

FOR
**BEYOND
LEWIS & CLARK**

The Army Explores the West

"To Infinity and Beyond!"

When someone says the word "exploring," what do you think? Going to the moon or the depths of the ocean? Not many of us will have these types of adventures, yet we can all benefit from learning to explore.

An explorer's job is to **observe**, **record**, and **share information**. Every day we explore. We observe our surroundings and use this information to make decisions that direct our lives. Sometimes we record and share this information with others. New information can change the way we act or think about things. The more we observe, the more we can use that information to make smart decisions.



Compass used by William Clark

National Museum of American History, Smithsonian Institution, Behring Center

Beyond Lewis and Clark: Exploring in the 1800s

Beginning in 1804, military explorers were sent west to observe, record, and share what they found with the government and citizens of the United States. They were directed to find out *everything* about the West. This included mapping the rivers, identifying new plants and animals, surveying land, recording information about Native people, and locating mineral resources.



United States, 1803

With each expedition, understanding about the West became more complete. This information influenced future expeditions. It also affected decisions about land use and ownership. The information collected by explorers was used to make decisions on everything from determining boundaries for our developing country and creating overland routes, to interacting with Native American tribes and using natural resources.

This exhibit addresses the work of military explorers, 1804 - 1874, from Lewis and Clark to George Armstrong Custer. In 1804, the country ended at the Mississippi River, and the West was largely unknown to the people of the United States. Seventy years of exploring changed all that. The Army explorers provided the details to complete earlier maps on which the West was a mysterious blank. Their stories filled American minds with new ideas about the West. What they learned profoundly changed the nation.

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July 1 through December 31, 2003

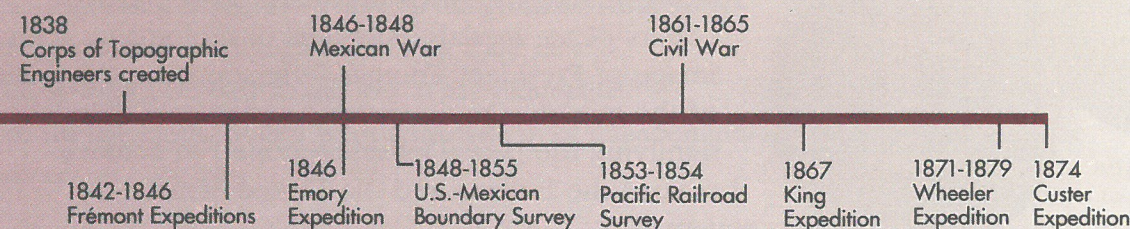
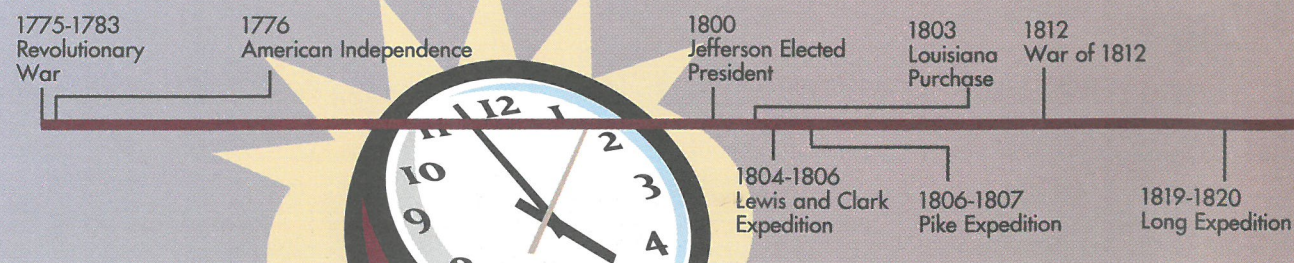
Washington State History Museum
Tacoma, Washington
February 14 through October 31, 2004

Kansas History Center
Topeka, Kansas
December 10, 2004, through August 14, 2005

Missouri Historical Society
St. Louis, Missouri
October 8 through December 31, 2005

Frontier Army Museum
Fort Leavenworth, Kansas
from April, 2006

Time Marches On



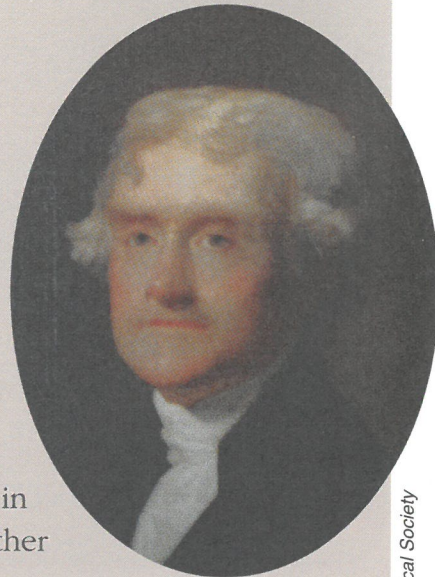
Why Choose the Army to Explore?



Infantry soldier, 1802

In 1803, President Thomas Jefferson set the standard for future western exploration when he selected Army officers Meriwether Lewis and William Clark to lead the Corps of Discovery. There were many reasons Jefferson selected soldiers to serve as explorers. As a student of history, he realized the importance of the military in successful expeditions completed by other countries. Discipline, a key Army principle, was necessary to endure the many hardships, anticipated and real, on the expedition.

