

# Tree Identification: Try being my students!

An Excerpt from larger presentation by Notre Dame Academy Teacher, Jana Matthei for the Mass. Assoc. of Science Teachers (MAST) Conference, 2016.

Tree Identification – practice and start doing weekly Herbarium Entries

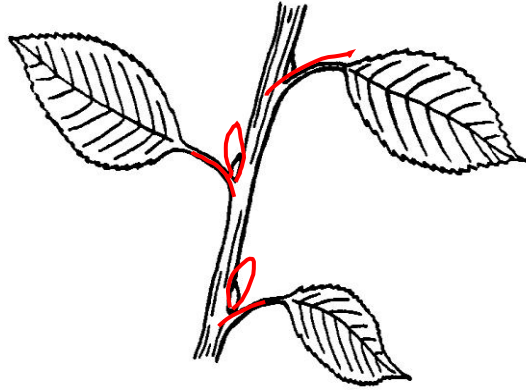
Students are creating scientific scrapbooks and using dichotomous keys

- Each student brings a branch to school as a homework assignment
- I walk through the following power point
- At each slide, they consider what is true for their branch
- After, we use “Tree Finder” dichotomous keys and try to ID their tree.
- Ready to try it? Take out your branch and get ready to take notes!

# ALTERNATE or OPPOSITE

Alternate

Everything else!



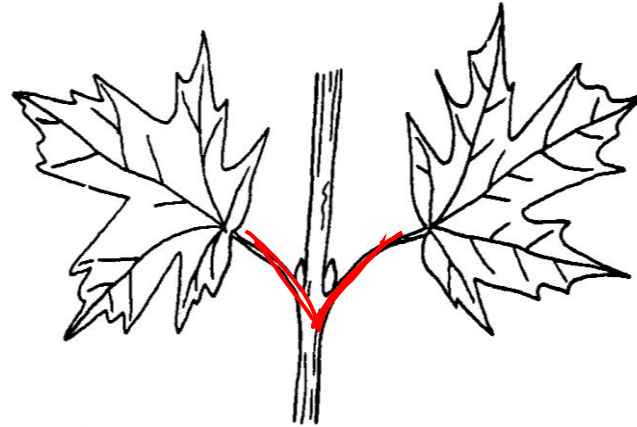
Alternate

Opposite (MAD)

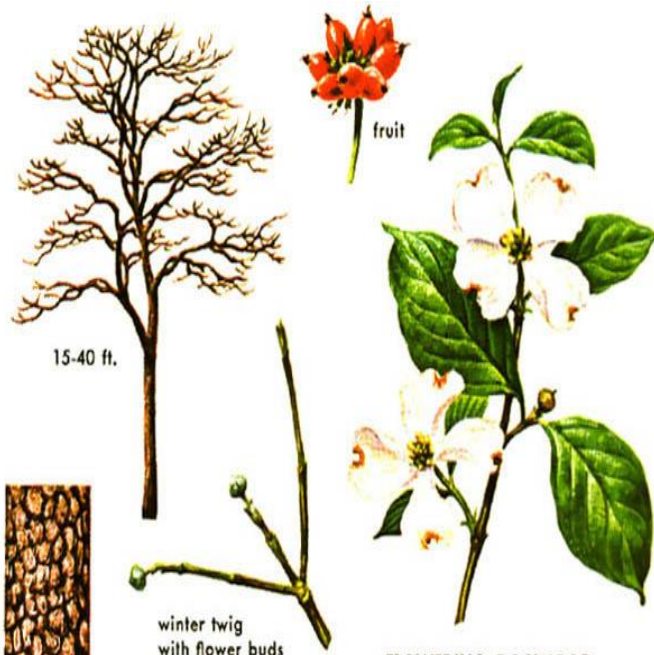
Very few native trees

Maple, ash, dogwood

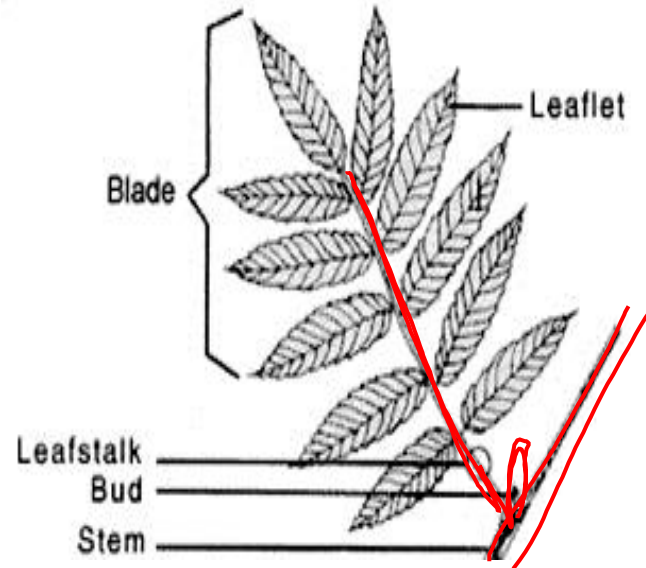
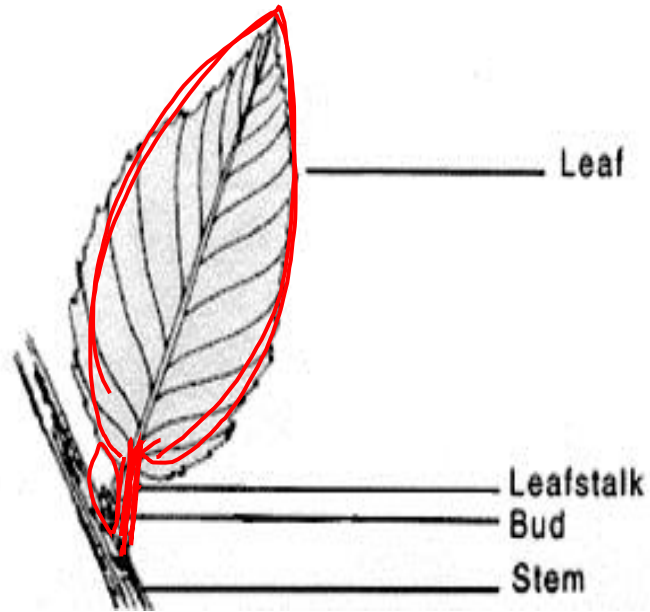
<http://www.butler.edu/herbarium/treeid/treeparts.html>



Opposite

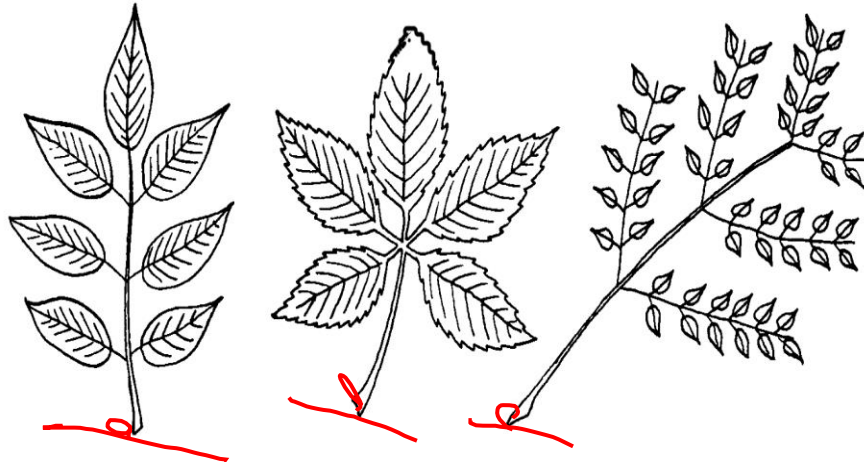
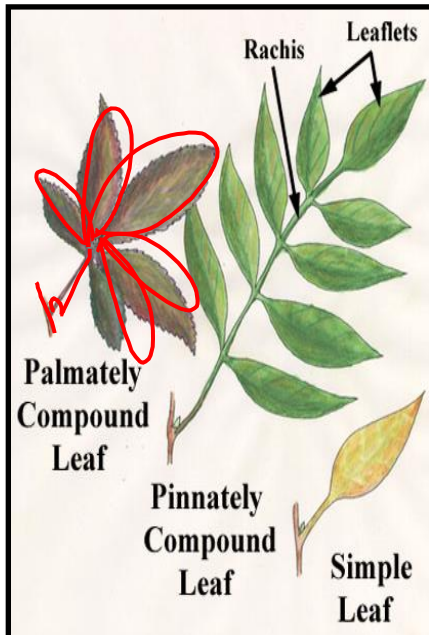


