

Leaf Hunt

Subject: Science

Duration: 1 - 2 Class Periods

Location: Classroom / Outdoors

Key Vocabulary: Leaf patterns - pinnate/palmate/simple /compound, photosynthesis, chlorophyll, diversity, adaptation

Related Activities: The Giving Tree; Win, Lose, or Adapt

Florida Sunshine State Standards: SC.4.L.17, SC.5.L.17



Objectives: The student will be able to: a) compare/contrast the diversity of leaf characteristics, b) use scientifically correct vocabulary to describe and classify leaf patterns (using words like pinnate, palmate, simple, compound), c) understand that leaf characteristics are adaptations for survival, and d) appreciate how plant diversity enriches our lives.

Method: Students will study leaves collected from their natural environment.

Background: Our natural environment is full of vegetation. We may notice a beautiful tree on occasion, but we rarely take time to notice the characteristics about that tree (more specifically, its leaves). Plant leaves contain chlorophyll, the “special ingredient” needed for photosynthesis. Without leaves, plants would not be able to make food. There is a huge diversity of leaf structures (adapted to getting sunlight, nutrients, and water in their specific habitat) in South Florida. Both tropical and temperate species are able to survive here. Students can become more familiar with the vegetation around them by simply taking time to study it up close. This activity is designed to give students a chance to notice and appreciate the importance of diversity in leaf/plant adaptations.

Materials

- Paper and pencils
- Reference materials (on identifying leaves)
- Crayons (for leaf rubbings)

Suggested Procedure

1. Review photosynthesis with your students. Discuss the importance of leaves to plants.
2. Ask the librarian to locate reference books dealing with the identification of various trees/leaves.
3. Discuss leaves and leaf patterns with your students. Notice how different shapes and sizes can help plants absorb sunlight or collect water. Have students think about how the leaf shape may be an adaptation to help the plant survive (why would sawgrass have “teeth”? - possibly to protect it from predators).
4. Show students that leaves can be classified by their shapes and arrangement. Define the various leaf patterns for your students.
5. Take the students outdoors, and tell them you will be having a leaf hunt.
6. Divide the students into teams of three or four students. Give each team ten minutes to gather one leaf from as many different kinds of trees as they can (dried leaves, not live leaves)!

7. When all teams have gathered their leaves, ask the teams to spread out their leaves and observe their characteristics. Instruct teams to try to classify their leaves into patterns such as simple, compound, palmate or pinnate.
8. Use the reference books to identify the tree from which the leaf came. Tell students to place a piece of paper next to each leaf and print the name of the tree from which they think the leaf came on the paper.
9. Ask students to sketch each leaf on the same paper.

Evaluation

Compare and contrast all of the leaf patterns which were collected. How might it help plants to have different types of leaves? Think about the types of plants you would find in a prairie versus a pineland. (Different plants can compete for sunlight and nutrients better in different habitats.) Does having a variety of leaf shapes affect how people view plants? What kinds of plants do you have around your house? Why do you think they were planted there? How does classifying leaves by their shapes help scientists? (They are often able to identify plants by leaf characteristics.)

Extension

- Use paper and crayons to make leaf rubbings.
- Have students construct a simple dichotomous key, dividing their collected leaves by increasingly more defining characteristics.

