# Answer Key: Archeological Excavation

**Question 1:** You find a piece of charcoal in one of the layers. When you examine it under a microscope, you see this sequence of vertical growth rings. Count the number of light growth rings. How old is this sample? Looking at the width of these rings, are there any years that were very wet? Very dry?

**Answer:** There are ten growth rings, meaning that this sample is from a ten-year-old tree. There were wet seasons one year ago and nine years ago. Three and six years ago, the tree experienced very dry seasons.

**Question 2:** While excavating, you find ceramic pieces with these four decorations. Describe each of these decoration styles. How are they similar? How do they differ? What might these similarities and differences mean?

**Answer:** All of the styles are geometric. Two pots are painted red and two are painted or left white. Vessel 1 and 2 have triangular patterns while vessel 3 displays a checkerboard pattern and vessel 4 shows a circular design. All designs are created in black.

Red vessels 1 and 4 may be related, as well as white vessels 2 and 3. Similarities might indicate that vessels were made by the same potter, with the same materials, at the same time, or by individuals who shared cultural ideas. Differences indicate some variation within these scenarios.

**Question 3:** The vessels above could have been made by people who lived at Chaco. They could also have been made in other villages and been traded for Chacoan goods. Over time, these two types of vessels got broken and mixed together within the midden.

Your research shows that the white-and-black pottery you found was made at Chaco and the red-and-black pottery was a trade item made elsewhere.

You have dated the midden layers using your charcoal analysis and counted the number of local and traded pottery types within each. Use the graphs to answer the questions below.

Did the number of ceramics made at the site increase or decrease over time? What about those made elsewhere?

Describe the patterns you see. Does the number of local ceramics seem to influence that of non-local ones? What might this mean? Could this pattern tell you anything about the availability of local resources? Environmental conditions?

**Answer:** Locally-made vessels increased over time whilst non-locally made vessels increased and then decreased.

The data could mean that ancient Chacoans were relying more on locally-made pottery and less on non-local pottery. If so, then the amount of local resources could be increasing and environmental conditions would be favorable. These could include a large amount of rainfall that assisted crops, local animal herds, or large amounts of discovered clay. Ancient peoples would thrive where they were and not have to rely on imported resources.