Tree Identification

Trees come in a variety of shapes, sizes and colors. Even closely related trees may have fascinating differences in leaf shape and color, bark texture and flowers. A glance at any tree guide will reveal a dozen very different trees that are generally referred to as “oak” or “pine.” Much confusion can be avoided by learning to talk about trees using their botanical names.

**USING AN IDENTIFICATION KEY**

One of the most important steps in identifying a tree is learning to use a good field guide. Most guides rely on a simple “keying” system through which you select the characteristics that most closely describe the tree. A full botanical key is referred to as a *dichotomous key*, meaning that the reader is continually making “either/or” choices. Each point in the key will require that you select from two optional characteristics. The first step may be to choose whether the tree has needles or broad leaves. From there, continuous step-by-step choices are made based on the tree’s *morphology* or form of growth. The characteristics compared include leaf shape and placement, bud shape and placement, flowers, fruit, bark type and the tree’s *habit*, including where and how it grows naturally.

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**Page from a Dichotomous Tree Key**

If the single leaf is tipped, with a single bristle, is dark green above and hairy beneath, it is a Shingle Oak (*Quercus imbricaria*).

If the leaf is light green above and veiny beneath, with a yellow midrib, and is a quarter to an inch wide, it is a Willow Oak (*Quercus Phellos*).
Leaves occur in each tree species in a specific, recognizable pattern. Leaves may be **simple**, growing singly, or **compound**, made up of a number of smaller leaflets. The arrangement of leaves on each step is also recognizable.

Leaves that form from buds on the same node may be **opposite**, (occurring on either side of the stem), or **whorled**, (occurring evenly around the stem). **Alternate** leaves appear on separate nodes and the direction of leaf growth on each node changes from the previous node.

Leaf margins are commonly used for general identification. Leaves with smooth, unbroken margins are **entire**. Other types may show wavy or undulate margins, or a variety of “cut” margins that make lobed, serrate or dentate points.

Identification of trees with needle-type foliage is made from the shape of the needles and the number and arrangement of the needles in bundles. Only pines have needles in bundles. Although leaf identification is one way to begin differentiating trees, learn to identify other characteristics as well. Remember that deciduous trees will not be carrying leaves in winter. Some reliable year-round identification clues are: bark texture, pattern and color, and the shape and arrangement of buds on twigs.

After familiarizing yourself with the descriptive terminology, tree identification becomes much easier. One highly recommended reference is [http://www.cnr.vt.edu/dendro/forsite/Idtree.htm](http://www.cnr.vt.edu/dendro/forsite/Idtree.htm). Another reference to check for tree information is the *Manual of Woody Landscape Plants* by Michael A. Dirr, Department of Horticulture, University of Georgia.

The entire Tree Steward Training Manual is online at [http://www.treesvirginia.org](http://www.treesvirginia.org) under the Tree Care Tab.