



I promise to be a nature protector. On our trails, I will leave no trace behind me, and when I can, I'll try my best to leave things better than I found it. When I'm out there exploring, I'll leave the plants I find to grow, so that they can live free, just like me. Signed,

#### Nature protector, Very Cool Person

These plants can be found throughout our trails, and many of them in our backyards. Some you might even find in unexpected places! We're excited to share this challenge with you and introduce you to these plant friends growing around us all the time. Print this and use as a coloring book and explorer's journal! Record your finds in the scientific report box at the top of each page. Remember to keep the last page digital, to view color photos of these plants on your phone.

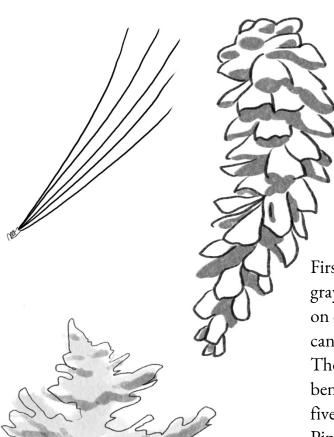
by Julia. Rasnake

Please share your forest adventures with us! Take a picture of your wild self with your plant finds, and tag us on Instagram @MuddyBranchAlliance and Facebook at Facebook.com/MuddyBranchAlliance using the hashtag #MBAWildWanderers.

Please enjoy the wild outdoors, be safe, and teach to others what the plants teach you!

# EASTERN WHITE PINE Pinus strobus





The Eastern White Pine tree is one of the giants in the forest! There are many types of trees along the Muddy Branch trail, but in winter, it's easy to find the evergreens. They stay green year round, and have needles or other specialized leaf shapes. But how do we know which one is the Eastern White Pine?

First, look at the tree trunk. Look for smooth, grayish bark on young trees and dark, ridged bark on older trees. This is a tall, straight tree which can grow three feet per year–very fast for a tree! Then, look for its long, soft needles. These long, bendy, fragrant needles grow in clusters of five. Another way to identify the Eastern White Pine is by its cones. They're about 3-6" in size, and long and slender rather than round with big scales.

If you find one on the ground, you can pick it up and take a closer look – the seeds grow inside the cone and then get blown away by the wind to sprout somewhere on the forest floor.

Like many trees, people have been interacting with the Eastern White Pine for a long time. People use the wood to build homes and ships, and even make tea from the needles. When left to grow, these trees can easily live for 200 years or more. So when you see an Eastern White Pine tree in the forest, remember it has a long history with us-like an old friend.

### JAPANESE BARBERRY Berberis thunbergii

SCIENTIFIC REPORT

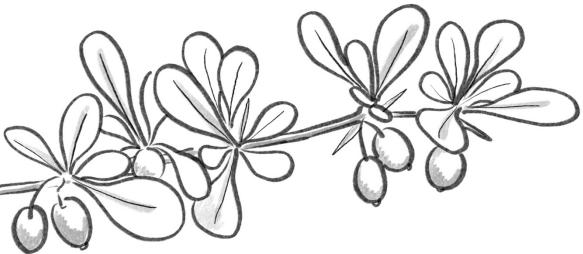
DATE \_\_\_\_\_
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OBSERVATIONS

In winter, most plants have lost their bright colors and leaves. But I'm sure you've spotted many bright red berries. Like little hanging ornaments, Japanese Barberry's small, oval-shaped berries hang from thorny thickets of leafless bushes along the trailside in winter.

Unfortunately, Japanese Barberry is invasive. It has spread from people's gardens and taken over the woods, where it grows quickly and pushes out other plants. It also creates another problem for humans, because it provides the perfect habitat for the black-legged tick, which carries Lyme Disease.

Invasive species make ecosystems less stable. We want stable ecosystems because they are strong and resilient. They can bounce back when changes do happen, rather than fall apart or die. One way to support our ecosystem is to make sure our garden plants aren't causing our ecosystem problems.

