

Winter Tree ID Lesson

Grade 6-12.....Duration: 50 minutes

Summary:

Students will learn to apply winter tree identification terminology to the practice of identifying winter trees and shrubs.

Objectives

At the end of this lesson, students will be able to:

1. List characteristics used to differentiate between different species of trees.
2. Use a tree key to identify a tree.
3. List and identify 10 common tree species found in SE Michigan and tell two identifying characteristics for each tree.
4. Identify 3 invasive plants of SE Michigan and tell two identifying characteristics for each.

Materials

Per Teacher

- Tree branch examples- show opposite and alternate branching, buds, leaf scars
- Leaf Examples – simple, compound, lobed, entire, serrated

Per Student

- Tree ID Key/Clue Sheet
- Diagram of a twig
- Tree Leaf Identification tool
- Which Trees / Invasive Plants Can You Identify? Data Sheet
- Clipboard
- Pencils

Per Student Group

- *Trees of Michigan* field guide
- *A Field Guide to the Terrestrial Invasive Plants in Wisconsin*
- *Winter Tree Finder* field guide
- Ruler
- Leaf collecting bags

Introduction

Today, we're going to learn how to identify trees and shrubs. At the end of this class, I want you to be able to identify ten of the most common trees in our area and 3 invasive plants. How many of you can tell me the name of a tree? How are trees different from one another? What characteristics of a tree help you to ID that tree? Why are trees important?

1. Ask “What could help us identify a tree?”

- leaf shape and size
- needle length and number per bunch (1, 2, 5, many)
- needle characteristics – flat, sharp, color
- leaf hairy (fuzzy) or no hairs
- leaf thickness - leathery
- bark – color and texture
- cone size
- habitat where tree lives: wet, dry, shade, sunlight
- part of the country where tree lives (geographic area)
- tree shape & size
- overall appearance

2. Ask students “What are the main two groups of trees.”

- Deciduous and Conifers are the 2 groups
- Explain that scientists like to group things by similar characteristics
- Today we are going to look at deciduous trees.

3. Pass out clipboards.

- Each clipboard should have:
 - Tree Leaf Identification Tool
 - Twig Characteristics
 - *Which Trees/Invasive Plants Can You Identify?* Data Sheet

4. Go through the terms used in Tree ID - this should be review. *They should have learned these terms during the pre-lesson powerpoint.*

- Show the students examples of the following or refer to the handouts):
 - **Different branches of trees**- show opposite and alternate branching, buds, leaf scars
 - **Leaf arrangements and margins** – show simple, compound, lobed, entire, serrated
 - NOTE - Appendix E in the back of Invasive Plant Guide shows pictures with the leaf vocabulary to consult during the field trip.
 - **Twig Anatomy** –buds, leaf scars, lenticels
 - View diagram of a twig handout
 - **Fruit**
 - Show examples of acorns, samaras, etc.
- Here are some tips to remember trees.
 - **“MAD HORSE”**=Maples, Ashes, Dogwoods and Horse-chestnut trees have opposite branching, ALL other trees have alternate branching. Today you will need to find Maple and Ash.
 - **Birch:** bite a branch to see if it tastes like evergreen...if it does, then its a yellow birch, if not, it’s a paper birch.

5. Discuss characteristics of some of the trees they will be identifying today –involve the students –can anybody explain the difference between an oak leaf and a maple leaf? How can we identify birch trees?

1. Sugar Maple- OPPOSITE branching, has reddish tint to bark- has thin, short, smaller twigs than ashes. Makes maple syrup
2. Yellow birch- The buds have an evergreen taste. The bark is yellowish-gray.
3. White or paper birch- NO evergreen taste. The bark is white and papery.
4. Oak- leaves are lobed—alternate branching.
5. Ashes- More obvious opposite branching than maples, have thicker and heavier branches, vertically ridged bark.

6. Explain their assignment

- Find and identify as many trees as they can from the Tree ID/Clue Sheet
- Locate and identify 3 invasive plants using the *Field Guide to Terrestrial Invasive Plants in Wisconsin*.
- Collect 2 leaves from each type of tree –remember, just because they are on the ground by a tree doesn't necessarily mean they are from that tree.

Review data sheet and explain how to use resources and tools

- *Field Guide to Terrestrial Invasive Plants in Wisconsin*
- Tree ID/Clue Sheet
- *Trees of MI* field guide
- *Winter Tree Finder* field guide
 - **Explain the Tree Key** – is like following a maze to get to the right answer. You make choices that lead you to the next question
- Ruler –make sure you are using correct measurements
- Diagram of a twig
- Tree Leaf Identification tool

6. Field Trip Guidelines:

- Students need to be respectful of the environment (they are there to observe, not “change” the environment)
- Establish boundaries (must always be able to see instructor)
- Timeline (must return when they hear an owl hoot), etc.

Assessment

Leaf/Tree Hunt Relay:

Each group is a team. Take them to an open area and explain that they will have a relay race.

Option I:

- Line up the teams, and place each team's leaf pile (that they collected during the activity) about 10' in front of each team.
- Tell the students that you're going to call out the name of a tree and then say, “Go.”
- At the signal to go, the first student in each team should run to the pile of leaves, find the leaf that comes from the tree you names, and hold it up. Each team gets one point for each leaf correctly identified. The team with the most points wins.
- After each round, put the leaves back in the piles, and ask players to go to the end of their team's line.

Option II: Call out the name of a tree and see which group can go into the woods and find that tree species first. Once the first student group calls out that they have found the tree, have other groups check for correctness.

Ask students new trees that they learned about today? Review which characteristics helped us to identify each tree species. Review vocabulary.