

Wonderful Wetlands

Summary

Creating a model of Utah wetlands allows students to observe this unique environment that has important value to plants and animals.

Time Frame

1 class periods of 45 minutes each

Group Size

Small Groups

Life Skills

Thinking & Reasoning, Social & Civic Responsibility

Materials

For each student group:

- Small aluminum foil pan
- Clay (Enough to cover half the pan)
- Sponges or indoor/outdoor carpet scraps
- Small plastic water bottle filled with water
- Cup of soil

For the entire class:

- Research materials about the wetlands
- Examples of wetlands plants

Background for Teachers

It's difficult for most children, and some adults, to realize just by looking at wetlands how important they are. Most have a negative first reaction to the stinky mud and mosquitoes they think breed there. They don't realize how wetlands help filter silt and pollutants from the water. Wetlands also prevent soil erosion and are very helpful in reducing flood damage.

When students make models of the physical characteristics of a wetland environment and observe what happens when it rains, they begin to catch a glimpse of the importance of wetlands as well as the consequences of getting rid of them.

Student Prior Knowledge

This activity should take place while students are learning about the physical characteristics of a wetland.

Intended Learning Outcomes

- Observe simple objects and patterns and report their observations.
- Make simple predictions and inferences based upon observations.
- Use observations to construct a reasonable explanation.
- Report observation with models.

Instructional Procedures

Step 1. Provide each group with their materials and have them create their wetland model. Following

are directions for creating a wetland model:

On one half of the pan, the clay should make a hill that slopes downward to the middle of the pan. This represents land. Students should make sure the clay seals along the edges. They can also create little streams that flow into the other side which is the "water."

Next to the clay, students should place their sponge or piece of carpet. It also needs to fill the pan to the edges. This represents the wetlands.

Each group should then sprinkle the dirt on their land and use clear water in the bottle as the "rain."

They are now ready to make observations of their wetland model.

Step 2. Review with students the characteristics of a wetland. Record their answers on the board. Ask students if they think that the characteristics they listed would apply to all wetlands.

Show students some pictures of different types of wetlands, including freshwater and salt marshes, swamps, mangrove swamps, and bogs. Ask them to think about all the different types as they investigate and observe.

Step 3. Have each group make it "rain" on their land and begin to pour/sprinkle some water slowly at the top of their land. Discuss in groups what happens. (The carpet or sponge should slow down the water as the excess flows into their "lake.")

Ask the following questions:

Did all the dirt end up in the lake?

Where did it go?

How does a wetland help get the water clean? (The plant roots in a wetland help trap silt and pollutants.)

Step 4. Now have students remove their wetland (carpet/sponge). Pour out the water left in the "lake" and try the investigation again without the wetland. What happens? (Without a wetland, large amounts of silt and pollutants can end up in larger water bodies causing problems.)

Pose the following questions:

How might this muddy, or polluted water affect the fish?

How would plants and animals be affected by this water?

Would pollutants and mud affect people in any way? (Affects water supply, recreation such as swimming and fishing)

What happens when people decide to "get rid" of a wetland? (Depends on what they do. If they drain it or pave over it, there will be problems with flooding and pollution.)

What can students do to help prevent these undesirable effects?

Can learning about wetlands make students smarter when it comes to finding solutions to environmental problems?

Step 5. Have a corner set up with many reference materials, as well as "hands on" wetland items (such as cattails, bulrushes, sealed bag with wetland mud, empty turtle shell, snake skin, etc.)

Have students research the different types of wetlands that are found in Utah. Urban wetlands will have different characteristics from those surrounding the Great Salt Lake. After investigating these, have groups choose a specific type and create a model of it. If possible, have models of plants and animals that will be found in the different areas.

Label each model according to its type and include at least five facts about the wetland.

Extensions

Encourage students to find opportunities to participate in community projects that improve environments located near water sources such as wetlands. Utilizing service learning is a great opportunity to practice citizenship while using information they learned in the classroom.

Assessment Plan

Display wetland models in the classroom. Check for understanding of individual types of wetlands in labels and sentences.

Ask students to write a letter to their parents explaining how wetlands help us. Check the letters for factual accuracy.

Bibliography

WOW! The Wonders of Wetlands

, by Environmental Concern Inc. and The Watercourse, 1995

Wading Into Wetlands, Ranger Rick's NatureScope, National Wildlife Federation, 1997.

Authors

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