

Exploring the Five Themes of Geography with Lewis & Clark

an overview of suggestions and resources related to
the geography of the Lewis & Clark Expedition

The Five Themes of Geography:

- **Location (absolute & relative)**
- **Place**
- **Human-environment interaction**
- **Movement**
- **Region**

LOCATION Absolute Location

- **View Nicholas King's map of 1803, carried on the Expedition**

<http://www.loc.gov/exhibits/lewisandclark/lewis-landc.html#64>

“Rivers, Edens, Empires: Lewis & Clark and the Revealing of America,” **Library of Congress** online exhibition, includes a zoom-able image of this map carried on the Expedition. Created by Nicholas King, the map of North America west of the Mississippi summarized all available topographic information about the area between 30°-55° North latitude and 88°-126° West longitude in 1803. The map shows how little was known about this vast territory. See “Sources for the Lewis & Clark Expedition Maps of 1803 and 1814,” at the bottom of the page, for a Flash presentation showing how various sources contributed to the King map of 1803 and Lewis and Clark's Track of 1814.

- **Read maps to determine the longitude and latitude of specific sites along Trail**

Practice the skill by asking students to determine the latitude and longitude of specific sites along the Trail, as well as providing latitude/longitude coordinates and asking the students to name the site.

<http://www.loc.gov/exhibits/lewisandclark/lewis-landc.html#64>

“Rivers, Edens, Empires: Lewis & Clark and the Revealing of America,” **Library of Congress** online exhibition, includes a zoom-able image of “Lewis and Clark's Track.” This composite map of the Expedition may be used for latitude and longitude questions. Download the map here or order printed copies, in various sizes, from the Library of Congress Zazzle site:

<http://www.zazzle.com/collections/home/default.asp?cid=238063250767394080>

- **Use Web-based programs (latitude/longitude finders) to identify absolute location for specific sites**

www.lat-long.com

Lat-long.com search engine for database of millions of specific sites. Sample searches:

Browse “Kentucky:”

“Falls,” Falls of the Ohio (series of falls along Ohio River where Lewis & Clark set off on the journey West): 38 degrees, 16 minutes North latitude, -85 degrees, 45 minutes West longitude;

“Gap,” Cumberland (location through which some Expedition members passed when returning to Washington, D.C.): 36°36’N, -83°40’ W;

“Populated Places,” Maysville (hometown of Private John Colter and stop for Capt. Lewis and his flotilla on 9/25/1803): 38°38’ N, -83°44’ W;

“Springs,” Big Bone Lick (fossil site where Lewis stopped to prepare report for Jefferson on his way to meet Clark): 38°53’ N, -84°45’ W.

- **Use resources (brochures, telephone books, Web searches, etc.) to determine the street addresses of specific sites, if applicable**

For example, William Clark’s sister, Lucy Croghan, hosted a welcome-home dinner party for Lewis & Clark on 11/8/1806. What is the address of her home, Locust Grove, where the party was held?

Keyword search: “Locust Grove”

<http://www.locustgrove.org/>

Locust Grove Historic Home, Absolute location: 561 Blankenbaker Lane, Louisville, KY 40207

- **Use the street addresses of specific sites to search for latitude/longitude**

<http://teraserver.microsoft.com/>

Microsoft TerraServer. Click on 'Advanced Find', click on 'Address Search', enter the address and click 'go', click on the 'USGS aerial photograph' link, zoom in or out to verify the location on the photo, click on the 'Image Info' link, and the estimated latitude/longitude will appear in the box at left.

Sample search: Locust Grove, 561 Blankenbaker Lane, Louisville, KY 40207: absolute location 38.28785 N, -85.66161 W

www.zipinfo.com

Select the button “Click here for a FREE ZIP code lookup,” type in the zip code +4 of the location, and select “latitude and longitude.” Sample search:

Fort Clatsop (Pacific coast site where the Expedition spent the winter of 1805-1806), zip code 97103-9197: absolute location 46.0947 N, -123.6856 W

<http://www.maporama.com>

Maporama. Enter your address in the Maps section and click GO. Sample search: Locust Grove, 561 Blankenbaker Lane, Louisville, KY 40207: absolute location 38°17’ N, -85°39’ W

- **Plot a Trail map from scratch**

Assign each student one location along the Trail, asking them to determine its absolute location and record all of the steps they took to determine it. Have each plot the coordinates on a blank map of the United States that features lines of latitude and longitude. Compare their “from scratch” map with an actual map of the Trail.

