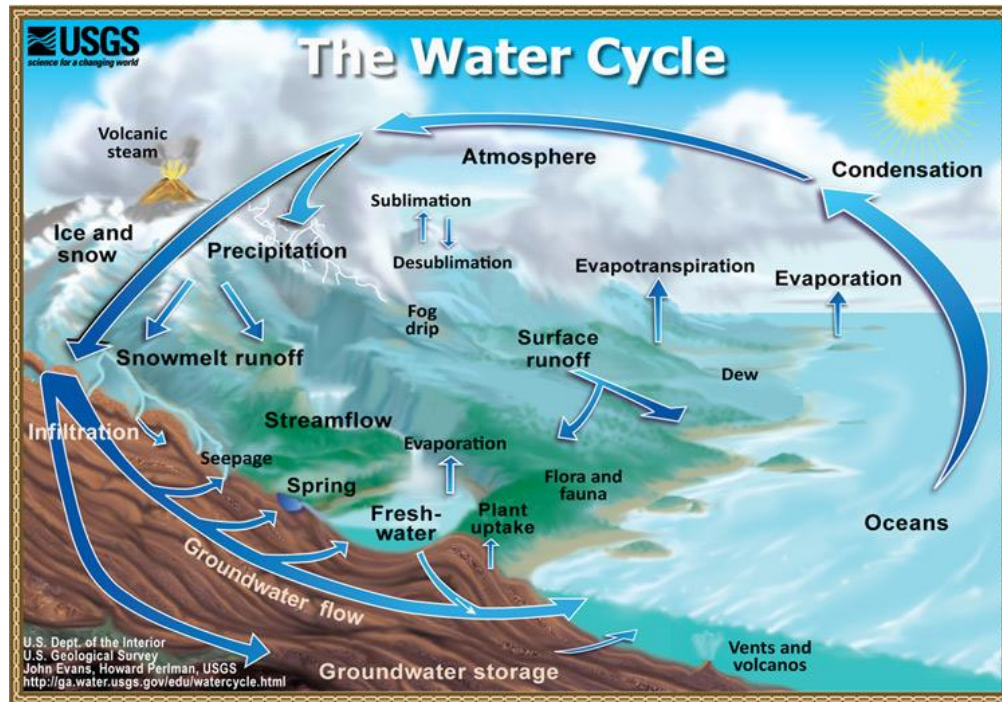


Water, Water, Everywhere!



The Water Cycle

Water can be found throughout the earth, both in living things and in the physical environment. It is in our bodies, in the bodies of animals and insects, and within all plants. Most of the water on earth is contained in our oceans. The rest of the water on earth is under ground, in rivers, and in the atmosphere, among other places. Water is constantly moving on, above, and below the surface of the earth as it changes states between liquid, vapor, and ice. This movement of water on, above, and below the surface of the earth is known as the water cycle. The study of the movement and distribution of water on earth is called “hydrology.”

Water is crucial in supporting life. When we study other planets or their moons, we look for traces of water to see if the place could have supported life. It is so important that many people fear if it continues to become scarcer, wars may be fought over water in the future!

Water in the Oceans

Over 70 percent of the total surface of our planet is covered with water. About 96.5 percent of it is found in the oceans. Although there are no physical boundaries separating one ocean from the other, five oceans have been demarcated and named. The Pacific Ocean is the largest in terms of surface area, followed by the Atlantic, Indian, Antarctic and Arctic Oceans. These oceans, although connected, separate the seven major continents. The Pacific Ocean separates Asia, Australia, and their surrounding islands from North and South America. The Atlantic Ocean separates the two American continents from Europe and Africa.

The title of this passage, “Water, Water Everywhere,” comes from Samuel Taylor Coleridge’s poem:

Water, water, everywhere,
And all the boards did shrink.
Water, water everywhere,
Nor any drop to drink.

It tells the story of a ship stuck near Antarctica. Despite being surrounded by water on all sides, the sailors were dying of thirst. Although the ocean’s seawater supports other life forms such as whales, sea turtles and many types of fish, it is saline and unfit for drinking by humans. On average, this water contains 3.5 percent salt. Drinking this would result in more water getting excreted from the body to drain out all the salt.

