MATHS STANDARD YEAR 11 - MODULE 2 - LESSON 9

Volume of Prisms and Cylinders

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

Volume = cross-sectional area × length. Identify the uniform cross-section first — everything else follows. Unit conversions between cm^3, m^3, and litres are critical for practical problems.

- $V = Ah$ applies to any prism or cylinder
- Why identifying the cross-section first simplifies every volume problem

2. Success Criteria

By the end, you should be able to:

- $V = Ah$ applies to any prism or cylinder
- The cross-section is the shape perpendicular to the length
- Unit conversions: 1 m^3 = 1000 L, 1 L = 1000 cm^3

3. Key Terms

and litres
critical for practical problems

swimming pool
25 m long, 10 m wide, and has a depth that slopes from 1

section
the shape you see when you "slice" perpendicular to the length

Composite volumes
found by addition or subtraction

Converting to consistent units
a common source of errors in assessment tasks

The key
correctly identifying the cross-section

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: "$V = Ah$ applies to any prism or cylinder". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "The cross-section is the shape perpendicular to the length". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Volume of Prisms and Cylinders: "Unit conversions: 1 m^3 = 1000 L, 1 L = 1000 cm^3".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Volume of Prisms and Cylinders 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 Volume of Prisms and Cylinders?

☐ 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 Volume of Prisms and Cylinders?

☐ 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: $V = Ah$ applies to any prism or cylinder

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: The cross-section is the shape perpendicular to the length

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: Unit conversions: 1 m^3 = 1000 L, 1 L = 1000 cm^3

BAND 5 4 MARKS

One thing I still need help with: