
SYNOPSIS:

The Amazon River in South America is the largest river system, covering an area of more than two and one half million square miles. It contains two thirds of the world's fresh water and supports perhaps the greatest diversity of plant and animal life on the planet. However, it is not the longest river in the world.

In this program we will see the abundance of life on a journey along the 4,000-mile course of the Amazon. From its headwaters in the Peruvian Andes through a tropical rain forest nearly as large as the United States, to where its waters mingle with the Atlantic Ocean 100 miles offshore.

CURRICULUM UNITS:

Biology	Geography
Earth Science	Life Science
Ecology	Zoology

CAREER OPPORTUNITIES:

Aqua culturist	Geologist
Biologist	Hydrologist
Botanist	Naturalist
Ecologist	Navigator
Environmental Engineer	Zoologist
Geographer	

PROGRAM OVERVIEW:

The program starts with an introduction to the three main parts of a river system: the source, the middle region and the delta. In the case of the Amazon we learn that its source is numerous springs and streams high in the Peruvian Andes. We also learn about the water cycle where water from the oceans is

evaporated, condensed into clouds and returned to earth in the form of rain and snow.

Following the fast running river through raging rapids we see how the sand and silt the river picks up will cut through the country alongside, undermining and toppling trees and large boulders.

In its middle region the Amazon leaves the mountains behind and starts to become wider and deeper. We see how minor obstacles along the way can cause the river to meander back and forth. Occasionally breaking thorough a turn to take a shorter path, the river leaves a crescent shaped oxbow lake as a reminder of the old river bed.

In its final stage, the Amazon starts to break off into many narrower channels in the delta. Reeds and mangroves in this part of the river trap silt and mud from the interior of South America to form new land.

Dumping more than 6-million cubic feet of water into the Atlantic every minute, the mighty flow of the Amazon continues far into the open sea before their fresh and salt waters mix completely.

As the world's largest wetland, the Amazon River basin provides habitats for thousands of species of plants and animals. Most numerous are the insects of the tropical jungle; featured in this part of the program are pond skaters. An array of interesting fish and birds are shown including the feared piranha and a long-toed jacana. Of plant life, there is a fascinating time-lapse sequence of giant lily pads growing.

ISSUES AND CRITICAL THINKING:

After showing your class the video, ask them to: Describe the three main regions of the Amazon and other major rivers of the world.

Draw a diagram of the water cycle.

Trace the changes the river undergoes between its source in the Andes and where it ends.

Explain the benefits of the flooding along the Amazon during the rainy season.

Describe some of the diversity of plants and animals that live along the Amazon

Locate the major rivers of the world on a globe. Assign small groups of students to research and report, each on a different river. They should include their river's source, its major characteristics and where it ends. Do all rivers go through the same transitions as the Amazon?

Compare the Amazon River with the Nile and Mississippi Rivers. How does it rank in terms of: length / amount of water / depth / width?

What is the source of the river closest to your school? How long is the river? What body of water does it empty into? Does it have a delta? Is the river navigable by large ships?

Discuss why some rivers are clear and some are muddy

Talk about the way's rivers affect the areas through which they flow. Why and how may we attempt to control the flow of rivers (dams etc)?

Have student's research dams and hydropower.

Many of the tropical fish species available to home aquarists are native to the Amazon River. If any of your students keep some of these fish ask them to tell their classmates about the fish behavior and life-cycles. Do the same with those students who may keep reptiles, amphibians, or birds whose species originated in the rain forests of the Amazon region.

Arrange a visit to a nearby aquarium, zoological or botanical park with Amazonian rain forest displays.

GLOSSARY:

ARAPAIMA- A species of fish with a voracious appetite that can grow up to 15 feet in length and swallow fish almost as long as itself.

CATFISH- Bottom feeding fish with fleshy whiskers, like a cats. Whilst found in most parts of the world, 1200 varieties have evolved in the rivers of South America.

DELTA- Area of a river where it empties into the sea. Deposits of silt and mud that have been carried along the rivers course form it.

DISCUS FISH- Flat, disc shaped fish species from the slow water regions of the Amazon. They feed their young with secretions they exude through their skin until the fry (offspring) are able to fend for themselves.

EROSION- The wearing away of rock and soil by wind and water.

GRAVITY- A force that attracts matter in proportion to its mass.

JACANA- A tropical march bird with long toes that enable it to walk on floating vegetation in search of food.

MANGROVE- A tropical tree or shrub that grows in

brackish water. Its complex root system traps sand and silt to build new land.

OXBOW LAKE- A crescent-shaped lake creation created when a river breaks through a tight U shaped bend.

PIRANHA- Any of several Amazon River fish species with very sharp teeth and a big appetite.

POND SKATER- An insect species with long legs that can walk on calm water.

RAPIDS- A selection of river or stream where the rush of water creates white caps and swirling currents around large rocks.

RAY- A flat fish with a whip like tail. Usually found in saltwater, some rays have adapted to life in the fresh water of the Amazon.

REEDS- Tall , hollow stemmed plants that grow in the shallow water of river deltas. The thick growth of these plants traps sand and silt, creating new land and broadening the delta.

SILT- Tiny particles of matter that are suspended in river water.

SOURCE- The origin (or beginning) of a river.

SPRING- An underground spring that comes to the surface.

SURFACE TENSION- The attraction of molecules for each other on the surface of still water.

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