

Mathematics Band Structure		Band 3	Band 4	Band 5	Band 6	Band 7	Band 8	Band E (extension - beyond the bands)
Number	Arithmetic	Add & subtract numbers mentally including a three-digit number and ones, tens and hundreds						
		Use columnar addition and subtraction with numbers up to three digits	Use columnar addition and subtraction with numbers of any size including decimals					
		Use known facts to multiply and divide mentally within the 2, 3, 4, 8 and 10 multiplication tables	Use known and derived facts to multiply and divide mentally					
	Place value	Compare and order whole numbers up to 1000		Order numbers including correct use of inequalities (negatives, decimals, fractions)	Round any number to the nearest 10, 100, 1000 and round a number with one decimal place to the nearest whole number	Round to one decimal place	Estimate answers by rounding to one significant figure	
		Read and write numbers up to 1000 in numerals and in words	Multiply and divide numbers with up to three decimal places by 10, 100, and 1000				Convert numbers into standard form and vice versa	
	Multiples, Factors, Powers & Roots	Count from zero in multiples of 4, 8, 50 and 100	Identify multiples and factors of a number		Generate and describe linear number sequences		Find and use the nth term for a linear sequence	
						Use positive integer powers and associated real roots	Apply the multiplication, division and power laws of indices	Calculate with roots and integer indices
	Directed Numbers		Work with negatives on a number line	Add and subtract numbers where bridging through zero			Apply the four operations with negative numbers	
	Arithmetic with Fractions and Decimals	Count forwards and backwards in tenths		Write any number of tenths or hundredths as a decimal	Write decimals as fractions	Convert between terminating decimals and fractions		
		Multiply a two-digit number by a one-digit number	Multiply two- and three-digit numbers by a one-digit number	Multiply a three- or four-digit number by a two-digit number	Multiply pairs of fractions in simple cases	Multiply and divide with fractions and mixed numbers		
			Divide numbers up to four-digits by a single-digit number using short division including into decimals		Use division to divide numbers up to four digits by a two-digit number	Multiply & divide with decimal numbers		
		Understand fractions as numbers	Add and subtract fractions with the same denominator	Add and subtract fractions with denominators that are multiples of the same number including mixed numbers	Add and subtract fractions and mixed numbers with different denominators			
		Understand fractions as proportions	Find families of common equivalent fractions	Write a fraction in its lowest terms by cancelling common factors				
	Ratio, Proportion and Rates of Change			Use simple ratio to compare quantities		Find a relevant multiplier when solving problems involving proportion	Identify multipliers & use for percentage change	Solve problems involving similar shapes
				Understand that per cent relates to number of parts per hundred	Find percentages of quantities	Write a quantity as a fraction or percentage of another	Solve problems involving percentage change, including original value problems	

Geometry & Measure	Units and Measures	Tell the time using analogue and digital 12-hour clocks							
		Measure length (mm, cm, m), mass (g, kg) and capacity (ml, l)			Convert between adjacent metric units of measure for length, capacity and mass			Change freely between compound units	
	Geometry					Understand and use geometric notation for labelling angles, lengths, equal lengths and parallel lines		Apply Pythagoras' Theorem in two dimensions	
		Use a line of symmetry to complete a symmetric shape or pattern			Measure and draw angles	Solve angle problems involving triangles, quadrilaterals, angles at a point and angles on a straight line		Construct the perpendicular bisector of a line segment and to bisect an angle Use geometrical reasoning to construct simple proofs	
	Perimeter, Area and Volume	Measure perimeters of shapes	Find areas of rectilinear shapes by counting squares			Calculate the area of rectangles	Calculate the volume of cubes and cuboids	Calculate surface area of cubes and cuboids	Apply the formulae for circumference and area of a circle
									Calculate exactly with multiples of π

Algebra	Co-ordinates and graphs		Use coordinates in the first quadrant	Use coordinates in all four quadrants			Understand and use lines parallel to the axes, $y = x$ and $y = -x$ and plot lines in form $y = mx + c$	Plot and interpret graphs of quadratic functions
			Understand and use the gradient of a straight line to solve problems					
	Substitute and Solve			Substitute positive numbers into simple formulae	Use simple formulae expressed in words	Solve linear equations in one unknown including non-integer solutions	Solve linear equations with unknowns on both sides including brackets	Solve two linear simultaneous equations algebraically and graphically
Algebraic Manipulation			Calculate using the correct order of operations	Simplify expressions by collecting like terms	Simplify and manipulate expressions by multiplying a single term over a bracket	Factorise an expression by taking out common factors	Expand the product of two binomials	
							Factorise a quadratic expression of the form $x^2 + bx + c$	
							Change the subject of a formula when two steps are required	

Probability and Statistics	Presenting Data		Interpret and construct bar charts and time graphs		Calculate and interpret the mean as an average of a set of discrete data			
	Probability						Calculate theoretical probabilities for single events	Use tree diagrams to list outcomes