

Compost is nature's way of recycling

Years

Early Years – R - 2

Time

60-90 minutes

Overview

Students identify and understand the role of organics or outdoor materials in making compost and learn the uses for compost and benefits of composting.

Teachers please note: The decomposition process can take weeks or months, depending on the materials you use.

This activity is designed to guide you in making an outdoor compost pile. It can be modified to be a compost bin or system that suits you.

Materials

Compost fact sheet
compost bin
Food scraps
bread
eggshells
twigs
grass
coffee grounds
tea bags
autumn leaves
potting soil
shredded
newspaper
Rake, shovel, or long stick (to mix the compost)
Long-stemmed thermometer (3-foot stem)
A variety of colored Markers.
paper and pencils

Procedure

- 1. Warm-up:** Organize students into six groups. Explain that each group will be working on one specific area of composting: adding compost starter material, adding water and mixing, adding food scraps, Water mixing compost pile, monitoring the temperature of the pile, and recording these steps and making project observations Explain, "These groups will work together during the entire project as we learn how the compost is made."
2. Write the word COMPOST on a Whiteboard with a marker.
Ask the students, "What do you think the word COMPOST means?" In a different colored marker, write their responses. If the class doesn't have a definition, look in the Glossary. Read that definition aloud to the students, write it on the chart paper, and discuss it with them.
3. Ask the students, "Can you think of reasons why people have compost systems?" Get their responses and guide them into a discussion about recycling organic materials. For example, you might say: "Composting is nature's way of recycling. It's a natural process that takes place all around us. All organic matter will eventually decompose. When a leaf falls to the ground, it is eaten and digested by bacteria, fungi, centipedes, beetles, and worms. Compost is what these organisms leave

behind, and it becomes part of the soil where its nutrients are absorbed by plant roots to help make new leaves." After you're finished explaining this, ask if the students have any questions.

4. Tell the students, "We are going to watch a video about compost. As you watch it, think about the definition that we discussed and see if there is any new information in the video."

5. Watch the composting video.

6. After you've watched the video, discuss it with the class and look for new information that can be added to your chart paper. (eg- examples of what you can and can't place in a compost system)

7. Explain to the class, "We are going to make our own compost pile to see how composting works. The first step is to collect organic materials. Since I knew we were going to be doing this activity, I have some things we can use, like [continue with your actual list of compost materials]. We'll use these to make our compost pile."

8. Once you've gone over the materials, ask, "Has anyone ever heard of a microorganism?" Use the Glossary to define it. Then explain that for microorganisms to create compost from organic material, they need water and oxygen. Continue to explain that microorganisms are naturally present in the environment and will readily establish themselves and thrive in a compost pile.

9. Bring the class to the composting area or compost bin. Distribute the Compost fact sheet to each group.

Read through the steps with the class; ask if there are any questions.

10. Distribute the compost starter material, water, food scraps, paper and pencils, and other necessary tools to the appropriate groups and explain to the class, "To create a compost pile, we'll follow each of the steps we've just discussed."

11. Each group proceeds with its specific tasks in building the compost pile (refer to the Compost fact sheet for details):

- The compost starter group adds twigs/small branches/ autumn leaves (or other compost starter material) to the compost bin.
- The watering group adds the appropriate amount of water to the bin and mixes the materials.
- The food scraps group adds the collected food scraps and other materials for composting.
- The mixing group mixes the compost pile.
- The temperature group uses the thermometer to take a reading at the center of the pile. The group can make a chart on which they record the date and the temperature taken on each date. They can then compare their findings over a period of time, and share them with the class.
- The recording group takes notes on these steps and records any observations.

12. Explain to the class that they'll be stirring the pile and adding materials once a week over a long period of time. Tell them that the final product will be compost that they can add to soil to grow seeds and plants, or mix with existing soil in the schoolyard.

13. **Wrap-up:** After completing the compost pile, return to the classroom. Explain, "Each group will discuss the questions I'll be writing on the board. You've got ten minutes to discuss them, then you'll share your answers and ideas with the whole class."

Class Questions (write on the board):

- Why did we start the compost pile with leaves, potting soil, or shredded newspapers?
- Why do you think compost needs air and water?
- What organic materials do you think will decompose the fastest? The slowest?
- How does composting reduce the amount of waste you would have thrown out?

Homework: Ask the class to organize a part of their journal or to create a separate journal for observations they have on the composting process. Explain, "When you see that something has begun to decompose, please record what you saw in your journal. You can write and draw it. Are there any questions?"

Additional Discussion Points (after 2-4 weeks):

- What materials are decomposing the fastest? Why?
- Has the temperature in the compost pile changed? If so, how?
- What else have you seen in the compost pile that's interesting to you?
- What are some of the observations you've made in your journal?

