



Key Stage 3 Mathematics Curriculum Maps

	AUTUMN							SPRING						SUMMER							
	1	2	3	4	5	6	7	16	17	18	19	20	21	27	28	29	30	31	32		
Year 7	Topic – Calculating P - Exploring place value P - Exploring written methods of calculation P - Calculating with decimals P - Calculate with negative numbers, including using a scientific calculator S - Know and apply the correct order of operations				Topic – Numbers and the number system P - use the concepts and vocabulary of primes, factors, multiples, highest common factor and lowest common multiple P - use positive integer powers and associated real roots (square, cube and higher), recognise powers of 2, 3, 4, 5 S - recognise and use sequences of triangular, square and cube numbers, simple arithmetic progressions			Topic – Shape properties P – know the definitions faces, edges vertices P – use properties of triangles and quadrilaterals		Topic - Visualising S - Identify line and rotational symmetry in polygons P - Understand and use labelling notation for lengths and angles Sk - Use ruler and protractor to construct triangles, and other shapes, from written descriptions Sk - Use ruler and compasses to construct triangles when all three sides known		Topic - Algebraic proficiency S - Understand the vocabulary and notation of algebra P - Manipulate algebraic expressions P - Explore functions P - Evaluate algebraic statements		Topic - Angles P - apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles		Topic - Calculating FDP P - apply the four operations, including formal written methods, to simple fractions (proper and improper), and mixed numbers P - interpret percentages and percentage changes as a fraction or a decimal, and interpret these multiplicatively P - compare two quantities using percentages Sk - solve problems involving percentage change, including percentage increase/decrease			Topic - Solving equations P - Explore way of solving equations P - Solve two-step equations P - Solve three-step equations S - Extend into inequalities		
	Assessment- Y7 initial assessment wk 2 Half term assessments throughout the year with an end of year assessment in HT6.																				

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	1	2	3	4	5	6	7	16	17	18	19	20	21	27	28	29	30	31	32	
Year 8	<p>Topic – Presentation of data</p> <p>S - Explore types of data</p> <p>P - Construct and interpret graphs</p> <p>Sk - Select appropriate graphs and charts</p>		<p>Topic – Measuring data</p> <p>Sk - Investigate averages</p> <p>P - Explore ways of summarising data</p> <p>Sk - Analyse and compare sets of data</p>		<p>Topic – Numbers and the number system</p> <p>S/P - Identify and use the prime factorisation of a number</p> <p>S/P - Understand and use standard form</p>		<p>See wk. 8</p>	<p>Topic - Algebraic proficiency: tinkering</p> <p>S - use and interpret algebraic notation, including indices</p> <p>P - understand and use the concepts and vocabulary of factors</p> <p>P - simplify and manipulate algebraic expressions by taking out common factors and simplifying expressions involving sums, products and powers, including the laws of indices</p> <p>P - substitute numerical values into scientific formulae</p> <p>P - rearrange formulae to change the subject</p>			<p>Topic - Exploring FDP</p> <p>S - Identify if a fraction is terminating or recurring</p> <p>P - Recall some decimal and fraction equivalents (e.g. tenths, fifths, eighths, thirds, quarters, etc.)</p> <p>Sk - Write a terminating decimal as a fraction</p> <p>Sk - Write a fraction in its lowest terms by cancelling common factors</p> <p>S - Use a calculator to change any fraction to a decimal</p>			<p>Topic - Investigating angles</p> <p>P - understand and use alternate and corresponding angles on parallel lines</p> <p>P - derive and use the sum of angles in a triangle</p>		<p>Topic - Calculating FDP</p> <p>S - interpret fractions and percentages as operators</p> <p>P - work with percentages greater than 100%</p> <p>Sk - solve problems involving percentage change</p> <p>P - calculate exactly with fractions</p>		<p>Topic - Solving equations</p> <p>P - solve linear equations with the unknown on both sides of the equation</p> <p>Sk - find approximate solutions to linear equations using a graph</p>		
	8	9	10	11	12	13	14	15	22	23	24	25	26	33	34	35	36	37	38	39

