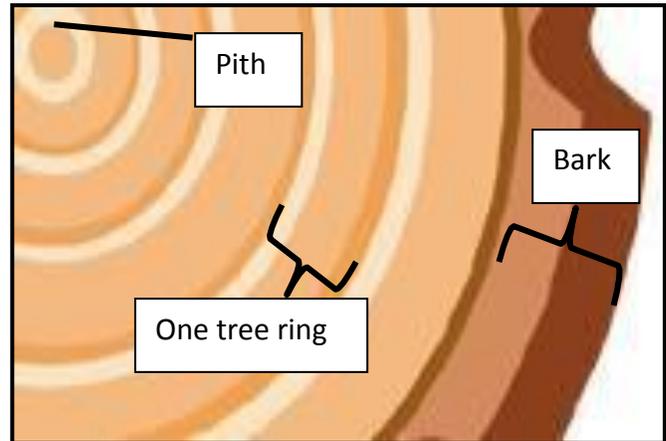


## Counting Tree Rings

Trees gain one ring per year, like candles on a birthday cake. In this activity, students use tree rings to tell the story of a tree and its environment.

**Dendrochronology** is the science of determining tree age by looking at tree rings. It is also practiced on buildings. At Tudor Place, scientists took samples of wood from parts of the Tudor Place mansion and used dendrochronology to figure out in approximately what year the wood was cut down, and discovered that those parts of the building were older than we had thought.

**Each tree ring begins with the light band of wood and ends with the dark band. The innermost circle represents the pith of the tree and should not be counted.** The outermost thick, beige or brown ring on each sample represents the bark of the tree and should not be counted. For more information, see the Glossary and Additional Resources at the end.



### Procedure

1. Distribute worksheet.
2. Remind the student that each ring starts with the light band of wood and ends with the dark band of wood, and that the very middle and very outside rings don't count. An answer key is provided on the page after the worksheet in this packet.
3. Have students compare their own ages to the ages of the trees in the packet. By comparison, the tulip poplar on the South Lawn at Tudor Place is 200 years old.
4. Discuss with the students ways to take care of trees so they are happy and healthy for a very long time. Trees can live a very long time, and in a garden like the one at Tudor Place, gardeners take good care of the trees.

## Counting Tree Rings

Like birthday candles on a cake, the number of tree rings tells us how old a tree is. Count the rings. How old is this tree?



Age: \_\_\_\_\_

Which of these two trees is older? How old is each tree?



Age: \_\_\_\_\_



Age: \_\_\_\_\_

How old are you? Are you older or younger than these trees?

---

## Counting Tree Rings (Answer Key)

Like birthday candles on a cake, the number of tree rings tells us how old a tree is. Count the rings. How old is this tree?



Age: **5**

Which of these two trees is older? How old is each tree?



Age: **5 (younger)**



Age: **11 (older)**

How old are you? Are you older or younger than these trees?  
**(subjective)**

## Glossary

**Bark** – the outermost, protective layer of a tree

**Climate** – the weather in a place over a long period of time

**Dendrochronology** – the science of using tree rings and other features of trees to learn about the age and history of a tree or piece of wood

**Dendroclimatology** – the science of using tree rings and other features of trees to learn about the climates of the past

**Garden** – a place designed by humans where plants are grown, often for enjoyment

**Pith** – a soft, spongy part of a plant that moves nutrients through the plant. In this lesson, the pith is at the center of each tree trunk.

## Additional Resources

History of the Tudor Place garden

<http://www.tudorplace.org/who-we-are/garden/history-of-the-garden/>

Interactive dendrochronology activity from the National Park Service that divides tree rings into “growth” and “rest” rings, and demonstrates simple cross-dating techniques.

<https://www.nps.gov/webrangers/activities/dendrochronology/>

“About Tree Rings,” Laboratory of Tree-Ring Research, University of Arizona: Counting tree rings is a simplified form of dendrochronology. This resource delves into more complex concepts and techniques.

<http://ltrr.arizona.edu/about/treerings>

Video clip (2 minutes) about dendroclimatology from Professor Steven Chischilly, Navajo Technical College

<https://whut.pbslearningmedia.org/resource/nasa11.sci.ess.watcyc.navdendro/dendroclimatology-in-the-navajo-nation/#.WmdJHoWcG70>