Also, a journey of this magnitude would need the money only a government could provide. The Army would represent the U.S. government and reinforce the claim to the land it explored. And an Army took orders. Jefferson was keen on making sure that his vision of exploration, with an emphasis on science, would be followed. The Army was the only U.S. organization trained to do science. For the next seventy years, officers from West Point and later the elite Corps of Topographical Engineers would lead the way in service as soldier-explorers of the West.



Thomas Jefferson, 1805

Virginia Historical Society

Jefferson Peace Medal

Among other gifts, Lewis and Clark gave Indian leaders peace medals as tokens of diplomacy. The image of President Thomas Jefferson is on the front of the medal. On the reverse are clasped hands signifying the peace Jefferson hoped to achieve between the Indians and the United States government.



TH. Jefferson
President of
the U.S.
A.D. 1801



Peace
Friendship

Kansas State Historical Society

What Do You See?

Explorers had to be good observers. Most had scientific training that taught them the skills of observation and inference.

Observation is what a person is actually seeing, hearing, or feeling. An **inference** is speculation based on observations or prior knowledge. For example, John C. Frémont identified the geographic feature of the Great Basin as a result of the collection of navigational observations. Frémont inferred or assumed that the Great Basin was an area between two mountain ranges where the

streams and rivers did not flow to an ocean. He could not see the entire Great Basin but he could conclude it existed based on his maps.

Sometimes the explorers were wrong, as was the case with Zebulon Pike. At one point on his expedition, Pike was captured by Mexican soldiers. He thought he was on the Red River, but his observations and inferences were incorrect. He actually was on the Rio Grande River and in Spanish Territory.



Washington State Historical Society

What do you **observe** from viewing this scene, *Crossing the Bitter Roots in Midwinter* by Gustav Sohon, 1855?

1. What is the weather like in the mountains in winter?
Hot **Cold**
2. Describe the Bitterroot Mountains.
Steep **Gentle**
3. Explorers brought with them a lot of equipment and supplies.
Yes **No**
4. Explorers used horses to carry their equipment and supplies.
Yes **No**

What can you **infer** from viewing this scene?

- | | | |
|---|-------------|--------------|
| a. Exploring in the mountains is difficult and dangerous. | True | False |
| b. Explorers used guns to hunt for their meals. | True | False |
| c. It would be easy to get lost in the mountains. | True | False |
| d. In the 1850s, horses were a main form of transportation. | True | False |

(Answers on page 16)

Lewis and Clark and the Corps of Discovery

In 1803 the United States purchased the Louisiana Territory from France for \$15 million. President Thomas Jefferson succeeded in doubling the size of the United States but had no idea what he had purchased. Some people believed that unicorns could be found in the West, some said the beavers were seven feet tall, or that woolly mammoths still roamed the prairie. Jefferson, who never traveled farther than 50 miles west of his home in Virginia, decided to

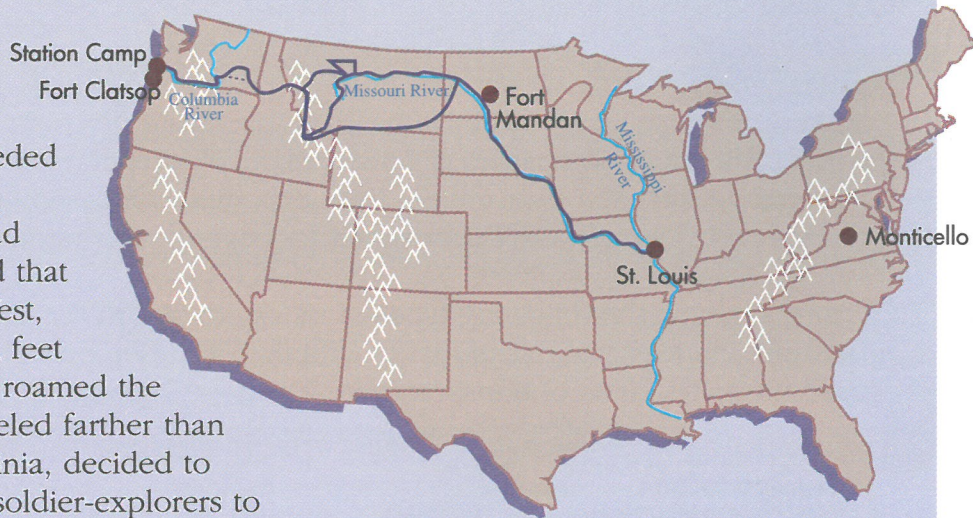
send soldier-explorers to find answers to his many questions.

In a single letter written to Meriwether Lewis, Jefferson detailed exactly what he wanted the expedition to accomplish.

The object of your mission is to explore the Missouri River...and other river[s which] may offer the most direct and practicable water communication across the continent...

Jefferson, the diplomat, instructed him to make contact with the Native Americans. Jefferson, the scientist, directed Lewis to record objects worthy of notice including the soil, minerals, plants, animals, and climate. He was to bring back samples whenever possible.

