

# Living in the Desert: Hohokam Adaptation to Their Environment

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<b>Grade Level</b>	3-4
<b>Duration</b>	2 class periods

## National Geography Standards

### Element 1: The World in Spatial Terms

1. How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

### Element 5: Environment and Society

14. How human actions modify the physical environment.

### Element 6: The Uses of Geography

17. How to apply geography to interpret the past.

## AZ Standards

### ELA

#### Reading Informational Text

##### Key Ideas and Details

3.RI.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

4.RI.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

3.RI.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

4.RI.3 Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

## Arizona Social Science Standards

### GEOGRAPHY

#### Human-environment interactions are essential aspects of human life in all societies.

3.G2.1 Explain how people modify and adapt to the Arizona environment. Key concepts include but are not limited to modification and adaptation of the environment by Paleo-Indians, Prehistoric-Indians, explorers, settlers, farmers, immigrants, migrants, and the 22 Arizona Indian Nations, and the use of Arizona's natural resources.

4.G2.1 Compare the diverse ways people or groups of people have impacted, modified, or adapted to the environment of the Americas. Key concepts include but are not limited to disease, farming, family structure, housing, cultural assimilation, cultural amalgamation, climate, transportation, domestication of animals, clothing, recreation, and utilization of renewable and non-renewable natural resources

### HISTORY

#### The development of civilizations, societies, cultures, and innovations have influenced history and continue to impact the modern world.

3.H1.1 Utilize a variety of sources to construct a historical narrative exploring Arizona's cultures, civilizations, and innovations. Key concepts include but are not limited to impact of prehistoric peoples, Native Americans, Latinx, African Americans, Asian Americans, and newcomers from the United States and world on art, language, architecture, mining, agriculture, and innovations

Key concepts include but are not limited to explorers, settlers, trappers, missionaries, and colonizers

Key events include but are not limited to statehood

Influential individuals and groups in the history and development of Arizona

4.H1.1 Utilizing a variety of multi-genre primary and secondary sources, construct historical narratives about cultures, civilizations, and innovations in the Americas. Key concepts

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include but are not limited to Olmec, Maya, Inca, Aztec, American Indians living in the Americas before and after European exploration, enslaved and free Africans living in the colonies, British, French, Dutch, Spanish explorers and settlers, and the thirteen colonies

## Overview

People adapt to and modify the environment in which they live. The Hohokam Culture flourished in the Sonoran Desert by using desert products and modifying their surroundings. It is important that students know how groups of people have historically interacted with the desert, just as people do in desert areas today.

## Purpose

In this lesson students will learn ways in which the Hohokam used desert products and modified the desert environment.

## Materials

- Prehistoric Cultures of the Southwest map
- Hohokam Canals of the Gila River map
- Hohokam Canal System Worksheet and Answer Key
- Student Reading #1
- Student Reading #2
- Colored pencils or crayons
- Rulers and yarn for measuring
- Student Assessment and Answer Key

### Optional Materials for Session Two

#### Pottery Activity

- Hohokam Pottery Activity Worksheet
- *When Clay Sings* by Byrd Baylor ISBN 0-689-71106-9
- Yucca leaves, cut into 4-inch strips. One strip per student
- Reddish-brown paint
- Light brown copy paper
- Newspaper
- Small river rocks

#### Basketry Activity

- Hohokam Basketry Activity Worksheet
- Construction paper strips: 8 inches x 1 inch; 8 each of two colors per student
- Glue

## Shell Etching Activity

- Hohokam Shell Etching Activity Worksheet
- Shells – one per student
- Vinegar
- Light or clear fingernail polish
- Pans or tubs for soaking shells overnight

## Objectives

The student will be able to:

1. Locate areas of occupation of the Hohokam Culture in the desert Southwest.
2. Use map scale to measure the length of the Hohokam canal system in the Gila River valley.
3. Describe ways in which the Hohokam Culture altered and adapted to the desert environment.

## Procedures

*Prerequisite Knowledge: Students know about irrigation in the Southwest.*

### SESSION ONE

1. Begin lesson by introducing the characteristics of the Sonoran Desert region and the Hohokam Culture that resided there. Hand out and read together Student Reading #1.
2. Distribute the Prehistoric Cultures of the Southwest map, and have students locate the Hohokam. Have them color in the area of Hohokam occupation and trace the Gila and Salt Rivers.
3. Discuss irrigation as a method used to modify or change the desert environment. Distribute the Hohokam Canals of the Gila River map and discuss the map legend and scale.
4. Give students the Hohokam Canal System Worksheet and read the directions together. Distribute pieces of yarn to help in measuring the curved lengths of canals. Model how to use the yarn to measure. (A tape measure can also be used. Model how to use the tape measure to measure.)
5. Collect the Prehistoric Cultures of the Southwest map and Hohokam Canal System Worksheet for assessment.

### SESSION TWO

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- Review Session 1 activities about the Hohokam modification of their environment through building canals. State that today, students will learn more about ways the Hohokam adapted to or learned to use resources in their environment.
- Distribute Student Reading #2. Together read and discuss the various ways the Hohokam used desert plants and other resources in their daily life. Explain that these were ways in which the Hohokam adapted to living in a desert.
- Select one or more of the following activities for your students to try. Student worksheets with directions are included for each activity.

**Pottery** - Using desert resources –Discuss how pottery was made and decorated using desert resources. Read aloud *When Clay Sings* by Byrd Baylor, pointing out the red-on-buff Hohokam designs as you read. Use student worksheet for more information and design patterns. Students will make a yucca brush and use it to paint a Hohokam-style design on a drawing of a pot. Use light brown paper when copying the pot.

**Shell etching** - Using desert plants - Discuss how shells were obtained through trade and used for jewelry. Explain that the Hohokam were the first to develop etching and how it was done. Student worksheet has information on the etching done by the Hohokam. Students will etch a shell using fingernail polish and vinegar.

**Basketry** – Using desert plants- Discuss the use of desert plants in basketry. Student worksheet has information on plants used to make baskets and two patterns for weaving a plaited mat. Students make a plaited mat using construction paper strips.

- Distribute Student Assessment for students to complete.

### Assessment

Students will estimate correctly to within 2 miles on the Hohokam Canal System Worksheet for a geography grade. Mastery will be considered 100%.

Students will score 80% or higher on the Student Assessment for a geography, history, and reading grade.

### Extensions

Students can create their own pottery from clay to decorate with their yucca brush.

Discuss how desert plants were also used for food. Have children infer which plants and plant parts were used and how they were prepared.

Write and compare how everyday tasks are accomplished today and how the Hohokam might have done them.

Discuss how desert resources might have been used for tools, utensils, and weapons.

Students can measure and cut their own strips for weaving.

### Sources

*When Clay Sings* by Byrd Baylor. Macmillan Publishing Company. 1972. ISBN 0-689-71106-9.

*Plants and People of the Sonoran Desert*. Trail Guide of the Desert Botanical Garden.

*Southwestern American Indian Discovery*. American Educational Press and the Heard Museum.

National Park Service. Casa Grande Ruins National Monument. <http://www.nps.gov/cagr/index.htm>