



# At-Home Science

## Tree Rings

Forest habitats are home to many creatures, including the red rat snake. Red rat snakes (figure A) and other animals depend on the forest for food, water and shelter. Even though you may not live in a forest, they are vital to our lives; forests help prevent soil erosion and flooding, produce oxygen and take in carbon dioxide, reducing climate change. There are many threats to the forests around the world, including deforestation, insects, invasive plants, climate change and forest fires.

**Dendrochronology** is the study of tree rings. Trees can provide snapshots of past climate conditions. Scientists study the color and tree ring width to better understand the past climate in a local area. What can we learn from a tree? Years with lots of rain will produce the biggest tree rings!

Count the rings on figure B to find out how many years old this tree was.

Hint: one dark ring + one light ring = one year

### Cool Science

Now we know how to count the rings of a cut tree to find out the age, but do you know the rest of the story? What can we learn from a tree?

Years with lots of rain will produce the biggest tree rings!

Narrow rings may show a tree had a rough time during its early years because it was crowded and didn't get enough sunlight. Maybe someone helped it by cutting the large trees around it to give it more sunlight. Those rings would become wider.

Narrow rings are not always caused by a lack of sun or water. A forest fire may have damaged the tree and slow its growth.

Destruction of leaves by insects or fungi can have the same effect. After several years, the tree may gain strength and return to normal growth.

### Try It Out

Let's give dendrochronology a try! Use figure C to decipher how the climate and events affected this tree's life. Or draw a "tree cookie" showing and labeling different events during the life of a tree.

Visit [climatekids.nasa.gov/tree-rings](https://climatekids.nasa.gov/tree-rings) for diagrams that will help your kids understand the study of tree rings.



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