

Beths Grammar School KS3 Mathematics Curriculum Map – Year 8

Term	INTENT	IMPLEMENTATION	IMPACT
	Substantive Knowledge This is the specific, factual content for the topic, which should be connected into a careful sequence of learning.	Disciplinary Knowledge (Skills) This is the action taken within a particular topic in order to gain substantive knowledge.	Assessment opportunities What assessments will be used to measure student progress? Evidence of how well students have learned the intended content.
Autumn Term 1A Year 8	<u>Intent</u>		
	<u>Chapter 1: Factors and Multiples</u> 1.1 Primes, Prime Factorisation and Index Notation 1.2 Highest Common Factor (HCF) 1.3 Lowest Common Multiple (LCM) 1.4 Prime Factorisation and Roots <u>Chapter 2: Approximation and Estimation</u> 2.1 Rounding Numbers to Decimal Places 2.2 Rounding Numbers to Significant Figures 2.3 Estimation	<u>Chapter 1: Factors and Multiples</u> - Recognise prime numbers - Express a composite number as a product of its prime factors - Represent the prime factorisation of a number in index notation - Find the highest common factor (HCF) of a group of numbers by using prime factorisation - Find the lowest common multiple (LCM) of a group of numbers by using prime factorisation - Understand the use of prime factorisation to find the square root and cube root of a number <u>Chapter 2: Approximation and Estimation</u> - Round numbers to a required number of decimal places - Round numbers to a required number of significant figures - Estimate quantities (numbers and measures) to an appropriate degree of accuracy - Estimate the results of computation - Be aware of rounding errors in the intermediate steps of calculations	- In class teacher assessment through Q&A - End of chapter mini test (with peer marking) - Chapter revision exercise via textbook - End of term review exercises via textbook - End of term formal assessments - Mastery homework with use of mymaths.co.uk - Mymaths topic codes: 1.1: 1032, 1044 1.2: 1032, 1044 1.3: 1034, 1035 1.4: n/a 2.1: 1001, 1004, 1840 2.2: 1005 2.3: 1002, 1043, 1968, 1969
Autumn Term	<u>Intent</u> Why is this taught now?		

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1B Year 8	<u>Chapter 3: Ratio, Rate and Speed</u> • 3.1 Integer Ratios • 3.2 All Kinds of Ratios • 3.3 Scale Plans and Maps • 3.4 Rate • 3.5 Speed <u>Chapter 4: Working with Percentages</u> • 4.1 Simple Interest and Reverse Percentages • 4.2 Percentage Increase and Decrease • 4.3 Repeated Percentage Changes	<u>Chapter 3: Ratio, Rate and Speed</u> • Use ratio notation • Compare quantities by ratio • Describe the relationship between ratio and fraction • Divide a quantity in a given ratio • Solve problems involving ratio • Understand and use the scale of a plan or a map • Solve problems involving rate in daily life • Recognise the relationships between distance, time and speed • Recognise the concepts of constant speed and average speed • Write speed in different units and convert it from one unit to another • Solve problems involving speed <u>Chapter 4: Working with Percentages</u> • Calculate simple interest • Solve problems involving reverse percentage • Calculate percentage increase and decrease in quantities • Calculate repeated percentage change • Calculate compound interest • Solve problems involving growth and depreciation	• In class teacher assessment through Q&A • End of chapter mini test (with peer marking) • Chapter revision exercise via textbook • End of term review exercises via textbook • End of term formal assessments • Mastery homework with use of mymaths.co.uk • Mymaths topic codes: 3.1: 1038, 1052 3.2: 1039 3.3: 1103, 1117 3.4: 1243 3.5: 1121 4.1: 1237 4.2: 1302 4.3: 1073, 1238, 1239
Spring Term 2A Year 8	<u>Intent</u> Why is this taught now? <u>Chapter 5: Algebraic Expressions, Formulae and Proof</u> • 5.1 Use of Letters in Algebra • 5.2 Evaluation of Algebraic Expressions and Formulae • 5.3 Algebraic Expressions in the Real World • 5.4 Simplification of Linear Expressions • 5.5 Factorisation by Using Common Factors	<u>Chapter 5: Algebraic Expressions, Formulae and Proof</u> • Use letters to represent numbers or variables • Interpret algebraic notations • Evaluate algebraic expressions and formulae • Express real-world situations in algebraic terms • Simplify linear expressions • Factorise an algebraic expression by using common factors • Prove a statement algebraically	• In class teacher assessment through Q&A • End of chapter mini test (with peer marking) • Chapter revision exercise via textbook • End of term review exercises via textbook • End of term formal assessments

