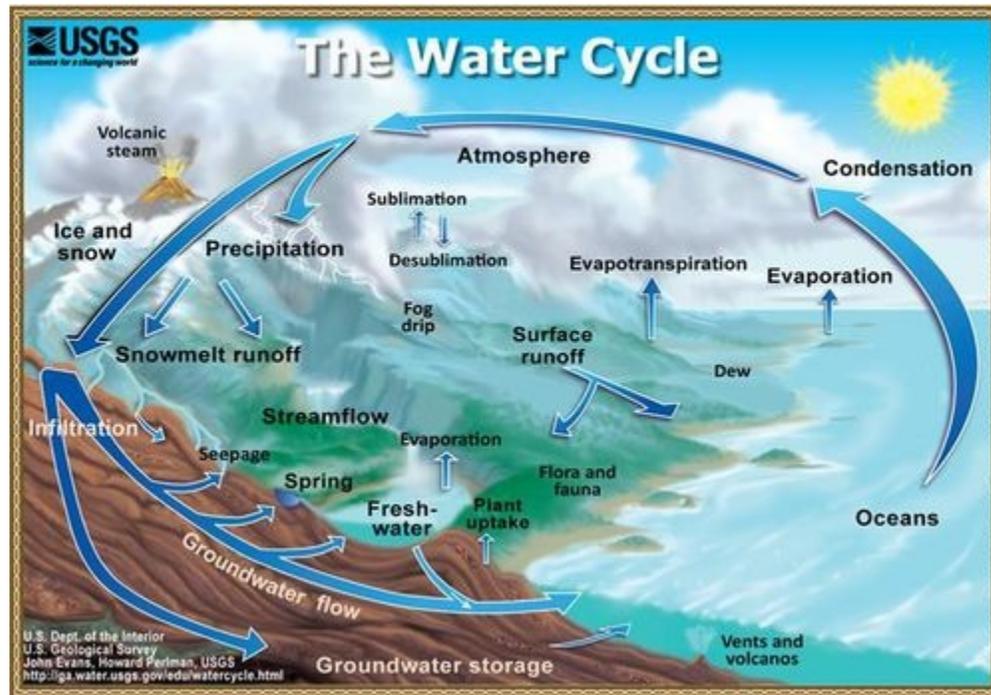


Water, Water, Everywhere!

by ReadWorks



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.

The Water Cycle

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 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 text, "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.

Any Drop to Drink

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!

Spanish cognate

ciclo: The Spanish word *ciclo* means cycle.

These are some examples of how the word or forms of the word are used:

1. The Earth's mean (average) surface temperature is rising. Whether that rise in temperature is part of the planet's natural **cycle** of warming and cooling periods (remember the Ice Age?), due to increased human production of greenhouse gases, or a dangerous combination of both, the planet is getting warmer and humans will need to adjust.
2. And then there are weather phenomena that are just plain odd. Air flowing over mountains with water vapor in it often **cycles** into perfectly round clouds that resemble UFOs.
3. The sun gets the water **cycle** going. It warms the planet's water supply, causing a certain amount of it, depending on the height of the temperature, to evaporate. When water evaporates, it becomes a gas called water vapor. Though people cannot see it, evaporated water as a gas rises through the air into the atmosphere to form clouds. Clouds are created when a large amount of water vapor begins to cool as it rises through the air.
4. In 2012, the USDA and Environmental Protection Agency (EPA) released a joint statement discussing the issue of bee loss, and the search for a solution to the **cycle** of problems caused by bees dying off.

state**state****Definition****noun**

1. the condition of a person or thing.

The old house was in a bad state after the terrible storm.

2. a particular condition of your mind or emotions.

Happiness is a pleasant state.

She was in a sad state after reading the letter.

3. an area of land that has a government and is part of a group that together make up a country.

America has fifty states.

verb

1. to say or write something that you believe, usually in a strong, confident way.

She stated her opinion.

