

Mathematics Long Term Plan Year 8 2019-20

Temperance Term

W/C	2nd September	9th September	16th September	23rd September	30th September	7th October	14th October	21st October
Topic	Revise and Improve				Number Fractions 2			Number - Percentages
	Four operations Order of operations Negative numbers Fractions: Add, subtract, divide & multiply Algebra: Collect like terms, expand and simplify, substitution, solve simple linear equations				Multiply and Divide proper and improper fractions and mixed numbers – positive and negative. Include problems with fractions and integers. Find a fraction of an amount Find the whole given the fraction of the amount Find a fractional increase and decrease.			Define percentage as “number of parts per hundred” Interpret diagrams as % and vice versa
Challenge	BIDMAS /BODMAS Expand and factorise quadratic expressions Solve simple quadratic equations				Simplify algebraic fractions			Convert percentages to fraction & Decimals
Assessment								
W/C	HALF TERM	4th November	11th November	18th November	25th November	2nd December	9th December	CHRISTMAS
Topic		Revision and Assessment Week	Number: Percentages				Problem Solving	
			Express one quantity as a percentage of another Interpret percentages as a fraction or a decimal Compare 2 quantities using percentages and work with percentages greater than 100%. Interpret fractions and percentages as operations with and without calculators Solve problems involving percentage change including percentage increase, decrease, original value problems and simple interest.				Investigations from problem solving folder.	
Challenge			Calculate percent increase /decrease using percentage multipliers Calculate compound interest Reverse percentages				Apply independent thinking & processes	
Assessment		AQA KS3 Assessments						

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Justice Term

W/C	6 th January	13 th January	20 st January	27 th January	3rd February	10 th February	HALF TERM	
Topic	Algebra 2							
	Substitute numerical values into formulae and expressions, including scientific formulae – include all prior learning (fractions, decimals, negatives) Simplify and manipulate algebraic expressions to maintain equivalence by: Multiplying a single term over a bracket Taking out common factors Expanding products of 2 or more binomials Simplifying expressions involving sums, products and powers, including the laws of indices Using algebraic methods to solve linear equations in one variable – include equations with brackets and fractional equations Understand and use the concepts and vocabulary of inequalities: Represent the solution set to an inequality on a number line and vice versa Solve linear inequalities in one variable							
Challenge	Rearrange formulae to change the subject Find the integer solutions of an inequality Expand & factorise quadratic expressions							
Assessment								
W/C	24 th February	2nd March	9 th March	16 th March	23 rd March	30 th March	EASTER	
Topic	Revision and Assessment week	Algebra 2	Geometry: Circles and Area	Geometry: Circles and Area	Geometry: Circles and Area	Geometry: Circles and Area		
		Understand and use the concepts and vocabulary of inequalities: Represent the solution set to an inequality on a number line and vice versa Find the integer solutions of an inequality Solve linear inequalities with one or more variables Convert between cm^2 and m^2 Derive and apply formulae to calculate and solve problems involving area of circles, composite shapes and trapeziums Calculate and solve problems involving perimeters of 2D shapes (inc circles) Include examples using algebra, fractions, decimals etc. Calculate area of 2D shapes including circles						
Challenge		Calculate perimeter & area of compound shapes including circles						
Assessment	AQA KS3 Assessments							

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Courage Term

W/C	20 th April	27 th April	4 th May	11 th May	18 th May	HALF TERM
Topic	Ratio, Proportion & rates of change	Ratio, Proportion & rates of change	Ratio, Proportion & rates of change	Ratio, Proportion & rates of change	Ratio, Proportion & rates of change	
	Change freely between related standard units (eg time, length, area, volume/ capacity, mass) Use ratio notation including reduction to simplest form Divide a given quantity into 2 or more parts Understand that a multiplicative relationship between 2 quantities can be expressed as a ratio or a fraction Given information about 1 part, find the whole or the Use compound units such as speed, unit pricing and density to solve problems.					
Challenge	Solve problems involving direct and indirect proportion including algebraic representations eg: recipe problems, best buy problems, exchange rates					
Assessment						
W/C	1 st June	8 th June	15 th June	22 nd June	29 th June	6 th July
Topic	Revision and Assessment		Statistics	Statistics	Geometry: 3D shapes	Geometry: 3D shapes
			Revise and improve: Pie & bar charts, line graphs. Mean, median and mode	Mean, median and mode for non grouped data in a table	Use the properties of faces, surfaces, edges and vertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3d. Convert between cm ³ and m ³ (and mm)	Construct and interpret plans and elevations of 3d shape
Challenge			Interpret Pie Charts	Cumulative frequency diagrams and Box & Whisker diagrams	Derive and apply formulae to calculate and solve problems involving volume and surface area of cuboids and other prisms.	
Assessment	KS3 Internal Exams: AQA KS3 Assessments					