



## What's Holding Up the Water?

Students complete a history and writing lesson about dams.

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<b>Grade Level</b>	4-5
<b>Duration</b>	1-3 class periods

### National Geography Standards

#### 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.

### Arizona Geography Strand

#### Grade 4

#### Concept 1 The World in Spatial Terms

PO 5 Describe

characteristics of human and physical features:

- a. physical - continents, oceans, river, lake, mountain, range, coast, sea, desert, gulf, bay, strait, plain, valley, volcanoes, isthmus, canyon, plateau, mesa, oasis, dunes
- b. human – Equator, four hemispheres, North and South Poles, city, state, country, harbor, dams, territory, county

#### Concept 5 Environment and Society

PO 3 Describe the impact of human modifications on the physical environment and ecosystems (e.g., dams, mining, air conditioning, irrigation, agricultural).

#### Concept 6 Geographic Applications

PO 1 Describe the impact of geographic features (rivers, mountains, resources, deserts, climate) on migration and the location of human activities

### Other Arizona Standards

#### Strand 1 American History

#### Grade 4

#### Concept 1: Research Skills for History

PO 1. Use the following to interpret historical data:

- a. timelines – B.C.E. and B.C.; C.E. and A.D.

#### Concept 7: Emergence of the Modern United States

PO 1. Describe the economic development of Arizona:

- a. mining
- b. ranching
- c. farming and dams

#### Grade 5

#### Concept 1: Research Skills for History

PO 1. Use the following to interpret historical data:

- a. timelines – B.C.E. and B.C.; C.E. and A.D.

#### Concept 5: Westward Expansion

PO 4. Describe how manufacturing, textiles, transportation improvements, and other innovations of the Industrial Revolution contributed to U.S. growth and expansion.

### ELA Common Core Standards

#### Reading

#### Informational Text

#### Key Ideas and Details

**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.

**5.RI.3** Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

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(e.g., exploration, mining, transportation routes, settlement patterns).

### Grade 5

#### Concept 5 Environment and Society

PO 2 Describe the impact that natural events (e.g., floods, earthquakes, droughts) have on human and physical environment

### Range of Reading and Level of Text Complexity

**4.RI.10** By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.

**5.RI.10** By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.

### Writing

#### Text Types and Purposes

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

- Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
- Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).
- Use precise language and domain-specific vocabulary to inform about or explain the topic.
- Provide a concluding statement or section related to the information or explanation presented.

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

- Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.
- Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
- Link ideas within and across categories of information using words, phrases, and clauses (e.g., in contrast, especially).
- Use precise language and domain-specific vocabulary to inform about or explain the topic.
- Provide a concluding statement or section related to the information or explanation presented.

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### Language Standards

#### Conventions of Standard English

##### AZ.4.L.1

h. Write and organize one or more paragraphs about a topic.

##### AZ.5.L.1

f. Construct one or more paragraphs that contain:

- a topic sentence,
- supporting details,
- relevant information, and concluding sentences.

#### Knowledge of Language

**4.L.3** Use knowledge of language and its conventions when writing, speaking, reading, or listening.

a. Choose words and phrases to convey ideas precisely.

#### Vocabulary Acquisition and Use

**4.L.6** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being and that are basic to a particular topic.

**5.L.6** Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).

### Overview

Dams are structures that control the flow of water. The Department of Reclamation often oversees construction of dams. One of the first major projects completed by the Department was Roosevelt Dam in Arizona. This lesson provides students background information

### Purpose

Students will learn about dams in general, and Roosevelt Dam in particular.

### Materials

- Dams Information Sheet
- Reading sheet on Roosevelt Dam
- Pictures of Roosevelt Dam
- Dams Worksheet
- Important Dams in Arizona Map
- Timeline dates
- Completed Timeline sample
- Timeline template for student use
- Summary Rubric

- Paper, pencil

### Objectives

The student will be able to:

- use reading strategies such as making inferences, summarizing, paraphrasing, differentiating fact and identifying text in chronological order to comprehend written selections.
- 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,

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buildings, canals, dams, etc.) Then ask, "For what purpose do humans build dams? (to keep rivers from flooding, to hold water in reservoirs, to slow down rivers) Then review students' knowledge of water in Arizona.

2. Distribute the article about dams.
3. Read the article aloud as students follow along or use it as a resource and share information with students.
4. Working in pairs, students complete the first two parts of the worksheet about dams. (Students complete the third part of the worksheet by writing a summary of the article independently.)

### SESSION TWO

1. Locate Roosevelt Dam on the Arizona Dams Map.
2. Distribute the Roosevelt Dam article and pictures of Roosevelt Dam.
3. Students read the article orally in small groups or read the article aloud to students. In their groups, students make a sequential list of events related to the history of Roosevelt Dam.
4. Working independently, students make a timeline of Roosevelt Dam. (If time allows, have students share timelines with class.)

### SESSION THREE (or homework)

1. Students write a summary of the article using information from the "Dams" article and the article "Roosevelt Dam". Students should use the worksheet to help them when writing the summary.

## Assessment

Students will write a summary of the article about dams paraphrasing the main idea in their own words. A rubric that is provided will be used to score the writing. Rubric focus will be on Word Choice, Ideas, Conventions and geography content.

Reading skills will be assessed through the timeline. Students will need to pick out factual information to include on the timeline and then put in the correct place on the timeline. Timeline will also assess the geography standard.

## Extensions

Research other dams in Arizona

Read *The Magic Schoolbus at the WaterWorks* by Joanna Cole. List facts and opinions about water from the book.

National Geographic Geoguide: Dams! This site presents an interactive feature on dams. The site takes users through the phases involved in dam construction, from start to finish. Located at: <http://www.nationalgeographic.com/resources/ngo/education/geoguide/dams/>

## Sources

Bains, R. (1982). *Wonders of Rivers*. Troll Associates