Curriculum overview for Year 7 (Higher Term 1)

Term	Autumn 1			Autumn 2			
Topic	**Number System**	**Calculations with Fractions & Decimals (F&D)**	**Basic Algebra**	**Geometry, Construction & Shape**	**Data Presentation**	**Fraction, Decimal, Percentage (FDP)**	**Algebraic Graphs**
Knowledge	Types of numbers. Factors, multiples. Negatives. Sequence/ pattern spotting. Symbols. Order Fractions, Decimals, Integers (FDI). Shade diagrams. KO 8,9,20, 32, 23, 14	Calculate with F & D. Estimate answers to calculations. BODMAS/ BIDMAS. KO 32, 4, 8	Vocabulary. Collect terms. Multiply brackets. Substitution. Function machines. KO 1	Symbolism & Conventions (Point, Line, Angle). Construction Methods. Properties of 2D & 3D shapes. Circles. KO 2, 7, 26, 19, 24	Types of data. Types of charts. Choice of suitable chart to use for a purpose. KO 6	What is a %? Relate to F & D. Order FDP. x/÷ decimals. KO 32, 9, 8, 10	Plot axes & co-ordinates in 4 quadrants. KO 25
Skills	Memorise key words, symbols; use types of numbers; adhere to models and algorithms. Fluency with number, and use of pencil/paper and mental methods of calculation; recognise & order numbers by magnitude.		Algebraic conventions. Calculation methods.	Use of symbolism and conventions (shape and data). Draw & "read" shapes and charts. Select and draw charts for a purpose. Use mathematical equipment.			
	<<<<<<<<<<< Mental arithmetic, pencil and paper methods and calculator use; sense of number, sense of scale, sense of shape, reasoning, using and applying >>>>>>>>>>						
Key Marked Piece (Summative Assessments in bold)	Assessment 1 Types of number, simple sequences, fractions and decimals. Assessment 2 Fractions, decimals, basic algebra and aspects of prior work.			Assessment 3 Basic algebra, shape, data handling and prior work. Assessment 4 Data presentation, fractions, decimals, percentages, and aspects of prior work.			
Vocabulary	Number/Fractions/Decimals/Percentages Factor, multiple, prime, power, integer, square n°, cube n°, triangle n° root, Fibonacci, improper, top-heavy, mixed number, equivalent, magnitude, divisor line, numerator, denominator, estimate, evaluate, BODMAS, BIDMAS, index, indices, percent, percentage, convert . Symbols: < > = ≤ ≥ ≠ $\sqrt[3]{}$ √ % Algebra & Algebraic Graphs Term, expression, formula, equation, function, collect like terms, substitute, expand, bracket, simplify, input, output, balancing method, inverse function, axis, plot, vertical, horizontal, quadrant, co-ordinate, linear Data Tally chart, bar chart, comparative bar chart, scale, pictogram, key, categorical, pie chart, interpret, describe, information, discrete, continuous, quantitative, numerical, counted, measured, primary, secondary. Shape Line, side, angle, congruent, tessellation, equilateral, regular, irregular, protractor, compasses, faces, edges, vertex, vertices, parallel, perpendicular, acute, obtuse, reflex, perpendicular, straight, circle, square, triangle, polygon, radius, diameter, circumference, arc, chord, tangent, sector, segment, diagonal, construct, sketch, symmetrical. Symbols: for degrees, parallel, perpendicular, equal length.						

Curriculum overview for Year 7 (Higher Term 2)