- **Learn about Lewis & Clark’s mapping technologies: celestial navigation, surveying tools, dead reckoning**

<http://www.lewis-clark.org/content/content-channel.asp?ChannelID=61>

“Technology” section of **Discovering Lewis and Clark**—see pages on “Celestial Observations,” “Chronometer,” “William Clark’s Compass,” and “Surveyor’s Compass,” for descriptions of Expedition mapping equipment and how it was used.

<http://www.nationalgeographic.com/lewisandclark/resources.html>

“Lewis and Clark Expedition Supplies,” **National Geographic, Lewis & Clark**, includes a list of the “Mathematical Instruments” that Lewis purchased for mapping.

<http://www.lewisandclarktrail.com/clarksmatp.htm>

“Mapping the Lewis and Clark Trail,” **Lewis and Clark Trail, Re-live the Adventure**
A brief description explaining Clark’s mapping tools and methods.

http://www.edgate.com/lewisandclark/mapping_on_trail.html

“Mapping on the Trail—Route Mapping on the Lewis and Clark Expedition” by Ralph Ehrenberg, **Smithsonian Institution EdGate**. Article detailing how Lewis and Clark prepared to map the Trail and describing the various types of maps they prepared along the way: daily compass traverse maps, journal maps, maps recording information from traders and Indians, and the final composite maps.

<http://www.lewis-clark.org/content/content-channel.asp?ChannelID=57>

“Geography” section of **Discovering Lewis and Clark**—see the following pages:

“Mapping Unknown Lands” by John Logan Allen

“Celestial Observations at Clearwater Canoe Camp” by Robert N. Bergantino

“Where Was Fortunate Camp?” by Robert N. Bergantino

<http://store.usgs.gov/historicmapsfromlca/index.html>

Site to order the poster, “Lewis & Clark: A Legacy of Science,” comparing Clark’s original composite map of the Trail with a modern map created using remote sensing technologies.

- **Determine northernmost, westernmost, etc., points along Trail**

Use a detailed Trail map to pose these questions, for example:

<http://www.nps.gov/applications/Parks/lecl/ppmaps/LECLmap1.pdf>

National Park Service.

LOCATION Relative Location

- **Consider landmarks—those described by native people and by the explorers**

<http://www.edgate.com/lewisandclark/cartography.html>

“Cartographic Concepts: A Student’s Guide to Mapmaking” by Ralph Ehrenberg, **Smithsonian Institution, EdGate**. This article describes the process of cartography, with Step 1 defining relative location: “Where Are We?”

- **Estimate distances, travel times on maps & in the real world; learn how to use a compass; plan an orienteering activity**

<http://www.gorgediscovery.org/flash/POW-LP.pdf>

“Pass Over to the Columbia” lesson plans, **Columbia Gorge Discovery Center**

<http://www.olou.org/>

Orienteering Louisville is one organization that organizes meets in the sport of orienteering—navigating a set course using a specialized topographical map and a compass.

<http://www.pbs.org/lewisandclark/class/103.html>

“Lewis and Clark: The Journey of the Corps of Discovery,” **PBS** documentary companion site, mapmaking lesson plans.

http://www.smithsonianeducation.org/educators/lesson_plans/lewis_clark/lesson2_main.html

“Mapping the Unmapped,” grades 6-8 lesson plan by Evelyn Porreca Vuko, **Smithsonian Education**.

