

Thank you for participating in this field exploration at Petrified Forest National Park! We hope you learned not only how to conduct a scientific study but that you learned something new about *your* national park.

**The mission statement of Petrified Forest National Park:**

*Petrified Forest National Park preserves, protects, and interprets a globally significant example of a Late Triassic ecosystem and a continuum of human use in a high desert/short grass prairie environment. It preserves wilderness values for recreation, solitude, natural quiet, long distance views, and night skies. It provides outstanding opportunities for scientific research and education.*

**The mission statement of the National Park Service:**

*The National Park Service preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The park service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.*

# ROCKIN' THROUGH THE AGES: FROM FOSSILS TO PETROGLYPHS ARCHEOLOGICAL EXCAVATION

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## FIELD GUIDE

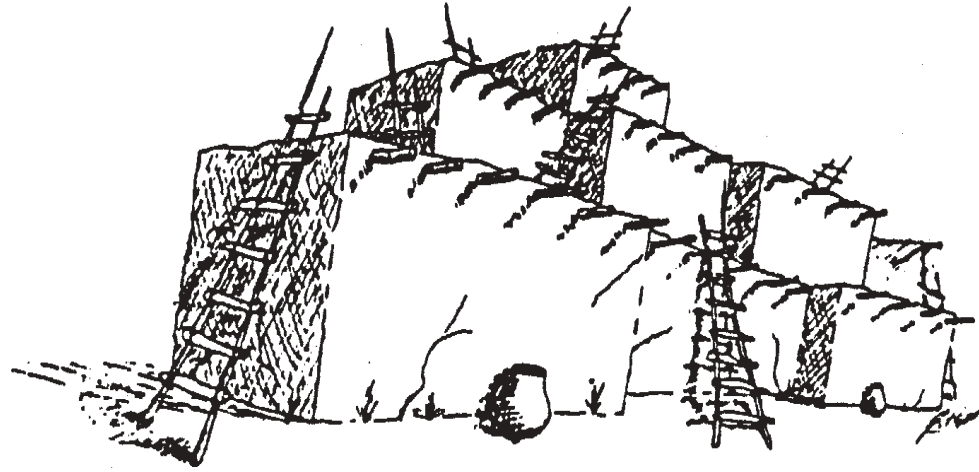
Date \_\_\_\_\_

Name \_\_\_\_\_

Petrified Forest National Park



## RULES, REGULATIONS, AND SAFETY POINTS



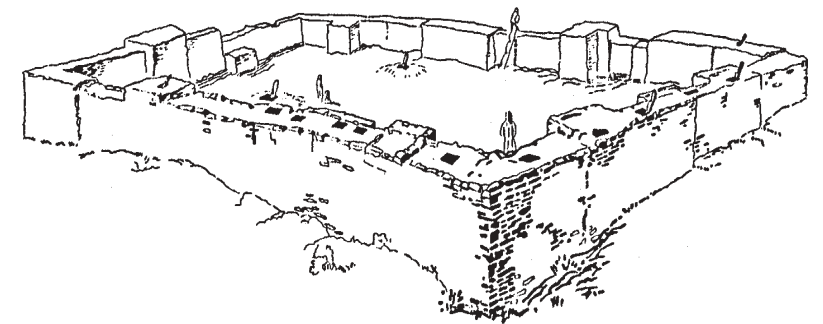
- All natural and cultural resources within national parks are protected by federal law. **Collection of park resources is illegal and subject to a \$275.00 minimum fine.** This includes petrified wood, archeological artifacts, rocks, plants, and animals. Even the smallest piece counts!
- Do not move artifacts to another place. You can pick something up to look at it closer, but then put it back where you found it.
- Archeological artifacts are fragile, nonrenewable resources. Be careful when handling them! Do not break, chip, or otherwise damage artifacts.
- Be careful when walking around the study area. The plants in this environment grow by the inch and are destroyed by the foot. Don't let it be your foot!

## SUMMARY

Archeology is a science that studies past human cultures through *artifacts* (objects made or used by people) within their *context*. Context means where and how artifacts are found and explained. The context can provide as much evidence about the life of past human cultures as the artifacts themselves. Help us protect this ancient evidence by not disturbing archeological sites during your visit.

The archeology of Petrified Forest National Park tells us how humans lived in this difficult environment. People have been coming here for thousands of years to collect petrified wood for tools, to hunt and gather wild foods and medicines, grow crops, and for ceremonial reasons. Most archeological sites are found on the grasslands and mesas of the lower Puerco River where soils were best for the native plants and wildlife, as well as for growing crops. These resources were important for the survival of the people.

Because the past can never be recreated, archeological resources are nonrenewable and in need of protection and preservation. While studying archeology, you are studying *people* who lived in a different time and place, as well as their *culture* (way of life). Why do we study the life of humans who lived in the past? One reason is that understanding how people lived before us gives us 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.



## ADDITIONAL FIELD NOTES

Use this space for any additional notes, poems, drawings, thoughts, or feelings you have about today.



