

GRADE LEVEL: PreK, 1, 2

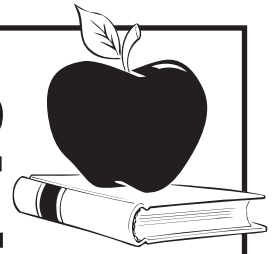
NEXT GENERATION SCIENCE STANDARDS: 1-LS1-1, 2-LS4-1

ILLINOIS EARLY LEARNING STANDARDS: 11.A.ECa, 11.A.ECb, 11.A.ECd, 11.A.ECf, 11.A.ECg, 12.A.ECa, 12.A.ECb, 12.B.ECb, 12.F.ECa

SKILLS: observing, finding information

OBJECTIVE: Students will learn that each type of tree has distinctive bark and unique leaves and that these characteristics can be used to determine the species of the tree.

TEACHER'S GUIDE



UNIT ONE ■ LESSON TWO

Take a Closer Look

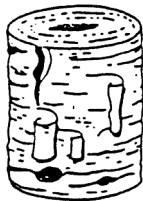
BACKGROUND

Most students have probably not carefully observed tree bark and are not aware that each tree has bark with distinctive characteristics. Similarly, they will not have observed the sometimes minor differences in leaves from different types of trees.

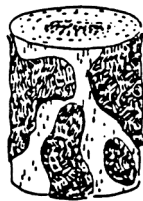
Bark Basics. From tree to tree, bark varies in a surprising number of ways. The differences can be very important for purposes of tree identification. What color is the bark? Does it feel rough or smooth? Is it plain or does it have a pattern? If it has a pattern, is the pattern arranged up and down, from side to side or both? Does it have an odor? Is it thick or thin? Is it loose or tight against the tree? A number of common trees can be readily identified by their bark alone, including sycamore, birch and shagbark hickory trees.



SHAGBARK



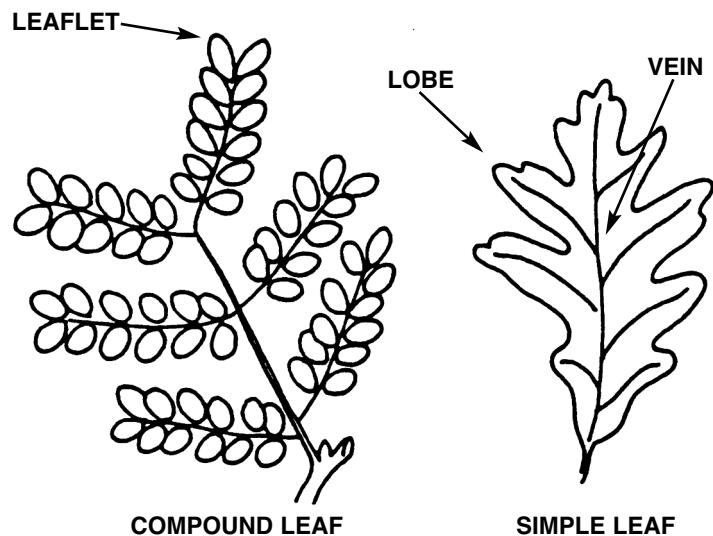
BIRCH



SYCAMORE

Looking at Leaves. Leaves come in an amazing variety of sizes and shapes—from the smallest pine needle (which is a leaf) to a large sycamore or

sweet gum leaf. In examining leaves it is interesting and important to note the variety of ways in which they can differ. Some ways, like size, are obvious. Others can only be detected by careful observation. Leaves can be smooth or hairy, shiny or dull. They can have pointed lobes or rounded lobes. The number of lobes can vary. They may have a sawtooth edge or a smooth edge. They may have one central vein with other veins leading off it. They may have several main veins which radiate from a single point at the base of the leaf. Leaves may grow individually (simple) or in clusters of leaflets (compound). They may grow across from each other on the branch (opposite) or not across from each other (alternate). Leaves come in virtually every shade of green—sometimes with other colors mixed in. All of these characteristics are important and interesting to explore.



