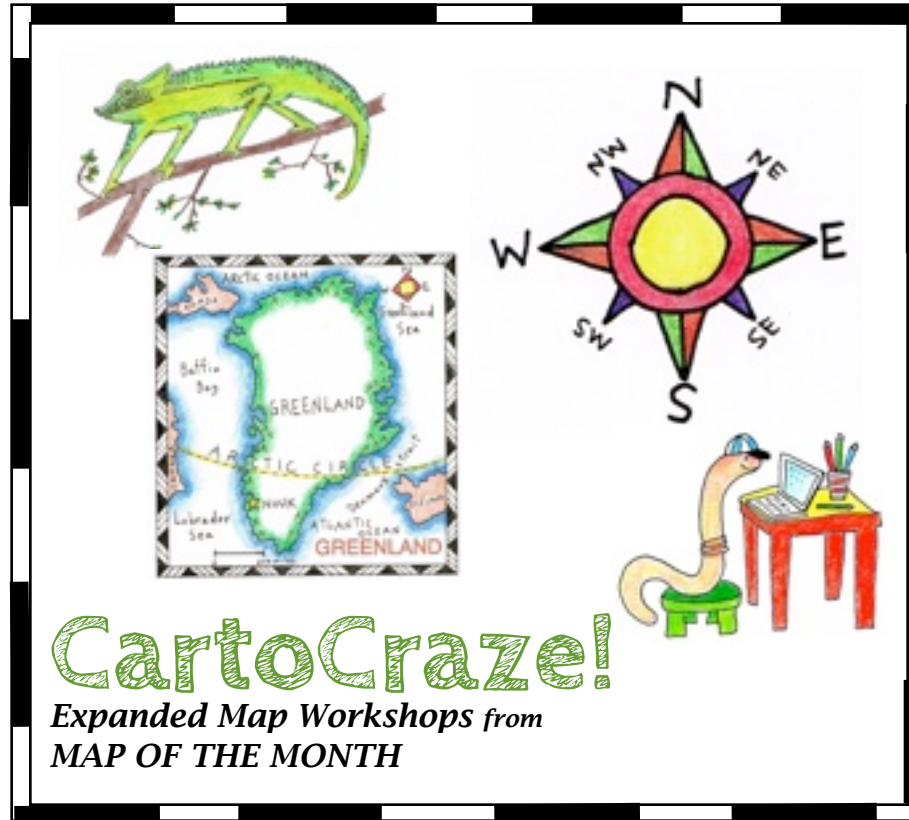


# RIO GRANDE



**CartoCraze!**

*Expanded Map Workshops from  
MAP OF THE MONTH*

**CartoCraze!**

**Expanded Map Workshops**

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# RIVERS

Throughout human time, rivers have offered the essential water that man requires for life itself, as well as a source of food. Rivers have made transportation of humans and goods possible as well as provided a source of power. With their great natural beauty, rivers have inspired writers and artists throughout time. Average people have always found peace and recreation along the banks and in the water of rivers.

Since the earliest times, humans have lived by rivers and the great civilizations have grown up around river banks. The ancient people of Egypt owed their life to the Nile, as did the generations of people who lived in Mesopotamia in the Middle East.

Today the great cities of the world are also known by their neighboring rivers. For example, Manhattan, the great North American city is flanked by two rivers: the Hudson and the East River. Paris, a city in Europe which has seen much history, sits on either side of the Seine River. In South America, the vast area of the Amazon enhances settlements of all sizes in its huge watershed.



Photo: Ansel Adams. *The Tetons and the Snake River* (1942) Grand Teton National Park, Wyoming. National Archives and Records Administration, Records of the National Park Service. (79-AAG-1)

In the wilderness, rivers are no less important: they support and create ecosystems for all kinds of animals, insects and plant life.

Some rivers and the environments around them have suffered in the modern age, with industrial deposits of waste and other kinds of pollution. Sometimes the attempts to dam and redirect water has made surrounding wildlife suffer. Today environmentalists are working to restore affected rivers areas to a cleaner and more habitable state for both humans and wildlife.

# RIVER TERMS AND THEIR DEFINITIONS

It is impossible to talk about rivers, or learn about them, without knowing some terms that relate to rivers.

Here are just a few terms! Can you come up with other terms?

**RIVER** A natural flowing stream, most often fresh water, that moves towards a sea, a lake, and ocean or another river.

**SOURCE** The furthest point of a river away from its mouth, at its origin or beginning.

**MOUTH** The part of a river that flows into another body of water.

**WATERSHED or DRAINAGE BASIN** An area of land where all the surface water drains into a larger body of water. Smaller streams join larger ones that eventually lead to a lake or ocean.

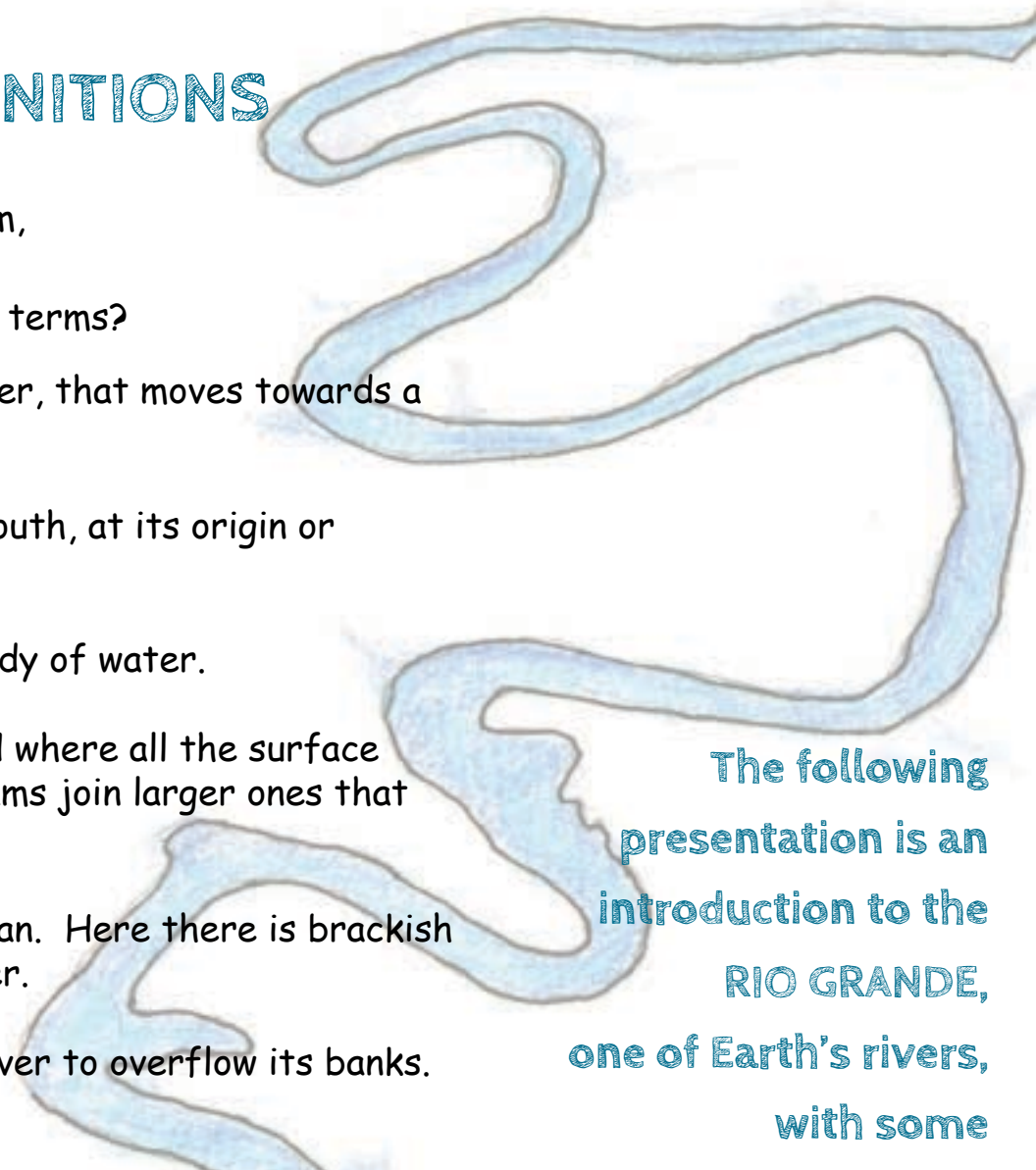
**ESTUARY** An area of water where a river joins the ocean. Here there is brackish water: a mix of freshwater and saline, or salty, seawater.

**FLOODING** This occurs when excess water causes a river to overflow its banks. Snow melt or extreme precipitation can cause flooding.

**DELTA** A landform that is caused by the gradual build up of sediment carried by a river where the river flows into another large body of water, like an estuary, the ocean, sea or reservoir.



The following presentation is an introduction to the RIO GRANDE, one of Earth's rivers, with some information about mapping, geography, people and animals of its surrounding area.



## RIO GRANDE

The Rio Grande flows from the San Juan Mountains in the state of Colorado to the Gulf of Mexico. A very unique feature defines this river: it forms the boundary between the countries of the United States and Mexico. Although its length varies depending on the shifts of water, it has been measured as a little less than 1900 miles long.

In the higher elevations of Colorado the river flows freely. However, when the river reaches the south approaching the Texas border, the low lands and desert conditions have weakened the flow of the river. In some areas the river has been diverted for irrigation and dams have been built to try to create better flow. In some areas the river is very narrow and has very little force. Due to the slower flow and less water, some southern sections of the river have been called the "Forgotten River". What once flowed freely is now only feet wide in certain sections with little or no flow at all.

RIO GRANDE means "Big River" in English. Since the word "River" or "Rio" is already in the Spanish name, it is truly not necessary to call it the RIO GRANDE RIVER, but that is often what it is called in the United States!



# RIO GRANDE RIVER

Professor Earthworm



Make a compass rose for your map by following the directions [HERE!](#)

# GREAT AMERICAN RIVER



This detail from an old map is from the era of exploration.

The map was made in the year 1718 by the French mapmaker Guillaume de L'Isle who lived in Paris. His portrait is shown here at left.

It is interesting to see an old map that was not as accurate as maps we use today. The outlines of the coastline of the land and the path of the RO GRANDE was a depiction of what explorers knew at the time.





Taos Pueblo: Karol M, [Creative Commons](#)

Pueblo style buildings have been built in the Rio Grande area by native people for centuries. They are typically multi-unit buildings, with multiple levels, that are arranged around a shared central area or plaza. They are entered from the roof by ladders.

Pueblos are made from a kind of mud brick called adobe. Adobe is formed from a mix of sand, clay and water and reinforced by the addition of grasses or straw. The Taos Pueblo in New Mexico, shown at upper left, is very old and was probably built some time between 1000 and 1450 CE. Native people still live in it today, making it one of the oldest structures in the United States to be continuously occupied.

## TAOS PUEBLO

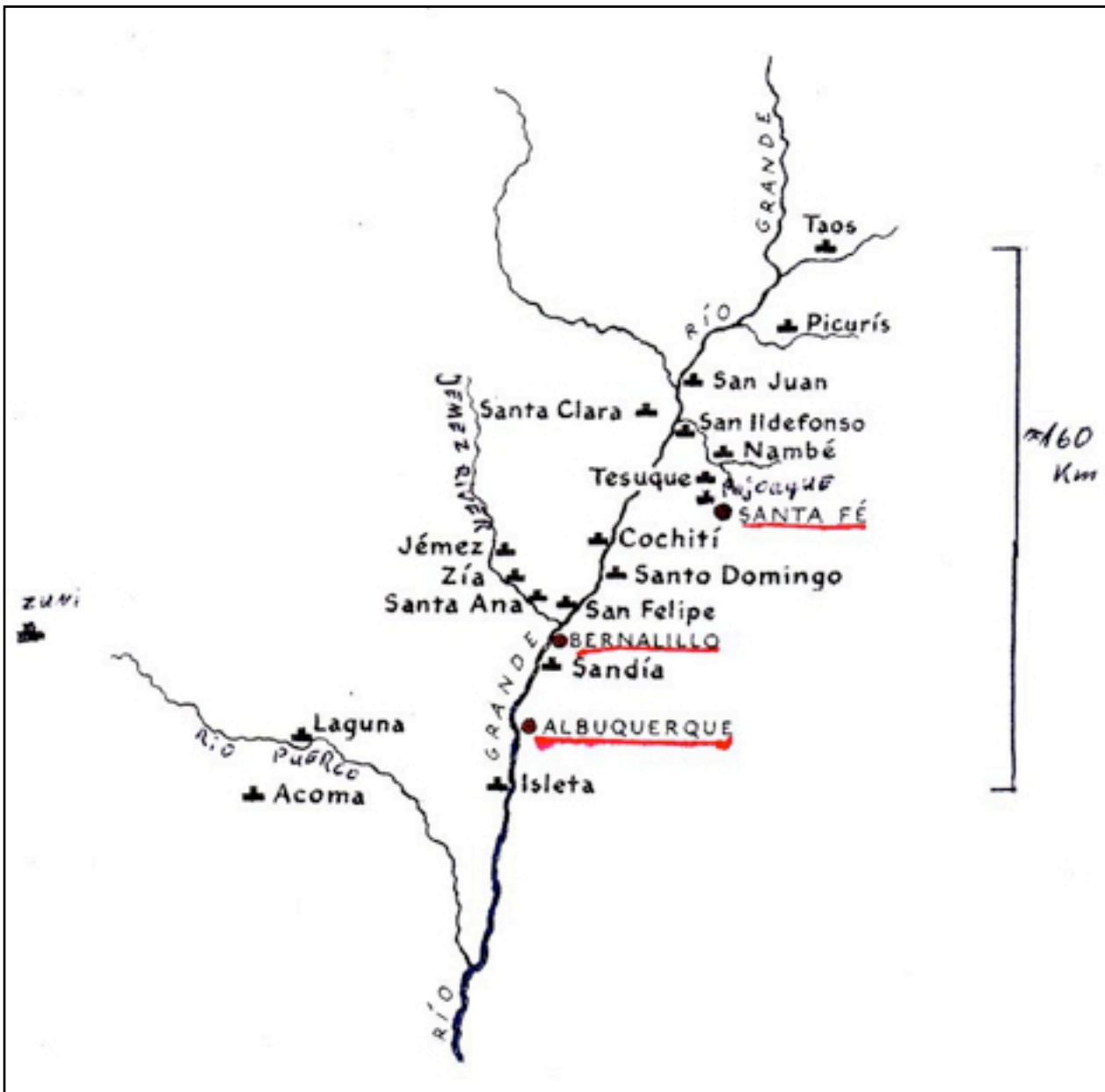
This old postcard from around 1940 shows the outside of the Taos pueblo building.



# ON THE MAP!

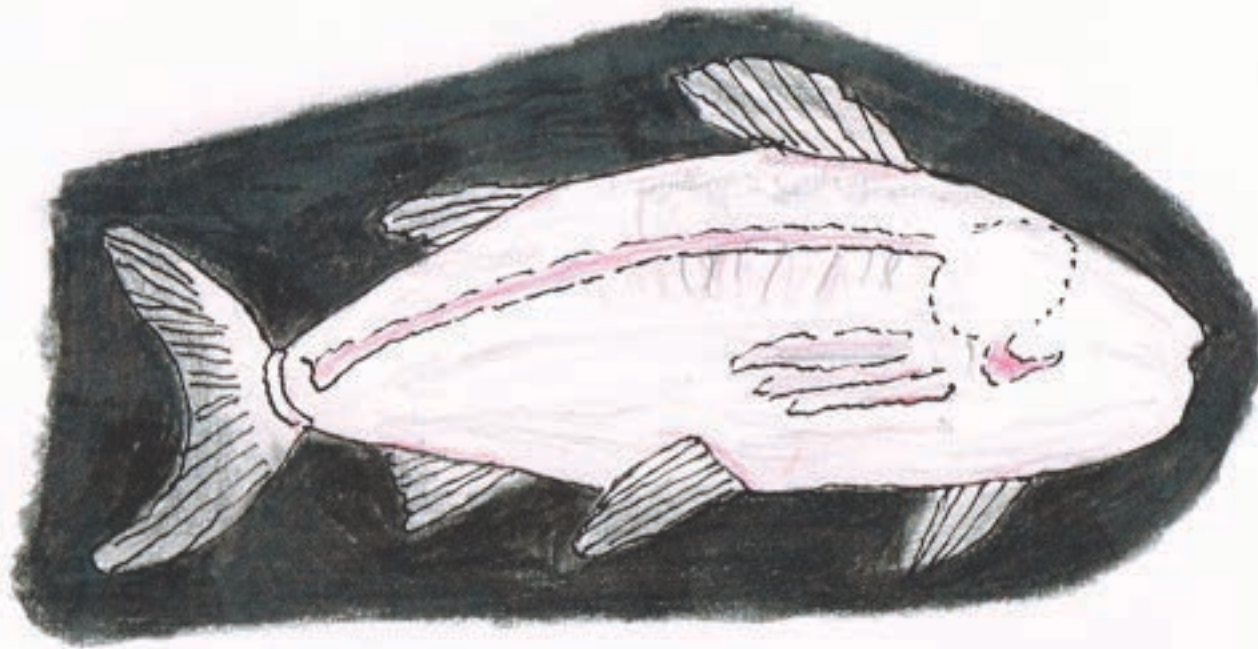


1. What state(s) does this part of the river flow through? Can you locate this section of the Rio Grande on a larger map?
2. What native American tribes can be found in this area?
3. Name the tributaries of the Rio Grande that are represented on this map.
4. The person who drew this map indicated at the right that a certain distance is 160 kilometers. How many miles does this represent?



Map: Traumrune, [Creative Commons](#)

This hand drawn map shows a stretch of the Rio Grande.  
Many cities along this part of the river are  
home to old pueblo buildings.



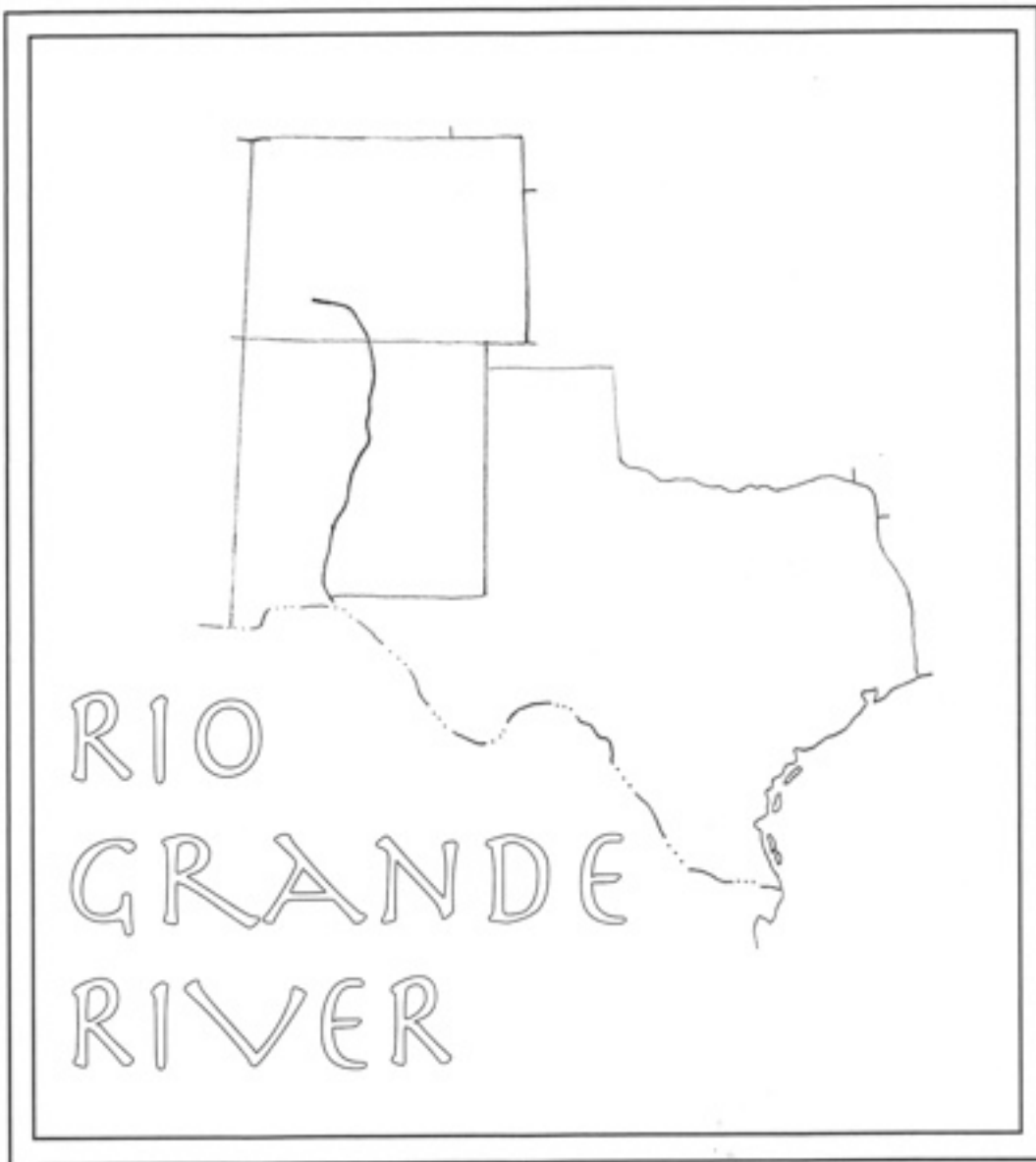
## BLIND CAVE FISH

Just as their name suggests, the blind cave fish of the Rio Grande is an eyeless species. This unique fish, also known as Mexican tetra, has no need for eyes because it lives in deep dark caves. Since they are not exposed to sunlight, they have no pigment in their skin and have a pale pinkish white color. These fish also have poor hearing so they navigate by sensing water current vibrations.

