

Y8 Ratio & proportion

Ratio and Proportion		
Expected Outcomes • Understand and use ratio notation confidently. • Solve problems involving sharing in a given ratio. • Use scale factors to solve enlargement and map scale problems. • Apply proportional reasoning to recipes, conversions, and real-life contexts.		
Developmental Focus Opportunities • Build fluency with multiplicative reasoning. • Encourage step-by-step problem solving using structured scaffolds. • Develop confidence in interpreting and constructing ratio statements. • Use visual models (bar models, double number lines) to support understanding.		
Key Learning Points		Powerful Knowledge
• Ratio as a comparison between quantities. • Simplifying ratios and finding equivalent ratios. • Using scale factors and unitary methods. • Solving word problems involving proportion and scaling.		• Ratio and proportion underpin many real-world applications such as recipes, maps, and finance. • Understanding multiplicative relationships is essential for GCSE success. • Proportional reasoning supports learning in algebra, geometry, and statistics.
Subject-Specific Vocabulary	Reading Opportunities	
• Ratio • Proportion • Scale factor • Equivalent • Multiplicative • Simplify	Reading in mathematics is far more integral than it might first appear—it's not just about decoding word problems. It's about navigating a unique linguistic landscape that blends technical vocabulary, symbolic representations, and logical reasoning. Why Reading Matters in Maths • Mathematics has its own language: Terms like “difference,” “volume,” or “factor” have specific meanings in maths that differ from everyday usage. • Word problems require comprehension: Pupils often perform 10–30% worse on word problems compared to numeric ones, highlighting the need for strong reading strategies. Multi-modal representation: Maths texts often combine symbols, diagrams, and written explanations, requiring students to interpret across formats.	
Possible Misconceptions		Cross-Curricular Links
• Confusing ratio with fraction. • Incorrectly simplifying ratios (e.g., dividing only one part). • Misinterpreting scale factors as additive rather than multiplicative. • Assuming proportions must always be equal parts.		• DT: Scaling recipes and ingredients. • Geography: Map scales and distance conversions. • Science: Ratio in mixing chemicals and interpreting results. • PE: Comparing performance statistics and fitness data.

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