Name That Tree. There is at least one thing unique about the leaves of every individual type of tree. With just a single tree and a good tree identification book, you can identify most types of trees.

PROJECTS AND ACTIVITIES

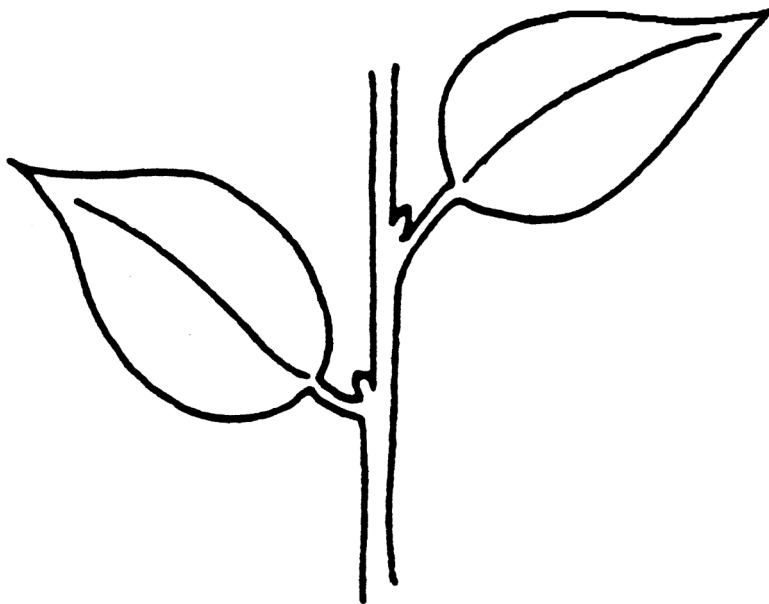
Take the class outside with paper (not too thick) and crayons (unwrapped so that the sides may be used). Make rubbings of bark patterns by holding or taping the paper tightly against a tree and rubbing with the side of the crayon. Make rubbings of as many types of trees as you can find. In the classroom, discuss and compare the different patterns. Can any of the trees be identified by their bark patterns?

Bring several pieces of bark to school along with pictures of the types of trees from which they came. Place the pieces of bark in separate boxes or paper bags so they cannot be seen. Can students match bark to tree pictures merely by feeling the bark pattern of the samples?

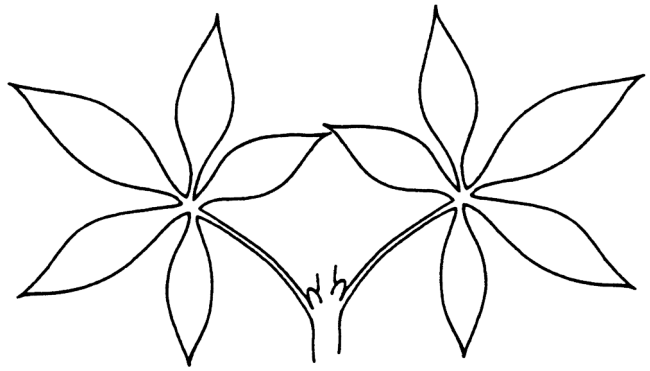
Ask the class: What color is tree bark? Collect and record the answers then take the class for a walk in the neighborhood. Find the colors that have been suggested. Then list all of the other colors you find. Ask students to draw a forest of trees and color the bark using all of the colors that you observed.

Have each student bring a leaf to class. Students should compare leaves to find classmates with matching leaves. Students with matching leaves should be grouped together and asked to identify their type of tree with the aid of a tree identification guide. Have students press the leaves. Repeat the exercise in a different season and have students compare leaves from different seasons.

A Year In the Life of a Tree. Locate a tree and observe it for an entire school year. Record changes on a weekly basis.



