



Fresh Water

Fresh Water 1

What percentage of water on Earth is fresh?

Answer: 3%

What are The Tepuis?

Answer: Flat-top plateaus that rise above jungle of Venezuela.

How are the large sandstone towers formed?

Answer: by moisture rising from sea as evaporation is blown in land by wind; pushed up into cooler air when it hits mountains, condenses as rain. This intense daily rain cycle sculpts the towers.

Identify how this is a demonstration of the water cycle?

Answer:

Where does the water journey start?

Answer: Starts in mountains. Runs down into river and streams and eventually into the sea.

Fresh Water 2

What is the largest waterfall in the world?

Answer: Angel Falls

How high is it?

Answer: 1000 Meters tall

About how many feet is that?

Answer: About 3000 Feet

What is a unique characteristic of a water fall this large?

Answer: The waterfall is so far down, that most of it gets blown away as mist.

What form rapids?

Answer: Places where strong currents meet.

Fresh Water 3

What are the characteristics of this fast moving water?

Answer: The water is low in nutrients, but high in oxygen.

Why do these rapids have these characteristics?

Answer: The water moves too fast across smooth rocks, which does not allow for picking up nutrients, but the churning water does mix in lots of air.

What creatures can live here in this rapidly moving water?

Answer: Invertebrates such as hellgrammites.

What qualities do these invertebrates have that allow them to live in these harsh conditions?

Answer: It is made with a flat body to resist current. It has bushy external gills to extract oxygen from the current.

What do Black fly larvae have that allow them to live in the rapids?

Answer: anchor themselves to rocks with ring of hooks, but use silken safety line if they become unstuck.

Experiment: Resistance Test- Water invertebrates tend to be flat in rapid water. Why is this important? Materials- Fan and various hands.

Fresh Water 4

How do bamboo shrimp get their food?

Answer: They sift the fast moving particles with special fan-like appendages.

What animals come out in the Spring in Japan?

Answer: The Giant Salamander, the worlds largest amphibian, at 2 meters long.

What is that in feet?

Answer: About 6 feet

They hunt at night, what is this called?

Answer: They are nocturnal.

The Giant Salamanders have slow metabolism, what is metabolism?

Answer: the sum of the physical and chemical processes in an organism by which its material substance is produced, maintained, and destroyed, and by which energy is made available.

Fresh Water 5

How does their slow metabolism help them to live for 80 years?

Answer: Like large land tortoises, giant salamanders' slow metabolism slows down energy consumption, decrease wear on their bodies, prolonging life.

Giant salamanders have poor eyesight, so how do they hunt?

Answer: Sensory nodes on head and body detect the slightest changes in water pressure.

What fish has the largest fresh-water fish migration in the world?

Answer: Salmon

Why do salmon migrate and what is their journey?

Answer: Salmon move from the ocean and travel upstream in fresh water rivers to lay their eggs in a safe place.

What adaptation have Grizzly bears made to catch salmon?

Answer: They have learned to dive.

What is the most erosive force on the planet?

Answer: The fast moving mountain river.

Fresh Water 6

What formation is formed by the Colorado River?

Answer: the Grand Canyon

What is unique about the Grand Canyon?

Answer: It's the worlds largest canyon system.

How big is it?

Answer: It is a mile down, up to 17 miles across, and 1,000 miles wide.

As the waters leave the mountains, what happens to it that makes it able to support more life?

Answer: It gets warmer.

What important aspect of the smooth coated otters life gives them advantages?

Answer: They are extremely social.

Fresh Water 7

How does this social structure help them?

Answer: 1. They have family groups up to 17 members helping them to raise their young. 2. They hunt in large numbers making it easier to catch prey. 3. fresh-water mugger crocodiles hunt otters; but they work in groups to harass them and drive them away.

Why does the Mera River in East Africa turn brown from sediment?

Answer: It is near the end of the water's journey from the mountains, picking up soil and nutrients along the way.

Wildebeests migrate to get to this water, how does the brownish quality of the water put them at risk?

Answer: The water provides cover for Nile Crocodiles who hunt them.

Where do most rivers end?

Answer: Oceans

Where do some end?

Answer: Large lakes

Fresh Water 8

One the planet as a whole, which hold more fresh water: lakes or rivers?

Answer: Lakes, by 20 times

Where in Africa are three of the worlds largest lakes found?

Answer: The East African Rift Valley

What lakes are found there?

Answer: Malawi, Tanganyika, and Vietoria

In these lakes, what fish make large underwater craters?

Answer: Ciclids

What do dolphin fish use to hunt at night?

Answer: They detect distortions in the electric fields they create around their bodies.

Question 6

Answer:

Fresh Water 9

Lake Malawi drops 700 meters into an abyss, what type of life lives in this place too cold and deep for most life?

Answer: Midge larvae

What is unique about the life cycle of these Midge Flies?

Answer: They float to surface and burst out of the water as adult flies.

What is the world's largest lake?

Answer: Baikal, in eastern Siberia

How big is it and how much of the world's fresh water does it contain?

Answer: It is 400 miles long and one mile deep. It contains one-fifth of all the world's fresh water.

What extreme conditions occur in this lake?

Answer: It is sealed by an ice sheet for five months of the year.

Fresh Water 10

What is unique about the life in Lake Baikal?

Answer: 80% of its species are found no where else on Earth. Including the worlds only fresh water seal.

What is the largest river in the world?

Answer: the Amazon

How big is the Amazon in comparison to other rivers?

Answer: The Amazon carries as much water as the next ten biggest rivers combined.

What is formed by the tons of sediment carried to the mouth of the Amazon River?

Answer: The Rio Negro tributary

What is a tributary?

Answer: The point where a river meets the sea; it is characterized by a major build up sediment.

Fresh Water 11

What fresh-water dolphins live in these tributaries?

Answer: Botos

How do they hunt in murky waters?

Answer: They use Sonar and they drive the shoals of fish into the shallows where they are easier to hunt. .

What is one of the widest waterfall in the world?

Answer: Iguacu Falls border of Brazil and Argentina.

How wide is it and how much water does it release?

Answer: It is 1.5 miles across, putting out thirteen million liters per second.

What type of land is found near the end of rivers?

Answer: Wetlands

Fresh Water 12

What is the worlds largest wetland?

Answer: Pantanal

What predators are found in this wetland?

Answer: Piranhas and river tigers.

What do the vast amounts of fish sustain?

Answer: A large variety of birds.

What is the top predator in this wetland region?

Answer: the Spectacled Caiman Crocodile.