Inspiring Greatness
ISD
INDEPENDENCE SCHOOL DISTRICT

High School Science Virtual Learning

Earth Science

Earth's Water Resources

May 19, 2020

High School Earth Science
Lesson: May 19, 2020

Objective/Learning Target:

Students will be able to explain the sources of water on Earth, its importance to life, and how it cycles through the environment.

Let's Get Started:

Watch this video: NASA: Show Me the Water

Link to Video

Questions:

1. How much of Earth's water is accessible and usable by humans?
2. What is the majority of the freshwater in the U.S. used for?

Let's Get Started: Answer Key

1. Question 1- About 1%
2. Question 2 - About 49% is used for thermoelectric power production.

Lesson Activity: Earth's Water Resources

Directions: Read - *"Earth's Water Resources"* from the Association for the Sciences of Limnology and Oceanography.

Link to page

Complete the guided reading questions on the following slide.

1. What must be done to ocean water before it can be used for drinking or irrigating crops?
2. Where is most of Earth's freshwater (drinkable water) located?
3. What threatens the supply of underground fresh water resources (aquifers)?
4. What natural functions do wetlands provide?
5. What process restores fresh water to lakes, rivers, and the underground aquifers?

Lesson Activity: Where is Earth's Water?

Directions: Read "Where is Earth's Water" from the USGS.gov

Link to Page

Complete the guided reading questions on the following slide.

1. How much of Earth's freshwater is in the ground (groundwater)?
2. Rank the following in order of greatest content of freshwater to least content of freshwater; *rivers, lakes, swamps, air*.

Answers

1. What must be done to ocean water before it can be used for drinking or irrigating crops? It must be desalinated to remove the salts.
2. Where is most of Earth's freshwater (drinkable water) located? Frozen ice caps at the North and South poles.
3. What threatens the supply of underground fresh water resources (aquifers)? Over-use, pollution, and sea level rise
4. What natural functions do wetlands provide? nursery habitats for fish, resting places for migrating birds, and buffer zones from storm damage
5. What process restores fresh water to lakes, rivers, and the underground aquifers? The global water cycle replenishes fresh water through precipitation.

1. How much of Earth's freshwater is in the ground (groundwater)? About 30%
2. Rank the following in order of greatest content of freshwater to least content of freshwater; *rivers, lakes, swamps, air*.

Lakes - 20.9% air - 3.0% swamps - 2.6% rivers - 0.49%

Extensions:

Video “NASA:Water, Water Everywhere” [Link to Video]

1. How does water on Earth help regulate climate?
2. How does the water cycle purify water?
3. What are some ways in which humans have impacted the water cycle on Earth?

Extension Answers

1. It absorbs and stores heat during the day, releases that heat during the night. Also moves heat from the tropics to the poles.
2. As it evaporates, impurities such as salt and dirt are left behind.
3. We alter the water cycle by building dams on rivers, pumping water from underground to irrigate crops, building roads and cities that block absorption into the ground and promote runoff, burning fuels that contribute to global warming and climate change.