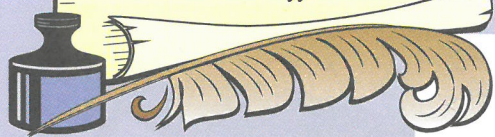
Captain Lewis selected as co-captain a friend and fellow Army officer, William Clark. Together with the Corps of Discovery, which included soldiers, French boatmen, a slave (York), a Shoshone Indian (Sacagawea), and even a baby, they completed an amazing 8,000-mile journey. In 28 months, Lewis and Clark returned with a wealth of knowledge. While there was no northwest water passage, they thoroughly mapped their route, traveled through the territory of 50 different Indian tribes, and documented 178 new plant specimens and 122 different animals.



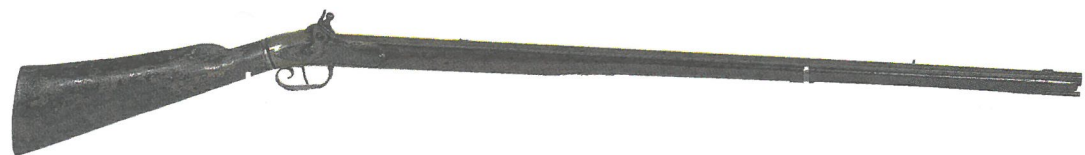
The Corps of Discovery, 1804-1806

"The object of your mission is to explore the Missouri River...and other river[s which] may offer the most direct and practicable water communication across the continent..."

-President Thomas Jefferson



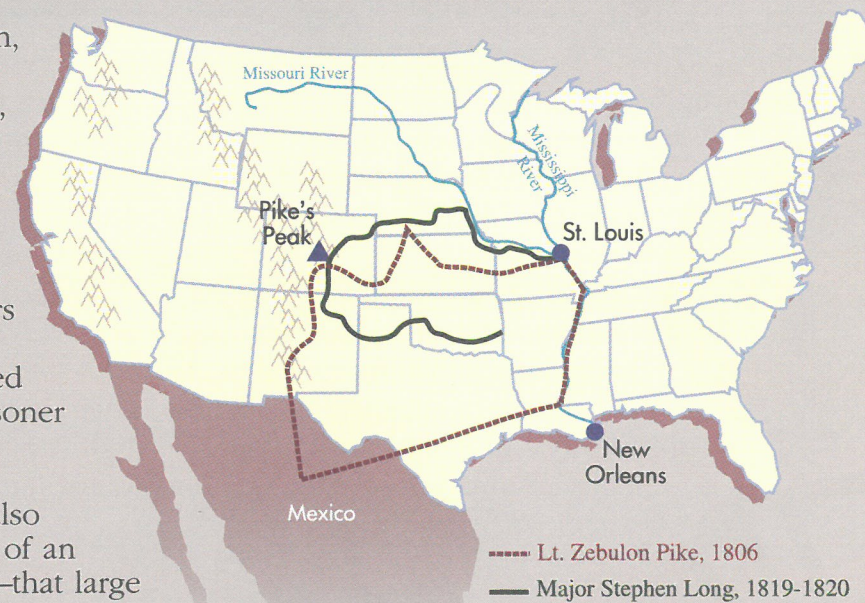
Virginia Military Institute



Meriwether Lewis' air rifle was a unique gun. Air (pneumatic) pressure instead of black powder drove bullets out of the barrel. The rifle was a lot of work to operate, requiring 1,000 pumps or strokes to fill the chamber with air. The benefit was that the gun did not produce a large cloud of smoke when it was fired. Lewis brought the air rifle and used it a number of times to show off this technology to the Indians.

Pike and Long: Onto the Plains

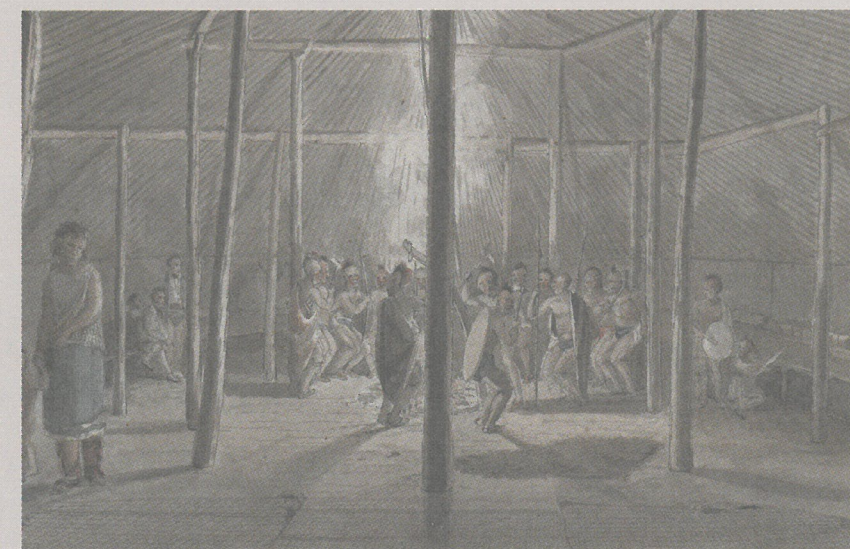
Prior to Lewis and Clark's return, another expedition was already heading into the West. In 1806, Lt. Zebulon Pike, along with 21 men, was instructed to explore the southwest portion of the Louisiana Purchase and its boundary with Spain. In his attempt to locate the headwaters of the Red River, Pike became lost. Eventually he was captured by Spanish militia and held prisoner in Santa Fe. Today he is remembered for a mountain in Colorado named for him. He also succeeded in planting the seed of an idea in the minds of Americans—that large portions of the Great Plains were uninhabitable.



