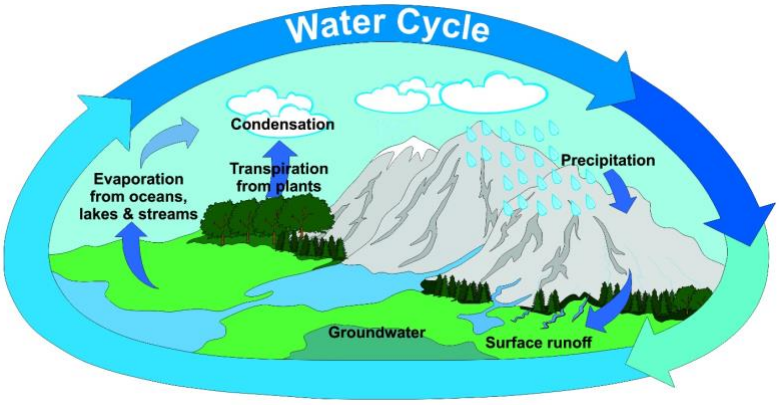
The Water Cycle



The water cycle describes the way water moves all around the Earth. It does not really have a beginning or an ending; in fact, it never stops. So how does the water cycle work? Let's begin with water that is already on land…

- Heat from the Sun causes water that is on land (like a puddle) or on the surface of the ocean to evaporate.
- When it evaporates it turns into water vapour and goes up into the atmosphere.
- This water vapour combines with other water vapour and forms clouds.
- The Earth's weather causes clouds to move around the Earth. When they become full of water, the clouds drop water to Earth in the form of precipitation, eg: rain, snow, sleet, or hail.
- The water that hits the Earth might fall back into the ocean, feed plants or become snow on the top of a mountain.
- This water will eventually evaporate, and the whole cycle starts again.

There are three main ways that water on land turns into water vapour:

Evaporation – This is the main way in which water from land turns to vapour. In fact, around 90% of water vapour in the atmosphere is a result of evaporation. Hot water evaporates more easily than cold water. Heat from the Sun creates energy, and this causes water to evaporate from the surface. Most evaporation happens on the surface of the oceans.

Sublimation – This occurs when snow and ice turn into vapour without ever melting into water first. This usually happens in very cold places, where it is windy and sunny at the same time.

Transpiration – As plants grow, they release a lot of water onto their leaves. This water then evaporates from the surface of the leaves and becomes water vapour. It is believed that about 10% of water vapour in the atmosphere is caused by transpiration.

Water in the atmosphere

We see water in the atmosphere in the form of clouds. There is a small amount of water even in clear skies, but clouds are where water has started to condense. **Condensation** is the process of water vapour becoming liquid water. Condensation is a major step in the water cycle. The atmosphere helps to move water around the world. It takes water that evaporated from the ocean and moves it over land where clouds and storms form to water plants with rain.

What is precipitation?

Precipitation is when water falls from the atmosphere back to land. Once enough water gathers in a cloud, droplets of water will form and fall to the earth. Depending on the temperature and weather this could be rain, snow, sleet, or even hail.

Where is water stored?

A lot of the Earth's water does not take part in the water cycle very often. Much of it is stored. The Earth stores water in a number of places, but around 96% of the Earth's water is stored in the ocean. Of course, we cannot drink the salty ocean water, so fortunately for us, freshwater is also stored in lakes, glaciers, snow caps, rivers, and below the ground in groundwater storage.