The blind Cave fish is a carnivorous scavenger that feeds on the carcasses of dead fish, aquatic insects and crustaceans. Although they are relatively small, they have a strong bite for their size. This blind fish is an excellent example of how a species can evolve in response to its surroundings.

He won't spot me here!



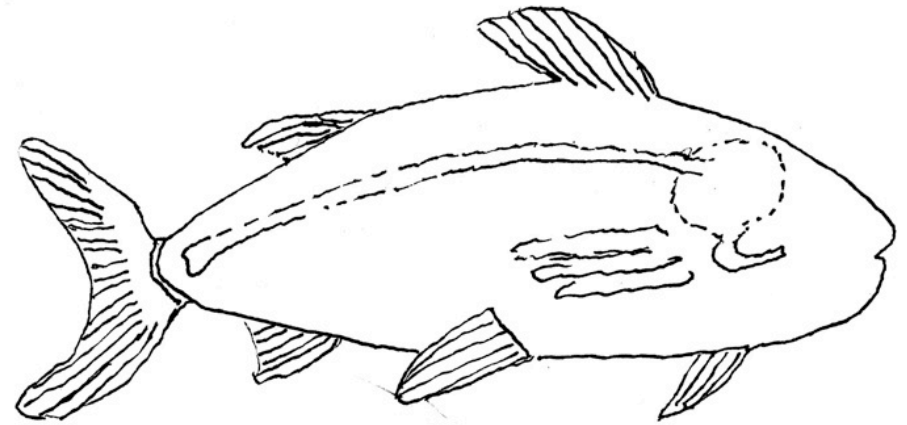


## RIO GRANDE RIVER

PRINT THIS PAGE:

COLOR AND LABEL THE MAP, BOTH LANDFORMS AND WATER.

ADD A [COMPASS ROSE](#)  
TO YOUR MAP! DO THE ACTIVITIES AND COLOR  
THE BLIND RIVER FISH



BLIND RIVER FISH

### VOCABULARY WORDS

Turn your map over and  
define these words!

scavenger

cave

pigmentation

adapt

instinct

Rio

evolve

carnivorous

### SPELLING WORDS

eyeless

algae

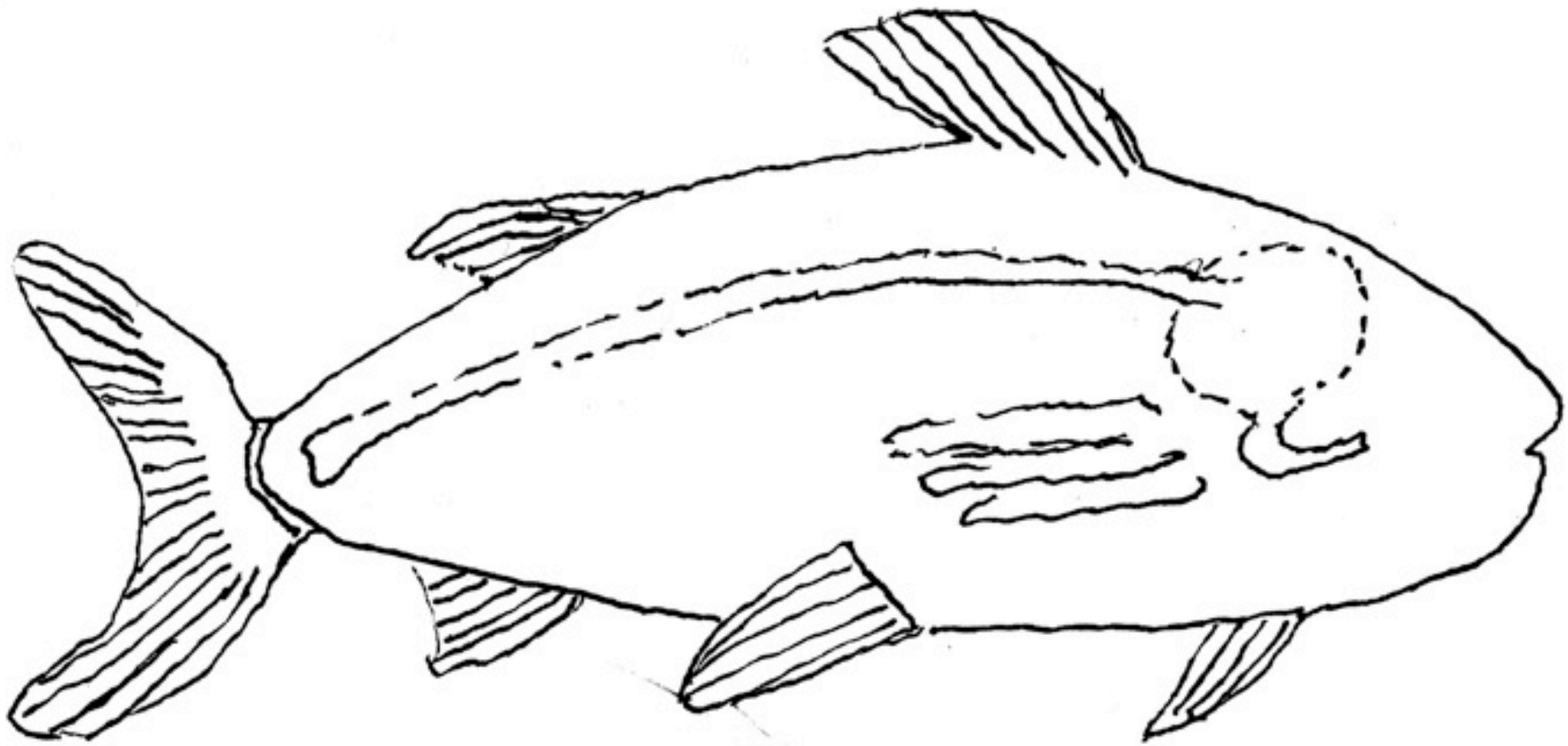
diverted

navigate

depth

active

spawn



BLIND RIVER FISH



Do some research and see what this area of the national park holds: minerals, animals, structures, and plants. Write a short essay about why you would like to go there, how you would get to the park, and what the best time to visit would be.

# RIVER IN THE CANYON

The Rio Grande River cuts through the Santa Elena Canyon in Big Bend National Park, Texas. Native Americans occupied land in this area for thousands of years. Mexicans and Spaniards panned for gold in the river here.



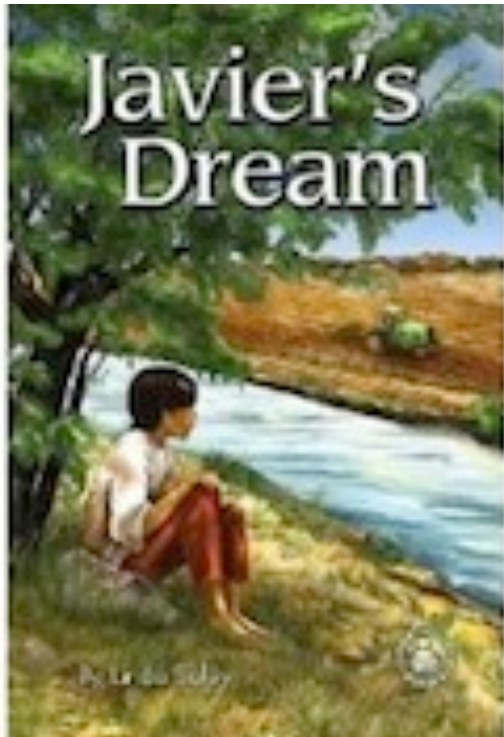
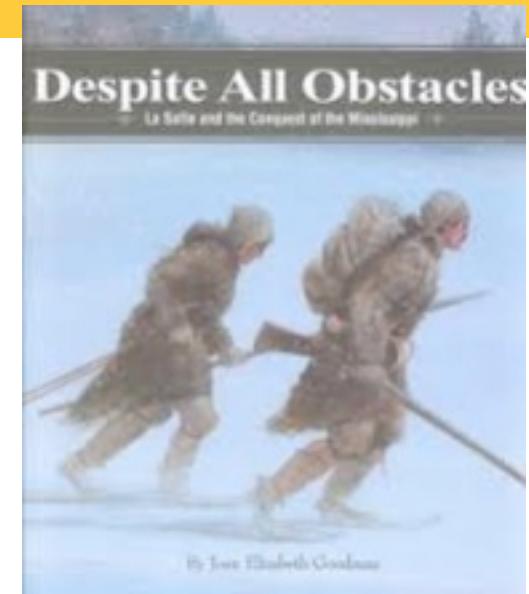


# RIVER READING!

BOOKS ABOUT RIVER EXPEDITIONS ARE INSPIRING!

