

RIVERS OF NORTH AMERICA

13 PART SERIES

ARKANSAS
COLORADO
COLUMBIA / SNAKE
CONNECTICUT
HUDSON
INDIAN / INLAND WATERWAY
LOWER MISSISSIPPI
UPPER MISSISSIPPI
MISSOURI
OHIO
POTOMAC
RIO GRANDE
SACRAMENTO / AMERICAN

Consider Visiting These Web Sites:

www.r6.fws.gov/coloradoriver/Crwhywat.htm
www.encyclopedia.com
www.water-ed.org/coloradoriver.asp



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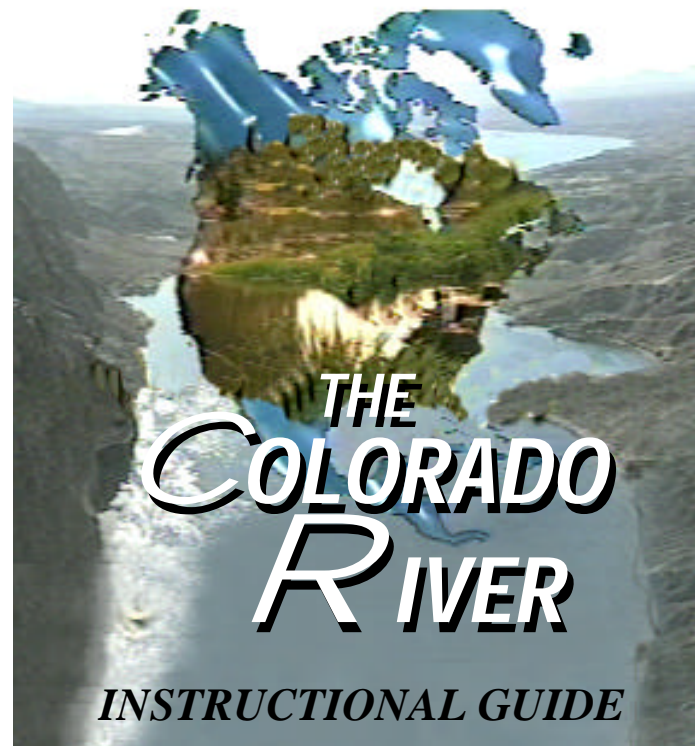
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Presents

**Rivers
of
North America**

13 Part Series



INTRODUCTION TO SERIES

Rivers of North America Series brings a unique perspective to the role great rivers have played in the early development and subsequent settlement of a region and a nation. Each river has its own unique story to tell, it's own geology, geography and history.

As a complementary device with each video, an instructional guide suggests exercises to help teachers, parents and students. These interactive exercises will reinforce and further develop a student's level of comprehension.

The instructional guide provides:

Vocabulary
Chronology / Q & A
Native People / Explorers
Discussion Points / Activities
Geography / Geology
River / Cities Development

**Permission granted to copy the
exercises provided in this guide.
For educational use ONLY.**

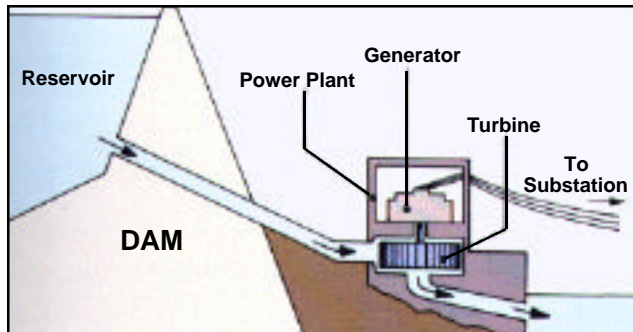
*E-Guides available at
www.filmideas.com*

The presence of dams on the Colorado River has pushed 4 species of fish to the edge of extinction. Review the video and on the solid black lines write the names of these fish.



DAMS of *The COLORADO RIVER*

Today, 29 dams have been built on the Colorado River and its tributaries. On paper or a computer, explain and illustrate what dams are and why they are built. If needed use the illustrations below or if possible draw your own graphics (use a computer). Gather information on the internet.



HOOVER DAM

THE *COLORADO RIVER*

High in the Rocky Mountains, melting snow and rain trickle together forming the little creeks and streams that are the headwaters of the Colorado River. It is from here that the 5th longest river in the United States comes to life and begins its journey to the sea. Along the way, the river passes through 5 states, 2 major deserts, and 110 miles of Mexico before emptying into the Gulf of California.