In 1819, Major Stephen Long continued with the exploration of the central plains. This was the first expedition to use steamboats on the Missouri River and to include artists and scientific specialists including a zoologist, a geologist, and a botanist.

Following the Platte River, Long proceeded to the Rocky Mountains where he named a mountain in his honor, Long's Peak. His observations of the high plains supported those made earlier by Pike. Long wrote "...the country...is almost wholly unfit for cultivation, and of course, uninhabitable by a people depending upon agriculture for their subsistence...." On his 1823 map he labeled this area "The Great American Desert."

This label would have a distinct effect on U.S. government policy towards the Native Americans. At this time, the United States was negotiating with the Indians for their lands east of the Mississippi River. Americans wanted access to this land for farming, business, and industry. In 1830, eastern tribes were moved to the land deemed unusable for agriculture but considered suitable for the Indians. Over 30 tribes were removed to lands in what is today Kansas and Oklahoma. This solution, however, proved short-term with the continued push of settlers into the West.

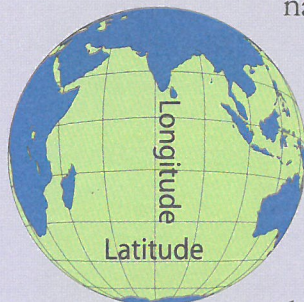


War Dance in the Interior of a Kanza Lodge by Samuel Seymour, 1819-1820.

Yale Collection of Western Americana, Beinecke Rare Book and Manuscript Library

Measuring Up to the Job

One main objective of all western military expeditions was to create accurate maps. Scientific instruments were used for navigation, surveying and measurement. The tools used for navigating and cartography (map making) remained much the same throughout the 1800s. Today, Global Positioning Systems (GPS) can do many of these functions much more quickly and accurately.



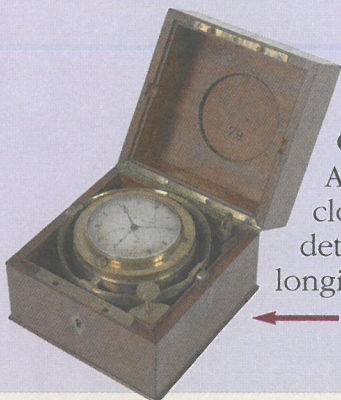
Among the instruments brought by Lewis and Clark were a quadrant, a sextant, an artificial horizon, a chronometer, and a compass. These tools were used to determine longitude and latitude. President Jefferson directed the explorers such that, "Beginning at the mouth of the Missouri, you will take observations of latitude and longitude, at all remarkable points along the river." Similar instructions were given to all following expeditions.



Quadrant: A hand-held instrument used chiefly at sea for determining latitude. It measures in 90 degree angles the altitude of the sun, moon and stars above the horizon.

An **Octant** is similar but measures 45 degree angles in relation to celestial bodies.

Artificial Horizon: A mirror-like device used with the sextant on land. At sea the true horizon can be seen. On land, hills and trees often block the horizon.



Chronometer: A very accurate clock used in determining longitude.



Compass: A navigational instrument used to determine direction.



Sextant: Similar to a quadrant, used to determine latitude and longitude.

Courtesy of the Mariner's Museum, Newport News, Virginia

Courtesy of the Mariner's Museum, Newport News, Virginia

National Museum of American History, Smithsonian Institute, Behring Center

Michael Haynes, www.mhaynesart.com

Since the time of the Revolutionary War, the military had used topographic engineers for mapping and identifying natural resources. Under the leadership of Col. John James Abert, members of the Corps of Topographic Engineers (1838-1863) became the nation's premier explorers of the West.



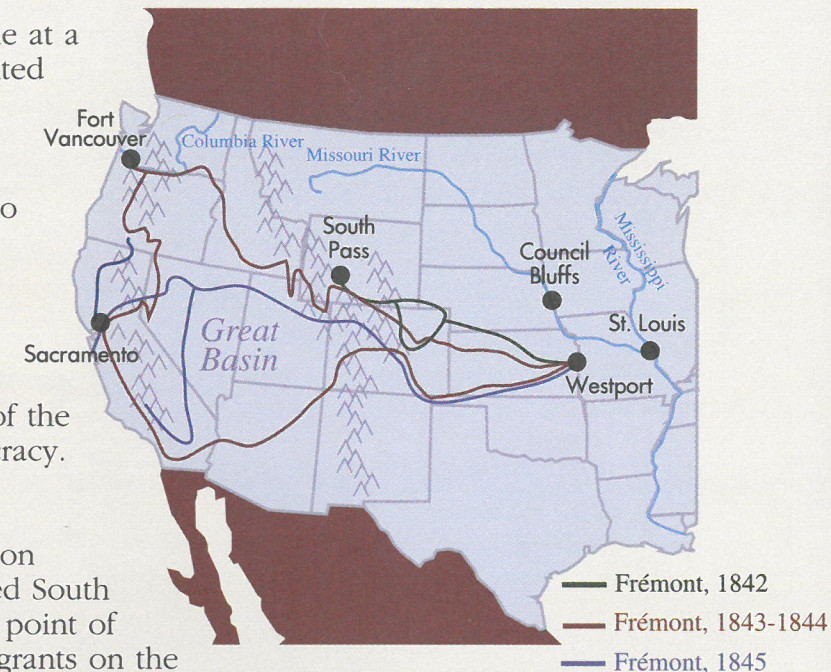
West Point Museum

Try your hand at exploring.

