

2.0 “WATER IS LIFE” GLOBAL WATER AWARENESS MINI-UNIT (GRADES 3-5)

National Curriculum Alignment:

Geography Grades K-5

NSS-G.K-12.3

Physical Systems: Understand the physical processes that shape the patterns of Earth's surface/ Understand the characteristics and spatial distribution of ecosystems on Earth's surface.

NSS-G.K-12.4

Human Systems: Understand the characteristics, distribution, and migration of human populations on Earth's surface/ Understand the characteristics, distribution, and complexity of Earth's cultural mosaics/ Understand the patterns and networks of economic interdependence on Earth's surface/ Understand the processes, patterns, and functions of human settlement/ Understand how the forces of cooperation and conflict among people influence the division and control of Earth's surface.

NSS-G.K-12.5

Environment and Society: Understand how human actions modify the physical environment/ Understand how physical systems affect human systems/ Understand the changes that occur in the meaning, use, distribution, and importance of resources.

NSS-G.K-12.6

Uses of Geography: Understand how to apply geography to interpret the present and plan for the future.

Science Grades K-5

NS.K-4.3

Life Science: Organisms and environment

NS.K-4.4

Earth and Space Science: Properties of earth materials

NS.K-4.6

Personal and Social Perspectives: Types of resources/ Changes in environments

Math Grades K-5

NM-MEA.3-5.1

Understand Measurable Attributes of Objects and the Units, Systems, and Processes of Measurement

NM-MEA.3-5.2

Apply Appropriate Techniques, Tools, and Formulas to Determine Measurements

NM-MEA.6-8.1

Understand Measurable Attributes of Objects and the Units, Systems, and Processes of Measurement

NM-MEA.6-8.2

Apply Appropriate Techniques, Tools, and Formulas to Determine Measurements

NM-NUM.3-5.1

Understand numbers, ways of representing numbers, relationships among numbers, and number systems/Understand the place-value structure of the base-ten number system and be able to represent and compare whole numbers and decimals/ Recognize and generate equivalent forms of commonly used fractions, decimals, and percents.

GLOBAL AWARENESS FACT SHEET

All living creatures, including humans, need water to survive

Despite all the water in the world, only a small amount is available to humans and other creatures that depend on freshwater

Poor people often pay more for water than wealthy people living in the same city

Water can travel from one part of the world to another through the water cycle

Human activities affect water quality all over the world

Many people living in other countries die because the water they drink makes them sick

2.6 billion people in the world lack basic sanitation resources

A person needs 4 to 5 gallons of clean water per day to survive

More than 700 gallons of water are needed to grow the cotton for just one T-shirt!

People living in water-rich regions can affect how people use water in water-deprived areas

Conserving water helps to preserve the planet's natural resources

Protecting freshwater resources is difficult because many rivers, lakes, and underground aquifers cross national boundaries

Salt water accounts for more than 97 percent of the water on Earth.

Millions of women and children spend several hours a day collecting water

In many parts of the world, fresh water is being used faster than it can be replaced

Less than 1% of the world's fresh water is readily accessible for direct human use

The earth has a limited amount of water. The same water keeps going around and around the planet in a process called the water cycle

A person can live weeks without food, but only about three days without water

All people need access to safe drinking water and improved sanitation conditions

Many people in the world suffer from health problems caused by drinking dirty water

Sources: (<http://www.amnh.org>) (<http://water.org>) (<http://news.nationalgeographic.com>)

Vocabulary Safari Search

Draw a line to connect terms to the correct definition

| | | | |
|----------------------------------------------------------------|-------------|--------------|------------------------------------------|
| fit or suitable for drinking | Sanitation | Rural | the promotion and preservation of health |
| a hole drilled or bored into the earth to obtain water | Resource | | interference in the affairs of another |
| geological formation containing ground water | Terrain | Glacier | wind and heavy rains |
| extreme illness | Well | Contaminate | "of the countryside" |
| Taking precautions for the sake of cleanliness | Potable | Monsoon | something that indicates limits |
| a source of supply, support, or aid | Hygiene | Agriculture | a rate or proportion per hundred |
| one of the main land-masses of the globe | Boundary | Intervention | farming and/or raising livestock |
| to make unsuitable by contact with something unclean | Disease | Percentage | A huge mass of ice |
| easy to approach, reach, enter, or use | Archipelago | Accessible | a large group or chain of islands |
| natural environment being contaminated with harmful substances | Continent | Aquifer | the natural features of a tract of land |
| | | Pollution | |

Vocabulary Safari Search Key

Potable - fit or suitable for drinking

Well - a hole drilled or bored into the earth to obtain water

Aquifer - any geological formation containing or conducting ground water

Disease - extreme illness

Sanitation - the application of measures for the sake of cleanliness

Resource - a source of supply, support, or aid

Continent - one of the main landmasses of the globe

Contaminate - to make unsuitable by contact or mixture with something unclean

Accessible - easy to approach, reach, enter, or use

Pollution - natural environment being contaminated with harmful substances

Hygiene - the promotion and preservation of health

Intervention - interference in the affairs of another

Monsoon - wind storm and heavy rains

Rural - "of the countryside"

