

Polymer Properties and Applications

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 compares the properties of different polymer materials and shows how those properties drive application. The key Stage 5 move is material selection: students should be able to justify why a particular polymer suits a job based on its properties.

- a range of polymer properties can be compared directly
- material choice depends on matching properties to the needs of the job

2. Success Criteria

By the end, you should be able to:

- a range of polymer properties can be compared directly
- different polymers suit different uses because their property patterns differ
- key properties in this lesson include flexibility, strength, durability, transparency, density and chemical resistance

3. Key Terms

Flexibility

The ability of a material to bend without breaking.

Strength

The ability of a material to resist breaking under force.

Durability

The ability of a material to last and resist wear or damage over time.

Transparency

The ability of a material to let light pass through clearly.

Density

How much mass a material has in a given volume; lighter-density materials can be easier to carry or use.

Chemical resistance

The ability of a material to resist chemical attack or change when exposed to substances.

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 range of polymer properties can be compared directly". Use one specific example from the lesson.

CORE

2. Apply this idea to a new example: "different polymers suit different uses because their property patterns differ". Show your reasoning clearly.

CORE

3. Analyse why this idea matters for understanding Polymer Properties and Applications: "key properties in this lesson include flexibility, strength, durability, transparency, density and chemical resistance".

REASONING

6. Extend: Apply the Idea

A student says, "I understand Polymer Properties and Applications 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 Polymer Properties and Applications?

- 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 Polymer Properties and Applications?

- 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 range of polymer properties can be compared directly

SUCCESS CRITERION 2

Prove that you can: different polymers suit different uses because their property patterns differ

SUCCESS CRITERION 3

Prove that you can: key properties in this lesson include flexibility, strength, durability, transparency, density and chemical resistance

One thing I still need help with:
