Climate Change Series

CONSERVATION
Fresh Water Resources

High-Interest • Low-Vocabulary

CC5773

GRADES 5-8

READING LEVELS 3-4

- Aligned to your State Standards
- Curriculum Based Activities
- Based on Bloom's Taxonomy

Reproducible

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✔ 6 BONUS *Activity Pages!* **Additional worksheets for your students**

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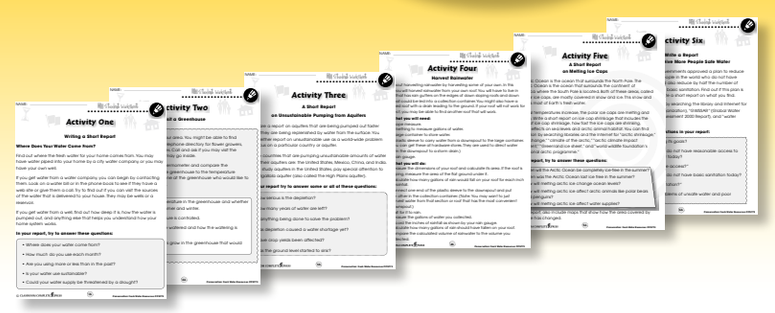
- Enter item CC5773 – Conservation: Fresh Water Resources
- Enter pass code CC5773D for Activity Pages



Before You Read

NAME: _____

Where Is Fresh Water?

1. Circle the word **TRUE** if the statement is TRUE **or** Circle the word **FALSE** if it is FALSE.

a) Most of Earth's fresh water is frozen.

TRUE **FALSE**

b) Ocean water is fresh water if it is not polluted.

TRUE **FALSE**

c) Most liquid fresh water is underground.

TRUE **FALSE**

d) Air contains some water.

TRUE **FALSE**

e) Wells never go dry if they are sunk deep enough into the ground.

TRUE **FALSE**

2. Put a check mark (✓) next to the answer that is most correct.

a) Where is most of Earth's fresh water?

- ○ **A** in lakes
- ○ **B** in rivers
- ○ **C** underground
- ○ **D** in polar ice caps

b) What is an aquifer?

- ○ **A** a method of irrigation
- ○ **B** an underground layer of water
- ○ **C** a heavy rainstorm
- ○ **D** water frozen in a glacier

c) What is the approximate ratio of salt water to fresh water on Earth?

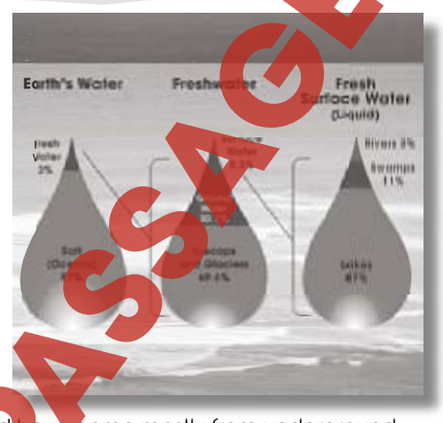
- ○ **A** 1 salt to 40 fresh
- ○ **B** 1 salt to 3 fresh
- ○ **C** 3 salt to 1 fresh
- ○ **D** 40 salt to 1 fresh

PREASSESSMENT

NAME: _____

Reading Passage

Where Is Fresh Water?



Can you picture 1000 drops of water? This much liquid water would be about one-quarter of a cup or about as much as you could hold in your cupped hands. Suppose 1000 drops of water came together from all the many places on Earth where water is located. If these drops were chosen randomly, the chances are that 975 of the drops would be salt water from the ocean, and only 25 would be fresh water that you could use to drink or water your garden.

If you tried to drink those 25 drops, you would first have to melt about 17 of them. That is how many would have come from ice and snow at the North and South Poles. The remaining 8 drops would have come mostly from underground. Only one-tenth of one drop would have come from surface water in lakes and rivers. One-hundredth of one drop would have come from water vapor in the air.

