Youth Activity

LEAF MATCHING

Learning Objectives

To help kids learn to observe nature closely and introduce them to the idea that you can distinguish different kinds of trees by their leaves.

Materials

Leaves from four different kinds of trees (total number of leaves should be at least the number of children participating in the activity), note cards or scrap paper, pens or markers, poster board, glue.

Activity Description

Before the activity, collect leaves — alive or dead — from a range of tree species. Depending on the amount of time you have and which activities you plan to tackle, you could have the youth help you collect leaves or put together a collection in the days prior to the event. Different types of leaves you might collect include:

- Single leaf on a stem
- Multiple leaves on a stem
- Fan-shaped leaf on a stem
- Different number of projections on the leaves (like the fingers on a hand)

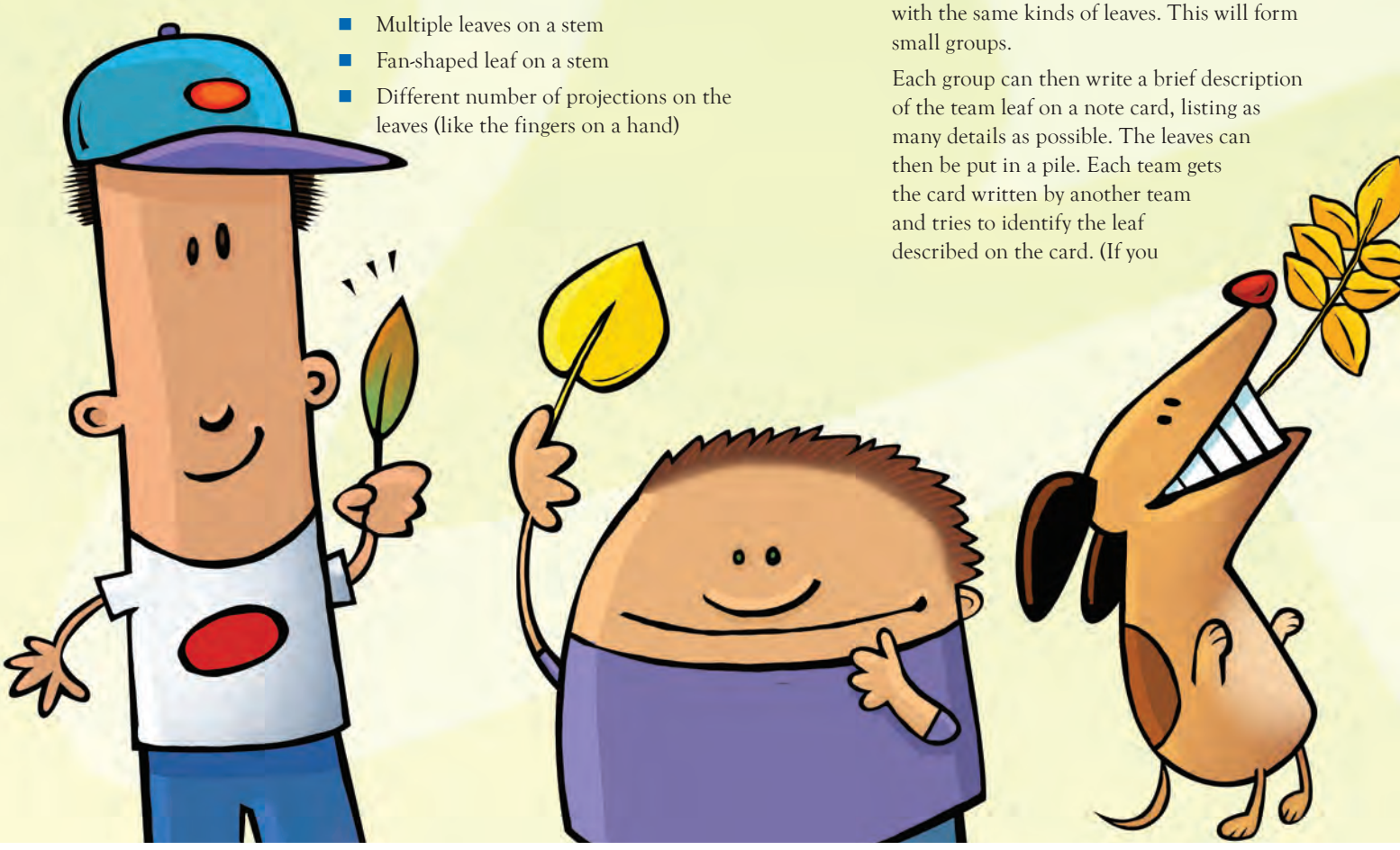
With single and multiple leaves on a stem, trees are further identified by whether the leaves appear exactly opposite from each other or alternate across the stem (for multiples) or the tree branch (for singles). If you find a branch with leaves still attached, the position of the leaves will offer additional clues to the tree species.