Make a map of your neighborhood or some place familiar to you and give it to a friend to use. Include written instructions to help them find their way. How did they do? Think about being in the West and having to share your record with the government and citizens when you returned. The job of the explorer required many skills and carried with it serious responsibilities.

Frémont: The Pathfinder

Explorer John C. Frémont arrived on the scene at a time when the western boundaries of the United States were very much in question. The British were disputing the northern boundary of the Oregon Country. Mexico wanted to retain land from California to Texas. Added to this mix was the growing national belief in Manifest Destiny. This is the idea that expansion of the United States boundaries from the Atlantic to the Pacific Ocean was inevitable. Citizens and politicians alike believed that it was the territorial expansion of the country that would preserve American democracy. These people were called expansionists.



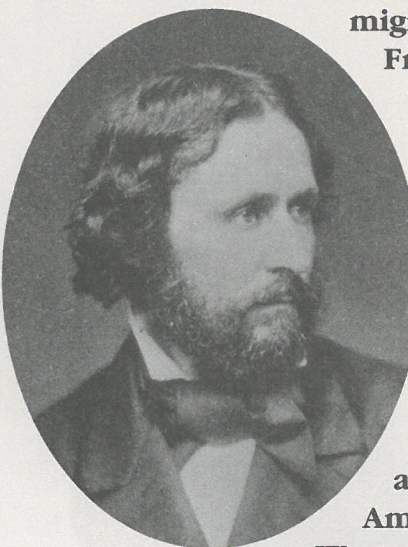
Col. Frémont's career took him into the West on several expeditions. In 1842, Frémont mapped South Pass. This would become the major crossing point of the Continental Divide for thousands of immigrants on the Oregon Trail. In 1843, Frémont began a circumnavigation (to circle through) of the entire western region. He traveled from the Rocky Mountains to the Columbia River, through California and back. This route allowed him to observe a geographic feature he labeled the Great Basin. Formed between two mountain ranges, it is the only region on the continent whose rivers do not flow to the sea. With cartographer Charles Preuss, he created very accurate and influential maps of the West. Frémont's third expedition took him to California where he took part in the Bear Flag Revolt, California's fight for independence from Mexico.

Continental Divide: The line of highest points in the Rocky Mountains from which streams flow to opposite sides of the continent.

Frémont published his reports with the assistance of his talented wife. Jessie was a gifted writer whose romantic style made the reports popular reading. Frémont's success made him a national hero and earned him the name "The Pathfinder."

To encourage western migration, John C.

Frémont wrote that the South Pass of the Rocky Mountains was no more difficult a climb than Washington's Capitol Hill. He also planted the flag on the Continental Divide as a symbol of America's claim to the West.



The Huntington Library, San Marino, California

Jessie Benton Frémont was the daughter of the powerful Missouri Senator Thomas Hart Benton, an expansionist who promoted his son-in-law's career. She helped co-author her husband's reports but her name never appeared as author.



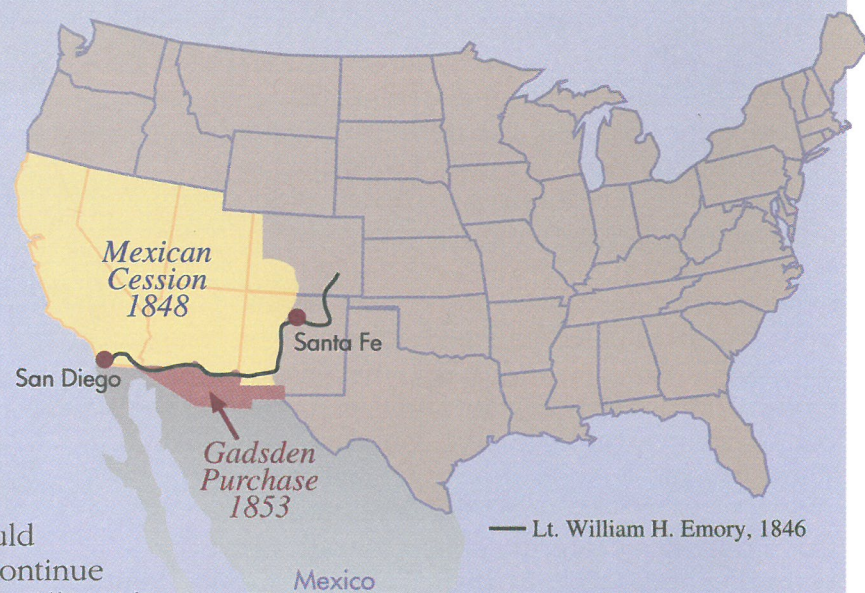
Courtesy of the Southwest Museum, Los Angeles, #81.G.2

Emory: Bordering the Southwest

In May 1846, Mexico and the United States went to war over conflicting claims to land in the Southwest. At the start of the Mexican War, the U.S. actually knew very little about this region. There were no accurate maps or books about the land, its people, and its natural resources. To remedy this, the War Department sent topographic engineers into the field with the troops.