<p>Year 8</p>	<p>Topic - Calculating</p> <p>P - Calculate with negative numbers, including using a scientific calculator</p> <p>P - Apply the correct order of operations</p>	<p>Topic - Visualising and constructing</p> <p>P - Use the centre and scale factor to carry out an enlargement with a positive integer scale factor</p> <p>S - Find the centre of enlargement</p> <p>S - Find the scale factor of an enlargement</p> <p>P - Use scale diagrams, including maps</p> <p>P - Use the concept of scaling in diagrams</p> <p>Sk - Interpret plans and elevations</p> <p>P - Understand and use bearings</p>	<p>Topic - Understanding risk I</p> <p>S - Know and use the vocabulary of probability</p> <p>P - Understand the use of the 0-1 scale to measure probability</p> <p>P - List all the outcomes for an experiment, including the use of tables</p> <p>P - Work out theoretical probabilities for events with equally likely outcomes</p> <p>P - Know that the sum of probabilities for all outcomes is 1</p> <p>Sk - Apply the fact that the sum of probabilities for all outcomes is 1</p>	<p>Topic - Proportional reasoning</p> <p>Sk - Explore the uses of ratio</p> <p>P - Investigate the connection between ratio and proportion</p> <p>P - Solve problems involving proportional reasoning</p> <p>P - Solve problems involving compound units</p>	<p>Topic - Pattern sniffing</p> <p>P - generate terms of a sequence from either a term-to-term or a position-to-term rule</p> <p>Sk - deduce expressions to calculate the nth term of linear sequences</p>	<p>Topic - Calculating space</p> <p>P - Investigate circles</p> <p>S - Discover pi</p> <p>P - Solve problems involving circles</p> <p>P - Explore prisms and cylinders</p>	<p>Topic - Algebraic proficiency: visualising</p> <p>P - plot graphs of equations that correspond to straight-line graphs in the coordinate plane</p> <p>P - identify and interpret gradients and intercepts of linear functions graphically</p> <p>Sk - recognise, sketch and interpret graphs of linear functions and simple quadratic functions</p>	<p>Topic - Understanding risk II</p> <p>Sk - Explore experiments and outcomes</p> <p>P - Develop understanding of probability</p> <p>Sk - Use probability to make predictions</p>
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Assessment- Y8 half term tests throughout year with end of year assessment in HT6

	AUTUMN	SPRING	SUMMER
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Year 9	Topic – Calculating P - Calculate with powers and roots P - Explore the use of standard form P - Explore the effects of rounding				Topic – Visualising and constructing Sk - 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) Sk - use these to construct given figures and solve loci problems; know that the perpendicular distance from a point to a line is the shortest distance to the line Sk - construct plans and elevations of 3D shapes				See week 15	Topic – Solving equations and inequalities I P - understand and use the concepts and vocabulary of inequalities P - solve linear inequalities in one variable P - represent the solution set to an inequality on a number line				Topic – Calculating space Sk - Solve problems involving arcs and sectors Sk - Solve problems involving prisms Sk - Investigate right-angled triangles Sk - Solve problems involving Pythagoras' theorem				See week 25/26	Topic – Solving equations and inequalities II Sk - Solve simultaneous equations Sk - Use graphs to solve equations Sk - Solve problems involving simultaneous equations				Topic – Algebraic proficiency: visualizing II Sk - Explore graphs of quadratic functions Sk - Explore graphs of other standard non-linear functions Sk - Create and use graphs of non-standard functions Sk - Solve kinematic problems					
	8	9	10	11	12	13	14	15	23	24	25	26	33	34	35	36	37	38	39									
YEAR 9	Topic – Algebraic proficiency: tinkering S - understand and use the concepts and vocabulary of identities S - know the difference between an equation and an identity P - simplify and manipulate algebraic expressions by expanding products of two binomials and factorising quadratic expressions of the form $x^2 + bx + c$ Sk - argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments Sk - translate simple situations or procedures into algebraic expressions or formulae				Topic – Proportional reasoning Sk - Solve problems involving different types of proportion P - Investigate ways of representing proportion Sk - Understand and solve problems involving congruence Sk - Understand and solve problems involving similarity P - Know and use compound units in a range of situations				Topic – Pattern sniffing P - Investigate Fibonacci numbers P - Investigate Fibonacci type sequences P - Explore quadratic sequences				Topic – Conjecturing S - use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS) Sk - apply angle facts, triangle congruence, similarity, and properties of quadrilaterals to conjecture and derive results about angles and sides, including Pythagoras' Theorem and the fact that the base angles of an isosceles triangle are equal, and use known results to obtain simple proofs				Topic – Algebraic proficiency: visualising I P - identify and interpret gradients and intercepts of linear functions algebraically P - use the form $y = mx + c$ to identify parallel lines P - find the equation of the line through two given points, or through one point with a given gradient P - interpret the gradient of a straight-line graph as a rate of change				Topic – Understanding risk P - Understand and use tree diagrams P - Develop understanding of probability in situations involving combined events Sk - Use probability to make predictions				Topic – Presentation of data Sk - Construct and interpret graphs of time series Sk - Interpret a range of charts and graphs Sk - Interpret scatter diagrams Sk - Explore correlation			
	Y9 end of term 1 assessment December								Y9 HT assessments and end of year test in HT3-6																			

