

**SCIENCE IN OUR PARKS:
CULTURAL AND NATURAL
HISTORY OF THE
COLORADO PLATEAU**



Wupatki Pueblo Exploration
(Investigations of Ancestral
Puebloans)
Teacher Edition

Wupatki National Monument

Pueblo people lived in the Wupatki area over 800 years ago. They grew corn, beans, squash, and cotton; gathered wild plants for food, fire, and medicine; and hunted game. Their homes were made of red sandstone and black basalt. They held ceremonies, played games, and traded with neighbors from what is now Mexico to the Four Corners. Today, visitors and students of all ages come to Wupatki to learn about life in the ancient Southwest.

The term “Wupatki” is Hopi for "tall house". This name was originally given to Wukoki Pueblo located a short distance away. “Wukoki” is a Hopi term meaning "wide house". This was the name originally given to what is now Wupatki Pueblo. The confusion and switch of these names occurred when maps were first made of the area.

Wupatki became a National Monument in 1924 through the declaration of President Calvin Coolidge. Many people in the Flagstaff area were concerned that the archaeological resources in the Wupatki area were being destroyed and vandalized.

We must all continue to work together with the National Park Service to protect areas like Wupatki National Monument. Artifacts like pottery sherds and projectile points disappear daily. By leaving the artifacts in the exact place where they were left by the pueblo people, we will all learn more about their lives and preserve this knowledge and beauty for future generations.

Field Exploration Goals:

1. Record observations in and around the Wupatki Pueblo and develop a story for the pueblo based on your observations.
2. Describe how the natural resources available in the area, including plants and animals, may have helped people survive at Wupatki in the past.
3. Use archaeological techniques to discover evidence for recreating the story behind the community room at Wupatki.

Field Exploration Procedure:

***[Insert science standards web link here](#)**

1. Each Research Team will explore Wupatki Pueblo and record observations.
2. Each Research Team will develop a story based on their observations in and around the pueblo.
3. Each Research Team will determine the best way to measure the community room and hypothesize what it was used for.
4. Each Research Team will prepare and deliver a three-minute presentation of their findings.

Natural Resources at Wupatki

You may also want to mention water as a natural resource. Note the white mineral deposits on the landscape around Wupatki. These are caliche or calcium carbonate deposits that precipitate out as water is evaporated and can indicate the location of an ephemeral spring. Also, the stone building materials are a natural resource in the area.

Common Plants

One-Seed Juniper
Pinyon Pine
Yucca
Mormon Tea
Four-wing Saltbush
Sagebrush
Globe Mallow
Peeble's Bluestar
Princess Plume
Snakewood
Locoweed
Datura (Jimson Weed)

Common Mammals

Big-eared Bat
Bobcat
Desert Cottontail
Coyote
Mule Deer
Gray Fox
Blacktailed Jackrabbit
Kangaroo Rat
Mountain Lion
Porcupine
Pronghorn

Common Birds

Red-Tailed Hawk
American Kestrel
Common Raven
Rock Wren
Canyon Wren
Mourning Dove
Common Poorwill
Common Nighthawk
Broad-tailed Hummingbird
Northern Mockingbird
Western Meadowlark
Black-throated Sparrow
Mountain Bluebird

Common Amphibians and Reptiles

Tiger Salamander
Woodhouse's Toad
Collared Lizard, Short Horned
Lizard, Desert Spiny Lizard,
Western Whiptail Lizard,
Fence Lizard, Plateau
Whiptail
Common Kingsnake
Gopher Snake
Western Diamondback
Rattlesnake

Important Data About Wupatki

To reach Wupatki Ruin, you can drive through Sunset Crater National Monument off of 89A or drive further on 89A north until you reach the Wupatki National Monument entrance. The road is a loop; both entrances lead to each other.

Weather

The average daily temperature at Wupatki ranges from 55.6° F to 88.6° F in the summer and 20° F to 50° F in the winter.

The average annual precipitation is 8.5 inches. The wind frequently blows at Wupatki. The wettest months of the year are from July to September during the monsoon season. During the winter and spring some precipitation falls in the form of snow and rain.

The Wupatki Landscape

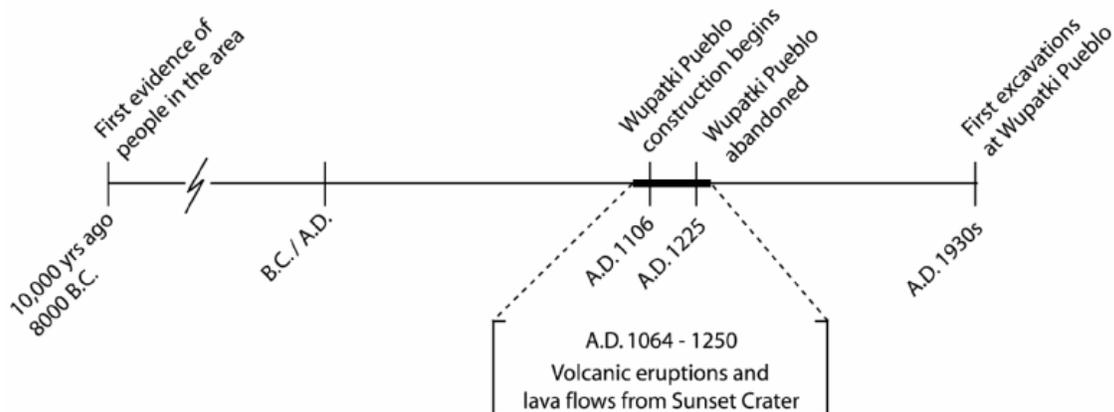
Prehistoric life in the Wupatki area may seem harsh to those of us today who buy food in grocery stores or enjoy fresh water from a tap. Although, the people who lived at Wupatki did not have it as easy; they were able to get what they needed from the land.

There are approximately 240 different kinds of plants growing at Wupatki. The types of plants include grasses, shrubs, trees, and cacti. The prehistoric people living in the Wupatki area used these plants for food, weaving, basketry, cooking, ceremonies, dye, and medicines.

The people got their water from natural springs and seeps. Many of these springs are now dry. During rain storms, they collected all the water they could in large jars. They collected water from natural depressions and puddles. The Little Colorado River, located a few miles to the north, was another source of water when it flowed.

The red sandstone rocks in the area are from the Moenkopi formation. The prehistoric pueblo people used these rocks to build their homes, the community room, and the ball court. They also carved designs and stories in this stone.

Prehistory of Wupatki National Monument



Human history at Wupatki extends back long in prehistoric times to the Paleoindian time period. A Clovis (large spear) point was discovered in the area indicating that hunters were here over 10,000 years ago.

Most people lived in the Wupatki area during the Pueblo time period from A.D. 1100 - A.D. 1225. Many archaeologists believe that this area was a place where numerous people of various cultures came together to take advantage of favorable climatic and agricultural conditions.

The cultures include Kayenta Puebloan (formerly Anasazi), Winslow Puebloan (formerly Anasazi), the Sinagua, Cohonina, and Prescott. These cultures are different in the ways they built their dwellings and made their pottery.

People were living in the area around the time of the first eruptions of Sunset Crater. It was during this time that the climate changed to one that was more moist and favorable for farming. Theories indicate that people may have moved to the Wupatki area to take advantage of these conditions.

When the climate changed again in the 1100's, people may have moved on again to other areas more suitable for farming. The Hopi people believe that it was the destiny of these people to continue their migrations, to learn from each place they lived, and to journey until they reached what is today known as the Hopi mesas.

Today, archaeologists are still studying the remains of this ancient pueblo life. Through systematic surveys, excavations, and analysis of artifacts archaeologists have learned where people were coming from, who they were trading with, what kinds of ceremonies they may have had, how and when they built their homes, and where and what they were farming and hunting.

