

Slide by slide delivery map

Pearson Edexcel GCSE Mathematics 1MA1 • L012

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

REACH FOR THE STAR | GCSE MATHEMATICS

01 Number checkpoint 1 min Recall

Demonstrate cumulative number understanding, diagnose the cause of an error and verify a repair independently.

02 The goal and the evidence 1 min Recall

L001–L011 integer arithmetic, factors, fractions, FDP and percentages.

03 Starting-point diagnostic 5 min Recall

Fraction-unit error: rebuild twelfths. Percentage-base error: label final as 80% and original as 100%. Scaling error: write the decimal operator. Reteach only the selected priority, then reassess $\frac{1}{3} + \frac{1}{4} = \frac{7}{12}$ or £48 after 20% off gives original £60.

04 Repair the unit 1 min Discover

$\frac{5}{6}$. $\frac{4}{6} + \frac{1}{6}$ counts sixths.

05 Repair the scale 4 min Discover

6. $12.5\% = \frac{1}{8}$.

Delivery continued

06 Repair the reference whole 4 min Discover

£72. 54 is three quarters; one quarter is 18.

07 Check forwards 4 min Discover

$72 \times 0.75 = 54$. A useful check reproduces the stated final value.

08 USE EVIDENCE TO CHOOSE THE REPAIR 2 min Discover

Complete R1–R3 unaided as a short checkpoint. Tag each error: units, operation, scale or reference whole. Use the matching D example, then A and P tasks without the prompt. Record a fresh delayed check; do not infer a grade or fixed tier from this lesson.

09 Diagnostic pause 3 min Apply

£48 is a price after 20% off. To recover the original: A 48×1.2 , B $48 \div 0.8$, C 48×0.8 . B; a forward check must reproduce £48.

10 Careful variation 4 min Apply

$11/12$; $9/2$. Addition needs equal parts; division uses the reciprocal.

Delivery continued

11 Independent application 5 min Apply

42; $\frac{3}{5}$; 30. Select the method from the demand, not nearby questions.

12 Use the method in context 4 min Apply

£66; no, voucher first gives £67.20. $0.8 \times 90 - 6 = 66$; $0.8 \times 84 = 67.2$.

13 Intentional practice feedback 2 min Apply

Optional check after A3: enter $90 \times 0.8 - 6$ and $(90 - 6) \times 0.8$. Expect 66 and 67.2. Brackets record the order. Use calculator results to check arithmetic, not to replace explanation.

14 A claim to test 4 min Challenge

Independent explanation and a fresh delayed problem; e.g. recover original from £45 after 25% off: £60. Remembering an answer is not the same as choosing a method.

15 Deepen the reasoning 4 min Challenge

Yes: $1.25 \times 0.8 = 1$. A 25% fall gives £93.75. Reciprocal multipliers reverse a change; equal percentage rates need not.

Delivery continued

16 Retrieval without notes 4 min Prove

Answers: -4, 10, $\frac{5}{6}$, $\frac{9}{20}$, 12, 80. Completion is not mastery.

17 Independent exit evidence 2 min Prove

$\frac{10}{12} - \frac{3}{12}$ M1; $\frac{7}{12}$ A1. Independent evidence after repair.

18 Independent exit evidence 3 min Prove

£90 B1; $90 \times 0.9 = 81$ B1. Do not add 10% of £81.

19 Feedback and next steps 2 min Prove

Fraction-unit error: rebuild twelfths. Percentage-base error: label final as 80% and original as 100%. Scaling error: write the decimal operator. Reteach only the selected priority, then reassess $\frac{1}{3} + \frac{1}{4} = \frac{7}{12}$ or £48 after 20% off gives original £60.

20 Before the next lesson 1 min Recall

Ratio a:b compares the first quantity with the second in that order. To share £50 in the ratio 2:3, there are five equal parts. Each part is £10, so the shares are £20 and £30.

Recall & Review: feedback and extension integration

Source-integrated WWW/EBI and extension page

Lesson L012: Number checkpoint and feedback

Objective: Demonstrate cumulative number understanding, diagnose the cause of an error and verify a repair independently.

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 chose an appropriate method and produced clear evidence against the lesson objective.

Even Better If (EBI)

I will show the missing working step, correct one misconception and test the method on a fresh question.

Integrated stretch and deep challenge

Stretch: Solve $\frac{3}{5}$ of $x=42$ and $0.2x=18$.

Deep challenge: Diagnose why 50% increase followed by 50% decrease does not restore the start.

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.