, vocabulary and manipulation involving quadratic expressions and equations. Linear graphs in all four quadrants ($y=mx+c$)	Generate terms of a sequence from a position-to-term rule		Algebraic tinkering, involving inequalities and quadratics. Graphs. Quadratic and geometric sequences.		Use decimal search to solve a complex equation	Graphs - Translations, Functions with inputs and outputs. Sequences. Proofs		Graphs – velocity time graphs, circles and non-linear.		
	Know and use basic algebraic notation (the 'rules' of algebra)	Solve one-step equations when the solution is a positive integer or fraction	Use a term-to-term rule to generate a linear sequence	Simplify an expression involving terms with combinations of variables (e.g. $3a^2b + 4ab^2 + 2a^2 - a^2b$)	Simplify expressions using the law of indices for powers	Find the nth term of an ascending linear sequence				Show that a solution to a complex equation lies between two given values			Know that perpendicular lines have gradients with a product of -1		
	Simplify a simple expression by collecting like terms	Solve two-step equations when the solution is a positive integer or fraction	Use a term-to-term rule to generate a non-linear sequence	Factorise an algebraic expression by taking out common factors	Know and use the zero index	Find the nth term of a descending linear sequence				Use an iterative formula to find approximate solutions to equations			Identify perpendicular lines using algebraic methods		
	Simplify more complex expressions by collecting like terms	Solve three-step equations when the solution is a positive integer or fraction		Simplify expressions using the law of indices for multiplication	Substitute positive and negative numbers into formulae	Use the nth term of a sequence to deduce if a given number is in a sequence				Use an iterative formula to find approximate solutions, to a given number of decimal places, to an equation			Identify the equation of a circle from its graph		
	Manipulate expressions by multiplying an integer over a bracket (the distributive law)	Solve multi-step equations including the use of brackets when the solution is a positive integer or fraction		Simplify expressions using the law of indices for division	Change the subject of a formula when one step is required					Solve two linear simultaneous equations in two variables by substitution			Use the equation of a circle to draw its graph		
	Manipulate expressions by multiplying a single term over a bracket (the distributive law)	Solve equations when the solution is an integer or fraction			Change the subject of a formula when two steps are required					Solve two linear simultaneous equations in two variables by elimination (multiplication of both equations required)			Find the equation of a tangent to circle at a given point		
	Substitute positive numbers into expressions and formulae									Solve two linear simultaneous equations in two variables by elimination (fractional coefficients)			Solve algebraic problems involving tangents to a circle		
									Derive and solve two simultaneous equations in complex cases						
									Interpret the solution to a pair of simultaneous equations						

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Geometry and measure	Area and Perimeter of simple shapes	Recognise and solve problems using vertically opposite angles	Properties and construction – angle facts angle in polygons	Use the centre and scale factor to carry out an enlargement with a positive integer scale factor	Pythagoras and Trigonometry.	Transformation of graphs	Mensuration and calculation.	Pythagoras and Trig.			Appreciate that the ratio of corresponding sides in similar triangles is constant		Know and use different notations for vectors, including diagrammatic representation		
	Use a ruler to accurately measure line segments to the nearest millimetre	Recognise and solve problems using angles at a point	Identify line and rotational symmetry in polygons	Find the centre of enlargement	Nets, surface area and volume.	Construct scale diagrams involving bearings	Know circle definitions and properties, including: tangent, arc, sector and segment	Use ruler and compasses to construct the perpendicular bisector of a line segment			Choose an appropriate trigonometric ratio that can be used in a given situation		Add and subtract vectors		
	Use a protractor to accurately measure angles to the nearest degree	Recognise and solve problems using angles at a point on a line	Understand and use labelling notation for lengths and angles	Find the scale factor of an enlargement	Solve missing angle problems involving alternate angles	Solve geometrical problems using bearings	Calculate the arc length of a sector, including calculating exactly with multiples of π	Use ruler and compasses to bisect an angle			Understand that sine, cosine and tangent are functions of an angle		Multiply a vector by a scalar		
	Convert fluently between metric units of length		Use ruler and protractor to construct triangles, and other shapes, from written descriptions	Use scale diagrams, including maps	Solve missing angle problems involving corresponding angles		Calculate the area of a sector, including calculating exactly with multiples of π	Use a ruler and compasses to construct a perpendicular to a line from a point and at a point			Establish the exact values of $\sin\theta$ and $\cos\theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90°		Solve simple geometrical problems involving vectors		
	Convert fluently between metric units of mass		Use ruler and compasses to construct triangles when all three sides known	Use the concept of scaling in diagrams	Use knowledge of alternate and corresponding angles to calculate missing angles in geometrical diagrams		Calculate the angle of a sector when the arc length and radius are known	Know how to construct the locus of points a fixed distance from a point and from a line			Establish the exact value of $\tan\theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ$ and 60°				
	Convert fluently between metric units of volume / capacity			Interpret plans and elevations	Establish the fact that angles in a triangle must total 180°		Calculate the surface area of a right prism	Solve simple problems involving loci			Use a calculator to find the sine, cosine and tangent of an angle				
	Convert fluently between units of time			Understand and use bearings			Calculate the surface area of a cylinder, including calculating exactly with multiples of π	Combine techniques to solve more complex loci problems			Know the trigonometric ratios, $\sin\theta = \text{opp/hyp}$, $\cos\theta = \text{adj/hyp}$, $\tan\theta = \text{opp/adj}$				
Convert fluently between units of money										Set up and solve a trigonometric equation to find a missing side in a right-angled triangle					
										Set up and solve a trigonometric equation when the unknown is in the denominator of a fraction					
										Set up and solve a trigonometric equation to find a missing angle in a right-angled triangle					

