



## CAVOC 6<sup>th</sup> Grade Fall Curriculum- Looking at Leaves

(Cedric A. Vig Outdoor Classroom)

### Suggested Schedule-

7:50	Homerooms
7:55	Report to Commons, check in, board bus
8:10	Arrive at CAVOC
8:15	Orientation & Large Group Ropes Instruction
8:30	Session I (90 minutes)
10:00	Break – juice served at the lodge (15 minutes)
10:15	Session II (90 minutes)
11:45	Lunch (45 minutes)
12:30	Session III (90 minutes)
2:00	Clean Up
2:15	Walk to bus
2:30	Departure
2:50	Arrive JWJHS – Commons or outside
2:58	Dismissal

### **--SESSIONS--**

PT/OR: Poet-Tree & Orienteering  
LL: Looking at Leaves  
RO: Ropes Course

Sessions	1	2	3
Time/team	8:30 – 10:00	10:15–11:45	12:30 – 2:00
1	PT/OR	LL	RO
2	RO	PT/OR	LL
3	LL	RO	PT/OR

### Looking at Leaves

(~ 90 minutes)

### Objective for Unit

Students will describe how leaf shapes, sizes, and other characteristics vary from tree to tree.

Students will explain how particular types of trees can be identified by their leaves.



## **DPI Standards for Environmental Education**

A.8.3, A.8.4, A.8.6, A.8.7, B.8.1, B.8.3, B.8.4, B.8.5, B.8.6, C.8.1, C.8.3, C.8.4, C.8.5, C.8.6, C.8.7, C.8.9, C.8.10, C.8.11, F.8.1, F.8.2, F.8.7, F.8.8, F.8.9, F.8.10- Science Standards  
A.8.3, A.8.4, A.8.5, B.8.3, B.8.6, B.8.8- Environmental Education Standards

### **Materials**

Pencil  
Worksheet  
Clipboards

### **Desired Location**

Pavilion

### **Resource**

Project Learning Tree

### **Background Information**

Tree species can be identified by looking at several different features: leaves, bark, twigs, flowers, fruits, and seeds. Even the overall shape of a tree can give clues to the tree's identity.

#### **Needles and Broad Leaves**

In the simplest sense, there are two kinds of trees in the world: conifers, or coniferous trees, and broad-leaf or deciduous trees. Conifers have seeds that develop inside cones. Pines, spruces, hemlocks, and firs are all examples of conifers. For the most part, conifers also have needle-shaped leaves and they're evergreens. That means they don't lose all their leaves each year but instead stay green year-round. Deciduous trees such as oaks, maples, beeches, and aspens have broad flat, leaves. They lose all of their leaves each year. Some trees, however, typical conifers or deciduous trees. For example, larches have cones and needles but lose their leaves every year, yew trees have needle-shaped leaves and are evergreen but have berries and not cones, and a holly is a broad-leaf tree that's evergreen.

#### **The Shape of Things**

The overall shape of a leaf gives clues to the tree's identity. For example, willows will have long, slender leaves; cherry trees and swamp magnolias have oval-shaped leaves; and cottonwoods have triangular-shaped leaves. Similarly, fir needles tend to be flat, pine needles are rounded, and spruce needles are squarish. The shape of leaves differ in many ways. For example, the tips of leaves may be notched, pointed, rounded, tapered, and so on. And the bases of the leaves may be squared, rounded, heart-shaped, and so on.



### Margins

The edges of leaves can also provide clues to the tree's identity. For example, some leaves have teeth (serrated) along with margins, some leaves are lobed, and some leaf margins are smooth (entire).

### Textures

Some leaves are completely hairy, others have hairs on only one side, and others are completely smooth. Leaves may be thick or thin, rough or waxy.

### Simple or Compound

When most people think of leaves, they think of simple leaves. Simple leaves have only one piece to them. Maple, oak, aspen, sycamore, and many other trees have simple leaves. Compound leaves, on the other hand, are made up of several leaflets.

Ash, walnut, and sumac trees all have compound leaves.

### Leaf Arrangements

Another characteristic to identify a tree is the way its leaves are arranged on the twigs. Many trees have alternate leaves that are staggered along the twig. Other trees have opposite leaves that grow in pairs along the twig. And some leaves grow in whorls, or are whorled. The leaves on pines, spruces, firs, and other needle-leaved trees grow in patterns. For example, leaves on pines may grow in clusters of two, three, or more.

### Twiggy Clues

If you know what to look for, even leafless twigs on a tree can tell you the tree's identity (this is especially helpful when identifying deciduous trees in the winter). By looking at where the leaf scars or buds are on the twig, people can tell if the leaves grow in alternate, opposite, or whorled pattern. (Leaf scars are the places on the twigs where leaves used to be attached.) The size, color, and shape of buds can also be used to identify trees. Spines and thorns on twigs can also help identify a tree.

### Fruits and Flowers

Different trees produce different kinds of fruit, such as berries, winged seeds, nuts, pods, or some other type of fruit. Different conifers produce different kinds of cones. Different trees also have different flowers. The shape, color, texture, size, and other characteristics of the fruit, cones, and flowers can be used to identify trees.