Wupatki Pueblo

Wupatki Pueblo was first excavated in the 1930's by archaeologists from the Museum of Northern Arizona. Some of the artifacts they found included turquoise, shell, copper bells, parrot skeletons, woven blankets, baskets, and plain and painted pottery. Through tree ring dating or dendrochronology, archaeologists have determined that the first rooms at Wupatki Pueblo were built in A.D. 1106. The last room was added in A.D. 1212. There are about 100 rooms altogether. In addition, there is a ballcourt where a game similar to an ancient Mesoamerican ball game may have been played and a circular community room where trading and ceremonies may have taken place.

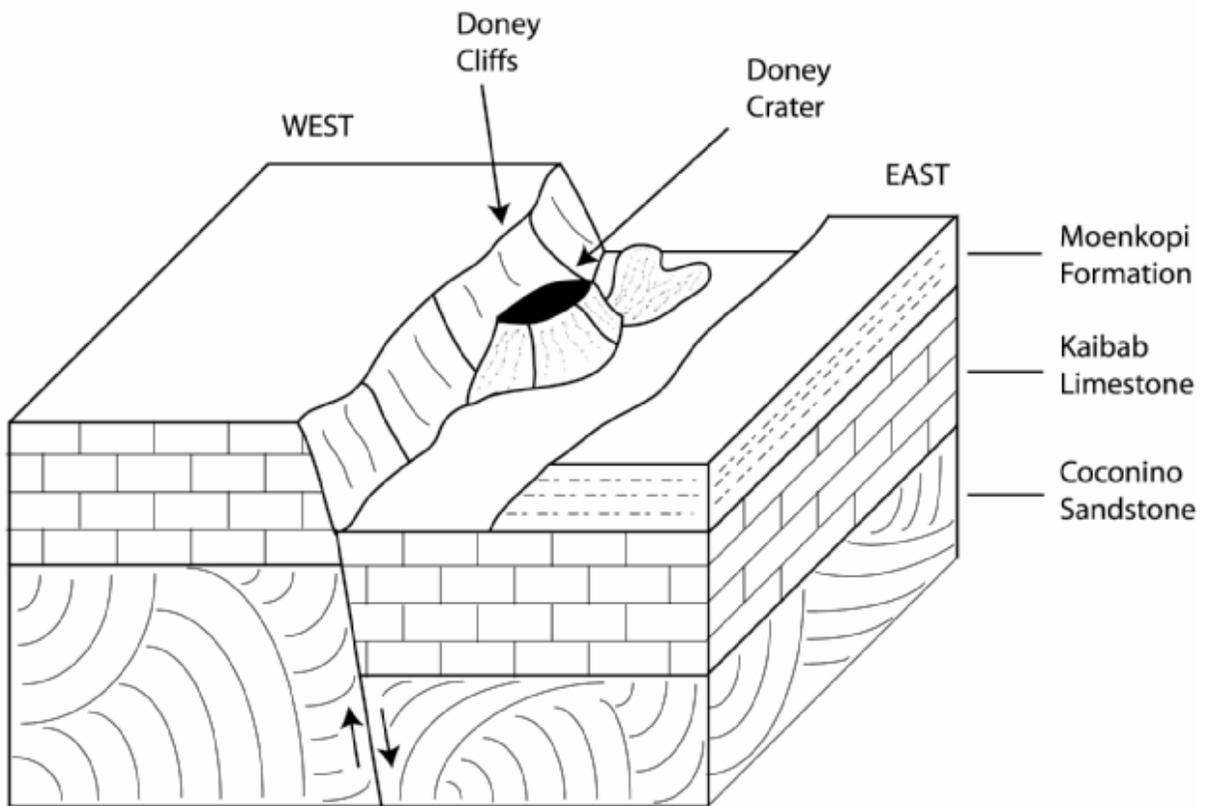
Community Room

The community room is a large, round structure set below Wupatki pueblo. It never had a roof; yet it has a bench and central fire pit. It is believed that this room is similar to other Sinagua community rooms in which people met, traded, and held ceremonies. The community room is about 50 feet in diameter and could probably hold several hundred people at a time.

