**What’s that Tree I See?**

**Project Skills:**
Forestry; identify different parts of a tree leaf

**Life Skills:**
Learning to learn, communication,

**Academic Standards:**

**Grade Level(s):** 6-8

**Time:** 60 minutes

**Supplies Needed:**
- 8.5" x 14" paper
- Adhesive tape or glue
- Crayons, colored pencils or markers
- 2 leaves from 5 different trees
- Parts of a leaf worksheet
- Magnifying glass

**Advance Preparation:**
Read over the lesson plan to become familiar with it and to make sure you have all the supplies needed.

**Acknowledgements:**
This lesson adapted from Science Discovery Series, Rutgers University.

**BACKGROUND**
Refer to pages 117-118 of the Science Discovery Series-2 from Rutgers Cooperative Extension. Read to students: A tree is a living thing, just like you. It needs to eat, except instead of putting food in its mouth, it makes its own food in its leaves. This is called Photosynthesis. Just like you, it needs to breathe. Instead of lungs, which take in oxygen and expels carbon dioxide; a leaf takes in carbon dioxide through tiny holes in the leaf called stomata and expels oxygen as a waste. Just like you, trees need to drink water. Instead of drinking water through a mouth, it takes water in through its roots, and moves it up and down through tubes called phylum and xylem.

There are other ways that trees are different than you. People can live only about 120 year’s, some trees such as the Bristlecone Pine Tree can live to be over 4,000 years old. While humans do not grow much taller than 8 feet, a tree such as the California Redwood can grow to be over 360 feet tall. An average grown man weighs about 175 pounds but a giant Sequoia Tree can weigh over 2,800,000 pounds.

**INTRODUCTION:**
In this lesson encourage your youth to use their imaginations. It is important to give youth time to try to predict what they will be responsible to investigate or do in any activity. With this activity begin by asking youth the questions provided below. Then review the background information with them. The next section will charge the youth with investigating trees. The last and some feel the most important part is to allow youth to process and apply what they learned by follow up questions.
WHAT TO DO:
Ask Introduction type Questions
  1. What is your favorite parts of a tree?
  2. How are trees helpful to animals and you?
  3. Can you think of anything that a tree and you both need to do to stay alive?

Review Background Information with youth.

Activity:
If possible have youth bring in 2 leaves from 5 different trees. Have extras for youth who cannot furnish their own leaves. Have children share one of the 2 leaf pairs with another youth. They can continue to trade leaves until they have 10 different leaves. Distribute the Parts of a leaf handout. Have youth look at the veins in their leaves and group the leaves in front of them with similar vein pattern. Ask a few to share how they made their decisions. Shuffle the leaves and then ask them to categorize the leaves by similar petioles. Ask a few to share how they made their decisions. Continue this with the other parts of the leaves if time permits.

Explain to the youth that similarities in leaves help scientists to identify and classify trees. Now have the students look at the underside of the leaves with a magnifying glass. Can they find the small cell openings call Stomata? Are there any pests on the leaves? What other things are there that they could not see without magnification?

Follow steps 3-5 page 118 Science Discovery Series Volume 2- What’s That Tree I See? Have youth share their creations.

PROCESSING QUESTIONS:
Sharing-
  • What was the hardest part of this activity?
  • What did you enjoy the most?
Processing-
  • Why is it important to know how to identify and categorize plants and trees?
Generalizing-
  • What other ways would scientists use to identify trees other than leaves? (bark, flowers, nuts, etc)
Applying-
  • How will learning how to identify trees benefit you in the future?
EXTENSION IDEA:
*Project Learning Tree*, an environmental Education Activity Guide for pre-K to 8th grade. Contact your local Extension Office for more details or American Forest Foundation, 1111 Nineteenth St. NW, Washington, DC 20036.

Invite your county forester to talk to your group about tree identification.

Visit a state park and conduct a tree id scavenger hunt.