



Archaeology and Prehistoric Native Americans

Grade Level **5-8**

Class Periods **3-4**

Goals/Objectives/Student Outcomes:

Students will:

- Distinguish between paleontology and archaeology.
- Learn how archaeology can help us learn about prehistoric Native Iowans.

Materials:

1. Paper
2. Pencils or pens
3. Paper bags
4. Time line chart showing the geological ages represented in Iowa and illustrating the major plant and animal communities characteristic of each
5. Projector, screen, VCR, TV
6. Toy-sized dinosaur models
7. Various fossils of both plants and animals
8. Non-fossilized bone
9. Simulated artifacts such as projectile points, potsherds, bone tools, and fire-cracked rock, or illustrations of such objects
10. Slides of pollen grains, firepits, burial mounds, and excavated earth lodges, the Amana fish weir, and a fortification ditch (the Office of the State Archaeologist at The University of Iowa should be able to provide copies of these)
11. Cut-out magazine photographs of Native Americans, various categories of artifacts, extinct and modern animals, the pyramids and other famous archaeological sites throughout the world
12. Reconstructions or dioramas of remote geological times.

Background:

Vocabulary:

Archaeology	history	fossils	sites
Oto	Dakota	paleontology	loway
Native Americans	artifacts	excavation	
Omaha	Mesquakie	prehistory	
Indians	features	Missouri	

For both teachers and students the meanings of "paleontology" and "archaeology" are frequently blurred. Archaeology is often vaguely understood to be the study of rocks fossils, dinosaurs, arrowheads, or some combination of these.

As teachers begin their presentations on Native Americans in Iowa it is useful to make the distinction between paleontology—the study of past plant and animal life—and archaeology—the study of past human life.

While the methods and techniques of these two disciplines can overlap, particularly in recovering data through excavation, and although each has as its goal the study of the past, their subject matter is largely different.

In general the paleontologist excavates sites to recover fossilized forms of past plant and animal life. This information helps her or him to reconstruct the environment and its plant and animal communities at particular times in the remote past, as well as to trace changes in these communities over time.

The archaeologist excavates sites to recover the material remains—artifacts and features—left behind by past peoples. This data helps archaeologists to reconstruct where, when, and how people lived in remote times and to trace changes in human society over time. Although like the paleontologist the archaeologist may recover bone in the form of human skeletal remains and the remains of animals used by prehistoric people, this bone data is useful only as it pertains to understanding past human society.

Two major categories of data for the archaeologist are artifacts and features. Artifacts include all of the portable objects made or used by people in the past. These can be made from various materials—stone, bone, shell, pottery, wood, fiber, feather, and hair—although usually only the most durable, such as stone and pottery, survive.

Features are non-portable remains made or built by people and include fireplaces, houses, mounds, and ditches. Archaeologists excavate sites to study these types of features and gather information from them.

The geological record in Iowa is hundreds of thousands of years longer than the human record. Paleontologists who study the plant and animal life of these very ancient times usually are working with fossil remains. People, however, have been living in Iowa for only about 10,000 years. If human bones of that age were known in this area, they could be fossilized. But even though artifacts from this remote time period have been discovered in Iowa, no human skeletal remains this old have been discovered here.

Archaeologists find and excavate the locations where people lived in the past. These locations are called sites. In digging or excavating archaeological sites and recovering the artifacts and features found there, the archaeologist hopes to understand how, when, and where prehistoric Native Iowans lived.

Procedure:

The instructor might want to dress in the "outfit" of a field archaeologist or paleontologist—outdoor work clothes, boots, pith or "safari" type hat.

