Living in the Desert: Hohokam Adaptation to Their Environment

Students learn how the Ancient Hohokam Culture was able to live in the desert by adapting to and modifying their environment.

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Grade Level
4

Duration
2 class periods

National Geography Standards
Element One: The World in Spatial Terms
1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

Element Five: Environment and Society
14. How human actions modify the physical environment.

Element Six: The Uses of Geography
17. How to apply geography to interpret the past.

Arizona Geography Strand
Concept 1 The World in Spatial Terms
PO 1 Use different types of maps to solve problems (i.e., road maps – distance, resource maps – products, historical maps – boundaries, thematic map – climates).
PO 2 Interpret political and physical maps using the following map elements:
   e. scale

Concept 5 Environment and Society
PO 1 Describe human dependence on the physical environment and natural resources to satisfy basic needs.
PO 3 Describe the impact of human modifications (e.g., dams, mining, air conditioning, irrigation, agricultural) on the physical environment and ecosystems.

Concept 6 Geographic Applications
PO 1 Describe the impact of geographic features (e.g., rivers, mountains, resources, deserts, climate) on migration and the location of human activities (e.g., exploration, mining, transportation routes, settlement patterns).

Other Arizona Standards
Strand 1 American History
Concept 2 Early Civilizations
PO 2. Describe the cultures and contributions of the Mogollon, Ancestral Puebloans (Anazazi), and Hohokam (e.g., location, agriculture, housing, arts, trade networks; adaptation and alteration of the environment).

ELA Common Core Standards
Reading Standards for Informational Text
Key Ideas and Details
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.
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.

Overview
People adapt to and modify the environment in which they live. The Hohokam Indians 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.
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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
- Yucca leaves, cut into 4 inch strips. One strip per student
- Reddish-brown paint
- 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 finger nail polish
- Pans or tubs for soaking shells overnight

Objectives

The student will be able to:
1. Locate areas of occupation of the Hohokam 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 Indians 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. Hand out 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. Hand out 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.
5. Collect the Prehistoric Cultures of the Southwest map and Hohokam Canal System Worksheet for assessment.

SESSION TWO

7. 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.
8. Hand out 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.
9. 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 finger nail 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.

10. Hand out 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. 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**


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