Curriculum Sequencing Grid: *Y8 Maths*

Maltby Academy

Year 8	Term 1	Term 2	Term 3
Unit (Tablet in 39 week plan)	Problem Solving, Proportional Reasoning, Representations	Algebraic Techniques, Developing Number	Developing Geometry, Reasoning with Data
Key Retainable Knowledge (Required for Y11/13) • What… How…. Why….	Link between ratio of a shared quantity and equivalent fractional ownership (1:4 means 1/5 and 4/5) Simplify ratio to the form 1:n (or n:1) by identifying the highest common factor of a group of numbers $C = \pi D$, $A = \pi r^2$ when working with circles Multiply and divide fractions to find a portion of a given quantity. $Y = mx + c$, use to calculate gradient and y-intercept of a linear graph	Expand a bracket to re-form an expression, using multiplicative reasoning Form an algebraic expression/equation from a given context by interpreting a scenario Convert between fractions, decimals and percentages by understanding place value and equivalence Convert ordinary numbers in to standard form, and vice versa, through use of 10 times table and multiplicative reasoning Estimate solutions for complex problems by rounding numbers to 1 significant figure Solid understanding of the correct order of operations	Calculation of angles within parallel lines, applying terms such as vertically opposite, corresponding, alternating and co-interior angles Identify special quadrilaterals through their unique geometric properties Sum of angles in a polygon = (n-2)x180 Calculate area of special shapes (e.g. circle and trapezium) using formulae, and subsequent compound shapes Round numbers to a given significant figure Construct and interpret bar, pie, dual-bar charts Solve problems and identify most appropriate average from mean, median, mode and range
Key Technical Vocabulary (To be modelled and deliberately practiced in context.)	Ratio, scale factor, measure, circumference, simplest form, multiplicative reasoning, Cartesian plane, co-ordinates, integer, fraction, negative, plotting, equations, expressions, formulae, parallel, perpendicular, y = mx + c. Scatter graphs, correlation, two way tables, outcomes, sample space (Extension; mid-point, quadratic, 'product-rule')	Brackets, equations, unknown, variable, inequalities, forming, solving, identities, expanding, factorising, binomials, linear, quadratic, fraction, decimal, percentage, 'index form', equivalence, conversion, ordinary, units, estimation, rounding, place value, decimal place, 'significant figure', 'order of operations/BIDMAS' (Extension; 'n^{th} term', 'standard form', negative and fractional indices)	Angles, parallel lines, polygons, geometry, quadrilaterals, regular, irregular, properties, area, trapezium, circle, chord, radius, diameter, compound, symmetry, reflection, horizontal, vertical, diagonal, collecting data, interpret, construct, compare, statistics, bar chart, pie chart, average, median, mean, mode, range, appropriate, distribution (Extension; segment, sector, perpendicular, constructions, grouped data)
Opportunities for Reading	Exemplar questions/methods from ActiveLearn that include functional real-world context	Exemplar questions/methods from ActiveLearn that include functional real-world context	Exemplar questions/methods from ActiveLearn that include functional real-world context
Developing Cultural Capital (exposure to very best-essential knowledge and skills of educated citizens – appreciation of human creativity and achievement.)	UKMT maths challenges, STEM clubs and trips TBA	UKMT maths challenges, STEM clubs and trips TBA	UKMT maths challenges, STEM clubs and trips TBA
Cross Curricular Links (Authentic Connections)	Scale maps, solving/rearranging scientific (Physics) equations to increase familiarity	Use of scientific and geographic examples of standard form e.g. atom size, diameter of a planet, population density	Real-world examples of data representations from Geography and P.E e.g. traffic flow, land usage, performance-related results
Key Assessment	End of topic assessments to assess recently taught material. LC1 to assess topics from other areas (interleaved) of Maths.	End of topic assessments to assess recently taught material. LC2 to assess topics from other areas (interleaved) of Maths.	End of topic assessments to assess recently taught material. LC3 to assess topics from other areas (interleaved) of Maths.