



What's Holding Up the Water?

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Grade Level 3
Duration 1-3 class periods

ELL Adaptation by Gail Gorry

National Standards

GEOGRAPHY ELEMENT TWO: PLACES AND REGIONS

4. The physical and human characteristics of places.

ELEMENT FIVE: ENVIRONMENT AND SOCIETY

14. How human actions modify the physical environment.

16. The changes that occur in the meaning, use, distribution, and importance of resources.

AZ Standards

ELA

Reading

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.

Writing

Text Types and Purposes

3.W.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

- Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.
- Develop the topic with facts, definitions, and details.
- Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information.
- Provide a concluding statement or section.

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.

Global interconnections and spatial patterns are a necessary part of geographical reasoning.

3.G4.1 Describe how Arizona has changed over time. Key concepts include but are not limited to Paleo-Indians, explorers, settlers, farmers, immigrants, migrants, the 22 Arizona Indian Nations, plants, land use, and animals.

DISCIPLINARY SKILLS AND PROCESSES

Chronological reasoning requires understanding processes of change and continuity over time, which means assessing similarities and differences between historical periods and between the past and present.

3.SP1.1 Create and use a chronological sequence of related events to compare developments that happened at the same time.

What's Holding Up the Water?

| SIOP Elements | | |
|--|---|---|
| Preparation Adapting content Linking to background Linking to past learning Strategies used | Scaffolding Modeling Guided practice Independent practice Comprehensible input | Grouping Option Whole class Small groups Partners Independent |
| Integrating Processes Reading Writing Speaking Listening | Application Hands on Meaningful Linked to objectives Promotes engagement | Assessment Individual Group Written Oral |

Arizona ELP Standards

Stage III

Basic

Reading

Standard 4: The student will analyze text for expression, enjoyment, and response to other related content areas. The student will demonstrate reading comprehension by:

B-20: identifying content vocabulary within math, science, and social studies texts.

B-24: locating specific information from external text in nonfiction text for a specific purpose.

Writing

Standard 1: The student will express his or her thinking and ideas in a variety of writing genres. The student will express his or her thinking and ideas in a variety of writing genres, as demonstrated by:

B-5: writing a summary statement containing only relevant key ideas summarizing a variety of familiar text with instructional support.

Overview

Dams are structures that control the flow of water to prevent flooding and to produce energy. Learning about dams is one way that students can see the impact that humans have on the landscape. They can also see the importance of water as a resource.

Purpose

The U.S. Department of Reclamation often oversees the construction of dams. One of its first major projects was Roosevelt Dam completed in Arizona in 1911. In this lesson, students will learn about dams in general and Roosevelt Dam in particular.

Key Vocabulary

human features – man-made features on earth, like dams

dams – structures that block the flow of water

beavers – a furry mammal known for building dams with mud, sticks, and tree branches

electricity – current used as a source of power

reservoir – a lake created on the one side of a dam

Materials

- Vocabulary Sheet
- Vocabulary Cards
- Dams Information Sheet
- Notetaking Sheet
- Exit Ticket
- Important Dams in Arizona map
<https://geoalliance.asu.edu/sites/default/files/maps/AZ-DAMS.PDF>
- Theodore Roosevelt Dam reading
- Theodore Roosevelt Dam Photos (1911 and Current)
- Roosevelt Dam Timeline and Answer Key
- 6 Traits Writing Rubric

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Objectives

The student will be able to:

- Create a timeline.
- Answer questions after reading information on dams.
- Describe how people have modified the environment.
- Describe the impact of dams on the environment of Arizona.

Procedures

SESSION ONE

1. Begin the lesson by discussing, "What are human features?" (Things that are created by humans and found in our environment.) Have them name some human features (roads, buildings, canals, dams, etc.). **(Preparation: Linking to past learning)**
2. Distribute the Vocabulary Sheet and project the Vocabulary Cards. Have students copy the definition and draw a picture for each of these words. **(Scaffolding: Comprehensible input)**
3. Then ask, "For what purpose do humans build dams? (to keep rivers from flooding, to create water in reservoirs for later use, to slow down rivers). Then ask, "What do you know about dams in Arizona?" **(Preparation: Adapting Content, linking to past learning)**
4. Distribute the Notetaking Sheet and the Dams Information Sheet. Project the Notetaking Sheet. Read aloud the information about dams and have the students contribute the answers to the blanks on the notetaking sheet. If you wish, project the answer key to the notetaking worksheet if it will help students. Discuss the Diagram of a Dam on the Notetaking Sheet. **(Scaffolding: Guided practice, Integrated Processes: Listening, Reading, Writing)**
5. End the session by distributing the Exit Ticket. Have students answer the two questions. **(Assessment: Individual, Written)**

SESSION TWO

1. Project the Important Arizona Dams map. <https://geoalliance.asu.edu/sites/default/files/maps/AZ-DAMS.PDF> Have students count the number of dams in Arizona. Are there any parts of Arizona without a dam? **(Application: Promotes engagement)**
2. Distribute the Theodore Roosevelt Dam reading

and project the Theodore Roosevelt Dam Photos. Point out that Photos 1 and 2 are historic (1911). Point out the dam and the reservoir in Photo 3. In Photo 4, point out how the spillway works. Again, emphasize that this dam produces electricity, controls flooding, and the reservoir stores water for use by people and farmers. **(Scaffolding: Comprehensible input)**

3. Have students read aloud the Theodore Roosevelt Dam reading. In partners, have students make a sequential list of events related to the history of Roosevelt Dam. **(Grouping option: Whole group, Partners)**
4. Distribute the Roosevelt Dam Timeline worksheet to students and instruct them to make a timeline of Roosevelt Dam. **(Grouping option: Partners, Assessment: Written, Group)**

SESSION THREE (or homework)

1. Have students write an expository text on the importance of dams. The text should include what is a dam, why are dams built, and how do the dams positively affect and negatively affect our world. Allow students to use their Exit Ticket and any other materials used in class for writing their text. **(Assessment: Written, Individual)**

Assessment

ELA and Social Sciences

The Notetaking Sheet can be graded for completeness and accuracy. Mastery will be considered a score of 90% or higher.

The Exit Ticket can be graded for logical positive and negative effects of building a dam. Mastery will be considered 2 effects out of 3 being logical.

The Roosevelt Dam Timeline can be graded for correctly sequencing and identifying the dates. Mastery will be considered a score of 6 of the 8 dates correctly done.

The expository text can be graded using the 6 Trait Writing Rubric in the areas of Ideas and Content and Organization. A score of 4 or higher is considered mastery of these areas.

Extensions

Project the Important Dams in Arizona map and have students research another dam in Arizona.