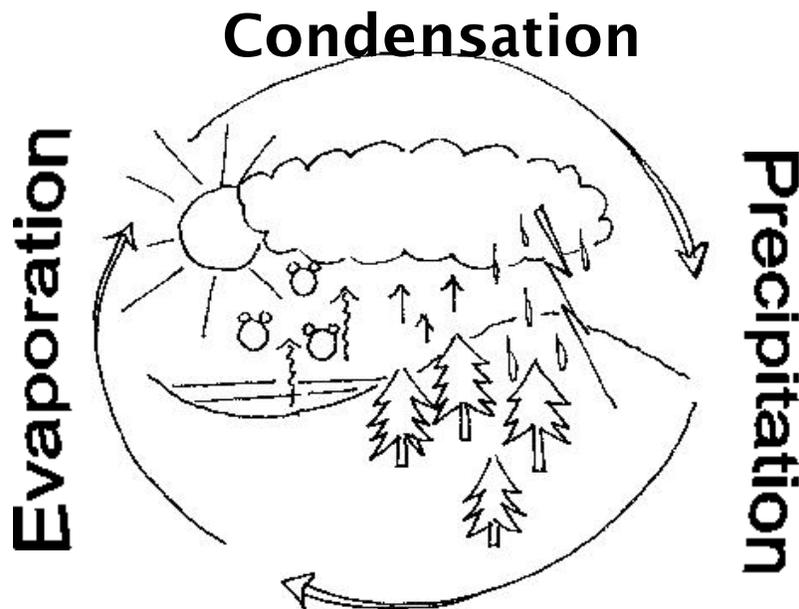


## WATER CYCLE (Hydrologic Cycle)

In the **water cycle**, water flows through several pathways between the earth and the **atmosphere**. Some of the key processes in the **water cycle** are **evaporation**, **transpiration**, **condensation**, and **precipitation**. The oceans, land, ground, sky, plants, animals, and humans are all involved in the water cycle.

- 1) The sun heats the earth and water. The heat excites the water **molecules**. As they become energized the cohesive bonds are broken and individual molecules break free from their neighbors, leaving the river to enter the atmosphere (aka evaporation).
- 2) When the molecules rise into the atmosphere, away from the warm earth, the water molecules cool down and begin to "stick" together (condensation).
- 3) The water molecules become heavy and fall to earth in the form of precipitation (rain, sleet, snow, or hail).



## TRANSPIRATION

Trees and plants have a unique way that they contribute to the water cycle and to the **environment**. They draw water up from the ground through their roots, under the bark, and into their leaves, flowers, and fruit. "**Stomata**" are microscopic pores or holes primarily located on the underside of the leaves. The water vapor they release makes up 10% of the moisture in the atmosphere.

Trees and plants are very important to a healthy environment. Their roots hold onto the soil, keeping it from washing away during storms. The roots also take up the water from the ground. The plants can remove pollutants from this water storing it in the plant tissue. Trees and other plants need clean water to produce healthy fruit, vegetables, grains, and beans.