To put the availability of drinkable water another way, there is 10,000 times as much water in the world that is undrinkable or hard to get than there is water that is safe to drink and easy to get. The diagram above also shows how Earth's water is distributed.

When people can't get enough fresh water from lakes and rivers, they usually get it from underground. This water is pumped up from wells. Wells that are not very deep get water that is near the surface. This water is replaced by water that seeps down from the surface when it rains or snows.

STOP

Explain why most of Earth's fresh water is difficult to use for drinking or watering crops.

_____

_____

There is also water very deep in the ground in layers called **aquifers**. This water is sometimes called **fossil water** because it has been there for a very long time and because it takes hundreds or thousands of years to seep down. When this water is pumped up from deep wells, it is often removed faster than it is replaced. This is called **unsustainable** use of water.

READING PASSAGE

After You Read

NAME: _____

Where Is Fresh Water?

1. Circle the word **TRUE** if the statement is TRUE **or** Circle the word **FALSE** if it is FALSE.

a) The Great Lakes in the United States and Canada contain fresh water.

TRUE **FALSE**

b) Most of Earth's fresh water is in the atmosphere.

TRUE **FALSE**

c) Precipitation is about equal to evaporation, worldwide.

TRUE **FALSE**

d) Some farmers rely on rainwater alone to water their crops.

TRUE **FALSE**

e) Most of Earth's water is either hard to get or too salty to drink.

TRUE **FALSE**

COMPREHENSION QUESTIONS

2. The list below shows six places on Earth where fresh water is found. Show how the amounts of water in these places compare with each other by writing a number 1 in the place with the most water, a 2 in the place with the second-most water, and so forth, until you write a 6 in the place with the least water.

_____ Lakes

_____ Rivers and streams

_____ The atmosphere

_____ Underground aquifers

_____ Polar ice caps

_____ Swamps

NAME: _____

After You Read

Where Is Fresh Water?

3. Answer the questions in complete sentences.

a) Explain what is meant by "unsustainable" use of underground water.

_____

_____

b) Why is water in deep aquifers called "fossil water?"

_____

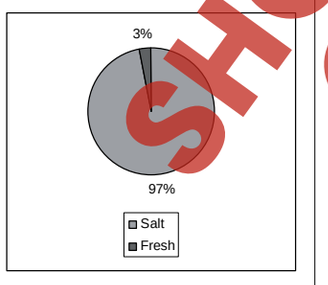
_____

SHORT ANSWER QUESTIONS

Extensions & Applications

Rough Draft Worksheet

The pie chart below shows how much of Earth's water is fresh and how much is salty.



Draw another pie chart to show how much of Earth's fresh water is frozen and how much is liquid.

Only about 1% of Earth's liquid fresh water is on the surface where it is easy to get. Draw one more pie chart to show how surface fresh water is divided among lakes, swamps, and rivers.

See Page 41 for Final Version Worksheet.

Hands-On Activity # 2

Activity Two

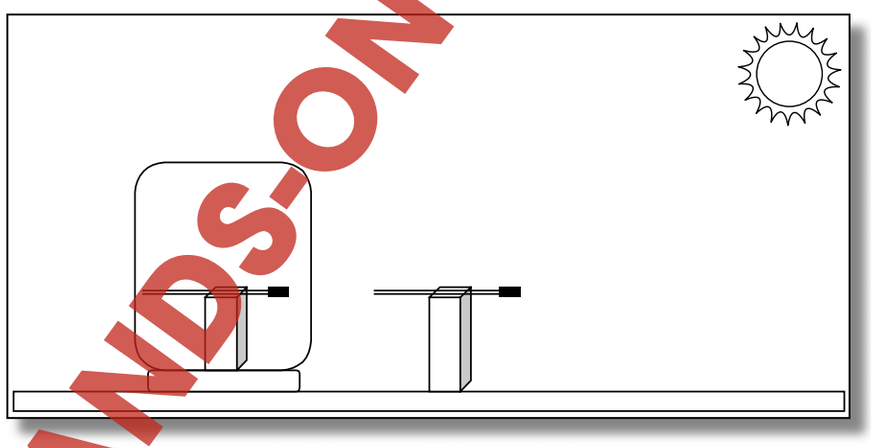
Build a Greenhouse

For this activity you will need:

- A large glass jar, a glass goldfish bowl, or a glass aquarium.
- Two thermometers
- Any two flat-topped objects about half as high as the jar, bowl, or aquarium.

