

Army Explorers of the 19th Century

Kansas Teacher's Curriculum

Introduction

Lesson Title: Topographical Explorations

This lesson can be used in a classroom or at home to help students learn about exploration of the western portion of the United States during the 19th century. It can be used as a lesson for Army Earth Day, regular Earth Day, or general school programming. It can also be changed to fit the needs of student's learning styles and age groups.

Class and Grade level(s): Grades 7/8

Goals and Objectives

The student will be able to:

Use charts and maps to draw conclusions about the patterns of exploration by army topographers in the 19th century.

Curriculum standards addressed:

7th Grade Indicators

GB1I2 (A) develops and uses different kinds of maps, globes, graphs, charts, databases, and models

GB1I5 (A) uses geographic tools, graphic representation, and/or technologies to pose and answer questions about past and present spatial distributions and patterns (e.g., mountain ranges, river systems, field patterns, settlements, transportation routes).

GB2I4 ▲ (K) identifies the various physical and human criteria that can be used to define a region (e.g., physical: mountain, coastal, climate; human: religion, ethnicity, language, economic, government).

GB2I6 (A) explains the effects of a label on the image of a region (e.g., Tornado Alley, Sun Belt, The Great "American" Desert).

GB4I3 ▲ (K) identifies the geographic factors that influence world trade and interdependence (e.g., location advantage, resource distribution, labor cost, technology, trade networks and organizations).

GB5I1 ▲ (K) identifies ways in which technologies have modified the physical environment of various world cultures (e.g., dams, levees, aqueducts, irrigation, roads, bridges, plow).

GB5I2 (K) describes the consequences of having or not having particular resources (e.g., resource movement and consumption, relationship between access to resources and living standards, relationship between competition for resources and world conflicts).

HB1I5 (K) describes the role of early Kansas forts in carrying out the United States government's policies in regards to relocated Indian tribes and travel on the Santa Fe and Oregon-California trails (e.g., Fort Leavenworth, Fort Scott, Fort Larned, and Fort Riley).

HB3I1 ▲ (K) describes the reasons for tension between the American Indians and the United States government over land in Kansas (e.g., encroachment on Indian lands, depletion of the buffalo and other natural resources, the Sand Creek massacre, broken promises).

HB3I2 (K) describes the United States government's purpose for establishing frontier military forts in Kansas (e.g., protection of people, land, resources).

HB711 (A) analyzes changes over time to make logical inferences concerning cause and effect by examining a topic in Kansas History.

8th Grade Indicators

GB111 (K) locates major political and physical features of Earth from memory and describes the relative location of those features (e.g., Atlanta, New Orleans, Salt Lake City, San Antonio, Columbia River, St. Louis, Rio Grande, Black Hills, Continental Divide).

GB112 (A) creates maps, graphs, charts, databases and/or models to support historical research.

GB211 (K) identifies and explain the changing criteria that can be used to define a region (e.g., North/South/Border States, Northwest Territory).

GB511 (A) examines how human beings removed barriers to settlement by moving needed resources across the United States

HB115▲ (A) analyzes how territorial expansion of the United States affected relations with external powers and American Indians (e.g., Louisiana Purchase, concept of Manifest Destiny, previous land policies-Northwest Ordinance, Mexican-American War, Gold Rush).

HB116▲ (A) explains how the Industrial Revolution and technological developments impacted different parts of American society (e.g., interchangeable parts, cotton gin, railroads, steamboats, canals).

HB211 (K) explains the issues of nationalism and sectionalism (e.g., expansion of slavery, tariffs, westward expansion, internal improvements, nullification).

HB411 (A) examines a topic in United States history to analyze changes over time and makes logical inferences concerning cause and effect.

Time required/class periods needed:

One to two class periods

Resources used:

Schubert, Frank N. Vanguard of Expansion: Army Engineers in the Trans-Mississippi West 1819-1879. Washington, D.C.: Historical Division, Office of Administrative Services, Office of the Chief of Engineers. 1987.

Required materials/supplies

Topographers reading

Handout A

Explorers Charts A-E

Student instruction sheet

Colored pencils

Overhead of a United States outline map

Textbooks, atlases, maps

Vocabulary

topographer

surveyor

cartographer

parallel

specimens

Procedure for teachers in a classroom or online setting and parents at home:

- 1.) Write the word “topographer” on the board. Have students write down what they think the word “topographer” means. Have the students then share and discuss out loud what they came up with.
- 2.) Have students read the “Topographers” document provided in the lesson material. When they finish reading the article, have them write down a new, one-sentence definition of *topographer* based on the article.
- 3.) If you have multiple students divide them into five “topo” groups, A-E (or as many groups as you want such as A and B or A- C; and they can be groups of one student too). Provide each student with a copy of Handout A, a copy of the student instructions, and one of the Explorer Charts for their group.
- 4.) Students will work together to complete their maps and answer the questions. Each student should have their own completed Handout A.
- 5.) When students have finished, have each group share their information with the class. Starting with Group A, have one member from each group outline the regions explored by their explorers with a different color on the overhead map. While that student is marking the map, have other students from the group briefly report on the explorers and their discoveries. Have each group report what they thought was the main reason for exploration during their time period. When the map is completed, ask students to draw conclusions about the patterns of exploration. Refer to the standards for possible connections to make (e.g. Were some regions explored more than others? Why do you think so? Why were different regions explored at different times? How did national events impact exploration? Have students refer to their timelines for possible answers).