Boundary - something that indicates bounds or limits

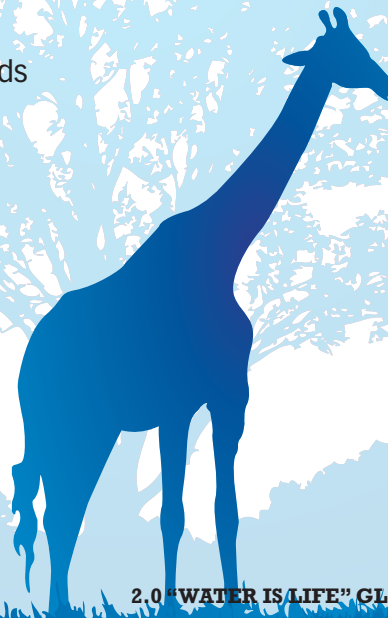
Percentage - a rate or proportion per hundred

Agriculture - farming and/or raising livestock

Glacier - A huge mass of ice

Archipelago - a large group or chain of islands

Terrain - the natural features of land



“HOT WATER” GAME INSTRUCTIONS

“Hot Water” is suggested as a review for activities that have familiarized students with the Global Water Awareness Vocabulary List. The Global Water Awareness Fact Sheet, Global Water Awareness “Vocabulary Safari Search”, Water Awareness World Tour, and the “Water is Life” Website Search Activity all help familiarize students with terms and definitions from the list.

The object of the game is to stay out of “Hot Water”. Hot water can either be a location in the classroom or a designation that the student is no longer participating in the game. Examples of designations (other than a special location in the classroom) are red droplets of water cut out of construction paper or a stack of red plastic cups placed in the front of the room. Students will come to the front of the room either individually or in pairs and draw a term out of a basket or pail. If students are working in pairs they will each have an opportunity to explain the meaning of a single term they draw. If successful, they simply return to their seats to continue to play. If students cannot relate the meaning of the term they may pick up a red droplet of water to tape to their desk or they may place an empty red plastic cut on their desk so that the teacher can see they are no longer participating and will wait until the next round to re-enter the game. (Separate the terms from the definitions before placing in a container.)

Scarce - rare

Potable - fit or suitable for drinking

Typhoid - an infectious disease

Well - a hole drilled or bored into the earth to obtain water

Aquifer - any geological formation containing or conducting ground water

Disease - extreme illness

Sanitation - the application of measures for the sake of cleanliness

Resource - a source of supply, support, or aid

Continent - one of the main landmasses of the globe

Contaminate - to make unsuitable by contact or mixture with something unclean

Accessible - easy to approach, reach, enter, or use

Pollution - natural environment being contaminated with harmful substances

Hygiene - the promotion and preservation of health

Economy - a system of production, distribution and consumption

Intervention - interference in the affairs of another

Monsoon - wind storm and heavy rains

Rural - “of the countryside”

Boundary - something that indicates bounds or limits

Percentage - a rate or proportion per hundred

Agriculture - farming and/or raising livestock

Glacier - A huge mass of ice

Archipelago - a large group or chain of islands

Terrain - the natural features of land

“WATER IS LIFE” WEBSITE SEARCH ACTIVITY

Each of the below websites have valuable information that relates to the current global water crisis. Search each of the websites to find answers to the global water crisis questions. Remember to record the website where you find the answer to the question. Each website may offer differing information. (One easy way to search for specific information is to locate the search feature of a website and enter a keyword or phrase relating to your question.)

Websites to search:

American Museum of Natural History: (<http://www.amnh.org>)

Discovery Education: (<http://www.discoveryeducation.com>)

Environmental Protection Agency: (<http://www.epa.gov>)

National Geographic: (<http://www.nationalgeographic.com>)

United Nations: (<http://www.un.org/Pubs/CyberSchoolBus/>)

Water.org: (<http://www.water.org>)

1:: How much water does the average person need each day to survive? Does your number of gallons include water for bathing and washing clothes? Does your number include water needed to grow food to eat?

Answer: _____

Website: _____

2:: What is the global percentage of saltwater vs. freshwater

Answer: _____

Website: _____

3:: Find a name and a brief description of a disease associated with contaminated water sources.

Answer: _____

Website: _____

4:: What percentage of the world’s fresh water is ready for people to drink?

Answer: _____

Website: _____

5:: Why is it difficult for many people to find clean drinking water?

Answer: _____

Website: _____

6:: Search the Water.org website and describe WaterCredit.

7:: How many people on the planet do not have access to clean drinking water?

Answer: _____

Website: _____

8:: Visit the EPA website with your parents and click on "Surf your Watershed" for information about the source of the water in your home.

Information: _____

9:: List a fact about the global water crisis:

Answer: _____

Website: _____

10:: List a few water conservation ideas:

Answer: _____

Website: _____