This is what you will do:

1. Take all your materials outside on a sunny day.
2. Read and record the temperature on one of your thermometers.
3. Arrange your experiment as shown below.



4. Read the thermometers every 15 minutes for two hours.

How did the temperatures inside and outside the glass container compare?

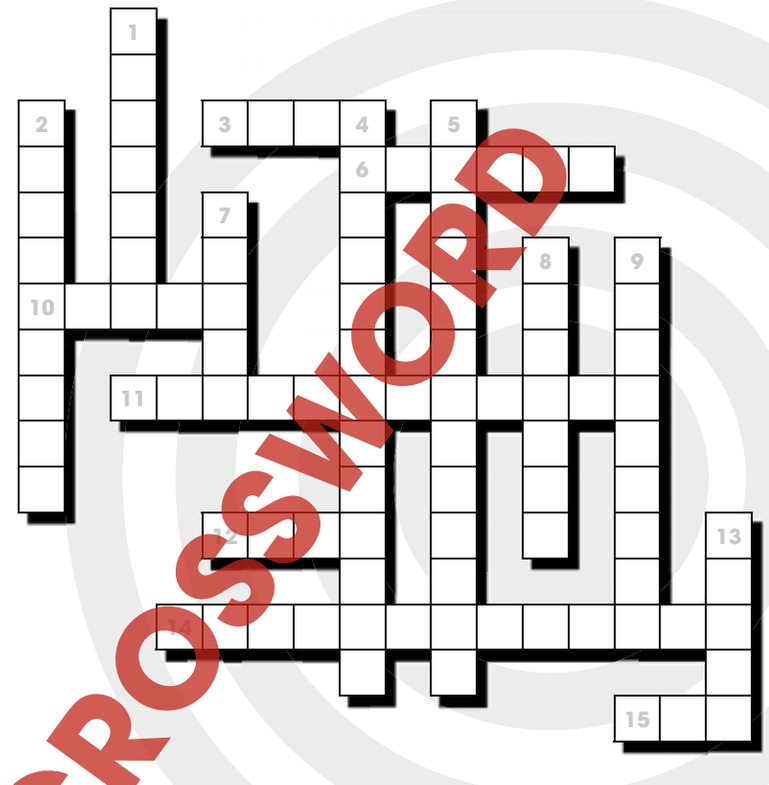
Explain your observations in terms of the greenhouse effect.

HANDS-ON ACTIVITIES

After You Read

NAME: _____

Crossword Puzzle!



Across

3. water-saving kind of irrigation
6. water flowing from a field into a stream
10. the world's most popular drink
11. making fresh water out of salt water
12. to change from solid to liquid
14. the kind of dam electricity comes from
15. solid water

Down

1. a dry spell
2. bathwater or dishwater
4. water falling from the sky
5. Pumping water out faster than it seeps in is _____ use.
7. a big chunk of ice floating in the ocean
8. an undergroud layer of water
9. Some people collect it from their roof
13. Water goes round and round in a _____

Word List

AQUIFER	DROUGHT	PRECIPITATION
BERGS	GRAYWATER	RAINWATER
CYCLE	HYDROELECTRIC	RUNOFF
DESALINATION	ICE	UNSUSTAINABLE
DRIP	MELT	WATER

(Note: For answers of more than one word, do not put a space between the words.)

