



MAINE MASTER NATURALIST PROGRAM

Student Study Guide - Summer Trees

Student Learning Goals:

1. Define/describe a tree.
2. Describe the key parts of tree anatomy and function using the appropriate vocabulary.
3. Use a key and appropriate vocabulary to identify trees.
4. Identify 15 native Maine trees species without using a resource. Instructor & coordinators will designate the tree species appropriate to the local environment.

Student Pre-Class Assignments:

1. Read pages 14-19 and 20-21 of Forest Trees of Maine
2. Forest Trees of Maine Index - Download, print and paste this paper into the back of your book.

Bring to Class:

1. Forest Trees of Maine book
2. Forest Trees of Maine Index PDF
3. Maine Tree Families PDF
4. Summer Trees Glossary PDF

Student Study Questions:

1. Define/describe what a tree is.
2. Describe the anatomy and function of a tree including these parts: xylem, phloem, cambium, heartwood, bark (bold in the vocabulary list).
3. Define the additional tree identification vocabulary from the list below that you are unfamiliar with. Include sketches when appropriate.
4. Learn to identify by sight, the 15 native species assigned by the instructor.

Vocabulary List:

- | | | |
|------------------|--------------------|-----------------|
| • alternate | • evergreen | • petiole |
| • angiosperm | • fruit/cones | • phloem |
| • bark | • gymnosperm | • pinnate |
| • broadleaf | • heartwood | • roots |
| • cambium | • leaves | • seeds |
| • compound | • lobed | • toothed |
| • conifer | • needle | • xylem |
| • deciduous | • opposite | |
| • entire | • palmate | |

Topic Agenda:

1. Introduction and overview of classification of trees.
2. Tree Anatomy &/Identification vocabulary.
3. How to use the summer key in Forest Trees of Maine & keying practice.
4. Discussion of Tips for identification, the ecology and importance of trees.



MAINE MASTER NATURALIST PROGRAM

Student Study Guide - Summer Trees

Fieldwork Agenda:

- A. Break into small groups
- B. Identify trees using Forest Trees of Maine
- C. Students to compare 2 similar species assigned by the instructor that are present at the site in close proximity.

Student Homework Assignments:

1. For four native species, A) collect the leaves, B) press, C) mount, and D) label the specimens with scientific name, common name, date collected, location. Specimens can be mounted in your journal or separately.
2. Using your four mounted specimens, record the following in your journal: A) sketch and label the leaves, B) describe the leaf characteristics using appropriate vocabulary, C) describe the tree's preferred habitat and compare to where you found it.
3. Adopt a Tree Activity - Students should continue to record observations in their journal.

Additional Optional Resources:

1. **MMNP Tree Key PDF** - an adaption of the summer key found in Forest Trees of Maine.
2. **The Tree Guide** at Arbor Day Foundation: <https://www.arborday.org/trees/treeguide/>
3. **Trees at USDA Forest Service:** <https://www.fs.usda.gov/learn/trees>
4. **Dendrology: Trees with Don Leopold:**
<https://www.youtube.com/playlist?list=PLBE1197A3397CAE00> - Don Leopold is a PhD dendrologist at SUNY College of Environmental Science and Forestry in Syracuse. He has produced a series of short YouTube videos for the tree species in NY, most of which are also found in Maine.
5. **Silvics of North America (Agriculture Handbook 654)** by USDA Forest Service:
https://www.srs.fs.usda.gov/pubs/misc/ag_654/table_of_contents.htm - This online resource is geared toward forestry but has oodles of quality information on all North American tree species.
6. **Fire Effects information System (FEIS)** by United States Department of Agriculture: <https://www.feis-crs.org/feis/> - Geared towards the forestry industry, this government resource provides a synthesized scientific knowledge about fire effects on organisms in the United States. Species Reviews are syntheses of the published literature covering the biology, ecology, and fire effects on plants and animals in the United States. Type in a tree name, scientific or common, and click 'Enter Species'. One can also search by genus only.