

# ROTTING AWAY

## *Fifth Grade: Movement of Matter*

### OVERVIEW

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For this activity, **head to the Ecosystems Gallery**. Once you're there, go to the lower level and head to the right to find the [Rot Room](#). The Rot Room is a small, dark area that focuses on *decomposition* – the process of decay, or rotting.

#### Next Generation Science Standards

This lesson supports the following performance expectation:

- 5-LS2-1      Students who demonstrate understanding can develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

#### Focus Question

How does matter move through an ecosystem?

#### Decomposition in the Rot Room

Decomposition is a key part to matter moving through an ecosystem, or a community of living plants and animals in their environment. By fifth grade, students should be familiar with the process of energy from the Sun being transformed into energy for plants to make food, and plant matter providing energy for animals as food. This exploration demonstrates how living matter moves through an ecosystem after death.

When a living thing dies, matter continues to move back to the ecosystem because of decomposition. Through decomposition, the plant or animal is broken down into nutrients. Small plants, animals, or fungi are often part of the process of decomposition. Creatures such as roaches, beetles, and maggots will eat the material from the dead plant or animal and the matter re-enters the food web.

# SMALL GROUP CHALLENGE

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Help your group explore what it means when something *decomposes*. They should work together to complete the graphic organizer that helps them understand the concept of “decomposition.” \*NOTE that throughout the Rot Room exhibit text, the process of decomposition is referred to as “rot.”

1. Identify one person to be the Recorder and take notes for the group. The group will share notes once they get back to the classroom.
2. Give the Recorder the graphic organizer model worksheet. Alternatively, you may guide students in addressing one question at a time and discussing as a group before you record their responses.
3. Ask the group the following questions to guide them through the model:
  - Example – Find maggots feasting on a dead animal. Draw what it looks like.
  - Definition – Find the word “rot.” Where do we see it? What does the exhibit say that it means? *Rot is another word for decomposition. Decomposition happens when a living thing dies. Smaller organisms break down the living matter to smaller nutrients and other materials.*
  - Characteristics – For two minutes, find as much information as you can about decomposition. Examples of things to look for:
    - What process is decomposition a part of? *Decay, recycling matter in an ecosystem*
    - What happens when things break down into smaller materials? *Nutrients re-enter the ecosystem, materials are eaten by small animals that are then eaten by bigger ones.*
    - Why is decomposition important? *Helps matter stay within the system / ecosystem, breaks down valuable nutrients*
  - Non-Example – Do this part as you move to another exhibit space. Find an example of a living thing that is not going through the process of decomposition. Draw what it looks like.



# VISIT DEBRIEF

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As you wind up your visit to the Ecosystems Gallery, ask students to reflect on what they found in the Rot Room.

- How did you define decomposition/rot?
- What happens to the materials of living things when they break down?
- How do those materials get back into food that you may eat?

Have students record a response to the focus question in their notebook: *How does matter move through an ecosystem?*



# IN THE CLASSROOM: GOING FURTHER

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## Materials

- Graphic organizers
- Poster paper
- Drawing paper
- Crayons or markers

## Creating a Model

Students will create a model, based off their graphic organizer, which visualizes how matter moves through an ecosystem. Have students work in the same groups they were in at the Science Center to complete this activity.

1. On the top of the poster paper, draw your example of decomposition.
2. On the bottom of your poster paper, draw your non-example of decomposition. This example should be a living thing that is not going through decomposition.
3. In the middle of the poster, illustrate how matter moves from the decomposing object to the living creature at the bottom of your sheet. Sketch your ideas on another sheet of paper before using the poster.
4. Be prepared to talk about how matter is moving through your model.

As students work, encourage them to include as many steps as they need and be creative about how the matter is moving from one place to the other, while making sure they cover each step.

Have each group share their poster. Invite other groups to ask how matter is moving from one step to another to ensure every step is covered.

If time allows, have students make physical models of their poster using crafting supplies such as modeling clay, cardboard, yarn, etc.

Wrap up by having students refine their response to the focus question.



# GRAPHIC ORGANIZER: DECOMPOSE



<p>Definition</p>	<p>Characteristics</p>
<p>Decomposition (Rot)</p>	
<p>Example</p>	<p>Non-Example</p>