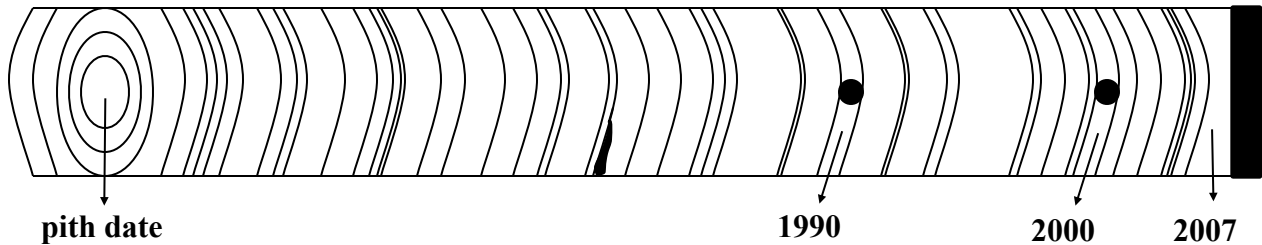


Purpose: To see how scientists learn about past (recent) climates from tree rings

Background

The science of studying tree rings, called dendrochronology, allows scientists to discover past climates and events in a given area. There are a few important ideas dendrochronologists must know in order to study tree rings:

1. Each ring represents _____ year and is shown in two parts: a light ring which shows the growth during _____ months, and a dark ring which shows growth during _____ months. Both rings are counted together as the same year.
2. The center of the tree is called the _____.
3. When labeling tree rings, scientists will put a dot for every 10 years on the tree.



Instructions: Complete the questions below using the diagram and the data provided.

1. Mark every decade with a dot. 2000 and 1990 were done for you. This will make it easier to keep track of your rings.
2. What is the inner date (pith date) of the tree core? _____
3. How old is this tree? _____
4. Which year has a visible scar? _____
5. What is a reason why the tree may have a scar? _____

On to the back!

6. List the years of 5 of the narrowest rings. There are more than 5. Then, use the data sheet on your table to find the total rainfall for that year.

<u>Year</u>	<u>Rainfall</u>
a. _____	_____
b. _____	_____
c. _____	_____
d. _____	_____
e. _____	_____

Calculate the average rainfall for these rings.
Add the rainfall for each year and divide by 5.

7. List the year of the 5 thickest rings. Then, use the data sheet on your table to find the total rainfall for that year.

<u>Year</u>	<u>Rainfall</u>
a. _____	_____
b. _____	_____
c. _____	_____
d. _____	_____
e. _____	_____

Calculate the average rainfall for these rings.
Add the rainfall for each year and divide by 5.

8. There is a relationship between tree ring size and rainfall. What is it? (Hint: the narrow rings are narrow because....and the thick rings are thick because....)

9. You may have noticed that some of the thinner rings actually have really high rainfalls. Could there be something else that prevents the tree from growing large rings for that time? Hypothesize what other environmental factors might impact how much a tree ring grows.

Source (Hey, credit is due!)
This activity was produced by the University of Tennessee GK-12 Earth Project and funded by the NSF GK-12 Program. The questions have been modified to fit the needs of this class.

Name

Period

Date

Climate Data 1950–2007

Year	Precipitation (cm)
1950	14.4
1951	15.4
1952	13.8
1953	12.6
1954	12.1
1955	16.5
1956	11.6
1957	15.1
1958	14.5
1959	15.4
1960	11.9
1961	14.3
1962	16.5
1963	16.5
1964	16.8
1965	15.5
1966	11.4
1967	19.1
1968	17.2
1969	17.1
1970	17.9
1971	15.4
1972	14.8
1973	16.2
1974	11.9
1975	20.4
1976	16.5
1977	16.9
1978	15.8
1979	4.7

Year	Precipitation (cm)
1980	9.1
1981	17.6
1982	18.7
1983	18.6
1984	16.3
1985	14.9
1986	16.2
1987	15.2
1988	11.9
1989	15.1
1990	13.5
1991	16.1
1992	5.6
1993	20.3
1994	14.3
1995	19.5
1996	13.7
1997	18.2
1998	15.6
1999	10.9
2000	12.9
2001	14.4
2002	16.7
2003	12.2
2004	9.7
2005	8.7
2006	15.0
2007	Data incomplete