



Maths Y9 Curriculum Overview





Key Stage 3 Curriculum Journey: Mathematics Year 9

	Week 1 Week								
	Number	FDP	1- Reasoning with Algebra	2 – Constructing in 2 and 3 Dimensions.	3- Reasoning with Number	4- Reasoning with Geometry	5- Reasoning with Proportion	6- Representations and recall	
Key content (know thatKnow how)	Calculations Types of number Negative numbers Decimals Types of number and indices Decimals and rounding Powers and roots	Compare Fractions Manipulation Calculation with fractions Percentages Compare fractions Calculations with fractions Percentages Calculations with fractions percentages	Straight line graphs. Form and solve equations. Testing conjectures	3 dimensional shapes. Construction and congruency	Number skills. Using percentages. Maths and money.	Deduction. Rotation and translation. Pythagoras theorem.	Enlargement and similarity. Solving ratio and proportion problems. Rates	Solving problems using graphs,tables and algebra.	
Prior Knowledge	Calculate mentally Order numbers Carry out written calculations effectively Find factors and multiples Add, subtract, multiply and divide integers using a suitable written method. Multiply and divide integers by	Write percentages as a fraction with a denominator of 100 Write a percentage as a decimal Describe simple parts of a shape using fractions. Compare simple fractions Change an improper fraction	-Equations -Use of brackets -Geometric properties and rules	-Estimation -Rounding to the nearest integer, decimal places and significant figures. -Unit conversions including area and volume.	-Addition and subtraction of fractions -Fractions of amounts -FDP equivalence -Ratio	-Fractions and directed number in the context of rotation. -Line symmetry -Identifying 2D and 3D shapes.	-Circumference -Equation of a line (y=mx+c) -Unit pricing	-Frequency trees, tables and Venn diagrams. -Inequalities.	



multiples of 10,	to a mixed					
100, 1000.	number.					
Use estimation to	Identify equivalent					
check an answer to	fractions.					
a multiplication	Simplify fractions					
Divide numbers	Work with					
that give decimal	equivalent					
answers	fractions and					
Use inverse	decimals.					
operations to						
check answers	Add and subtract					
Use the priority of	fractions with the					
operations	same					
including powers.	denominator.					
Know and use the	Calculate simple					
priority of	fractions of					
operations,	quantities.					
including brackets.	Write one quantity					
0	as a fraction of					
Recognise prime	another.					
numbers.						
	Convert simple					
Recognise square	fractions to					
numbers.	percentages					
	Calculate simple					
Order positive and	percentages					
negative numbers.	(multiples of 10					
Calculate with	and 5)					
negative numbers.						
	Order fractions by					
Order decimals.	converting them to					
Multiply and divide	decimals or					
decimals by	equivalent					
multiples of 10,	fractions.					
100 and 1000.						
Add, subtract,	Add and subtract					
multiply and divide	fractions with					
decimals	different					
Calculate with	denominators.					
money.	Multiply fractions.					
Round decimals	Calculate fractions					
	of quantities.					
	Convert between					
	tractions,			1	1	



	Developin	decimals, and percentages. Calculate percentages of amounts. Express one quantity as a percentage of another. g fluency, reas	soning mather	natically and s	solve problems	s features acro	ss all units. D	ocument num	ber 4-21
KS3 National Curriculum Links	22 - 30 34 - 37	22 25 – 27, 30- 34 56 59 60 61	Move freely between different numerical, algebraic, graphical and diagramma tic representa tions [for example, equivalent fractions, fractions and decimals, and equations and graphs] Use language and properties precisely to analyse	Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics. Use a calculator and other technologies to calculate results accurately and then interpret them appropriately. Use the properties of faces, surfaces, edges andvertices of cubes, cuboids, prisms, cylinders, pyramids, cones and spheres to solve problems in 3-D Interpret mathematical	Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics. Work interchangeably with terminating decimals and their corresponding fractions. Use a calculator and other technologies to calculate results accurately and then interpret them	Use language and properties preciselyto analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics. Use a calculator and other technologiesto calculate results accurately and theninterpret them appropriately. Derive and apply formulae to calculate and solve problems involving:	Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and3-D shapes, probability and statistics. Extend and formalise their knowledge of ratio and proportion in working with measures and geometry, and informulating proportional relations algebraically. Use a calculator and other technologies to calculate results	Develop algebraic and graphical fluency, including understanding linear and simple quadratic functions. Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-Dshapes, probability and statistics. Use a calculator and other technologies to calculate results accurately and then interpret them	



