



Curriculum Sequencing Overview – Maths Year 7

Week	1	2	3	4	5	6	7
Big ideas (key concepts)	1a. Sequences			1b. Number Properties			
Lesson topics sequence	<p>Finding the next term of an arithmetic sequence</p> <p>Recognise common sequences</p> <p>Nth term of an arithmetic sequence</p>	<p>Is a given value part of a given sequence?</p> <p>Special non-arithmetic sequences</p> <p>Continue a quadratic sequence and generate terms of a quadratic sequence, given the nth term</p> <p>Find nth term of quadratic sequence</p>	<p>Continue a geometric progression and find the term to term rule</p> <p>Find nth term of geometric progression</p> <p>Recognise and use simple geometric progressions (rn where n is an integer, and r is a rational number > 0 or a surd)</p>	<p>Understand what a factor is and find the factors of a given number.</p> <p>Use divisibility rules to help find factors.</p> <p>Understand the link between factors of a number and dimensions of rectangles with that area</p>	<p>Understand what a multiple is and find multiples of a given number.</p> <p>Understand and know prime numbers up to 100.</p> <p>Reasoning and problem solving with prime numbers.</p> <p>Can represent a given number as a product of its prime factors.</p>	<p>Find the highest common factor and lowest common multiple by listing</p> <p>Find HCF and LCM using Venn diagrams</p> <p>Solve problems involving HCF and LCM</p>	<p>Find the square, cube, square roots and cube roots of numbers.</p> <p>Solve problems involving squares and area</p> <p>Solve problems involving cubes and link to volume.</p> <p>Understand and calculate with indices greater than 3</p> <p>Calculate with negative integers and understand the term reciprocal.</p>
Key assessments	Year 7 progress testing			Factors and multiples KA			Number properties topic assessment
Revision	Sparx Maths Task Self-Quizzing Sequences 1 – 4	Sparx Maths Task Self-Quizzing Sequences 5 – 8	Sparx Maths Task Self-Quizzing Sequences 9-12	Sparx Maths Task Self-Quizzing Factors, Multiples and Primes 1 – 3	Sparx Maths Task Self-Quizzing Factors, Multiples and Primes 4 – 6	Sparx Maths Task Self-Quizzing Understanding Fractions 1 - 4	Sparx Maths Task Self-Quizzing Understanding Fractions 5 – 8



Week	8	9	10	11	12	13	14
Big ideas (key concepts)	2a. Fractions			2b. Probability			
Lesson topics sequence	<p>Express a terminating decimal as a fractions.</p> <p>Express a fraction as a decimal using division.</p> <p>Express one amount as a fraction of another.</p> <p>Finding a fraction of an amount</p> <p>Simplifying fractions</p>	<p>Convert between mixed number and improper fractions</p> <p>Add and subtract fractions</p> <p>Multiply and divide fractions</p>	<p>Compare and order fractions using inequality notation.</p> <p>Find the reciprocal of an integer, decimal or fraction.</p> <p>Convert recurring decimals into fractions algebraically.</p> <p>Four operations with algebraic fractions.</p>	<p>Describe the probability of an event in words and as a number.</p> <p>Mark events on a probability scale 0 – 1.</p> <p>Calculate expectation based on probability values.</p> <p>Find the probability of an event.</p>	<p>List all outcomes of an event systematically.</p> <p>Use and draw sample space diagrams.</p> <p>Identify mutually exclusive outcomes and know the sum of those probabilities is 1.</p> <p>Calculate a relative frequency.</p>	<p>Calculate using the ‘And’, ‘Or’ and ‘Not’ rules of probability.</p> <p>Complete two way tables and frequency trees to calculate probabilities</p> <p>Calculate probabilities from Venn diagrams.</p>	<p>Find a missing probability from a list or table including algebraic terms.</p> <p>Use a probability tree diagrams to work out probabilities.</p> <p>Use the product rule for counting</p> <p>Use a Venn diagram to calculate conditional probability</p> <p>Calculate estimated populations using capture, recapture.</p>
Key assessments	Understanding fractions KA	Operations with fractions KA	Fractions topic assessment	Probability 1 KA	Probability 2 KA		Probability assessment
Revision	Sparx Maths Task Self-Quizzing Fractions and Percentages Equivalence 1 - 3	Sparx Maths Task Self-Quizzing Four operations with Fractions 1 – 8	Sparx Maths Task Self-Quizzing Comparing FDP 1 – 7	Sparx Maths Task Self-Quizzing Probability 1 - 5	Sparx Maths Task Self-Quizzing Probability 6-10	Sparx Maths Task Self-Quizzing Probability 11 - 15	Sparx Maths Task Self-Quizzing Probability 16 – 20



