SCIENCE YEAR 9 - UNIT 2 - LESSON 16

Polymers and Monomers

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

This lesson opens the polymers block by defining polymers clearly, linking them to repeating smaller units, and showing why polymer materials became so widely used. The emphasis is on understanding the big idea and the everyday material connections, not advanced polymer chemistry detail.

- polymers are large materials made from repeating smaller units
- the polymer idea helps explain why many modern materials exist in such large variety

2. Success Criteria

By the end, you should be able to:

- polymers are large materials made from repeating smaller units
- monomers are the smaller units that join to form polymers
- many common materials are polymers linked to hydrocarbon-derived raw materials

3. Key Terms

Polymer
A large substance made from many repeating smaller units linked together.

Monomer
A small unit that can join with many others to form a polymer.

Repeating unit
The small pattern that occurs again and again in a polymer.

Synthetic polymer
A human-made polymer such as many common plastics and fibres.

Raw material link
The connection between starting substances, often hydrocarbon-derived, and the polymer products made from them.

Plastic
A broad category of polymer materials used in packaging, containers and many manufactured products.

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: "polymers are large materials made from repeating smaller units". Use one specific example from the lesson.

CORE

2. Apply this idea to a new example: "monomers are the smaller units that join to form polymers". Show your reasoning clearly.

CORE

3. Analyse why this idea matters for understanding Polymers and Monomers: "many common materials are polymers linked to hydrocarbon-derived raw materials".

REASONING

6. Extend: Apply the Idea

A student says, "I understand Polymers and Monomers because I memorised the definition."

Explain why memorising a definition is not enough. Use an example from the lesson to show deeper understanding.

7. Multiple Choice

1. What is the best first step when answering a question about Polymers and Monomers?

☐ 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 Polymers and Monomers?

☐ 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: polymers are large materials made from repeating smaller units

SUCCESS CRITERION 2

Prove that you can: monomers are the smaller units that join to form polymers

SUCCESS CRITERION 3

Prove that you can: many common materials are polymers linked to hydrocarbon-derived raw materials

One thing I still need help with: