

# Why Were They Built? Dams in Arizona

Students will learn how dams have modified natural resources.

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<b>Grade Level</b>	4
<b>Duration</b>	1 class period

National Geography Standards
<b>ELEMENT FIVE: ENVIRONMENT AND SOCIETY</b> <b>14.</b> How human actions modify the physical environment.

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

Other Arizona Standards
<b>Strand 1 American History</b> <b>Concept 2: Early Civilizations</b> PO 1. Describe the legacy and cultures of prehistoric people in the Americas: <ol style="list-style-type: none"> <li>characteristics of hunter-gatherer societies</li> <li>development of agriculture</li> </ol> <b>Concept 7: Emergence of the Modern United States</b> PO 1. Describe the economic development of Arizona: <ol style="list-style-type: none"> <li>mining</li> <li>ranching</li> <li>farming and dams</li> </ol>
<b>Math Common Core Standards</b> <b>Number and Operations in Base Ten</b> 4.NBT.2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. <b>Standards for Mathematical Practice</b> 4.MP.7. Look for and make use of structure.

## Overview

An important way in which people have modified natural resources is by building dams. Many dams have been built on Arizona rivers. Students should know why people have built dams and will see that Arizona has a long history of dam building.

## Purpose

In this lesson students will gain a better understanding of how people modify a natural

resource in their environment by building dams. Students will also place the dates of construction of Arizona's dams in order from earliest to most recent.

## Materials

- Important Dams in Arizona map
- Important Dams in Arizona map transparency
- Student reading - "Dams in Arizona"
- Student Worksheet and answer key

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- Colored pencils, 4 different colors per student

### Objectives

Students will be able to:

1. Explain the purpose of dam building.
2. Locate dams on rivers in Arizona.
3. Order the construction dates of dams from earliest to most recent.

### Procedures

*Students should have experience in ordering numbers.*

1. Introduce the subject of dams. Have students share their ideas about why dams are built and if they know of any dams near where they live.
2. Students read (alone or as a group) the handout on Dams in Arizona. Identify the reasons why people build dams.
3. Give students a copy of the map, Important Dams in Arizona. Teacher could also have a transparency of the map to show and model the work.
4. Students locate the Colorado, Gila, Verde and Salt Rivers on the map. Trace these four rivers using four different colors. Identify the dams

built on the 4 rivers by using a pencil line across the river where the dams are located.

5. Identify the dates listed as dates of construction and explain that the numbers 1, 2, and 3 in the key identify dams on the Salt River.
6. Give the worksheet for students to complete.
7. Review the reasons for building dams in Arizona and how they still benefit people today.

### Assessment

The student worksheet can be used for assessment purposes. It is a combination of short answer and multiple-choice questions. Items 1 - 6 can be used to assess geography. Items 7 - 11 can be used to assess math. A score of 80% or higher is considered mastery for each.

### Extensions

Have students locate the dam that is nearest to their hometown. Research this dam to find the purpose of the dam and any benefits their town receives from it.

### Sources

The following website gives more information about dams:

[www.pbs.org/wgbh/buildingbig/dam/](http://www.pbs.org/wgbh/buildingbig/dam/)