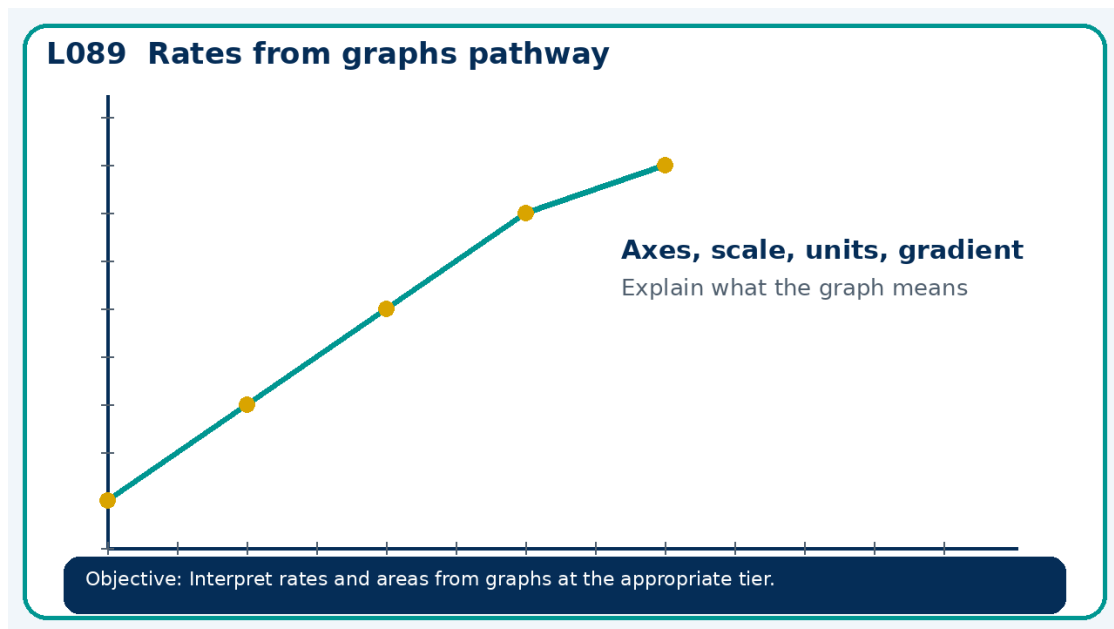


Learner workbook: Rates from graphs pathway

Objective: Interpret rates and areas from graphs at the appropriate tier.

Calculator condition: Calculator allowed where labelled; non-calculator reasoning remains required.



Connect & Check

- State the objective and timeline. Retrieve cumulative checkpoint 7 and feedback or a prerequisite. Diagnose a common error before modelling.
- Write one starting question you want answered today.

Choose your route

Route A: Visual Use a diagram, graph, table or annotation first.	Route B: Method Use a worked method, formula or calculation chain first.	Route C: Explain Start with words: what is known, what is changing, and why.
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Share

- Pairs compare methods or predict a result for rates from graphs pathway. Ask for a reason, not only an answer.

Present

- Foundation: straight-line rates and simple speed graphs.
- Higher: tangents and estimates of area under curves

Apply: supported to independent

Recall: Retrieve the key fact or method needed for rates from graphs pathway.

Working: _____

Check/explanation: _____

Core practice: A velocity increases uniformly from 4 to 16 m/s in 6 s. Find acceleration and distance.

Working: _____

Check/explanation: _____

Reasoning: A velocity-time graph dips below the time axis. What does negative area mean?

Working: _____

Check/explanation: _____

Exam-style: A graph is drawn for a real context. Interpret the gradient, intercept or area as appropriate. State units and justify your answer.

Working: _____

Check/explanation: _____

Recall & Review

- Revisit the objective. Learners solve a fresh item without prompts, explain a check, correct one error and record the next practice.

WWW: _____ EBI: _____

Recall & Review: feedback and extension integration

Lesson L089: Rates from graphs pathway

Objective: Interpret rates and areas from graphs at the appropriate tier.

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 one check, correct one error and record the next practice step.

What Went Well (WWW)

I read or constructed the graph accurately, used the scale and axes correctly and linked the relevant gradient, intercept, shape or trend to my conclusion.

Even Better If (EBI)

I will label units and scale clearly, show the calculation or graphical evidence I used and check that the interpretation fits the context.

Integrated stretch and deep challenge

Stretch: A velocity increases uniformly from 4 to 16 m/s in 6 s. Find acceleration and distance.

Deep challenge: A velocity-time graph dips below the time axis. What does negative area mean?

My next-step response