Additional Web Resources:

Beyond Lewis and Clark

<http://www.kshs.org/exhibits/blc/explorers.htm>

Topics in Kansas History: Exploration

<http://www.kshs.org/research/topics/exploration/index.htm>

U.S. Army Corps of Engineers Brief History

<http://www.usace.army.mil/history/brief.htm>

U.S. Corps of Topographical Engineers Living History

<http://www.topogs.org/index.htm>

Lewis and Clark: The Journey of the Corps of Discovery – the PBS mini-series

<http://www.pbs.org/lewisandclark/class/index.html>

Teaching With Documents Lesson Plan: The Lewis and Clark Expedition
http://www.archives.gov/digital_classroom/lessons/lewis_and_clark/lewis_and_clark.html

Teaching With Documents Lesson Plan: Anti-railroad Propaganda Poster -- The Growth of Regionalism, 1800 – 1860
http://www.archives.gov/digital_classroom/lessons/anti_railroad_propaganda/anti_railroad_propaganda.html

Teaching With Documents Lesson Plan: The Treaty of Guadalupe Hidalgo
http://www.archives.gov/digital_classroom/lessons/treaty_of_guadalupe_hidalgo/treaty_of_guadalupe_hidalgo.html

Topographers

Even before President Thomas Jefferson had completed negotiations for the Louisiana Purchase in 1803, he wanted to know what was included in this new territory. At that time, the United States government did not have anyone who was in charge of making and collecting maps for the nation. So, Thomas Jefferson decided to form a group to explore the Louisiana Purchase. He appointed Captain Meriwether Lewis to lead the group. After receiving training in how to make scientific observations and collect specimens, Lewis and Captain William Clark set off in 1804. They and their small group were later joined by Sacagawea who served as their guide. They explored the land up the Missouri River and over the mountains to the Pacific Ocean.

The first explorers were beginners or novices in this field. They had very little formal training. The need grew to have a more organized and accurate approach to exploration. So the government added topographical engineers to the peacetime Army in 1816. As officers in the Corps of Engineers, "topos" served as surveyors, explorers, and cartographers. Starting with only six topos in 1816, the Corps of Topographical Engineers became an independent agency. They numbered thirty-six officers by 1838. During the 1840's topos sent back information about the plants, animals, and minerals, geography, and native peoples of the West. In the 1850s, their work focused on road building and railroad surveys. By the time their work was taken over by civilians in 1879, military explorers had mapped, explored, and described the entire trans-Mississippi West. Their legacy lives on in the many plants, animals, and geographic formations which bear their names.

Source:

Schubert, Frank N. Vanguard of Expansion: Army Engineers in the Trans-Mississippi West 1819-1879. Washington, D.C.: Historical Division, Office of Administrative Services, Office of the Chief of Engineers. 1987.

Army Explorers of the 19th Century

Student Instructions

Use the provided explorer charts, Hand out A, online resources, any textbooks you have, maps, and atlases to complete the following:

1. Who were the famous explorers of the time period? List their names in the space provided on Handout A.
2. What were their important discoveries and accomplishments? List them in the space provided on Handout A.
3. What areas of the United States did they explore? Shade in the general regions on the map. Draw in and label all place names from the chart.
4. Write the year of the first exploration on the left arrow of the timeline on Handout A. Write the year of the last exploration on the right arrow of the timeline.
5. What else was happening in the United States during this time? Place at least three events on the timeline. Would any of these events require further exploration? If you were president during these events, where would you want explorers to go and what would you want them to find out? Write your answer below.
6. There were many reasons for exploration during the 1800s, including mapping, collecting natural history specimens, making boundaries, determining where roads and railroads should go, and finding out about the people who already lived in an area. What do you think was the main reason for exploration during the time period? Explain your answer below.

