		Programme of study	
Year 8	Unit titles	Learning Objectives	Assessment
Autumn term 1 Sept - Oct	**Fractions & Decimals**	Write one number as a fraction of another. Convert between fractions and decimals. Add, subtract, multiply and divide fractions and decimals including fractions with different denominators.	Topic test on all topics.
	Area & Shapes	Know and use area formulas for triangles and quadrilaterals. Use units of measurement to estimate, calculate and solve.	
	Probability	Understand probability vocabulary and the probability scale. Calculate experimental and theoretical probabilities. Create sample spaces (tree diagrams) and use in calculations.	
Autumn term 2 Oct – Dec	**Directed Numbers and Standard Form**	Pupils confidently use the four rules with positive and negative numbers.	Topic test on all topics.
	Expressions, Formulae & Indices	Know that algebraic operations follow the same conventions and order as arithmetic operations. Distinguish between equations, identities, formulae and functions. Express functions in symbols. Simplify by collecting like terms. Expand and simplify expressions involving brackets.	
	Scale drawings & Bearings	Calculate and work out lengths with scales in practical situations (maps, plans, etc.). Draw scale drawings to any given scale Draw, measure and use bearings to specify direction and calculate distance in practical situations	
Spring term 1 Jan-Feb	**Percentages**	Link percentage to hundredths. Express a number as a percentage of another. Use fractions and percentages to compare portions. Solve problems involving percentage change including worded problems.	Topic test on all topics.
	Equations	Solving/forming equations including problems with brackets and unknowns on both sides. Substituting into expressions/formulae. Changing the subject of a formula.	
	Volume & 3D	Draw the nets and 3D cubes, prisms and pyramids. Practical and reverse volume questions. Calculate the volume and surface area of cuboids, composite cuboids and prisms.	

Spring term 2 Feb – March	Straight line, practical and further graphs	Draw straight line graphs where y is given explicitly in terms of x. Identify the gradient and y-intercept from an equation. Distance/time graphs. Interpret and sketch real-life graphs.	Year 8 exams
	Circles	Understand the parts of a circle. Solve problems involving circumference/perimeter and area of circles and compound shapes.	
	Correlation	Construct simple scatterplots and determine any correlation. Draw in a line of best fit use it to predict values.	
Summer term 1 April – May	Pythagoras	Understand and apply Pythagoras' theorem to find both the hypotenuse and shorter sides. Apply in practical, real life situations.	Topic test on all topics.
	Algebraic sequences	Find the nth term of a linear sequence. Understand triangle and square numbers Find the next term in a quadratic sequence.	
Summer term 2 June – July	Statistics	Find the mean, median, mode and range of a set of data and justify which values are important in different situations. Construct stem and leaf plots and two-way tables. Compare two distributions using the shape of distribution, range and one more average.	Topic test on all topics.
	Enlargement & Transformations	Identify scale factor. Enlargements with and without a centre. Finding the centre of an enlargement. Understand congruency.	
	Problem solving	Develop mathematical problem solving skills used on a range of problems.	