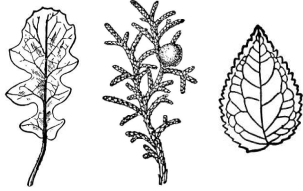


Scientific Observation and Journaling for Grades K–6

Follow-up Activity: Observing and Classifying Leaves



Objectives (1) Students will learn to observe more closely. (2) They will develop skill at classifying. (3) And they will discover the diversity of leaves.

Time Two class periods

Materials For each student: 10 different leaves, 11" × 17" white copy paper, pencil and markers. For pairs of students: butcher paper or newsprint, pencils and markers.

Getting Started

1. **Background** Scientists organize nature through an international system of *binary classification*. This system consists of dividing objects or organisms into two groups, based on whether they are alike or different in one particular way. Groups may be subdivided again and again, always based on one particular difference.
2. **If students have not had experience classifying, begin with the shoe game.*** Have everyone stand in a group at the board. Each student looks at the variety of shoes that the students are wearing and the class decides how they will divide the shoes into two groups. Have students pick one attribute to sort on, such as shoelaces. Students will move into two groups: "shoelaces" and "no shoelaces."
3. At the top of the board, write "Shoes" and put a circle around it. Draw two lines to two more circles. Write "Shoelaces" in one circle and "No Shoelaces" in the other.
4. Have each of the two groups decide on a second attribute (such as brown, stripes, two or more colors, soft sole or hard sole) and divide into two smaller groups—for a total of four groups. Write the new attributes on the board. Keep repeating the process. The game ends when everyone is standing alone (unless two or more students have the exact same shoes and stay in a group together).

* For older students, who may feel some sensitivity about their shoes, work with favorite writing instrument. This should give you a good variety of pens, pencils, and markers.

Classifying Leaves

1. Remind students about their science journaling activities. Classifying uses the same skills that were developed by drawing and writing about leaves.
2. Ask each student to collect ten leaves from several different plants and bring them to school in a plastic bag.

3. Pass out the 11" × 17" paper and have each student draw a circle at the top of their sheet (using the widest side as the top) and write the word "Leaves" in it.
4. Have each student (1) choose one attribute—such as green, big, lobed—and divide the leaves into two groups; then (2) draw two circles below the first circle and label them with the attributes ("Green" and "Not Green," etc.); and (3) place the two groups of leaves on top of the two new circles. They may be piled on top of each other.
5. Have students choose new attributes for each circle of leaves and draw lines down and make two new circles under each of the first two circles. Now each student has seven circles.
6. Have students continue labeling circles, sorting leaves, choosing new attributes, drawing new circles, and so forth until every leaf has its own circle.
7. When students have finished classifying, have them use markers to darken their pencil lines.
8. Discuss the activity: *What was difficult? What did you learn? What would you do differently if you did it again?*

Classifying Leaves in Teams of Two

1. Divide students into small groups of two or three. Have them combine their leaves and go through the classification activity again using a large sheet of Kraft or butcher paper.
2. If students notice that there is more than one leaf from a particular species of tree or plant, they may wish to place them in the same circle, even though they are not exactly alike. In the circle, they should write the attributes that are common to all of these leaves.
3. Students may wish to glue or tape the leaves to the paper after they finish classifying them.
4. Discuss the activity: *What was hard? Did you learn something new this time?*
5. If you have access to plant or animal guides, show students how an unknown specimen can be identified by using the identification key.