

# Activity Components

## Title

The “attention grabber” that relates to the activity’s content.

## Overview

A brief description of the activity.

## Objectives

States the content objectives targeted in the activity.

## Assessment Opportunities

Guides the educator toward assessing students’ understanding of the concepts covered in the activity and provides opportunities for students to apply the knowledge they have gained.

## Sidebar

Found on the first page of each activity, the sidebar contains the following important information for incorporating an activity into a program or curriculum.

### Levels

Indicates recommended grade levels for various parts of the activity. Activities can usually be geared up or down with slight modifications.

### Subjects

Indicates the subjects that the activity incorporates, such as mathematics, science, social studies, or language arts.

### Concepts

Lists the concepts (from the Conceptual Framework in Appendix 2) that the activity addresses.

### Skills

Lists the thinking processes and skills (from the Skills Index) that the activity develops.

### Differentiated Instruction

Lists methods for differentiating instruction suggested in the activity.

### Technology Connections

Lists the technology tools that can be used with the activity.

### Materials

Lists the materials needed to do the activity.

### Time Considerations

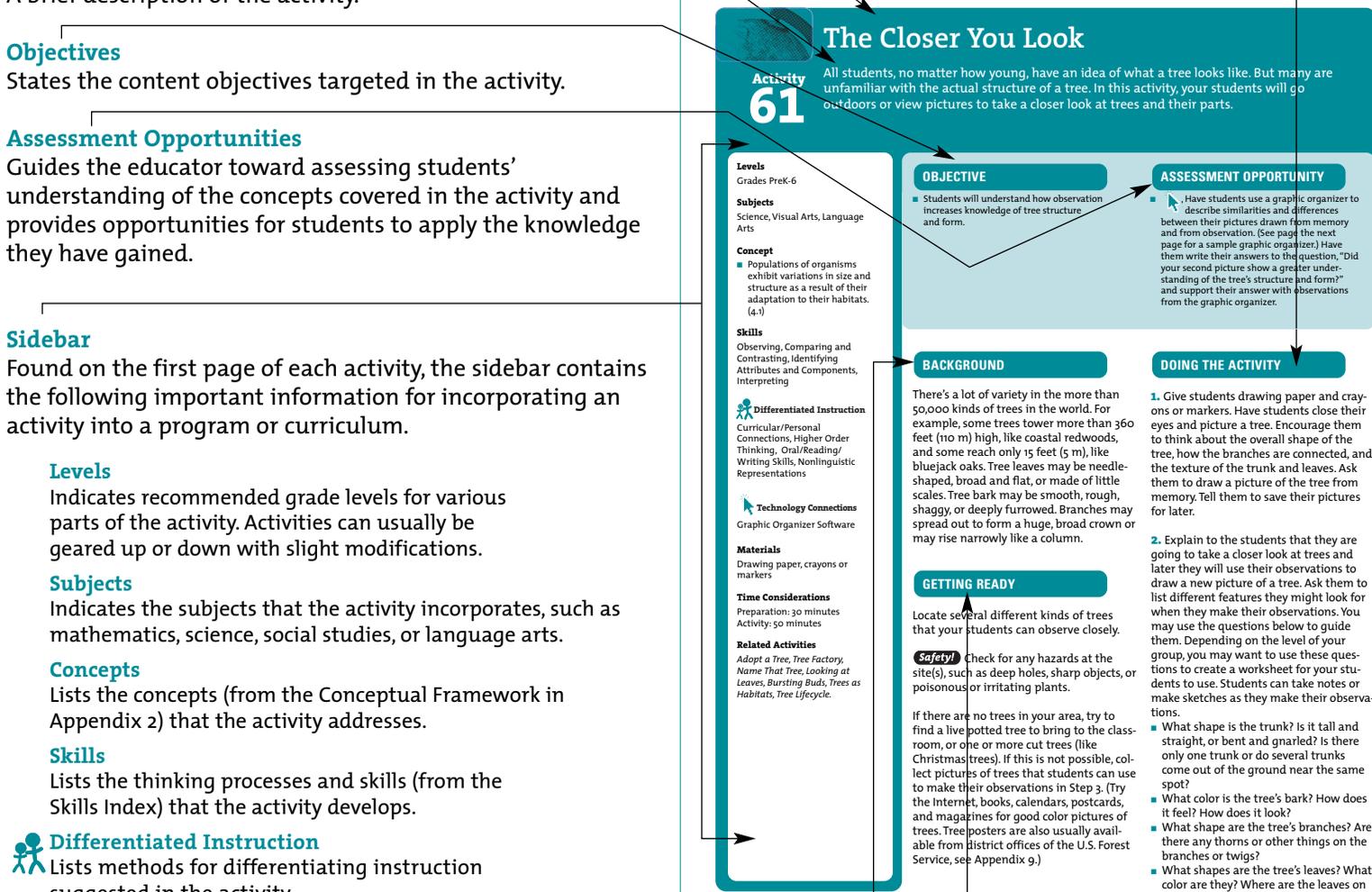
Recommends time allotments for each part of the core activity, including preparation. These are based on recommendations made by the teachers who pilot-tested the activity. Times are based on 50-minute class periods.

