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Archaeology for the k-12 Teacher, Summer 2005

Lesson title: Identifying Scientific Steps Taken by Archaeologists in the Field

Grade: 6th grade

Lesson duration: One 45 minute session

Lesson objective: Students will complete a graphic organizer to identify the scientific steps being taken in photographs of an archaeological dig. This activity will be done in a computer lab where the photos will be uploaded for student access on individual computers.

Science outcomes, processes of science

Students apply what they have learned about the scientific process to the field of archaeology by identifying the steps being taken by archaeologists as they excavate a site and deal with archaeological data. This will help to reinforce and enhance an understanding of the scientific process as it is played out in real life in one specific field of study.

Secondary outcomes

Students will work towards becoming aware that an archaeological site is a non-renewable resource. What archaeologists can find at a site encompasses way more than artifacts or “things.”

Students will work toward becoming aware that the context in which artifacts, soil changes and features are found helps archaeologists to make inferences, interpretations based on an analysis of scientifically gathered information.

Students will work towards becoming aware that archaeological sites need to be excavated scientifically. They should be protected. If destroyed, the information locked in the soil may be unretrievable.

Vocabulary

Must be covered before the lesson:

Stratum

Unit

Stratigraphy

Artifact

Feature

Testable question

Activator

Turn to a partner and list the steps taken to complete a scientific research project. Specifically address the importance of controlling variables and how this is done. Share these with your group. Each group shares two with the whole class.

On an LCD projector, show the kids the photographs. Demonstrate how to fill in the graphic organizer.

Lesson

Have the children work in pairs to complete the activity as they scroll through the photos.

Shut down the computers and put students in groups of four to discuss the work they have done. Be sure each group continues to have access to a computer in order to refer back to photos as they discuss. Have the students discuss the question: Were there any photos that very clearly demonstrated controlling variables? Were there any photos that confused you?

Summarizer

Have kids pick a few photos that seemed ambiguous to them. Discuss how different teams evaluated what the photos illustrate. Discuss.

Have the kids pick a few photos that they felt clearly demonstrated an attempt to control variables. Discuss how an archeological excavation is a controlled experiment and how it is not.

Assessment

Have the students complete an exit card in which they answer the following questions, one per side of an index card:

Side 1 In what ways is archaeology a controlled scientific experiment?

Side 2 In what ways do you think archaeology differs from a controlled scientific experiment done in a laboratory?

Homework

In your science journal, write a brief essay addressing the following scenario: While hiking in the woods with your friends, you encounter a group of pottery shards lying on the surface of the ground, some of them partially buried. Do you and your friends dig them up and take them home or do you report the site to local archaeologists?

What knowledge do you think could be lost if you dig them up and never tell anyone?

