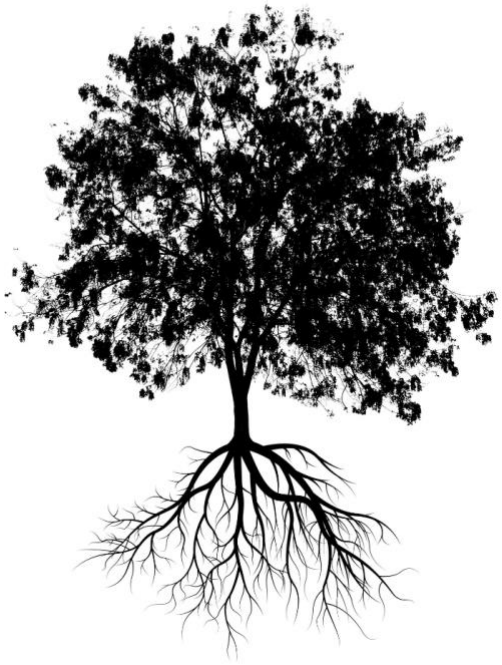
Talking about Trees!

Getting to know your trees!

For starters, trees are just plants. Sometimes, very very big plants! The tallest known tree in the world is 116 meters, or 379 feet tall! It is a sequoia redwood tree in California named 'Hyperion'. Its exact location is actually a secret, so that people won't go and hurt the tree or cut it down.

To see how scientists climb and measure trees, watch this video:

As we learned in Fun with Fungi, trees are all connected by mycorrhizal fungi chains, that help them communicate and gather nutrients. Trees are so important for our watershed! They hold moisture in the soil, their roots hold up steep hills and river banks, and they absorb Carbon and give nutrients to our soil.

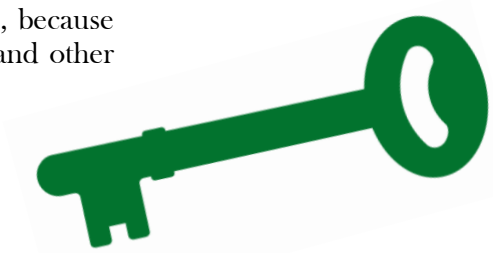


Trees are everywhere! Even if a forest has been cut down, neighborhoods, schools and cities still plant lots of trees. So, let's get outside and learn more about them. You will be doing experiments today that are used by dendrologists, scientists who study trees!

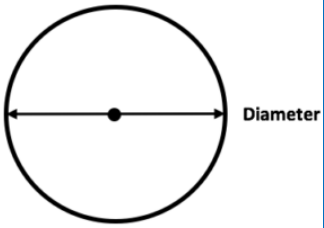
How can you identify trees?

It can be hard to know what kind of tree you are looking at! There are ways to tell trees apart based on the shape and size of their leaves, the way their bark looks, or the type of fruit or flowers that they have.

If you want to learn more about identifying trees in your area, you will need to use a dichotomous key for identifying them. This key is like a map that leads you through each step for identifying your tree. It can be hard to do at first, but with practice, and maybe the help from someone with experience, you can begin to identify the trees in your area. You may have trouble in gardens or parks, because many of those trees are not native and were brought from other places, and other continents. But this key will help you identify the common trees of the pacific northwest. Click on the Key icon to get to the website!



EXPERIMENT 1: Hug a Tree!



One of the first things a dendrologist will do when they reach a tree is measure its diameter. The diameter is the width of the tree all the way across. This is hard to measure if the tree is standing, so we have to measure around the tree and then do a little math to figure out the diameter.

You will need:

- 1 tape measure or ruler
- calculator (on a phone works great)
- 1 piece of string

Instructions:

1. Find a tree near your house that you can measure.

2. Stand up to the tree and wrap your arms around it. This is the place where you want to take your measurement – right at your chest height. Foresters call this DBH which stands for diameter at breast height.

3. Wrap your string around the tree and measure the circumference. Make sure you know where the end is.

4. Next lay down your string on a tape measure or ruler and see how longer your circumference was (the length around the tree). When I measured, my tree had a circumference of 23 inches.

5. Next take that number and put it into a calculator. Divide that number by 3.14 (or π).

6. You now have your diameter!

7. The diameter at chest height for my tree was 7.32 inches.

8. I can go back in a year or two and see if the diameter has changed and if my tree is getting bigger!

CRAFT 2: Age a tree!

Once a tree is cut down, it is easy for us to look at its stump and figure out how old it is. We do this by counting tree rings. Each ring represents 1 year of the tree's life. The reason a tree has rings, is that every winter, when it gets cold, the cells in the trees trunk squeeze together with the frost. This leaves a dark ring of cells – in the summer when it is warm, the tree grows outward and those are the wide spaces in between the tree rings. Dendrochronologist are scientists that study tree rings to look for past information about our climate, like fires (which leave a scar on the rings) or drought (when lots of rings are close together). They can tell a lot about the past just from reading these rings.

You will need:

- Magnifying glass (optional)
- Pencil

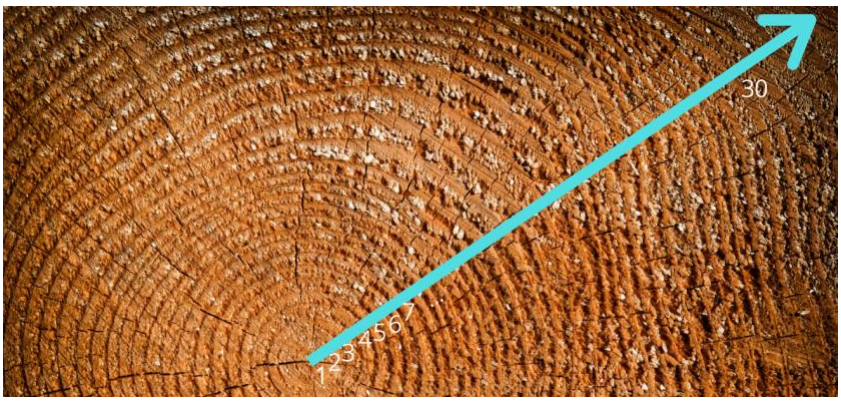
Instructions:

1. Find a tree stump. You can usually find some around parks or schools, if there aren't any near your house.

2. Get very close to the tree stump and find the middle of the tree. This is called the core!

3. Before you start counting, make a guess of how old you think the tree was based on the size of the stump.

4. Start counting the rings from the core all the way out to the bark. The picture below is an example of how to count the rings. It may help to use your pencil and leave a small mark every 10 rings in case you lose count.



5. When you reach the bark ring, stop counting. How old was your tree?

6. Were you close with your guess?

7. The size of the tree doesn't always reflect how old the tree is. Some very small trees are very old, but have had limited nutrients or space, and thus have stayed very thin.

Thanks for conducting science with me for this Home Explorer activity from Umpqua Watersheds Education Program. Join me for new activities posted every week!

- Ms. Robyn

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