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# 4-H FORESTRY PROJECTS

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## TREES IN YOUR BACKYARD



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Tech

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AND STATE UNIVERSITY



VIRGINIA STATE UNIVERSITY

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# **4-H FORESTRY PROJECTS**

## **BOOK ONE: TREES IN YOUR BACKYARD**

by Jeff Kirwan, Extension Specialist, Virginia Tech, College of Natural Resources

### **WHAT'S INSIDE:**

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**ACTIVITY 3. USING A KEY TO IDENTIFY TREES**

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**ACTIVITY 6. NOMINATING A BIG TREE**

**ACTIVITY 7. IDEAS FOR EXHIBITS, PRESENTATIONS, COMMUNITY SERVICE**

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### **HELPFUL WEB SITES**

For tree identification:

[www.fw.vt.edu/dendro/forsite/welcome.htm](http://www.fw.vt.edu/dendro/forsite/welcome.htm)

For Virginia 4-H Projects and Activities:

[www.ext.vt.edu/resources/4h/eenr.html](http://www.ext.vt.edu/resources/4h/eenr.html)

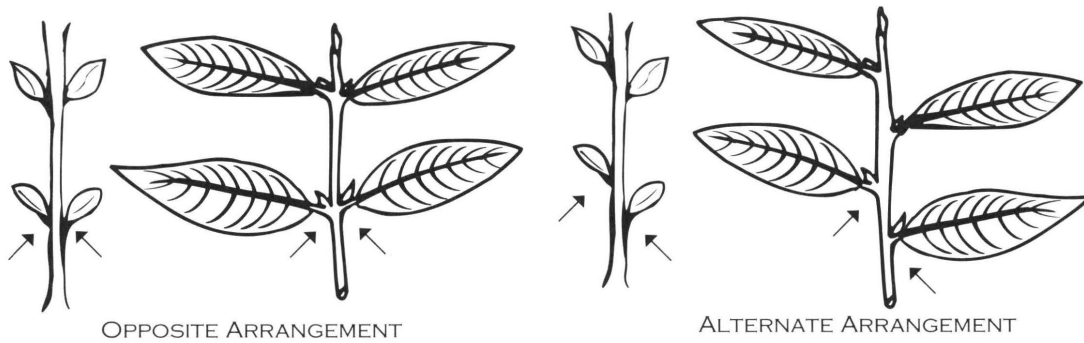
### **NOTE TO PARENTS:**

This project introduces youth to the study of trees by having them look at the leaf characteristics of trees in their backyard or nearby forest. The illustrations in this book represent 22 of the most common trees in Virginia. Youth may want to purchase or borrow a tree identification guide to help with some of the less common species.

ACTIVITY 1

# LOOKING AT LEAVES - BROAD-LEAVED TREES

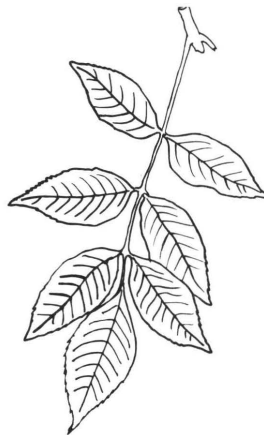
Step 1. Look at the arrangement of buds and leaves on a stem. Learn to recognize the difference between opposite and alternate arrangement.



There are only three major trees in Virginia that have opposite arrangement. Think of the word "MAD" for Maple, Ash, and Dogwood.



MAPLE

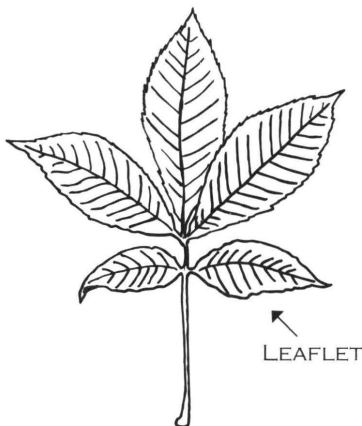


ASH



DOGWOOD

Step 2. Learn to recognize the difference between simple and compound leaves. Simple leaves have a single blade emerging from one bud. Compound leaves have three or more leaflets emerging from one bud.



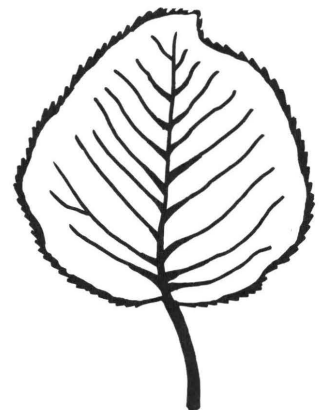
COMPOUND  
HICKORY



DOUBLE-COMPOUND  
HONEY LOCUST

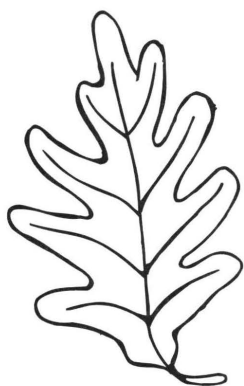


SIMPLE  
TULIP TREE



SIMPLE  
FLOWERING PEAR

Step 3. You will also need to recognize leaf lobes and their shapes.



ROUNDED LOBES  
WHITE OAKS



ROUNDED LOBES  
SASSAFRAS



POINTED LOBES  
RED OAKS



POINTED LOBES  
SWEET GUM



NO LOBES  
WILLOW OAK

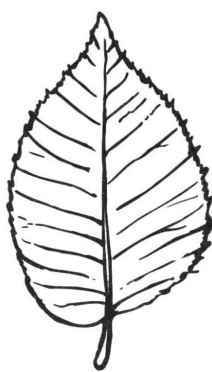
Step 4. Look at the edges, or margins of a leaf. Many leaves are toothed, or serrated. Others are not.



BEECH



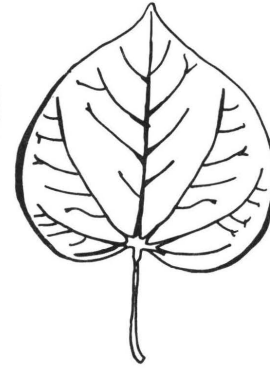
SERRATED  
BLACK CHERRY



ELM



NON-SERRATED  
BLACKGUM OR  
TUPELO



REDBUD

## ACTIVITY 2

### LOOKING AT LEAVES - CONIFERS

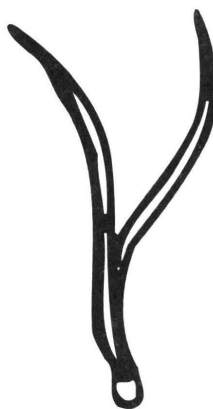
Most conifers have needle-like leaves and are evergreen. The fruit of conifers is a cone, which is actually a "stage" for releasing seeds. To identify conifers, look at the form and number of needles.



NEEDLES SCALE-LIKE  
EASTERN RED CEDAR



SINGLE NEEDLES  
EASTERN HEMLOCK



2 NEEDLE CLUSTER  
VIRGINIA PINE  
(1.5"-3" NEEDLES)



3 NEEDLE CLUSTER  
LOBLOLLY PINE  
(6"-9" NEEDLES)



NEEDLE CLUSTERS  
WHITE PINE

### ACTIVITY 3

## USE THIS KEY TO IDENTIFY SEVERAL TREES

### KEY TO LEAVES OF VIRGINIA TREES

#### I. LEAVES BROAD; DEFINITELY NOT NEEDLE-LIKE OR SCALE-LIKE; MOSTLY DECIDUOUS

- A. Leaves, buds, branches have opposite arrangement - **maple, ash, dogwood**
- B. Leaves, buds, branches have alternate arrangement
  - 1. leaves are compound - **walnut, hickories, locust**
  - 2. leaves are simple
    - a. leaves have rounded lobes - **white oaks, sassafras, mulberry**
    - b. leaves have pointed lobes - **red oaks, sycamore, sweet gum, holly**
    - c. leaves have no lobes
      - i. leaves have smooth (entire) margins - **willow oak, live oak, paw-paw, redbud, tupelo, persimmon, magnolia**
      - ii. leaves have toothed margins - **willow, birch, true poplars, birch, hornbeam, chestnut, elm, hackberry, cherry, sourwood, basswood**

#### II. LEAVES NEEDLE-LIKE (PINES) OR SCALE-LIKE (CEDAR)

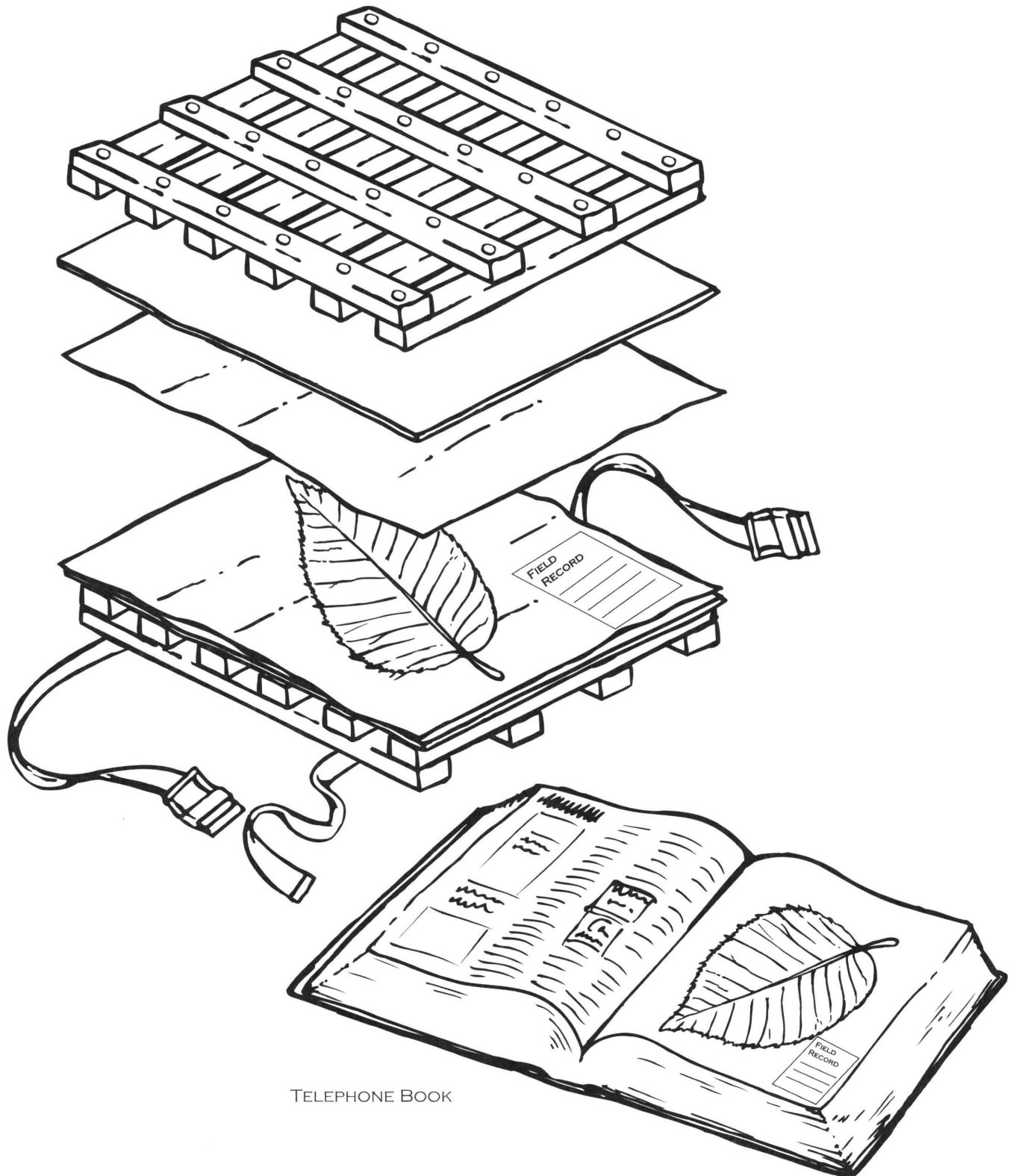
- A. needles in clusters or bundles (pines)
  - 1. 5 needle clusters - **white pine**
  - 2. 3 needle clusters - **loblolly pine**
  - 3. 2-3 needle clusters - **short-leaf pine**
  - 4. 2 needle clusters - **Virginia pine**
- B. needles appear singly, not in clusters
  - 1. needles 4-sided, roll between fingers - **spruce**
  - 2. needles 2-sided, do not roll - **eastern hemlock**
  - 3. needles feather-like, found growing in swamps - **baldcypress**
- C. needles are scale-like, overlapping to make branches that look flat.
  - 1. fruit a berry-like cone - **redcedar**
  - 2. fruit like a small pine cone - **white cedar**

## ACTIVITY 4

# MAKING A LEAF COLLECTION

### Making a leaf collection

A leaf collection is easy to make and does not injure a tree as long as you are careful to remove only one or two leaves. To make a collection for display, you will need to dry your leaf for several days in a flat position, then glue your leaf to heavy paper. Serious students and professionals use a leaf press to dry their leaves, but you can use a telephone book. Be sure to complete a field record for each tree you identify.



Copy this page so that you will have enough Field Records to complete your project.

## FIELD RECORD

Common name:

\_\_\_\_\_

Date:

\_\_\_\_\_

Location:

\_\_\_\_\_

Where collected:

- woods    yard    near stream or river  
 hillside    other

Notes:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## FIELD RECORD

Common name:

\_\_\_\_\_

Date:

\_\_\_\_\_

Location:

\_\_\_\_\_

Where collected:

- woods    yard    near stream or river  
 hillside    other

Notes:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## FIELD RECORD

Common name:

\_\_\_\_\_

Date:

\_\_\_\_\_

Location:

\_\_\_\_\_

Where collected:

- woods    yard    near stream or river  
 hillside    other

Notes:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## FIELD RECORD

Common name:

\_\_\_\_\_

Date:

\_\_\_\_\_

Location:

\_\_\_\_\_

Where collected:

- woods    yard    near stream or river  
 hillside    other

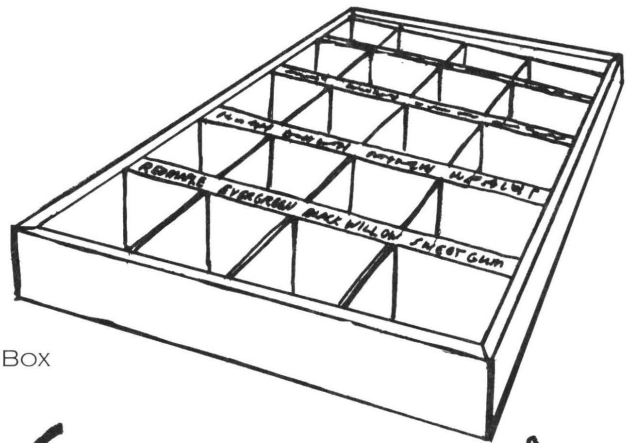
Notes:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

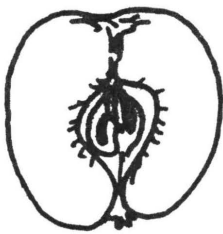
**ACTIVITY 5**

**MAKING A SEED COLLECTION**

Most seeds ripen in the fall, but some can be collected in spring and summer. Try to get as many types of seeds as you can. Use an "organizer" box to keep your seeds separated. Label each type of seed with the common name of the tree that produced it.



ORGANIZER BOX



POME  
WILD CRAB APPLE



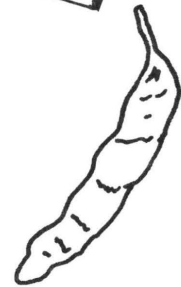
DRUPE  
CHERRY



MULTIPLE FRUIT OF  
SMALL DRUPES  
RED MULBERRY



BERRY  
PERSIMMON



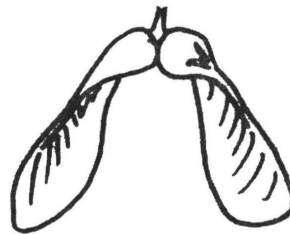
LEGUME  
BLACK & HONEY LOCUST



SAMARA  
ASHES, ELMS  
MAPLES



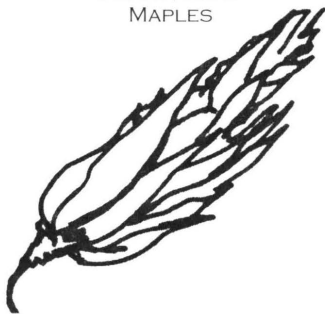
SAMARA  
SLIPPERY ELM



DOUBLE SAMARA  
SUGAR MAPLE



CAPSULES  
MOUNTAIN LAUREL & WILLOW



GROUP OF SAMARAS  
YELLOW POPLAR



STROBILE: WINGED NUTLET  
GRAY BIRCH



GROUP OF FOLLICLES  
MAGNOLIA



NUTLET  
HORNBEAM



NUT (DEHISCENT HUSK)  
HICKORY



NUT (INDEHISCENT)  
OAK ACORN



MULTIPLE (HEAD OF NUTLETS)  
SYCAMORE



CONE  
HEMLOCK



ACTIVITY 6

# NOMINATING A BIG TREE



18 USC 707

## 4-H MEMBER BIG TREE REPORT FORM

You can report a big tree online or by filling out the form below and mailing to:

Extension Specialist, 4-H  
College of Natural Resources (0324)  
Virginia Tech  
Blacksburg, VA 24061

Name: \_\_\_\_\_

E-mail: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

County where tree is found: \_\_\_\_\_

Species (scientific name): \_\_\_\_\_

Species (common name): \_\_\_\_\_

Circumference at 4.5 ft to nearest half inch: \_\_\_\_\_

Date measured: \_\_\_\_\_

Property owner's name: \_\_\_\_\_

Location of the tree:(provide directions from the nearest state road intersection): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Visit the 4-H big tree website: <http://www.fw.vt.edu/4h/bigtree/youth.html>

## ACTIVITY 7

# IDEAS FOR EXHIBITS, PRESENTATIONS AND COMMUNITY SERVICE

## EXHIBITS

- Collection of nuts, fruits and seeds of trees
- Leaf collection (dried, and pasted on paper)
- Wood samples (blocks of wood, labeled)
- Photographs (compare bark or shape of trees)
- Drawings (compare trees growing in different environments, or at different ages)

## PRESENTATIONS

- "The 10 most important trees of \_\_\_\_\_ County"
- "How to identify trees" (show examples of opposite vs. alternative, simple vs. compound)
- "How trees are used" (show examples of paper, lumber, veneer, plywood, etc.)
- "The pines of Virginia" (do a combination of identification and uses)
- "The white oak tree" (tell all you know about one species)

## CITIZENSHIP

- Keep a scrapbook that illustrates the value of trees to people, and show it to others.
- Read a book about trees to a younger audience.
- Donate a leaf/seed/photo collection to a library or teacher.
- Identify the trees at your school for nature study.
- Help organize or conduct an Arbor Day activity.
- Draw a poster about trees or forests, and exhibit it in a public place.
- Take your club members for a hike and show them how to identify trees.
- Assist with teaching a nature class at camp.
- Make a video about trees, and show it to a group.
- Lead a tree walk at vacation bible school or church school.
- Nominate a big tree.

**ACTIVITY 8**

**4-H TREE IDENTIFICATION PROJECT RECORD**

Your Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Name of your School or 4-H Club \_\_\_\_\_

**PART A. NOTE THE NAME, LOCATION, AND DATE OF ANY TREES YOU LEARN TO IDENTIFY**

<b>Name of tree</b>	<b>Location of tree</b>	<b>Date</b>	<b>Notes</b>
Ex. <u>White oak</u>	<u>my back yard at home</u>	<u>9/15/01</u>	<u>acorns on ground</u>
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____

**PART B. COMPLETE AT LEAST ONE OF THE FOLLOWING ACTIVITIES.**

<b>Activity</b>	<b>Date Completed</b>
1. Exhibit your collection of leaves, fruits, or other items	_____
2. Give a presentation on tree identification or forestry.	_____
3. Do a citizenship activity related to forestry.	_____

**PART C. MY 4-H STORY**

On a separate sheet of paper, write about your experiences in this project. Tell us things like how you selected your trees for study, and what books or resources you used to identify them. Also tell us what trees were hard to identify, and how you solved any problems. Finally, tell us how you communicated with others when you were learning about trees and having your work checked by an adult. Did you say, "thank you" to those who helped you?

Signature of 4-H Leader or forester \_\_\_\_\_

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