

Salt Marsh Ecology

Pre-Post Trip Activities

Activity 1. Trackin' In Mud

Research different animals that might be found in the salt marshes along the Georgia coast. Some that are common around the Burton 4-H Center are raccoons, fiddler crabs, marsh birds, and deer. Go over the tracks or signs these animals might leave in the muddy marsh and what you can learn from them. Raccoon tracks and fiddler crab burrows are very common in the salt marshes behind Burton 4-H Center. Even a flattened brush could be a sign of animal activity.

Activity 2. Oyster Filter

Oysters are extremely important for the salt marsh ecosystem and perform a very important ecosystem service. Fill one cup with water and explain that this is the water in rivers as it makes its way to the ocean. Now as the river runs its course, it picks up lots of pollution such as sediment, fertilizer, and mercury. Cut up lots of little pieces of paper and put them in the water. If these pollutants were to reach the ocean they could cause a harmful algal bloom (HAB), leading to the death of aquatic species that live in the area. Thankfully, we have oysters in our salt marsh that filter out these pollutants in the salt marsh. Put the water bottle upside down over the empty cup like a funnel and fill it with cotton balls. These cotton balls are our oysters. Pour the polluted water through our filter into the empty cup and see how the water comes out cleaner.



Activity 3. Groundwater Picture

Demonstrates how water moves through earth and ultimately to coastal wetland by taking plastic bottles and cutting the tops off and punching small holes into the bottom. Place the sand, gravel, and clay in separate containers. Pour water into each container; observe and discuss the results. Which emptied the fastest? Slowest? How would the materials influence water movement in your region? Where are regions that can capture the most water?

Activity 4. A Day in the Life

Research what animals are found in and around the salt marsh. Have each student pick a species and write a story about a typical day from the species' perspective. Include what the animal eats, what predators it has, its defenses, whether it is diurnal or nocturnal, what it does during high and low tide, and where it sleeps or rests. Share the stories with the class.

Activity 5. Tides Around the World

Break students into small groups. Have each group plot tidal data for a 48-hour period for different locations around the world. Compare the data for their location with others in a gallery walk. Have students explain how many tides their location has, the common tidal range, and the amount of time in between the tides.

Activity 6. Marsh in a Pan

As a class, create a model of marsh in a pan to demonstrate the different functions of the marsh. Discuss how its functions benefit humans and other species as well as what would happen if salt marshes disappeared. (Additional instructions can be found on page 3).



Additional Activities

Activity 6. Marsh in a Pan

Supplies:

- ✿ modeling clay
- ✿ roasting pan/shallow, rectangular container
- ✿ sponges
- ✿ spray bottle/watering can
- ✿ 2 teaspoons powdered drink mix (e.g. Tang or Kool-Aid)

Part 1

1. In the pan, build the upland section of the wetland by spreading a layer of clay over half of the pan and leave the other half empty to represent the bay. The upland represents the areas around the marsh.
2. Work the clay in the pan so that the land slopes down towards the bay. Smooth the clay on the side of the pan to seal the edges.
3. Form a meandering tidal creek through the upland area.
4. Use sponges to represent the marsh area by placing the sponges along the edges of the clay. Make sure the sponges fit well; there should be no space under or on the side of the marsh.
5. The space remaining after the marsh area represents a town.
6. Predict what will happen when it rains on the upland area of the model. Which way will the water flow and where will it end up?
7. Create rain on the upland area using a spray bottle. Observe what happens to the water.
8. Predict what will happen if the wetland/marsh is removed. Now, create rain on the model without the sponge/marsh area. Observe what happens.

Part 2

1. Pour the water out of the pan and replace the sponges.
2. Sprinkle a pinch of powdered drink mix over the upland area to represent the pollutants or chemicals from streets and neighborhoods (e.g. pesticides or motor oil that is washed into rivers or creeks when it rains).
3. Create rain on the upland using a spray bottle. Observe what happens to the pollutants.
4. Predict what will happen to the pollutants if the wetland/marsh are removed.
5. Add more pollutants if necessary. Create rain on the model without the sponges. Observe what happens to the pollutants.
6. Discuss. What happened to the pollutants without the marsh? What is one function of the marsh that you observed? Why are wetlands important?