ALTERNATE LEAVES

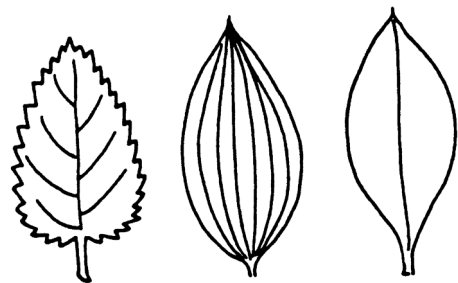


OPPOSITE LEAVES

Keep records of changes in leaf color. When leaves are gone, note any nests or animal activity. Note when buds first appear and when leaves emerge. Record leaf development.

EVALUATIONS

Have each student bring a leaf to class. Ask each student to study his or her leaf carefully. Review with the class the features that distinguish individual leaves—the shape, the lobes, sawtooth edges, the pattern of veins. Ask students to very carefully observe these features, then put the leaf away and draw and color it from memory emphasizing as many features as possible.



Younger students may be given a pile of different leaves to sort by shape. Then they count the number of piles of leaves.

VOCABULARY

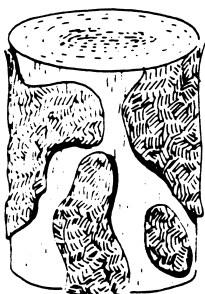
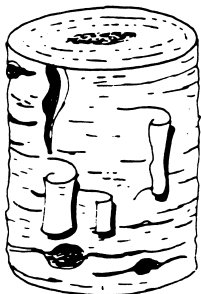
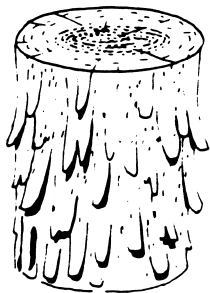
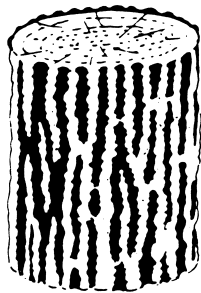
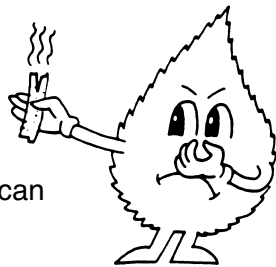
lobe
vein

Take a Closure Look

STUDENT'S GUIDE

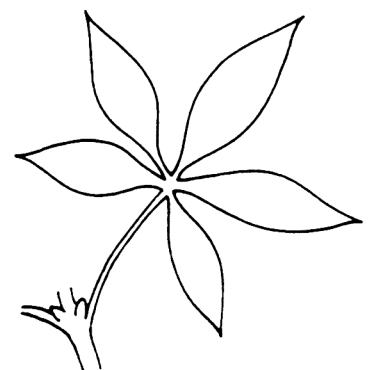
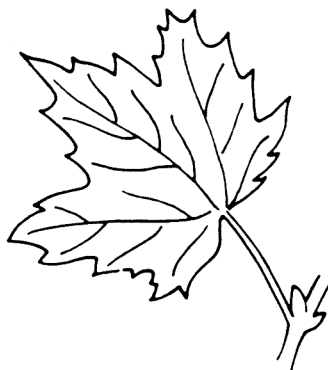
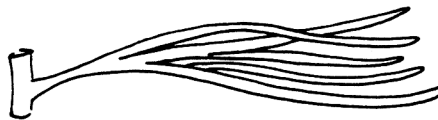
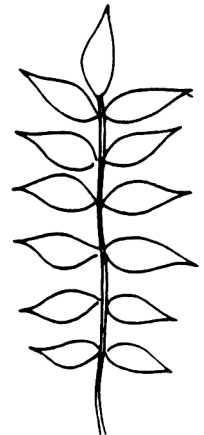
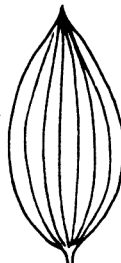
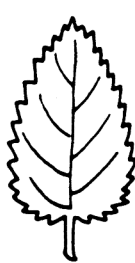
Bark Basics

There are lots of kinds of bark. Look for the differences. What color is the bark? Is it rough or smooth? Is it thick or thin? Does it have a smell? What other differences can you find?



