Dillon Deepe

Mrs. Ippensen

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The Water Cycle

We see and use water in our everyday lives, and most of the time that we see it, it is in the natural environment. A commonly asked question is where does it come from? The answer is a simple one, but happens to be very complex, the water cycle. A detailed water cycle has fourteen steps but some are similar and often combined in one step. The four main steps that can be broken down are evaporation and transpiration, condensation, precipitation, and accumulation.

Evaporation and transpiration are the first steps in the water cycle. Evaporation is when the sun heats up water and turns it into water vapor. This can happen to any source of water under the sun such as rivers, lakes, ponds, and even oceans (Barker, A). Transpiration is very identical to evaporation, but the only difference is that transpiration gets water from plants, such as trees. In trees it works simply and can be compared to a human perspiring to regulate body temperature. The tree will collect groundwater from the roots, and the water will go throughout the tree and it will come out of the leaves, then evaporate into the air. The water vapor is less dense then air which causes the water vapor to rise into the atmosphere. This is the start of the next step in the water cycle, which is condensation.

Condensation is when water vapor turns back into water because of the drop in temperature in the atmosphere (Condensation and Evaporation). This is also the formation of clouds, which is why rain comes from clouds. Condensation is very simple and can be described as a water balloon. If you put water in a water balloon and keep filling it, it will eventually get so full of water that it breaks apart. In this scenario the water balloon is a cloud, and once there is too much moisture for it to hold it releases water in the form of precipitation, which is the next step in the water cycle.

Precipitation is when any form of moisture falls from the sky. This can include rain, hail, snow, sleet, and even freezing rain. The precipitation that comes to the ground as hail or snow isn’t frozen in the clouds forever, it actually freezes into ice, then thaws back into water, and it does this several time before it even gets out of the clouds (Department of Atmospheric Science) . Snow molecules are much larger than water molecules because when they freeze they expand, which causes snowflakes to be bigger than rain drops. Snow being bigger makes it more realistic to have one foot of snow, whereas a normal thunderstorm or rain shower doesn’t produce one foot of rain. This is an example of how moisture can accumulate which is the last step in the water cycle.

Accumulation simply means the buildup of moisture. Once the moisture gets to the Earth’s surface it will either fall into a body of water, on streets and roads, or in vegetated areas such as forests and fields. The water that lands in a body of water such as a lake or ocean simply becomes part of it. But the water that lands on paved surfaces like highways will stay onto the highway, will evaporate sooner (Perlman, Howard). As for the water that lands in fields and forests it will soak directly into the ground and then into the roots of crops or other plants. Once the water is accumulated it is evaporated and this starts the water cycle over again.

The water cycle is a very important part of not only nature but our lives, because we depend on it not only to drink it, but to produce crops and livestock. Water is a renewable resource which means it will never be destroyed this is because of the water cycle.

Work Cited

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