Lt. William H. Emory was attached to General Stephen Kearney's command. Kearney and his Army of the West would eventually capture Santa Fe and then continue on to California. Although Emory's time allowed for exploration was controlled by Kearny's battle plans, he was still able to observe, collect, and record a vast amount of new information about the Southwest. One important observation he made was on the arid climate. He reported that the land would be unprofitable for the type of agriculture involving the use of slaves. This finding would affect the on-going debate over expansion of slavery into western territories.

In 1848, the Treaty of Guadalupe Hidalgo ended the Mexican War. The treaty directed that the two countries establish an agreed-upon boundary line from the Rio Grande River to the Pacific Ocean. Emory, now an expert on the Southwest, was selected to lead the U.S. survey party. It took six years of fieldwork, 1849-1855, to complete this monumental and historic project. In the process, the U.S. acquired another large tract of southwest land, the Gadsden Purchase, in 1853. The government saw possibilities in this land as the southern route for the future transcontinental railroad.



The Battle of Molino Del Ray was one of the last battles of the Mexican War. The war cost the Republic of Mexico more than one half-million square miles of land.



Battle of Molino Del Ray, 1847

A color lithograph by Nebel and Kendell, Philadelphia, 1851

Virginia Historical Society

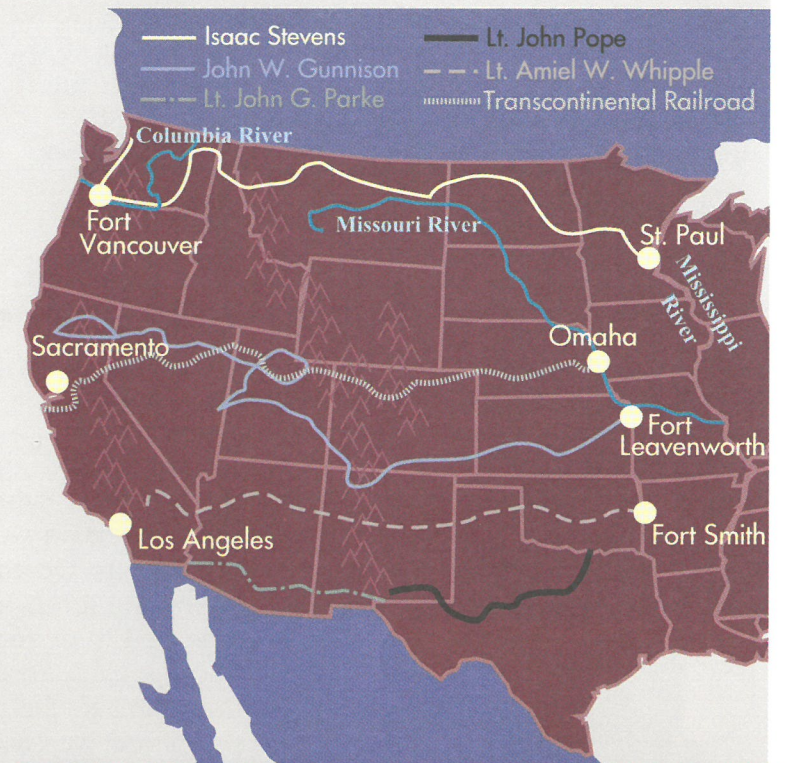
The Search for a Route: The Pacific Railroad Surveys

In the 1840s the country was expanding dramatically. The Oregon Country, the states of California and Texas, and the territory of New Mexico were newly acquired. To assure their permanent bond to the United States, they needed to be developed. A railroad would provide quick and easy access to the land and other natural resources of the West. Building a railroad was an obvious solution. The conflict arose over where to lay the track.

In 1853, Congress authorized the Corps of Topographic Engineers to determine the best route based on topography and geology. For the next two years, Pacific Railroad Survey crews mapped five major routes. Isaac Stevens, governor of Washington Territory, was a military engineer placed in charge of surveying the northernmost route between the 47th and 49th parallels (latitude). John W. Gunnison was in charge of surveying the 38th parallel. Lt. Amiel W. Whipple (35th parallel) and Lt. John Pope and Lt. John G. Parke (32nd parallel) commanded the Army exploring activities for two southern routes.

It is interesting that none of these routes was initially built. The nation was already dividing over the issue of slavery. Both the North and the South wanted the profits and the easy access to land that a transcontinental railroad would offer. Eventually President Lincoln selected a different northern route (along the 40th parallel) linking Omaha, Nebraska, with Sacramento, California. The Central Pacific and the Union Pacific Railroads joined at Promontory Point, Utah Territory, on May 10, 1869.

Although the Pacific Railroad Survey did not produce its intended results, it did accomplish a great deal. The Army's exploring activity resulted in the publication of 13 illustrated volumes, an encyclopedia of western experience.



My people, what have you done? While I was gone you sold my country.

--Chief Looking Glass of the Nez Perce returning from a buffalo hunt.



