

## Water cycle

**Water cycle** is a model that describes how water moves around Earth's surface. It is also called the *hydrologic cycle*. The water cycle involves water *vapor* (gas) in the air, liquid water in many bodies of water, and solid water—ice and snow—near the poles and atop high mountains. It also includes water held underground near the surface. The water cycle involves many different processes. Not all water follows the same path as it moves through the water cycle.

Energy from the sun drives the water cycle. The sun's heat *evaporates* water from Earth's surface, changing it from a liquid to a gas. Much of this water is evaporated from the oceans. As a result of evaporation, the air may become *saturated* with water vapor. Air that is saturated cannot hold any more water vapor. When this occurs, clouds form, and eventually the water falls back to Earth as rain or snow. Some rain runs over Earth's surface into streams and rivers. The water is then carried to an ocean or lake. Some rain, on the other hand, soaks into the soil to become *ground water*. About 70 percent of all rain that falls on land is taken up by plants. After using water to grow, plants release water vapor back into the air in a process called *transpiration*.

The water cycle is a complex system of processes. There are many pathways for water to follow and many places for water to be stored. For example, 90 percent of water that evaporates from oceans falls directly back down to the oceans as rain. Rain that falls on land may be stored in lakes for days or hundreds of years. In cold places, precipitation may fall as snow rather than rain. Snow can be stored on the surface for days or months before melting. In really cold places, such as the areas around the poles, snow can become part of the polar icecaps and stored as ice for hundreds of thousands of years.

Rain that soaks into the soil may flow through quickly and enter a river within hours. However, the water may also be stored as ground water in an *aquifer* for tens of thousands of years. An aquifer is a layer or bed of soil and rock that can yield useful amounts of ground water. Wells are drilled down to aquifers to draw ground water to the surface for human use.

See also Evaporation; Hydrology; WaterNature's water cycle.

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### How to cite this article:

To cite this article, World Book recommends the following format:

#### MLA:

Belmont, Patrick. "Water cycle."  
Discover by World Book

, World Book, 2022,/article/home/593940. Accessed 20 June 2022.

**APA:**

Belmont, P. (2022). Water cycle. In  
Discover by World Book  
. Retrieved from/article/home/593940

**Harvard:**

Belmont, P 2022, 'Water cycle' ,  
Discover by World Book  
, World Book, Chicago, viewed 20 June 2022, </article/home/593940>