### Related Activities

Lists other PLT activities that address closely related topics.

## Doing the Activity

Provides step-by-step procedures for leading the activity.



**Activity 61** **The Closer You Look**  
All students, no matter how young, have an idea of what a tree looks like. But many are unfamiliar with the actual structure of a tree. In this activity, your students will go outdoors or view pictures to take a closer look at trees and their parts.

**Levels**  
Grades PreK-6

**Subjects**  
Science, Visual Arts, Language Arts

**Concept**  
Populations of organisms exhibit variations in size and structure as a result of their adaptation to their habitats. (4-1)

**Skills**  
Observing, Comparing and Contrasting, Identifying Attributes and Components, Interpreting

**Differentiated Instruction**  
Curricular/Personal Connections, Higher Order Thinking, Oral/Reading/Writing Skills, Nonlinguistic Representations

**Technology Connections**  
Graphic Organizer Software

**Materials**  
Drawing paper, crayons or markers

**Time Considerations**  
Preparation: 30 minutes  
Activity: 50 minutes

**Related Activities**  
*Adapt a Tree, Tree Factory, Name That Tree, Looking at Leaves, Bursting Buds, Trees as Habitats, Tree Lifecycle.*

**OBJECTIVE**  
Students will understand how observation increases knowledge of tree structure and form.

**ASSESSMENT OPPORTUNITY**  
Have students use a graphic organizer to describe similarities and differences between their pictures drawn from memory and from observation. (See page the next page for a sample graphic organizer.) Have them write their answers to the question, “Did your second picture show a greater understanding of the tree’s structure and form?” and support their answer with observations from the graphic organizer.

**BACKGROUND**  
There’s a lot of variety in the more than 50,000 kinds of trees in the world. For example, some trees tower more than 360 feet (110 m) high, like coastal redwoods, and some reach only 15 feet (5 m), like bluejack oaks. Tree leaves may be needle-shaped, broad and flat, or made of little scales. Tree bark may be smooth, rough, shaggy, or deeply furrowed. Branches may spread out to form a huge, broad crown or may rise narrowly like a column.

**GETTING READY**  
Locate several different kinds of trees that your students can observe closely.

**Safety!** Check for any hazards at the site(s), such as deep holes, sharp objects, or poisonous or irritating plants.

If there are no trees in your area, try to find a live potted tree to bring to the classroom, or one or more cut trees (like Christmas trees). If this is not possible, collect pictures of trees that students can use to make their observations in Step 3. (Try the Internet, books, calendars, postcards, and magazines for good color pictures of trees. Tree posters are also usually available from district offices of the U.S. Forest Service, see Appendix 9.)

**DOING THE ACTIVITY**  
1. Give students drawing paper and crayons or markers. Have students close their eyes and picture a tree. Encourage them to think about the overall shape of the tree, how the branches are connected, and the texture of the trunk and leaves. Ask them to draw a picture of the tree from memory. Tell them to save their pictures for later.  
2. Explain to the students that they are going to take a closer look at trees and later they will use their observations to draw a new picture of a tree. Ask them to list different features they might look for when they make their observations. You may use the questions below to guide them. Depending on the level of your group, you may want to use these questions to create a worksheet for your students to use. Students can take notes or make sketches as they make their observations.  
What shape is the trunk? Is it tall and straight, or bent and gnarled? Is there only one trunk or do several trunks come out of the ground near the same spot?  
What color is the tree’s bark? How does it feel? How does it look?  
What shape are the tree’s branches? Are there any thorns or other things on the branches or twigs?  
What shapes are the tree’s leaves? What color are they? Where are the leaves on

## Getting Ready

Describes how to prepare for teaching the activity.

