

# Dichotomous Key for Native Trees

Grades: 5th - 8th



This activity has been created for the residents of the City of Asheville in partnership with the City of Asheville

**Objective:** Determine the species each leaf belongs to using the dichotomous key

**Instructions:** Cut out the leaf pictures and the Answer Key. Fold the Answer Key in half and set it to the side. Instruct students to figure out the identity of each leaf using the Dichotomous Key and Leaf Descriptions. Have them record each answer on the worksheet, and when it's completed they can use the answer key to review their findings!

# Dichotomous Key

Dichotomous keys are used to identify many parts of the natural world, including trees, flowers, animals, and rocks. Dichotomous means "divided into two parts" - in this type of guide each step has **two** options.

For each leaf, follow the instructions listed below, starting with step 1 until you are presented with an answer.

1A. If the leaf is needle-like or scale-like go to 4.

1B. If the leaf does NOT have needles go to 2.

2A. If the leaf is simple (just one) go to 3.

2B. If there is more than one leaf (leaflets) it is a compound leaf, go to 10.

3A. If the leaf is obviously taller (including the stem) than it is wide go to 6.

3B. If the leaf is as tall as it is wide then go to 7.

4A. If the needles are slender or flat, go to 5.

4B. If the needles are short, scale-like and overlapping, it is a **red cedar**.

5A. If the needles are slender and long they are from a **white pine**.

5B. If the needles are short and stick out sideways from the stem they are from a **fraser fir**.

6A. If the leaf has pointy lobes it is from a **red oak**.

6B. If the leaf has round lobes it is from a **white oak**.

7A. If the leaf edges have teeth, go to 8.

7B. If the leaf edges do not have teeth (smooth) go to 9.

8A. If the leaf has 5 lobes edged with teeth and is deeply lobed, it is from a **silver maple**.

8B. If the leaf is large and has 3 lobes edged with large teeth and is not deeply lobed it is a **sycamore**.

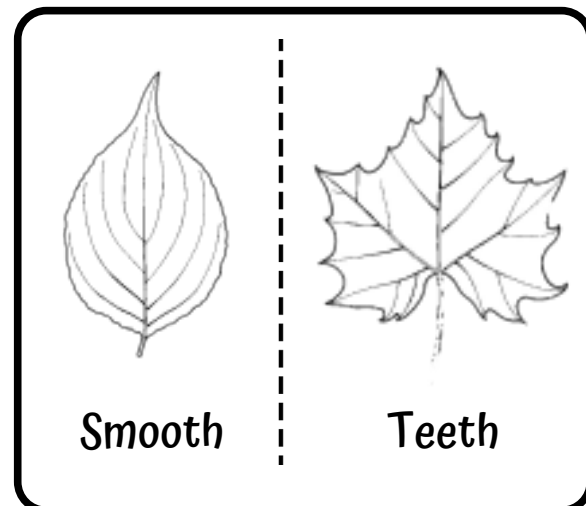
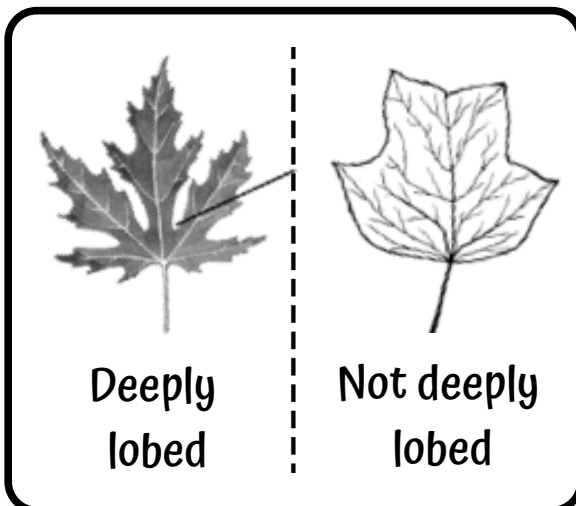
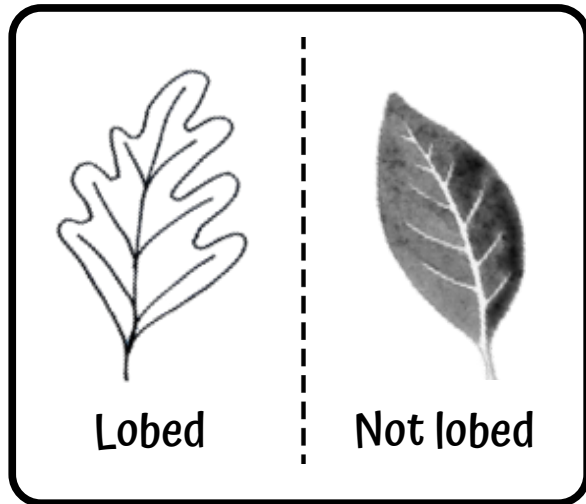
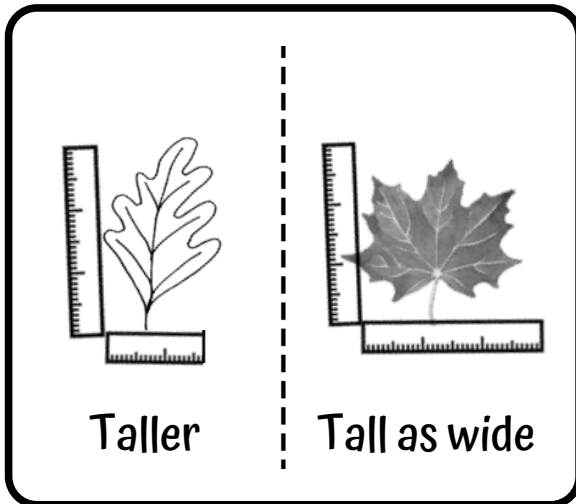
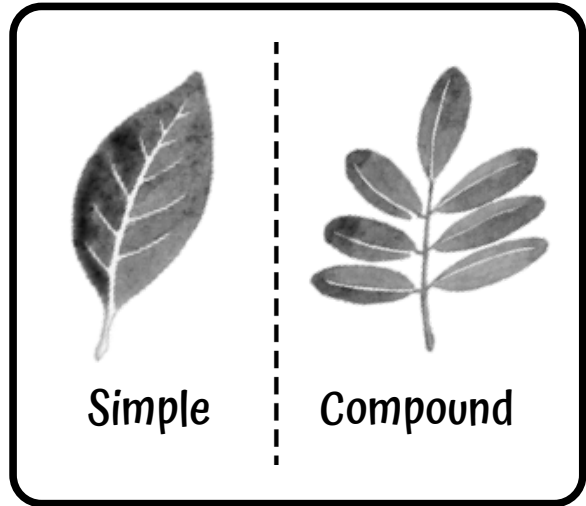
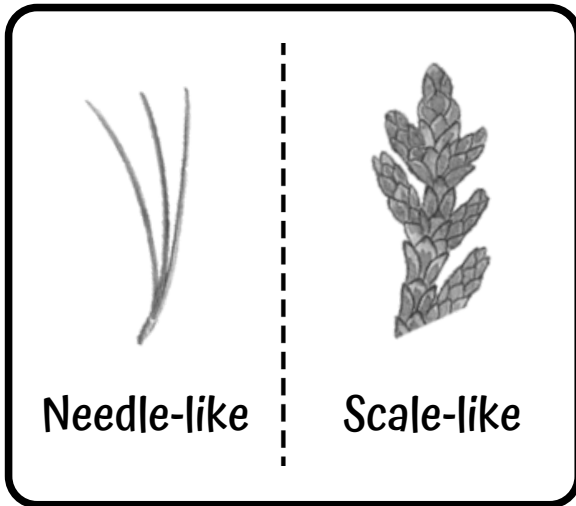
9A. If the leaf is lobed and is shaped like a cat's face it is from a **tulip tree**.

