



ATLANTA BOTANICAL GARDEN

Atlanta Botanical Garden Rainforest Ramble (6th-12th)

Description: Immerse your students in the Garden's Tropical Rotunda, surrounded by tall trees, hanging vines, and trilling frogs. Test your knowledge of the rainforest biome and discover what features plants have developed to help them adapt to this warm and wet environment as you follow our safari guides from the comfort of your classroom

GSE supported: S7L4.a d, .SEC3.d SBO5.a, SBO5.c

Pre-Visit: Guiding Questions: Define biodiversity. What makes the rainforest such a diverse biome?

What to Read/Watch: [Amazon: Lungs of the Planet](#), [Why Is Biodiversity So Important?](#), [Read About the Rainforest](#), [Recipes of the Rainforest](#)

Post-Visit: Questions: How does the planet benefit from the biodiversity of the rainforest? How can we help take care of the rainforest?

Activities:

Biodiversity Survey: Practice one of the techniques scientists use to measure biodiversity by conducting your own quadrat survey! Pick a common plant in your neighborhood or schoolyard to sample. A great choice would be dandelions or other wildflowers. Create your quadrat by bending a wire hanger into a square. (You can also make larger quadrats out of pvc pipe, wood, wire, etc; or use a hula hoop and find the area using r^2 .) Measure the sides of the square and calculate the area by multiplying the length of the square by the width of the square.



Once you have made your quadrat, walk outside to an area with the plants you will survey. Toss your quadrat over the area, and count how many flowers are within the square. If a plant is growing both inside and outside your quadrat (on the edge), then only count it if more than 50% of the plant is inside the quadrat. If less than 50% of the plant is inside the quadrat, for example only a leaf or two is inside and the rest of the plant is outside, then do not count the plant. Calculate the population density of dandelions in this area by using the following equation:

$$\# \text{ of organisms within quadrat} / \text{area of quadrat} = \text{organism population density}$$

Pick up your quadrat, toss over a nearby area and calculate population density again. After taking 5 population density samples, add up all of the densities calculated and divide by five to get the average dandelion density of the area.

Healthy Habitats: The rainforest is home to nearly 50% of the world's plants and animal species and is the most biodiverse ecosystem in the world. The rainforest gets the nickname “the lungs of the planet” because the volume of trees helps clean carbon dioxide out of the atmosphere. Unfortunately, our rainforests are under threat due to deforestation and the rapidly changing global climate. There are lots of ways we can help protect rainforests, even from thousands of miles away in Georgia. Brainstorm three ways you could practice taking care of the environment in your daily life (ex: recycling). One way that we can really help the environment is by composting! Composting is recycling food and turning it into soil! The soil from compost is extra rich in nutrients that helps new plants grow and keeps extra trash out of the landfill. Create your own mini compost bin!

Watch How [Here](#)

What You'll Need

- Large empty plastic bottle (ex: 2L soda bottle, milk jug, empty water gallon)
- Water
- Food Scraps (things like banana peels, apple cores, orange peels, egg shells, bread crust, coffee grounds, tea leaves. NOTE: no dairy, meat, or oils)
- Empty toilet paper rolls
- Dirt (optional)
- Scissors or knife
- Safety pin, thumbnail, or ballpoint pen
- Tray or newspaper
- Small dish towel

How to Start Making a Mini Compost Bin

1. Collect your items.
2. Wash and rinse your container so it's clear of any leftover beverage and remove the labels
3. Have an adult cut off the top section of the bottle.
4. Use a safety pin to poke holes in the bottom of the bottle for drainage. Compost is a special mixture of green and brown organic matter. Green organic matter is fresh things like grass, and food scraps and contains a lot of nitrogen. Brown organic matter are things that aren't living but used to be a plant like toilet paper rolls, and dead leaves and contains a lot of carbon.
5. Fill the bottom of the bottle with your **BROWN** organic matter. We used newspaper scraps, dead leaves, and a scoop of dirt. Dampen with water (careful not to add too much)
6. Add your **GREEN** organic matter on top of the brown
7. Place the top of the lid upside down in the container and water one more time.
8. Place your container in a sunny spot (indoors or outdoors) and cover with a dish towel.
9. Once a day, stir and water your compost to help the decomposition! Compost and soil have tiny microorganisms that break down the organic matter and turn it into soil! Similar to worms, they are very beneficial in turning food waste into new soil. Stirring your compost helps feed the bacteria. Over time, you will have created your very own delicious plant soil that will be great to feed to garden plants.