Walkwood
Church of England Middle School

Mathematics

Year 7 — 7 X lessons per fortnight

	Wk	Topic	Learning content	Assessment
Autumn	1	**Place value 1**	Recognise place value and order numbers. Round integers. Compare two numbers using =, ≠, <, >, ≤, ≥ Find the range, median of a set of numbers. Recognise intervals on a number line. *Key vocabulary:* range, median, significant figures	
	2			
	3			End-of-topic assessment
	4	**Place value 2**	Represent tenths and hundredths pictorially. Convert between fractions and decimals. Understand percentage on a hundred square. Identify and use equivalent fractions *Key vocabulary:* fractions, decimals, percentages	
	5			
	6			End-of-topic assessment
	7	**Algebra 1** - sequences	Describe and continue sequences. Apply the term-to-term rule. Understand sequences in a table and graphically (higher). *Key vocabulary:* sequence, linear, term	
	8			
	9			End-of-topic assessment
	10	**Algebra 2** - notation	Work with inputs and outputs. Substitute values into single operation. expressions and two step (higher) Solve one-step linear equations. *Key vocabulary:* function, simplify, equality	
	11			Autumn term assessments
	12			
	13			End-of-topic assessment
	14	Consolidation	Teachers will cover areas for development identified in the autumn	
	15			
Spring	1	**Number 1** - Addition and subtraction	Use formal methods for addition and subtraction, including decimals. Solve financial maths problems. Solve problems with bar charts and line charts. Solve problems in the context of perimeter. *Key vocabulary:* integer, column, inverse	
	2			End-of-topic assessment
	3	**Number 2** - multiplying and dividing	Multiply and divide integers and decimals by powers of 10, and by 0.1 and 0.01 (higher) Solve problems using area of rectangles, parallelograms and triangles. Explore multiplication and division in algebraic expressions (higher). *Key vocabulary:* powers, roots, metric	
	4			
	5			End-of-topic assessment
	6	**Number 3** - Directed number	Understand and use positive & negative numbers. Evaluate algebraic expressions. Explore higher powers and roots (higher). *Key vocabulary:* negative, roots, positive	
	7			End-of-topic assessment
	8	**Fractions 1** – fractions & percentages	Use a given fraction to find the whole and/or other fractions. Find a percentage of a given amount. Solve problems with fractions greater than 1 and percentages greater than 100% (higher) *Key vocabulary:* divide, fraction, percentage, equivalent	
	9			End-of-topic assessment
	10	**Fractions 2** – adding & subtracting	Convert between mixed numbers & fractions. Add and subtract proper & improper fractions and mixed numbers. Add and subtract simple algebraic fractions (higher) *Key vocabulary:* convert, simplify, improper	Spring term assessments
	11			Pre-assessment
	12			End-of-topic assessment
Summer	1	**Geometry 1** - constructions	Draw and measure line segments. Draw and measure angles up to 360°. Recognise types of triangles and quadrilaterals Identify polygons up to decagon Construct more complex polygons (higher) *Key vocabulary:* angle, parallel, measure	
	2			
	3			End-of-topic assessment
	4	**Geometry 2** - angles	Understand and use the sum of angles in a triangle and a quadrilateral. Solve angle problems using properties of triangles and quadrilaterals Understand and use parallel line angles rules (higher) *Key vocabulary:* bisect, angle, opposite	
	5			
	6			End-of-topic assessment
	7	**Number 5** - probability	Identify and represent sets. Interpret and create Venn diagrams. Know and use the vocabulary of probability. Calculate the probability of a single event. Know that the sum of probabilities for all possible outcomes is 1. *Key vocabulary:* chance, outcome, event	
	8			
	9			
	10			End-of-topic assessment
	11	**Number 6** - primes	Identify factors of numbers and expressions Recognise and identify prime numbers Recognise square and triangular numbers Find common factors of a set of numbers *Key vocabulary:* union, intersection, complement, difference	GL assessment fortnight
	12			
	13	Consolidation	Teachers will cover areas for development identified in the summer	

Year 8 — 7 X lessons per fortnight

Topic	Learning content	Assessment
Ratio & proportion 1	Comparing and dividing ratios. Simplifying ratios and notations. Solve proportional problems (higher) *Key vocabulary:* ratio, proportion, Pi.	
		End-of-topic assessment
Ratio & proportion 2	Explore graphs. Convert between currencies. Draw scale diagrams and interpret maps. Explore direct proportion graphs (higher) Understand scale factor (higher) *Key vocabulary:* currencies, scale, similar	
		End-of-topic assessment
Ratio & proportion 3	Represent fractions pictorially. Divide & multiply a fraction by an integer. Multiply and divide improper and mixed fractions (higher). *Key vocabulary:* product, reciprocal	
		End-of-topic assessment
Statistics 1 - Cartesian plane	Use coordinates in all four quadrants. Identify and draw lines that are parallel with the axes, and explore gradients. Recognise and use the line y = x Solve problems involving graphs. *Key vocabulary:* axes, linear, gradient	
		End-of-topic assessment
Statistics 2 - Data and Probability	Draw and interpret scatter graphs. Describe a linear correlation. Using lines of best fit. Reading frequency tables. *Key vocabulary:* correlation, best fit, frequency	
		Autumn term assessment
		End-of-topic
Consolidation	Teachers will cover areas for development identified in the autumn term.	
Algebra 1 - equations	Form algebraic expressions. Using brackets correctly when solving equations. *Key vocabulary:* inequality, expression	
		End-of-topic assessment
Algebra 2 - sequences	Generate sequences given a rule in words or an algebraic rule. Adding and subjecting expressions with indices. Simplifying algebraic expressions. *Key vocabulary:* rule, law, term	
		End-of-topic assessment
Number 1 - fractions	Convert fluently between key fractions decimals and percentages. Calculate fractions, decimals and percentages of an amount with and without a calculator. Express one number as a fraction or a percentage of another with and without a calculator *Key vocabulary* convert, equivalent, increase, decrease, inverse	
		End-of-topic assessment
Number 2	Use the formal written methods for the four operations with positive and negative numbers as well as decimals. *Key vocabulary:* indices, order, operations	
		Spring term assessments
		End-of-topic assessment
Geometry 1 - angles	Understand and use basic angle rules and notation. Calculate angles between lines and within shapes. Identify and calculate with sides and angles in special quadrilaterals. *Key vocabulary:* properties, parallel, perpendicular	
		End-of-topic assessment
Geometry 2 - area	Calculate the area of triangles, rectangles and parallelograms and a trapezium. Calculate the area of a circle and parts of a circle with and without a calculator. *Key vocabulary:* parallelogram, trapezium, perimeter, pi	
		End-of-topic assessment
Geometry 3 – transformation	Recognise line symmetry. Reflect a shape in a horizontal or vertical line. Reflect a shape in a diagonal line . *Key vocabulary:* symmetry, horizontal, vertical, reflection	
		End-of-topic assessment
Data reasoning	Set up a statistical enquiry. Design and criticise questionnaires. Draw and interpret pictograms, bar charts, pie charts and vertical line graphs. Identify misleading graphs Understand and use the mean, median and mode *Key vocabulary:* average, data, interpret	GL assessment fortnight
Solving Problems	Solve a range of mathematical problems *Key vocabulary:* symbols, reasoning, justify	

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