Sacred Heart Catholic Primary School
The new National Curriculum: Year 6 – Ratio and proportion and algebra

Ratio and Proportion objectives only appear in Year 6. However, it is vital that these objectives build upon children's prior learning in other mathematical concepts, in particular: fractions, decimals and percentages. Therefore, this document should be used in conjunction with the other progression documents in order to see where this learning is progressing from.

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.*

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

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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)*

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