Because the community room is situated downhill from the main pueblo, it is greatly affected by erosion from storms and visitors. The National Park Service has tried to protect the area by digging a trench around it to divert water. Unfortunately, each time more artifacts are brought to the surface from rain or people walking, they are vulnerable to theft from visitors.

Geology of Wupatki National Monument

Geologic Cross Section
Wupatki National Monument
Flagstaff, AZ



The Doney Cliffs were formed by a fault that raised the western side over 100 feet. The fault made an easy route for molten rock to rise and reach the surface. This led to the formation of several cinder cones, including Doney Crater.

Wupatki National Monument

Time Period	Formation	Rock Description	Environment	Special Features
Triassic 235-210 Million Years Ago	Moenkopi Formation	Red, silty sandstone	Deposited by slow moving rivers and in a coastal area	This rock weathers into brick- like blocks and were used by the Sinagua for building.
Permian 280-235 Million Years Ago	Kaibab Limestone	White, light gray blocky formation	Formed in a shallow sea near the shore	The softer beds erode easily to form overhangs. This rock contains several brachiopod fossils.
	Coconino Sandstone	White to off- white colored sand dunes – look for the cross- bedding or lines in the rock.	Formed by the hardening of sand dunes	This rock forms steep cliffs as it erodes.

FIELD EXPLORATION

Field Notes Record

Please use this page to record your field notes.

Begin by describing the type of day it is. How do you feel today?

Record your observations and first impressions.

What questions do you have about this place?

FIELD EXPLORATION

Part I: Recreating history

1. Walk the trail around Wupatki Pueblo and answer the following questions by observing the pueblo and its surroundings.

Make sure your students understand not to pick up or disturb any artifacts. They must observe from the trail at all times, never sit or stand on walls, or enter the pueblo. Use the Wupatki trail guide as a reference for student questions, but allow students to complete the exploration without the trail guide.

<p>Are all the rooms you see the same size? Do you think all the rooms were used for the same purpose? Why, what clues do you see?</p>	<p>Where did the puebloans get the building materials for Wupatki? How were the walls made? Were there roofs? If so, how were they made?</p>	<p>Do you think farming was easy and productive here? Why? What do you think the puebloans did to prepare for poor farming years?</p>
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<p>How many people lived here? How do you know? Where did they get their water?</p>	<p>Do you see any features that you think are <u>not</u> prehistoric within the pueblo? Why are they there?</p>	<p>Why do you think the pueblo was built here? Do you see any other pueblos near Wupatki?</p>
<p>Look for a doorway that is filled with stones at marker #13. Why do you think the puebloans did this?</p>	<p>Describe the game you think was played in the ballcourt? What was the 'blowhole' used for?</p>	<p>Do you notice any strange features in the pueblo that seem different or unexplained? What are they?</p>

2. Observe the natural environment. List natural resources and their possible uses by the puebloan people.

Natural Resources	Possible Use
1.	
2.	
3.	
4.	
5.	

3. What artifacts do you see in and around the pueblo.
Remember, DO NOT pick up artifacts or enter closed pueblo rooms *except* for the room at marker #16.

If students don't see artifacts, use samples or the visitor center for examples

Cultural Resources (artifacts)	Possible Use
1.	
2.	
3.	
4.	
5.	

