

The Well

The water cycle

Water is a valued resource and is found in many places including oceans, rivers, lakes, dams and reservoirs. It's also in the air around us, in the clouds above us, and in us.

The amount of water on our planet today is the same as hundreds of thousands of years ago. Not all this water is fresh and most of the fresh water is frozen in icebergs. This means there is only a small amount of fresh water available for all the humans and land animals on Earth, and we have to be careful how we use it.

A single molecule of water could one day be at the bottom of the ocean and then find itself falling from the sky over a rainforest. But how does this happen? All water molecules found on Earth are part of nature's water cycle.

There are seven steps in the water cycle:

1. **Precipitation** – We know this best as rain. But it can also be hail or snow. Clouds can form in one area and then move around the world, transporting water as they go.
2. **Run-off** – When water molecules fall from the sky and reach the ground, the water moves across the ground to a low point like a river, lake, creek or ocean.
3. **Infiltration** – As the water moves across the ground during run-off, some water molecules can soak into the soil. This helps with plant growth or may eventually be a part of evaporation.
4. **Percolation** – Just like infiltration, water enters the soil but continues further downwards, eventually reaching and replenishing aquifers and water tables. Sometimes these underground water tables are so large, they reach nearby waterbodies, helping to move water molecules around the planet.
5. **Evaporation** – Evaporation happens when a liquid turn into a gas, and with water molecules this happens when the sun heats up the water. The water molecules, now as a gas, rise up into our atmosphere.
6. **Transpiration** – Water molecules inside trees and plants, animals and humans are discharged. Think of humans sweating and, believe it or not, plants do this too. Our human eyes can't see it, but water molecules escape from the leaves on a plant or tree and make their way into our atmosphere.
7. **Condensation** – All the water molecules that have made it into the atmosphere as a gas through evaporation and transpiration, cool down and turn into a liquid, creating countless little water droplets. When enough of these water droplets come together, they form clouds, resulting in rain, hail or snow, ensuring the natural water cycle is always in motion.

