



SUBJECT	MATHS	YEAR	9
<p>Why study maths?</p> <p>The maths curriculum provides me with the knowledge I need to be mathematically fluent and develops my mathematical reasoning and problem-solving skills.</p>			
What will I learn about this year?		What have I learnt about before?	
Number			
Rounding including significant figures, rounding to 1 significant figure to estimate and limits of accuracy Rules of indices up to negative integer powers, then end of year extended to fractional powers (GCSE) Interpreting and comparing numbers in standard form Prime Factors and Multiples: gaining a deeper understanding and extending to algebraic examples (GCSE) Integers and order of operations extend (GCSE) Estimate powers and roots of and given number (GCSE)		Place value for decimals, measures and integers of any size Rounding to the nearest whole number, 10, 100, 1000 and to any decimal place Rounding to approximate answers Order of operations The 4 operations including with integers and decimals (extends to negative numbers and numbers of any size) Primes, factors and multiples, HCF and LCM Square numbers, cube numbers, square and cube roots	
Algebra			
Solving equations with unknowns on both sides Solving inequalities and representing solutions on a number line Expanding double brackets Changing the subject of the formula (variable on one side)		Forming and solving equations with unknowns on one side including with brackets Expanding and factorising single brackets	
Algebra			
Geometric sequences Straight line graphs - plotting and understanding $y = mx + c$ and equations of parallel lines Calculating gradients between two points Plotting basic quadratic graphs		Types of sequences Finding the nth term of linear sequences Substitution including into scientific formulae Plot basic straight lines: $y = x$, $y = -x$, $x = c$, $y = c$ (where c is a constant)	
Ratio and Proportion			
Compound measures -speed, unit pricing and density Sketching and drawing non-linear graphs to find approximate solutions to real life problems – distance time graphs and quadratic, piece-wise linear, exponential and reciprocal functions Direct and inverse proportion including graphical and algebraic representations Percentage multipliers		Converting between different units: time, length, mass, capacity Calculations with fractions and decimals Ratios – Equivalence (including 1:n, n:1 and its application), recipes, ratios as fractions, sharing in ratio Converting percentages to decimals	
Geometry			
Construction and Loci Angles in parallel lines including GCSE examples with multiple steps. Identifying congruent shapes, constructing congruent triangles and finding missing side lengths on similar shapes Trigonometry in right angled triangles Types of triangles and quadrilaterals (GCSE)		Drawing and measuring angles Angle facts – on a line, around a point, in polygons and vertically opposite Properties of 2D shapes All four transformations Ratios and scale drawings Pythagoras in 2D	
Where can I find out more?			
<p>Guaranteed to Mash your Mind (previously More Murderous Maths), (the monomino, domino, tromino, tetromino, pentomino, hexomino and heptomino, length area and volume, dimensions, measuring areas and volumes, basic rectangle and triangle formulas, speed, conversion of units, Möbius strip, Pythagoras, right-angled triangles, irrational numbers, pi, area and perimeter, bisecting angles, triangular numbers, topology networks, magic squares.) Murderous Maths series: author Kjartan Poskitt</p>			