Lab 24 (Tree Types Project)

Overview

Requires

- in-class team work
- out-of-class (outdoors) home assignment
- access to computer (Google drive)

Description

Students organize sketches of leaves from forty (40) trees commonly found in Haskell County, Oklahoma. Once completed, students attempt to find and collect actual leaf samples for as many of the species as can be done within the time constraints. Students present findings to their class.

Trees in Haskell County

Trees listed below are common to Haskell County, Oklahoma.

Green Ash	Bitternut Hickory	Common Persimmon
White Ash	Black Hickory	Mexican Plum
River Birch	Mockernut Hickory	Eastern Redbud
Texas Buckeye	Silver Maple	Downy Serviceberry
Carolina Buckthorn	Red Mulberry	Black Walnut
Button Bush	Black Oak	Boxelder
Black Cherry	Blackjack Oak	Hackberry
Eastern Cottonwood	Bur Oak	Honeylocust
Flowering Dogwood	Chinkapin Oak	Pecan
Roughleaf Dogwood	Pin Oak	Possumhaw
Slippery Elm	Post Oak	Sassafras
Winged Elm	Shumard Oak	Sycamore
Common Hoptree	Water Oak	
Sugarberry	White Oak	

Instructions

As an individual, or in a small team of 2 or 3 students, complete this activity by the due date issued by the instructor. Generally, this activity requires some in-school class time, but also out-of-school effort. Because part of this assignment is recommended to be performed outdoors, students should follow safety rules, ordinances and parent/guardian expectations for any and all outdoor activities.

1. Use leaf pictures provided by your instructor. Cut out rectangles of each species. Arrange them into meaningful clusters or groups. For example, arrange them based on their appearance or other characteristics:
    a. General shapes
    b. Vein patterns
    c. Leaflets
    d. Lobes.
2. Paste, tape or affix the newly arranged groupings onto blank paper for easier recognition of actual leaf samples.
3. As individual(s) or as a team, locate one leaf sample for several species listed here. A reasonable goal would be no fewer than six specimens, but up to twenty.
4. Observe and write down information about each tree you locate for your samples.
5. Mount your leaf samples in a way that you decide. Label each sample with the number and name ascribed to the original drawings.
6. Select one or two of the samples PER PERSON and create a brief presentation file covering the following information:
    a. Name of the species (biological name AND common name)
    b. General location of the tree you located the sample
    c. Qualitative information about the size (height of tree) and description of the tree's bark
    d. Other interesting observations you choose to present
7. Prepare to present your PowerPoint presentation (or Google document) to the class.
8. Present your final materials and present findings to the class.

GAIN PERMISSION FROM LAND OWNERS PRIOR TO COLLECTING SAMPLES FROM NON-PUBLIC PLACES. CONSIDER USING BUG REPELENT AND SUNSCREEN FOR PROTECTION. DRESS APPROPRIATELY FOR WORKING OUTSIDE. OBSERVE ANY CURFEW IN PLACE. FOLLOW OTHER TYPICAL GUIDELINES GENERALLY UNDERSTOOD FOR PROJECTS LIKE THIS ONE.

Source for the project: "Forest Trees of Oklahoma – How to Know Them" by Elbert L. Little, Jr. Published by Oklahoma Forestry Services State Department of Agriculture. Publication No. 1 Revised Edition No. 13. Oklahoma City, Oklahoma. June 1985 reprinted November 1991.

Example Taxonomic Rank for Hickory and Oak Trees

Example Hickory Trees		**Example Oak Trees**	
Kingdom:	Plantae	Kingdom:	Plantae
Clade:	Angiosperms	Clade:	Angiosperms
Order:	Fagales	Order:	Fagales
Family:	Juglandaceae	Family:	Fagaceae
Genus:	Carya	Genus:	Quercus
Species		***Species***	
Carya texana	black hickory	Quercus velutina	black oak
Carya cordiformis	bitternut hickory	Quercus macrocarpa	bur oak
		Quercus palustris	pin oak

In biological classification, taxonomic rank is the relative level of a group of organisms (a taxon) in a taxonomic hierarchy. Examples of taxonomic ranks are species, genus, family, order, class, phylum, kingdom, domain, etc. (https://en.wikipedia.org/wiki/Taxonomic_rank).