Week	15	16	17	18	19	20
Big ideas (key concepts)	3a. Arithmetic			3b. Indices and Standard Form		
Lesson topics sequence	<p>Recognise and convert between metric measures of length and mass.</p> <p>Use and understand scale drawings.</p> <p>Apply formal methods of addition, subtraction, multiplication and division, including decimal numbers.</p>	<p>Using inequality notation to identify the size of decimals.</p> <p>Inequalities and number lines</p> <p>Ordering fractions, decimals and negatives.</p>	<p>Find a decimal, fraction or negatives which lies between two others.</p> <p>Confidently perform the four operations with negative numbers.</p> <p>Can add brackets to a calculation in order the change the outcome.</p> <p>Substitute into a given formula correctly following the order of operations.</p>	<p>Apply index laws to calculations including multiplying and dividing when the bases are the same and a power to a power.</p> <p>Calculate with harder index laws including n^0, 1^n, n^1, fractional and negative indices.</p>	<p>Write ordinary numbers in standard form and vice versa.</p> <p>Add, subtract, multiply and divide in standard form.</p> <p>Calculate with standard form on a calculator.</p>	<p>Use surd notation.</p> <p>Simplify surds.</p> <p>Rationalise a simple denominator.</p>
Key assessments	Arithmetic KA		Mid-year assessment	Indices and Standard form KA		Indices and Standard form topic assessment
Revision	Sparx Maths Task Self-Quizzing Arithmetic 1 - 6	Sparx Maths Task Self-Quizzing Arithmetic 7 - 11	Sparx Maths Task Self-Quizzing Arithmetic 12 - 16	Sparx Maths Task Self-Quizzing Indices and Standard Form 1 – 3	Sparx Maths Task Self-Quizzing Indices and Standard Form 4 – 6	Sparx Maths Task Self-Quizzing Indices and Standard Form 7 – 9



Week	21	22	23	24	25	26
Big ideas (key concepts)	4a. Collecting and displaying data			4b. Algebraic Manipulation		
Lesson topics sequence	<p>Collate data into frequency tables and read values from frequency tables.</p> <p>Draw and interpret, pictograms, bars charts, dual bar charts, composite bar charts.</p>	<p>Draw and interpret pie charts, stem and leaf diagrams, frequency polygons and two-way tables.</p> <p>Plan journeys from information collected from two-way tables.</p> <p>Draw and interpret histograms.</p> <p>Construct tables and line graphs for time series.</p>	<p>Draw and interpret scatter graphs.</p> <p>Identify outliers and line of best fits from scatter graphs.</p> <p>Use line of best fit to make predictions, understand interpolate and extrapolate and the dangers of doing so.</p> <p>Distinguish the types of correlation.</p>	<p>Identify an equation, formula, identity or expression and understand the differences.</p> <p>Simplify algebraic expressions by collecting like terms and by multiplying and cancelling using index laws.</p> <p>Expand and simplify expressions.</p> <p>Factorise simple expressions into a single bracket</p>	<p>Expand and simplify expressions involving double brackets.</p> <p>Factorise quadratic expression including difference of two squares.</p> <p>Expand and simplify expressions involving triple brackets.</p> <p>Form expressions and derive a simple formula.</p> <p>Substitute numbers into a formula.</p>	<p>Change the subject of a formula.</p> <p>Simple proofs and use of \equiv in "show that" style questions.</p> <p>Simplify algebraic fractions.</p> <p>Add, subtract, multiply and divide with algebraic fractions.</p> <p>Use function notation, and find the value of functions and inverse functions.</p>
Key assessments	Scatter graphs KA		Collecting and displaying data topic assessment	Algebra 1 KA	Algebra 2 KA	Algebraic manipulation topic assessment
Revision	Sparx Maths Task Self-Quizzing Types of Data 1 – 8	Sparx Maths Task Self-Quizzing Averages and Range 1 – 4	Sparx Maths Task Self-Quizzing Scatter Graphs 1 – 11	Sparx Maths Task Self-Quizzing Algebra: the basics 1 - 11	Sparx Maths Task Self-Quizzing Expanding and Factorising 1 - 6	Sparx Maths Task Self-Quizzing Expanding and Factorising 7 - 11



