- **Curriculum Overview Template**

	Focus	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 8 Maths	**Topic**	Introducing algebra: sequences, like terms and expanding. Factors, multiples and primes.	Fractions, negative numbers, and further algebra including equations.	Shape and space: properties and angles of shapes. Further area, and units of area.	Percentages, including reverse percentages. Ratio and Speed/distance/time.	Rounding, circles (area and circumference), 3D shapes	Volume and surface area, averages and data. Preparation for starting GCSE.
	Key concepts/ideas	1) Represent unknowns with letters forming and manipulating algebraic expressions 2) Evaluate algebraic expressions through substitution 3) Understand and use prime factor decomposition	1) Add and subtract fractions 2) Compare and calculate with negative numbers 3) Find and use both term-to-term and position-to-term rules to describe sequences 4) Form and solve linear equations with one unknown	1) Construction of triangles and quadrilaterals 2) Understand and use properties of angles in parallel lines 3) Understand and convert between metric units of area for all rectilinear shapes	1) Use percentage change including reverse percentages 2) Understand and use ratio 3) Understand and use multiplicative relationships in contexts including speed	1) Rounding to significant figures 2) Understand and use the formulae for area and circumference of circles 3) Represent and use the properties of three-dimensional shapes	1) Find the volumes and surface areas of prisms and composite solids 2) Understand and use appropriate strategies to collect, tabulate and classify data 3) Understand and use summary measures of data
	Key skills	Unit 18: Introduction to algebra • Write and understand simple algebraic expressions • Substitute numerical values into formulae and expressions • Collect like terms and simplify expressions • Multiply out brackets, identify and take out common factors to factorise • Recognise that different-looking expressions may be identical and prove simple algebraic identities Unit 19: Algebra generalisation project Unit 1: Prime factorisation •Find the factors and multiples of a number •Find prime numbers •Find the prime factors of a number •Determine HCF and LCM by prime factorisation •Find squares, square roots, cubes and cube roots using prime factorisation •Use indices to record repeated multiplication •Calculate with the use of a calculator, including squares, cubes, square roots and cube roots	Unit 2: Add and subtract fractions and mixed numbers •Add and subtract fractions with like and unlike denominators •Add and subtract fractions mixed numbers and improper fractions •Convert between improper fractions and mixed numbers •Add and subtract fractions mixed numbers and improper fractions •Calculate with decimals Unit 3: Positive and negative numbers • Represent and order positive and negative integers on a number line (using the symbols >, ≥, <, and ≤) • Apply the four basic operations on positive and negative integers • Calculate with rational and decimal numbers (including negative numbers)	Unit 5: 2-D Shapes •Measure, draw and identify angles •Define an equilateral, isosceles, and scalene triangle •Draw triangles given different information • Classify special quadrilaterals on the basis of their properties: define 2-D shapes • Draw accurately 2-D shapes given information • Understand and use right, acute, obtuse and reflex angles, complementary and supplementary angles, vertically opposite angles, adjacent angles on a straight line, adjacent angles at a point, interior and exterior angles	Unit 7: Percentage Change •Use percentages greater than 100% •Express one quantity as a percentage of another •Compare two quantities by percentage •Increase or decrease a quantity by a given percentage •Reverse percentages: find the original quantity given a part of it and its percentage •Reverse percentages: find the original quantity when we know its final value after the percentage increase or decrease •Solve problems involving percentages and reverse percentages Unit 8: Ratio and Rate •Interpret a : b and a : b : c, where a, b and c are whole numbers •Compare two or more quantities by ratio	Unit 9: Rounding, significant figures and estimation •Round off a number to a required number of decimal places •Round off a number to a required number of significant figures •Estimate the answer to a given problem •Identify rounding