<http://www.lrl.usace.army.mil/optm/article.asp?id=146>

“Ohio River Navigational Charts, Bicentennial Commemoration of the Lewis & Clark Corps of Discovery,” **Louisville District, U. S. Army Corps of Engineers**, read about historic locations along the Ohio River, then look up current navigational maps of the river:

<http://www.uscg.mil/d8/mso/louisville/rivercharts.htm>

Ohio River Navigational charts are easy to access on the site of the **U. S. Coast Guard Marine Safety Office Louisville**.

- **Describe sites in relation to one another**

Use a detailed Trail map to pose these questions, for example:

<http://www.nps.gov/applications/Parks/lecl/ppmaps/LECLmap1.pdf>

National Park Service.

- **Describe Indian territories in relation to each other**

<http://www.nps.gov/applications/Parks/lecl/ppmaps/LECLmap1.pdf>

National Park Service.

http://easternhs.ka.net/lc/pages/curr/html/lc_maps.htm

“Native Peoples Encountered by Lewis & Clark: Village Locations 1803-1806,” a map by student Nadia Berber, **Eastern High School** (Jefferson County, KY).

- **Consider the different perspectives of Indians regarding time, space, distance, and direction**

<http://www.lewis-clark.org/content/content-article.asp?ArticleID=1263>

“Indian Spatial Concepts,” **Discovering Lewis & Clark**, describes how native peoples thought about these concepts and communicated information about geography to Lewis and Clark. Time concepts relevant to their lives were cycles of the sun (“sleeps”) and moon (“winters”), direction was referenced in relation to the sun’s position, and distance was measured by how long it took to travel from place to place.

PLACE

- **Explore the Trail’s physical characteristics: landforms, climate, flora & fauna, natural resources**

http://www.nationalgeographic.com/lewisandclark/journey_intro.html

“Lewis & Clark Journey Log,” **National Geographic**, divided into 22 “legs” of the journey, this interactive timeline briefly summarizes each part of the Expedition and highlights key landforms, Indian nations, flora, and fauna encountered along the way. Specific dates of encounter are given, so students can look up the full descriptions in the journals.

<http://www.lewis-clark.org/content/content-article.asp?ArticleID=616>

“Mountain Ranges in Montana & Idaho,” **Discovering Lewis & Clark**, labeled map illustrating the vastness of the mountain range.

<http://lewisclark.geog.missouri.edu/landmarksintro.shtml>

“Virtual Landmarks: Lewis & Clark Across Missouri,” **Department of Geography, University of Missouri**. Features a series of virtual photo-realistic reconstructions of the Missouri River landscape, using data gleaned from early surveyors’ notes.

<http://www.voyageofrediscovery.com/#>

“On the Trail, Lewis & Clark Expedition 1803-1806,” **Lewis & Clark Voyage of Rediscovery**, interactive map of the Trail with articles, slide shows, fast facts, and background information.

<http://www.nationalgeographic.com/lewisclark/exped.html>

“Lewis & Clark Online Base Camp,” **National Geographic**, a map with 8 interactive photos of places along the Trail today, looking much as they did in 1803-1806.

<http://www.npwrc.usgs.gov/resource/2000/bmam/bmam.htm>

“Birds and Mammals Observed by Lewis & Clark in North Dakota,” **United States Geological Survey, Northern Prairie Wildlife Research Center**. Brief listing of birds and mammals, with dates of sightings and some quotations, also a few photos.

<http://www.lewis-clark.org/content/content-channel.asp?ChannelID=60>

“Natural History” section of **Discovering Lewis & Clark**. Several brief articles and images related to flora and fauna.

http://www.lewisandclark1803.com/pages/teachers/fair/fair_index.htm

“Animals of the Country,” an interactive game about animals encountered at various locations along the Trail, created for the 2003 Kentucky State Fair and now hosted by the **Falls of the Ohio Lewis & Clark Bicentennial Commemoration**.

<http://www.life.umd.edu/emeritus/reveal/pbio/LnC/LnCpublic.html>

“The Lewis and Clark Herbarium: Images of the Plants Collected by Meriwether Lewis and William Clark, 1804-1806,” **University of Maryland and The Academy of Natural Sciences in Philadelphia**.

