

Rates

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name _____

Date _____

Class _____

1. Key Ideas

A rate compares two quantities with different units. Master the unitary method — find the rate per one unit — and you can solve any rate problem by simple multiplication.

- A rate compares two different types of quantities
- Why expressing rates per one unit makes comparison easy

2. Success Criteria

By the end, you should be able to:

- A rate compares two different types of quantities
- The unitary method finds the rate per one unit
- $\$D = ST\$$ for speed problems; rearrange for $\$S\$$ or $\$T\$$

3. Key Terms

Rate

A comparison of two different quantities, often expressed per unit of time (e.g. km/h, $\$/L$).

Unitary Method

Finding the value of one unit first, then scaling to find the value of any number of units.

Average Speed

Total distance travelled divided by total time taken: $\text{speed} = \text{distance} / \text{time}$.

Fuel Consumption

The rate at which a vehicle uses fuel, usually measured in litres per 100 km (L/100km).

Scale

A ratio that compares measurements on a map or diagram to real-world measurements.

4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

Prompt	Your answer
Main concept	
Important example	
Common mistake to avoid	
How this links to the next lesson	

5. Short Answer Questions

1. Explain this lesson goal in your own words: "A rate compares two different types of quantities". Use one specific example from the lesson.

BAND 3

2 MARKS

2. Apply this idea to a new example: "The unitary method finds the rate per one unit". Show your reasoning clearly.

BAND 4

3 MARKS

3. Analyse why this idea matters for understanding Rates: "\$D = ST\$ for speed problems; rearrange for \$\$\$ or \$T\$".

BAND 5

4 MARKS

6. Extend: Apply the Idea

BAND 5/6

5 MARKS

A student gives a memorised answer about Rates but does not use evidence or reasoning.

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

7. Multiple Choice

1. What is the best first step when answering a question about Rates?

- A. Identify the key concept being tested
- B. Write every fact from memory
- C. Ignore the command word
- D. Skip examples and evidence

2. Which answer would show stronger understanding of Rates?

- A. An answer with accurate terms and reasoning
- B. A copied definition only
- C. A single-word response
- D. An answer with no example

3. What should you do if a question asks you to explain?

- A. Link the idea to a reason or cause
- B. List unrelated facts
- C. Only draw a diagram
- D. Write the shortest possible answer

8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

SUCCESS CRITERION 1

Prove that you can: A rate compares two different types of quantities

BAND 3

2 MARKS

SUCCESS CRITERION 2

Prove that you can: The unitary method finds the rate per one unit

BAND 4

3 MARKS

SUCCESS CRITERION 3

Prove that you can: $\$D = ST\$$ for speed problems; rearrange for $\$S\$$ or $\$T\$$

BAND 5

4 MARKS

One thing I still need help with:
