

LESSON 2 Introduction to Archeology

OBJECTIVES

- Understand what archeology is and how it is studied;
- Develop preliminary concepts about archeology within the park; and
- Develop skills and mathematical concepts for scientific investigation and interpretation.

MAIN IDEA

To introduce concepts about archeology through interpreting evidence within a modern environment.

ESSENTIAL SKILLS

- writing
- cooperating
- brainstorming
- communicating
- reporting
- classifying
- comparing
- observing
- interpreting

MATHEMATICAL SKILLS

- recording data

MATERIALS

- student journals

PAGES TO PHOTOCOPY

- *Archeology is Detective Work* Student Activity Sheet page 16

The following table aligns this lesson with the Arizona Science Standards (5-24-04). Most curriculum connections shown are implicit within the lesson. Others are achieved through teacher interaction with the class, including discussion of the background information provided. Teachers are encouraged to expand on the lesson to increase its potential as an educational tool and a fun learning experience.

CURRICULUM CONNECTIONS: ARCHEOLOGY LESSON 2 INTRODUCTION TO ARCHEOLOGY					
Arizona Science Standards (5-24-04)					
	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Strand 1: Inquiry Process	C1-PO1	C1-PO1*	C1-PO1	C1-PO1*	C1-PO1*
	C1-PO2	C1-PO2*	C1-PO2	C1-PO3	C1-PO3
	C1-PO3	C2-PO1*	C2-PO1*	C2-PO1*	C2-PO1*
	C2-PO1	C2-PO2*	C2-PO2	C2-PO2*	C2-PO2
	C2-PO2	C2-PO3	C2-PO3	C2-PO3	C2-PO3
	C2-PO5	C2-PO5	C2-PO4	C2-PO4*	C2-PO4*
	C3-PO1	C3-PO1	C2-PO5	C2-PO5*	C2-PO5*
	C3-PO2	C3-PO2	C3-PO1	C3-PO1*	C3-PO1*
	C3-PO5	C3-PO3	C3-PO2	C3-PO2*	C3-PO2*
	C4-PO1	C3-PO4	C3-PO3	C3-PO3	C3-PO4
	C4-PO3	C4-PO1*	C3-PO6	C3-PO4	C3-PO5
		C4-PO3*	C4-PO2	C3-PO5	C3-PO6
			C4-PO3	C3-PO6	C3-PO8*
		C4-PO5	C3-PO7	C4-PO1	
			C4-PO2*	C4-PO3	
			C4-PO3*	C4-PO5*	
			C4-PO5*		
Strand 2: History & Nature of Science	C1-PO2	C2-PO1	C1-PO4	C1-PO4	C1-PO4
	C2-PO1	C2-PO2	C2-PO1	C2-PO1*	C2-PO1*
	C2-PO3	C2-PO3	C2-PO2	C2-PO2*	C2-PO2*
		C2-PO4	C2-PO3	C2-PO3*	C2-PO3
		C2-PO5			C2-PO4

* repetition of a performance objective from an earlier grade level

INTRODUCTION

Archeology is a science that investigates past human cultures through examination of artifacts and other evidence of life within their context. Through observation and analysis, theories are developed about past human behavior, culture, and technology. Because the past can never be recreated, cultural resources are considered to be nonrenewable and in need of protection and preservation. While studying archeology, students should understand that they are studying *people* who lived in a different time and place. Culture should be studied with respect and without judgement. This is especially important within today's multicultural society.

Archeologists use the scientific method of investigation by posing questions, making hypotheses, gathering data, and assessing and reporting their findings. Excavation is only one way to gather information about the past. Because of its destructive nature, excavation is not usually conducted unless an area is in danger of being destroyed by construction, development, or for education and research purposes. Other ways to study the past include interviewing elders, reading historic documents such as ethnographic and research reports, surveying an area to record and map any evidence of past human use, or by re-analyzing artifacts in museums and other collections.

Why do we study the life of humans who lived in the past? One reason is that understanding how people lived before the present provides us with perspective, appreciation, and respect for the development and differences of modern cultures. Our knowledge of the past helps us realize how the present came to be and helps to guide our future.

LESSON FRAMEWORK

1. Terminology

A list of defined terms for teachers.

2. Activity: *Brainstorm*

A class activity that assesses student knowledge of archeology at Petrified Forest National Park.

3. Activity: *Archeology is Detective Work*

A class activity that allows students to investigate a familiar environment as an archeologist would investigate evidence in an ancient environment.

TERMINOLOGY

archeological research methods - examining written research records, conducting interviews, surveying, excavating, preparing, conserving, and cataloging artifacts, analyzing and comparing artifacts, and preserving archeological resources

archeology - a science that investigates past human cultures through examination of artifacts and other evidence of life within their context

artifact - any object made or used by humans

context - refers to both a physical and interpretive state of archeological resources; physical context is “in situ” or the matrix in which resources are found; interpretive context is the intellectual framework in which resources are interpreted

excavation - the systematic, careful digging of cultural resources for the purposes of research or gaining information about the people responsible for its deposition

feature - non-portable physical resource that typically refers to fire hearths, architectural elements, artifact clusters, soil stains, and garbage pits

hypothesis - a statement that attempts to explain or suggest an observation with plans for testing

structure - a cultural resource that cannot be removed from its context, such as walls of a pueblo, a pithouse, or building

theory - a principle devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena

site - a place where cultural resources are found, including habitation, ceremonial, agricultural, kill, camp, and quarry sites

survey - techniques used in archeological research in which the ground is systematically observed for the purpose of locating artifacts, features and structures, followed by mapping, dating, interpreting, and correlating with regional cultural history



BRAINSTORM

TEACHER INSTRUCTIONS

OBJECTIVE

To have students understand what they already know about Petrified Forest National Park, specifically about archeology.

