

Spongy Wetlands

http://www.ccge.org/resources/learning_centre/classroom_activities/spongy_wetlands.asp

Subjects

Science, Math, Language Arts

Time

30 minutes

Materials

- 11 'x 5' tray or lid
- 2 cups of water
- blue construction paper
- Monopoly game houses
- 10 sponges
- meat trays for each student
- glue and tape
- markers
- scissors

Objectives

At the end of this lesson, the students shall be able to do the following:

- Sort things that absorb and things that do not absorb;
- Predict, orally or in writing, what will happen to houses with or without wetlands;
- Build a wetland area in a meat tray to show how wetlands absorb water; and
- Give an oral or written definition of flood plain and wetlands.

Background Information

Wetlands are vital in flood control and water storage, and they help to recharge the water table. Wetland areas spread out water over large sections of land, slowing its flow. The heavy, spongy vegetation absorbs water to help control any overflow providing a place for storage of excess water. Some of the water seeps far beneath the Earth's surface to become vital groundwater.

This lesson will show what happens when people build their homes in wetland areas or close to rivers and how the wetlands, like sponges, help to absorb water and control flooding.

Terms

flood plain: relatively flat area on either side of a river or stream that may be under water during a flood.

Advance Preparation

- A. Cut two 4' x 15' strips of blue construction paper. Prepare 11' x 15' tray with a strip of blue construction paper in the middle and Monopoly game houses along the sides. Place 2 cups of same amount of water near the tray.
- B. Collect enough meat trays from the grocer for each student.
- C. Cut enough sponges in small strips for the students to place in their wetland meat trays.
- D. Have materials ready for the wetland meat trays.

Procedure

1. Setting the stage

Spill a small amount of water on a table. Discuss suggestions on how to clean up the spill using paper towels, sponges, and clothes. Discuss why we use these items to clean up spills. Discuss the word absorb. Look around the room for things that absorb and things that do not. Place things that absorb in a tub and things that do not in a different tub. Ask the students to compare the items and decide why some things absorb the spill and others do not.

2. Activities

Using a plastic rectangular tray or lid about 11' x 15', display some houses from the Monopoly game along the 15' sides of the tray. Cut a 4' x 15' strip of blue construction paper and place it in the middle of the tray. Ask the students what they think will happen to the houses if water is poured on the blue paper. Slowly pour one cup of water on the blue construction paper and discuss how the homes get wet because the water has no place to go. Take everything out of the tray and dry it off.

Place a dry piece of blue paper in the center and the same houses along the sides. Now place small sponges along the sides of the blue paper. Ask the students from what they already know what they think will happen now when the water is poured on the blue paper. Pour slowly another cup of water on the blue paper. Discuss the results. Relate this experiment to the wetlands. The wetland areas near rivers, streams, and oceans also absorb the water because of their sponge vegetation. If we remove the wetland areas to build homes, farms, or hotels, the excess water has no other place to go causing floods in these areas.

3. Follow Up

Have students build their own wetland areas using meat trays from the grocer. Provide meat trays, sponges, construction paper, glue, tape, and markers. Encourage the students to place in their wetlands animals and plants that live there. They can make houses, farms, or hotels by drawing them, then cuffing them out leaving a strip at the bottom to tape or glue to the meat tray. If they are folded they will stand up and make a 3 D effect. Display the wetlands on a table and have the students to dictate a short description of how wetlands help us.

4. Extension

Let students experiment with growing different types of grass on a sponge. Place the wet sponge on a tray. Sprinkle small amounts of grass seed on top of the sponge and leave it in or near a window. Everyday the students will have to make sure the sponge is kept wet. The students may observe as the seeds begin to sprout and grow. Students may record the growth of their grass and compare growth with other types of seed. Explain that the sponge must stay wet or the grass will not grow. (The grass will not continue to grow because it cannot obtain the proper nutrients from the sponge to continue its growth cycle.) Explain that plants in wetland areas are plants that need the extra moisture in order to survive.

Resources

- Cortesi, Wendy W., *Explore a Spooky Swamp*, National Geographic Society, Washington, D.C., 1978.
- Dobrin, Arnold, *Marshes and Marsh Life*, Coward McCann, New York, 1969.
- Facklam, Margery, *And Then There Was One, The Mysteries of Extinction*, Sierra Club Books/Little, Brown and Company, San Francisco, 1990.
- Greenway, Shirley, *Animal Homes*, Wate Newington Press, Connecticut, 1990.
- Hoff, Mary and Rodgers, Mary M., *Our Endangered Planet: Rivers and Lakes*, Lerner Publications Company, Minneapolis, 1991.
- Liptak, Karen, *Saving Our Wetlands and Their Wildlife*, Franklin Wafts, New York, 1991.