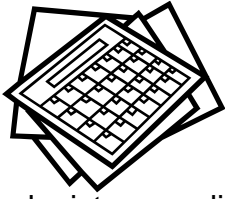


Name \_\_\_\_\_



## Dating Methods

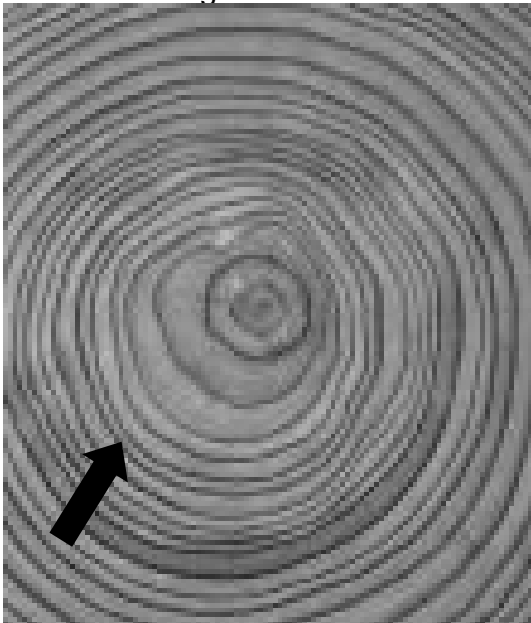


I.) Archaeologists use different methods to date artifacts and sites. Dating methods can be divided into two categories: absolute dating and relative dating. **Absolute dating** methods try to find a specific year or time period for a site or event (Keywords: dates, specific events, and time period names). **Relative dating** means that an artifact or site's age is compared to other artifacts and sites (Keywords: older, newer, before, after, etc).

**Directions:** Put an "A" next to the examples of absolute dates and an "R" next to examples of relative dates.

- 1.) A house built in 1805 \_\_\_\_\_
- 2.) The oldest tomb in the Valley of the Kings \_\_\_\_\_
- 3.) Charred wood from the Great Chicago Fire \_\_\_\_\_
- 4.) Pyramid with the most recent form of Mayan writing on the wall \_\_\_\_\_
- 5.) Bronze Age Axe head from England \_\_\_\_\_
- 6.) Barn before the one currently standing \_\_\_\_\_

II.) The age of a tree can be determined by counting the number of rings present in a cross-section. Each dark area represents a winter and each light area represents a summer. This is called **Dendrochronology** or tree-ring dating. Archaeologists can use logs from a site to help determine its age.



7.) Count the rings to see how old the tree is where the arrow points.

8.) List two examples of sites where dendrochronologic dating could be used. (Think about sites where logs would be present.)

9.) Is tree ring dating relative or absolute? Support your answer.

10.) What limitations do you think there are with tree-ring dating?

**III.)** Dating sites and artifacts can be tricky. Archaeologists have to look at a lot of evidence before making conclusions about a site and its artifacts. They cannot always determine a definite date, so they will use the word **circa**. Circa means around or approximately. So if a site is said to be from circa 1750, it means that it dates from approximately 1750. Try to answer the questions below based the evidence provided.



- Bottles A & B were recovered from a privy (outdoor toilet) located on a farmstead site.
- Animal bones, broken ceramics, and other items were also found in the privy.
- Bottle A has no seams.
- The other recovered artifacts from the privy indicate a date of circa 1918.
- The first bottle-making machine was patented in 1903. By 1910 most bottles were made in these machines.
- Based on research and interviews the archaeological team knows that the site was occupied by the Richardson family between 1890-1935 and then abandoned.
- Bottle B has seams indicating it was made by a bottling machine.

11.) What do the contents of the privy tell you about it?

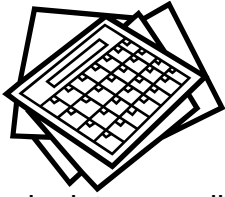
12.) When was the Bottle A made? (**Hint: Use the terminology of relative dating**)

13.) When was Bottle B made?

