

Slide by slide delivery map

Pearson Edexcel GCSE Mathematics 1MA1 • L016

20 slides • 60 minutes • Teacher use only • Lesson resources

REACH FOR THE STAR | GCSE MATHEMATICS

01 Proportion problems and repair 1 min Recall

Select and justify a proportion method. Diagnose whether the given amount is a total, a share or a difference.

02 The goal and the evidence 1 min Recall

L013 sharing ratios; L014 scale and unitary method; L015 unit prices.

03 Starting-point diagnostic 5 min Recall

If total and difference are confused, draw five equal boxes for 2:3 and mark the extra box. If additive scaling is used, compare ratios. Recheck $A:B=3:5$ with total 40, then difference 10.

04 Worked example and your turn 3 min Discover

24 and 32. Seven parts; one part 8.

05 Worked example and your turn 3 min Discover

35. One part 5; seven parts 35.

Delivery continued

06 Worked example and your turn 3 min Discover

A=21; B=35. Two parts equal 14.

07 Worked example and your turn 3 min Discover

600 g. 75 g per serving.

08 A method you can explain 2 min Discover

Label the ratio parts and the meaning of the known amount. Find one part or one unit; scale to the target. Check the original ratio and the stated total or difference.

09 Diagnostic pause 3 min Apply

A:B=2:5; B exceeds A by 12. One part? A $12 \div 7$, B $12 \div 3$, C $12 \div 5$. Answer B: the difference is three parts.

10 Careful variation 4 min Apply

16; 20; 16. Divide by 5, 3 and 1 respectively to find one part.

Delivery continued

11 Independent application 6 min Apply

£40 and £32; £60 and £48. The second given amount is one part.

12 Use the method in context 4 min Apply

Need 300 ml syrup and 1200 ml water; short by 50 ml. $1500 \div 5 = 300$ ml per part.

13 Intentional practice feedback 2 min Apply

$1500 \div 5 = 300$ ml per part. Optional check after A3: $1500 \div 5 = 300$ and $300 + 1200 = 1500$. The sum check is necessary but also check syrup:water=1:4.

14 A claim to test 4 min Challenge

No. Match B to 12: A:B:C=8:12:15, so A:C=8:15. The two original B parts have different sizes.

15 Deepen the reasoning 4 min Challenge

No in general. Flour:sugar 2:1 becomes 4:1 rather than 4:2. All corresponding ingredients must scale together.

Delivery continued

16 Retrieval without notes 4 min Prove

Answers: 24, 35, 21, 600, 1500, 4.8. Completion is not mastery.

17 Independent exit evidence 2 min Prove

$18 \div 3 = 6$ M1; $A = 24$ and $B = 42$ A1 both. Check difference and ratio.

18 Independent exit evidence 3 min Prove

$350 \div 5 \times 8$ M1; 560 g A1. Constant amount per serving.

19 Feedback and next steps 2 min Prove

If total and difference are confused, draw five equal boxes for 2:3 and mark the extra box. If additive scaling is used, compare ratios. Recheck $A:B = 3:5$ with total 40, then difference 10.

20 Before the next lesson 1 min Recall

An algebraic expression records a calculation with a letter representing a number. For $x = 4$, $3x + 2$ means $3 \times 4 + 2$, while $3(x + 2)$ means $3 \times (4 + 2)$.

Recall & Review: feedback and extension integration

Source-integrated WWW/EBI and extension page

Lesson L016: Proportion problems and repair

Objective: Select and justify a proportion method. Diagnose whether the given amount is a total, a share or a difference.

Timing for a 60-minute lesson

0-7 Connect & Check; 7-14 Share; 14-25 Present/model; 25-44 Apply route choice/practice; 44-52 independent exam-style check; 52-60 Recall & Review, WWW/EBI and next step.

Recall & Review evidence

At the end of the lesson, solve a fresh question without prompts, explain a check, correct one error and record the next practice step.

What Went Well (WWW)

I selected a suitable representation or multiplier and kept the reference amount clear.

Even Better If (EBI)

I will state the whole/part, show each operation and check that the size of my answer is reasonable.

Integrated stretch and deep challenge

Stretch: Four workers complete a job in 15 hours at constant rate. How long would six workers take?

Deep challenge: Explain why doubling workers may fail to halve time in a real job.

Teacher use

Use the WWW/EBI prompts to write mathematics-specific feedback linked to the objective. Do not accept generic praise; feedback should identify the method, representation, reasoning or checking step that improved, then set a fresh next-step question.

Assessment evidence to inspect: Compare corrected responses with the original diagnostic and a fresh unprompted question. Record the misconception repaired and a delayed check. Non-calculator core; optional calculator check.