9B. If the leaf is heart shaped it is a **redbud**.

10. If the leaflets are long and oval and there is one at the tip this compound leaf comes from a **black locust**.

# Leaf Descriptions

Use the images below to help you make your choices in the dichotomous key



# Worksheet

Write your answers here and then check  
the Answer Key when you're done!

#1: \_\_\_\_\_

#2: \_\_\_\_\_

#3: \_\_\_\_\_

#4: \_\_\_\_\_

#5: \_\_\_\_\_

#6: \_\_\_\_\_

#7: \_\_\_\_\_

#8: \_\_\_\_\_

#9: \_\_\_\_\_

#10: \_\_\_\_\_

**Unknown # 1**



**Unknown # 2**



**Unknown # 3**



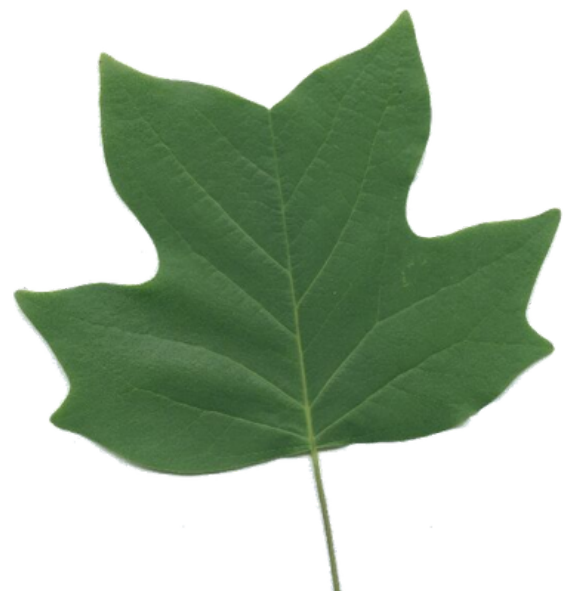
**Unknown # 4**



**Unknown # 5**



**Unknown # 6**



**Unknown # 7**



**Unknown # 8**



**Unknown # 9**



**Unknown # 10**



**Answer Key**

**#1 - Cedar**

**#2 - Silver maple**

**#3 - Black locust**

**#4 - White oak**

**#5 - White pine**

**#6 - Tulip tree**

**#7 - Sycamore**

**#8 - Fraser fir**

**#9 - Red oak**

**#10 - Redbud**