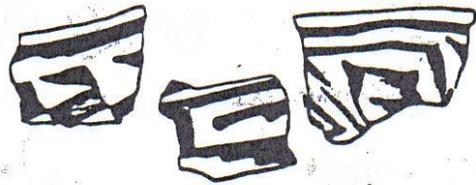
Ceramic types found in the Flagstaff area

Little Colorado White Ware

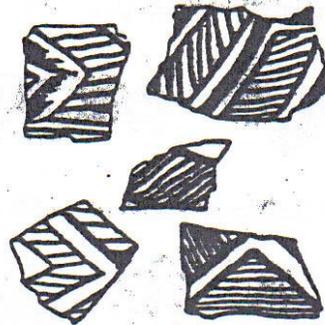
Holbrook A Black-on-white



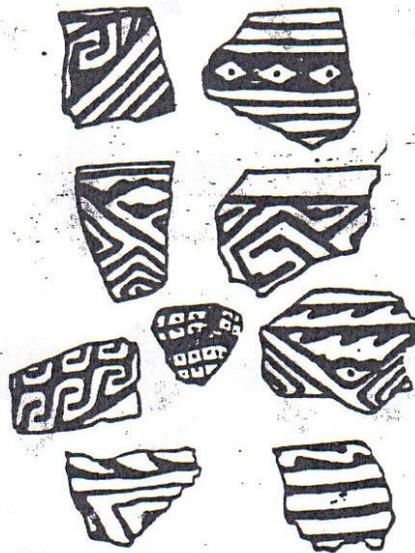
Holbrook B Black-on-white



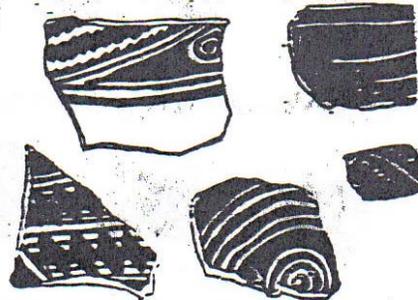
Padre Black-on-white



Walnut Black-on-white



Leupp Black-on-white



WUPATKI-AREA BLACK-ON-WHITE CERAMIC STYLES

Kana-a Black-on-white (A.D. 800 - 1025)



Black Mesa Black-on-white (A.D. 1025 - 1150)



Dogozhi Black-on-white (A.D. 1075 - 1200)



Sosl Black-on-white (A.D. 1100 - 1200)



Flagstaff Black-on-white (A.D. 1150 - 1225)



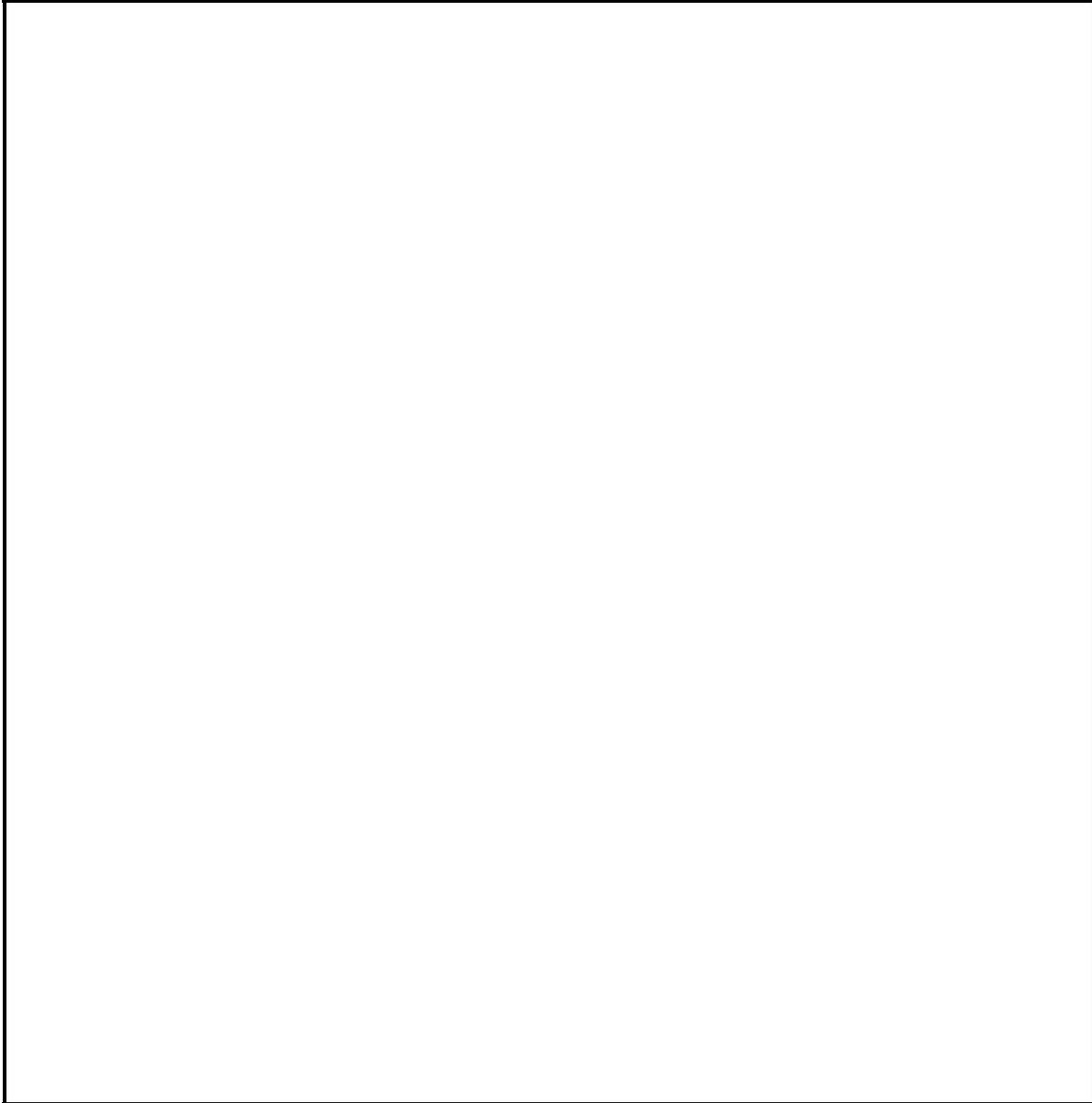
Tusayan Black-on-white (A.D. 1225 - 1275)



Kayenta Black-on-white (A.D. 1250 - 1300)



3. Draw a picture of what you think Wupatki looked like when people were living here.



4. Take a few minutes to review your answers. In a three minute presentation, describe your findings and your story of Wupatki to your classmates. Use your drawing in your explanation.

Part II: Mapping the Community Room Station

Be sure that students do not walk on walls or sit on the bench around the inside of the community room.

- 1. Sketch the details of the community room.** Please provide as much detail as you possibly can in your drawing. On the sketch, you will need to provide the following information:
 - a. A title.
 - b. The initials of the members of your research team.
 - c. The date.



FIELD EXPLORATION

Reflection Questions:

- **What do you think is the most important thing you learned today?**

- **Do you think people could live here today like they did in the past? Why?**

- **What suggestions do you have for the National Park Service to help protect and interpret Wupatki Pueblo?**

- **What new questions do you have about Wupatki Pueblo or the research you did today?**

Allow your students to explore the visitor center after they finish their research at the Wupatki ruin.

- **While exploring the visitor center, note that both archaeologists and native descendents of the people who once lived at Wupatki express their interpretations of Wupatki in the displays. Are your interpretations similar to the ones presented in the displays? How are the various interpretations different and how are they similar?**

FIELD EXPLORATION

Express your experience at Wupatki in writing. For example, you could write a story or a poem.

FIELD EXPLORATION

Draw a picture to illustrate your writing.

Field Exploration Notes

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Flagstaff Areas National Monuments
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Flagstaff, AZ 86004
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