

## Forest Activity: Creating a Leaf Collection and Classroom Herbarium

**Objective:** Students will be able to identify and categorize leaves they collect from trees outdoors by consulting the Herbarium Collection online database and photo gallery, the Illinois Forest Module's tree lists, field guides, and the links from this site to tree identification sites; (middle/junior) and be able to discuss how the form of a leaf reflects its adaptation to its environment.

**Grade Levels:** early elementary to early high school, adjusting sophistication of labeling and identification.

**Time Required:** field trip to collect leaves (playground, home, or field trip); pressing in a press or large book with tissue paper for a week; one class period for reading, sorting examples, online sources; turns on the computer making labels; one class period to organize and mount samples after pressing.

### Museum's Web site:

*Forest, Present Day, Tree Guide*

<http://www.museum.state.il.us/muslink/forest/htmls/trees.html>

*Herbarium Collection*

<http://www.museum.state.il.us/ismdepts/botany/collections/>

### Other Web sites:

*Missouri Botanical Garden* site's section on Deciduous forests, Leaf identification by characteristics.

<http://www.mobot.org/pfg/diverse/temp/leafid.htm>

*Hillview School, Vernon, British Columbia's* web site with tree identification section

<http://www.sd22.bc.ca/hillview/treeid.htm>

*Virginia Tech's* outreach web site on forestry; tree identification section

<http://www.fw.vt.edu/dendro/Forsite/Idtree.htm>

*Familyeducation.com* page on Flower and leaf press made from an old phone book.

<http://www.familyeducation.com/article/0,1120,1-9891,00.html>

Disney on line's *Familyplay.com* activity on making a leaf and flower press of wood and cardboard

<http://www.familyplay.com/activities/flowerpress.html>



**Materials:**

leaves collected on field trip or from neighborhood in plastic bag  
note paper  
pencil  
old phone book, large dictionary or other leaf press  
paper towels or napkins in which to press leaves  
white card stock or construction paper  
white glue  
word processor  
printer or copier labels

**Procedure:****Elementary** students will:

- Each bring in a tree leaf collected from home or the class will collect from trees on the school grounds and talk about the trees (How do we know this is a tree? What are the parts of a tree?). (Teacher will identify leaves to prepare for discussion).
- Participate in a teacher-led class discussion and identification of leaves based on the shapes of the leaves. (Using Web site tree list and treeidentification sites' illustrations).
- Press the leaves in a large book or press. Glue the leaves on a piece of construction paper. Write the name of the tree on each. Exhibit and review the types of trees found nearby that are in their class-room herbarium

**Middle School to High School** students will:

- read pertinent information about deciduous forest of Illinois on Museumlink Forest web site and other links, noting the format of the Herbarium specimen pages.
- collect leaves from trees on field trip or from neighborhood with permission of the owner (5 each). Note on paper the original location of each leaf, and how the leaves are attached to the branch (alternate or opposite)
- press leaves for one week at school between the pages of a leaf press made for the occasion
- (Teacher will choose a few leaves for whole class discussion to summarize leaf identification procedure on web sites and use of vocabulary for students.)
- use the tree and leaf identification web sites and tree list section of Museumlink Forest site to identify their leaves and write down their characteristics ([http://www.museum.state.il.us/muslink/behind/htmls/cr\\_bot\\_col.html#](http://www.museum.state.il.us/muslink/behind/htmls/cr_bot_col.html#))
- type up the descriptions of the identification on a word processor and print them on label paper
- mount each leaf onto card stock with dots of white glue (or use 1/4" non-acid framer's tape)
- attach the appropriate label to each herbarium page
- exhibit the leaf collection for others to see
- keep the collection as a class herbarium.

**Assessment:**

Students should check their own and others' work for accuracy of terminology and for completeness. A complete herbarium sheet should have name of leaf, name of person who collected it, location of collection, date of collection, description of leaf and/or plant.

**Illinois Goals and Standards addressed:**

- **Goal 12:** Understand the fundamental concepts, principles, and interconnections of the life, physical, and earth/space sciences.
- **Standard 12.A:** Know and apply concepts that explain how living things function, adapt, and change.
- **Early Elementary: 12.A.1b:** Categorize living organisms using a variety of observable features.
- **Middle/Junior High: 12.A.3c:** Compare and contrast how different forms and structures reflect different functions.

**Sample Herbarium Label**

Name of Tree; *Sweet Gum*

Name of Collector: *Amy Smith*

Location collected: *301. S. Main St., Alton, Illinois*

Date: *Sept. 30, 2000*

Characteristics of leaf: *alternate, simple, star-shaped, toothed (serrate)*

Herbarium Specimen Number \_\_\_\_\_