

History of Water in Nevada Lesson

Nevada Agriculture and Water Series



History of Water in Nevada

Grade Levels: 3-5

Purpose:

Students will learn about the history of water in Nevada, the important role water plays in our history, and why we grow food where we do.

Materials:

- Handout: The Role of Water in the Early Development of Nevada
- Comprehension Question worksheet

Vocabulary:

- Aquifer
- Drought
- Groundwater
- Infiltrate
- Irrigation
- Irrigation diversion
- Reclamation
- Spring water
- Terminal Lake

Background Agricultural Connections:

In the early 1900's one American farmer could feed himself and approximately 8 more people. In modern agriculture production one U.S. farm feeds 165 people annually in the U.S. and abroad (Food & Farm Facts. American Farm Bureau. 2017). Nevada farmers contribute to that statistic, regardless of living in the driest state in the nation. Nevada's rich history and the role water plays in that history is an important topic to discuss with students.

This information for this lesson was obtained from the following sources:

- Nevada Division of Water Resources Department of Conservation and Natural Resources http://www.pg-tim.com/files/NV_Water_Facts.pdf
- Lesson: Rural vs. Urban: The Fight for Water Rights in Nevada by Corrine and Trevor Moffat. From KNPB Education Services. https://bento.cdn.pbs.org/hostedbento-prod/filer_public/KNPB_Campus/documents/KNPB-StewardsRangeland_Water-Resources3.pdf
- Lake Tahoe Water Wars- Part 1 and 2 by Mark McLaughlin, a Tahoe Historian, <http://tahoetopia.com/news/lake-tahoe-water-wars-part-1-2> and <http://laketahoetv.net/news/lake-tahoe-water-wars-unending-part-2-2>

Interest Approach:

1. Review Westward expansion in the United States.
 2. Ask each student to draw a picture of the state of Nevada and draw or list the reasons people settled in Nevada.
 3. Review with the class why people settled here (Natural resources, came to mine for silver and gold).
 4. Discuss with students what resources settlers were looking for in terms of where they would settle (food, water, shelter, a way to make a living, etc.).
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Procedures:

1. Pass out copies of reading pages, *The Role of Water in the Early Development of Nevada* to each student. These can be read independently, in partners, or as a class.
2. Pass out copies of the comprehension questions to each student.
3. Watch segments from the video series and connect the history to today's practices and water availability. Highlighted videos: Why we measure snow, Dr. Church, the father of snow surveying, and Growing food in high desert climates.
https://www.youtube.com/playlist?list=PLGdlCTs4dQTdFThAVQn_yZYcp_8ZMbTLf

Vocabulary

Aquifers: Naturally occurring, underground formations that store water, think of a very wet sponge. The water can be collected by drilling a well into the aquifer and then pumping it to the surface. Then it can be used for crops, livestock, and human consumption.

Groundwater: Some precipitation infiltrates into the ground to become groundwater. Groundwater is the major contributor to many streams and rivers. Groundwater is recharged by rainwater that falls onto soil and percolates down through the soil and rocks into the aquifer.

Infiltration: To filter into or through; permeate.

Irrigation: The application of water to land using man-made technology

Reclamation: When Congress passed the National Reclamation Act in 1902, the measure set in motion the dramatic transformation of arid sections of the American West to "reclaim" land for productive agricultural use. President Theodore Roosevelt, who signed the bill into law, believed that reclaiming arid lands would promote the agrarian ideals of Thomas Jefferson.

Spring Water: A spring is any natural situation where water flows from an aquifer to the Earth's surface.

Terminal Lake: A terminal lake is one in which the rivers that flow into the lake end or terminate at the lake. They do not flow out of the lake anywhere.

Educational Standards Addressed

Nevada Academic Content Science Standards/Next Generation Science Standards

5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.

Nevada Academic Content Social Studies Standards

SS.5.31. Analyze how physical geography and natural resources affected exploration within the settlement of people, and the development of culture in early U.S. history.

Nevada Academic Content English Language Arts Standards/Common Core

Key Ideas and Details:

CCSS.ELA-LITERACY.RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

CCSS.ELA-LITERACY.RI.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

CCSS.ELA-LITERACY.RI.4.3 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.

CCSS.ELA-LITERACY.RI.5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

Craft and Structure:

CCSS.ELA-LITERACY.RI.3.4, 4.4, 5.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3, grade 4, grade 5, topic or subject area.

Integration of Knowledge and Ideas:

CCSS.ELA-LITERACY.RI.3.7 Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

CCSS.ELA-LITERACY.RI.4.7 Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

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CCSS.ELA-LITERACY.RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

National Agricultural Literacy Outcomes

T1.3-4e Recognize the natural resources used in agricultural practices to produce food, feed, clothing, landscaping plants, and fuel. (Water)

T2.3-5e Understand the concept of stewardship and identify ways farmers/ranchers care for soil, water, plants, and animals.

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