

Our Changing Environment-- A Demonstration

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Title: Our Changing Environment-- A Demonstration

Level: Middle School

Time: 4 weeks

KERA Goals: 2.3; 2.6

Objective:

To observe and describe changes in an environment when some of the components are changed.

Background Information:

Succession is a term used to describe the ever-changing environment and the gradual process by which one habitat is replaced by another. Many habitats that appear to be stable are changing before us. In this activity, students will be able to see in miniature how a swamp can be succeeded by a forested habitat.

The major purpose of this activity is for students to recognize the process of succession.

Materials:

- glass jars (pint or quart) or
- small glass or clear plastic terrarium
- water
- soil
- aquatic plant (1 per container)
- bird seed
- sunflower seeds (raw)

Activity:

Students prepare a miniaturized environment in which a variety of plants and seeds are grown. By altering the amount of moisture in the small landscape, the succession or change from one type of plant habitat to another can be observed and documented.

1. Place two inches of soil and three inches of water in a jar without a lid. Place the jar at a window and allow it to settle overnight.
2. Plant an aquatic plant in the jar. It should grow well in this environment. If your classroom has no windows, use a grow-light.
3. Do not replace the water that evaporates from the jar.

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4. Once or twice a week, have students add three or four bird seeds to the jar. While there is water in the jar, the seeds should germinate and then rot. Continue adding seeds even after the water evaporates.
5. As the water evaporates down to the soil, the aquatic plant will die. The bird seeds will not find the environment suitable for successful growth. Sunflower seeds, which grow large, can be added to represent forest trees. Add water to simulate rainfall to keep the soil damp.
6. Have each student make a poster, drawing, or other visual representation of what they saw happen to their "pond." Ask them to talk about what they have learned about how environments can change. Introduce the term, "succession" to older students.
7. OPTIONAL: Take a field trip to a pond. What plants are growing in the water? What plants are growing on the shore? What parallels are there between this real pond and the "pond" in the jar? Make a second drawing of this real pond. Compare the similarities and differences between the two.

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