

Maths: Year 8	Term one		Term two		Term three	
Key Knowledge and understanding	Foundation Number & Algebra Skills	Number	Algebra	Geometry	Ratio & Proportion	Statistics & Geometry
	<ul style="list-style-type: none"> • Fluency with four operations • Simplifying algebraic expressions • BIDMAS • Negative Numbers 	<ul style="list-style-type: none"> • Fractions • Percentages • Decimals 	<ul style="list-style-type: none"> • Substitution • Expanding & Factorising • Rearranging Formulae • Simplifying expressions incl. laws of indices • Solving equations 	<ul style="list-style-type: none"> • Perimeter and Area • Converting units 	<ul style="list-style-type: none"> • Simplifying and sharing in given ratio • Recipes • Direct and inverse proportion • 'Best Buy' problems • Compound Measures 	<ul style="list-style-type: none"> • Averages • Charts and Graphs • Surface area and volume • Plans and Elevations
Progression	Students review and improve number and algebraic skills. They then have the opportunity to extend to problem solving questions.	Students learn the 4 operations with fractions, how to find fractions/percentages of amounts. The skills develop through looking at various methods, such as decimal multipliers.	Students explore various simplifying techniques within algebra. These skills are then applied to more complex areas of algebra, such as solving and rearranging.	Students look at a variety of different shapes and the different methods needed for calculating area & perimeter, from counting squares to applying formulae. This then extends to considering what happens to the units when conversions occur.	Students learn the notation for ratio and proportion, and apply these skills to everyday life problems such as recipes and currency conversions.	Students use their previous skills on the four operations and apply them to averages. Students learn to draw a variety of charts and graphs, before learning to interpret and analyse them. Students then extend their knowledge from area & perimeter to 3D shapes, including 2D representations of 3D shapes

Challenge	Multiplication and Division with decimals. Complex BIDMAS. Simplifying terms with indices.	Fractions and percentages greater than one. Compound Interest.	Expanding and Factorising quadratics. Solving two/three step equations.	Area and perimeter of compound shapes and sectors. Using algebra within area and perimeter problems.	Direct and inverse proportion using algebra. Similar shapes.	Averages from frequency tables. Surface area and volume of complex 3D shapes.
Skills	Written methods for calculations. Foundation algebraic skills required for progressing to more complex topics.	Fluent manipulation and conversion of fractions, decimals and percentages.	Algebraic notation. Simplifying expressions and solving equations.	Applying formulae. Four operations in context. Converting metric units.	Ratio and proportion, reading graphs, scaling.	Representing and interpreting data, drawing accurately, visualising shapes.
Scope ie Local/Global	Finance, sales at shops.		Measurements in everyday life.		Recipes, currency, determining what makes a good purchase when shopping. Statistics used in everyday life which can be found in the news. Constructions.	
Assessment	Short assessments and differentiated homeworks to review learning so far and allow teacher to know what they need to build on through TRIO time. Larger assessments at the end of each 'big' term.					