1. Begin by introducing the subject matter "Prehistoric Native Iowans." Ask who were prehistoric Native Iowans. The correct response should be or should be stated by the instructor as "American Indians."
2. Discuss the American Indian peoples who are known to have lived in Iowa about the time the first Europeans arrived. Explain how we know about these people and stress the written accounts of history. Refer to *The Goldfinch*, vol. 3, no. 4, pages 2-8.
3. Point out that Native Americans lived in Iowa thousands of years before Europeans first arrived, before we had written, historical records. This is the prehistoric period. Ask students how we know this? Introduce the role of archaeology. Refer to *The Goldfinch*, vol. 7, no.1, pages 7-8, 12-13.
4. Discuss what archaeology is. Distinguish between archaeology and paleontology. Display and discuss the geological time scale and emphasize that humans have occupied Iowa during only a very small, recent slice of time. Point out the long time separating the period of time when dinosaurs lived and the era when humans lived. Have the students read pp. 1-3 in Schermer.
5. Discuss excavation. Point out that both paleontologists and archaeologists excavate sites to recover items from the past. Stress that the items they recover tell us different things about the past. Use hands-on materials such as fossils, artifacts, recent bone, and dinosaur models, and visuals such as slides of pollen grains and archaeological features to illustrate and define the kind of data each type of scientist recovers.
6. Stress that the paleontological data allows us to reconstruct the plant and animal life in Iowa at very remote time periods. Emphasize that the archaeological data allows us to reconstruct the human life in prehistoric Iowa during the past 10,000 years. Refer to *The Goldfinch*, vol. 7, no.1, pages 4-6, 19.
7. View the video on The Ancient Site at Cherokee. Discuss archaeology and how it was used to reconstruct ancient human activities at the site. Hoyer's book provides guidelines for viewing this film with students.
8. Divide the class into small groups of four or five students each. Ask them to pretend that while they were at school on this day in 1995, a sudden earthquake destroyed the building and a subsequent mudslide covered it. Ask them to pretend that they are archaeologists of the future who excavate the site. Have each group make a list of artifacts and features that might be preserved from the catastrophe. Have the students share their findings and discuss how they might help to reconstruct life in 1995 if all written records of this time period were lost.

Assessment of Outcomes:

The final activity described above is a good way to evaluate students' understanding of what constitutes an artifact and a feature, what

types of materials would be preserved in an archaeological site, and the limitations of interpreting the past without the aid of written records.

Rather than utilizing a written testing format, the instructor could devise some form of game to measure how well the students learned to distinguish between archaeology and paleontology. Such a game could be a form of archaeological/ paleontological reconnaissance whereby half of the class becomes a group of Iowa paleontologists and half become Iowa archaeologists. Students could dress the part and even prepare a list of appropriate tools they might need if this were a real excavation. The instructor hides (buries) items and magazine illustrations appropriate to each discipline throughout the classroom. Each group is instructed to collect in their paper bags only those items appropriate to its field of study. A set period of time is provided for the two groups to recover the remains.

Discussion then revolves around what materials were collected by each team, why they are appropriate data for each respective discipline, and what they could tell us about the past.

Extensions and Adaptations:

The lesson could be adapted for both younger and older students. Instructors might wish to assign some additional readings, films, or filmstrips to older students, and those referenced in Schermer and Hoyer are again recommended (for example, *Motel of the Mysteries* by David Macaulay). Older student could watch or be asked to watch the first Indiana Jones film with an eye to critiquing it from the standpoint of an archaeologist or *Jurassic Park* as viewed by the paleontologist.

Younger students might be given a longer time to handle fossils, artifacts, and rocks, and to sort these out correctly as appropriate to paleontology or archaeology.

In a final exercise, discuss paleontology and archaeology as careers. Students could discuss the necessary academic credentials, potential jobs, tools and skills, and even the field clothing appropriate to each discipline.

A professional archaeologist and paleontologist visit the class on this day would reinforce the experience.

A visit to major fossil and archaeological sites in Iowa could be planned. Suggested spots include the Coralville or Saylorville fossil locations, Toolesboro mounds, Malchow Mounds near Kingston, Indian Cave site at Sugar Bottom, Ft. Madison, Effigy mounds, Wittrock Mill Creek Village near Cherokee, and the reconstructed Glenwood earthlodge. The Office of the State Archaeologist at The University of Iowa can provide information and direction to sites that allow public visitation.

With time and resources the teacher could prepare a garbage or sandbox excavation as described in Schermer's book. Other activities and resources from Schermer's and Hoyer's books are strongly recommended.

Examples from archaeology and paleontology provide an interesting way for instructors to illustrate the application of the scientific method. The methods used in archaeology can be made applicable to social and natural sciences, history, and social science curricula. A discussion of the scientific method is indispensable in beginning any presentation on prehistoric Native Americans, although instructors also should point out that the oral traditions of Native American groups provide other perspectives on their prehistoric past.

Resources:

The Ancient Site at Cherokee. Video, Iowa's P.A.S.T. series.

"Digging into Prehistoric Iowa." *The Goldfinch* 7 (September 1985).

"Early Explorers," *The Goldfinch* 12 (September 1990).