I		numbors	relationships both	appropriately	porimotorand	accurately and	appropriatoly	
		numbers,	algebraically and	appropriately.	perimeterand	then interpret	appropriately.	
		algebraic	algebraically and	Appreciate the	dred Or	then interpret	Recognise,	
	ex	xpressions,	geometrically	the sets of	triangles,	them	sketch and	
	2-	-Dand 3-D		integers real and	parallelograms,	appropriately.	produce	
		snapes,		rational numbers	trapezia,	Recognise	graphs of	
	р	probability		Solvo probloms	volume of	arithmetic	linear and	
	and	id statistics.		involving	cuboids	sequencesand	quadratic	
	Ide	entify		norcontago	(including	find the nth	functions of	
	va	riable		change including:	cubes) and	term.	1 variable	
	S	and		nercentage	other prisms	Express 1	with	
	ex	ress		increase decrease	(including	quantity as a	appropriate	
	rel	lation		and original value	cylinders).	fractionof	scaling,	
		S		problems and	Derive and use	another, where	using	
	be	etwee		simple interest in	the standard	the fraction is	equations in	
		n		financial	ruler and	less than 1 and	x and y and	
	va	riable		mathematics	compass	greater than 1.	the	
		S			constructions	Understand that a	Cartesian	
	alg	gebrai			(perpendicular	multiplicative	plane.	
	c	cally			bisector of a line	relationship	Interpret	
	ä	and			segment,	between 2	mathematica	
	gra	aphic			constructing a	quantities can be	I	
	á	ally.			perpendicular to	expressed as a	relationships	
	М	lake and test			a given line	ratio or a fraction.	both	
	c	conjectures			from/at agiven	Relate the	algebraically	
	ab	pout patterns			point, bisecting	language of	and	
		and			a given angle);	ratios and the	graphically.	
	re	elationships:			recognise and	associated	Use linear and	
	loc	ok for proofs			use the	calculationsto	quadratic	
		or counter-			perpendicular	the arithmetic	graphs to	
		examples.			distance from a	of fractions and	estimate values	
	Bi	legin to			point to a line as	to linear	of v for given	
	r	reason			the shortest	functions.	values of x and	
	de	ductivel			distance to the	Identify and	vice versa and	
		v in			line.	construct	to find	
	σei	ometry			Derive and	congruent	approximate	
		umber			illustrate	triangles, and	solutions of	
		and			properties of	construct similar	simultaneous	
	le	lgehra			triangles,	shapes by	linear	
		ngcora, actuding			quadrilaterals,	enlargement,	equations	
		using			circles, and other	with and	Find approvimato	
		using			plane figures [for	without	solutions to	
	ge	onietric			example, equal	coordinate	contextual	
		dl			lengths and	grids.	nrohlems from	
	CO	onstructi			0	0	problems from	



	ons.			angles] using	Apply angle facts,	given graphs of a	
	Develop			appropriate	triangle	variety of	
	their use of			language and	congruence,	functions,	
	formal			technologies.	similarity and	including piece-	
	mathematica			Identify properties	properties of	wise linear,	
	l knowledge			of, and describe	quadrilaterals to	exponential and	
	to interpret			the results of,	derive results	reciprocal graphs	
	and solve			translations,	about angles and		
	problems.			rotations and	sides, including		
	including in			reflections applied	Pythagoras'		
	financial			to given figures.	Theorem, and use		
	mathematics			Use Pythagoras'	known results to		
	indeficition			Theorem and	obtain simple		
	Begin to model			trigonometric	proofs.		
	situations			ratios in similar			
	mathematicall			triangles to solve			
	v andexpress			problems involving			
	the results			right-angled			
				triangles			
	of formal						
	mathematical						
	mathematical						
	representation						
	S.						
	Select appropriate						
	concepts, methods						
	and techniques to						
	apply to unannia						
	nrohlems						
	approximati						
	on through						
	rounding to						
	estimate						
	answers and						
	calculate						
	nossible						
	resulting						
	errors						
	errors						
	expressed						
	using						
	inequality						
	notation	1	1	1			



		a <x≤b< th=""><th></th><th></th><th></th></x≤b<>			
		Use a calculator			
		and other			
		technologies to			
		calculate results			
		accurately and			
		then interpret			
		them			
		appropriately.			
		Expanding			
		products of 2			
		or more			
		binomials.			
		Understand			
		and use			
		standard			
		mathematical			
		formulae;			
		rearrange			
		formulae to			
		change the			
		subject.			
		Model			
		situations or			
		procedures by			
	1	translatingthem			
		into algebraic			
		expressions or			
	f	formulae and by			
		using graphs.			
		Reduce a given			
		linear equation			
		in 2 variables to			
		the standard			
		form $y = mx + c;$			
		calculate and			
		interpret			
		gradients and			
		intercepts of			
		graphs ofsuch			
		linear equations			
		numerically,			
		graphically and			



			algebraically. Solve problems involving direct and inverse proportion, including						
			graphical and algebraic representation s. Use compound units such as speed, unitpricing and density to solve problems.						
Assessment s	Assessment 1	Assessment 2	End of block assessments	End of block assessments	End of block assessments	End of block assessments	End of block assessments	End of block assessments	