Although pine needles will not work for the activities described here, they still offer a great discussion point about what trees have these leaves and why. This is also an opportunity to identify poison ivy and poison oak (if you have them in your area) and explain how to identify and avoid them.

Once the leaf collection is assembled, you can use the leaves for several different activities:

- **Leaf groups.** Take equal numbers of leaves of four different kinds of trees and distribute them evenly among the kids, one leaf for each person. Have the kids then find the others with the same kinds of leaves. This will form small groups.

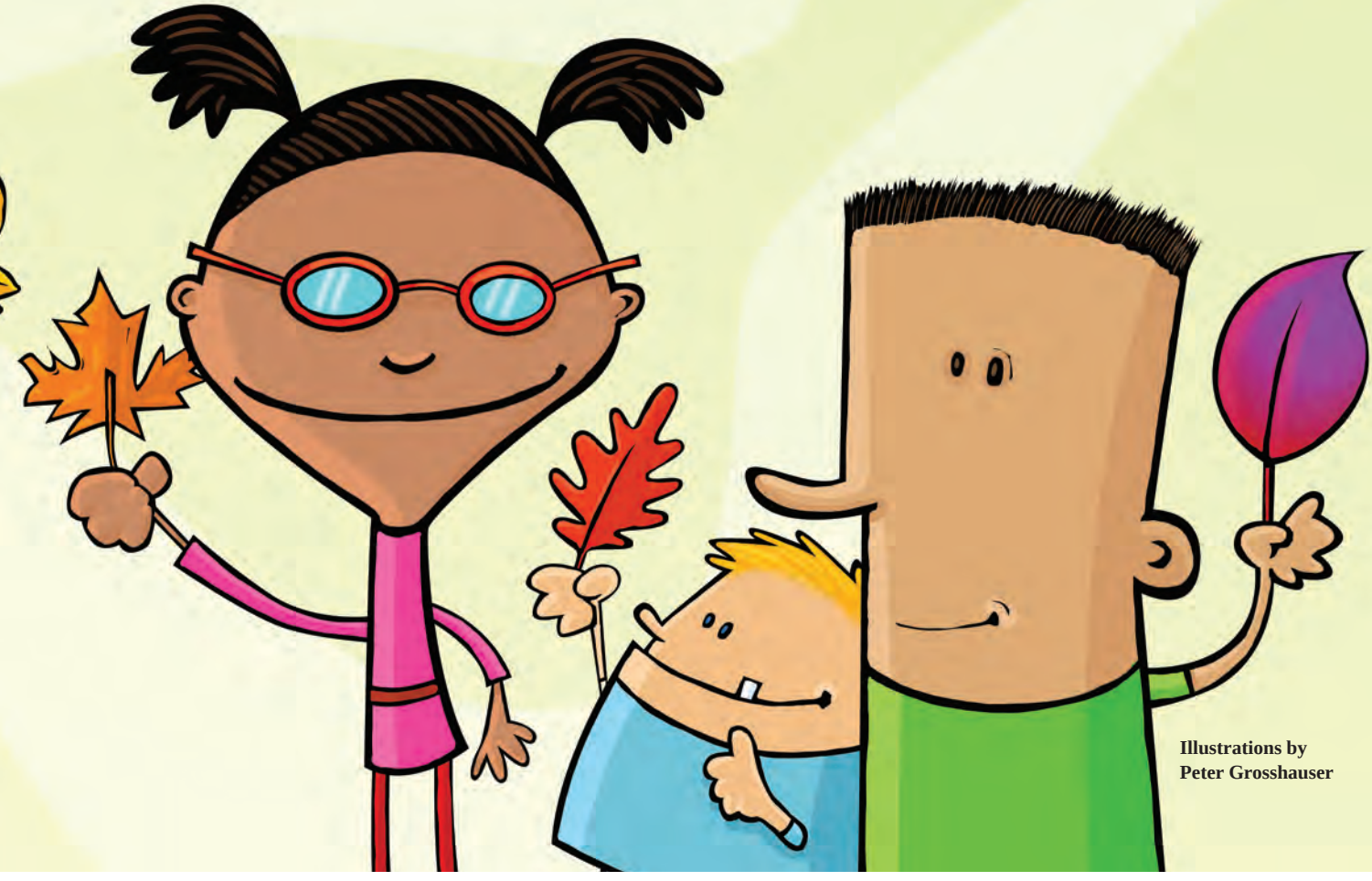
  Each group can then write a brief description of the team leaf on a note card, listing as many details as possible. The leaves can then be put in a pile. Each team gets the card written by another team and tries to identify the leaf described on the card. (If you



have only a few youth at your event, you can do this project without breaking into teams. Have each person describe his or her own leaf on a note card. Then mix up the note cards, hand them out, and let the guessing begin.)