Throughout its travel, the Colorado River carries water through some of the most extreme terrain in America and has become the home for some of the most beautiful landscapes in the world. This adventurous river not only nurtures its surrounding wildlife but has become a primary source for natural treasures. For millions of years, this river continues to carve out the majestic Grand Canyon. Measuring 5,700 feet deep, the Grand Canyon has become one of the seven natural wonders of the world.

Man-Made wonders have also occupied the river's history. In 1936 Hoover Dam a major resource for hydroelectricity was constructed. Today, more than 29 dams have been built on the Colorado River and its tributaries.

The 242,000 square mile Colorado River Basin is also known for its extreme geographical changes. From its high mountain tundra and the tall, thick forests of the Colorado Plateau, this basin offers an amazing study of different geographical formations. Millions of years ago, these geographical formations became the perfect habitat for dinosaurs. The remains of these grandiose creatures are abundantly found throughout the Colorado River Basin.

After dinosaurs, the first people, for nearly 1300 years, to inhabit sites along the banks of the Colorado River were descendants of Nomadic-Indians. However, by the 16th century Spaniards began to explore and conquer Indian civilizations throughout the region.

Today, the Colorado River continues its splendid journey. Whether its providing natural resources to sustain its surrounding life forms or revealing valuable information from its past, this river is forever embodied in the vast North American landscape.

VOCABULARY of *The COLORADO RIVER*

ANASAZI: Means “Ancient Ones”, referring to the ancient Indian cultures who lived along the banks of the Colorado River for nearly 1300 years. These cultures are believed to have built the famous cliff dwellings at Mesa Verde, Colorado and other locations.

COLORADO RIVER (THE): Approx. 1,470 miles and is the 5th longest river in the United States. The river passes through 5 states, 2 major deserts, and 110 miles of Mexico before emptying into the Gulf of California.

COLORADO RIVER BASIN (THE): Also known as the **GREAT BASIN**. The 242,000 square miles of drainage area where the Colorado River and its tributaries carry water from the high roof tops of the Rocky Mountains before finally emptying into the Gulf of California.

COLORADO RIVER COMPACT: In 1922 seven states of the Colorado River Basin signed an agreement to build dams which stored water, controlled floods, produce electricity, and their lakes must be available for recreational use.

CONFLUENCE: The point where two rivers join together. i.e. The Gunnison & Colorado Rivers.

GARCIA LOPEZ DE CARDENES: Spanish explorer credited with the discovery of the Grand Canyon.

Letters A thru C describe three Colorado River Basin sites. Write the name of that site on the solid black line. Then with a Black Marker write the letter **A, B, C** to indicate where on the Colorado River Basin map each site is located.

A) _____ is the largest city located in the Colorado River Basin.

B) The Colorado River has been carving out the _____ for millions of years. This site has become one of the seven natural wonders of the world.

C) Built in 1936, at 110 miles long and 726 feet high, _____ has become a major source for hydroelectricity in the Colorado River Basin.



GEOGRAPHY of *The COLORADO RIVER*

The Colorado River journeys through **five states, two major deserts and one country before emptying into a body of water**. On the solid black line name each of these areas.

STATES:

① _____

② _____

③ _____

④ _____

⑤ _____

DESERTS:

⑥ _____

⑦ _____

COUNTRY:

⑧ _____

BODY OF WATER

⑨ _____



GRAND CANYON: Located in Arizona and formed by the waters of the Colorado River, this Canyon is 277 miles long, 10 miles wide and 1,200 to 5,700 feet deep-and is considered one of the seven natural wonders of the world.

HEADWATERS: The mixture of melting snow and rain form into the little creeks and streams which become the initial water source for larger bodies of water i.e. The Colorado River.

HOOVER DAM: A major source of hydroelectricity. Formerly Boulder Dam but renamed later to honor President Herbert Hoover. Built 1931-36, at 726 feet high it remains one of the highest dams ever constructed.

LAKE POWELL: Named after civil war hero, Major John Wesley Powell, who in 1869 lead the first successful expedition through both the Glen and Grand Canyons. Lake Powell stretches 186 miles and is the centerpiece of the Glen Canyon National Recreation Area.

LAS VEGAS: The largest city in the Colorado River Basin and is currently the fastest growing city in America.

