

**Living Resources** ▪ *Skills Lab*

# Tree Cookie Tales

## Problem

What can tree cookies reveal about the past?

## Skills Focus

observing, inferring, interpreting data

## Materials

- tree cookie
- metric ruler
- hand lens
- colored pencils
- calculator (optional)

## Procedure

1. Your teacher will give you a “tree cookie”—a slice of a tree trunk that contains clues about the tree’s age, past weather conditions, and fires that occurred during its life. Use a hand lens to examine your tree cookie. Draw a simple diagram of your tree cookie. Label the bark, tree rings, and center, or pith.  

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2. Notice the light-colored and dark-colored rings. The light ring results from fast springtime growth. The dark ring, where the cells are smaller, results from slower summertime growth. Each pair of light and dark rings represents one year’s growth, so the pair is called an annual ring. Observe and count the annual rings.  

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3. Compare the spring and summer portions of the annual rings. Identify the thinnest and thickest rings.  

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4. Measure the distance from the center to the outermost edge of the last summer growth ring. This is the radius of your tree cookie. Record your measurement.  

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5. Measure the distance from the center to the outermost edge of the tenth summer growth ring. Record your measurement.  

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6. Examine your tree cookie for any other evidence of its history, such as damaged bark or burn marks. Record your observations.

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**Analyze and Conclude**

*Write your answers in the spaces provided.*

1. **Inferring** How old was your tree? How do you know?

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2. **Calculating** What percent of the tree's growth took place during the first ten years of its life? (*Hint: Divide the distance from the center to the tenth growth ring by the radius. Then multiply by 100. This gives you the percent of growth that occurred during the tree's first ten years.*)

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3. **Observing** How did the spring rings compare to the summer rings for the same year? Suggest a reason.

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4. **Interpreting Data** Why might the annual rings be narrower for some years than for others?

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5. **Communicating** Using evidence from your tree cookie, write a paragraph that summarizes the history of the tree. Be sure to include as much detail as possible in your summary.

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6. **Design an Experiment** Suppose you had cookies from two other trees of the same species that grew near your tree. Write a plan for verifying the interpretations you made in this lab. *Obtain your teacher's permission before carrying out your investigation.*

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