Week	27	28	29	30	31	32
Big ideas (key concepts)	5a. Percentages			5b. Solving Equations and Inequalities		
Lesson topics sequence	Convert between fractions decimals and percentages. Order a mixed list of fractions decimals and percentages. Express one amount as a percentage of another.	Find a percentage of an amount with and without a calculator. Calculate percentage increase or decrease. Express a change as a percentage. Calculate profit or loss.	Calculate simple interest. Calculate using repeated percentage change. Calculate compound interest. Solve reverse percentage problems.	Solve linear equations including, one step, two step, variables on both sides, equations with brackets. Form and solve linear equations. Solve quadratic equations.	Rearrange equations, including those with powers and roots. Form and solve simultaneous equations. Solve exactly, by elimination of an unknown, two complex simultaneous equations in two unknowns; linear / quadratic; linear / $x^2 + y^2 = r^2$	Understand inequality notation, and represent inequalities on a number line. Write values that satisfy and inequality. Solve quadratic inequalities.
Key assessments	Percentages KA		Percentages topic assessment	Algebra – solving equations KA		Solving equations and inequalities topic assessment
Revision	Sparx Maths Task Self-Quizzing Percentages 1 - 5	Sparx Maths Task Self-Quizzing Percentages 6 - 10	Sparx Maths Task Self-Quizzing Percentages 1 - 10	Sparx Maths Task Self-Quizzing Algebra Solving Equations 1 – 5	Sparx Maths Task Self-Quizzing Algebra Solving Equations 6 - 10	Sparx Maths Task Self-Quizzing Inequalities 1 - 6



Week	33	34	35	36	37	38	39
Big ideas (key concepts)	6a. Properties of 2D shapes and co-ordinates			6b. Angles			
Lesson topics sequence	<p>Name and state the properties of 2D shapes including, lines of symmetry, rotational symmetry, angle properties.</p> <p>State the parts of a circle.</p> <p>Know the properties of triangles and identify triangles using their properties.</p>	<p>Know the properties of quadrilaterals and identify quadrilaterals using their properties.</p> <p>Plotting and reading co-ordinates.</p> <p>Using co-ordinates – for example to find the missing corner of a rectangle.</p>	<p>Draw the following horizontal, vertical and diagonal lines on a graph; $y = a$, $x = a$, $y = x$ and $y = -x$.</p> <p>Translate, rotate, and reflect a shape.</p> <p>Describe rotations, reflections, and translations.</p>	<p>Determine angles around a point, on a line, in a triangle.</p> <p>Know the angle properties of triangles and calculate missing angles in scalene equilateral and isosceles triangles.</p>	<p>Calculate missing angles in a quadrilateral using their properties.</p> <p>Calculate vertically opposite angles.</p> <p>Identify regular and irregular polygons.</p>	<p>Calculate the sum of angles in polygons.</p> <p>Calculate interior and exterior angles in polygons.</p> <p>Identify angles in parallel lines.</p>	<p>Calculate missing angles in parallel lines using the angle properties of corresponding, alternate and co-interior angles.</p>
Key assessments	Polygons KA		Properties of 2D shapes and co-ordinates topic assessment	Angle facts KA	End of year assessment		
Revision	Sparx maths task Self-Quizzing Polygons 1 - 5	Sparx maths task Self-Quizzing Polygons 6-12	Sparx maths task Self-Quizzing Transformations 1 - 3	Sparx maths task Self-Quizzing Angles 3 - 7	Sparx maths task Self-Quizzing Angle Facts 1 - 4	Sparx maths task Self-Quizzing Angle Facts 5 - 9	Sparx maths task Self-Quizzing Angle Facts 1 – 9