

# Water, Water Everywhere

By Cindy Cranford

Water on Earth is used over and over as it constantly moves through the atmosphere, the ocean, and the land. This cycling is an important process that helps life on Earth. The following processes make up the water cycle.

**Evaporation** occurs when a liquid changes to a gas and becomes vapor. Temperature is the primary factor in this process. Within the water cycle, some of the water in oceans, rivers, streams and ponds, and on land, is warmed by the sun and evaporates into the air.

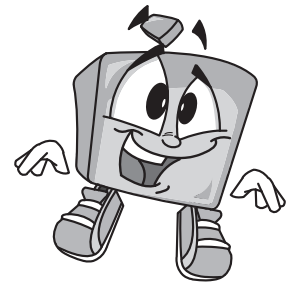
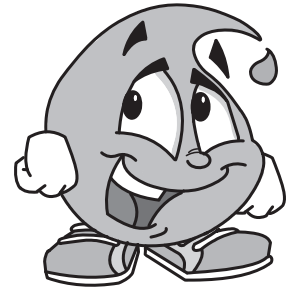
**Condensation** is the opposite of evaporation. Condensation takes place when a gas is changed into a liquid. When the temperature of the water vapor decreases, condensation occurs. Water condenses into droplets when small waterdrops form around small dust particles. These droplets are very small, and remain in the atmosphere until they join together. Then they form either clouds in the sky or fog at ground level.

**Precipitation** occurs when large droplets of water form in the clouds. When the drops become too heavy, they fall back to the Earth. They fall as rain, snow, sleet, or hail, depending on the temperature in the atmosphere. As a result of evaporation, condensation and precipitation, the water that falls once again travels into the atmosphere, and the cycle continues.

**Surface runoff** occurs when water returns to earth as precipitation. A lot of the water runs off the surface of the land and flows into streams, rivers, ponds, and lakes. Small streams flow into larger bodies of water. This water eventually flows into the ocean, where a lot of evaporation occurs.

**Percolation** occurs when rainwater soaks through the soil and the layers of earth underneath. Some of the water remains underground and is called groundwater. Some returns to the surface through springs or in low land areas. As the water soaks through the soil and rock layers, many of the impurities in the water are filtered out, cleaning the water.

**Transpiration** is the process of evaporation through plant leaves. As plants absorb water from the soil, the water moves from the roots through the stems to the leaves. Once the water reaches the leaves, some of it evaporates from the leaves.



## The Challenges – Teacher Resources

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### Reading Response Questions

#### *Water, Water Everywhere*

- Short Response

Evaporation is an important part of the water cycle. Think about evaporation and how the process occurs within our own environment. Use details and information from the text to explain how evaporation takes place.

- Extended Response

Scientists suggest that the water we use on Earth today is the same water that has been used for millions of years. Based on what you have learned about the water cycle, explain how this statement can be true. Use information from the text to support your answer.

- Extended Response

Draw a picture showing the different processes that take place within the water cycle. Be sure to label each part and use arrows to show how the processes work within a cycle. In order to receive full credit, the drawing should include arrows that show evidence that the student understands the six traits of the water cycle and each process should be labeled appropriately.

