

Bowmansgreen Primary School

Progression of Ratio and Algebra



National Curriculum (Statutory Requirements)

Year 6	
Ratio	Algebra
<p>Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</p> <p>Solve problems involving the calculation of percentages [for example, of measures, such as 15% of 360] and the use of percentages for comparison.</p> <p>Solve problems involving similar shapes where the scale factor is known or can be found.</p> <p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p>	<p>Use simple formulae.</p> <p>Generate and describe linear number sequences.</p> <p>Express missing number problems algebraically.</p> <p>Find pairs of numbers that satisfy an equation with two unknowns.</p> <p>Enumerate possibilities of combinations of two variables.</p>

Notes and Guidance (Non-Statutory)

Year 6	
Ratio	Algebra
<p>Pupils recognise proportionality in contexts when the relations between quantities are in the same ratio (for example, similar shapes, recipes).</p> <p>Pupils link percentages or 360° to calculating angles of pie charts.</p> <p>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.</p> <p>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.</p>	<p>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:</p> <ul style="list-style-type: none">- 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)