### Bark Basics

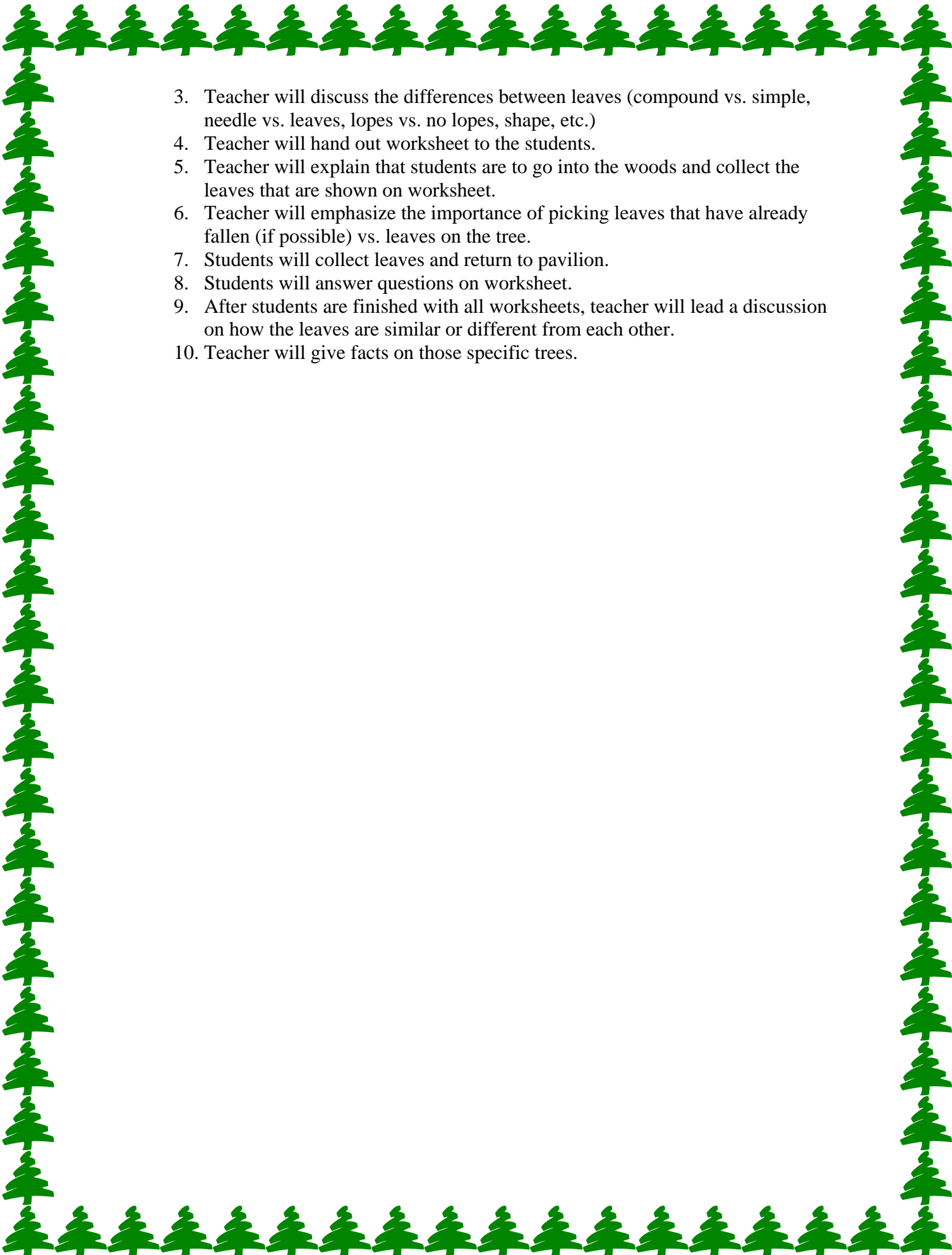
Many people can identify trees just by looking at the color and texture of tree bark. For instance, bark may be shaggy, smooth, or rough; it may have deep furrows or markings. Paper birch is an example of a tree easily identified by its white, paper-like bark. However, when using bark to identify a tree, it's best to look at bark growing on the trunk rather than on branches and twigs (because the bark on a branch is thinner and newer, it may look quite different from the trunk). Bark also looks different, as a tree gets older.

### Shaping Up

Many trees have characteristic shapes that can be used to identify them. In fact, just by glancing at the shape of a distant tree (and the color of its leaves), some people can tell what kind of tree it is.

### Activity

1. Students will brainstorm ways that trees can be identified.
2. Teacher will facilitate a discussion in hopes that students will realize that the leaves (needles) are the easiest ways to identify trees.



3. Teacher will discuss the differences between leaves (compound vs. simple, needle vs. leaves, lobes vs. no lobes, shape, etc.)
4. Teacher will hand out worksheet to the students.
5. Teacher will explain that students are to go into the woods and collect the leaves that are shown on worksheet.
6. Teacher will emphasize the importance of picking leaves that have already fallen (if possible) vs. leaves on the tree.
7. Students will collect leaves and return to pavilion.
8. Students will answer questions on worksheet.
9. After students are finished with all worksheets, teacher will lead a discussion on how the leaves are similar or different from each other.
10. Teacher will give facts on those specific trees.