

# Slide by slide delivery map

---

Pearson Edexcel GCSE Mathematics 1MA1 • L009

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

REACH FOR THE STAR | GCSE MATHEMATICS

## 01 Fractions decimals and percentages 1 min Recall

Convert between fractions, decimals and percentages, and compare proportions on a consistent basis.

## 02 The goal and the evidence 1 min Recall

L006 fraction equivalence; L007 division; L003 decimal place value and scaling by 100.

## 03 Starting-point diagnostic 5 min Recall

If 0.4 becomes 0.4%, return to four tenths = forty hundredths. If 150% is rejected, show one and a half wholes. If a rounded decimal is treated as exact, compare  $\frac{1}{3}$  with  $\frac{33}{100}$ . Recheck  $0.07=7\%$  and  $\frac{3}{5}=60\%$ .

## 04 Per hundred 1 min Discover

0.35; 35%.  $\frac{7}{20}=\frac{35}{100}$ .

## 05 Decimal to fraction 4 min Discover

$\frac{3}{8}$ ; 37.5%.  $\frac{375}{1000}$  simplifies by 125.

## Delivery continued

### 06 More than one whole 4 min Discover

$\frac{3}{2}$ ; 1.5. A percentage can exceed one whole.

### 07 Part of a total 4 min Discover

70%. Compare the part with its own whole.

### 08 KEEP THE PROPORTION THE SAME 2 min Discover

Choose a useful route: common denominator 100 for simple fractions, numerator  $\div$  denominator otherwise. Keep recurring values exact;  $\frac{1}{3}$  is 0.333... recurring, not exactly 0.33. Compare by changing all values into one form.

### 09 Diagnostic pause 3 min Apply

0.35 equals A 0.35%, B 3.5%, C 35%. C because  $0.35 = \frac{35}{100}$ .

### 10 Careful variation 4 min Apply

40%; 4%; 0.4%; 140%. Multiplying by 100 preserves proportion when the % unit is introduced.

## Delivery continued

### 11 Independent application 5 min Apply

0.375; 37.5%; 13/20; 3/5, 61%, 0.62. The ordered percentages are 60%, 61%, 62%.

### 12 Use the method in context 4 min Apply

A: 75%, compared with B: 70%. Different totals require proportions, not just scores.

### 13 Intentional practice feedback 2 min Apply

Optional check after A3:  $(18 \div 24) \times 100 = 75$  and  $(14 \div 20) \times 100 = 70$ . Enter the part divided by the whole. A decimal display of  $1 \div 3$  is rounded; it does not make 0.33 exact.

### 14 A claim to test 4 min Challenge

No:  $33\% = 33/100$ ;  $1/3 - 33/100 = 1/300$ .  $1/3 = 33 \frac{1}{3}\%$ ; an approximation must be labelled.

### 15 Deepen the reasoning 4 min Challenge

For example  $150\% = 1.5 = 3/2$ , one and a half of the reference whole. Other equivalent examples above 1 accepted.

## Delivery continued

### 16 Retrieval without notes 4 min Prove

Answers: 0.75,  $\frac{3}{5}$ , 35, 1.25, 8,  $\frac{3}{4}$ . Completion is not mastery.

### 17 Independent exit evidence 2 min Prove

9/20 B1; 45% B1. Teacher checks both requested forms.

### 18 Independent exit evidence 3 min Prove

$\frac{7}{10}=70\%$  B1;  $\frac{7}{10}$  is larger B1. State which quantity is larger.

### 19 Feedback and next steps 2 min Prove

If 0.4 becomes 0.4%, return to four tenths = forty hundredths. If 150% is rejected, show one and a half wholes. If a rounded decimal is treated as exact, compare  $\frac{1}{3}$  with  $\frac{33}{100}$ . Recheck  $0.07=7\%$  and  $\frac{3}{5}=60\%$ .

### 20 Before the next lesson 1 min Recall

To find a fraction of an amount, divide by the denominator then multiply by the numerator. A percentage is the same kind of operator: 35% of an amount means multiply it by  $\frac{35}{100}$ .

## Delivery continued

### 21 Recurring decimals to fractions alternative Higher alternative

Higher route: replace the 2-minute A3 feedback and the two 4-minute Challenge discussions with this 10-minute taught extension. Retain core P1–P2. Set HX1–HX2 as the final four minutes of that alternative, and use the shared challenges later if needed. The core route remains 60 minutes; the extension is not an additional compulsory ten minutes. Route choice reflects tier curriculum, not temporary support needs. Let  $x=0.272727\dots$  with 27 repeating forever. Multiplying by 100 shifts one full repeating block:  $100x=27.272727\dots$ . Subtract  $x$ :  $99x=27$  because the repeating tails cancel exactly. Therefore  $x=27/99=3/11$ . Multiplying by 100 is chosen because the block has two digits. This uses exact infinite repetition, not a rounded display.

### 22 Align the repeating tails alternative Higher alternative

Higher route: replace the 2-minute A3 feedback and the two 4-minute Challenge discussions with this 10-minute taught extension. Retain core P1–P2. Set HX1–HX2 as the final four minutes of that alternative, and use the shared challenges later if needed. The core route remains 60 minutes; the extension is not an additional compulsory ten minutes. Route choice reflects tier curriculum, not temporary support needs. A terminating decimal such as 0.27 equals  $27/100$ , while  $0.272727\dots$  equals  $3/11$ . Dots in this resource explicitly mean the named block repeats forever. If subtracting decimals is insecure, align place values first. Mixed non-repeating prefixes will be revisited with algebra.

### 23 Independent Higher evidence alternative Higher alternative

Higher route: replace the 2-minute A3 feedback and the two 4-minute Challenge discussions with this 10-minute taught extension. Retain core P1–P2. Set HX1–HX2 as the final four minutes of that alternative, and use the shared challenges later if needed. The core route remains 60 minutes; the extension is not an additional compulsory ten minutes. Route choice reflects tier curriculum, not temporary support needs.  $10x-x=7$  or  $9x=7$  M1;  $x=7/9$  A1.

### 24 Independent Higher evidence alternative Higher alternative

Higher route: replace the 2-minute A3 feedback and the two 4-minute Challenge discussions with this 10-minute taught extension. Retain core P1–P2. Set HX1–HX2 as the final four minutes of that alternative, and use the shared challenges later if needed. The core route remains 60 minutes; the extension is not an additional compulsory ten minutes. Route choice reflects tier curriculum, not temporary support needs.  $100x-x=36$  or  $99x=36$  M1;  $x=36/99=4/11$  A1.

# Recall & Review: feedback and extension integration

Source-integrated WWW/EBI and extension page

## Lesson L009: Fractions decimals and percentages

Objective: Convert between fractions, decimals and percentages, and compare proportions on a consistent basis.

### 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: Convert  $\frac{7}{20}$  into a decimal and percentage, then order it with 0.3 and 32%.

Deep challenge: A learner claims  $0.125=12.5/10$  percent. Correct the conversion.

### 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.