# SIMPLE vs. COMPOUND



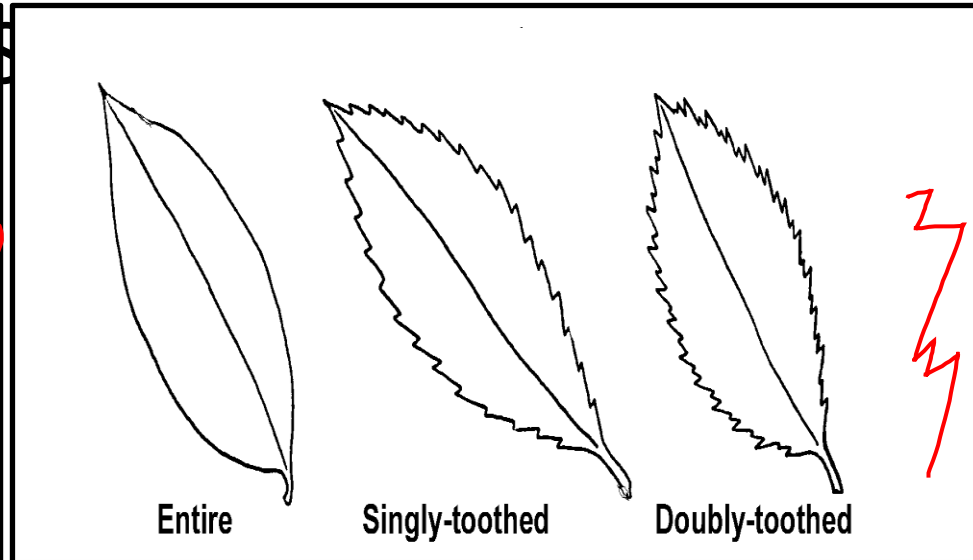
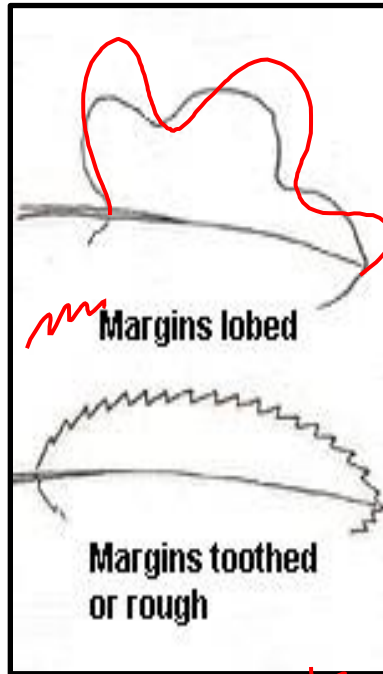
WHERE IS THE BUD?

Leaf stalk: NOT AS WOODY AS BRANCH



Pinnate Compound Palmate Compound Doubly-Compound

# MARGINS: Like on paper, they are



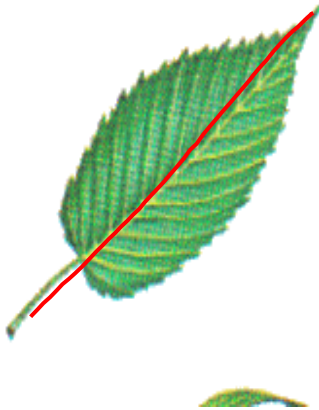
2 common lobe patterns:



# Leaf Veins and Bristles

One main vein (L)

Pinnately Veined  
(lower side of blue beech)



Many main veins (R)

Palmately Veined  
(lower side of sweet gum)



Bristle (L)



Bristle-tipped

No



Not

Bristle

# Example ID using this information

- The leaves are opposite, which means it must be a maple, ash, or dogwood
- The leaves are NOT compound, so it must be a maple or a dogwood
- The leaves have 3 big lobes, dogwoods don't have lobed leaves but maple leaves have 3 lobes
- The notches in the lobes are V shaped, not U shaped, so it cannot be a sugar maple or a Norway maple
- It is a Red Maple! *Acer rubrum!*
  
- I used Mrs. Matthei's slides and some maple tree searches on leaf snap for my identification

# Try to do your own ID!

- Instead of the “Tree Finder” you can start with the information you just gathered and use websites if you are on the internet.
- Great site my student found (based in Ohio but the ecology is usually similar enough):

<http://www.oplin.org/tree/leaf/byleaf.html>



# Student Herbarium Entry Examples



Jordan Cakinos  
10/25/16



## Japanese Maple *Acer palmatum*



### Location:

This tree is located in the middle of my front yard. It is a secluded tree away from any others.