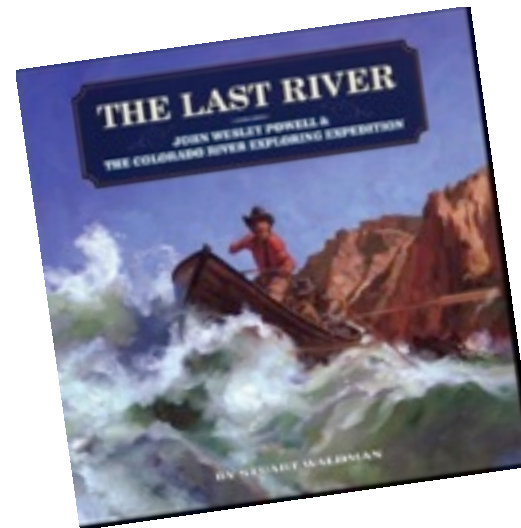
## DESPITE ALL OBSTACLES: LASALLE AND THE CONQUEST OF THE MISSISSIPPI by Joan Elizabeth Goodman

La Salle made his way from Eastern Canada to the Great Lakes traveling by canoe down the Mississippi to the Gulf of Mexico. This vast unexplored wilderness was controlled by the fierce Iroquois. Through one setback after another, La Salle kept on going. Part adventure, part biography, this book is the fascinating story of this stubborn and courageous man !



## JAVIER'S DREAM by Linda Sibley

Javier sits on the banks of the Rio Grande River and dreams of living in the United States.



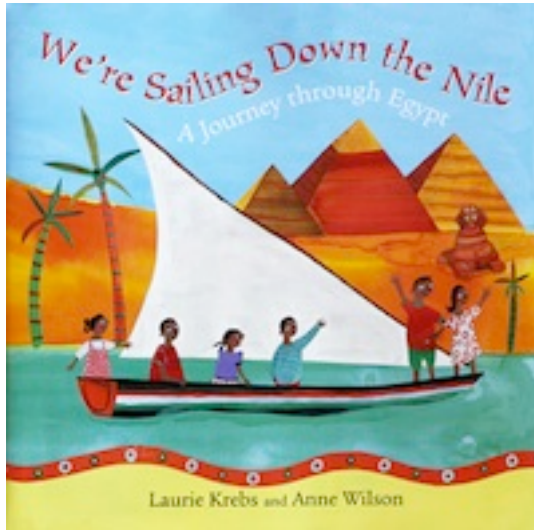
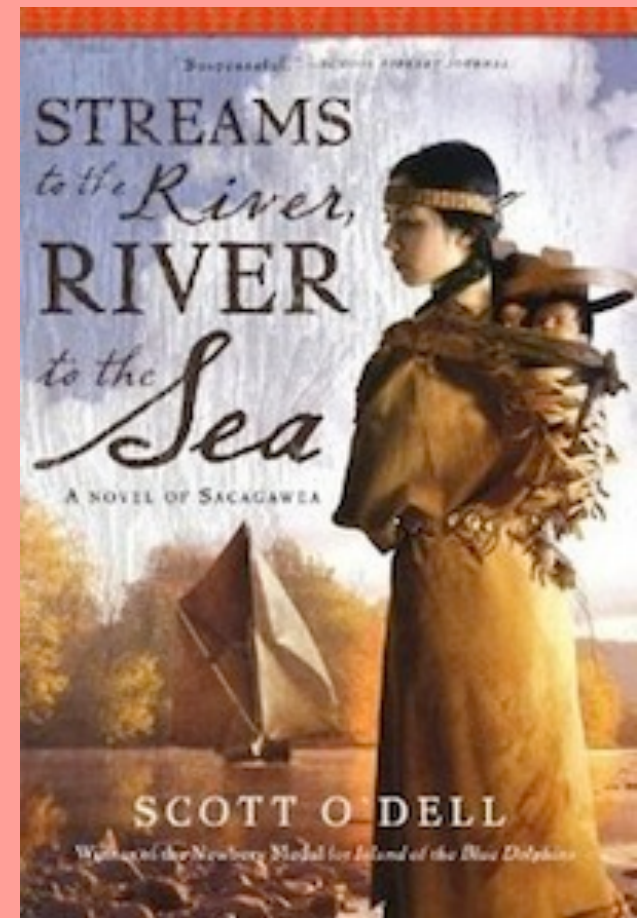
## THE LAST RIVER: JOHN WESLEY POWELL & THE COLORADO RIVER EXPLORING EXPEDITION by Stuart Waldman

This book is an inspiring adventure that brings history to life. Major John Wesley Powell was a small, bookish, one-armed geology professor. Powell's twin passions -- adventure and scientific exploration -- drew him to the Colorado River. Excerpts from journals of crew members personalize the gripping text. Original paintings and a fold-out map allows the reader to simultaneously follow the expedition's route and its adventures.

## Streams to the River, River to the sea: a novel of Sacagawea

by Scott O'Dell

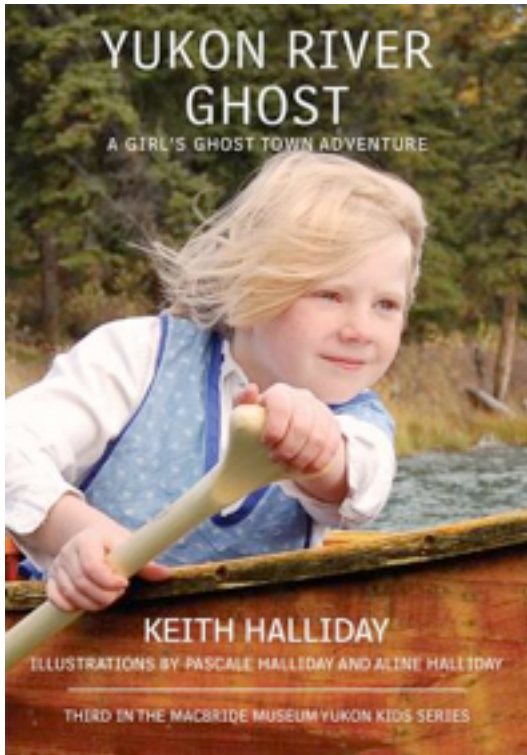
A young Indian woman,  
accompanied by her  
infant and cruel  
husband,  
experiences joy and  
heartbreak when she  
joins the Lewis and  
Clark Expedition  
seeking a way to the  
Pacific



**We're Sailing Down the Nile**

**We're Roaming in the Rainforest: An Amazon Adventure**

**both by Laurie Krebs**



## Yukon River Ghost: A Girl's Ghost Town Adventure

by Keith Halliday

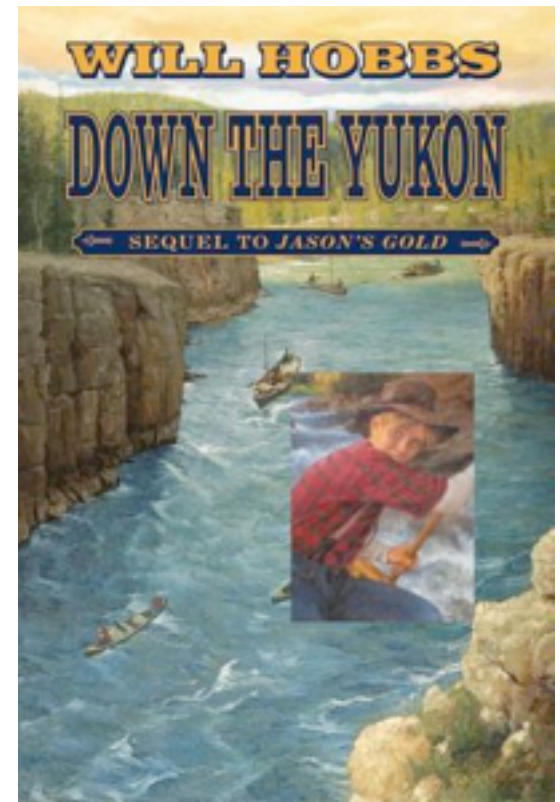
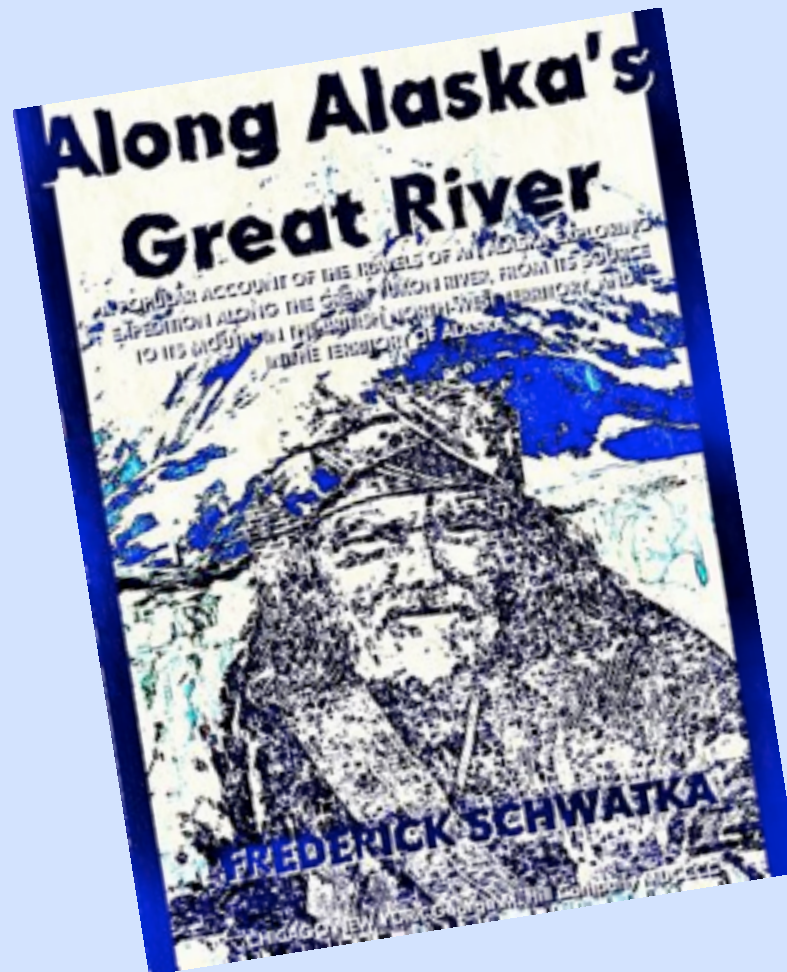
An idyllic Yukon River trip turns into a mysterious adventure as the kids discover a gold rush ghost town that seems to have a ghost!

## Along Alaska's Great River

by

Frederick Scwhatka

A great river expedition.....