RAINBOW ARCH: Located in Forgotten Canyon and is the world's largest natural bridge standing 290 feet high with a span of 275 feet.

SALTON SEA (THE): A geological bowl-like structural depression located near the southern end of the Mohave Desert. At 235 feet below sea level it is the second lowest point in the United States.

TRIBUTARIES: A small river or stream flowing into another larger body of water (i.e. Colorado River).

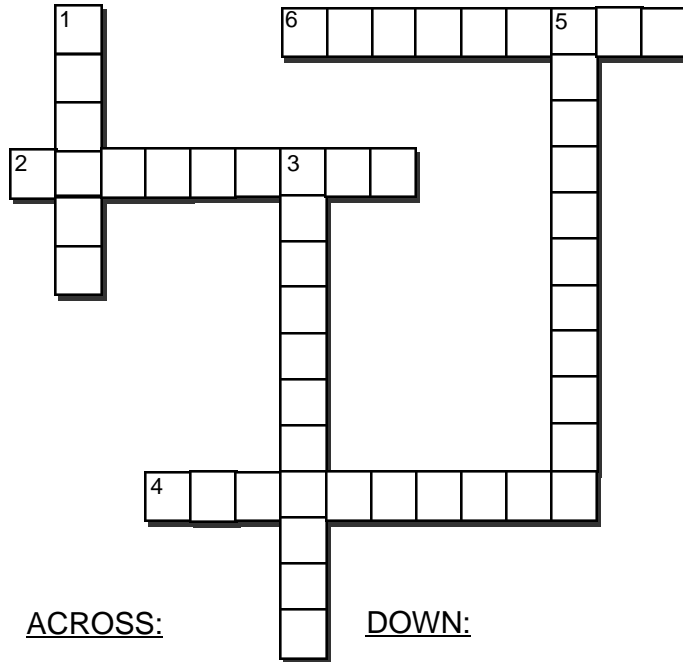
CHRONOLOGY of *The COLORADO RIVER*

- **Millions of years Ago:** Dinosaurs inhabit the Colorado River Basin.
- **Over 10,000 years ago:** Ancient Indian cultures known as the Anasazi meaning “Ancient Ones” migrate to North America over the Bering Straight land bridge and eventually settle along the banks of the Colorado River.
- **1300:** The Anasazi mysteriously disappear from the Colorado River Basin area.
- **1500:** Spanish explorers enter into parts of the Colorado River Basin.
- **1539:** Francisco De Ulloa arrives at the mouth of the Colorado River in the Gulf of California (originally named the Sea of Cortez).
- **1540:** Hernando De Alarcon attempts to sail up the Colorado River. Francisco Vasquez De Coronado begins an expedition into the southwest territory.
- **1869:** John Wesley Powell leads the first successful expedition through both the Glen and Grand Canyons.
- **1905:** Levee breaks on the Colorado River near Yuma, Arizona causing flood waters to pour into the Salton Basin and Imperial Valley.
- **1922:** Seven States of the Great Basin sign an agreement called the Colorado River Compact.
- **1936:** The construction of the Hoover Dam is completed.
- **1963:** The construction of the Glen Canyon Dam is completed.

Discussion Points / Activities

1. If possible visit some of the locations along the banks of the Colorado River as discussed in the video. SEE Pg. 5 of this guide. Also checkout the internet for web sites about the rivers rich heritage. SEE BACK PAGE.
2. Draw a map (if you like, use a computer or the map provided on page 11) of the river, indicating significant points of interest. For example, Las Vegas, the Hoover Dam etc.
3. Discuss how each of the following events have affected the past and present-day conditions of the Colorado River:
 - 1) Building of dams
 - 2) The extinction of dinosaurs & prehistoric forests
 - 3) The arrival of Indian cultures & European explorers
 - 4) Development of cities
4. The ecosystems along rivers and other bodies of water sustain many different life forms. If possible visit a river (the Colorado River) and imagine you are an ecologist. Study these different life forms and document their relationships with the river environment. i.e. bring binoculars, take photographs, paint a river scene, write a poem, sample various vegetation to view under a microscope etc.

Use the words described in this guide on pgs. 2, 3 & 5 to complete the crossword.



ACROSS:

- 2) Location of famous cliff dwellings built by ancient Indian cultures in Colorado.
- 4) Credited with the discovery of the Grand Canyon.
- 6) Place where a river begins.