Fresh Water

Where do humans get their drinking water from if over 96 percent of Earth’s water is not potable? We get it from one of the many freshwater sources that have a lower concentration of salt and other dissolved solids than seawater. This water is also called “sweet water.” It exists in many forms on and under the earth’s surface. Sixty-nine percent is frozen in glaciers and ice caps, 20 percent forms the earth’s lakes, and the rest can be found in other freshwater sources such as the atmosphere, rivers, swamps, and marshes.

The amount of fresh water in a given area depends on a number of factors related to the water cycle. For example, the amount of water in rivers and lakes is always changing due to inflows and outflows. According to the United States Geological Survey, inflows to these water bodies come from precipitation, overland runoff, groundwater seepage, and tributary inflows. Outflows from lakes and rivers include evaporation, movement of water into groundwater, and withdrawals by people. People use up a lot of surface freshwater for various purposes, including agriculture, industry, and recreation.

Name: _____ Date: _____

1. What is hydrology?

- A the study of weather patterns throughout the earth
- B the study of oceans and freshwater sources
- C the study of the movement and distribution of water on earth
- D the study of the movement of air throughout the earth

2. What does the author describe in the passage?

- A the evolution of aquatic species
- B the movement and distribution of water on Earth
- C the history of sea-based exploration
- D life on Earth during the Ice Age

3. Read the following sentences.

When we study other planets or their moons, we look for traces of water to see if the place could have supported life. It is so important that many people fear if it continues to become scarcer, wars may be fought over water in the future!

Based on the above evidence, what conclusion can be made?

- A Water constantly cycles on, below and above the earth's surface.
- B Water is crucial in supporting life.
- C Over 70% of the total surface of our planet is covered with water.
- D About 96.5% of the world's water is found in the oceans.

4. The amount of water in rivers and lakes is always changing due to inflows and outflows. Based on the information in this passage and the diagram, what are these inflows and outflows part of?

- A the evaporation process
- B the water cycle
- C the precipitation process
- D human-controlled systems

5. What is this passage mainly about?

- A factors impacting the amount of fresh water
- B human use of fresh water
- C the processes of the water cycle
- D the different sources of water on Earth

6. Read the following lines from Samuel Coleridge's poem.

*Water, water, everywhere,
And all the boards did shrink.
Water, water everywhere,
Nor any drop to drink.*

The author uses this poem in the passage to illustrate what concept?

- A The salt water in our oceans has the power to shrink boats.
- B The United States has more drinkable water than other countries.
- C The ocean's water is unfit for drinking by humans.
- D The glaciers of our planet are melting and flooding our rivers.

7. Choose the answer that best completes the sentence below.

Over ninety-six percent of earth's water is too salty for humans to consume. _____, we must get it from one of the many freshwater sources that have a lower concentration of salt and other dissolved solids than seawater.

- A Finally
- B Consequently
- C However
- D On the other hand

8. Where can we find "sweet water"?

9. The oceans contain what percentage of the water on earth?

10. The author writes that water is “so important that many people fear if it continues to become scarcer, wars may be fought over water in the future!”

Describe at least one contributing factor that might lead to a shortage of water in the future. Use evidence from the passage to support your answer.

Teacher Guide & Answers**Passage Reading Level:** Lexile 1010**1.** What is hydrology?

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- B **Consequently**
- C However
- D On the other hand

8. Where can we find "sweet water"?

Suggested answer: It exists in many forms on and under the earth's surface, including glaciers, ice caps, lakes, the atmosphere, rivers, swamps, and marshes.

9. The oceans contain what percentage of the water on earth?

Suggested answer: The oceans contain 96.5% of the water on earth.

10. The author writes that water is "so important that many people fear if it continues to become scarcer, wars may be fought over water in the future!"

Describe at least one contributing factor that might lead to a shortage of water in the future. Use evidence from the passage to support your answer.

Suggested answer: Answers may vary and should be supported by the passage. Students may explain that there might be a shortage of water in the future since most of the world's water is contained in oceans, and this water is not currently drinkable. Students may also explain that most of the Earth's freshwater is frozen in glaciers and ice caps and not accessible to humans.