and truncation errors Unit 10: Circles •Use formulae to calculate the area and circumference of a circle •Find the area and perimeter of a semicircle and quarter circle •Solve word problems involving area and perimeter	Unit 13: Statistics •Find the mean, median more and range from raw datasets •Use the mean/median/mode to compare data sets •Use an average plus the range to compare datasets •Find the mode, median and mean from tables and graphical representations •Explore methods of data collection including surveys, questionnaires and the use of secondary data •Classify and tabulate data •Conduct statistical investigations using collected data •Draw, analyse and interpret graphs including those met in year 7

		Unit 4: Sequences, expressions and equations • Recognise and represent number patterns (including finding an algebraic expression for the nth term) • Translate real-world situations into algebraic expressions • Distinguish between terms and coefficients in algebraic expressions • Distinguish between like and unlike terms in algebraic expressions • Add and subtract linear algebraic expressions • Expand simple linear expression • Solve linear equations in one unknown • Solve fractional equations that can be reduced to linear equations • Formulate a linear equation in one unknown to solve problems	• Identify the different types of angles formed by parallel lines and a transversal such as corresponding angles, alternate angles and interior angles • Find unknown angles Unit 6: Length and area- units, parallelograms and trapeziums •Convert between cm^2 and m^2 •Find the area and perimeter of a composite shape •Find the areas of parallelograms and trapeziums •Solve word problems involving area and perimeter	•Understand the relationship between ratios and fractions •Write equivalent ratios •Express ratios involving rational numbers in their simplest form •Divide a quantity in a given ratio •Find one quantity given the other quantity and their ratio •Find the whole/ one part when a whole is divided into parts in a given ratio •Understand and differentiate between the concepts of speed, average speed and uniform speed •Calculate speed, distance or time given the other two quantities •Convert from one unit of speed to another (e.g. km/h to m/s) •Solve word problems involving ratio, speed, uniform speed and average speed	Unit 11: 3D shapes and their nets •Recognise nets of 3D shapes •Build and name 3D shapes Unit 12: Surface area and volume •Find the volumes of cubes, cuboids, prisms and cylinders •Find the volumes of composite solids •Convert between cm^3 and m^3	
	Key terms/vocab	Simplify, Like terms, Expressions, Expand, Factorise, Substitution, Identities, Equivalent, Prime, Square, Cube, Roots, Indices, LCM, HCF	Improper fractions, Mixed numbers, Denominator, Numerator, Nth term, Coefficients, Expressions, Equations, Linear	Equilateral, Scalene, Isosceles, Acute, Obtuse, Reflex, Trapezium, Parallelogram, Transversal line, Vertically opposite, Alternate, Corresponding, Co-interior	Reverse percentage, Speed, Distance, Time, Unit, Per, Average speed, Uniform speed	Estimate, Significant figures, Truncate, Circumference, Area, Volume, Prism, Composites, Cubes, Cuboids, Cylinders	Discrete, Continuous, primary, Secondary, Qualitative, Quantitative, Mean, Median, Mode, Range, Compare
	Independent learning / wider reading	For more support and lots of practice questions go to www.mymaths.co.uk	For more support and lots of practice questions go to www.mymaths.co.uk	For more support and lots of practice questions go to www.mymaths.co.uk	For more support and lots of practice questions go to www.mymaths.co.uk	For more support and lots of practice questions go to www.mymaths.co.uk	For more support and lots of practice questions go to www.mymaths.co.uk
	Assessment		Test on all topics studied so far		Test on all topics studied so far		Test on all topics studied so far
	Careers links	Finance, Biologist, Chemist, Physicist, Business Analyst, Forecaster, Computer scientist	Finance, Biologist, Chemist, Physicist, Business Analyst, Forecaster, Computer scientist	Finance, Biologist, Chemist, Physicist, Business Analyst, Forecaster, Computer scientist	Finance, Biologist, Chemist, Physicist, Business Analyst, Forecaster, Computer scientist	Finance, Biologist, Chemist, Physicist, Business Analyst, Forecaster, Computer scientist	Finance, Biologist, Chemist, Physicist, Business Analyst, Forecaster, Computer scientist