Looking at Leaves

Leaves have lots of different sizes and shapes. A tiny pine needle is really a leaf. How many pine needles would fit on a maple leaf? Find a leaf and look at it closely. Is it smooth or hairy? Is it shiny or dull? Does it have one point or lots of points? Are the points sharp or round? Is it simple or compound? Can you find the veins in your leaf? What other interesting things do you see?



Name That Tree

Learn the name of your leaf. That's the name of the tree. Leaves are the easiest way to tell trees apart.

Let's Make a Tree!

What you will need

- construction paper
- a large piece of white paper, at least 11" x 25"
- scissors
- crayons or markers
- yarn
- glue
- transparent tape
- an empty toilet paper tube

You can make a beautiful three-dimensional tree picture.

1

To make the trunk, cut a toilet paper tube in half lengthwise. Both halves should be the same size.

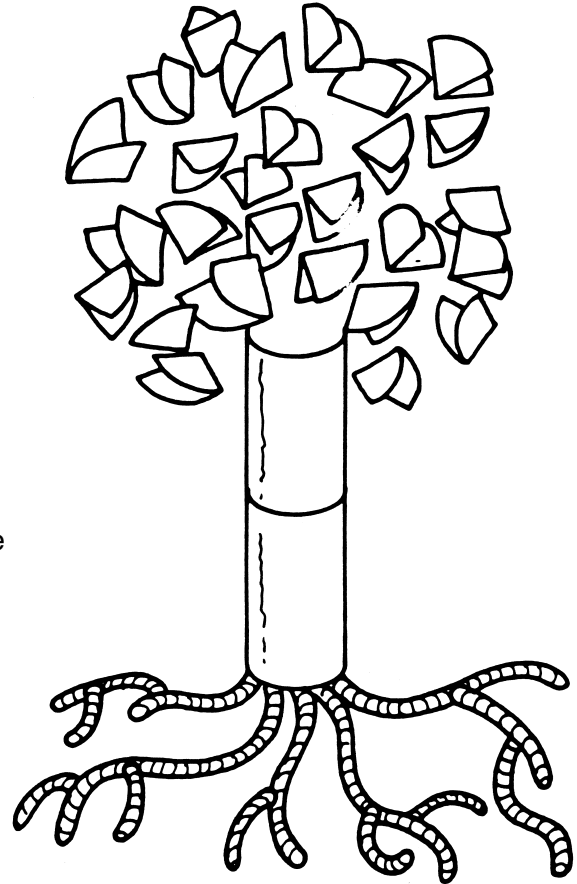


2

Color both pieces of the tube to look like bark.

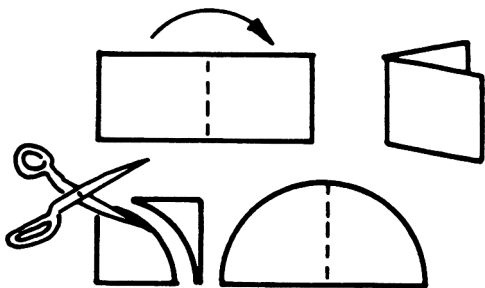
3

Tape both pieces of the trunk, end to end, in the center of a large piece of white paper. Leave plenty of room at the top for leaves and plenty of room at the bottom for roots.



4

Cut your leaves from colored construction paper. Cut a folded half circle shape as shown in the picture and glue one of the halves to the white paper to form the shape of the branches and leaves of the tree.



5

Make roots by cutting pieces of yarn in different lengths. Glue them under the trunk. Be sure to spread them out like real roots.

6

Finish your picture by drawing in more trees, shrubs and animals.