Lots of people have this barberry bush growing in their yard without even realizing it, from when someone planted it a long time ago.

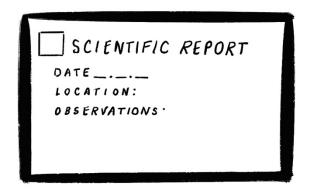


If you spot this plant around your neighborhood, it could be a great opportunity to create some change: you could teach others what you know about caring for our ecosystem, or even suggest planting something else!

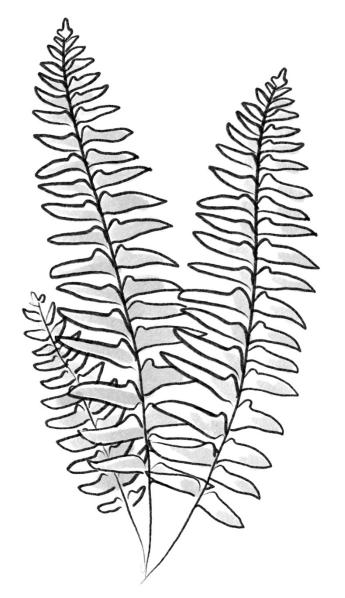
Highbush Blueberry and Northern Bayberry are great replacements to explore.

If you're out in the woods and spot a lot of Japanese Barberry around, make sure to wear long socks, bug spray, and check for ticks as soon as you get home.

# CHRISTMAS FERN Polystichum acrosticoides



Picture this: you're wandering through the woods in winter, suddenly you spot a plant that looks like it's ready to celebrate Christmas all year round – that's the Christmas Fern! This special plant gets its name because its fronds, or leaves, stay green even in the winter, just like the evergreen trees we enjoy decorating with during this season. So, while other ferns lose their leaves and grow back again in the spring, the Christmas Fern keeps the forest looking green year round.



In winter, Christmas Fern is easy to recognize. Not only is it one of the only green plants around, but its fronds have that classic fern shape that's easy to spot. Look closely, and you'll see each leaflet shaped like a tiny stocking! Christmas Ferns grow in clumps, so if you see a bunch of ferns hanging out together, there's a good chance they're spreading holiday cheer with their vibrant green fronds. They love to grow in shady spots, under trees or along rocky slopes, adding a touch of green to even the darkest corners of the forest.

If you find a Christmas fern, come back and check on it in early spring to look for fiddleheads. These silvery, tightly furled spirals will uncurl into new leaves.

### WINTER CREEPER Euonymus fortunei



Nature explorers on the Muddy Branch trail often spot areas carpeted with shiny green vines, even in the middle of winter. Say hello to Winter Creeper – a plant that's as sneaky as its name, creeping along and making itself at home wherever it goes. Winter creeper is another notorious invasive—it grows really fast and takes over other plants' space. It's another bully of the plant world, pushing out native plants and making our ecosystem less stable.

People first planted it because it looks so pretty in winter, with its shiny green leaves, and in spring with its berries and flowers. But unfortunately, it started taking over the forest, where it grows so fast it can even choke out and kill trees. So even though it might look pretty at first, the Winter Creeper can cause big problems if it's not kept in check.

Now, how can you spot Winter Creeper in the wild? Look for small, oval-shaped leaves that are shiny and dark green. They have serrated edges and are usually about an inch long. They grow close to the ground and on vines and spread out like a carpet, covering everything in their path in a big tangle. They also grow in low bushes and climb up trees. Sometimes volunteers get together to help control invasive plants like theseyou can join us at our next Weed Warriors event and help care for our forest!

### PINCUSHION MOSS Leucobryum glaucum

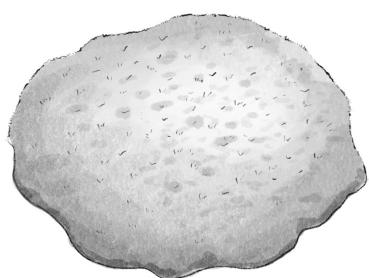


We've all seen those fuzzy, carpet-like green patches covering rocks and trees in the forest. But how closely have you looked? Moss is like a tiny forest all on its own, creating cozy homes for insects and small animals. Moss is ancient—moss has been around way longer than most other plants and trees we see around us, so it has unique ways of living and growing.