## DOWN THE YUKON

by Will Hobbs

The great race across Alaska! As Dawson City goes up in flames, Jason Hawthorn itches to join the new rush for gold in Nome, 1,700 miles away.

The following THREE STATE MAPS are those that have the RIO GRANDE as a part of the state or a boundary.



STUDY EACH OF THE FOLLOWING STATE MAPS AND SEE WHERE THE RIO GRANDE FLOWS IN RELATION TO EACH.

WHERE IS THE RIO GRANDE A BOUNDARY BETWEEN COUNTRIES?

IS THE RIVER PASS THROUGH OR NEAR ANY NOTABLE GEOGRAPHIC FEATURES, LIKE MOUNTAINS

WHAT OTHER RIVERS ARE IN EACH STATE?



# NEW MEXICO The Land of Enchantment State

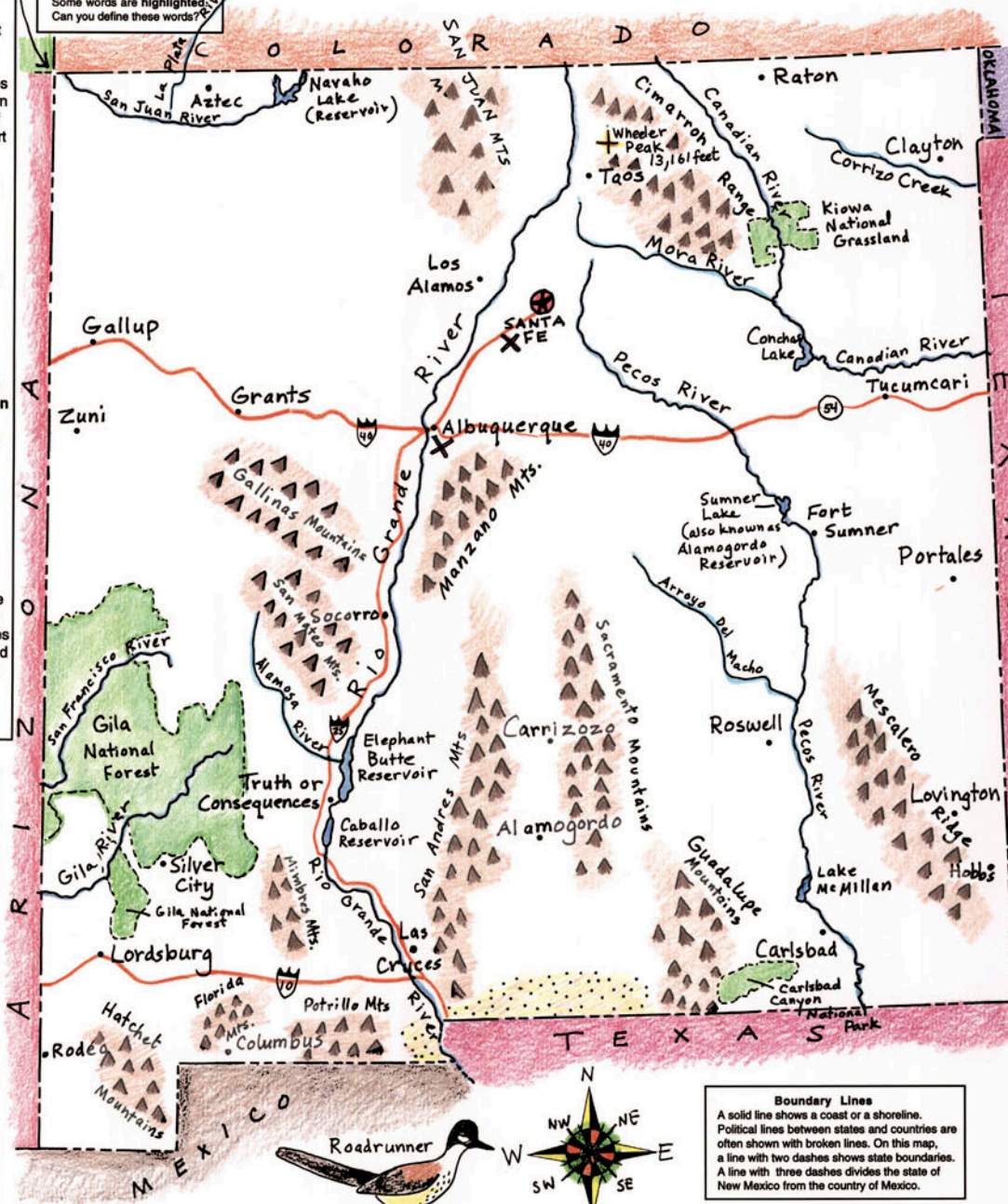
FOUR CORNERS (UTAH)

Welcome to New Mexico! The state of New Mexico is located in the Southwest region of the continental United States. New Mexico is bordered to the north by the state of Colorado. Arizona lies to the west. New Mexico shares its eastern boundary with Texas and a small part of Oklahoma. The country of Mexico and part of the state of Texas lie to the south.

There are many different topographical regions within New Mexico. The north is very mountainous. Here the very high elevations of the Southern Rocky Mountains extend into the state. The northwest corner of New Mexico is part of the region known as the Colorado Plateaus. In this area there are mesas, canyons and bluffs, many of brightly colored sandstone. And there are also a few mountains, such as the Chuska Mountains and the Zuni Mountains. In the southwestern part of the state is the Basin and Range area. Ranges of hills and mountains are separated from each other by deep basins. In contrast, the eastern third of the state is very flat because it is part of the Grand Plains region of the United States. This area is made up of rolling grasslands. In southern New Mexico, flat desert-like conditions can be found.

In terms of land area, New Mexico is one of the largest states in the country, ranked fifth of the fifty states. New Mexico stretches for about 395 miles from north to south and about 355 miles wide from east to west at its widest points. At the time of the 2000 United States census, New Mexico had 1,819,046 residents.

Some words are highlighted. Can you define these words?



MAP KEY	
	Mountains
	Highest elevation
	River
	Capital
	City
	Town
	Highway
	Railroad
	Airport
	Desert
	National Park (outline)



Piñon Pine



Roadrunner



**Boundary Lines**  
A solid line shows a coast or a shoreline. Political lines between states and countries are often shown with broken lines. On this map, a line with two dashes shows state boundaries. A line with three dashes divides the state of New Mexico from the country of Mexico.



Yucca

## Cartographic Activities

By drawing the features of New Mexico on this map, you will begin to see the geography of the state. See Earthworm's Cartographic Tips (at XXX) for help in completing this map.

**BORDERS**  
Label the neighboring states and country that border New Mexico:  
Arizona  
Colorado  
Oklahoma  
Texas  
Mexico

Label the corner of the state of Utah, which is part of the Four Corners area. Here the four states of New Mexico, Arizona, Colorado and Utah meet.

**MOUNTAINS**  
On the map, some of the Southern Rocky Mountains have been drawn in as an example. Using the symbols in the Map Key, complete this range. Draw in and label these others:  
Guadalupe Mountains  
Cimarron Range  
Mescalero Range  
Draw and label other mountains, ranges and hills.

**HIGHEST ELEVATION**  
Using the symbol in the Map Key, draw and label Wheeler Peak, which is 13,161 feet above sea level. It is the state's highest point.

**BODIES OF WATER**  
Label and shade these large rivers drawn in on the map:  
Rio Grande River  
Pecos River  
Gila River  
San Francisco River  
Canadian River  
San Juan River  
Draw in and label other rivers too.

Label and shade:  
Sumner Lake  
Lake McMillan  
Navajo Lake  
Elephant Butte Reservoir  
Cabello Reservoir  
Conchas Lake

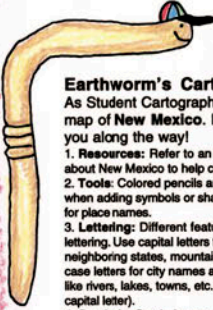
**CITIES**  
Locate Santa Fe, the state capital; mark it using the symbol in the Map Key. Label these cities already marked on the map:  
Raton  
Albuquerque  
Carlsbad  
Fort Sumner  
Carrizozo  
Zuni  
Silver City  
Taos  
Lovington  
Portales  
Los Alamos  
Clayton  
Gallup  
Tucumcari  
Roswell  
Truth or Consequences  
Add others, including your city or town.

**NATIONAL PARKS**  
Using the line in the Map Key, outline the following National Parks. Shade within the lines in light green:  
Gila National Forest  
Kiowa National Grasslands  
Carlsbad Caverns National Park  
Draw and shade other national parks if you like.

**INFRASTRUCTURE**  
Some man-made physical structures such as airports, railroads and highways can be added to the map. See Map Key for symbols.

**DECORATION**  
To add a decorative touch to your map, color the following:  
NEW MEXICO title  
Earthworm (our mascot)  
Border (around map)  
Compass Rose: mark north, south, east and west.

Find room on your finished map to draw these:  
State Flower: Yucca  
State Bird: Roadrunner



## Earthworm's Cartographic Tips

As Student Cartographer, you will be finishing this map of New Mexico. Here are some hints to help you along the way!

- Resources:** Refer to an atlas, encyclopedia or other books about New Mexico to help complete the map.
- Tools:** Colored pencils are better than crayons or markers when adding symbols or shading. Use a regular pencil with eraser for place names.
- Lettering:** Different features of a map require different lettering. Use capital letters for large or important features like neighboring states, mountain ranges or state capital. Use lower case letters for city names and less prominent geographic details, like rivers, lakes, towns, etc. (the first letter should always be a capital letter).
- Symbols:** Symbols are small pictures that stand for different features on the map. For instance, a small triangle represents a mountain. Many triangles, grouped together, represent a mountain range. On this map, some of the Southern Rocky Mountains have been drawn in as an example. See the Map Key for additional symbols.
- Choosing colors:** Use colors that help represent features of a map. Use blue for water and brown for areas with much vegetation, like forests or farmland. Green and green used together help make mountains stand out. Choose a bold color like red or orange to highlight the dotted lines indicating parks or reservations. Use a pale color, like yellow, to fill in these areas. Use tan to shade desert areas.
- Shading:** This technique lends color without covering up details or lettering. After defining an area on the map, such as a mountain range, shade it with a colored pencil that's not too sharp. Make short light strokes. With blue, completely shade in lakes and shade over river lines.

