

**Do you see what I see?**  
**A method for teaching biological observation and description**

**Description:**

This lesson is designed to teach students that different individuals will describe the same object using different terms if they are not using a common vocabulary. This lesson should appeal to most students as it emphasizes the use of verbal, auditory and kinesthetic skills in order to obtain an accurate description. The skills acquired through this lesson not only apply to leaves and plants, but to other areas in the life sciences where practices observation skills are essential.

**Goals:**

Students will learn

1. The importance of making and recording detailed observations.
2. The importance of accurately describing an object (biological or non-biological).
3. The importance of using a common vocabulary when discussing biological organisms.

**Objectives:**

Students will be able to

1. Accurately describe an unknown object to another student.
2. Record an accurate description of a leaf.
3. Draw an object described using terms from a common vocabulary.

**Materials:**

- Paper and pencil
- Pictures of simple, abstract black and white shapes (one per student)
- Leaves, preferably living
- Fossil leaves (upon availability)

**Time:**

45-90 Minutes (1-2 class periods)

**Procedure:**

Activity 1

1. Have students partner up and sit back to back. Give one partner a picture that she/he must describe in detail so the other student can create a detailed drawing. Allow several minutes for students to describe their picture. Switch partners and repeat this procedure using a different picture.
  - Pictures/drawings should be of objects that the students are not familiar with. They can be abstract and they must be relatively simple. I.e., ink blot or irregularly shaped star.
2. When both partners are finished, discuss with the class the difficulties that arose when trying to draw an unknown object based on another's description. Discuss some possible solutions to this problem, i.e., ways to refine your description.

3. Have students reexamine their descriptions and identify ways to make them better. Then have students switch partners and repeat the first procedure, using the same picture they described the first time.
4. Discuss the outcome of the second round. Was it more or less difficult to describe the same object twice? Did any one solution solve all problems associated with describing an unknown object?

### Activity 2

1. Each student will receive a different leaf (preferably living) and will be given 5-10 minutes to write a detailed, accurate description of the leaf. Select several students to read their description to the class.
2. As each student reads their description, students with leaves that also fit that description should raise their hands.
  - As the teacher, you will see several leaves that may fit the given description, but are noticeably different from one another.
2. Discuss additional ways the leaf could be described and address any missing details. Teacher may want to illustrate the leaf on the board as the student reads the description of the leaf. What difficulties arise when students are asked to make a written description of a familiar object?
  - How much easier would it have been for the teacher to draw the leaf on the board if she/he shared a common vocabulary with the student?

### Activity 3 (Optional)

1. Repeat Activity 2 using leaf fossils.
  - Discuss how preservation of the fossil makes it more difficult to identify characteristics of the leaf. For example, if part of the leaf is missing, some assumptions have to be made about what the remainder of the leaf looked like

### **Evaluation:**

Have students write a short report on what they learned and why it is important  
Have students compile a set of vocabulary used to describe various leaf parts and use these terms to have the students draw a leaf that you describe to them.

Provide a leaf or a picture of a leaf to students and have them label parts according to established vocabulary list.

Have students describe a leaf to another student using established vocabulary list.

### **Extensions:**

Teach botanical vocabulary terms used to describe leaf morphology.

Repeat lesson as necessary after terms are acquired to refine their observation and description skills

Have students use their newfound observation and description skills and botanical vocabulary to correctly identify leaf types and plant structures on plants found on school grounds

For advanced students: Start a school herbarium! Obtain references that will allow you to identify the plant species on and around your school grounds