The new National Curriculum: Year 6 – Ratio and proportion and algebra

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
Notes and guidance (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.*

Herts for Learning – Teaching and Learning

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
Notes and guidance (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)*