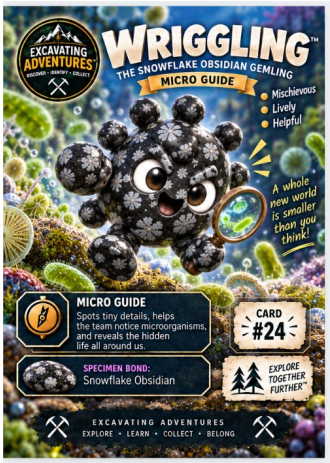
Microbes as Decomposers



Decomposer Dump with Wriggling

Learning target

Explain why microbial decomposition matters.

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

Breaking down dead matter; soil; nutrient cycling; ecosystem roles

Open Decomposer Dump - 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.

Microbes as Decomposers - key ideas

1. The first clues

Many microbes act as decomposers, breaking down dead material and wastes. This contributes to returning matter to the environment.

2. How the clues connect

Materials can later support other organisms, including plants. Energy does not cycle back in exactly the same way as matter.

3. Our evidence record

Our diagram traces fallen leaves through decomposer activity to materials in soil. Microbes are part of ecosystem connections, not simply unwanted dirt.

Keep the science accurate

No culturing unknown microbes or handling mold. Viruses are not treated as cellular organisms. Avoid all-microbes-are-harmful framing.

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/dci-arrangement/ms-ls1-molecules-organisms-structures-and-processes

Talk through the evidence

1. What do decomposers break down?

Expected answer: Dead material and wastes

Reasoning: Many microbes act as decomposers, breaking down dead material and wastes. This contributes to returning matter to the environment.

2. Where can returned materials go?

Expected answer: Into soil and other environmental stores

Reasoning: Materials can later support other organisms, including plants. Energy does not cycle back in exactly the same way as matter.

3. Can plants later use some returned materials?

Expected answer: Yes

Reasoning: Materials can later support other organisms, including plants. Energy does not cycle back in exactly the same way as matter.

4. Which statement fits?

Expected answer: Microbes can have useful ecosystem roles

Reasoning: Our diagram traces fallen leaves through decomposer activity to materials in soil. Microbes are part of ecosystem connections, not simply unwanted dirt.

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.