## Map of the Month

© copyright 2002, Map of the Month  
East Side Station, P.O. Box 2484, Providence, RI 02906-0484

# COLORADO

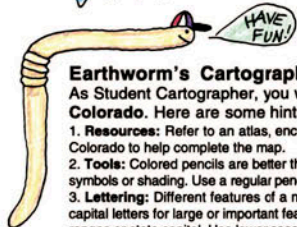
## The Centennial State

Welcome to Colorado! The state of Colorado is located in the southwestern region of the continental United States. Colorado is bordered to the north by the states of Wyoming and Nebraska and to the south by Oklahoma and New Mexico. Colorado shares its eastern boundary with Nebraska and Kansas, and Utah lies to the west.

In terms of **land area**, Colorado is the eighth largest state in the United States. Colorado stretches for about 276 miles from north to south and about 387 miles wide from east to west at its widest point.

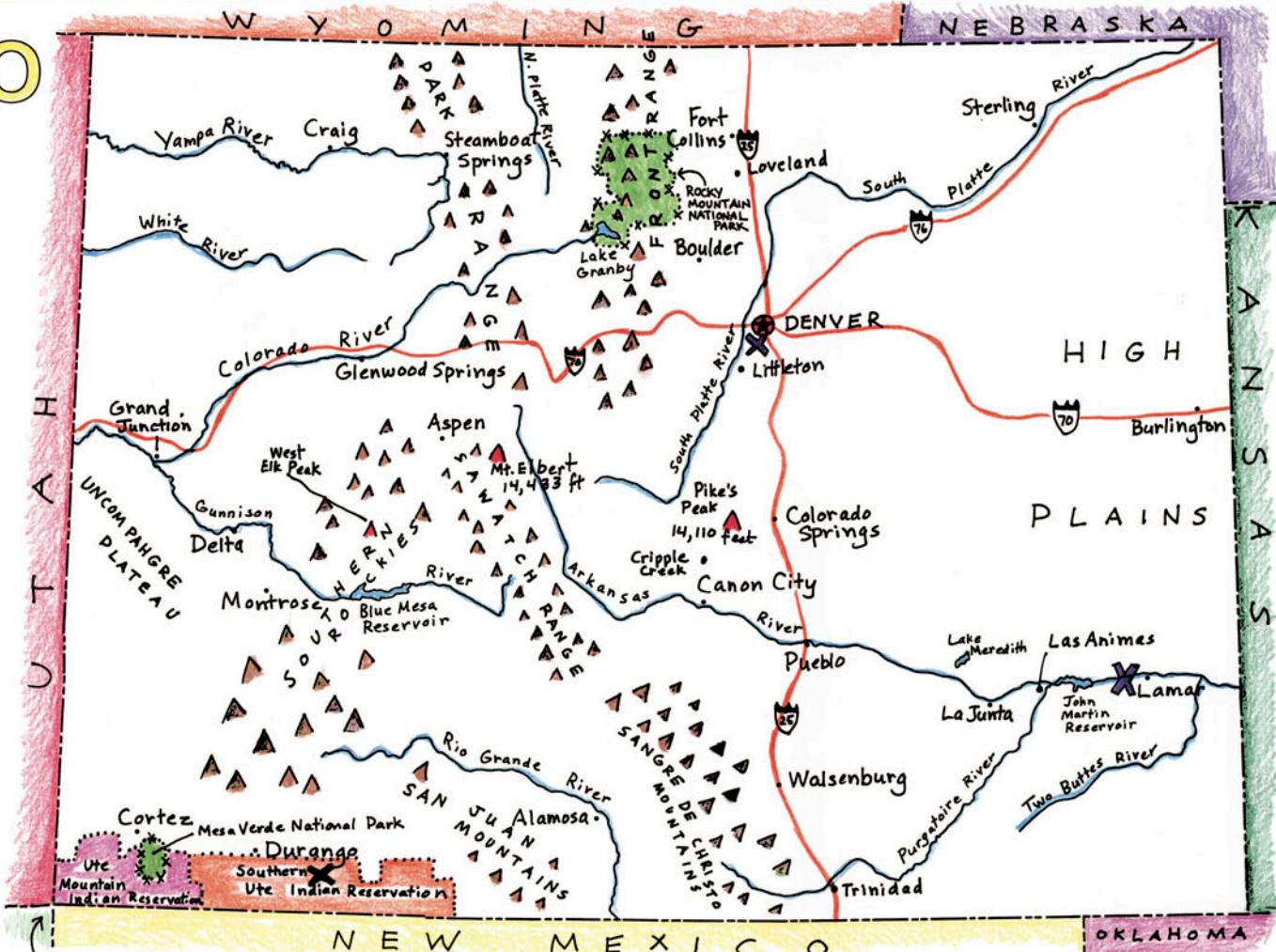
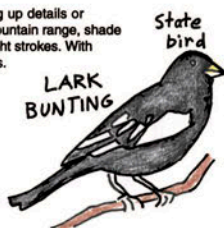
Colorado has the highest **elevation** of any state in the United States, with many mountains over 14,000 feet in height. There are three major **topographical regions** within the state of Colorado. The **Great Plains** area in the east is a large flat area with the lowest elevation. The **Rocky Mountain** region is located in the central third of the state and is formed of several smaller mountain ranges. In the western part of the state is the **Colorado Plateau**. Elevation varies within this rocky area: there are deep valleys and gorges as well as high bluffs and mesas.

Some words are highlighted. Can you define these words?



### Earthworm's Cartographic Tips

- As Student Cartographer, you will be finishing this map of Colorado. Here are some hints to help you along the way!
- Resources:** Refer to an atlas, encyclopedia or other books about Colorado to help complete the map.
  - Tools:** Colored pencils are better than crayons or markers when adding symbols or shading. Use a regular pencil with eraser for place names.
  - Lettering:** Different features of a map require different lettering. Use capital letters for large or important features like neighboring states, mountain ranges or state capital. Use lower case letters for city names and less prominent geographic details, like rivers, lakes, towns, etc. (the first letter should always be a capital letter).
  - Symbols:** Symbols are small pictures that stand for different features on the map. For instance, a small triangle represents a mountain. Many triangles, grouped together, represent a mountain range. On this map, **Mount Elbert** has been drawn in as an example for you to follow. See the **Map Key** for additional symbols.
  - Choosing colors:** Use colors that help represent features of a map. Use blue for water and green for areas with much vegetation, like forests or farmland. Brown and green used together help make mountains stand out. To highlight important outlines, like the dotted lines indicating parks or reservations, choose a bold color like red or orange.
  - Shading:** This technique lends color without covering up details or lettering. After defining an area on the map, such as a mountain range, shade it with a colored pencil that's not too sharp. Make short light strokes. With blue, completely shade in lakes and shade over river lines.



MAP KEY	
▲▲▲	Mountains
—	River
●	Capital
•	City
○	Town
—+—	Highway
++++	Railroad
X	Airport
.....	Reservation
—	National Park (outline)



### Cartographic Activities

By drawing the features of Colorado on this map, you will begin to see the geography of the state. See **Earthworm's Cartographic Tips** (at left) for help in completing this map.

- |   |  |   |   |
|---|--|---|---|
| <p><b>BORDERS</b><br/>Label the neighboring states:<br/>Wyoming Nebraska<br/>Oklahoma New Mexico<br/>Kansas Utah</p>  | <p><b>INDIAN RESERVATIONS</b><br/>Using the symbol in <b>Map Key</b>, draw in and label:<br/>Ute Mountain Reservation<br/>Southern Ute Mountain Reservation</p>  | <p><b>CITIES</b><br/>Locate Denver, state capital; mark it using the symbol in the <b>Map Key</b>. Label these cities marked on the map.<br/>Pueblo Burlington<br/>Durango Cortez<br/>La Junta Alamosa<br/>Craig Canon City<br/>Aspen Montrose<br/>Lamar Sterling<br/>Boulder Ft. Collins</p> | <p><b>NATIONAL PARKS</b><br/>Using the line in the <b>Map Key</b>, outline these areas on the map:<br/>Rocky Mt. National Park<br/>Mesa Verde National Park</p>   |
| <p><b>BODIES OF WATER</b><br/>Label and shade these large rivers drawn in on the map:<br/>Colorado River<br/>Rio Grande River<br/>Arkansas River<br/><br/>Purgatoire River<br/>South Platte River<br/>Gunnison River<br/>Add other rivers too. Label and shade:<br/>Lake Meredith<br/>Lake Granby<br/>Blue Mesa Reservoir<br/>Draw and label other lakes too.</p> | <p><b>MOUNTAINS</b><br/>Using the symbols in the <b>Map Key</b>, draw in the <b>Rocky Mountains</b>. Within this larger range are many smaller mountain ranges. Draw and label:<br/>Sawatch Range<br/>West Elk Mountains<br/>San Juan Mountains<br/>Sangre de Cristo Mountains</p> | <p><b>INFRASTRUCTURE</b><br/>Some man-made physical structures such as airports, railroads and highways can be added to the map. See <b>Map Key</b> for symbols.</p>  | <p><b>DECORATION</b><br/>To add a decorative touch to your map, color the following:<br/><b>COLORADO</b> title<br/><b>Earthworm</b> (our mascot!)<br/><b>Border</b> (around map)<br/><b>Compass Rose</b>: mark north, south, east and west.</p> |
- On this map, a line with two dashes shows state boundaries.

# TEXAS: The Lone Star State

## TOPOGRAPHICAL REGIONS

The North American continent is made up of four major topographical regions, each very different. If you look at a topography map of the entire continent, you will be able to see the extent of them. Texas is the only state that has a part of each of these regions. This Texas map has dotted lines to show these regions within the state.

Here is a description of these four areas of Texas, from east to west. Texas rises in elevation from east to west.

**Gulf Coastal Plain:** This area of Texas is part of the Coastal Plain region of the North American continent. The eastern edge is at sea level, with long barrier beaches and lagoons. Southern parts have semitropical climate, with wet coastal marshes. In the north are thick forests with a wide variety of trees, mostly pine, but also pecan, sweet gum, cypress and oak.

**The North Central Plains:** This area of Texas is part of the Central Lowland region of the North American continent. This large area to the west of the Gulf Coast rises gradually in elevation. In this section, there are vast prairies, with rugged and rolling hills. There are both forests and farmland in this area.

**The High Great Plains:** This area of Texas is part of the High Plains region of the North American continent. It is characterized by treeless plains and high flat plateaus, such as the western Panhandle (known as Llano Estacado), and the southwestern Edwards Plateau, a high dry area used for grazing.