Washington State Historical Society

In 1854 and 1855, Governor Isaac Stevens negotiated treaties with the Indians to move them to reservations to make way for farmers and railroads. Gustavus Sohon painted *Gov. Stevens at Council with the Indians* to document one of the councils.

Wheeler and Custer: The Last of the Soldier-Explorers

After the Civil War, the nation again turned its attention to the West. Business and industry, settlers and entrepreneurs were interested in knowing more about this region. In place of surveys to map rivers and roads, the Army began large-scale surveys. Starting in 1867, Clarence King mapped a 100-mile-wide strip of land along the 40th parallel.

In 1871, Lt. George M. Wheeler launched another extensive survey. A West Point graduate, Wheeler would eventually map one-third of the land west of the 100th meridian. In the process, he also developed the quadrant system used today to map large areas of land.

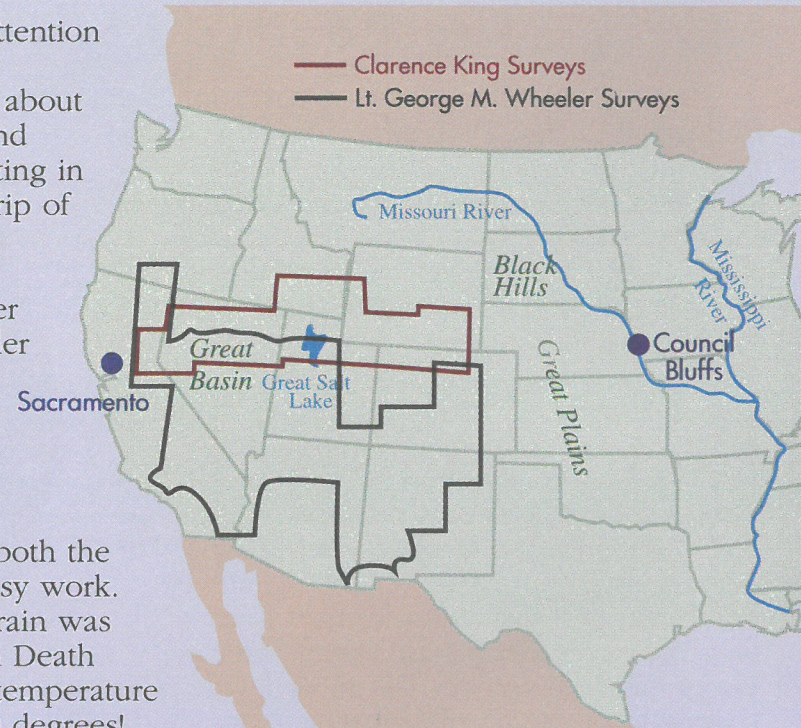
Photographer Timothy O'Sullivan accompanied both the King and Wheeler expeditions. This was not easy work. The equipment was large and bulky and the terrain was difficult. In Death Valley the temperature rose to 120 degrees! Photographic records of the expeditions, however, were as important to the mission as the mapping tools. Photographs promoted westward expansion by making Americans aware of the West and its possibilities.



A wagon was required to carry just the photographic equipment needed for taking pictures in the mid-nineteenth century.

His military career kept him on the frontier. In 1876, the year of the nation's 100th anniversary, Custer would meet his end at the hands of the Sioux at the Battle of the Little Big Horn.

The role of the soldier-explorer was ending. Civilian colleges now taught engineering. The military turned mapping and surveying responsibilities over to civilians. The U.S. Geological Survey was created in 1879 and Clarence King became its first director.



In 1874, the government sent General George A. Custer on one of the last military mapping excursions in the West. Commanding a one-thousand-man force, he rode into the Black Hills to conduct a resource survey. Gold was rumored to be there, but the land was sacred territory to the Sioux. One of Custer's missions, therefore, was to estimate the size and strength of the Sioux nation.



From Top of Grand Canyon Looking Into Brown Hole, Wyoming by Timothy O'Sullivan is evidence that "a picture is worth a thousand words" and then some.

