

Maritime Forest Ecology Pre-Post Trip Activities

Activity 1. Building an Ecosystem in a Bottle

One of the best ways for kids to learn about the key elements of ecosystems is through building a self-sustaining ecosystem in a bottle. Let your students work in teams to research the maritime forest and decide what materials will be best to use inside their bottle. Have students create their ecosystem and monitor their results over time. (Additional instructions can be found on page 3).

Activity 2. The Succession Stories

Review with students how succession works. Have students get into small groups. Each group is responsible for creating a skit about the different phases of succession. The skits must include primary succession, secondary succession, a transitional community, climax maritime forest, and its zones and functions. Skits can be any stories of the groups liking, but must be no longer than 5 minutes.



Activity 3. Please the Trees!

Have students spread out within arms reach of one another. Explain that they are trees in a forest and they need certain nutrients to survive. Have them close their eyes as you scatter “nutrients” (colored bits of paper) around for them to “absorb” so they can live. When you finish scattering the paper, have them open their eyes and grab as much as they can. They cannot move their feet to get them but they can bend over and pick them up from the ground, and they should try to get as much as they can without moving. Once all of the paper is picked up, have the students count and sort their resources to see how successful they would be in a forest. You can have the colored paper mean different things (Ex: blue=water; brown=soil; yellow=sunshine; red=harmful chemicals; black=beetle infestation) or make a requirement for a certain number of each color to be a healthy tree. You can play multiple rounds by making nutrients different colors, adding invasive species that can move around and take paper, scattering less of one resource etc. Debrief on what is required for a forest to be healthy, competition within a forest, what happens when invasive species are in an ecosystem.

Activity 4. How Plants Grow

Pick some plants to grow with your students (beans grow quickly), and soak the seeds in water overnight to speed up the germination process. The next day, place the seeds in a clear jar on a layer of damp paper towels and put the jar by a source of natural light. Keep the paper towels moist and observe the seeds growth over 3 weeks. Students will test four conditions, each condition should have four plants (samples) each: no light, no water, no soil, airtight container, and a control. Students can monitor growth of the plants and make a bar graph to visualize growth over time. Which plants grew the most? Least? What other differences were observed between conditions? Which part of the plant was most affected by lack of sunlight, water, soil? Where would you plant a tree on the school grounds? At your home?

Activity 5. Crucial Canopy Cover

Canopies not only offer food and shelter to many species of birds and other animals, they also shade the forest floor and help the forest retain moisture. For this activity, you'll need three to four containers with lids and some soil for the forest floor. Fill each container with soil to cover the bottom of the container with about an inch of soil. Pour enough water into each container to dampen the soil but not so much that there is standing water. Leave one topless, one to two with varying degrees of shade (tape small pieces of paper to the top if the lid is clear or leave the lid halfway off), and one with the top all the way on (cover in dark paper if the lid is clear). Leave containers on a window sill that gets plenty of sunlight and monitor the moisture level of the soil in each container. You should notice that the container with the most cover (best canopy) remains the moistest and the container with no cover (bad/no canopy) dries up the quickest. Why is it important for maritime forests to trap freshwater?

Activity 6. Maritime Forest Species Research

Prepare students for what they may see in class by having them research a plant species found in the coastal Georgia maritime forests. Species can be either selected by the instructor or by students themselves. Students should work with a partner or in groups for this activity and present their findings to the class.

Activity 7. Gator Holes

Alligators are a keystone species in maritime forests as they dig shallow body cavities where freshwater can pool up. Take a wide dish and fill it with sand or gravel. Pour water in and show how it is all inaccessible below the sand/gravel. Then dig a shallow hole in the sand like an alligator would and you can see it form a pool of freshwater. These pools of freshwater are called sloughs and are vital for coastal animals.

Activity 8. Three Cheers for Trees

Create a list of different areas related to your school like a playground, a school ground, a city street, a neighborhood, etc. Have each student draw one of the areas to create a mural with one exception- they cannot draw any trees. When the students are finished, have them draw the same scene again, but this time with as many trees as they wish. Ask students which environment they would rather spend their time. Discuss benefits of trees in public places. For critical thinking, have students figure out what habitat the area might have been before being developed and if the trees are native or non-native.

Additional Instructions

Activity 1. Building an Ecosystem in a Bottle

Materials needed: empty and clean two liter soda bottle, fresh or pond water (not tap water), a base such as pebbles or rocks, snail or earthworm, soil or pond mud, and plants.

1. Research and gather materials
2. Place rocks and then soil into the jar or bottle
3. Add plants and invertebrates to the soil
4. Spray with water to moisten soil
5. Put the top on your ecosystem and place in natural light
6. Observe what happens over several days or weeks
7. Talk to the students about how abiotic factors and biotic factors work together to create a cycle inside this tiny ecosystem