- **Where's my leaf?** Ask each child to make an identifying mark on the bottom of his or her own leaf. Then ask the kids to return their leaves to a pile, making sure the marks are not showing. You can also combine these leaves with others to make this game a little more challenging. After stirring the leaves up a bit, ask each child to find his or her particular leaf. While the leaves are picked or after every child has found his or her own leaf, ask them to describe to the rest of the group how they knew which leaf was theirs.

- **Leaf chain.** If you do this activity during autumn, have the youth make a chain of leaves based on color gradation (e.g., starting from dark red and working their way to orange, yellow, light green, and dark green). These can be glued to white poster board. Discuss why leaves change color in autumn and fall off trees.



Illustrations by Peter Grosshauser

Estimated Time

20 to 30 minutes.

Ages

Recommended for ages 5 to 8.

For ages 9 to 11, no specific changes are needed for this activity. You could also show the youth how to use a tree field guide to identify trees to group or possibly to species. Start with distinctive trees or groups of trees such as maples, oaks, and ash. For example, it's not so important that it's a green ash or black ash but that they can at least identify to the group.

Many tree guides are difficult for kids to use, so it will be very helpful to find a guide to trees local to your area. Otherwise, *Trees (A Golden Guide)* is good for young children. The Arbor Day Foundation's online identification guide, "What Tree Is That?", is very useful if you have access to computers and the Internet.

Discussion Questions

How does each leaf differ when compared with the others?

Answer(s): *Will vary depending on availability and variety of trees and leaves on a given forested site. Encourage the youth to look at shapes, colors, the number of leaves on a stem, and whether the two sides of each leaf are symmetrical.*

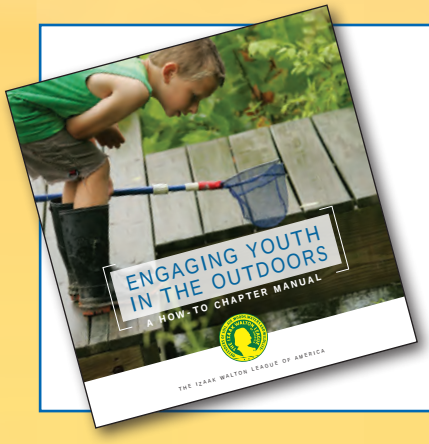
Did all of the leaves from the same tree look identical, or are there ways that they varied?

Answer(s): *Will vary depending on availability and variety of trees and leaves on a given forested site.*

If you folded the leaves in half, did the halves of any look identical? Which ones? Were there any that were not identical when folded in half? (These are known as asymmetrical leaves.)

Answer(s): *Will vary depending on availability and variety of trees and leaves on a given forested site.*

Note: *Asymmetry in leaves can be exaggerated in diseased trees, such as elm trees with Dutch elm disease.*



Want more great youth activities like this one? Check out the IWLA ***Engaging Youth in the Outdoors*** manual!

E-mail *chapters@iwla.org* to request a CD-ROM of the manual.

Why do leaves change color in the autumn and fall off trees?

Answer(s): *In the winter, there is not enough light or water for photosynthesis – the process trees use to make food from sunlight. A chemical called chlorophyll is an important part of photosynthesis. This chemical also makes the leaves green. When nights grow longer and cooler, the trees slow down the food-making process (in the winter they live off stored food). When photosynthesis stops, so does production of chlorophyll – and leaf colors are revealed. Other chemicals in the leaves are what produce the brilliant yellows, oranges, and reds we love to see in the fall.*

According to the U.S. Forest Service, certain colors are characteristic of particular tree species. For example, oaks turn red or brown and hickories turn golden bronze. The fall color of a maple tree depends on the species – red maples turn red (as the name suggests). But black maples turn yellow. Leaves on other species like elms simply turn brown and fall off the tree.

"Evergreens" are trees that never lose their leaves – usually needles rather than traditional flat leaves.

Credits

Adapted from *Nature with Children of All Ages* by Edith Sisson, The Massachusetts Audubon Society, 1982.

RELATED SOURCES

What Tree Is That? *www.arborday.org/trees/whatTree*

Why Leaves Change Colors: *www.na.fs.fed.us/fhp/pubs/leaves/leaves.shtm*

The Sibley Guide to Trees, by David Allen Sibley, Alfred A. Knopf, Inc., 2009.

Trees — Fandex Family Field Guide, by Steven Aronson, Workman Publishing, 2010.

Trees (A Golden Guide), by Alexander Martin and Herbert Zim, St. Martin's Press, 2001.