Lynn Marie Alex. *Exploring Iowa's Past: A Guide to Prehistoric Archaeology.* Iowa City: University of Iowa Press, 1980.

Julianne Loy Hoyer. *Teacher's Guide to Iowa Prehistory.* 3rd ed. Iowa's P.A.S.T., Office of the State Archaeologist, 1979.

Shirley J. Schermer. *Discovering Archaeology: An Activity Guide for Educators.* Iowa City: Office of the State Archaeologist, 1992.
(Reproduced in Section 5 of the *Prairie Voices* notebook.)



Chart-an-Artifact

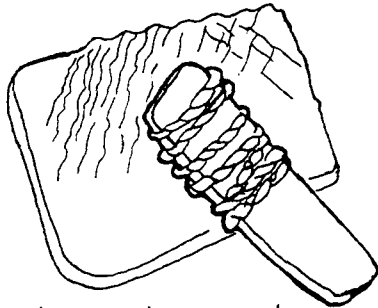
Artifacts are things that people make or use. A prehistoric artifact is a spear point. A modern artifact is a bicycle or a jacket. The chart shows what the artifact is used for, its name, and what it's made of. Can you fill in the missing blanks? The first one is given. There are many possible answers for modern artifacts.

USE FOR THIS	NAME OF PREHISTORIC ARTIFACT	MADE OF THIS MATERIAL	NAME OF MODERN ARTIFACT	MADE OF THIS MATERIAL
1. Crushing food	<i>mano and metate</i>	<i>stone</i>	<i>blender</i>	<i>plastic, metal</i>
2. Keeping body warm	<i>robes</i>	_____	<i>coats, blankets</i>	_____
3. Playing games	<i>chunkey</i>	_____	_____	_____
4. Hunting	_____	<i>stone, wood</i>	_____	_____
5. Sewing clothes	<i>needle</i>	_____	_____	<i>steel</i>
6. Dressing up	_____	<i>shells</i>	_____	_____
7. Sheltering your family	_____	_____	<i>house</i>	_____
8. Weeding the garden	_____	_____	<i>hoe</i>	_____
9. Playing music	_____	<i>bird bone</i>	_____	_____
10. Storing food	<i>pottery</i>	_____	_____	_____

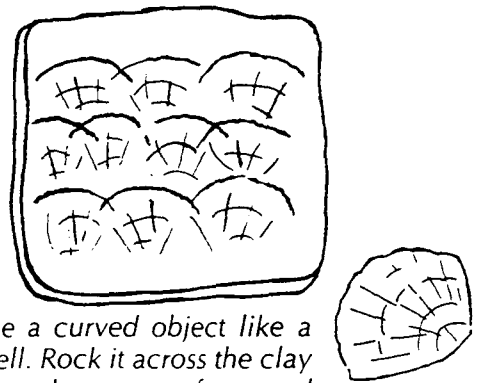
Chart-an-Artifact, page 19: Row 2. skins and furs. 3. round stones 4. spear point tied to a stick 5. pointed bone 6. beads 7. earthlodge: branches, mud 8. hoe: bone or shell attached to stick 9. flute or whistle 10. clay

Be a Prehistoric Potter

You can use simple objects like sticks and shells to make the patterns found on prehistoric pottery. First, shape modeling clay into a pot, or flatten the clay into 4-inch squares. Then experiment with different patterns. Create your own designs.

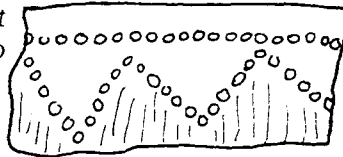


Wrap twine or string around a flat stick. Press the flat side against the clay.

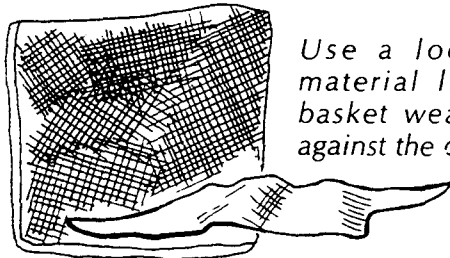


Use a curved object like a shell. Rock it across the clay to make rows of curved marks.

With your finger or a blunt stick, push small holes into the clay.



Mold a small amount of clay into an animal shape. Attach it as a handle to the pot.



Use a loosely woven material like burlap or basket weaving. Press it against the clay.

