



Stories Trees Tell

Learning the Language of Our Tall Forest Friends

Purpose

The purpose of this activity is to understand how **dendrochronology**, or the study of data from tree ring growth, can help us to understand more about a tree's age along with trauma and environmental events it has encountered over the course of its lifetime.

Time

30 minutes

Materials

- Tree stump, “tree cookie”, or a printout of the cross section of a tree
- Paper or journal
- Colored pencils
- Optional: sample pictures of tree cookies

Safety Tips

If you are cutting a “tree cookie” from a fallen tree trunk or tree limb, please be sure to use protective equipment, have close, adult supervision and permission to cut from the fallen tree.

Overview

There is so much that we are able to learn from a tree simply by taking a look inside of it. Here are just a few of the things we can learn about a tree's story from examining the “tree cookie”:

- Age of tree:** We can count the circles, or **growth rings**, to determine the tree's age. Each year, the tree grows a new layer that consists of **early wood** (the lighter portion of the ring indicating more growth in spring months) and **later**

wood (the darker portion of the ring indicating less growth in winter months). The tiny ring in the center of the “tree cookie” taken from the trunk of the tree represents its first year and is approximately the same size as the seed from which the tree grew.

- Climate:** We can look at the width of the rings to determine which years experienced an abundance of rainfall evident by wider rings versus those that may have resulted during a drought or extremely cold winter shown by narrow rings.
- Trauma:** Scars may indicate a loss of a tree limb, fire, or some other trauma occurring during that particular year of the tree’s life.
- Disease:** Wavy lines or extremely narrow lines on a tree can indicate insect infestation or a disease.

What to Do

Now that you know how a tree tells its story, take a few minutes to draw a “tree cookie” that tells your story. Questions you might consider:

- How old am I? (or, how many rings should I draw?)
- Do I have any scars that tell about my story?
- Which years did I grow a lot?
- Which years did I grow a little?
- Have I ever been really sick?
- Did I lose a lot of teeth during certain years?

Feel free to be creative and include any special events, trips, and favorite moments as you tell your story like a tree! Use the link below to learn more about creating your very own tree story. Will Phelps (12 years old), a Camp Discovery alumnus, will demonstrate how you can represent your life and all its important events just like a tree!

<https://youtu.be/s47PTR9enKc>



Questions for Review

1. How can we tell how old a tree is?
2. What do wavy lines suggest about a tree?
3. What can we learn about the climate from looking inside a tree?
4. If a tree encountered a forest fire during its fourth year, what would we expect to find on the fourth growth ring?

Key Words

Growth rings: The increment of wood added to a tree during a single growth period.

Dendrochronology: The study of data from tree ring growth.

Early wood: The wood formed at the beginning of a growing season, which is typically light in appearance.

Late wood: The wood formed at the end of the growing season that is typically darker and more dense than early wood.

Extensions

- Older participants can interpret a picture of a “tree cookie” (see below) by determining the tree’s age, the climate throughout its lifetime, trauma it has endured, and its rate of growth. The level of detail and depth of this activity can be customized based on the abilities of the participants.



- Younger participants can utilize pictures of “tree cookies” to understand the concepts of counting the rings to determine a tree’s age and identifying the difference between a narrow ring and a wide ring as it relates to a tree’s growth.