**Army Explorers of the 19th Century
Chart A**

Explorer(s)	Time	Place	Major Accomplishments
Meriwether Lewis & William Clark	1804-06	Upper Missouri River Columbia River to the Pacific Ocean	Explored much of the Louisiana Purchase; mapping; collected natural history specimens
Zebulon Pike	1805-06 1806-07	Upper reaches of the Mississippi; the Southwest	Discovered Pike's Peak; explored much of the Mississippi's upper regions
Stephen A. Long	1819-20	Plains along the Platte River to the Colorado Rockies	Discovered and named Long's Peak; measured the height of Pike's Peak; collected plant, rock, and animal specimens for public viewing; more accurate maps; incorrectly labeled the high plains the "Great Desert"
Lewis Cass & Henry Schoolcraft	1820	South shore of Lake Superior and the waterways connecting it to the Mississippi River	Discovered copper, iron and lead deposits on the south shore; improved Indian relationships involved with the fur trade
Henry Schoolcraft	1832	Lake Superior, Minnesota	Discovered the source of the Mississippi, named it Lake Itasca; first map of the lake country; vaccinations and census of the Ojibwas

Army Explorers of the 19th Century
Chart B

Explorer(s)	Time	Place	Major Accomplishments
Joseph Nicollet	1838-39	Valley of the Minnesota and its tributaries; the Dakotas	Noticed the changes in the Missouri since the Lewis & Clark expedition; famous map of the Upper Mississippi Valley
John C. Fremont	1842	Plains up the Platte River to Fort Laramie to the South Pass gateway to Oregon to the Wind River range	Removed the label of “Great American Desert” from the plains which provided for farming and supplies for emigrants
Stephen Watts Kearny	1845	Oregon Trail	Provided a show of force to the Sioux by showing them American firearms, sabers, and flags
James W. Abert & Thomas Fitzpatrick	1845-46	New Mexico, Oklahoma, Texas	Located crucial locations of water, wood, and grass; information on the Comanche and Kiowa; described the Rio Grande Valley, its uses, and possibilities for the region
William H. Emory	1846	New Mexico, California	Provided intelligence that New Mexico would require irrigation, had scarce fertile lands that would make slavery unprofitable; Mexican government not responsive to citizens, therefore there would be little local resistance to American roads or railroads; first accurate maps of Southwest

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Chart C

Explorer(s)	Time	Place	Major Accomplishments
James H. Simpson & Richard Kern	1849	New Mexico	Canyon exploration; pueblo culture and archaeology
Howard Stansbury & John W. Gunnison	1840	Great Basin	First to travel around the Great Salt Lake; mapping; collection of natural history specimens
Joseph E. Johnston	1849-51	Texas	Roads to tie the forts and towns of Texas together
William H. Warner, Robert S. Williamson, & George H. Darby	1849-53	California	Checked out routes connecting San Diego and San Francisco; found a railroad pass through northeastern California
William H. Emory and others	1849-54	Texas, New Mexico, Arizona, California	Survey of United States/Mexico boundary, including the Gadsden Purchase of 1854; natural history collections of the Southwest; master map of the entire trans-Mississippi West

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Chart D

Explorer(s)	Time	Place	Major Accomplishments
Isaac I. Stevens	1853-54	Northern route from St. Paul to Puget Sound between the 47 th and 49 th parallels	Determined that it was possible but not easy as a railroad route because of the mountains and snow
John W. Gunnison	1853-54	38 th parallel from the headwaters of the Arkansas to Great Salt Lake	Determined that the 41 st parallel was better than the 38 th for a railroad and that a suitable pass was a key
Lt. Amiel W. Whipple	1853-54	35 th parallel from Ft. Smith to California via Albuquerque	Well-suited for a railroad with no problems not already encountered in eastern railroads
Lt. John Pope & Lt. John G. Parke	1853-54	32 nd parallel through Texas and the Gadsden Purchase	Suited for a railroad, but would need sources of water
John N. Macomb	1856	New Mexico	Roads which formed the basis for New Mexico's highway and railway system

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Chart E

Explorer(s)	Time	Place	Major Accomplishments
Lt. Gouverneur Warren	1855-58	Northern frontier, Nebraska Territory, northern Missouri and Yellowstone Rivers	Compiled data brought back from all railroad surveys and made a map of the trans-Mississippi West; mapped northern plains; stuck to the facts on his maps or left them blank if unknown
Group under United States Commissioner Archibald Campbell	1857-75	Rockies, Washington	Determined the Canadian boundary west of Lake of the Woods; natural history on a smaller scale which was not made public because of the Civil War
John S. Newberry	1859	Colorado River, Grand Canyon	Geological study of canyons; used concept of “key studies” of single peaks to understand an entire region
William H. Echols	1859-60	Texas	Led an expedition in Texas to experiment with the use of camels as a form of transportation
William F. Reynolds	1859	Upper Yellowstone	Last topographer to lead an exploring party
Clarence King	1867	40 th parallel along the Union Pacific and Central Pacific Railroads	Used concept of zonal parallelism (metal deposits occur in parallel longitudinal lines) to determine locations of mineral deposits; published works on fossils and birds were scientific best sellers

Name _____



Explorers

Discoveries and Accomplishments



