MATHS STANDARD YEAR 11 - MODULE 2 - LESSON 12

Scale Drawings and Maps

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 scale factor compresses reality into a manageable diagram. Understanding the ratio 1:n — and crucially, how it changes for areas — is the core skill for every map and floor plan problem.

- Scale notation: 1:n means 1 unit drawn = n units actual
- Why area scales as n^2 when lengths scale as n

2. Success Criteria

By the end, you should be able to:

- Scale notation: 1:n means 1 unit drawn = n units actual
- Linear scale factor $= n$; area scale factor $= n^2$
- A scale bar is a line on a map representing a real distance

3. Key Terms

Formula
A rule showing the relationship between variables using symbols.

Substitution
Replacing variables with their known values in an equation.

Unit Conversion
Changing a measurement from one unit to another.

Capacity
The amount of liquid a container can hold, measured in litres or millilitres.

Perimeter
The total distance around the outside of a shape.

Area
The amount of space inside a two-dimensional shape.

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: "Scale notation: 1:n means 1 unit drawn = n units actual". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "Linear scale factor $= n$; area scale factor $= n^2$". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Scale Drawings and Maps: "A scale bar is a line on a map representing a real distance".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Scale Drawings and Maps 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 Scale Drawings and Maps?

☐ 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 Scale Drawings and Maps?

☐ 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: Scale notation: 1:n means 1 unit drawn = n units actual

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: Linear scale factor $= n$; area scale factor $= n^2$

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: A scale bar is a line on a map representing a real distance

BAND 5 4 MARKS

One thing I still need help with: