

U.S. Geography: The West: Teacher's Guide

Grade Level: 5-8

Curriculum Focus: Geography

Lesson Duration: One or two class periods

Program Description

This region owes its mineral riches and spectacular landscapes to the restless earth beneath it.

Understanding Maps – The mountains, canyons, trees, and rivers of the West provide geologists with an illustrated timeline of the events that shaped this rugged land. **Earthquakes &**

Volcanoes – Investigate the powerful tectonic forces that created the dramatic topography of the region. **The Gold Rush** – See how the discovery of a small nugget of gold in California in the 1800s

spawned a westward migration that eventually spread to the Klondike area of Alaska.

- Understanding Maps (11 min.)
 - Earthquakes and Volcanoes (5 min.)
 - The Gold Rush (5 min.)
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Onscreen Questions

Understanding Maps: You Are Here

- Why is the western part of the United States referred to as a land of extremes?
- What information have geologists uncovered to help us understand the formation and topography of the western United States?

Earthquakes and Volcanoes

- What forces of nature cause earthquakes and volcanoes?
- How are scientists using technology to help us understand and live with earthquakes and volcanoes?

The Gold Rush

- The possibility of gold offered the promise of wealth to many people in the 1800s. How did people travel to seek their fortunes, and was the promise of riches kept?
 - If you had lived in the 1800s and heard about the promise of wealth, would you have joined the gold rush miners? Why or why not? (Use information from the video to support your answer.)
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Lesson Plan

Student Objectives

- Use the *U.S. Geography: The West video*, travel brochures, the Internet, and other sources to learn about the national parks of the West.
- Create travel brochures for the national parks of the West, indicating unique geological features and defining aspects of the different parks.
- Use what they learn in making their travel brochures to compare and contrast the national parks of the West.

Materials

- *U.S. Geography: The West video* and VCR, or DVD and DVD player
- Pencils, erasers, and rulers
- Fine-point black pens (optional)
- Colored pencils, markers, or crayons
- White construction paper
- Computer with Internet access (optional)
- Atlases and other library resources

Procedures

1. Begin the lesson by reviewing the *U.S. Geography: The West video*. Ask students: What topography and unique geologic features are found in the West? Which national parks are located there? On the board or an overhead projector, list the seven parks discussed in the video:
 - Yellowstone National Park
 - Grand Canyon National Park
 - Yosemite National Park
 - Sequoia National Park
 - Grand Teton National Park
 - Olympic National Park
 - Death Valley National Park
2. Discuss the locations, topography, and geology of these parks. Ask students: Why might a person choose to visit one park over another? What rare or unusual plants and animals thrive in specific parks? Why might certain species live in one location and not another?



3. Explain that travel agents and tourists use travel brochures to find information on areas that they or their customers might be interested in visiting, such as national parks. Break the students into groups to evaluate the tourist brochures and travel magazines.
4. After the groups have had a chance to review the materials, hold a class discussion. Ask students: What do they like about a particular brochure or travel magazine? What don't they like? What common features are found in all their brochures? Make a class list of things travel brochures should include.
5. Using information from the video, library sources, and the Internet, have each student select a national park in the West and create a travel brochure for it. Allow students to choose their own parks, but make sure that the class has covered all seven parks.
6. Students' brochures should be creative but must include the following:
 - General overview of the park, including its location
 - Park history
 - Description of unique geological features
 - Description of animals and vegetation found in the park
 - Things to do and see in the park
 - Park hours and fees
 - Illustrations or photographs
7. Give students time in class to begin researching parks and working on their travel brochures. Have them finish the brochures as homework. Students may use travel magazines, atlases and other library resources, and the Internet to conduct their research. These Web sites are good resources:
 - <http://www.nps.gov/parks.html>
 - <http://www.us-national-parks.net/>
 - <http://www.areaparks.com/>
 - <http://www.americanparknetwork.com/>
 - <http://wrgis.wr.usgs.gov/docs/usgsnps/project/home.html>
8. Display the finished works, and provide time for students to read through their peers' brochures. Then, as a class, compare and contrast the parks. Ask students: Which parks sound like they would be more interesting to visit? Why? Conduct a vote to see which national park in the West the class would most like to visit if you were able to take a class field trip.

Assessment

Use the following three-point rubric to evaluate students' work during this lesson.

- **3 points:** Students actively participated in class discussions; used professional brochures, books, and other resources wisely; made attractive and creative brochures that correctly included all seven criteria.



- **2 points:** Students somewhat participated in class discussions; used books and other resources to some degree; made presentable brochures that correctly included four criteria.
- **1 point:** Students did not participate in class discussions; were unable to use resource materials without guidance; made presentable brochures that correctly included two criteria.

Vocabulary

fault

Definition: Cracks in the Earth's crust created by shifting and colliding plates

Context: One of the most famous cracks is the San Andreas Fault, which extends 600 miles from northwestern to southeastern California.

geology

Definition: To adapt to living with humans and serving their needs; to train an animal to live with and serve humans

Context: You can't explore the West's geology without a look at the Grand Canyon in Arizona.

magma

Definition: Molten rock from volcanoes

Context: Magma remains beneath the Earth's surface in Yellowstone National Park.

nocturnal

Definition: Active at night

Context: Geckos, coyotes, and many other animals in Death Valley are nocturnal because the desert is coolest at night.

topography

Definition: A description of the surface features of a region, both natural and man-made

Context: Topography includes hills, valleys, lakes, streams, ridges, and glaciers.

Academic Standards

Mid-continent Research for Education and Learning (McREL)

McREL's Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education addresses 14 content areas. To view the standards and benchmarks, visit link:

<http://www.mcrel.org/compendium/browse.asp>

This lesson plan addresses the following national standards:

- Geography – Physical Systems: Knows the physical processes that shape patterns on Earth's surface; Human Systems: Understands the patterns and networks of economic interdependence on Earth's surface, Understands the patterns of human settlement and their causes



- Language Arts – Viewing: Uses viewing skills and strategies to understand and interpret visual media; Writing: Uses the general skills and strategies of the writing process, Gathers and uses information for research purposes
- Science – Earth and Space Sciences: Understands Earth's composition and structure

The National Council for the Social Studies (NCSS)

NCSS has developed national guidelines for teaching social studies. To become a member of NCSS, or to view the standards online, go to <http://www.socialstudies.org>

This lesson plan addresses the following thematic standards:

- Time, Continuity, and Change
 - Individual Development and Identity
 - Science, Technology, and Society
 - Global Connections
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Support Materials

Develop custom worksheets, educational puzzles, online quizzes, and more with the free teaching tools offered on the Discoveryschool.com Web site. Create and print support materials, or save them to a Custom Classroom account for future use. To learn more, visit

- <http://school.discovery.com/teachingtools/teachingtools.html>
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DVD Content

This program is available in an interactive DVD format. The following information and activities are specific to the DVD version.

How To Use the DVD

The DVD starting screen has the following options:

Play Video – This plays the video from start to finish. There are no programmed stops, except by using a remote control. With a computer, depending on the particular software player, a pause button is included with the other video controls.

Video Index – Here the video is divided into three parts (see below), indicated by video thumbnail icons. Watching all parts in sequence is similar to watching the video from start to finish. Brief descriptions and total running times are noted for each part. To play a particular segment, press Enter on the remote for TV playback; on a computer, click once to highlight a thumbnail and read the accompanying text description and click again to start the video.



Curriculum Units – These are specially edited video segments pulled from different sections of the video (see below). These nonlinear segments align with key ideas in the unit of instruction. They include onscreen pre- and post-viewing questions, reproduced below in this Teacher's Guide. Total running times for these segments are noted. To play a particular segment, press Enter on the TV remote or click once on the Curriculum Unit title on a computer.

Standards Link – Selecting this option displays a single screen that lists the national academic standards the video addresses.

Teacher Resources – This screen gives the technical support number and Web site address.

Video Index

I. Understanding Maps (11 min.)

Take a tour of the states west of the Continental Divide to discover the unique topography of the American West, including the Rocky Mountains and Death Valley.

II. Earthquakes and Volcanoes (5 min.)

When Earth's plates shift and collide, they can cause earthquakes or volcanic eruptions. Learn about these natural disasters and why we study them.

III. The Gold Rush (5 min.)

The Gold Rush sent a stampede of prospectors to California seeking their fortunes. More than 50 years later, the promise of Klondike gold did the same for Alaska.

Curriculum Units

1. Land of Extremes

Pre-viewing question

Q: What do you think is the most interesting topographic feature of the American West?

A: Answers will vary.

Post-viewing question

Q: What do geologists study?

A: Geologists study the Earth's origin, history, and structures, such as how the planet was formed; the forces that have changed it; its minerals, gems, and fossils; and its tectonic events.

2. The Earth Out West

Pre-viewing question

Q: Why is the Earth's crust sometimes referred to as its skin?

A: Answers will vary.

Post-viewing question

Q: What is the Continental Divide?

A: Formed by the Rocky Mountains, the Continental Divide is an imaginary line that runs northwest to southeast. All rivers to its west drain toward the Pacific Ocean and all rivers to its east drain toward the Atlantic Ocean and the Gulf of Mexico.



3. Yellowstone National Park

Pre-viewing question

Q: Do you think that national parks are a good way to protect natural resources?

A: Answers will vary.

Post-viewing question

Q: What is a geyser?

A: A geyser is an opening in the Earth where a column of superheated water and steam shoots into the air intermittently. Groundwater seeping deep into the Earth may be heated by molten rock, so geysers can reach 400° Fahrenheit.

4. Discovering the Mystery State

Pre-viewing question

Q: Which Western state would you like to visit?

A: Answers will vary.

Post-viewing question

Q: Which state has forests, mountains, deserts, and big cities?

A: California, the third largest state in the United States, has Sequoia National Park, a forest of some of the oldest and largest trees in the world; the Sierra Nevada mountain range; Death Valley, the lowest point in North America; and the cities San Francisco and Los Angeles.

5. Studying Earthquakes

Pre-viewing question

Q: Have you ever experienced an earthquake?

A: Answers will vary.

Post-viewing question

Q: What is a fault?

A: A fault is a crack in the Earth's crust, formed by the movement of tectonic plates.

6. Volcanic Eruptions

Pre-viewing question

Q: Why is the study of volcanoes and earthquakes valuable?

A: Answers will vary.

Post-viewing question

Q: How are volcanoes classified?

A: Scientists classify volcanoes by rate and type of eruption.

7. The Promise of Gold

Pre-viewing question

Q: Would you leave your home to search for riches?

A: Answers will vary.

Post-viewing question

Q: What natural resources have historically drawn people to Alaska?

A: In addition to gold, the natural resources of oil, timber, and fish have attracted people to Alaska, which is considered the fishing capital of the United States.

