

# Biodegradability, Packaging and Material Alternatives

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 moves from polymer properties into evidence-based packaging decisions. The key Stage 5 move is comparing biodegradability and other relevant factors together, rather than assuming every alternative material is automatically better.

- biodegradability is one important property in packaging evaluation
- a biodegradable label does not remove the need for evidence-based comparison

## 2. Success Criteria

By the end, you should be able to:

- biodegradability is one important property in packaging evaluation
- different packaging materials break down differently and under different conditions
- alternative materials still need to be assessed for strength, protection, cost and use

## 3. Key Terms

### Biodegradable

Able to be broken down by living organisms such as bacteria and fungi over time.

### Packaging

Materials used to contain, protect, transport or present a product.

### Alternative material

A different material choice used instead of a common packaging material such as conventional plastic.

### Evidence-based assessment

A judgement made using observed properties, data and relevant criteria rather than assumption.

### Decomposition conditions

The conditions needed for a material to break down, such as moisture, microorganisms, oxygen or time.

### Trade-off

A situation where improving one feature may lead to a disadvantage in another area.

## 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: "biodegradability is one important property in packaging evaluation". Use one specific example from the lesson.

CORE

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2. Apply this idea to a new example: "different packaging materials break down differently and under different conditions". Show your reasoning clearly.

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3. Analyse why this idea matters for understanding Biodegradability, Packaging and Material Alternatives: "alternative materials still need to be assessed for strength, protection, cost and use".

REASONING

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## 6. Extend: Apply the Idea

**A student says, "I understand Biodegradability, Packaging and Material Alternatives because I memorised the definition."**

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

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## 7. Multiple Choice

1. What is the best first step when answering a question about Biodegradability, Packaging and Material Alternatives?

- 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 Biodegradability, Packaging and Material Alternatives?

- 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: biodegradability is one important property in packaging evaluation**

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### SUCCESS CRITERION 2

**Prove that you can: different packaging materials break down differently and under different conditions**

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### SUCCESS CRITERION 3

**Prove that you can: alternative materials still need to be assessed for strength, protection, cost and use**

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**One thing I still need help with:**

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