Yale Collection of Western Americana, Beinecke Rare Book and Manuscript Library

Tips for Planning Your Own Expedition

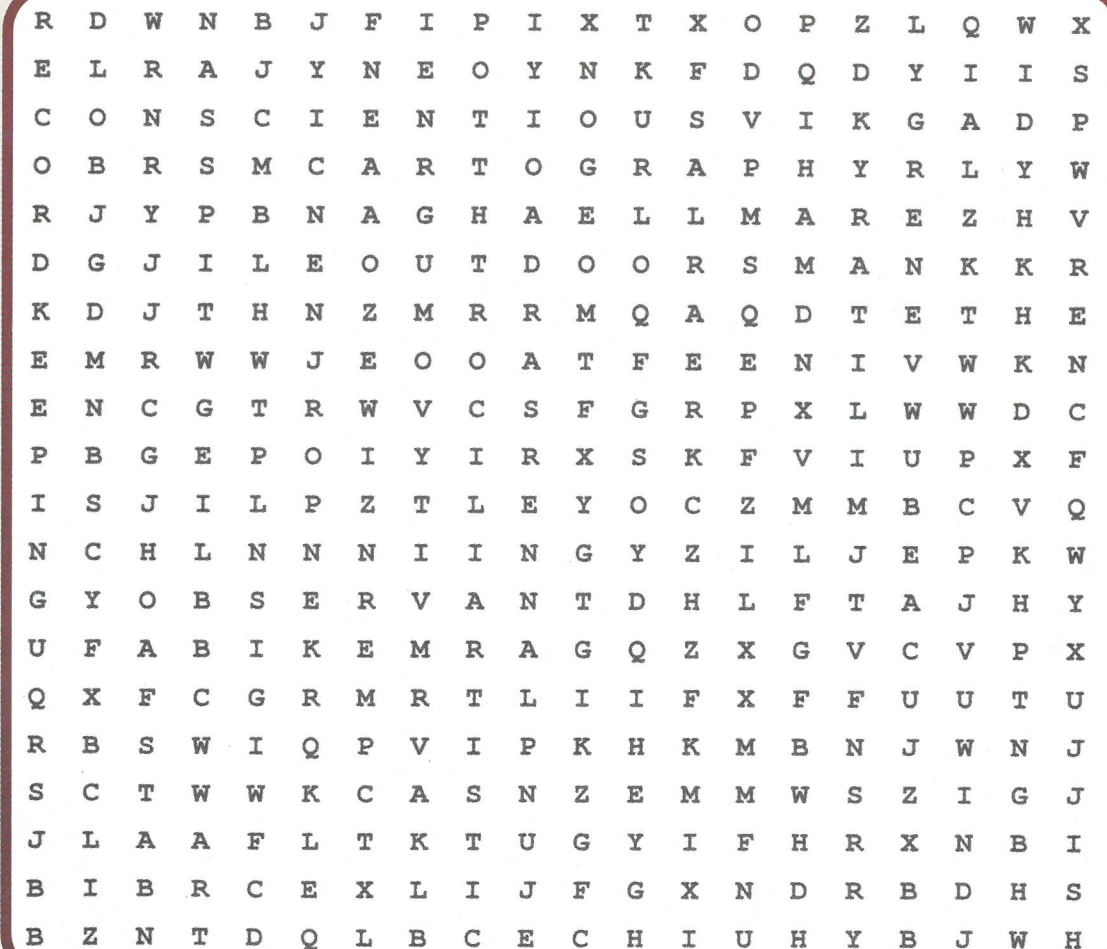
Everyone can explore. But before you do, make sure to answer these very important questions:

- 1) Why are you going? What do you hope to accomplish?
- 2) Where are you going?
- 3) What form(s) of transportation will you need to get there and back?
- 4) How will you communicate with your home base and the people you will encounter?
- 5) How will you collect data about the place and life forms you may encounter?
- 6) How do you plan to share what you find?

In Need of a Job?

Would you have had the skills to be a nineteenth century Army explorer? Read about the many skills they needed and then locate them in this word search.

Wanted: BOLD, OBSERVANT SCIENTIST and OUTDOORSMAN for expedition into the American West. Must have training in **ENGINEERING, CARTOGRAPHY, RECORD KEEPING, and WRITING. DIPLOMACY and ARTISTIC** skills a plus. Ideal candidate will be **DETAIL** oriented, **CONSCIENTIOUS**, and able to **FOLLOW ORDERS**. Natural **LEADERS** and **PLANNERS**, candidates should also have a **MILITARY** background, have boundless **ENERGY**, be **HEARTY** in spirit, and **LUCKY** in life. Send letter of interest and qualifications to: Explorers of the American West, 1804 Lostonthemap Avenue, Suite 1874, Fillitin, USA.



What's In a Name?

Every expedition after Lewis and Clark included scientific specialists. With each journey, the list of specialists grew longer. Do you know what all these people did? Try to match the title with the correct job description.

Geologist:

Naturalist:

Scientist:

Paleontologist:

Botanist:

Topographer:

Zoologist:

Geographer:

Cartographer:

Ethnographer:

Meteorologist:

Someone devoted to accumulating and establishing knowledge.

A scientist who measures and records natural features of a place or region

A scientist who studies human cultures

A person who studies plants

A map maker

A scientist who studies the Earth's rocks, minerals, and soil layers

A scientist who studies the interplay between life forms and the land

A scientist who studies weather

A scientist who studies natural objects like plants and animals

A scientist who studies ancient life through fossils

A scientist who studies animals

Answers

What Do You See? (page 5) 1. Hot 2. Steep 3. Yes 4. Yes
a. True b. True c. True d. True

Points of View (page 6) An explorer might see the unknown, potential transportation routes, mineral resources, grazing land for cattle, or a good location for a fort.

Transportation: Tools of the Trade (page 7)

Lewis and Clark: b, c, d, f • Long: d, e • Frémont: a, d, g, h • Custer: a, d, h

What's In a Name? (page 16)

Scientist: Someone devoted to accumulating and establishing knowledge.

Topographer: A scientist who measures and records natural features of a place or region

Ethnographer: A scientist who studies human cultures

Botanist: A person who studies plants

Cartographer: A map maker

Geologist: A scientist who studies the Earth's rocks, minerals, and soil layers

Geographer: A scientist who studies the interplay between life forms and the land

Meteorologist: A scientist who studies weather

Naturalist: A scientist who studies natural objects like plants and animals

Paleontologist: A scientist who studies ancient life through fossils

Zoologist: A scientist who studies animals

In Need of a Job? (page 15)

