







How to use a dichotomous key (also called dicot keys)

Background Information for parent/teacher self review

A dichotomous key is a tool used to identify a large number of species (taxa). There are dichotomous keys (dicot keys) to identify trees, flowers, birds, insects, mammals and a myriad of other things. Dicot Keys provide the person trying to identify something, such as trees, two choices at each stage. When a decision is made, then two more choices are presented until there are no more choices to be made and you have identified the organism. If a key has more than two choices at a level, then it is called a polychotomus key. There are two types of keys, a nested type and a linked type. The linked types are easier for students to use, so we will be using that kind in our lessons.

Here is an example:

Graphics are courtesy of Michigan State University Extension's website: uptreedid.com and Audubon Guides at www.audubonguides.com.

					
Needle like leaf	Scalelike	Simple leaf toothed edge	Simple leaf smooth edge	Simple leaf lobed	Compound leaf

Identify the leaf on the right by using the following dicot key. You can refer to the pictures above to help you.

LEAF IDENTIFICATION DICHOTOMOUS KEY

1. Leaves are needlelike or very small and scalelike. Go to 2.
1. Leaves are broad. Go to 5.
2. Leaves are long and needlelike. Go to 3.
2. Leaves are small and scalelike. **CEDAR**
3. Two needles to a bundle. **SHORTLEAF**
3. Three needles to a bundle. Go to 4.
4. Adult needles are 4-6 inches. **LOBLOLLY PINE**
4. Adult needles are 6-12. **LONGLEAF PINE**
5. Leaves are broad and heart shaped. Go to 6.
5. Leaves are not heart shaped. Go to 7.

Identify these leaves.



These leaves grow oppositely on their branches.

Use the key on the left to identify this leaf. Start with the two #1's, decide between the two which one best describes this leaf. I've highlighted the correct ones for you.

- 6. Leaf edge is saw toothed. COTTONWOOD
- 6. Leaf edge is smooth. REDBUD.

7. Leaves grow oppositely of branch. Go to 8.

7. Leaves grow alternately. Go to 11

8. Leaves are simple and lobed. Go to 9.

8. Leaves are simple and not lobed. Go to 10.

9. Leaves are moderately lobed. RED MAPLE

9. Leaves are deeply notched (almost to the mid-rib). SILVER MAPLE

Note: To decide between the two #7's you need the leaves on a small branch. When I used this key in class I told the students which ones grew oppositely and which ones grew alternately.

It is a silver maple