

Decomposing Culture

Objective

Students will classify organic and inorganic objects and create a hypothesis about what will happen to each object in different environmental contexts.

Introduction (10 minutes)

Free-write Prompt: “Have you (or has someone you know) ever misplaced or lost something for a long time? How had it changed when you found it again? Did it look different? Did it mean something different to you than it once did? How did you feel after you found it?”

Ask students to share their responses, commenting on the ways that time and different conditions (dust, rain, animals, etc.) may make things change over time.

Vocabulary Extension

Hypothesis = an educated prediction or explanation that can be tested in an experiment

Organic material = substances that come from human, animal, or plant sources

Inorganic material = substances that come from non-living materials

Decay = to break down or decrease in quantity or quality

Decomposer = organisms that break down dead or decaying organisms or objects

Class Activity (15 minutes)

Pre-Lab Concept Attainment

Tell students that over the next few days they are going to conduct an experiment to study what happens to different types of objects over time. First they must classify different types of objects in different ways.

Write the word “organic” on the board. Display a series of organic materials to students (examples: paper, cardboard, piece of bread, wood sculpture, piece of cotton fabric, etc.). Inform students that all of these items are made of “organic” materials, and ask them to list properties of organic materials based on the items they see in front of them. Write student descriptions on the board, and selectively narrow down a class definition that applies for all organic materials.

Repeat the process for the word “inorganic,” using items such as a penny, a plastic pen, a clay flowerpot, a glass bottle, etc. Again, write student descriptions on the board, and selectively narrow down a class definition that applies for all inorganic materials.

Assess student understanding by holding up additional objects and having a show of hands. How many of you think this object is made of organic materials? How many of you think this object is made of inorganic materials? Provide feedback to students to solidify concept attainment of organic and inorganic materials.

Class Activity (30 minutes)

Lab

Divide class into groups of 3-4. Have each group select 1 organic and 1 inorganic material they want to use in their experiment and categorize them accurately on their Lab Worksheet (see Appendix II). Groups will need 3 of each organic and inorganic material that they choose, one for each of the 3 different test environments.

Tell students that today they are going to be storing their objects in different places and predict what will happen to those objects over the next few days. They will test by “storing” their object buried underground, leave it in the open air outside, and leave it in the open air inside.

Have groups write hypotheses using the chart on their Lab Worksheet to predict what will happen to their items in each of the conditions.

Bury/store the items in the appropriate places and leave as undisturbed as possible (except for natural phenomena) over the next few days, and ideally over a weekend.