

Slide by slide delivery map

Pearson Edexcel GCSE Mathematics 1MA1 • L010

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

REACH FOR THE STAR | GCSE MATHEMATICS

01 Fractions and percentages 1 min Recall

Use fractions and percentages as operators, recover a whole from a known fraction, and explain the chosen reference amount.

02 The goal and the evidence 1 min Recall

L009 FDP equivalence; L007 fraction multiplication/division; unit and money notation.

03 Starting-point diagnostic 5 min Recall

If 20% is treated as 20, show $20/100=0.2$. If the given part is treated as the whole, draw equal parts and label what is known. Recheck $3/4$ of $28=21$ and a whole with $2/5$ equal to 18 is 45.

04 A fraction as an operator 1 min Discover

21. One quarter is 7; three quarters are 21.

05 A percentage of an amount 4 min Discover

£21. $30\%=£18$ and $5\%=£3$; or 0.35×60 .

Delivery continued

06 Operators above one 4 min Discover

36. $100\% = 24$ and $50\% = 12$.

07 Recovering the whole 4 min Discover

27. One third is 9; three thirds are 27.

08 NAME THE WHOLE BEFORE SCALING 2 min Discover

Name the whole and write the fraction or decimal multiplier. Calculate, include units and check size. To recover a whole from a known fraction, find one part then all parts, or divide by the fraction. An operator above 1 increases the quantity.

09 Diagnostic pause 3 min Apply

15% of £60: A £9, B £15, C £900. A; $0.15 \times 60 = 9$. B confuses rate with amount; C omits division by 100.

10 Careful variation 4 min Apply

8; 4; 12; 120. $150\% = 1.5$, greater than 1.

Delivery continued

11 Independent application 5 min Apply

56; £6; 36. $12.5\% = 1/8$; recover one quarter before four.

12 Use the method in context 4 min Apply

3 learners. 12 walk; 25% of 12 is 3.

13 Intentional practice feedback 2 min Apply

Optional check after A2: $(7 \div 8) \times 64 = 56$; $0.125 \times 48 = 6$; $27 \div 0.75 = 36$. Use the ordinary decimal multiplier so calculator-specific percentage-key behaviour is avoided.

14 A claim to test 4 min Challenge

Yes, both 10; $(20/100) \times 50 = (50/100) \times 20$. Multiplication commutes; the same product is divided by 100.

15 Deepen the reasoning 4 min Challenge

50, since one fifth is 10. Multiplying again finds $3/5$ of the part, not the whole. Check $(3/5) \times 50 = 30$.

Delivery continued

16 Retrieval without notes 4 min Prove

Answers: 24, 9, 30, 35, 5, 6. Completion is not mastery.

17 Independent exit evidence 2 min Prove

0.35×80 or equivalent M1; £28 A1. Units required in context.

18 Independent exit evidence 3 min Prove

24 kg B1; $(\frac{3}{4}) \times 24 = 18$ B1. Teacher checks inverse interpretation.

19 Feedback and next steps 2 min Prove

If 20% is treated as 20, show $20/100 = 0.2$. If the given part is treated as the whole, draw equal parts and label what is known. Recheck $\frac{3}{4}$ of 28 = 21 and a whole with $\frac{2}{5}$ equal to 18 is 45.

20 Before the next lesson 1 min Recall

For a percentage increase, retain 100% and add the change. A 10% rise uses multiplier 1.10; a 10% fall uses 0.90. Recovering an original amount reverses this multiplier.

Recall & Review: feedback and extension integration

Source-integrated WWW/EBI and extension page

Lesson L010: Fractions and percentages of amounts

Objective: Use fractions and percentages as operators, recover a whole from a known fraction, and explain the chosen reference amount.

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: Find 35% of £240 using 10%, 5% and a combination.

Deep challenge: A class has 18 of 24 learners present. Express attendance as a simplified fraction and percentage.

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: Check the formative mini-test and independent workbook response against the objective. Use the teacher answers or mark guidance; group errors for reteaching. Non-calculator core; optional calculator check.