

Unit rates and best buys

Pearson Edexcel GCSE Mathematics 1MA1 • L015
Foundation and Higher • 60 minutes • Lesson resources

REACH FOR THE STAR | GCSE MATHEMATICS

Compare prices using a common unit. Interpret the best buy in terms of cost, quantity needed and waste.

Work without a calculator except where a check is invited. Write on the lines or replace them with typed answers. Attempt before reading intentional practice feedback.

Connect & Check

Unit rate: amount per one unit. Unit price: cost for one item or unit of mass. Comparable: measured on the same basis. Budget: maximum available spending.

R1

Convert 750 g to kg.

R2

Share £3 equally across 6 items.

R3

Find 20% of £4.

Share | In pairs, predict the first step for this problem: Dividing cost by quantity gives a unit price because equal quantities carry equal shares of the price. £3 for 6 items is £0.50 per item. For mass, convert to the same unit first. T Compare your reasons before using the worked model.

Present through worked examples

Dividing cost by quantity gives a unit price because equal quantities carry equal shares of the price. £3 for 6 items is £0.50 per item. For mass, convert to the same unit first. The lowest unit price need not give the lowest bill for a small purchase.

D1

Model: £3 for 6 apples gives $3 \div 6 = £0.50$ each. Now find the unit price of 8 apples for £4.80.

D2

Model: 500 g for £2 gives £4/kg. Now find £/kg for 750 g costing £3.60.

D3

Model: 250 g for £1.20 is £4.80/kg; 1 kg for £4.50 is cheaper per kg. Compare 500 g for £2 and 1 kg for £4.20.

D4

Model: 3 items at 50p each cost £1.50. A pack of 4 costs £1.80. If you need exactly 3, which costs less?

Apply with less support

Choose a common unit and label it. Divide each cost by its quantity, compare unrounded results, then consider the amount actually needed. Multiply back to check.

A1

Find £/kg: 250 g for £1.50; 500 g for £3; 750 g for £4.50. What stays constant?

A2

Compare 400 g for £1.80 with 600 g for £2.40. State each unit price and the better value.

A3

You need at least 12 identical notebooks. Packs: 5 for £3 or 8 for £5. Buy only one pack size. Find the cheaper purchase.

Optional support: Scale to 1000 g.

Calculator check after A2: enter $1.80 \div 0.4$ and $2.40 \div 0.6$. Expect 4.5 and 4. Keep unrounded values when comparing; money answers use pounds and pence.

Apply and extend reasoning

C1

A larger pack always has the lower unit price. Give a numerical counterexample.

C2

A costs £3.60 for 600 g. B costs £5 for 1 kg with 20% off. Compare unit prices and explain the discount base.

Intentional practice feedback — read after attempting

A1: All £6/kg.

A2: £4.50/kg and £4/kg; 600 g is better value.

A3: Three packs of 5 cost £9; two packs of 8 cost £10. Choose packs of 5.

C1: Example: 500 g for £2 is £4/kg; 1 kg for £5 is £5/kg.

C2: A £6/kg; B £4/kg. B is cheaper per kg.

Correct one response and explain your change. Stretch is available to either tier; temporary support needs do not determine entry tier.

Recall & Review through retrieval

Work without notes. Six retrieval points; this attempt does not establish mastery. Equivalent exact numeric forms are accepted. Where accuracy is requested, also state the requested form in your written work.

Q1 Pence per item: 6 for £3

Q2 £/kg: 500 g for £2

Q3 Kilograms in 750 g

Q4 Cost in £ of 3 packs at £2.40

Q5 20% off £5: final price in £

Q6 First share of 48 in ratio 1:3

Intentional retrieval feedback

Q1 50; Q2 4; Q3 $\frac{3}{4}$; Q4 7.2; Q5 4; Q6 12. Correct and retry tomorrow, then in one week.

Prove independently and improve

P1–P2: five minutes without notes; 4 marks. Your teacher reviews explanations and method marks.
P3 has no mark.

P1

Find £/kg for 800 g costing £3.20. Show a method. [2]

P2

Compare 6 items for £3.60 and 10 for £5. Give both unit prices and identify the better value. [2]

P3

Explain one corrected error. Set a fresh question and a date to check it without support.

Teacher feedback: _____

Fresh question and retry date: _____

Delayed independent evidence: _____

Prepare for the next lesson

L016: Proportion problems and repair

F1

Tomorrow find £/kg for 250 g costing £1.10.

F2

Before L016, share £48 in the ratio 1:3 and explain what one part represents.

Read and prepare

A ratio shares a total into equal parts. Proportion scales corresponding amounts by the same factor. Decide whether the given number is a total, one share or a difference before calculating.

Digital workbook: save locally where available; export a JSON backup before closing or moving the file. Restore only this lesson/version. Printing records answers, not mastery. Live browser checks remain pending; use Word/PDF if required.

Optional extension activities

Stretch

A 750 g pack costs £2.40 and a 1.2 kg pack costs £3.60. Which is better value per kg?

Deep challenge

A 20% discount applies to the 750 g pack. Does the best buy change?

Recall & Review: feedback and extension integration

Source-integrated WWW/EBI and extension page

Lesson L015: Unit rates and best buys

Objective: Compare prices using a common unit. Interpret the best buy in terms of cost, quantity needed and waste.

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: A 750 g pack costs £2.40 and a 1.2 kg pack costs £3.60. Which is better value per kg?

Deep challenge: A 20% discount applies to the 750 g pack. Does the best buy change?

My next-step response