MAIN IDEA

As a class brainstorming activity, students will create a list of what they know about Petrified Forest National Park, narrowing the topic down to what they know about archeology.

MATERIALS

- chalkboard, large sheets of paper, or dry-erase board
- optional: colored chalk, markers, or crayons

PROCEDURE

1. Explain the process of brainstorming to students. They will be thinking together as a class.
2. Ask students to think about what they know of Petrified Forest National Park. You can have students call out ideas as they think of them, raise their hands, or go around to each person for one idea.
3. Record all the ideas presented. A good way to do this and still be organized is to plan how you will record topics as they are presented. For example, some topics that may be presented are paleontology, archeology, geology, wildlife, and historic events. As ideas under these topics are presented, you could write them in different colors or on different sheets of paper or different sections of the chalkboard. Don't tell students the topics until all ideas have been presented. Then let them guess how you have organized their ideas and label them appropriately.
4. Identify the archeology category and try to expand the ideas presented. Ask students what they know about the science of archeology and how it is studied. What do they know of ancient people? What types of evidence do archeologists use to study ancient people? (habitation sites, rock quarries, artifacts such as projectile points, hammerstones, pot sherds, puebloan ruins, etc.)

ARCHEOLOGY IS DETECTIVE WORK TEACHER INSTRUCTIONS

OBJECTIVE

To simulate an archeological survey using a familiar environment.

MAIN IDEA

Student cooperative groups will become teams of archeologists, analyzing evidence of life, including artifacts and features, within a modern environment.

MATERIALS

student journals

PROCEDURE

1. Explain how archeologists work - finding evidence of past life and making assumptions about the lifestyle of the people who left the artifacts or made the features found.
2. Divide students into their cooperative groups and explain that each group will be a team of archeologists. Each person will have a specific duty, ie. observer, recorder, analyzer, interpreter, reporter, etc. You can assign students to a duty or allow them to choose. During the activity, encourage students to switch roles, trying each type of work.
3. Choose an unoccupied area within your school yard, lunch room, gymnasium, etc. where human behavior can be inferred from material evidence. It needs to be a place where students can find evidence of life, ie. sports equipment in a gym or locker area, markings on the surface of a running track, food debris on the floor of the lunch room. Send cooperative groups to different parts of one large area, noting the boundaries of their areas. These are their designated sites.
4. Using their journals to record their findings, students should look for and record evidence of life, for example artifacts and features. This should be text and drawings. If someone has a digital camera, this can also be used!

5. Encourage students to analyze the artifacts and features they find as if they were archeologists from the future. Here are some questions that might help them get started with their interpretation of the site:

What were these things used for?

Why were these markings made?

Even an empty area, with seemingly few artifacts, may have significant meaning. Could it be where an activity, such as a game, took place?

What happened here?

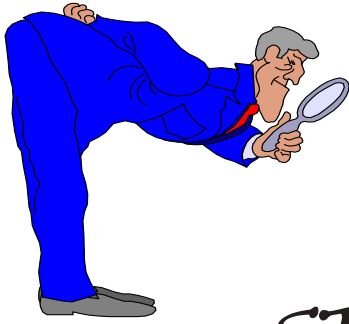
What does this all tell me about the lifestyle of the people who once used this area?

6. Once students have collected their data and developed an hypothesis, or educated guess, about the use of artifacts and features and the lifestyle of the people who once used the area, they should prepare a presentation for the rest of the class.

7. Have students present their findings and hypothesis to the other teams. Encourage questions from other teams.

8. Put all the evidence collected into a complete picture of the area. How do the artifacts and features found, along with the hypotheses generated, relate to the overall use of the area?

9. Conclude with a link between the activity and what archeologists really do. Some archeologists study sites that are within the memory of people living today or that have written records documenting use and occupation. These are historic sites, for example Historic Route 66, National Historic Landmarks, civil war battlefields, etc. In this case, artifacts and features are more easily identified and the context understood. But other archeologists study sites that are ancient, or prehistoric. No written records exist about the ancient people, and many artifacts and features are not identifiable or understood based on items within today's world. These sites are much harder to interpret. The ideas about prehistoric people that archeologists come up with is not always agreed on by all. As more evidence is found ideas also change. This is the dynamics of science!



ARCHEOLOGY IS DETECTIVE WORK

STUDENT ACTIVITY SHEET

MISSION

To conduct an **ARCHEOLOGICAL SURVEY**, finding and analyzing evidence of life to determine how people once used the area studied.

TASK 1

Within your cooperative group, determine the duty of each person - observer, recorder, analyzer, interpreter, reporter, etc. Everyone should be prepared for the mission with journals, writing instruments, and a good detecting eye.

TASK 2

You will be assigned a **SITE** (study area) by your teacher. Using your journals, write down the **ARTIFACTS** (objects made or used by humans) and **FEATURES** (objects or evidence left by humans that cannot be moved, ie. stains in the carpet) you find within this site.

TASK 3

Analyze the evidence you find to determine how artifacts and features were used and to determine how the people who were once there used the area. Develop an **HYPOTHESIS** (educated guess) about the lifestyle of the people.

TASK 4

Prepare and present your hypothesis to the rest of the class.

TASK 4

Using all the evidence collected by all the groups, can you come up with an overall use of the area?

.....MISSION ACCOMPLISHED