## Background

Contains relevant information that provides the teacher with an understanding and perspective for engaging the class in the activity. Bold italicized words appear in the Glossary, Appendix 1.

## Variations

Many of the activities provide alternative procedures for doing the activity. These have similar objectives to the core activity, but appeal to different age levels, learning styles, audiences, situations, or concerns.

## Enrichment

Many of the activities contain recommendations for exercises that enrich or extend the learning experience in the activity.

### Sample Graphic Organizer

Structure	Tree from Memory	Tree from Observation
Trunk shape		
Bark color, texture, look		
Branches—shape, pattern, texture		
Leaves—shape, texture, color		
Leaf attachment		
Seeds, fruits, flowers, nuts, or cones		
Shape of trees		
Plants or animals on tree		

second picture radically different from the first? Have students compare and contrast drawings done by different students. What characteristics were similar?

### Enrichment

- Have students make bark or leaf rubbings of the trees they examined. Students can create a new picture of their tree (or add to the one made in Step 4) using rubbings of the tree's parts; attaching actual flowers, nuts, or seeds from their trees; or using parts of the tree such as bark, fruit, or flowers to color their picture by rubbing the parts against the paper so that their natural color comes off.

**Safety!** Whenever possible, have students use leaves, seeds, or other tree parts that they find on the ground to make their rubbings, rather than picking those items off the tree.

- Have students make a model of a tree using construction paper, toilet paper rolls, straws, aluminum foil, tissue paper, and the like. Students should include and label all the tree parts they've learned about. Encourage them to be as creative as possible while still being accurate.

- Follow up this activity with a creative writing exercise in which students describe the tree they chose to draw and why they chose it.

together. Have the children use their bodies to bend and twist like the branches, flutter around like the leaves, stand straight and tall like the trunk, or mimic other characteristics of the trees you examine.

- When the students have finished their observations, have them draw a second tree picture. Encourage them to include as much detail as they can.

- Hang each student's pair of drawings (from steps 1 and 4) around the room. Let students walk around as they compare and contrast each pair of drawings. What new details, for example, appeared in the second drawing? Was anyone's

the tree's branches? (Only at the tips? All along the branches?) Do leaves grow in groups or singly? How do they feel?

- Are there any seeds, flowers, fruits, nuts, or cones on the tree?
- What shape is the tree's crown as a whole? (Round, pointy, shapeless, oval?)
- What other plants or animals live on or in the tree?

- Take the students outside and have them examine the trees you located in "Getting Ready," or have them examine the tree pictures you collected. (Encourage students to pick a tree that is similar to the one they drew in Step 1.)

- Lead students to one or more trees and examine the trees

### READING CONNECTIONS

Bishop, Nic. *Forest Explorer: A Life-Sized Field Guide*. Scholastic, Inc. 2004. Depicts in detail several different deciduous forest habitats, with field notes about the insects and animals shown, as well as tips on how to explore a real forest. Grades 1-4. ISBN: 0439774805.

Brenner, Barbara. *One Small Place in a Tree*. HarperCollins Publishers. 2004. A child

visitor observes as one tiny scratch in a tree develops into a home for a variety of woodland animals over many years, even after the tree has fallen. Grades K-3. ISBN: 068879800X.

Dornos, Arthur. *A Tree is Growing*. Scholastic. 1997. Tells about the structure of trees and how they grow, as well as their uses. Grades K-3. ISBN: 0590453009.

Hiscock, Bruce. *The Big Tree*. Atheneum Books - MacMillan. 1991. Follows the development of a large old maple tree from its growth as

a seed during the American Revolution to its maturity in the late twentieth century. Grades 4+. ISBN: 1563978105.

Markle, Sandra. *Outside and Inside Trees*. Simon and Schuster. 1993. Discusses various parts of trees and their functions, including the bark, sapwood tubes, roots, and leaves. Grades K-3. ISBN: 0027623130.



## Reading Connections

Lists books that are relevant to the activity. Additional books are listed at [www.plt.org](http://www.plt.org).