**Trans Pecos Mountains:** This area of Texas is part of the Basin and Mountain Range region of the North American continent, and is an extension of the Rocky Mountain Range of the western USA. This dry, rocky area has the highest elevation, dotted with spurs or extensions of mountains, including the Davis Mountains and Chisos Mountains. It has impressive mountain gorges. Guadalupe Peak is the highest mountain in Texas.

Welcome to Texas! The state of Texas is a very large area in the south-central part of the continental United States. Texas is bordered by the states of New Mexico, Oklahoma, Arkansas and Louisiana. Texas shares its southern boundary with the country of Mexico. In terms of land area, Texas is the second largest state, only Alaska is bigger. Texas is the largest state in the lower forty-eight states. Texas stretches for about 800 miles from north to south and about 775 miles wide from east to west at its widest point.

Texas has abundant natural resources. Agriculture is widespread. The fertile Rio Grande River Valley produces winter crops of citrus fruit for shipment to other parts of the country.

The rich soils of the central areas produce cotton and grains and there are grazing lands for livestock. Much lumber comes out of the coastal and prairie areas. Valuable mineral, petroleum and natural gas products are found throughout Texas. These include oil, salt, coal, limestone, gravel, gypsum, silica sand and helium. Large numbers of sheep and goats are raised in the Edwards Plateau. In the rocky western regions, there is ranching and agriculture, but irrigation is needed because the land is so dry.



## MAP of the Month

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### Cartographic Activities

By drawing the features of Texas on this map, you will begin to see the geography of the state. Some details have already been drawn in. Draw in and label others, like those listed below. See Earthworm's Cartographic Tips (at right) for help in completing this map.

**BORDERS** Label the neighboring states and country.

**REGIONS** Shade along the dotted lines between the four topographical regions.

**BODIES OF WATER** Southeastern Texas meets with the Gulf of Mexico. Label and shade along this coastline. Label Galveston Bay and Corpus Christi Bay.

The Red River and the Rio Grande Rivers form natural boundaries between parts of Texas and neighboring land. Shade and label these and the other large rivers drawn in the Colorado, Sabine, Pecos, Trinity, Nueces, and Guadalupe Rivers. You can add other rivers too.

Label and shade the large lakes and reservoirs drawn in on the map: Lake Texoma, Lake Tawakoni, and Sam Rayburn Reservoir. Add others if you like.

**MOUNTAINS** Draw and label the Trans Pecos Range, the Davis Mountains and Chisos Mountains. Find Guadalupe Peak on the map and label it.

**PLATEAUS** Locate the Llano Estacado and Edwards Plateau. Using the symbol in the key, mark these areas and shade them.

**CITIES** Austin is the capital and has a different symbol than the other cities.

Label these cities marked on the map. Add others, including your own city or town.

San Antonio	Houston	Dallas	Fort Worth
Abilene	Amarillo	El Paso	Galveston
Huntsville	Laredo	Lubbock	Midland
Corpus Christi	Port Lavaca	Brownsville	Witchita Falls

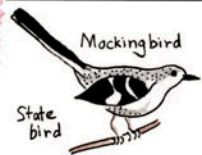
**INFRASTRUCTURE** Some man-made physical structures such as airports, railroads and highways can be added to the map. See Map Key for symbols.

**MAP KEY**

- Forest
- Plateau
- Mountains
- River
- Capital
- City
- Town
- Highway
- Railroad
- Airport

**Boundary Lines:**  
Why are they drawn differently?  
A solid line shows a coast. Political boundaries between states and countries are often shown with broken lines. On this map, a line with two dashes shows state boundaries. A line with three dashes divides USA and Mexico.

Some words are highlighted. Can you define these words?



**Earthworm's Tips on Cartography**  
As Student Cartographer, you will be finishing this map. Here are some hints to help you along the way!

- Resources:** Refer to an atlas, encyclopedia or other books about Texas to help complete the map.
- Tools:** Colored pencils are better than crayons or markers when adding symbols or shading. Use a regular pencil with eraser for place names.
- Lettering:** Different features of a map require different lettering. Use capital letters for large or important features like neighboring countries and states, oceans, mountain ranges or state capital. Use lower case letters for city names and less prominent geographic details, like rivers lakes, towns, etc. (the first letter should always be a capital letter).
- Symbols:** Symbols are small pictures that stand for different features on the map. For instance, a small triangle represents a mountain. Many triangles, grouped together, represent a mountain range. On this map, Guadalupe Peak has been drawn in as an example for you to follow. See the Map Key for additional symbols.
- Choosing colors:** Use colors that help represent features of a map. Use blue for water and green for areas with much vegetation, like forests or farmland. Brown and green used together help make mountains stand out. Tan, or light brown with green, can be used to show plateau areas, such as Llano Estacado. To highlight important details, like the dotted lines separating regions, choose a bold color like red or orange.
- Shading:** This technique lends color without covering up details or lettering. After defining an area on the map, such as a plateau, shade it with a colored pencil that's not too sharp. Make short light strokes. To show ocean, shade along the coastline with a narrow band of blue: 1/2 inch or less is enough. Completely shade in the bays and shade over the river lines.



**READ THIS!**

Welcome to the United States of America. This country is part of the North American continent. The U.S. is bordered by Canada to the north and Mexico to the south.



# MAP of the MONTH

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United States of America  
and Regions of Native American Culture

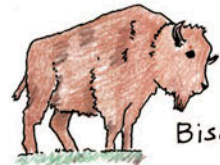
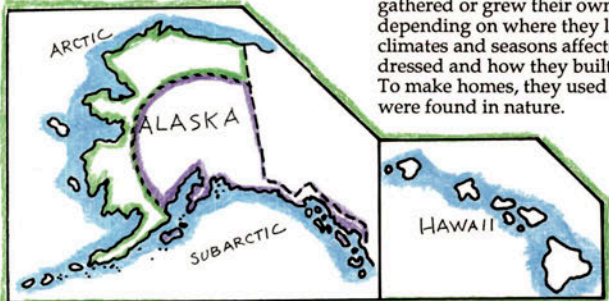
The U.S. is made up of 50 individual states. Two of these states are separate from the lower 48 and are shown in insets below the main map. The largest state, Alaska, is next to Canada in the northwest. Hawaii, a group of islands, lies to the west in the Pacific Ocean.



This map also shows the regions where native Americans lived for many thousands of years before the settlers came to North America from Europe. They were incorrectly called "Indians" by Christopher Columbus, who thought he had reached the West Indies.



Geography affects how we live today, but try to imagine how it influenced native Americans who lived directly on the land. Native Americans fished, hunted, gathered or grew their own food, depending on where they lived. The climates and seasons affected how they dressed and how they built their homes. To make homes, they used materials that were found in nature.



Although life in each region was different, all native people respected the land and living things. Prayers and rituals were a part of daily life, reminders of how their actions affected nature and each other. They killed animals when necessary, wasting nothing. Skins were used for clothing and shelters. Even bones were made into tools or ornaments.



All native Americans created arts and crafts from materials at hand. In regions where life was easier and food abundant, there was more time for decorative arts. In harsher regions, survival took up most of their time.

Now there are only a few native Americans compared to the past. Unfortunately, settlers, although often welcomed, disrupted the lifestyles of these people. Today, many are struggling to hold on to their traditional ways. For more information about their culture, past and present, look for books in your library. We can learn from them how to better appreciate and respect the land of the 50 states today.

RHODE ISLAND CONNECTICUT MASSACHUSETTS MAINE NEW HAMPSHIRE VERMONT NEW YORK PENNSYLVANIA NEW JERSEY DELAWARE MARYLAND OHIO WEST VIRGINIA

ESOTA NORTH DAKOTA SOUTH DAKOTA NEBRASKA KANSAS OKLAHOMA TEXAS NEW MEXICO COLORADO WYOMING MONTANA IDAHO UTAH ARIZONA NEVADA OREG

# MEXICO AND CENTRAL AMERICA

## Places and Geographic Features

Welcome to **Mexico and Central America**! This area of land is part of the North American continent. Mexico is a large country to the south of the **United States**. Central America is a **region** which lies to the south of Mexico and is made up of seven smaller countries. Central America, a narrow strip of land called an **isthmus**, links the North and South American continents. This land bridge also separates the **Atlantic Ocean** to the east from the **Pacific Ocean** to the west.

Between 1904 and 1914, the **Panama Canal** was built. This man-made water way links the Atlantic and the Pacific Oceans. Previous to the building of this 51 mile long canal, ships were forced to travel around the southernmost tip of South America.

There are a wide variety of land types in this region. In Mexico, there are many mountains, a large **desert** in the north, and more **temperate** regions along the **Gulf of Mexico** and on the **Yucatan Peninsula**. In both northern and southern Central America, there are large mountainous areas, including active **volcanoes**. On the Caribbean side of Mexico and Central America, there are dense tropical **rainforests**. Along the Pacific coast are some low-lying **semi-tropical** areas.



Some words on this page are highlighted. Can you define these terms?

MAP KEY	
★ (black)	Capital (black)
• (red or black)	City (red or black)
▲▲▲ (brown or green)	Mountains (brown or green)
□ (light brown)	Desert (light brown)
🌴🌴🌴 (green)	Rainforest (green)
— (blue)	River (blue)

**Boundary Lines:**  
Why are they drawn differently?  
A solid line shows a coast or shoreline.  
Political boundaries between states and countries are usually shown with broken lines.

### Earthworm's Cartographic Activities

Your job as cartographer is to fill in some details not shown on this map. Refer to an atlas or encyclopedia. Refer to the **Map Key** for symbols and suggested colors. Be neat when labeling and drawing in details. Colored pencils work best. Shade very lightly so you don't obscure other features.

**Countries:** Fill in the remaining letters for each country name.

**Capitals:** Locate the capital symbol for each country and fill in the remaining letters for each capital city.

**Cities:** Locate and label two other cities in each country.

**Oceans:** With blue, shade along coastline areas. Label the following bodies of water: Pacific Ocean, Atlantic Ocean, Gulf of Mexico, Caribbean Sea, Gulf of California, Gulf of Honduras, Mosquito Gulf and Gulf of Panama.

**Lakes:** Label and shade Lake Nicaragua with blue. Add Lake Managua.

**Rivers:** Locate and shade the Rio Grandé. Add others.

**Panama Canal:** Locate, draw and label this man-made waterway.

**Mountains:** Locate and draw in Sierra Madre Occidental, Sierra Madre Oriental, Sierra Madre Del Sur, and Central American Highlands.

