

# Forest in a Jar

GRADE LEVEL/SUBJECT: K-12, Science

## OVERVIEW:

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 swampy area can be succeeded by a forested habitat.

## PURPOSE:

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

## OBJECTIVES:

Students will be able to: 1) observe and describe succession; and 2) summarize what they have learned about how environments can change.

## METHOD:

Students conduct an experiment using soil, water, seeds, a plant, and a jar; and then draw a poster to represent their observations and findings.

## RESOURCES/MATERIALS:

Pint or quart jars (one per student or small groups of students, or one for the entire class), water, soil, aquatic plants (one per jar), two cups bird seed.

## ACTIVITIES AND PROCEDURES:

1. Place two inches of soil and three inches of water in a jar. Place the jar at a window, without a lid, 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, substitute a grow-light.

3. Do not replace the water that evaporates from the jar.

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 now find the environment suitable for successful growth. Sunflower seeds, which grow large, can be added to represent forest trees. You will now need to add water, as a substitute for rainfall, to keep the soil damp to keep things growing.

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.

## TYING IT ALL TOGETHER:

Describe three changes you saw happen to what was inside the jar. How can this simulation apply to the mechanisms of succession?