## Identification Steps & Sources



### Virginia Tech *Acer palmatum* Fact Sheet:

- leaves:
  - opposite and simple meaning they are set across from each other and they are not composed of leaflets
  - there are 5-7 lobes that are in deep V shapes
  - the lobes have serrated teeth
  - the color of the leaves is commonly a deep red color
- bark:
  - the bark is relatively smooth all over
  - the trunk color is a light grey
- form:
  - the tree is small and stands usually 10-25 feet high
  - the tree's canopy is rounded and branches hang low to the ground
  - the tree is definitely a Japanese Maple or *Acer palmatum* judging by this website

### Mrs. Matthei Powerpoint:

- the leaves are opposite which means that it could be either a maple, dogwood, or ash
- leaves are simple and not composed of any leaflets
- the leaves are not entire
  - the leaves have 6 lobes
  - the lobes have serrated teeth on all of the lobes
- there are 6 main veins radiating through each of the lobes
- the leaves are not bristled
- the tree is some kind of maple but definitely is not any sort of dogwood



## Confidence in my ID:



I am 100% confident that the ID of my leaf is a Japanese Maple or *Acer palmatum*. Likewise with my last herbarium entry, the Japanese Maple was deliberately deposited in my front yard so it was easy to get a direct identification of it. I attempted to use the Tree Finder in order to specify exactly what the tree was, but the book led me to every other type of maple but the Japanese Maple. The powerpoint that I used helped me rule out the possibility of the leaf belonging to any kind of dogwood or ash tree and I was also able to conclude that it was a maple tree. Also, the website where I obtained half of my information was the basis for my ID. This resource let me know that I was correct in my self identification and that there was no other tree that it could possibly have been.



## Citations:



- Seiler, John, Edward Jensen, Alex Niemiera, and John Peterson. "Acer palmatum Fact Sheet." Acer Palmatum Fact Sheet. Virginia Tech Dept. of Forest Resources and Environmental Conservation, 2015. Web. 25 Oct. 2016.
- Matthei, Jana. Tree Identification Guide. NDA. 2016. Classroom Powerpoint. Oct 2016





# Student Herbarium Entry Examples

Maggie McCloskey

## TREE IDENTIFICATION:

Resource 1: powerpoint slides from class

- The leaves are alternate, they are not Maple, Ash, or dogwood
- Leaves are simple there are no clear leaflets and a bud is seen where the leaves are connected to the branch
- The margins are not toothed, they are lobed. It is probably an oak since they have a similar lobe style to the oak on the slides
- There is one main vein and the leaf clearly has pointed bristles at the ends.

I am positive that it is an oak but I am not sure what species of oak it is.

Resource 2: Tree Finder

- Page 5, tree has leaves
- Page 14, leaves with buds are alternate
- Page 21, leaves are simple, no leaflets
- Page 28, leaves are lobed
- Page 33, leaf is not evergreen
- Page 34, tree has no thorns, and is deeply lobed
- Page 51, the leaf is lobed
- Page 53, leaf has more than 4 lobes
- Page 55, leaf is bristle pointed and deeply lobed
- Page 56, end of leaf is not narrow or long
- Page 57, lobes broaden toward tips

I believe that my tree is a Scarlet Oak because it is thin and has enclosing lobes and it has a yellowish rib.

## CONFIDENCE IN MY ID:

I am very confident that my tree is an oak tree due to its alternating leaves, lobes, and because it has simple leaves. I am confident because Tree Finder confirmed that it is an oak tree. I am pretty confident that my oak tree is a scarlet oak because the leaf is very thin and delicate, and because it has enclosing lobes. I am 100% sure my tree is an oak, and I am 95% sure my tree is a scarlet oak. If I messed up and my tree is not a scarlet oak, I think it could be a Hill's or Jack's oak because they share many similar characteristics. However, I don't believe it is either of these types of oaks however, because my leaf is not shiny or dark green, and the tree is not untidy.

Watts, May Theilgaard. *Tree Finder: A Manual for the Identification of Trees by Their Leaves*. 3rd ed. Rochester, NY: Nature Study Guild, 1998. Print.

Matthei, Jana. *Tree Identification Guide*. NDA, 2016. Classroom Powerpoint. October 2016

## LOCATION:

The large tree in front of my house.

## Scarlet Oak

*Quercus coccinea*

Maggie McCloskey

## SCARLET OAK

*Quercus coccinea*

