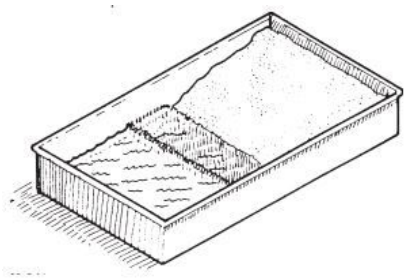
Wyoming Game & Fish Department

Building a Wetland Model

WYOMING'S WETLANDS

This is a great activity to demonstrate how a wetland functions in the classroom. This activity is a great introduction to wetlands before you head out and visit a real one!



Grade Level: 4-8

Time: 45 minutes

Setting: classroom

Materials:

- A large shallow pan (aluminum lasagna pans or clear sweater boxes work well)
- Modeling clay
- Sponges or strips of indoor carpet 3 inches long and as wide as the pan
- Clean water in a pitcher, watering can, or other container to pour from
- A cup of soil
- Dirty water in a pitcher, watering can, or other container to pour from
- Turkey baster

Concepts:

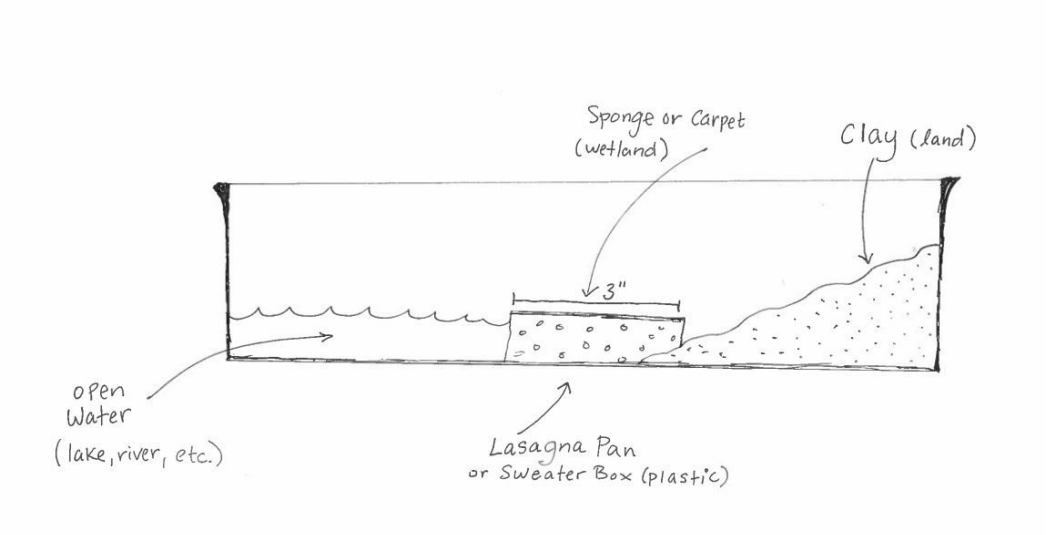
- Wetlands act as a buffer zone between dry land and bodies of water.
- Destroying wetlands can cause serious flooding.
- Wetlands help trap excess pollutants and silt.

Goals for the Lesson:

- Students will describe relationships among precipitation, runoff, and wetlands.
- Students will relate the importance of wetland functions to their own needs and daily lives.

Method:

1. Spread a sloping layer of clay in the pan to represent land. Leave the other half of the pan empty to represent a body of water.



2. Ask students to predict what will happen when clean water (rain) is poured on the land (clay). It should run quickly into the open water area. Use the turkey baster to remove the water that collected in the "lake."

3. Place the sponges or carpet between the clay and open area to represent a wetland buffer zone between the land and body of water. Pour water on the land again and ask students to observe and share what happened differently with a wetland present? It should have slowed down the runoff and lessen the amount of water reaching the open water area. Again, use the turkey baster to remove the water that collected in the "lake."
4. Explain that wetlands are an area where the land is sometimes or always covered by shallow water. Because of this, wetlands can support animals that live in water, those that live on land, and especially ones that like both, like frogs. Not only do wetlands provide lots of food for animals in the form of plants, insects, fish, and smaller animals, but they also do lots of other things. These include filtering out pollution from the water and helping to keep the land stable because all the roots that wetland plants have hold soil together. Wetland areas also act like sponges to soak up water during a flood and release it slowly throughout the rest of the year. This process of slowing down the flow of floodwaters and runoff helps to prevent floods and erosion.
5. Ask the students what might happen if a wetland is destroyed to build structures like homes or other buildings?

6. Place some dirt on the clay slope (to represent developed land with less vegetation holding the soil together) and pour the muddy water (representing pollution) onto the slope. Have students observe and compare the water that ends up in the open "lake" to the water that was poured onto the landscape. The sponge or carpet should have absorbed some of the dirty sediment. Again, remove the water from the "lake" with the turkey baster.
7. Now, remove the sponge or carpet "wetland," replace some dirt on the slope, and again pour muddy water onto the slope. Without the wetland present, what happened? Have students compare to the previous experiment.
8. Help students to conclude that without wetlands, tremendous amounts of silt and pollution end up in bodies of water.
9. Ask students to consider the following questions
    a. How would muddy water affect fish, wildlife, and plants?
    b. How do wetlands benefit humans?
    c. How can we share what we have learned today with others to let them know the importance of wetlands both to humans and to wildlife?

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Updated October, 2017