## FIELD EXPLORATION GOALS

During this field exploration you will:

- learn about the science of archeology, specifically ancestral Puebloan lifestyle;
- develop scientific research skills;
- develop mapping and measuring skills; and
- learn about the National Park Service and how archeological resources are protected.

## MATERIALS NEEDED

- field guide
- pencil
- compass
- metric measuring tape
- graph paper
- flags
- clipboard
- trowel
- paintbrush
- yellow vest

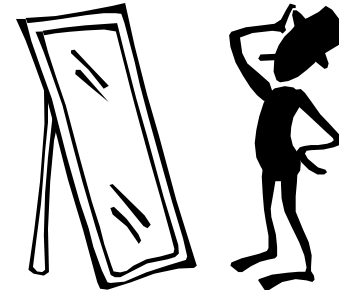
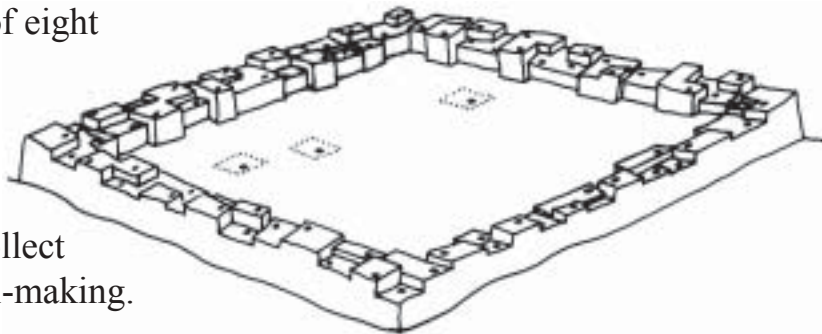


# INTRODUCTION

In this field exploration you will conduct an excavation for evidence of past human life. As an archeologist, you will be given the tools and materials needed to excavate, measure, and map an area containing *artifacts* (objects made or used by people) from the ancestral Puebloan time period. You will identify and explain what you find, developing an *hypothesis* (educated guess) about what the excavated site was once used for.

The Pueblo time period dates from 1,200-600 years ago and marks the continued growth and development of a culture based on farming. Pottery became more complex. Pueblos were built as year-round dwellings. The above ground, stone-walled rooms were arranged like villages, with storage rooms for food, an open activity area in the middle called the plaza, underground rooms called kivas, and outer-lying field houses for shelter and tool storage. Most pueblo dwellings at Petrified Forest National Park face the south or southeast and are found on hilltops and ridgelines.

Within the park, two popular sites include Puerco Pueblo and Agate House. These sites, in addition to several others, are listed on the National Register of Historic Places for their importance to the understanding of prehistory in the area. Puerco Pueblo has about 100 rooms and was built near year-round water, the Puerco River. Agate House is a much smaller pueblo of eight rooms, with walls made of petrified wood. The area around Agate House was a good place to collect petrified wood for tool-making.



# REFLECTIONS

What is the most important thing you learned today?

Why do you think archeological sites should be protected?

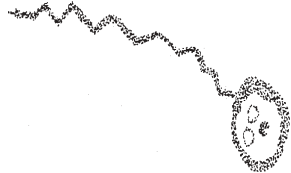
What makes it hard for the National Park Service to protect this and other archeological sites?



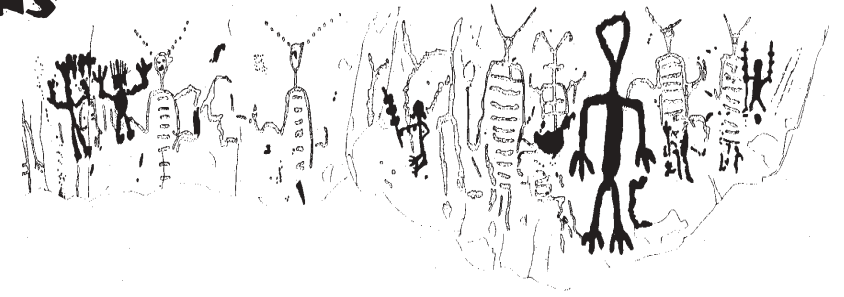
## IN YOUR OPINION

You can help the National Park Service to protect archeological sites by thinking of ways to prevent damage. List your ideas below.

Petroglyphs are carvings in rock left behind by prehistoric people who once passed through or lived in this area. They are difficult to explain because no ancient dictionary exists. However, they are often found in important areas, such as homes, along trade routes, sacred areas, near water, and landmarks. Describe how you would explain the meaning of at least one of the petroglyphs below.