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	5.6 Proof <u>Chapter 6: Equations and Inequalities in One Variable</u> 6.1 Simple Linear Equations in One Variable 6.2 Equations Involving Brackets 6.3 Simple Fractional Equations 6.4 Forming Linear Equations to Solve Problems 6.5 Inequality Relationships 6.6 Solving Inequalities	<u>Chapter 6: Equations and Inequalities in One Variable</u> - Understand the concepts of equations and the solution of an equation - Solve linear equations in one variable - Solve linear equations in one variable involving brackets - Solve simple fractional equations - Formulate linear equations in one variable to solve problems - Understand the concept and properties of linear inequalities - Solve simple linear inequalities - Solve simple problems involving inequalities	- Mastery homework with use of mymaths.co.uk - Mymaths topic codes: 5.1: 1158, 1178, 1179 5.2: 1158, 1186, 1187 5.3: 1158 5.4: 1247 5.5: 1155 5.6: 1938 6.1: 1154 6.2: 1928 6.3: 1929 6.4: n/a 6.5: n/a 6.6: n/a
Spring Term 2B Year 8	<u>Intent</u> Why is this taught now? <u>Chapter 7: Coordinates and Linear Functions</u> 7.1 Cartesian Coordinate System 7.2 Idea of a Function 7.3 Linear Functions and their Graphs 7.4 Gradients of Linear Graphs <u>Chapter 8: Number Patterns</u> 8.1 Number Patterns and Sequences 8.2 General Term of a Sequence	<u>Chapter 7: Coordinates and Linear Functions</u> - Construct the Cartesian coordinate system in two dimensions and state the coordinates of points on it - Recognise the idea of functions - Plot a graph of a set of ordered pairs as a representation of a relationship between two variables - Recognise linear functions in the form of $y = mx + c$ and draw their graphs - Find the gradient of a linear graph <u>Chapter 8: Number Patterns</u> - Recognise number patterns and sequences - Find the terms of a sequence using a term-to-term rule - Recognise arithmetic and geometric sequences - Find terms of a sequence using a position-to-term rule - Find the formula for the general (nth) term of a sequence - Solve problems involving number patterns and sequences	- In class teacher assessment through Q&A - End of chapter mini test (with peer marking) - Chapter revision exercise via textbook - End of term review exercises via textbook - End of term formal assessments - Mastery homework with use of mymaths.co.uk - Mymaths topic codes: 7.1: 1092, 1093 7.2: n/a 7.3: 1395, 1396 7.4: 1153, 1312, 1314

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			8.1: 1173 8.2: 1165, 1945
Summer Term 3A Year 8	Intent Why is this taught now?	<u>Chapter 9: Angles In Quadrilaterals & Polygons</u> • Classify special quadrilaterals on the basis of their properties • Recognise the properties of special quadrilaterals • Recognise the properties of polygons, including symmetry properties	• In class teacher assessment through Q&A • End of chapter mini test (with peer marking) • Chapter revision exercise via textbook • End of term review exercises via textbook • End of term formal assessments • Mastery homework with use of mymaths.co.uk • Mymaths topic codes: 9.1: 1102 9.2: 1100, 1320 10.1: 1108 10.2: 1128 10.3: n/a
	<u>Chapter 9: Angles In Quadrilaterals & Polygons</u> • 9.1 Quadrilaterals • 9.2 Polygons <u>Chapter 10: Perimeter and Area Of Parallelograms and Trapezia</u> • 10.1 Area of Parallelograms • 10.2 Area of Trapezia • 10.3 Perimeter and Area of Composite Plane Figures	<u>Chapter 10: Perimeter and Area Of Parallelograms and Trapezia</u> • Calculate the area of a parallelogram • Calculate the area of a trapezium • Solve problems involving perimeters and areas of composite plane figures	
Summer Term 3B Year 8	Intent Why is this taught now?	<u>Chapter 11: Volume and Surface Area of Prisms and Cylinders</u> • Visualise and draw sketches of three-dimensional shapes from different views • Visualise and draw the nets of prisms and cylinders • Calculate the volume and surface area of prisms • Calculate the volume and surface area of cylinders • Convert between cm^2 and m^2, and between cm^3 and m^3 • Solve problems involving volume and surface area of composite solids	• In class teacher assessment through Q&A • End of chapter mini test (with peer marking) • Chapter revision exercise via textbook • End of term review exercises via textbook
	<u>Chapter 11: Volume and Surface Area of Prisms and Cylinders</u> • 11.1 Views and Nets of Three-dimensional (3D) Shapes • 11.2 Volume and Total Surface Area of Prisms • 11.3 Volume and Total Surface Area of Cylinders		

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	• 11.4 Volume and Surface Area of Composite Solids <u>Chapter 12: Statistical Graphs</u> • 12.1 Line Graphs • 12.2 Pie Charts • 12.3 Use and Misuse of Statistical Graphs • 12.4 Scatter Graphs	<u>Chapter 12: Statistical Graphs</u> • Construct, analyse and interpret line graphs • Construct, analyse and interpret pie charts • Describe the purposes and appropriateness of use of the different forms of statistical representation, including pictograms and bar charts • Explain why a given statistical diagram can lead to misinterpretation of data • Construct, analyse and interpret scatter graphs • Describe types of correlation for a scatter graph • Draw a line of best fit on a scatter graph and use it to estimate data values • Find the equation of a given line of best fit • Identify and explain outliers	• End of term formal assessments • Mastery homework with use of mymaths.co.uk • Mymaths topic codes: 11.1: 1098, 1106 11.2: 1107, 1139 11.3: 1107, 1138 11.4: 1138, 1139 12.1: 6018 12.2: 1207 12.3: 1251 12.4: 1213
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