

Climate and Tree Growth Quick Lab

Lab Worksheet for “History in a Tree Trunk” (p. 296-297)

Use the following chart for completing the “Procedure” part of the quick lab (questions 2-4).

Sample	Age	Good Conditions (e.g. 1966-70, etc.)	Poor Conditions
1	29-30	1979-81, 1986-1992, 1996-2000, 2004-2005	1982-85, 1993-1995, 2001-2003, 2006-2008
2	27	2002-2005, 1979-1981	1993-95
3	38	1971-73, 1978-1979, 1987-1988, 1997-1999	1966-1970, 1974-77, 1980-1983, 1992-1994, 2000-2002
4	27	1963-1965, 1971-1973, 1975-1976	1959-1962, 1966-1970, 1974-1977, 1981-1985

Questions (from the Quick Lab sheet)

5. Write a descriptive sentence or 2 about each sample tree based on your data. (e.g. “experienced 25 good years and 8 poor years of growth”)

Sample 1: 10 good years, 20 poor years

Sample 2: 17 good years, 10 poor years

Sample 3: 20 good years, 18 poor years

Sample 4: 11 good years, 16 poor years

6. Compare your interpretations with those of a classmate.
How do they compare?

7. Why would scientists studying climate change find the data from core samples useful?

The rings from core samples can be compared to direct climate measurements (e.g. amount of precipitation, temperature)

8. What are the advantages and limitations of this technique?

Advantages:

Long records (up to hundreds of years), many trees available (more reliable data)

Disadvantages:

Not a source of direct climate data like temperature, trees only grow on land (earth's surface is 70% water), tree gives climate for local area

9. How could you tell that these trees are from the same geographical region?

The good years (or poor years) of 1 tree sample correspond to the good years (or poor years) of another tree sample where they overlap