SCIENCE YEAR 8 - UNIT 1 - LESSON 23

Matter and Energy Cycling

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

When a gum tree falls in a forest, it does not vanish. It becomes soil, air and new life. This lesson explains how matter cycles through ecosystems so that atoms are used again and again.

- matter is recycled through ecosystems
- matter does not disappear; it changes form and location

2. Success Criteria

By the end, you should be able to:

- matter is recycled through ecosystems
- the carbon cycle and water cycle move matter continuously
- decomposers break down dead matter and release nutrients

3. Key Terms

Carbon cycle
The movement of carbon through the atmosphere, plants, animals, soil and oceans.

Water cycle
The continuous movement of water through evaporation, condensation and precipitation.

Nutrient cycle
The way substances such as nitrogen and phosphorus move through living things and the environment.

Decomposer
An organism such as a fungus or bacterium that breaks down dead matter and returns nutrients to the soil.

Recycling
In ecosystems, the process by which matter is broken down and used again by living things.

Atmosphere
The layer of gases surrounding Earth, including the carbon dioxide used by plants.

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: "matter is recycled through ecosystems". Use one specific example from the lesson.

CORE

2. Apply this idea to a new example: "the carbon cycle and water cycle move matter continuously". Show your reasoning clearly.

CORE

3. Analyse why this idea matters for understanding Matter and Energy Cycling: "decomposers break down dead matter and release nutrients".

REASONING

6. Extend: Apply the Idea

A student says, "I understand Matter and Energy Cycling 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 Matter and Energy Cycling?

☐ 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 Matter and Energy Cycling?

☐ 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: matter is recycled through ecosystems

SUCCESS CRITERION 2

Prove that you can: the carbon cycle and water cycle move matter continuously

SUCCESS CRITERION 3

Prove that you can: decomposers break down dead matter and release nutrients

One thing I still need help with: