

Maple Tree ID

4th & 5th Grade, 45-60 minute lesson

Objective: Students will understand the unique identifying factors of maple trees, i.e. 5 lobed leaves, opposite branching pattern and characteristics of bark. Students will demonstrate their ability to identify maple trees by locating maple trees in the school yard and marking them for future tapping endeavors.

Materials:

- printouts of images in appendix
- paper
- colored pencils/crayons/drawing material
- ribbon/string/flagging tape

Background Information:

-Maple trees fall into the category of trees known as diffuse porous hardwoods, all trees categorized as diffuse porous hardwoods have the ability to be tapped for syrup production.

-Identifying a tree as a diffuse porous hardwood is something that can only be done by looking at the internal structural makeup of the tree, and is therefore not an identification that students will be making. However, it is helpful for students to understand that only trees in this particular category can be tapped for syrup, other types of hardwoods will not produce sap in the same way.

-Red maples and sugar maples are those that are most commonly found in WV and are best for syrup production. They have very distinct identifying characteristics.

-All maples have leaves with 5 lobes.

-Sugar maple leaves are much smoother on the edges and red maples have more teeth

-Red maples have bright red leaves in the fall and sugar maple leaves will turn yellow, orange and/or red in the fall.

-All maples have an opposite branching pattern, branches are directly opposite of each other as opposed to alternating. This is unique to maples, ash and dogwood trees. Maple trees may display both alternating and opposite branches.

-The bark on younger maple trees tends to be smooth and grey; on older trees it tends to be darker, rougher. Older sugar maples will often have deep-set ridges in the bark.

-Maple trees can be identified all year round, with or without their leaves.

****See identification photos in appendix for examples****

Introduction/Hook (3-5 minutes): The first step to making maple syrup is finding maple trees that can be tapped. Tapping trees that are not maples can lead to some unexpected problems when it comes time to turn the sap into syrup.

Lesson (10 minutes): Pass out images of red and sugar maple leaves to students (see appendix for images). In groups or pairs ask students to come up with a list of observations about the appearance of the maple leaves.

-Explain that all maples have leaves with 5 lobes.

-Show students images of the opposite branching patterns and compare to images of alternate branching patterns.

-Show students images of maple tree's bark, compare and contrast with images of another tree's bark. In groups or pairs, ask students to come up with a list of observations about the appearance of the maple bark.

-Explain the characteristics of maple bark.

Activity (30 minutes): After students have examined the examples of maple leaves and branches, have them create an identification guide, with illustrations, they can take with them outside and use to find maple trees in the school yard.

-This activity can be done individually, in groups or pairs.

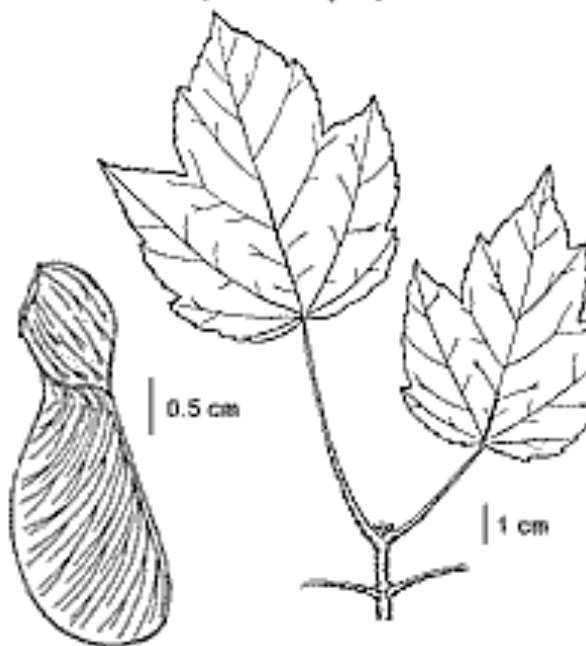
-Each identification guide should include illustrations of leaves, bark and branches.

Next, take students outside to locate and identify maple trees. Ideally these are the trees that the class will be tapping later in the season.

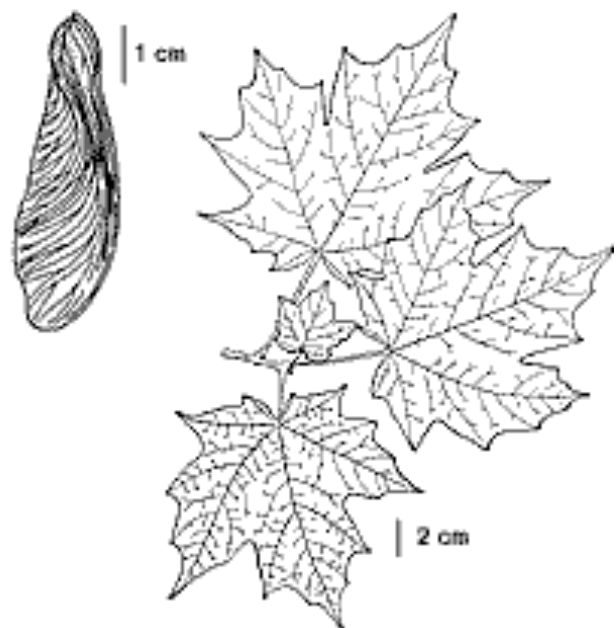
-Once a maple tree has been successfully identified have students flag it in some way, with ribbon, string or flagging tape.

Appendix

Acer rubrum (Red Maple)



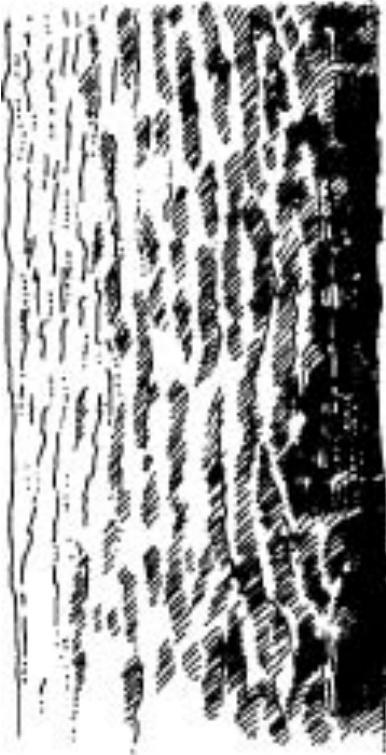
Acer saccharum (Sugar Maple)



Red Maple



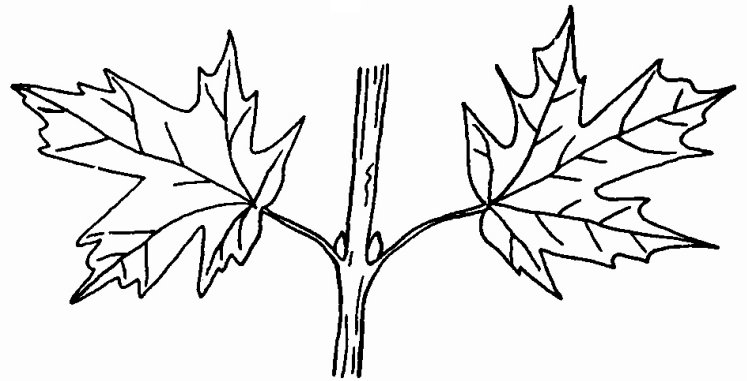
Sugar Maple



Opposite vs Alternate Branching Pattern:



Alternate



Opposite

Maple Bark:



Oak Bark:



Ash Bark:



Pine Bark:



Beech Bark:



Birch Bark:



Additional Resources:

<https://ferrinbrookfarm.wordpress.com/2016/02/12/identifying-maple-trees-in-winter-to-tap-for-maple-syrup-2/>

<https://www.maplesyrupworld.com/pages/5-Easy-Steps-To-Identify-A-Maple-Tree.html>

<https://www.farmandfleet.com/blog/maple-tree-identification-mapping/>