14.) Why could Bottle A have been found in a privy dating from circa 1918?

# Answer Key

## Dating Methods

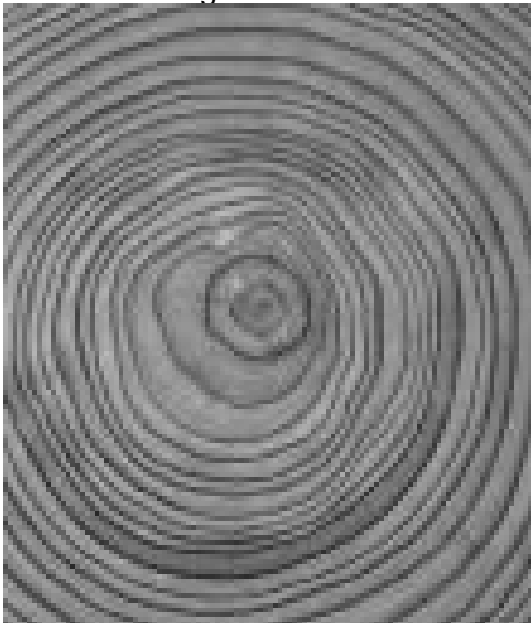


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| 1.) A house built in 1805 <u>  A  </u>                      | 4.) Pyramid with the most recent form of Mayan writing on the wall <u>  R  </u> |
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II.) The age of a tree can be determined by counting the number of rings present in a cross-section. Each dark area represents a winter and each light area represents a summer. This is called **Dendrochronology** or tree-ring dating. Archaeologists can use logs from a site to help determine its age.



7.) Count the rings to see how old the tree is where the arrow points.

**7 years**

8.) List two examples of sites where dendrochronologic dating could be used. (Think about sites where logs would be present.)

- **Ships with log construction**
- **Timber frame buildings**
- **Site with wooden artifacts**

9.) Is tree ring dating relative or absolute? Support your answer.

**Either or both answers are correct if supported. Tree-ring data is a form of absolute dating because it puts a definitive date on when the tree was felled. It can be considered a form of relative dating because the date a tree was felled is not necessarily the date a structure was built. If a tree was cut down 100 years ago we can say that the structure is no older than 100 years, but may not know an exact date of construction.**

10.) What limitations do you think there are with tree-ring dating?

**The date a tree was cut down does not necessarily indicate when a site was built or occupied. Sometimes logs are not used immediately after they are cut down. Often times timbers from an old building are reused to build a new structure. Also, a site may be occupied for a long period of time, so the date from the tree is not the same as the dates of human occupation**

**III.)** Dating sites and artifacts can be tricky. Archaeologists have to look at a lot of evidence before making conclusions about a site and its artifacts. They cannot always determine a definite date, so they will use the word **circa**. Circa means around or approximately. So if a site is said to be from circa 1750, it means that it dates from approximately 1750. Try to answer the questions below based the evidence provided.



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- Bottle B has seams indicating it was made by a bottling machine.

11.) What do the contents of the privy tell you about it?

**Privies were often used as a garbage pit. People disposed of bodily and household waste here. Privies are often a rich source of artifacts!**

12.) When was the Bottle A made? (Hint: Use the terminology of relative dating)

**Bottle A was probably made before Bottle B**

13.) When was Bottle B made?

**Bottle B was probably manufactured between 1903 and 1935. 1903 because this was the first year of the bottle-making machine and 1935 because the site was abandoned that year.**

14.) Why could Bottle A have been found in a privy dating from circa 1918?

**Although Bottle A was probably made before 1918, some bottles were still being made by hand, without the bottle-making machine. So it is possible that the bottle dates from circa 1918. A more likely possibility is that this older bottle had been saved, reused and later thrown away. Bottles made handy containers and could be reused in a variety of ways.**