

Decomposition & Recycling Matter

Decomposer Hollow with Linkling

Learning target

Explain how decomposition connects living and nonliving parts.



Before you begin

Use the reference page and discussion prompts on their own, or open the optional browser adventure. No earlier lesson or physical kit is required.

For online play: use an internet-connected current browser with local storage enabled. Read the three-part Gemling briefing, answer the quick check, and apply the evidence at three checkpoints. Retry feedback supports review; results are not a secure test or gradebook.

Use for teacher-led review, science centers or partner practice. Independent readers may need support with the vocabulary below. The design target is grades 3-5; choose support based on the learner.

Vocabulary and concepts to discuss

Dead material; decomposers; soil materials; matter cycles

Open Decomposer Hollow - direct lesson link

Scan the QR code or use the clickable link. This guide is usable offline; the adventure runs on an external educational website.



Decomposition & Recycling Matter - key ideas

1. The first clues

Decomposers break down dead organisms and wastes. Their activity returns materials to soil, water and air.

2. How the clues connect

Plants can use some of these materials again. Matter moves through cycles, while energy transfers and spreads rather than cycling in the same way.

3. Our evidence record

Our model follows fallen leaves through decomposition to materials used by plants. It requires decomposers, not a magic step that makes dead matter vanish.

Keep the science accurate

Matter cycles through systems; energy flows and spreads rather than cycling in the same way.

Apply the evidence

Use a specific observation from this lesson to explain one choice. Point to a clue, then connect that clue to a scientific idea.

Curriculum reference: <https://www.nextgenscience.org/pe/5-Is2-1-ecosystems-interactions-energy-and-dynamics>

Talk through the evidence

1. Which organisms drive decomposition?

Expected answer: Many fungi and bacteria

Reasoning: Decomposers break down dead organisms and wastes. Their activity returns materials to soil, water and air.

2. What can plants reuse?

Expected answer: Materials returned to the environment

Reasoning: Plants can use some of these materials again. Matter moves through cycles, while energy transfers and spreads rather than cycling in the same way.

3. Does matter simply vanish during decomposition?

Expected answer: No

Reasoning: Our model follows fallen leaves through decomposition to materials used by plants. It requires decomposers, not a magic step that makes dead matter vanish.

4. Which statement separates matter and energy?

Expected answer: Matter cycles while energy flows and spreads

Reasoning: Plants can use some of these materials again. Matter moves through cycles, while energy transfers and spreads rather than cycling in the same way.

Guide the discussion

Ask learners to name the evidence that supports their answer. If an answer differs, revisit the matching key idea on page 2 and invite a revised explanation.

Online rewards: this lesson grants one fixed digital Expedition Discovery. Five saved digital Gemling friends become available only after all six distinct subject lessons are complete, in any order. Digital rewards do not establish physical ownership.