<http://www.nwrac.org/lewis-clark/oregonian/>

“The Legacy Grows: Lewis & Clark’s Garden,” a site exploring the 176 plant discoveries originally published by *The Oregonian*, presently hosted by the **Northwest Regional Educational Laboratory**.

<http://www.cof.orst.edu/lewis&clark/>

“Wildlife along the Lewis & Clark Trail: A GIS Approach,” **Oregon State University, Leopold Project**, an interactive map of Expedition campsites with site coordinates and dates, plus a tally of certain species seen and killed, as well as vegetation and human settlements.

- **Explore the Trail’s human characteristics:**
Indian villages, native housing forms & languages;
campsites, sites where events occurred, historic sites today

<http://www.nationalgeographic.com/xpeditions/lessons/06/g35/sameplace.html>

“Lewis & Clark, Same Place, Different Perspectives” grades 3-5 lesson plan, **National Geographic Xpeditions**. This lesson plan considers various places from the perspectives of the explorers and the Native Americans.

http://easternhs.ka.net/lc/pages/curr/html/lc_maps.htm

“Native Peoples Encountered by Lewis & Clark: Village Locations 1803-1806,” a map by student Nadia Berber, **Eastern High School** (Jefferson County, KY).

http://www.lewisandclarkinkentucky.org/education/state_fair.shtml#social_studies

A narrative describing “Native Peoples Encountered by Lewis & Clark,” to accompany Nadia Berber’s map, above, created for the 2003 Kentucky State Fair and now hosted by the **Kentucky**

Lewis & Clark Bicentennial Commission. See also the related student activity, “Native Peoples & the Expedition: Internet Scavenger Hunt Worksheet.”

http://www.lewisandclark1803.com/pages/teachers/fair/fair_index.htm

“Indians Who Helped Lewis & Clark,” an interactive game to name some of the most important Indians that the explorers encountered, created for the 2003 Kentucky State Fair and now hosted by the **Falls of the Ohio Lewis & Clark Bicentennial Commemoration.**

<http://www.pbs.org/lewisandclark/native/>

“The Native Americans,” pages covering 16 tribes encountered, “Lewis and Clark: The Journey of the Corps of Discovery,” **PBS** documentary companion site.

<http://www.nps.gov/knri/overview.htm>

“Knife River Indian Villages,” **National Park Service**, describes the culture of the Northern Plains Indians in North Dakota.

<http://www.cr.nps.gov/nr/travel/lewisandclark/map.htm>

“Lewis and Clark Expedition: A National Register of Historic Places Travel Itinerary,” **National Park Service**, interactive map exploring various sites along the Trail, with photos, journal quotes, and descriptions.

<http://www.nps.gov/lecl/Welcome.htm>

“Lewis & Clark National Historic Trail,” **National Park Service**. Link to historic sites along the Trail today to learn their significance, request brochures, and plan visits.

<http://www.lewisandclark200.gov/edu/tribes.cfm>

“Indian Tribes Affiliated with the Lewis & Clark Trail,” tribal contact information posted by the **U. S. Department of the Interior.**

http://libtextcenter.unl.edu/examples/servlet/transform/tamino/Library/lewisandclarkjournals?&_xslsrc=http://libtextcenter.unl.edu/lewisandclark/files/xml/lc.ronda.01.xml&_xslsrc=http://libtextcenter.unl.edu/lewisandclark/LCstyles.xsl

“Lewis & Clark Among the Indians,” by James P. Ronda, a hypertext published online by the **University of Nebraska, Lincoln.**

- **Recognize Kentucky’s Lewis & Clark sites**

<http://www.lewisandclark1803.com/pages/teachers/fair/KY-9-Trivia/Index.htm>

“Interactive Map of Kentucky Area Lewis & Clark Sites,” **Falls of the Ohio Lewis & Clark Bicentennial Commemoration.** Select locations on this student-created map and learn about some of the local connections to the Lewis & Clark story.

http://www.lewisandclarkinkentucky.org/education/state_fair.shtml#social_studies

Lesson plans and maps of “Kentucky Area Lewis & Clark Sites” and “Falls of the Ohio Area Lewis & Clark Sites,” created for the 2003 Kentucky State Fair and now hosted by the **Kentucky Lewis & Clark Bicentennial Commission.**

<http://www.lewisandclarkkentucky.org/places/index.shtml>

“Kentucky Places,” **Kentucky Lewis & Clark Bicentennial Commission.**

http://www.lewisandclark1803.com/pages/teachers/fair/fair_index.htm

“The Luggage Tags of Lewis & Clark,” an interactive game to match the explorers with the place they called home before the Expedition, created for the 2003 Kentucky State Fair and now hosted by the **Falls of the Ohio Lewis & Clark Bicentennial Commemoration.**

- **Read journal descriptions of places**

<http://xroads.virginia.edu/~HYPER/JOURNALS/toc.html>

Journals of Lewis & Clark hypertext, **American Studies at the University of Virginia.**

<http://lewisandclarkjournals.unl.edu/index.html>

“The Journals of the Lewis & Clark Expedition,” edited by Gary E. Moulton, a hypertext published online by the **University of Nebraska, Lincoln.**

<http://memory.loc.gov/learn/features/lewisandclark/index.html>

“Fill Up the Canvas...Rivers of Words: Exploring with Lewis & Clark,” **Library of Congress, American Memory**, an interactive map exploring primary source quotes along the Trail.

<http://lewisandclark.state.mt.us/discovery.shtm>

“A Map of Lewis & Clark’s Track through Montana,” **Travel Montana, Lewis & Clark**, an interactive map with photos (pristine landscape and modern development), background information, descriptions, and journal excerpts.

- **Compare what the explorers found to expectations of the West**

http://www.pbs.org/lewisandclark/inside/idx_cir.html

“Circa 1803,” myths and the idea of the West when the Expedition began, “Lewis and Clark: The Journey of the Corps of Discovery,” **PBS** documentary companion site.

BOOKS

The Natural History of the Lewis & Clark Expedition, Raymond Darwin Burroughs, Ed., Michigan State University Press, 1961.

Lewis and Clark: Pioneering Naturalists, Paul Russell Cutright, University of Nebraska Press, 1969.

Animals on the Trail with Lewis and Clark, Dorothy Hinshaw Patent, Clarion Books, 2002.

Lewis & Clark, The Journey of the Corps of Discovery: An Illustrated History, Dayton Duncan and Ken Burns, Alfred A. Knopf, 1997, a companion book to the PBS documentary.

The Incredible Journey of Lewis & Clark, Rhoda Blumberg, Lothrop, Lee & Shepard Books, 1987.

Lewis & Clark: A Photographic Journey, Bill and Jan Moeller, Mountain Press, 1999.

HUMAN-ENVIRONMENT INTERACTION

- **Gather information about how the explorers assessed the potential of the West**

<http://www.lewisandclark200.gov/plw/soil.html>

“A Garden or Desert?: Lewis & Clark Expedition’s Assessment of the West,” by Stanley P. Anderson, Linda Greene, and Maxine Levin, **U. S. Department of the Interior**. This article describes how Lewis & Clark assessed the soils and agricultural potential of the West.

- **Research how Indian peoples depended on/adapted/modified the physical environment to meet their needs**

<http://www.nationalgeographic.com/xpeditions/lessons/15/g68/contributions.html>

“Lewis and Clark: Native American Contributions,” grades 6-8 lesson plan, **National Geographic Xpeditions**.

<http://www.homepage.montana.edu/~mtpbs/Education/NTTILessonPlans2/LittleBighorn/BHLinkedDestiny.pdf>

“Linked Destiny: The Buffalo and the Plains Indian,” by Susan L. Dreyer, **Montana State University**, Lesson Plan for grades 7-8 exploring how westward expansion ended the traditional lifeways of the Plains.

