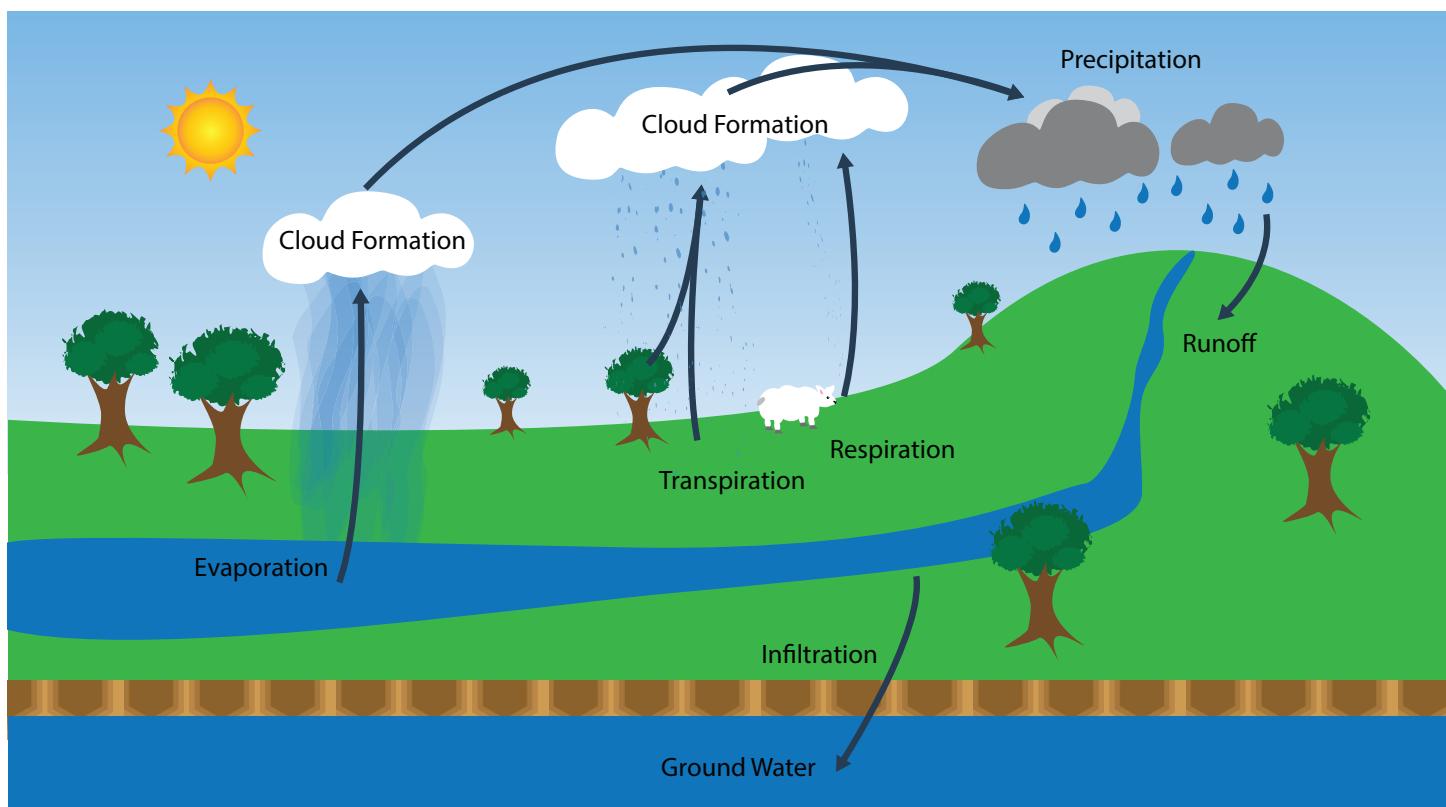


# The Water Cycle

Our bodies are made of 70% water. It is vital for all life on Earth. Almost 75% of the earth's surface is covered with water. Water is everywhere. The same water that existed on the earth millions of years ago is still present today. This is due to the water cycle. Earth's waters are constantly moving and changing from one state to another. The water cycle has been working for millions of years.

The major processes of the water cycle are evaporation, condensation, and precipitation. The sun drives the water cycle. The sun heats the waters of the oceans, causing them to change from a liquid to a gas or water vapor. The heat energy breaks apart the bonds connecting the liquid water molecules and they easily slip into the atmosphere. This process is called **evaporation**.

Vocabulary	
evaporation	transpiration
condensation	respiration
precipitation	runoff
ground water	molecule



**Condensation** is the opposite of evaporation. It is the process where water vapor in the atmosphere is changed back into liquid water. As water vapor moves to the upper atmosphere, it begins to cool off. Clouds form when the rising air and water vapor cool off and clump together. It takes millions of water vapor molecules to form a droplet of water that weighs enough to fall to the ground. When enough of these drops form, they fall to the ground in the form of rain, sleet, or snow. This process is called **precipitation**.

**Transpiration** and **respiration** also contribute to the water cycle. Transpiration is the release of water from plants. Water is carried from the roots of the plant throughout the plant to the underside of the leaves where it evaporates off into the atmosphere. Animals also release water vapor to the atmosphere when they breathe out. This is called **respiration**.

The earth stores some of the water that falls to the ground. It infiltrates the ground and moves horizontally into streambeds or vertically until it meets the water table. This is called **ground water**. Precipitation can also run off the surface of the land as it flows down hills into ponds, lakes, and streams. This is called **runoff**.

## Review

The Word Starts with This Letter	Hint	Answer
C	the process where water vapor in the atmosphere is changed back into liquid water	
W	a substance that is very important to living things and covers almost 75% of the Earth's surface	
R	water that flows downhill into streambeds	
WC	the Earth's waters are constantly changing from one state of matter to another	
P	water droplets that fall from the sky	
S	the energy source that drives the water cycle	
C	formed in the atmosphere when water vapor cools	
E	when energy from the sun causes liquid water to change into water vapor	
R	when animals release water vapor to the atmosphere	
GW	water that infiltrates the ground	

## Questions

1. What does it mean when a glass "sweats"?

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2. What is dew?

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3. What happens to the dew during the day?

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## Let's make a cloud!

### Cloud in a Bottle

#### Materials

- 1- or 2-liter bottle
- Warm water
- Match

#### Procedure

1. Fill the bottle  $\frac{1}{3}$  full of warm water.
2. With a grownup, light the match and place the head of the match inside the bottle.
3. Let the bottle fill with smoke.
4. Put the cap on the bottle.
5. Squeeze the bottle hard a few times. When you release the bottle, you'll see a cloud form inside the bottle!