For example, instead of taking up water through roots, like other plants, it drinks water straight from the air like a sponge.

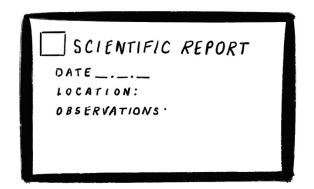


Moss is a survivor. Moss can grow just about anywhere – from the shady forest floor to the sunny side of a rock. Even if it dries out completely for years, some mosses can come back to life as soon as they get water. It doesn't always need soil to grow, and it actually helps create good conditions for other plants by putting nutrients in the soil around it. It comes in all sorts of colors and textures, like soft green pillows or curly strands. Some moss even changes color with the seasons, turning vibrant shades of red or orange in the fall and winter.

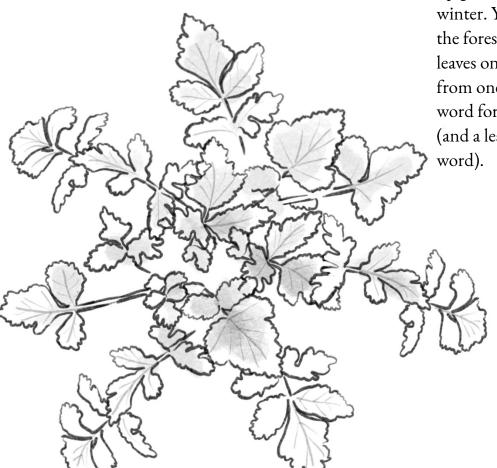


Once you start looking, you'll find many types of moss growing on the Muddy Branch trail. There's pincushion moss, which looks like little green puffs on the ground, perfect for a woodland picnic. Then there's fern moss, with tiny feathery fronds. And don't forget about haircap moss, named for its long, hair-like stems. How many kinds of moss can you find?

#### WHITE AVENS Geum canadense



When the winter ground is cold, brown, and bare of flowers, one plant you can still find is White Avens. It's what we call a "pioneer plant," which means it's one of the first to pop up in places where the soil is bare or disturbed. In many places along the Muddy Branch trail, nature is regrowing after being used for farming years ago. When the soil gets dug up for farming and the trees get cut down, many plants can't grow there anymore because the conditions are too harsh. Plants that grow in the forest often can't grow on a bare, dry field, even if a forest used to be there. The sun is too hot and the rich soil made from falling tree leaves has washed away, leaving dirt that lacks nutrients for the plants. White Avens, though, is especially strong. It can grow in these places, and when it does, it helps make the soil better for the next generation of plants who come along, slowly helping turn the disturbed places back into wild havens for plants and animals.



White avens are also strong enough to send up green leaves even in the middle of winter. You can recognize white avens on the forest floor by its small, dark green leaves on stalks growing in all directions from one central point. The special plant word for this growth form is *basal rosette* (and a leafstalk is a *petiole*, another fun word).

Look for its interestingly shaped leaves to help you identify it. If you come back to this spot in spring and summer, you'll find the white avens has grown into a much bigger plant with delicate white flowers!

White Avens:

https://illinoiswildflowers.info/savanna/plants/white\_avens.htm



Christmas Fern:

https://en.wikipedia.org/wiki/Polystichum\_acrostichoid



Japanese Barberry:

https://en.wikipedia.org/wiki/Berberis\_thunbergii



Eastern White Pine:

https://en.wikipedia.org/wiki/Pinus\_strobus



Winter Creeper:

https://en.wikipedia.org/wiki/Euonymus\_fort unei



Pincushion Moss:

https://en.wikipedia.org/wiki/Leucobryum\_glaucum

