Wetlands are Nature's Water Washers

Overview:
Students make a simple model to observe how wetlands act as natural filters for water pollutants.

Curriculum Focus:
science
social studies

Materials:
Each student group will need:

- Large bread loaf pan
- Large sponge (clean and dry, at least 1/2 inch thick)
- Scissors
- Measuring cup
- 3/4 cup water
- 1 Tbsp. pepper

Activity:
Review the Dr. Bob sidebar in Special Feature. Help students to generate ideas about how wetlands "help" people, based on the sidebar information. Define and discuss water pollution. Discuss wetlands as natural filters for water pollutants, reviewing the explanation given. Discuss what might pollute waters flowing into a wetland (examples: fertilzers, chemicals from factories, garbage).
Tell students they will make a model of a wetland to see how wetlands filter water.
NOTE: You may wish to make one model in advance to use as a demonstration for the whole class if you have younger students. Share the directions that follow.

1.

2. Cut the sponge so that it can be pressed into the middle of the pan and fit snuggly (you can do this in advance). Be sure the sponge is pressed firmly against the bottom of the pan. (Explain that the sponge represents a healthy wetland filled

with plants).

3. Pour the water into the measuring cup. Add the pepper, which represents pollutants.

4. 

5. Slowly pour the water into the space on one side of the sponge. Stop pouring if water rises above the top of the "wetland."

6. 

7. Slowly tilt the pan so the water flows through the "wetland" to the other side. Discuss how the water looks when it flows out of the "wetland." Students should notice that most of the pepper is trapped by the sponge. They can observe this by looking at the water as well as by lifting the sponge.

Extension Idea:

Ask students what would happen to the wetland's ability to clean water if part of it were destroyed. Find out by helping students cut away a piece of the sponge, either from one end or from the middle, and repeat the experiment.