Faculty Curriculum Map

Key Stage	Knowledge	Skills	When is this taught in the curriculum?
KS3 (Yr 7)	Structure of Number	• integers and decimals, ordering, positive and negative, using symbols $=, \neq, <, >, \leq, \geq$	Term 1
		• writing numbers in words	
		• multiplying/dividing by powers of 10 (and 0.1 if appropriate) (non-calc)	
		• rounding, dp and sf (using the $\approx$ sign)	
		• finding the midpoint of two numbers	
		• applications & problems, including bases 2 and 12, median of discrete data	
	Properties and Four Rules of Number	• addition and subtraction of positive integers and decimals (non-calc), including counting up/down in different intervals (incl. decimals)	
		• inverting addition and subtraction, additive inverse, additive identity	
		• commutativity and associativity	
		• applications & problems, including perimeter, basic angle facts, range of a dataset	
		• multiplication of positive integers and decimals (non-calc), formal and informal techniques, commutativity, associativity and distributivity	
		• multiples and LCM	
		• division of positive integers and decimals, writing division as a fraction, formal and informal techniques, non-commutativity, non-associativity	
		• inverse operations, multiplicative inverse creating the multiplicative identity, non-commutativity and non-associativity of division	
		• factors and HCF	
		• applications and problems, including rectilinear and triangular area, mean of discrete data	
		• Squares to 152 and cubes to 103	
		• Calculating other positive powers, evaluating numerical expressions with powers	
	Primes, factors and multiples	• addition and subtraction rules with positive indices, power of zero	
		• Roots as inverses of powers	
	Indices	• Writing roots as surds and finding decimal approximations, including bounds of roots (e.g. $9<\sqrt{90}<10$)	
		• Prime numbers, product of primes, Fundamental Theorem of Arithmetic,	

		applying the FToA to find factors of large numbers • Problems with HCF/LCM	
	Directed Number	• Inverse order of operations (e.g. "I think of a number"), including function machines • addition and subtraction, additive inverse • multiplication and division with negative numbers • 3 powers of negative numbers • order of operations with negatives • concept of a fraction, visual representations • equivalent fractions, proper and improper fractions, complement of a fraction • adding and subtracting fractions • fraction of an amount, one quantity as a fraction of another, find original amount if you know a fraction of it • multiplying and dividing fractions, fraction of an amount (incl. fractions of fractions) with link to multiplying, reciprocals (multiplicative inverse) • order of operations with fractions • the number line - natural numbers, integers, rational numbers • concept of a percentage, % of an amount (non-calc) • equivalence of FDP, techniques to convert (not recurring) • percentages greater than 100 and related FDP conversion • percentage of an amount (calc , with and without multipliers) • percentage increase and decrease • one quantity as a percentage of another • calculating a percentage change • applications and problems, including analysing pie charts	Term 2
	Fractions, decimals and percentages		
	Estimation and approximation	• rounding errors and error intervals (upper and lower bounds of a rounded number), truncating vs. rounding • approximations to calculations • using a calculator and interpreting the result, including checking validity through approximation • Algebraic notation - ab for a*b, 3y for y+y+y and 3*y, a^4 for a*a*a*a, a^2b for a*a*b, a/b for division, coefficients as fractions not decimals, where brackets can be implied • collecting like terms	• Term 3
	Introduction to algebra		

		• simplifying indices and coefficients when multiplying and dividing, multiplication rule for indices • expanding a single bracket • factorising into a single bracket • creating complex expressions	
KS3 **(Yr 8)**	Number Algebra Laws of indices Shape and space Algebra Number Algebra	• Four operations whole numbers(+/-) including BIDMAS • Four operations Decimals • Collect like terms and expanding brackets • Factorising • Forming and solving linear equations • Factors, multiples and Primes • Powers roots and Indices • 3D Shapes and their nets • Substitution • Rearranging formulae • Sequences • Rounding and Estimating • Ratio and Proportion • Straight line graphs extend to sketching quadratics	• Term 1
	Number Shape and Space Handling data Shape and Space Algebra Handling data	• Fractions, decimals and % • Area and Perimeter – rectilinear shapes • Area and circumference - circles • Averages • Percentages • Volume • Angles • Equations incl. Simultaneous equations • probability	• Term 2
	Shape and Space Data handling Shape and Space Number Shape and Space Number Algebra	• Pythagoras and Trigonometry • Displaying and Interpreting Data • Venn diagrams • Congruence and Similarity • Standard form • Transformations • Introduction to proof • Quadratics • Quadratics •	• Term 3
KS3+ **(Yr 9)**	Number Shape and Space Algebra Number Algebra Number Data handling	NB – [h] = more able students • Basic number review • Factors and multiples • Angles and angle facts • Scale drawings and bearings • Basic algebra review • Fractions • Coordinates and linear graphs • Decimals review • Rounding and approximating • Collecting and representing data	• Term 1

	Algebra Number Shape and Space Number Shape and Space Number Shape and Space	• Sequences • Percenatges • Perimeter and area • Indices [h] • Standard form [h] • Circumference and area • Ratio and proportion • Pythagoras • Trigonometry [h]	• Term 2
	Algebra Shape and Space Handling data Shape and space	• Solving equations • Transformations • Bivariate data – scatter graphs • Probability • Drawing 3D shapes • Constructions and loci[h]	• Term 3
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