## Student Pages

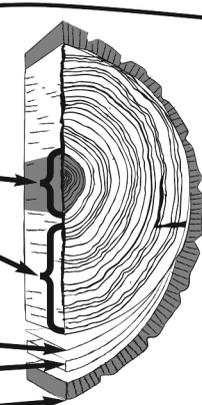
Many of the activities include copyright-free student pages.

**Student Page**

## Reading Tree Cookies

**Tree Cookie Parts**

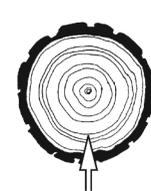
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_



**Cookie Clues: What happened to the tree where the arrow is?**



6. \_\_\_\_\_



7. \_\_\_\_\_



8. \_\_\_\_\_

Activity 36 • Tree Cookies
Project Learning Tree • PreK-8 Activity Guide  
© American Forest Foundation



# A Peek at Packaging

## Activity 83

Nearly everything we buy comes in some sort of package. Packaging, made from a variety of *renewable* and *nonrenewable resources*, is necessary to protect an item, keep it fresh, make it tamper-proof, and make the item easy to transport and store. In this activity, students will examine the pros and cons of different packaging strategies.

### Levels

Grades 5-8

### Subjects

Science, Social Studies, Visual Arts

### Concepts

- Our increasing knowledge of the Earth's ecosystems influences strategies used for forest management and environmental stewardship. (5.5)
- Consumers "drive" the marketplace with their demand for goods and services. Such demand shifts with time and may have positive or negative effects on the availability of natural resources and environmental quality. (5.9)
- Industries usually respond to consumer demand for recyclable, recycled, or otherwise environmentally friendly products. (5.10)

### Skills

Observing, Classifying and Categorizing, Evaluating, Formulating Questions, Analyzing

### Materials

Samples of different kinds of packaging (either unopened containers or those that have been emptied and washed) that demonstrate different packaging purposes, copies of "Consumer Choices" student page, consumer products students bring from home (see Getting Ready)

### Time Considerations

Preparation: 20 minutes  
Activity: 45 minutes

### Related Activities

*Resource-Go-Round; We All Need Trees; Pollution Search; Reduce, Reuse, Recycle*

### OBJECTIVE

- Students will identify different purposes of packaging, the pros and cons of certain packaging, and which packaging is recyclable and biodegradable.

### ASSESSMENT OPPORTUNITY

- Have students create an ideal package for one of the products they evaluated. Have students draw or create the packaging out of art materials (paper, cardboard, foam, etc.) or recycled

- home and school items (newspaper, greeting cards, used wrapping paper, etc.). Then have them make a presentation on why their package suits their product. Presentations can be written or oral. Evaluate the proposed package.
  - Does it address health concerns (for freshness and tampering)?
  - Can it be reused or recycled?
  - Is it biodegradable?
  - Does it have enough labeling to satisfy the manufacturer and the consumer?
  - Is it convenient for shipping and shelf display?
  - Can the product, as packaged, be conveniently used by the consumer?

### BACKGROUND

At the most basic level, packaging is needed to hold items together in the size or amount desired for purchase. The concept behind product packaging has evolved over time, changing to fit the needs or demands of consumers as much as to fit the economic demands on manufacturers. The earliest forms of packaging were animal skins, earthenware vessels, and woven baskets. Glass bottles, fired clay amphorae, and finished leather were developed between 2,500 and 3,500 years ago. Packaging as we know it in the late 20th century is relatively new, having had its start with the advent of economically efficient packaging machinery in the latter part of the 19th century.



In addition to its basic role of holding goods together, packaging also protects, preserves, and eases the distribution of many of the products we buy. The very nature of the products we consume dictates the kind of materials used in the packaging process. Canning certain food items and other perishables assures maximum shelf-life and freshness; paper milk cartons or plastic jugs allow for easy pouring and storage; plastic boxes with shrink-wrap packaging for items like compact discs allow for maximum display in a minimum amount of space; large cardboard boxes of laundry detergent help consumers purchase in bulk items that will be used often. In many instances (such as for food and health care products) packaging prevents contamination and provides tamper-proof protection for the consumer. Packaging also provides a convenient surface for displaying important consumer information as well as advertising space for the manufacturer.