DOWN:

- 1) Lead the first successful expedition through the Glen and Grand Canyons.
- 3) World's largest natural bridge.
- 5) Small streams or creeks feeding into a larger body of water.

ANSWERS:
 Down - (1) Powell, (3) Rainbow Arch, (5) Tributaries
 Across - (2) Mesa Verde, (4) De Cardenes, (6) Headwater

EXPLORERS of *The COLORADO RIVER*

FRANCISCO DE ULLOA: In 1539 arrived at the mouth of the Colorado River in the Sea of Cortez (today known as the Gulf of California).

HERNANDO DE ALARCON: First explorer to attempt an expedition up the Colorado River in 1540.

FRANCISCO VASQUEZ DE CORONADO: In 1540 lead an expedition throughout the Colorado River Basin.

GARCIALOPEZ DE CARDENES: Credited with the discovery of the Grand Canyon.

JOHN WESLEY POWELL: Civil War hero whom Lake Powell is named after. In 1869, Powell leads the first successful expedition through both the Glen and Grand Canyons.

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PLACES OF THE COLORADO RIVER BASIN:

GRAND CANYON: Located in Arizona and formed by the waters of the Colorado River, this Canyon is 277 miles long, 10 miles wide and 1,200 to 5,700 feet deep-and is considered one of the seven natural wonders of the world.

DINOSAUR NATIONAL MONUMENT: Located in the Northwestern Corner of Colorado where the remains of dinosaurs are found.

HOOVER DAM: A major source of hydroelectricity. Formerly Boulder Dam but renamed later to honor President Herbert Hoover. Built 1931-36, at 726 feet high it remains one of the highest dams ever constructed.

LAKE POWELL: Named after civil war hero John Wesley Powell, this lake stretches nearly 186 miles and is the centerpiece of the famous Glen Canyon.

LAS VEGAS: The largest city in the Colorado River Basin and is currently the fastest growing city in America.

MESA VERDE, COLORADO: Location of famous cliff dwellings built by ancient Indian cultures who lived along the Colorado River for 1300 yrs.

MOAB, UTAH: One of the most popular recreational centers in America. Activities include mountain biking, hiking, camping and river rafting.

RAINBOW ARCH: Located in Forgotten Canyon, this site has been known to be the world's largest natural bridge at 290 feet high and 275 feet wide.

ROCKYMOUNTAIN NATIONAL PARK: Here the melting snow and rain trickle together, forming the little creeks and streams that are the headwaters of the Colorado River. Within the confines of the Rocky Mountain National Park the Colorado River comes to life and begins its journey to the sea.

Q & A for *The COLORADO RIVER*

1. Headwaters are created from melting snow and rain. Eventually this water forms into creeks and streams which become the headwaters for rivers. Can you name the mountain range from where the headwaters of the Colorado River originate?
2. What is the name of the point at which two rivers join together?
3. The Colorado River ends its journey by emptying into what body of water?
4. What is the 5th longest river in the United States?
5. What grandiose creatures roamed the Colorado River Basin millions of years ago?
6. What ancient Indian cultures, which means "Ancient Ones", lived along the banks of the Colorado River for nearly 1300 years? These cultures are believed to have built the famous cliff dwellings at Mesa Verde, Colorado and other locations.
7. Twenty-nine dams have been built on the Colorado River and its tributaries. What are the names for some of these dams and explain why these structures are built?
8. During the 16th century Spanish explorers began to lead expeditions throughout the Colorado River Basin. Who were some of these explorers and what did they accomplish?

Fill in the blank by selecting the words from the answers list:

ANSWERS LIST :

Las Vegas • The Colorado River Compact • Solar Energy • Glen Canyon • Las Alamos • Grand Canyon • The Hoover Dam • The Dam Agreement • Gulf of Mexico • Gulf of California • Colorado Canyon • Canyon Dam

9. A) Along its 1,470 mile journey the Colorado River passes through five states, two major deserts and crosses 110 miles of Mexico before finally emptying into the _____ .

B) _____ is a major source of hydro-electricity for the southwest region.

C) In 1922, seven states of the Colorado River Basin signed an agreement called _____ . It was an agreement to build dams for multiple uses: storing water, controlling floods, produce electricity, & the dam's lakes must be available for recreational use.

D) Known for being one of the seven natural wonders of the world, the Colorado River has been carving out the _____ for millions of years.

E) _____ is the largest city in the Colorado River Basin and is currently one of the fastest growing cities in America.