- **Compare locations of past/present Indian village sites and early Euro-American settlements**

<http://www.nps.gov/applications/Parks/lecl/ppmaps/LECLmap1.pdf>

“Park Map,” **National Park Service, Lewis & Clark National Historic Trail**. Printable map identifying parks, historic sites, interpretive centers, and memorials along the Trail. Historic and present-day locations of Indian nations are also designated.

- **Research how Euro-American explorers & pioneers depended on/adapted/modified the physical environment to meet their needs**

http://www.lewisandclark1803.com/pages/teachers/fair/fair_index.htm

“Expedition Menu,” an interactive game exploring the foods that the Corps of Discovery ate along the way, created for the 2003 Kentucky State Fair and now hosted by the **Falls of the Ohio Lewis & Clark Bicentennial Commemoration**.

<http://www.pbs.org/weta/thewest/>

“New Perspectives on the West,” **PBS** companion site to the documentary by Ken Burns and Stephen Ives, includes an interactive timeline, biographies, and lesson plans.

- **Consider legacies & changes along the Trail today**

<http://www.sierraclub.org/lewisandclark/>

“In the Footsteps of Lewis & Clark,” **The Sierra Club**. See especially these reports: “What’s Lost, What’s Left: A Status Report on the Plants & Animals of the Lewis & Clark Expedition” and “Protecting the Lands Explored by Lewis & Clark, 1805, 1905, 2005.” The

appendix of the former report gives the names of all plant and animal species and when they were first noted on the Trail.

<http://www.lewis-clark.org/content/content-channel.asp?ChannelID=256>

“Aerial Photos of the Trail,” selected images from the book, *Discovering Lewis & Clark from The Air*, by Joseph Mussulman and Jim Wark (Missoula, MT: Mountain Press, 2004),

Discovering Lewis & Clark Web site.

<http://www.airphotona.com/images.asp?catnum=11000&catname=Lewis%20%26%20Clark>

304 Lewis & Clark Trail aerial images are featured on Jim Wark’s own Web site, **AirPhoto North America**.

MOVEMENT

- **Research transportation/trade routes/communication of Indians, trappers, explorers before Lewis & Clark**

http://www.cradleboard.org/curriculum/powwow/supplements/images/a_trading.gif

Map of “Some Ancient Trade Routes,” **Cradleboard Teaching Project**

<http://www.cr.nps.gov/nr/twhp/wwwlps/lessons/1knife/1locate3.htm>

“Knife River: Early Village Life on the Plains,” prehistoric trade maps and activities from lesson plan, **National Park Service Teaching with Historic Places**.

- **Chart the various modes of transportation used on the Expedition**

<http://www.voyageofrediscovery.com/part2/historical/index.shtml>

“Riverboats Used by Lewis and Clark,” **Lewis & Clark Voyage of Rediscovery**, descriptive article with photos or reproduction vessels.

http://www.lewisandclark1803.com/pages/teachers/fair/fair_index.htm

“Transportation Along the Trail,” an interactive game to determine the mode of transportation used for various segments of the Expedition Trail, created for the 2003 Kentucky State Fair and now hosted by the **Falls of the Ohio Lewis & Clark Bicentennial Commemoration**.

<http://www.tomlaidlaw.com/essays/transportation2.doc>

“The Transportation of Lewis and Clark,” by Tom Laidlaw, catalogues the various modes of transportation, with dates and locations along the Trail.

<http://www.greatfallstribune.com/communities/lewisandclark/20030622/boats.pdf>

“Boats of the Expedition,” **Lewis & Clark for Kids, Great Falls Tribune**, illustrated article appropriate for grades 4-8.

<http://www.l3-lewisandclark.com/ShowOneObject.asp?SiteID=29&ObjectID=54>

“The Iron Frame Boat,” **Lifelong Learning Online: The Lewis & Clark Rediscovery Project**, brief description of “the Experiment,” a collapsible boat that Lewis hoped to use on the journey.

- **Identify the barriers/challenges to movement**

<http://www.nationalgeographic.com/west/>

“Go West Across America with Lewis & Clark,” **National Geographic** interactive posing questions related to key decisions made on the Expedition. Sign up as a member of the Corps and see how you would solve the challenges they faced.

