Curriculum Map – Mathematics Year 8

	Autumn Term				
Y8	**Topic Title:** Four operations, types of number **Big Question:** How do I use PV with numbers? What are directed numbers? How do I use multiplication and division with finding factors? What are multiples? How do I use multiples in LCM problems?	**Topic Title:** Four operations, types of number **Big Question:** How do I use the four operations with fractions? How do I use multiplying fractions?	**Topic Title:** Accuracy, powers, roots, standard form and calculator use **Big Question:** How do I use approximation through rounding to estimate answers and calculate possible resulting? How do I use a calculator and other technologies to calculate results accurately and then interpret them appropriately? How do I recognise and use index notation? How do I use standard form notation for numbers?	**Topic Title:** Percentages **Big Question:** How do I use arithmetic to help solve percentage of amounts problems?	**Topic Title:** Geometry - Shape and angles **Big Question:** How do I identify and describe 2d shapes? How do I use angle properties to calculate missing angles?
Links to NC	Use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common, factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property.	Use four operations, applied to proper and improper fractions, and mixed numbers.	Round numbers and measures to an appropriate degree of accuracy. Use conventional notation for powers and roots. Introduce the laws of indices. Interpret and compare numbers in standard form A x 10^n, $1 \le A \le 10$, where n is a positive or negative integer or zero.	Define percentage as 'number of parts per hundred', interpret percentages and percentage changes as a fraction or a decimal, interpret these multiplicatively, express.	Derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures. Derive and use the sum of the angles in a triangle and use it to deduce the angle sum of any polygon. Understand and use the relationship between parallel lines and alternate and corresponding angles.
Assessments	Directed numbers. HCF and LCM, PPF.	Four operations with fractions	Standard for large and small numbers.	Calculating percentages of an amount.	Calculating missing angles in polygons. End of Autumn term assessment.

Curriculum Map – Mathematics Year 8

	Spring Term			
Y8	**Topic Title:** Probability - Mutually exclusive outcomes **Big Question:** What are Mutually exclusive outcomes? How do you estimate the number of times a particular event will happen? (Relative Frequency) How do you read and interpret sample space diagrams?	**Topic Title:** Ratio **Big Question:** How do I link fractions and ratio? How do I use ratio with recipes?	**Topic Title:** Algebra, Sequences, Equations and formulae **Big Question:** How do I simplify and manipulate algebraic expressions to maintain equivalence? How do I use algebraic methods to solve linear equations in one variable? How do I substitute and rearrange scientific formulae? How do I recognise arithmetic sequences to generate terms and find the nth term?	**Topic Title:** Perimeter, area and volume **Big Question:** How derive and apply formulae to calculate and solve problems involving: perimeter, area and volume?
Links to NC	Use the 0-1 probability scale and understand that the probabilities of all possible outcomes sum to 1. Explore relative frequency. Use sample space diagrams.	Understand that a multiplicative relationship between two quantities can be expressed as a fraction or a ratio. Divide a given quantity into a ratio with more than two parts. Express the division of a quantity into two or more parts as a ratio using appropriate notation.	Simplify and manipulate algebraic expressions by taking out common factors. Solve linear equations. Substitute numerical values into scientific formulae. Rearrange to change the subject. Recognise arithmetic sequences and find the nth term.	Derive and apply formulae to calculate and solve problems involving perimeter and are of triangles, parallelograms, trapezia circles, areas of circles, composite shapes and the volume of cuboids (including cubes)
Assessments	Calculating RF, and probabilities from sample space diagrams.	Simplifying a ratio. Sharing an amount by a given ratio. Find a part when given one part. Using recipes.	Solving linear equations. Substituting in to formulae. Rearrange a formula.	Perimeter, area and volumes problems. End of spring term assessment.

Curriculum Map – Mathematics Year 8

	Summer Term			
Y8	Topic Title: Compound measures Big Question: How do I use the correct compound measure and covert measurements correctly?	Topic Title: Algebra - Straight line graphs Big Question: How do I recognise and understand straight line graphs in the form y = mx + c?	Topic Title: Statistics - charts, graphs and averages Big Question: How do I construct and interpret pir charts? How do I calculate and interpret measures of tendency?	Topic Title: Statistics Big Question: How do I describe simple relationships between two variables?
Links to NC	Change freely between related standard units. Use compound measure such as speed, unit pricing and density to solve problems.	Recognise, sketch, and produce graphs of linear with appropriate scaling, using equations in x and y and the Cartesian plane.	Construct and interpret pie charts. Calculate and interpret measures of central tendency and spread, including consideration of outliers.	Describe simple mathematical relationships between two variables (bivariate data) in observational and experimental contexts and illustrate using scatter graphs. Identify and interpret correlation.
Assessment	Find the speed/distance or time. Best value.	Plotting straight line graphs.	Construct and interpret pie charts.	Plot and interpret scatter graphs. End of year assessment.