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Probability			<p>Introduction to probability.</p> <p>Outcomes, experimental and theoretical probability.</p>		<p>Know and use the vocabulary of probability</p> <p>Understand the use of the 0-1 scale to measure probability</p>	<p>List all the outcomes for an experiment, including the use of tables</p> <p>Work out theoretical probabilities for events with equally likely outcomes</p> <p>Know that the sum of probabilities for all outcomes is 1</p> <p>Apply the fact that the sum of probabilities for all outcomes is 1</p>			<p>Conditional probability, tree diagrams and two way tables.</p> <p>List outcomes of combined events using a tree diagram</p> <p>Know and use the multiplication law of probability</p> <p>Now and use the addition law of probability</p> <p>Use a tree diagram to solve simple problems involving independent combined events</p> <p>Use a tree diagram to solve complex problems involving independent combined events</p> <p>Use a tree diagram to solve simple problems involving dependent combined events</p>			<p>Apply the product rule for counting</p> <p>Use a Venn diagram to sort information in a probability problem</p> <p>Use a two-way table to sort information in a probability problem</p> <p>Use a Venn diagram to calculate theoretical probabilities</p> <p>Use a two-way table to calculate theoretical probabilities</p> <p>Calculate conditional probabilities using different representations</p>			

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Statistics		<p>Interpret and construct frequency tables</p> <p>Construct and interpret bar charts and know their appropriate use</p> <p>Construct and interpret comparative bar charts</p> <p>Construct and interpret pie charts and know their appropriate use</p> <p>Construct and interpret vertical line charts</p> <p>Choose appropriate graphs or charts to represent data</p>	<p>Find the mode of set of data</p> <p>Find the median of a set of data including when there are an even number of numbers in the data set</p> <p>Calculate the mean from a frequency table</p> <p>Find the mode from a frequency table</p> <p>Find the median from a frequency table</p> <p>Calculate and understand the range as a measure of spread (or consistency)</p> <p>Analyse and compare sets of data, appreciating the limitations of different statistics (mean, median, mode, range)</p>			<p>Measure of central tendency.</p> <p>Representing and interpreting data -</p> <p>Scatter diagrams, box plots and cumulative frequencies</p> <p>Construct and interpret a grouped frequency table for continuous data</p> <p>Construct and interpret histograms for grouped data with equal class intervals</p> <p>Plot a scatter diagram of bivariate data</p> <p>Interpret a scatter diagram using understanding of correlation</p>			<p>Measure of central tendency.</p> <p>Box plots and cumulative frequencies.</p> <p>Construct graphs of time series</p> <p>Interpret graphs of time series</p> <p>Construct and interpret compound bar charts</p> <p>Construct and interpret frequency polygons</p> <p>Construct and interpret stem and leaf diagrams</p>			<p>Histograms</p> <p>Use a sample to infer properties of a population</p> <p>Understand the limitations of sampling</p> <p>Know the meaning of the lower quartile and upper quartile</p> <p>Find the quartiles for discrete data sets</p> <p>Calculate and interpret the interquartile range</p> <p>Construct and interpret a box plot for discrete data</p> <p>Use box plots to compare distributions</p> <p>Understand the meaning of cumulative frequency</p> <p>Complete a cumulative frequency table</p>			