He stated that he would never get married again.

Advanced Definition**noun**

1. the condition of a person or thing according to its characteristics or circumstances.

The old house was in a state of disrepair.

2. a condition that is the result of a phase of development or structural transition.

Water in a frozen state is called ice.

3. a particular emotional or mental condition.

She is in a happy state today.

Sadness is a state that he tries to avoid.

4. an excited or distressed emotional condition.

He was in a state over the death of his sister.

5. a grand, dignified, or imposing manner.

The royal family traveled in state.

6. the population of a specific area unified under a single government; nation.

The leaders of many foreign states will attend the summit.

7. a specific area of land that with other such areas forms a federation.

The U.S. is a nation of fifty states.

8. governmental activities, duties, or concerns.

Even while on vacation, the President must be concerned with the business of state.

adjective

1. of or relating to the central civil government.

2. of or pertaining to one of the areas belonging to a federation.

These are state laws rather than federal regulations.

transitive verb

1. to say or write, esp. in an emphatic way; declare; assert.

He stated his opinion unequivocally.

The witness stated that she had seen the suspect enter the building.

Spanish cognate

estado: The Spanish word *estado* means state.

These are some examples of how the word or forms of the word are used:

1. Snow and ice are examples of water being in its solid **state**.
2. There are four common **states** of matter we see almost every day: solid, liquid, gas and plasma.
3. The Union won the Civil War four months later. Although the Southern**states** returned to the Union, the country remained divided.
4. Hydropower is a great source of renewable energy: in Washington **state** (in the USA), for instance, it produces approximately 75% of the entire state's energy!

5. Additionally, scientists and members of the government have initiated a plan to restore the Everglades to a healthier **state** of being, called the Comprehensive Everglades Restoration Plan (CERP).
6. The Florida Everglades teem with life. Situated at the southern end of the **state**, between Lake Okeechobee and the Gulf Coast, the Everglades are the largest wilderness east of the Mississippi River.
7. The country in the world with perhaps the most malls, and also some of the biggest malls, is America. That's unsurprising given the **state** of Minnesota was the site of the first modern mall.

surface mail

surface travel

transitive verb

1. to finish (a surface) by smoothing or leveling.

The mill surfaces large amounts of lumber.

intransitive verb

1. to rise to the top; come up from submersion below.

The submarine will soon surface.

2. to come into the open from hiding.

The fugitive surfaced in Argentina.

These are some examples of how the word or forms of the word are used:

1. Cleaning up the groundwater involves pumping it to the **surface**.
2. Diamonds are born hundreds of miles below Earth's **surface**, or crust.
3. Coltan and other valuable minerals in Sud-Kivu province lie close to the **surface** and are easily extracted.
4. Crops cannot grow well on a slanted **surface**, but by building walls and terraces, Incas could use a lot more of their land for farming.
5. As mines near the **surface** run out of gold, miners burrow deeper under the ground. Some gold mines are as deep as three miles under the earth's surface.
6. Volcanoes erupt when magma blasts through "hot spots" in Earth's crust. Magma is super hot liquid rock from deep within Earth. When magma reaches the **surface**, it is called lava.
7. As the crust rose, the Colorado River dug the canyon deeper and deeper through the process of erosion. Erosion is the wearing away of Earth's **surface** by water, wind, or ice.
8. Earthquakes occur when plates in the Earth's crust rub together. This friction causes the **surface** to shift back and forth. It also makes huge cracks in the ground, sometimes miles long and several feet deep.
9. After jumping, Bird Man spreads his arms and legs. The red fabric unfurls and catches air like a parachute. The wings increase his **surface** area and slow his drop speed. From the ground, Bird Man looks like he's floating.
10. In the canyon, the ruins of small villages are spread out along a 12-mile stretch of Range Creek, about two hours southeast of Salt Lake City. "We've documented about 225 sites, and it's just scratching the **surface**," said Kevin Jones, a state of Utah archaeologist.

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.