Manufacturers and consumers have become more aware of the impact of packaging on the environment, as well as the conservation of natural resources, energy, and waste management.

Some companies are changing the materials used in their packaging; others have

reduced, or even eliminated packaging of some products; still others are increasing the amount of recycled material used to make their packaging.

In many instances, the need for packaging, and the kind of materials used in packaging, are self-evident (such as baby food in small, easy-to-use, product-preserving glass jars). Sometimes, however, it may be difficult to understand why a certain package has been used (a tall box of cereal may be only two-thirds full due to the settling that occurs during shipping). Students should be prepared to ask informed questions about packaging and make responsible purchasing decisions based on an analysis of the information. The following activity will help them compare packaging practices and choose wisely the kind of products and their packages that best suit their needs as consumers.

### GETTING READY

Bring in examples of different kinds of packaging used for different purposes, such as advertising, freshness, tamper prevention, and convenience (products may still be in their packages).

Make copies of the student page for each team.

### DOING THE ACTIVITY

1. Ask students to bring two consumer product packages from home. You might suggest that they find one that they feel is properly packaged, and

one that they feel is insufficiently or overly packaged. Products may be unopened in their original packaging material, or in clean, empty containers.

**Safety!** Point out that students should not bring in any dirty or unsafe containers (such as opened cans with sharp edges) or hazardous products (such as household cleaners). Keep a box by the door for collecting the products and go through them for safety before handing them out for the activity.

2. Have students work in teams and select three to five items to evaluate.

3. Give each team a copy of “Consumer Choices” student page for each item they will evaluate.

4. Set out the examples of packaging that you brought in. Ask students why they think each product is packaged the way it is (cost, ease in shipment, public health, protection from damage). Ask them what the pros and cons are of each package in terms of protection, bulkiness, tamper resistance, recycled materials, and so forth.

5. Have teams work together to complete the questions on the student page. Point out how to tell whether a product is made from recycled material. (Look for recycled sign.)

6. Have each team share its analysis of one product with the rest of the group. You might suggest that team members separate their examples into two categories, one for packaging they think could be improved (by changing the design or material; by adding or eliminating material; etc.) and one for packaging that seems fine the way it is.

### Enrichment

■ Take a trip to a local supermarket for a “Supermarket Safari” in which students try to find at least one item that fits into each category of packaging: (1) packaged well; (2) packaged poorly; (3) packaged primarily to attract the consumer (packaging that is pretty, colorful, fancy, etc.); (4) packaged in bulk; (5) packaged with material that has been recycled; (6) packaged with material that is recyclable; and (7) packaged in something reusable by the consumer.



### READING CONNECTIONS

Sailer, John. *A Vogt For The Environment*. Book Publishing Co. 1995. Relates how Tanja Vogt convinced McDonald's, as well as businesses and schools in her area, to stop using styrofoam. Grades 6+. ISBN: 0913990345.

Sullivan, George E. *How Do They Package It?* Westminster John Knox Press. 1976. Traces the evolution of modern containers. Anecdotes about various packages such as the tea bag, consumption statistics, and environmental concerns are also included. Grades 6+. ISBN: 0664326013.

Wheeler, Jill C. *Food We Eat (We Can Save the Earth)*. ABDO. 1991. Describes how producing and packaging different foods affect our environment and ourselves. Grades PreK-3. ISBN: 1562390333.



## Consumer Choices

OBSERVE your product closely. DISCUSS the following questions with your team. ANSWER the questions as best you can using your team's knowledge and the information given on your product.

PRODUCT NAME: \_\_\_\_\_

TYPE OF PRODUCT: \_\_\_\_\_

LOCATION OF PRODUCER: \_\_\_\_\_

SHIPPING DISTANCE: \_\_\_\_\_

NET WEIGHT OF CONTENTS: \_\_\_\_\_



1. Describe all parts of the packaging.
2. What materials make up the packaging? (How much of it is paper? Plastic? Glass? Metal? Other?)
3. Is the product or its packaging made of recycled materials? How do you know?
4. After the product has been used, what is thrown away?
5. Can the packaging be recycled in your community? How do you know?
6. What purposes does each piece of the packaging serve (portion size, health, safety, freshness, nutrition information, anti-theft, advertising, or other purposes)? How do you know?
7. How would you improve the packaging of this product?