Sweating Trees Activity

1. We need plants for many reasons, especially to provide us the oxygen we breathe! Plants are also part of the water cycle. They go through a process called transpiration, which is a bit like us sweating. When they open tiny holes on their leaves (stomata) to pull in carbon dioxide from the air, they release water from their leaves as water vapor into the air. Normally, we can’t see this, but we can visualize it with an experiment.

2. Go outside on a sunny day and find a tree with broad leaves you (or someone taller than you) can reach.

3. Place a plastic bag completely over a sunny section of a tree branch, making sure several leaves are inside of the bag. Secure the opening with a rubber band or twist tie so it is closed around the branch.

4. Come back two hours later and check on your bag.
   a. What do you observe?
   b. Did transpiration take place? How do you know?
   c. Try this again! You can experiment with shade, types of trees, and even other types of plants. The amount of water in the bag will tell you how quickly transpiration is occurring. Compare and contrast what might be influencing the speed of transpiration.

Tree Rings Activity

Adapted from Triangle Land Conservancy’s “Triangle Explorer” program

1. Tree rings can tell you a lot about that trees life. Find a stump with rings you can see, and use this guide to answer the following questions.
   a. How old is your tree?
   b. Is there evidence of fire, insects, fungi, or drought? How do you know?
   c. Was your tree leaning at all? How do you know?
   d. Did your tree have any good years of growth?
Thank a Tree:
(Adapted from the NC Forestry Association “Goods From the Woods” activity)

1. Think about ways that humans depend on trees. We know that partnerships between plants and pollinators provide us with around one third of our food, but what about trees?
2. Go outside and observe the trees on your walk. Are they the same? Different? What helps you to identify different types of trees? What sorts of animals are near the trees? In what ways do animals use trees?
3. List three things you use every day that come from trees. Be creative! Think about what trees produce, not just their wood. Check out the North Carolina Forestry Association’s list of items you might not expect are made from trees.
4. How have people used trees over time?
5. Come up with your own way to thank a tree that lives near you for the many ways trees help humans survive!

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