**Desert:** Using the symbol in the Map Key, shade the desert regions of northern Mexico.

**Rainforest:** Using the symbol in the Map Key, draw the rainforests of this region.

**Latitude line:** With a sharp pencil, draw in the Tropic of Cancer.

**Compass Rose:** This feature indicates direction. Label the cardinal directions: North, South, East and West. Label the intermediate directions: NW, NE, SW, and SE.

**Decoration:** Color the title of the map, the Compass Rose, and our mascot **Earthworm**.

### Map of the Month

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# TRAILS WEST

This map shows some of the trails that took pioneers, explorers and traders westward. Over the 3,000 miles from coast to coast, there was a vast wilderness to cross. The topography was varied: there were rivers, plains, mountains and deserts. Some routes took people to start new lives, and other routes were used for commerce and trading. By looking at the current day boundaries, shown here in gray line, you can see exactly where these trails were. Although some state boundaries were in place in the east at the beginning of the westward movement, it took many years before the vast western territories were established as states.

A famous means of transportation in the early American west was the covered wagon. Wagons had large wheels and rib-like hoops covered with a heavy fabric. Wagons were often pulled by mules or oxen.

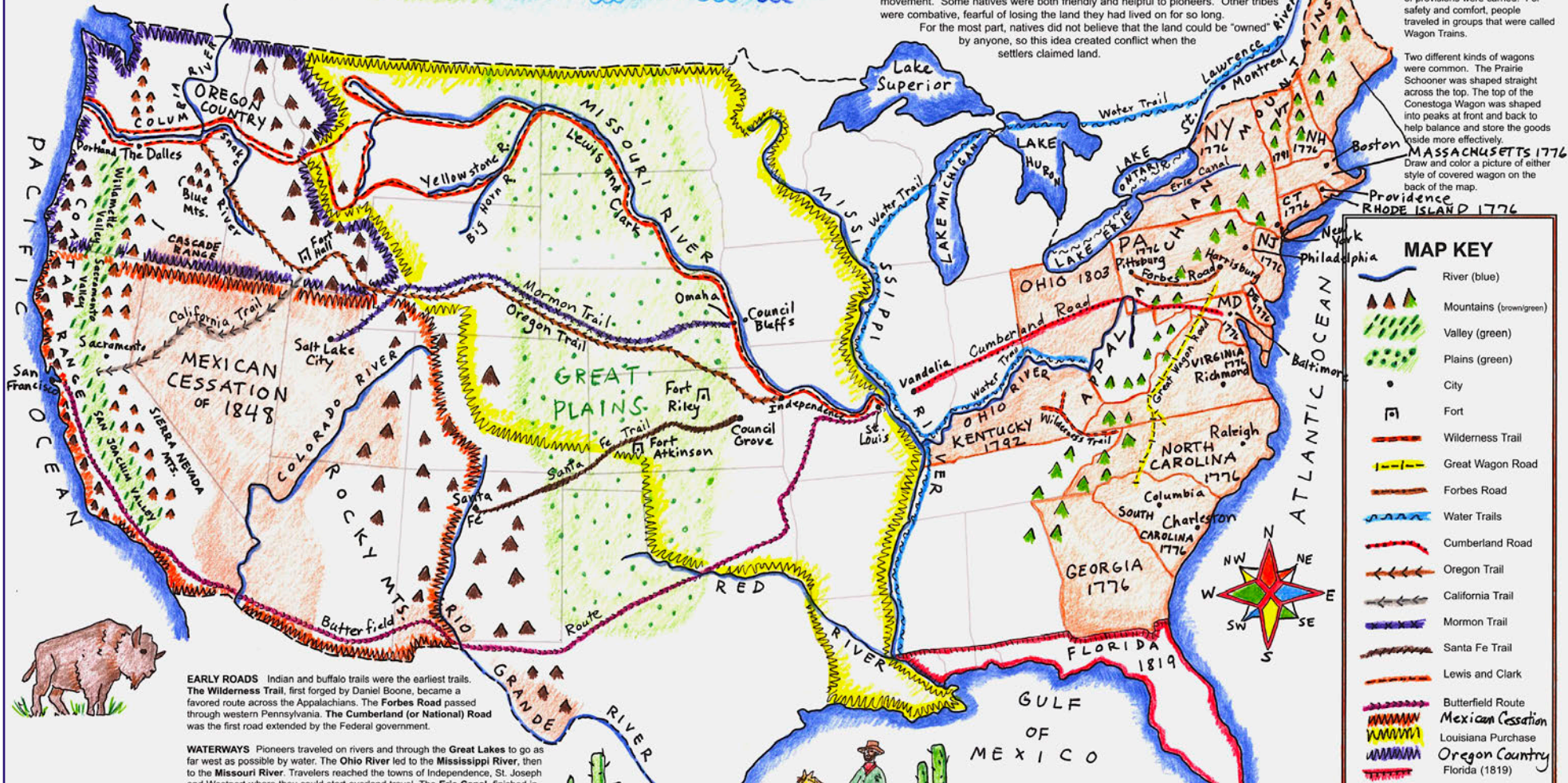
Long before the time of the trailblazers, native American settlements had been in place for countless generations. These many tribes are a big part of the story of the westward movement. Some natives were both friendly and helpful to pioneers. Other tribes were combative, fearful of losing the land they had lived on for so long.

For the most part, natives did not believe that the land could be "owned" by anyone, so this idea created conflict when the settlers claimed land.

Wagons were used to transport belongings, not to live or sleep in. There were rarely places to make purchases along the trails, so lots of provisions were carried. For safety and comfort, people traveled in groups that were called Wagon Trains.

Two different kinds of wagons were common. The Prairie Schooner was shaped straight across the top. The top of the Conestoga Wagon was shaped into peaks at front and back to help balance and store the goods inside more effectively.

Draw and color a picture of either style of covered wagon on the back of the map.



### MAP KEY

- River (blue)
- Mountains (brown/green)
- Valley (green)
- Plains (green)
- City
- Fort
- Wilderness Trail
- Great Wagon Road
- Forbes Road
- Water Trails
- Cumberland Road
- Oregon Trail
- California Trail
- Mormon Trail
- Santa Fe Trail
- Lewis and Clark
- Butterfield Route
- Mexican Cession
- Louisiana Purchase
- Oregon Country
- Florida (1819)

Desert area (brown)

**EARLY ROADS** Indian and buffalo trails were the earliest trails. The Wilderness Trail, first forged by Daniel Boone, became a favored route across the Appalachians. The Forbes Road passed through western Pennsylvania. The Cumberland (or National) Road was the first road extended by the Federal government.

**WATERWAYS** Pioneers traveled on rivers and through the Great Lakes to go as far west as possible by water. The Ohio River led to the Mississippi River, then to the Missouri River. Travelers reached the towns of Independence, St. Joseph and Westport where they could start overland travel. The Erie Canal, finished in 1825, extended water travel.

**OREGON TRAIL** Thousands traveled the dangerous journey from the Missouri River over the Rockies to Oregon Country. Fertile land, like the Willamette Valley between the Coastal Range and the Cascades, was the goal.

**CALIFORNIA TRAIL** This trail was the same as the Oregon Trail to the Rockies. Here the route headed over the Sierra Nevada Desert and Mountains, a difficult passage. People headed to California for fertile land, later for the Gold Rush.

**MORMON TRAIL** The Mormons were a well-organized religious group. The trail they blazed led them to their chosen destination, Salt Lake City.

**SANTA FE TRAIL** This trail was commercial, used primarily by traders.

**BUTTERFIELD ROUTE** This long trail was short lived, used for mail delivery.

**LEWIS AND CLARK EXPEDITION** President Thomas Jefferson chose Lewis and Clark to explore the Northwest Passage. From 1804 to 1806 the members of their group traveled to explore the west, studying the topography of the land as well as plants and animals.

**OTHER ROUTES** Other explorers like Zebulon Pike, Jim Bridger, Jedediah Smith and Robert Gray also explored unknown parts of the West from the Mississippi all the way to Alaska.

### MAP ACTIVITIES

**GEOGRAPHIC FEATURES**  
Label and shade the following bodies of water shown on the map:  
Atlantic Ocean Pacific Ocean Gulf of Mexico  
Saint Lawrence River Mississippi River Missouri River  
Rio Grande River Colorado River Columbia River  
Snake River Lake Superior Lake Michigan  
Lake Huron Lake Erie Lake Ontario

With a blue pencil, draw in the Erie Canal, which was used for travel.

Some of the Appalachian Mountains and the Rocky Mountains have been drawn in. Using the symbol in the MAP KEY, complete these ranges and label them.  
Draw and shade these other mountain ranges:  
Coastal Range Cascade Range  
Sierra Nevada Mountains Blue Mountains of Oregon

### TRAILS

Refer to the trail lines in the MAP KEY to locate and label each trail. Shade each a different color. Add the approximate dates that each trail was being used.

**LAND AREAS**  
The boundaries of the Louisiana Purchase (1803) and Florida (acquired from Spain in 1819) are already drawn in on the map (see outlines in MAP KEY). Label and date these areas. Shade their boundaries with colored pencils.

Using the territory outline (same outline as for Louisiana Purchase) in the MAP KEY, draw, label and shade the following areas with different colored pencils:  
Oregon Country (acquired in 1846)  
The Mexican Cession of 1848

Fill in and shade these areas with the valley symbol in the MAP KEY. Label these fertile areas which were settled:  
Willamette Valley Sacramento Valley

### CITIES

Label these cities marked on the map:  
Montreal St. Louis Boston  
Providence Baltimore Richmond  
Columbia San Francisco Salt Lake City  
Pittsburg Harrisburg Vandalia  
Independence Council Grove Council Bluffs  
The Dalles Portland (OR) Santa Fe

**FORTS**  
Using the symbol in the MAP KEY label some forts that aided travelers moving west, and add others if you like:  
Fort Atkinson Fort Riley Fort Hall

### DECORATION:

Complete the intermediate points of the Compass Rose and color it. Label the cardinal and intermediate directions.  
Color the map title and various illustrations.

### TROUBLES ON THE TRAIL!

The pioneers faced many difficulties as they moved westward. Turn this map over and write about this topic, using these vocabulary words, and others!

emigrants wagons trail provisions diseases frontier maps settlement gold seasons Thirteen Colonies valley Great Lakes desert mountains plain Native American predators Continental Divide