The Mountains of Georgia

- the southern end of the Blue Ridge Mountain chain -

Video: The Eastern Screech Owl and the GA Mountains

Description: The mountains of North Georgia host an amazing display of native plants and animals, and rise up to an altitude of 4,300 feet above sea level. Come take a look with us as we learn about one animal who lives in this ecoregion, the Eastern Screech Owl.

Share the video with your students, along with the activity guide, to enhance their learning experience and to keep them connected to nature.

Use these resources to learn more about the plants and animals found in the North Georgia mountains. Then, answer the questions on the next page.

- Georgia Public Broadcasting – Virtual Learning Journey: Regions of Georgia
- Georgia Public Broadcasting – Blue Ridge Mountains | Regions of Georgia (Video)
- Georgia Public Broadcasting – Appalachian Plateau | Regions of Georgia (Video)
- Eastern Screech Owl Facts on CNC's website

1. What are some features of the mountains region of Georgia?

2. Name two animals who live in the North Georgia mountains, and describe their adaptations for this region.

3. Which region of Georgia would you like to live in? Why?

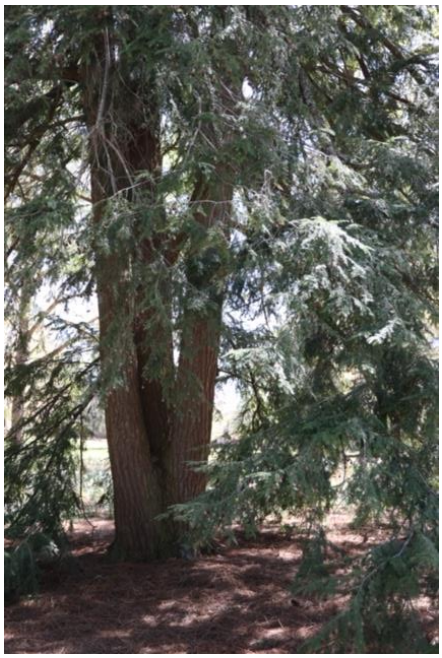
STEAM EXTENSIONS

Activity 1 – Basic: Design a Habitat

What is your favorite animal that lives in the Mountains of Georgia?

On a separate page design a habitat for this animal of the Georgia Mountains. Include everything you think your animal will need.

A tree that is characteristic of the mountains all along the Blue Ridge and Appalachian Range is the Eastern Hemlock. Try adding it to the habitat for your animal.


photos by Anne Russell Webb

What type of climate and soil are characteristic of the Georgia Mountains?

Activity 2 – Advanced: Mountain Slope Experiment

Materials needed:

- plastic container about the size of a shoebox
- another small container that would fit along the bottom end of the above container
- container for water, this can be a sprinkling can, bucket or cup
- 3 blocks of equal size – these can be wooden ones or duplo sized legos, whatever you have that are of equal size and can stack
- dirt – either from a bag or a spot in the yard you dig up(ask permission first!)
- tape or marker

Question: How does the angle of the slope of a hill or mountain affect the rate of erosion?

Background information:
Erosion - removal of surface material from Earth's crust, primarily soil and rock debris, and the transportation of the eroded materials by natural agencies (such as water or wind) from the point of removal. (Encyclopedia Britannica)

Hypothesis: What do you think will happen to the amount of erosion as the slope of the hill gets greater? Record your educated guess:

Procedure:

1. Fill your plastic container with soil found in your area. Make sure you have permission from an adult before digging up an area where you live. You can also use soil you have purchased in a bag.

2. Pack the soil into the container to make a smooth level surface. Soil should be near the top of the container.

3. Place a block under one side of the container. This will make one side higher than the other, creating a slope. Be sure to set this up outside, in an area that can get wet.

4. Record what the slope looks like. Use statements like, "I notice" and record this as your "before" observations for slope 1.

5. On your water container, use tape or a marker to create a “fill to” line. This way, you will use the same amount of water for each trail. This helps us control this variable in the experiment.

6. Place the smaller container under the bottom edge of the soil filled container to catch anything that runs out of the soil container.

7. “Make it rain” on the slope. To model it raining on a slope, fill your container to the marked line with water. Gently pour the water at the top of the slope until the water container is empty.

8. Observe what happens as the water runs down the slope. Record these observations

9. Look at the slope now that you are done pouring the water. How has the surface of the slope changed? Record your “I notice” statements. Use a ruler to add measurements to your observations such as measuring how wide an area the water ran over. If there was erosion, how deep was the surface eroded? Where did all of the soil that is now missing go to?

10. Refill the container with more dry soil to make it level again like the first time.

11. Make the slope higher by adding a second block on top of the first one.

12. Repeat steps 4, and steps 6-8 for this second slope.

13. After recording observations for the second slope, refill container with dry soil to make it level like the first time.

14. Make slope higher by adding a third block.

15. Repeat steps 4 and steps 6-8 for this third slope.

16. Record all observations.

Compare observations from the three slopes:

- Look at the observations from all three slopes. What did you notice about the amount of erosion in all three slopes? How much of a difference did you discover?

Conclusion:

- How does the angle of a hill's slope affect erosion?
- Based on your observations from this experiment, how much erosion would the mountains in north Georgia have compared to where we live in the Piedmont? Use your observations from this experiment to give evidence for your answer.

Extensions:

- The slope you built was only soil but most hills have rocks and plants. How would plants and rocks change the erosion rate? Design an experiment to test your idea.
- What can you do to control erosion where you live? Find an area of erosion and improve it to reduce erosion.

Student Data

Slope 1:

- "I notice" statements about the soil in the container before it "rains"

- "I notice" statements during the "rain" event – while you are pouring the water on the slope.

- Observations and measurements after the water is done being poured.

Slope 2:

- "I notice" statements about the soil in the container before it "rains"

- "I notice" statements during the "rain" event – while you are pouring the water on the slope.

- Observations and measurements after the water is done being poured.

Slope 3:

- "I notice" statements about the soil in the container before it "rains"

- "I notice" statements during the "rain" event – while you are pouring the water on the slope.

- Observations and measurements after the water is done being poured.

Comparison of all three slopes: