

## **Dendrology (Tree Species ID)**

### Unit Outline

1. Project Team Members: Robert Born & Dwayne Kaufman
2. Title of Course: Introductory Forest Management
3. Title of Unit or Project: Dendrology (tree species ID)
4. Approximate length of Unit or Project: 15-20 instructional periods
5. Brief description of the Unit or Project with an expected final outcome:

Students will work as a class-size unit as well as in small groups to become proficient in observing tree characteristics to facilitate species identification.

6. Major Goals of Unit:

Students will be able to identify most common tree species by observing :

- a. leaf characteristics
- b. bark characteristics
- c. flower, fruit, or nut characteristics
- d. bud characteristics
- e. tree form and growth habits

7. Sequence of balanced and integrated activities for students:

**Vocabulary terms**--Become proficient in the use of vocabulary terms which relate to characteristics for tree identification. (**Rubric #1**: Quiz: [paper & pencil] word bank with extra words)

**Dichotomy guide**--Develop an understanding of utilizing a tree ID dichotomy guide. (**Rubric #2**: Identification activity)

**Family groups**--Identify tree species in family groups [such as maples, oaks, pines, and etc]. (**Rubric #3**: Grouping exercise)

**Portfolio**- Prepare a portfolio of at least 35 local geographic-area tree species labeled with the common name and scientific name. (**Rubric #4**: Portfolio project-leaf collection)

8. Checklist or rubric of assessment components for students:  
There are four different assessments/rubrics attached to this document.
9. Specific Standards addressed in this Unit or Project:

<u>Ref. #</u>	<u>Name of Standard</u>	<u>Title of Individual Standard</u>
<b>Activity #1</b>		
1.1.11C,F	PA-RWLS	C. Use knowledge of root words and words from literary works to recognize and understand the meanings of new words during reading. Use these words accurately in speaking and writing. F. Understand the meaning of and apply key vocabulary across the various subject areas.
	Certified Forester	1. To make every effort to periodically review and follow all applicable state and federal regulations governing environmental quality and, specifically, the stewardship and management of forest resources.
<b>Activity #2</b>		
1.2.11 A	PA-RWLS	A. Read and understand essential content of informational texts and documents in all academic areas.
<b>Activity #3</b>		
2.5.11 B	PA-Math	B. Use symbols, mathematical terminology, standards notations, mathematical rules, grafting, and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas, and results.
<b>Activity #4</b>		
1.8.11 A,B,C	PA-RWLS	A. Select and refine a topic for research. B. Locate information using appropriate sources and strategies. C. Organize, summarize and present the main ideas from research.
	SCANS	Writing: communicates thoughts, ideas, information, and messages in writing; records information completely and accurately; composes and creates documents.
6.2	PA-AGED	Identify trees and shrubs

**Rubric #1**

In this exercise teacher will provide 20 statements for the students to identify from a “Word Bank” of 25-30 selections .

Grade according to following scale:

# 's correct

20-

18-19

15-17

12-15

less than 11

4 exceptional

3 Excellent

2 Good

1 Fair

0 poor

**Rubric #2**

Using a “blank” 3 circle venn diagram students will identify the proper tree species utilizing a tree species dichotomy guide.

**Students will research characteristics (Criteria Points)****1 Point:**

Student did not research any to identify characteristic

Student used only **one** resource & identified **one** characteristic

Student used **one** resources & identified only **one** characteristic correctly

**2 Points**

Student did some research to find characteristic

Student used only **two** resource & identified **two** characteristics

Student used **two** resources & identified **two** characteristics correctly

**3 Points**

Student did more research to locate additional characteristics

Student used two or more resources & identified three characteristics

Student used two or more resources & identified three characteristic correctly

**4 Points**

Student did extensive research to identify characteristics

Student used only three resource & identified all characteristics

Student used three resources & identified all characteristics correctly

**Grade according to following: Number of Venns (species) times possible points**

4 points all correct in Venn diagram

3 points if 3 of four correct in diagram

2 points if 2 of four correct

1 point if one of four correct

0 if did not attempt

**Rubric #3**

Given 30 leaf mounts, student will group them into family groups as a bulletin board poster display.

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

Date \_\_\_\_\_

**Poster Rating Sheet**

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Bulletin Board or Poster:

	Possible pts	<b>Obtained pts</b>
Gains attention	10	_____
Development of theme	5	_____
Effectiveness	10	_____
Quality	10	_____
Imagination	5	_____
Labeling-correctness	10	_____
<b>Total</b>	<b>50</b>	_____

**Rubric #4****Portfolio-leaf Collection**

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

<u>Item:</u>	<u>Possible pts</u>	<u>Pts Awarded</u>
Spelling	10	_____
Neatness of labeling	10	_____
Cover-design, eye appeal	10	_____
Mounting of leaf	10	_____
Table of contents	10	_____
ID accuracy	50	_____
	Total 100	_____

Grade according to the following scale:

100-95	Excellent
90-95	Very good
80-90	Good
65-80	Satisfactory
60-65	Needs improvement
59 & less	Redo/reconstruct