## DEFINITIONS



**ancestral Puebloan people** - people living in the Four Corners region of the Southwest from about 1,200-600 years ago; formerly called “Anasazi”

**archeology** - a science that studies past human cultures through artifacts within their context

**artifact** - any object made or used by people

**context** - where and how artifacts are found and explained; the context provides evidence as important as the artifacts themselves

**feature** - something used or left by people that is not easily moved, for example fire hearths, architecture, soil stains, and garbage pits

**kiva** - an underground ceremonial chamber used by ancestral Puebloan people for meetings, rituals, weaving, making tools and clothing, storytelling, and instruction of children

**petroglyph** - carving or pecking of symbols on rock for cultural purposes

**pueblo** - stone-walled structure or group of structures; from the Spanish term meaning town or village; when capitalized it means a specific culture or site, such as Puerco Pueblo

**survey** - technique in which an area is systematically searched for artifacts





# FIELD REPORT

**INTRODUCTION** Why did you do this scientific study?

**OBSERVATIONS** Describe the area where you have been working.

**METHODS** How did you do this scientific study?

**DATA** Complete the table below and on the next page. The map you make is part of your data, so you will take it back to school with you.

Excavated Area Dimensions

<b>LENGTH</b> (meters)	<b>WIDTH</b> (meters)	<b>AREA</b> (square meters = length x width)

divide the study site into smaller squares to make it easier.

12. **Show your map to the park ranger.** Only now can you **carefully pick up the artifacts and flags and place them on the metal tray.**

13. Continue the excavation using your trowel, paintbrush, and fingers to carefully **remove the sediment (dirt) from around artifacts found below the surface. Mark each artifact with one of the remaining flags.** Do NOT use the ones you put on the tray!

14. **Map the location of artifacts found below the surface.**

15. **Show the map to the park ranger.** Only now can you **carefully pick up the artifacts and place them on the metal tray.**

16. **Continue steps 11-15 until all artifacts are found.** *Features* (something you would not normally pick up and carry with you when you leave, such as the rocks around a firepit) should remain in your site. You may want to use the screens and sift through some of the sediment to catch anything small you may have missed.

17. **Examine each artifact and feature.** Use the information on page 9 to help identify what you discovered. **Complete the table on page 11.**

18. Discuss with your group what you have found. What clues do you have about what this place was once used for? **Develop an hypothesis** (educated guess) about the use of the room.

19. **Complete the Field Report on pages 10 and 11.**

20. **Present your findings** to the rest of the class. Together you will determine what function this pueblo may have had for the ancestral Puebloan people.

21. **Complete the In Your Opinion questions on page 12.**

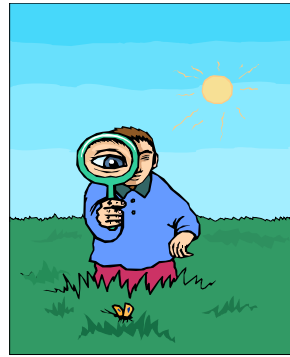
22. **Complete the Reflections questions on page 13.**

23. Use the results of this field study to develop a final project to be presented at school.

## OBSERVATIONS

Scientists write field observations before beginning work. This records *variables* (things that can change) which might change the results of a study.

How do you feel today?



Describe the weather today. Is it hot, cold, windy, cloudy, sunny?

Look around you at the environment. What do you see? Rocks, sand, plants, animals or signs of animals like burrows or tracks?

## EXCAVATION CLUES

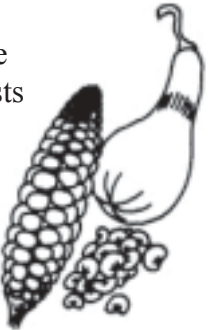
Archeologists at a pueblo site determine room function by studying artifacts and features. An *artifact* is any object made or used by people. *Features* are something you would not carry with you when you moved, such as fire hearths, architecture, and garbage pits. Archeologists excavate a site layer by layer, vertical inch by vertical inch. By dating the artifacts found in each layer, archeologists can determine when and how the room was used over long periods of time.

- **potsherds** - broken pieces of pottery. Pottery was often painted with mineral or plant dyes. Different cultures had different design styles. Pottery was made using several methods, so the textures or surfaces may look different from potsherd to potsherd.



- **hearth** - open pit dug into the floor, surrounded by stones, and used for a fire. Hearth stones were often flat rocks that deflected heat back into the room. If charcoal is found in a hearth, it can be dated to find the age of the site.

- **food remains** - corn cobs, seeds and plant parts. These foods may have been trash from a meal or uneaten food stored for future use. Archeologists can date food remains to find the age of an archeological site.



- **mano** - rounded and flat rocks, often of sandstone, used on the grinding surface of a metate, to grind corn and other plant seeds into meal.

- **metate** - hard rock, often of sandstone, with a shallow to deep impression, used as the surface for grinding corn and other plant seeds.

- **petrified wood tools and flakes** - stone tools, such as arrowheads, scrapers, spear points, and axeheads, made of petrified wood. Flakes are the scraps left when a tool is made. Petrified wood naturally breaks apart with a sharp edge, but tools that are made can be identified by chips, scrape marks, and other features that show it has been worked by hands and not by nature.

