HMJS Mathematics Strand Tracker

RATIO, PROPORTION AND ALGEBRA

Year 3	Year 4	Year 5	Year 6
			Ratio and Proportion Pupils should be taught to: • solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation of percentages [for example, of measures, such as 15% of 360] and the use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples **Non Statutory** Pupils recognise proportionality in contexts when the relations between quantities are in the same ratio (for example, similar shapes, recipes). Pupils link percentages or 360° to calculating angles of pie charts. Pupils should consolidate their understanding of ratio when comparing quantities, size and scale drawings by solving a variety of problems. They might use the notation a:b to record their work.

			Pupils solve problems involving unequal quantities e.g. 'for every egg you need three spoonfuls of flour', '3/5 of the class are boys'. These problems are the foundation for later formal approaches to ratio and proportion.
			Algebra Pupils should be taught to: • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables **Non Statutory** Pupils should be introduced to the use of symbols and letters to represent variables and unknowns in mathematical situations that they already understand, such as: - missing numbers, lengths, coordinates and angles - formulae in mathematics and science - equivalent expressions (for example, a + b = b + a) - generalisations of number patterns - number puzzles (e.g. what two numbers can add up to)