



Chapter 5: Ratio

Number of lessons (between 6&8)	Content of the unit	Assumed prior learning (tested at the beginning of the unit)
9	<ul style="list-style-type: none"> • Introduction to Ratio • Using Ratio for Recipe questions • Introduction to Proportion • Sharing using ratios • Ratios and fractions 	<ul style="list-style-type: none"> • Find common factors of pairs of numbers • Convert between standard metric units of measurement • Convert between units of time • Recall multiplication facts for multiplication tables up to 12 × 12 • Recall division facts for multiplication tables up to 12 × 12 • Solve comparison problems
Assessment points and tasks	Written feedback points	Learning Outcomes (tested at the end and related to subject competences)
Pre test Post test (half term exams/ mock exams)	Diagnostic marking (TF)-(green sticker)-(PF)/(SF) yellow and orange stickers Traffic lighting of exam papers	<p>Can you solve problems that involve dividing in a ratio?</p> <p>Can you understand and use ratio notation?</p> <ul style="list-style-type: none"> • understand and use proportion as equality of ratios <p>divide a given quantity into two parts in a given part:part or part:whole ratio</p> <p>relate ratios to fractions and to linear functions</p>



Lesson	Clear learning intentions	Clear success criteria	Hook	Presentation of content	Guided practice	Independent practice (homework)	Closure
1 Introduction to Ratio	Can you understand and use ratio notation?	Use ratio notation. Write a ratio in its simplest form by cancelling common factors.	Population explosion	Mathswatch Clip 61 (old GCSE) Mathswatch Clip 38 (NEW GCSE) Boardwork Maths-KS3-N8- Ratio and Proportion-Slides 3-14	Ratio worksheet (old) New GCSE Foundation textbook – Page 314-316 – Q2-Q10 (<i>exam question</i>), Q12. <i>(Strengthen):</i> Page 335 Q1a and Q1b.	Introduction to ratio worksheet (new)	Find two numbers with a simplest form ratio of 2:7 and a difference of 15. Discuss how students got their answer. Did they all do it the same way? Ask students to make up other problems for the group to solve.
2 Using ratio for recipe questions	Can you solve problems that involve dividing in a ratio?	<ul style="list-style-type: none"> • Use ratio notation to describe a comparison of more than two measurements or objects • Convert between different units of measurement • State a ratio of measurements in the same units 	Simplifying ratios quiz	Mathswatch Clip 39(NEW GCSE) Recipe proportions activity	Ratio for recipe questions worksheet New GCSE Foundation textbook – Page 324-325: – Q6, Q7, Q8, Q9, Q10, Q11, Q12. <i>(exam question)</i> , Q19.		Students to come up with their own question and swap with the person next to them.



					Page 22, Q13b (<i>Strengthen</i>): Page 326 Q.4		
3 Using ratio for recipe questions	Can you solve problems that involve dividing in a ratio?	<ul style="list-style-type: none"> • Use ratio notation to describe a comparison of more than two measurements or objects • Convert between different units of measurement • State a ratio of measurements in the same units 		Mathswatch Clip 39 (NEW GCSE)	Ratio for recipe questions worksheet Please see above (<i>Strengthen</i>): Page 326 Q.6		Ratio and proportion PowerPoint Slides 37-42
4 Introduction to Proportion	<ul style="list-style-type: none"> • understand and use proportion as equality of ratios 	<ul style="list-style-type: none"> • Identify proportion in a situation • Find a relevant multiplier in a situation involving proportion • Solve problems involving proportional reasoning 	Scale model starter Simple proportion starter	Mathswatch Clip 23 (old GCSE) Mathswatch Clip 42 (NEW GCSE) Boardwork Maths-KS3-N8- Ratio and Proportion-Slides 24-29	Proportion worksheet (old) New GCSE Foundation textbook – Page 326-327 Q5, Q6, Q7, Q8, Q9 (<i>exam question</i>), Q14. (<i>Strengthen</i>): Page 327, Q10, Q11, Q12, Q13	Introduction to proportion worksheet	John can buy 240 teabags for £5.49, or 80 of the same teabags for £2.29. Which is better value for money? (possible answer: 240 teabags for £5.49, because $3 \times 80 = 240$ but $3 \times £2.29 = £6.87$, or they may



							compare cost per teabag or teabags.)
5 Sharing using ratio	divide a given quantity into two parts in a given part:part or part:whole ratio	<ul style="list-style-type: none"> Find the value of a 'unit' in a division in a ratio problem Divide a quantity in two parts in a given part:part ratio Divide a quantity in two parts in a given part:whole ratio Express correctly the solution to a division in a ratio problem	Aunt dotty	Mathswatch Clip 94 (old GCSE) Mathswatch Clip 106 (NEW GCSE) Boardwork Maths-KS3-N8- Ratio and Proportion-Slides 16-23	Sharing ratios worksheet (old) New GCSE Foundation textbook – Page 321-323 – Q4-Q14 (<i>exam question</i>), Q15 (<i>Strengthen</i>): Page 337 Q9		Two numbers are in the ratio 2 : 3 and their sum is 35. What is the product of the numbers? (answer: numbers are 14 and 21 so $14 \times 21 = 294$)
6 Sharing using ratio	divide a given quantity into two parts in a given part:part or part:whole ratio	<ul style="list-style-type: none"> Find the value of a 'unit' in a division in a ratio problem Divide a quantity in two parts in a given part:part ratio Divide a quantity in two parts in a given part:whole ratio Express correctly the solution to a division in a ratio problem	Ratio catchphrase starter	Mathswatch clip 94(old GCSE) Mathswatch Clip 106 (NEW GCSE) Boardwork Maths-KS3-N8- Ratio and Proportion-Slides 16-23	Sharing ratios worksheet (old) New GCSE Foundation textbook – Page 326-327 – Q5-Q13 (<i>exam question</i>), Q14. (<i>Strengthen</i>): Page 336 Q7 and	Sharing using ratio worksheet (new)	Share £30 in the ratio 2 : 3



					Q8		
7 Ratio and Fractions	relate ratios to fractions and to linear functions	Understand the connections between ratios and fractions	Odd one out	Mathswatch Clip 107 (NEW GCSE)	Ratios, fractions and graphs worksheet New GCSE Foundation textbook – Page 323-324 – Q4-Q10 (exam question), Q19. <i>(Strengthen):</i> Page 335 Q1a and Q1b.		Draw a rectangular bar. Ask students to use the bar to model the following: <ul style="list-style-type: none"> ● 1/ 4 and 3 /4 ● 1:3 ● 25% and 75% (answer: split the bar into four sections in every case.)
8 Homework Lesson							
9 Check up lesson	Revision of objectives learnt throughout the topic.	Formative assessment on the core objectives, grouped by topic.					