PAGING HEMLOCK HOLMES! EVERGREEN DETECTIVES NEEDED!

Picture this: you are walking in the woods. It is mid-March and there is an inconvenient mix of ice, sludge, and mud on the trail; despite this, your spirits are high because you feel spring coursing through the air in the excited chattering of the songbirds. Deciduous tree leaves have not yet burst from their branches, so the hardy, stoic evergreens are still the stars of this muddy stage. As you round a corner, you see the most majestic evergreen you have ever laid your eyes on. Something about the curve of its boughs and the color and strength in its needles takes your breath away. But who is it?! You feel like Prince Charming on the night that the mysterious Cinderella runs away without revealing her name. You must know! Luckily, part of a branch has dropped. You pick it up and examine the needles and cone nestled in your palms. Alas, you cannot read its secrets! What is there to do?!

Well, dear evergreen-lover, you are in luck! HEMLOCK HOLMES, premier tree detective, is here to help.

A **dichotomous key** is a tool that field scientists use to help them identify a tree/fungus/mammal/wildflower/rock or pretty much anything you can find in the natural world! Dichotomous keys consist of a series of steps to lead you to the correct identification of your specimen. “Dichotomous” means “divided into two parts.” Each step is generally made up of two choices, and you determine which choice best fits your specimen. I have consolidated this guide a bit, so some pages have more than 2 choices on them. Your choice will tell you how to move on within the key!

Try to identify some of the trees you admire around your property or on your favorite woods walk. Show off your detective skills by posting a photo of your detective crew and a tree with your ID to Facebook or Instagram with the tag #ShareLearnAdventure and you may be featured on our social media! Inspire others to get outside and get to know their tree neighbors a little bit better! If you have questions feel free to email LRCC member Grace at gcallahan@squamlakes.org. Happy detective work!
This dichotomous key was adapted from the Arbor Day Foundation. This key will very likely have the species that you are looking for, but like anything, it is not perfect. If you do not find your tree, try to use the things you learn about your tree to do a more in-depth search of your own!

BEGIN HERE! FIRST CHOICE:

Does the tree bear cones and have leaves that are needle-like?
CLUE: These trees are called CONIFERS (cone-bearing) and most are EVERGREEN (trees with needles or leaves that remain alive and on the tree through the winter and into the next growing season). If yes, go to PAGE 2.

Does the tree bear cones that are sometimes berry-like and have leaves that hug the twig and are scale-like or awl-shaped?
CLUE: These trees are called CONIFERS (cone-bearing) and most are EVERGREEN. If yes, go to PAGE 17.
This page has FOUR choices:

Are the trees EVERGREEN with needles arranged in clusters of 2-5? These are pine trees. If yes, go to PAGE 3.

Are the trees EVERGREEN with needles arranged singly? If yes, go to PAGE 8.

Are the trees DECIDUOUS (shedding all leaves annually) with needles arranged in clusters of many on short, spur-like branches? These are larches. If yes, go to PAGE 15.

Are the trees DECIDUOUS with needles of uneven length flattened along the twig. The cone a 1" diameter green or brown wrinkled ball?
   It’s a BALDYCYPRESS!
Are the needles clustered in groups of 5 and the cones long with thin scales? It’s an **EASTERN WHITE PINE**!

Are the needles clustered in groups of 2 or 3, and the cone scales thick and often tipped with spines? If yes, go to **PAGE 4**.
Are the needles clustered in groups of 3? If yes, go to PAGE 5.

Are the needles clustered in groups of 2? If yes, go to PAGE 6.

Are the needles clustered in groups of 2 and 3 on the same tree? If yes, go to PAGE 7.
Are the needles 3"-5" long, somewhat twisted, often sprouting in tufts from the trunk; cones 2"-3 1/2" long?
   It's a **PITCH PINE**!

Are the needles 8"-18" long, cones 6"-10" long?
   It's a **LONGLEAF PINE**!

Are the needles 6"-9" long, cones 3"-6" long?
   It's a **LOBLOLLY PINE**!
Are the needles mostly 3/4"-1 1/2" long, yellow-green, and widely spreading bunches?
CLUE: The cones often remain closed for many years.

It's a **JACK PINE/SCRUB PINE!**

![Image of a Jack Pine branch with cones]

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Are the needles 1 1/2"- 4" long, blue-green to yellow-green, and twisted; and is the bark on the upper trunk of older trees orange-red?

It's a **SCOTCH PINE/SCOTS PINE!**

![Image of a Scotch Pine branch with cones]

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Are the needles 5"-10" long, cones 3"-6" long?
CLUE: The tree is native to the Great Plains and farther west.
   It's a **PONDEROSA PINE!**

![](image)

Are the needles 7"-10" long, cones 3"-6" long?
CLUE: The tree is native to the southeastern states, especially along the coastal plain.
   It's a **SLASH PINE!**

![](image)

Are the needles 3"-5" long, cones 1 1/2"-2 1/2" long?
CLUE: The tree is native to the southern states and north to central Missouri across to Pennsylvania.
   It's a **SHORTLEAF PINE!**

![](image)
Are the needles fairly easy to roll between your fingers?
CLUE: Needles are 4-sided or diamond-shaped in cross section. If yes, go to PAGE 9.

Are the needles difficult to roll between your fingers?
CLUE: Needles are fairly flat in cross section. If yes, go to PAGE 11.
Are the mature cones generally over 2" long, with scale edges wavy or wedge shaped? If yes, go to PAGE 10.

Are the mature cones generally under 2" long, with scale edges rounded? If yes, go to PAGE 12.
Are the needles not prickly-tipped, the cones 4"-8" long, and the branches droop up to several feet on older trees?

It’s a **NORWAY SPRUCE**!

Are the needle tips very sharp-pointed, cones 2"-4" long, and the branches do not droop?

It’s a **COLORADO BLUE SPRUCE**!
Are the needles 1/4"-1/2" long, dull blue green; twigs with fine hairs; cones about 1" long remaining on the tree for several years?
   It's a **BLACK SPRUCE**!

![Black Spruce Image](image)

Are the needles about 1/2" long, dark yellow-green and shiny; twigs with fine hairs; cones 1 1/4"-2" shed annually?
   It's a **RED SPRUCE**!

![Red Spruce Image](image)

Are the needles about 1/2" long, blue-green to silvery-white; twigs hairless; cones 1"-2 1/2" long with flexible scales, cones shed annually?
   It's a **WHITE SPRUCE**!

![White Spruce Image](image)
Do the needles have 2 white or silvery stripes on their underside? If yes, go to PAGE 13.

Are the needles green on both sides and flattened along the twigs, the cone a 1" diameter wrinkled ball? The needles and fine twigs are DECIDUOUS.
Do the cones hang down? If yes, go to PAGE 14.

Are the cones upright on top branches, over 1-1/2" long with DECIDUOUS scales, the twigs fairly smooth where needles have fallen off?
CLUE: The bark is smooth for many years with resin blisters.
It’s a **BALSAM FIR!**
Are the twigs rough where needles have fallen off, and the cones less than 1" long?

It's an **EASTERN HEMLOCK!**

Are the needles of equal length, the cones 3 - 4" long with a fork-like bract sticking out of each scale?

It's a **DOUGLAS FIR!**
Are the cones less than 3/4" long, with few scales; and are the small branches stiff and not drooping?

It's a TAMARACK/EASTERN LARCH!

Do the small branches hang down?

It's a EUROPEAN LARCH!
Are the leaves yellow-green, flattened and scale-like on outer twigs, foliage arranged in flat, fan-like sprays; fruit a small, bell-shaped, woody cone?

It's an **EASTERN ARBORVITAE/NORTHERN WHITECEDAR**!

Are the leaves dark blue-green, the foliage not arranged in flattened sprays; fruit a small brownish-purple, berry-like cone?

It's an **ATLANTIC WHITECEDAR/SOUTHERN WHITECEDAR**!

Are the leaves dark green, blue-green, or purple-green, awl-shaped and scale-like on the same plant, foliage not arranged in flattened sprays; fruit is blue and berry-like?

It's an **EASTERN REDCEDAR**!