How to identify trees in Wyoming

Wyoming is home to a stunning array of plants that grow in varied climates and conditions. Some are native to our region, while others are transplants. Regardless of their journey, these plants serve multiple purposes and each one requires unique care. The old adage of "right tree, right place" is ever important when deciding what your landscape will look like—but how do you ensure those plants live a happy, healthy life?

The first step in managing the health of your plants is learning to identify what they are and what they need. Numerous resources are available, but choosing the right one can be daunting. The tree ID basics below will help you navigate these tools and, with a little practice, you will be identifying trees in no time!

Deciduous trees

Tree identification involves asking a series of questions about the tree that help lead you to the answer. The first question should always be, "Does it lose its leaves in the winter"? If the answer is yes, then the tree is deciduous. (Note that there are a few exceptions to this rule of thumb.)

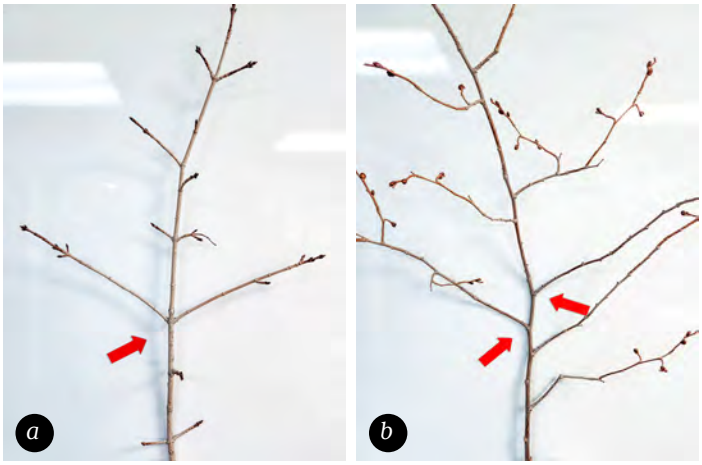
The next step is to identify the tree's morphological characteristics or, simply put, tree parts. Leaves, bark, flowers, and fruit are all examples of morphological characteristics and can help distinguish one tree from another. However, many trees share these traits and can look quite similar.

To narrow the search, determine which of the two types of branching structures the tree exhibits: opposite (Photo 1a) or alternate (Photo 1b). Opposite branching trees fall into one of four genera: maple, ash, dogwood, or horse chestnut (Buckeye).

After you have established structure, move on to other traits like leaf shape, flowers, and fruit. These traits need to be observed at the correct times during the growing season to make a definitive identification, so keep an eye out for them!

Leaves are the next most common way to identify a tree. Learning the different leaf shapes will help narrow down your suspects. For example, let's say you've determined that your tree has opposite branching structure and a simple leaf with five lobes that come to points at the end. Using this information, you can determine this tree is a maple and, most likely, a silver maple (*Acer saccharinum*).

When growth habits and characteristics look similar, more information may be required to make an informed decision about a tree's identity. Using a key or identification guide will help you practice and build confidence in your decisions.



Jacob Mares

Photo 1a: Opposite branching structure in a green ash.
Photo 1b: Alternate branching structure in an American elm.

Conifers vs. evergreens

Often these two words are used interchangeably to describe the pine tree in your backyard or a spruce tree in the park. However, while there is considerable overlap between these two descriptors, they are not synonymous. "Conifer" refers to the reproductive system of cone-bearing species, while "evergreen" simply refers to the nature of a tree's leaves/needles.

In the case of Wyoming and this article, let's focus on conifers. As with deciduous trees, start by taking a careful look at the tree's morphological traits. When identifying a conifer, that means examining the needles (which are just modified leaves).

Conifer identification

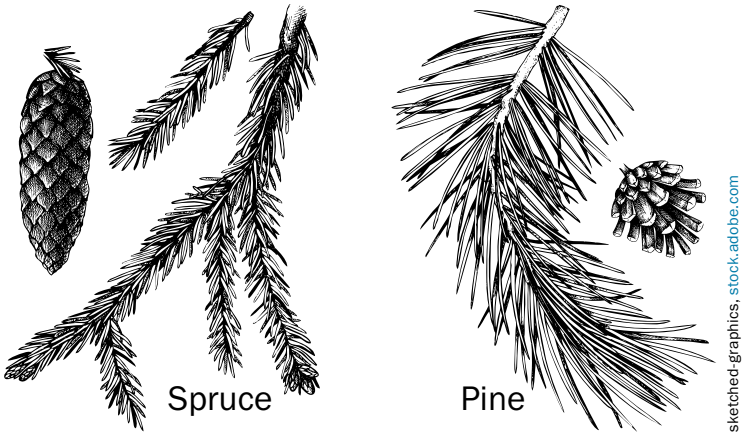
Conifer needles have three distinct types of growth: single needles, bundles of needles (2, 3, or 5 to a group), or overlapping, scale-like needles that wrap around the branchlets. Spruce and fir trees both have single needles.

These two trees are often confused for one another as they share similar growth habits and color. An easy way to identify a spruce needle is to see if it will roll between your fingers. The needles of a fir tree, in contrast, appear flat and will not roll between your fingers.

Spruce needles tend to be square and are borne on "pegs" on the branches. The needles of a pine are borne in bundles, or fascicles, and the number in each bundle can be used to identify the tree. Pine needles come in many shapes and sizes, so be sure to consult your key.

Juniper species have overlapping, scale-like needles that wrap around the branchlets; they occur frequently in Wyoming.

Growth habits and types of cones are the next most recognizable identification features of conifers—and they vary wildly. For example, true firs have erect cones pointing upward on the branches as opposed to the drooping cones found on spruce trees.



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The two main types of growth habits in conifers are pyramidal (or spire-like) or shrub-like and spreading. A Colorado spruce (*Picea pungens*), for example, could be identified by its pyramidal growth habit, short square blue-green needles borne on pegs, and papery, scaled light brown cones. Slight variations of these traits can be tough to differentiate, so use your resources to help you make informed decisions.

Tree ID Resources

Books

What Tree is That? A Guide to the More Common Trees Found in North America by Arbor Day Foundation, Karina I. Helm (Illustrator)

National Wildlife Federation Field Guide to Trees of North America by Bruce Kershner

Manual of Woody Landscape Plants by Michael A. Dirr

Websites

Key to the Conifer Trees of Wyoming: https://bit.ly/conifer-key

Wyoming Native Tree ID Key, Wyoming State Forestry Division: https://bit.ly/all-things-trees

What Tree is That? Arbor Day Foundation: www.arborday.org/trees/whattree

Apps

PlantNet Plant Identification

iNaturalist

Tree ID resources

Most identification tools are dichotomous keys. They follow a basic flow with one or two options to help you reach a final conclusion. Some keys are more in depth than others, so finding one that suits your level of experience is important. Reaching out to green-industry professionals, like extension educators or local arborists, is a great way to navigate a tricky ID.

The advent of smartphones has led to the creation of apps that can do much of the work for you. These apps are quite sophisticated and can usually identify plants with great precision. A word of caution, though: These apps, while helpful, are not a replacement for field identification. There is too much variation in the world of plants to eliminate a hands-on approach.

A better solution is to use a combination of resources to help you arrive at a well-informed answer that will aid in the care of your trees. Ask for help when needed—and have fun with the process!

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