Ratio

Simplifying Ratios and Representing as Fractions	As both A as a Fraction of the whole, A as a fraction of B. substituting parts of the ratio into algebraic expressions.	Golden ratio face beauty
Dividing Into a Ratio	Divide into a given ratio using a variety of methods, including bar modelling.	Mixing liquids/ingredients together in the correct amounts. Fashion industry clothing sizes
Given Part of a Ratio Find the Whole or Other Parts	Solve problems involving one part or more/less than type questions. Use a variety of methods.	

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Three Way Ratio	Find equivalent parts of corresponding ratios in order to solve problems.	Fashion industry clothing sizes
Changing Ratios	Find parts and wholes of ratios when the ratios and parts have changed from the original.	

Key Knowledge/Prior Learning KS2/3 and Retrieval and Suggested Starters
• 4 operations • Multipliers • Fractions • Factors and multiples • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. • Multiplication/division • Adding fractions • HCF • LCM • Substitution

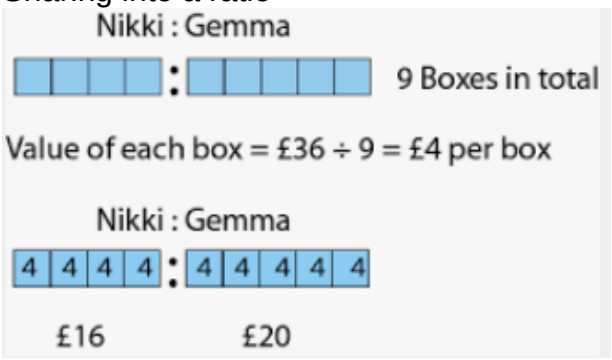
KS3 National Curriculum – what students will be practicing and Key Questions
• Understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction • Use ratio notation, including reduction to simplest form • Expressing ratios as fractions • Sharing an amount in a ratio • Finding the total given part of a ratio • Solve problems involving ratio (combining ratios) • Using as a limiting factor • Find equivalent parts of corresponding ratios

Specific Ambitious Knowledge
Pictorial representations/bar modelling

Key Vocabulary/Literacy Opportunities
• Simplify • Equivalent • Proportion • Part Whole • Combine • Representing • Share • Corresponding • Original

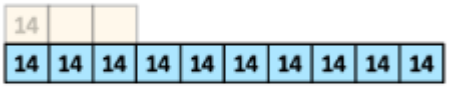
Key Formulae/Knowledge

Sharing into a ratio



Parts known

Laura makes some orange juice by mixing orange cordial and water in the ratio 3:10.
She uses 42mL of orange cordial.
How much water does she use?

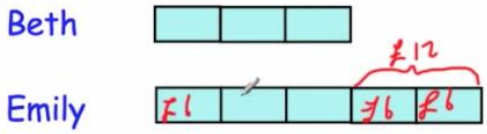


3 parts = 42mL
1 part = 42 ÷ 3 = 14mL
10 parts = 14 × 10 = 140mL

Laura uses 140mL of water.

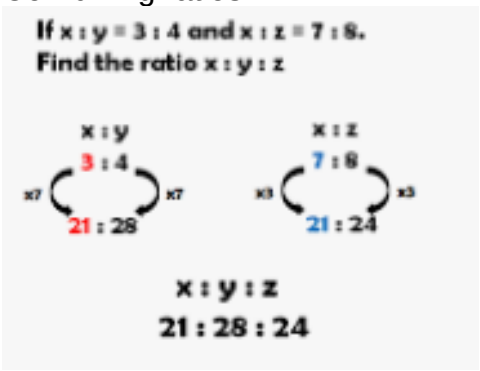
Differences known

Beth and Emily share money in the ratio 3:5
Emily receives £12 more than Beth.
How much money does each girl receive?



Students stop reading after £12, assuming that Emily gets £12 - emphasis the no comma, so no pause in reading.

Combining ratios



Maths in context (Historical, Real Life and Student Thinking Points).

Projects/Enrichment/Investigations
Core: Coding Upper: Coding Set 1: Coding