



## Maths Curriculum Overview - Year 8 Core

	Unit	Details
Autumn One	<b>Ratio and Scale</b> <b>Multiplicative change</b> <b>Multiplying and dividing fractions</b>	Pupils start the year by solving proportional problems using ratio before dividing a value into a given ratio. They then compare ratios and related fractions before using ratio in the context of circles and gradients. We will then develop these concepts to explore conversion graphs and relationships between similar shapes, and multiply and divide fractions including how to use the reciprocal. Pupils will extend these methods to multiply and divide improper and mixed fractions and algebraic fractions.
Autumn Two	<b>Working in the Cartesian plane</b> <b>Representing data</b> <b>Tables and probability</b>	Algebra work from Year 6 will now be used to work with coordinates in all four quadrants. Pupils will learn to recognise and write the equation for linear graphs by exploring the gradient and intercept. They will also explore non-linear graphs and find the midpoint of a line segment. These concepts are then linked to data handling by scatter graphs and interpreting lines of best fit before reading and interpreting grouped frequency tables. We finish the term by finding probabilities from sample space diagrams, two-way tables and Venn diagrams.
Spring One	<b>Brackets, equations and inequalities</b> <b>Sequences</b>	Pupils will first learn to factorise into a single bracket and expand a pair of binomials before using these skills to solve equations and inequalities with an unknown on both sides. They will then spend time generating sequences given a rule in words and given both a simple and complex algebraic rule before finding the $n$ th term of a linear sequence.
Spring Two	<b>Indices</b> <b>Fractions and percentages</b>	We start this half term practising how to add, subtract, multiply and divide expressions with indices and then exploring powers of powers. Pupils then learn to calculate percentage increase and decrease using a multiplier, work with percentage change and develop their problem-solving skills by choosing appropriate methods to solve percentage problems.
Summer One	<b>Standard index form</b> <b>Angles in parallel lines and polygons</b>	Pupils will develop their understanding of indices to compare and order numbers in standard form and add, subtract, multiply and divide with numbers in standard form both mentally and using a calculator. They will then identify and calculate with co-interior, alternate and corresponding angles and use this in special quadrilaterals. They will then understand, calculate and use the sum of interior and exterior angles of any polygon and calculate missing interior angles in regular polygons.
Summer Two	<b>Area of trapezia and circles</b> <b>Line symmetry and reflection</b>	We will start this half term learning how to calculate the area of a trapezium, circle and parts of a circle with and without a calculator. Pupils will then use this to calculate the perimeter and area of compound shapes. Pupils will then use concepts learned in geometry to recognise line symmetry and reflect a shape in a horizontal, vertical or diagonal line.