<http://www.nationalgeographic.com/xpeditions/lessons/06/g35/challenges.html>

“Lewis and Clark: Facing Challenges—Real and Imagined,” **National Geographic Xpeditions**, lesson plan for grades 3-5.

<http://www.pbs.org/lewisandclark/class/102.html>

“The Challenges Ahead,” lesson plan for “Lewis and Clark: The Journey of the Corps of Discovery,” **PBS** documentary.

http://www.lewisandclark1803.com/pages/teachers/fair/fair_index.htm

“Dangers, Difficulties, & Fatigues,” an interactive game about the challenges the explorers faced on the Expedition, created for the 2003 Kentucky State Fair and now hosted by the **Falls of the Ohio Lewis & Clark Bicentennial Commemoration**.

- **Map the principal waterways in 1803-06 and determine how navigation has changed today**

http://www.americanrivers.org/site/PageServer?pagename=AMR_content_ce37

“Voyage of Recovery: Restoring the Rivers of Lewis & Clark,” **American Rivers**, information and a traveling exhibit about the Missouri, Yellowstone, Snake, and Columbia Rivers.

<http://www.usbr.gov/gp/lewisandclark/index.cfm>

“Lewis & Clark: A Missouri River Adventure,” **U. S. Department of the Interior Bureau of Reclamation**, provides a history of early exploration and settlement, dams, and hydropower along the Missouri River.

<http://www.southernmostillinoishistory.net/confluence.htm>

“Confluence: Mississippi and Ohio Rivers,” **Southernmost Illinois History**, includes images from the Expedition and today.

<http://www.sierraclub.org/lewisandclark/tworivers/>

“The Two Rivers of Lewis & Clark,” **Sierra Club** report on the Missouri and Columbia Rivers.

http://www.gcs-research.net/usfws/Columbia_content.html

“Lewis and Clark: The Lower Columbia River Then and Now,” **U. S. Fish & Wildlife Service** interactive map site with information about flora and fauna, population, historic maps and more.

- **Consider how the Expedition impacted the lives of Native Americans**

<http://www.lewisandclark200.org/index.php?cID=17>

“American Indian Nations,” **National Lewis & Clark Bicentennial Commission** features many articles, flash presentations, and links.

http://www.bbhc.org/pim/LandC_RSW.cfm

“Two Cultures, One Journey,” by Rebecca West, **Buffalo Bill Historical Center**, a brief essay geared to grades 4-9.

- **Create a timeline of migration West after the Expedition (trails, railroads, etc.)**

http://www.nps.gov/jeff/museum_19th_c_timeline.html

“19th Century Timeline,” **Museum of Westward Expansion, National Park Service**

<http://www.loc.gov/exhibits/lewisandclark/lewis-after.html>

“After Lewis and Clark,” section of “Rivers, Edens, Empires: Lewis & Clark and the Revealing of America,” **Library of Congress** online exhibition

http://www.endoftheoregontrail.org/mambo/index.php?option=com_content&task=view&id=18&Itemid=30

“Oregon Trail 101 (Frequently Asked Questions),” **End of the Oregon Trail Interpretive Center**, answers provide an overview of migration west.

<http://www.lib.niu.edu/ipo/2003/iht1030339.html>

“A Geographer Looks at Lewis & Clark’s Route and Its Later Impacts,” by William D. Walters, Jr., *Illinois History Teacher*, **Illinois Periodicals Online**, debates the impact of the Expedition on settlement in the West.

- **Compare communication, transportation and other technologies, then and now**

http://www.geospectra.net/lewis_cl/intro.htm

“**Lewis & Clark Bicentennial Space-Age Atlas: Missouri River**,” this atlas uses remote sensing and GIS technologies to explore the lower and middle Missouri River.

<http://www.esri.com/lewisandclark/>

“Lewis and Clark 200: Geography and Change,” **ESRI GIS & Mapping Software**, compares mapping technologies of the Expedition with those of today.