Term	Spring 1					Spring 2			
Topic	**Ratio & Proportion**	**Sequences**	**Angles**	**Fractions**	**Venn Diagrams**	**Percentages**	**Equations**	**Perimeter, Area, Volume**	**Symmetry and Polygons**
Knowledge	Ratio symbol Method for "divide into a ratio"; pictorial and numerical representation; reverse a ratio. KO 12	Describe/use rule for sequence; create or generate sequences. KO 14	Basic angle rules; reason logically using rules; simple angle proofs. KO 2	Methods for +/-/x/÷ fractions; cancel fractions by identifying common factors. x/÷ decimals KO 32, 9, 8, 17	Read, draw, use Venn diagram. Recognise, use simple set notation. KO 16	Calculating percentages by build-up method find one n^{o} as a % of another; find a % change. KO 32, 10,29	Formal, informal methods for solving equations; use "balancing" method; form equations from worded situation. KO 1,30	Distinguish between perimeter, area, volume. Formulae for area in simple polygons. Surface area of cube/cuboid; formula for volume of cube/cuboid. Units for L/A/V. KO 3	Lines of symmetry in polygons. Order of rotational symmetry. KO 26
Skills	Number/ arithmetic skills; pattern spotting; use of diagrams, numbers and simple algorithms for problem solving.		Angle literacy; reasoning, logical ordering of solutions.	Arithmetic skills; sense of number (eg factors).	Use/ understand symbolism; "read" diagrams.	Fluency in F/D/P conversion; simple problem solving. Use of simple calculator functions.	Use & interpret basic algebraic symbolism; translate words to algebra & vice versa.	Choose and use appropriate formulae; substitute in formulae. Visualisation, drawing skills, use of tracing paper. Arithmetic and calculator skills.	
	<<<<<<<<< Mental arithmetic, pencil and paper methods and calculator use; sense of number, sense of scale, sense of shape, reasoning, using and applying >>>>>>>>>								
Key Marked Piece (Summative Assessments in bold)	**<u>Assessment 5 – Mid-Year Summative</u>** All prior work <u>Assessment 6</u> Fractions, data, aspects of prior work					<u>Assessment 7</u> Percentages, aspects of prior work. <u>Assessment 8</u> Equations, Perimeter, Area, & Volume Facts and Problems			
Vocabulary	<u>Ratio, Sequences, Fractions, Percentages</u> Integer, ratio, proportion, simplify, fraction, parts, numerator, denominator, common, express, quantity, amount, generate, term, term-to-term rule, linear, Fibonacci, percentage, interest, profit, loss, tax. <u>Angles, Area, Perimeter, Volume, Symmetry</u> Justify, reason, proof, acute, obtuse, right, straight, reflex, vertically opposite; face, edge, length, vertex, vertices, area, perimeter, square (units), compound shape, surface area, volume, cubed (units), cube, cuboid, prism, pyramid, tetrahedron, cross-section; line symmetry, rotational, mirror line, centre of rotation, reflection. <u>Equations</u> equals, balance, term, expression, formula, equation, function, collect like terms, substitute, expand, bracket, simplify, solve. <u>Venn diagrams</u> Elements, set, notation, union, intersection, Universal set. <u>Symbols</u>: ∩ ∪ ξ								

Curriculum overview for Year 7 (Higher Term 3)

Term	Summer 1			Summer 2	
Topic	**Rounding and estimation**	**TERRible Transformations**	**Proportional Reasoning: Conversions**	**Data Presentation & Data Calculations**	**Probability**
Knowledge	Place value inc decimal places; concept of rounding for approximation; round to nearest 10, 100, 1000 , also to decimal places. KO 13	Reflect shape using mirror line, rotate shape using angle and centre of rotation, translate, enlarge using positive whole number scale factor. Identify & describe a transformation. Draw tessellations. KO 15	Conversions for mass, length, capacity in metric units & simple imperial units. Conversions for time & use of 12-hour and 24- hour clock. Analogue & digital time Read/interpret bus/train timetables. KO 21	Vertical line graphs, time series graphs. Averages (mode, median, mean) and a measure of variation (range). KO 5, 6	Basic probability. Listing & tables to identify outcomes of events. Relative frequency. Read/interpet/draw frequency trees. KO 11
Skills	Place value, rounding, mental arithmetic and calculator skills.	Drawing skills, use of equipment (ruler, tracing paper), "sense of shape" to distinguish between different transformations and use tessellation. Understand angles, clockwise/anti-clockwise.	Memorise conversion factors and use fluently; x and ÷ by multiples of 10 and special cases of multiples of 60, 24 etc for time. Read from tables.	Graphing skills, reading graphs; arithmetic; checking for accuracy; rounding.	Use of tables & listing to record & organise information; knowledge of fractions; reading diagrams and tables. Ordering fractions, decimals, percentages.
	<<<<<<<<<<< Mental arithmetic, pencil and paper methods and calculator use; sense of number, sense of scale, sense of shape, reasoning, using and applying >>>>>>>>>>				
Key Marked Piece (Summative Assessments in bold)	Assessment 9 Perimeter, Area, Volume, Symmetry, Rounding, aspects of prior work Assessment 10 Transformations, aspects of prior work			**Assessment 11 – End of Year Summative (2 Papers)** **All prior work except Probability (Summer 2)**	
Vocabulary	Rounding Whole number, integer decimal places, place value, estimate, approximate, truncate. Transformations Vertical, horizontal, object, image, rotate, reflect, translate, enlarge, centre of rotation, congruent, direction, angle of rotation, co-ordinate axes, scale factor, integer, clockwise/anti-clockwise, tessellate Conversions Convert, equivalent, metric, imperial. Time: seconds, minutes, hours, days, analogue, digital, o'clock. Length: metre, centimetre, millimetre, kilometre, mile, yard, inch, foot. Mass: milligram, gram, kilogram, tonne, pound, ounce. Volume/Capacity: millilitre, centilitre, litre, gallon, cubic centimetre, cubic metre. Symbols: All associated abbreviations for measures Data Line graph, time-series graph, vertical line graph, misleading diagram, frequency, table, discrete, continuous, average, mode, median, mean, measure of variation, range Probability Probability line, chance, likelihood, outcome, event, random, fair, unlikely, (equally) likely, certain, impossible, combination, fraction, decimal, percentage, ratio, expectation, possibility space, theoretical, experiment(al), frequency tree.				