

Round and Round: The Water Cycle

Plant Needs Week 2 Reading Page

Have you ever heard someone tell you that we are drinking the same water that the dinosaurs drank? They can say that because of the **water cycle**.

What is the water cycle? On our planet, water moves round and round in a constant way. Water from the Earth's surface heats up in the sun and turns from a liquid into a gas. This water vapor then floats into the air. This part of the cycle is called **evaporation**.

When it gets high enough up into the sky, it gets colder and all of the water vapor gathers together to make clouds. This stage is called **condensation**.

When enough water gets together, it gets heavy and comes back down to earth in the form of rain or snow. This final part of the cycle is called **precipitation**.

Once back on land, water then follows one of two main pathways:

- It can go into the soil and get stored in the soil or in special places called aquifers (ACK-wiff-ers) below the soil.
- It can run off into local streams, lakes, and rivers.

It is in these two locations (from in or under the soil, and from bodies of water) that plants and animals can find the water they need to drink to live. Water then evaporates again (from bodies of water and also from liquid released by living creatures who have consumed it) and it all begins again.

The water cycle is a very important process in our world. Water is a basic need for all living creatures — from the little lady bugs eating aphids on your plants to the giant redwoods in California. We all need water to keep our cells alive, to grow, and to keep all of our systems working right.

Through the process of changing from liquid to gas back to liquid again (and sometimes to solid in the case of snow and ice) in the air and also through the process of soaking down into soil, another very important thing happens: Water is cleaned. Contaminants that have become mixed in the water are removed in a few different ways as water travels on this journey. Living things need clean water to be healthy.



Plants get most of the water they use from the soil. Water is absorbed by plant roots, moves up the stems and then into leaves. On this journey, it is used in plant cells as needed. It also exits the leaves through small openings called stomata (stow MAH tah) as a result of a process called **transpiration**, which is much like sweating in humans.

The movement of water through the plant provides support for the plant and helps it adapt to varying conditions in its environment. Water is also a key component needed for photosynthesis, which is how the plant makes food. The movement of water through plants is also an important part of the water cycle as plants move water stored in the soil back into the atmosphere again.



How much water do plants need? This depends on many different things. Some plants need lots of water to grow and others can get by with very little. For instance, cacti (word for more than one cactus) are adapted to desert conditions and need very little water, while water lilies live fully submerged in water. Smaller plants usually do not need as much water as big ones. Young plants with short roots need small amounts of water applied frequently because the soil near the surface dries quickly. Plants in cool, humid, and shady environments will lose water to transpiration more slowly than those exposed to sunny, warm, arid (dry), and windy conditions. Learning how much water to give garden plants is one of the most important skills gardeners need to learn. A well-watered garden — not too much and not too little — is a happy garden!

Reading Comprehension Questions:

1. True or false: All living things need water.
2. Which of the following is not a stage in the water cycle?
☐ Precipitation
☐ Condensation
☐ Pollination
☐ Evaporation
3. What two things can happen to rain when it hits land?
4. What part of the plant takes in the water the plant needs to live?
5. Based on question number 4, if the plants in our garden need water, where should we put it?