<http://www.pbs.org/lewisandclark/class/115.html>

“The Art of Communication” lesson plan explores how the telegraph might have impacted the Expedition if it had been invented by 1803, “Lewis and Clark: The Journey of the Corps of Discovery,” **PBS** documentary companion site.

http://www.lewisandclark200.gov/edu/curr_detail.cfm?id=7

“Technology,” **U. S. Department of the Interior**, read about various technologies used by the explorers and speculate as to how their experiences would have been different with modern technologies.

REGION

- **Define the United States in 1803**

<http://www.cr.nps.gov/nr/twhp/wwwlps/lessons/108lewisclark/108lewisclark.htm>

“The Lewis & Clark Expedition: Documenting the Uncharted Northwest,” **National Park Service Teaching with Historic Places** lesson plan. See the two maps comparing the United States in 1800 and the United States in 1810.

http://www.historylink.org/essays/output.cfm?file_id=5706

“The United States signs the Louisiana Purchase Treaty and buys Louisiana Territory from France on May 2, 1803,” **History Link Online Encyclopedia**.

- **Examine the changing concept of “the West”**

<http://memory.loc.gov/ammem/award99/icuhtml/fawhome.html>

“The First American West: The Ohio River Valley 1750-1820,” **American Memory, Library of Congress**, an extensive collection of brief essays, images, and documents exploring the settlement of the trans-Appalachian West, including Kentucky.

<http://memory.loc.gov/ammem/award97/codhtml/hawphome.html>

“History of the American West, 1860-1920, Photographs from the Collection of the Denver Public Library,” **Library of Congress American Memory**, a collection of 30,000 images.

<http://www.wsu.edu/~amerstu/mw/>

“The Multicultural American West: A Resource Site,” **Washington State University**, includes pages on native peoples, women, peoples of African, Asian-Pacific, and Latin descent, as well as pages devoted to literature, visual arts, folklore, natural history, and other aspects of the West.

<http://thewest.harpweek.com/>

“The American West,” **HarpWeek**, selected articles and images originally published in *Harper’s Weekly*, 1857-1916.

- **Break the Trail into segments by Core Content regions**

Compare Expedition Trail maps with the map of U. S. regions in your textbook.

- **Explore the ecoregions of Lewis & Clark**

http://easternhs.ka.net/lc/pages/curr/html/lc_maps.htm

“Ecoregions Encountered by Lewis & Clark,” a map by student Steven Shofner, **Eastern High School** (Jefferson County, KY).

http://www.lewisandclarkkentucky.org/education/state_fair.shtml#social_studies

Lesson plans related to Steven Shofner’s ecoregions map, above, created for the 2003 Kentucky State Fair and now hosted by the **Kentucky Lewis & Clark Bicentennial Commission**.

Compare Expedition Trail maps to various ecoregion maps of the United States, including:

http://www.fs.fed.us/institute/ecoregions/na_map.html

“North American Ecoregions, 1995,” **USDA Forest Service**.

<http://www.worldwildlife.org/science/pubs/bioscience.pdf>

“Terrestrial Ecoregions of the World,” **World Wildlife Fund**.

http://www.epa.gov/wed/pages/ecoregions/na_eco.htm#Downloads

United States Environmental Protection Agency.

<http://www.ccea.org/ecozones/level1.html>

Canadian Council on Ecological Areas.

<http://www.sierraclub.org/ecoregions/>

“Clickable Map of 21 Critical Ecoregions,” **Sierra Club**.

<http://www.nationalgeographic.com/wildworld/terrestrial.html>

“Terrestrial Ecoregions of the World,” interactive map, **National Geographic**.

- **Redefine the western territories as states**

http://www.smithsonianeducation.org/educators/lesson_plans/borders/lesson1.html

“Establishing Borders: The Expansion of The United States 1846-1848,” **Smithsonian Center for Education & Museum Studies**

<http://www.ac.wvu.edu/~stephan/48states.html>

“Boundaries of the United States & Several States,” 1650-1907 animation by Ed Stephan, **Western Washington University**