CROSSWORD

After You Read

NAME: _____

Comprehension Quiz

25

Part A

7

Circle the word **TRUE** if the statement is TRUE **or** Circle the word **FALSE** if it is FALSE.

1. The Mississippi River is fresh water.
   TRUE **FALSE**
2. Most fresh water on Earth is either liquid or gas.
   TRUE **FALSE**
3. Burning fossil fuels releases greenhouse gases.
   TRUE **FALSE**
4. An aquifer is the device that controls water flow in a drip irrigation system.
   TRUE **FALSE**
5. Melting polar ice caps will increase Africa's supply of fresh water.
   TRUE **FALSE**
6. One person in four, worldwide, does not have access to safe drinking water.
   TRUE **FALSE**
7. Desalination is another term for graywater recycling.
   TRUE **FALSE**

Part B

3

Put a check mark (✓) next to the answer that is most correct.

a) Water in the ocean is changed into water vapor in the air by:

- ○ **A** condensation.
- ○ **B** evaporation.
- ○ **C** precipitation.
- ○ **D** respiration.

b) Which of these is a greenhouse gas?

- ○ **A** nitrogen
- ○ **B** oxygen
- ○ **C** hydrogen
- ○ **D** carbon dioxide

c) Which of these continents has the most serious water shortage problem?

- ○ **A** Africa
- ○ **B** Europe
- ○ **C** North America
- ○ **D** South America

SUBTOTAL: /10

ASSESSMENT

COLOR POSTERS

Before You Read

NAME: _____

How The Purity Of Fresh Water Could Change

1. Put a check mark (✓) next to the answer that is most correct.

a) In which of these places do only half the people have access to safe drinking water?

- ○ **A** Africa
- ○ **B** Europe
- ○ **C** North America
- ○ **D** South America

b) All of these are substances that often pollute fresh water, *except*:

- ○ **A** pesticides.
- ○ **B** fertilizer.
- ○ **C** raw sewage.
- ○ **D** greenhouse gases.

c) What is the greatest problem caused by polluted water?

- ○ **A** It kills crops.
- ○ **B** It spreads disease.
- ○ **C** It cannot be used for washing.
- ○ **D** It rusts water pipes.

2. Circle the word **TRUE** if the statement is TRUE **or** Circle the word **FALSE** if it is FALSE.

a) About one person in a hundred does not have access to safe drinking water.
TRUE **FALSE**

b) Increasing global temperature will increase the need for crop irrigation.
TRUE **FALSE**

c) Fertilizer running into streams can kill fish.
TRUE **FALSE**

d) All cities have sewage treatment plants.
TRUE **FALSE**

e) Hundreds of millions of people do not have a faucet in their home.
TRUE **FALSE**

f) Fresh water supplies can sometimes become salty.
TRUE **FALSE**

EASY MARKING ANSWER KEY

1.
a) ✓ **A**
b) ✓ **D**
c) ✓ **B**

2.
a) **FALSE**
b) **TRUE**
c) **TRUE**
d) **FALSE**
e) **TRUE**
f) **TRUE**

(Answers will vary.) disease-carrying bacteria, salt water incursion, pesticides, etc.

1.
a) fertilizer, pesticides (in either order)
b) bacteria
c) irrigation
d) salt

2.
a) ✓ **B**
b) ✓ **D**
c) ✓ **A**

3.
a) Fertilizer encourages water plant growth. When water plants die and decay, oxygen that fish need is removed from the water.
b) (Answers will vary.) More people will cause more sewage to enter drinking water. More people will irrigate more crops, increasing the amount of pesticides that enter drinking water. Etc.

EZ

1.
a) **FALSE**
b) **FALSE**
c) **TRUE**
d) **FALSE**
e) **TRUE**

Extensions & Applications

Answers will vary:
Sewage could pollute the water.
Disease bacteria could enter the water.
Salt water could seep into the well.
Pesticides could run into the stream.
Fertilizer could run into the stream.

2.
a) decrease
b) increase
c) increase
d) increase
e) increase
f) decrease

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