# Background to the water cycle

**The water cycle describes the way water cycles around through and above the Earth. It explains how water evaporates from the Earth's surface, moves up into the atmosphere, condenses in clouds, and falls again to Earth as precipitation.**

There is a fixed amount of water in this cycle, which means that all the water on Earth has been here since the Earth was formed.

There are four steps to the water cycle:

**1. Evaporation -** Evaporation describes how water changes from a liquid to a gas (water vapour). The sun's heat helps water evaporate (turn into vapour) and return to the atmosphere. There, it turns from water vapour back into liquid water and turns into a cloud.

**2. Condensation -** Condensation describes the process of water changing from a gas (vapour) to a liquid. Water vapour cools as it rises, causing the water molecules to come together to form tiny water droplets, which merge to create clouds (like in a steamy bathroom).

**3. Precipitation -** As more water cools and condenses, it becomes too heavy for the air to support it. Gravity then draws the water out of the sky as precipitation, where it falls to Earth as rain, hail, sleet or snow. (In your steamy bathroom, you might see droplets of water running down the shower glass or a window - these are like little raindrops being pulled back down to earth by gravity.)

**4. Transpiration -** Transpiration describes the process of water being evaporated from plants, resulting in more water vapour rising into the atmosphere.

This image helps to show how water moves through the various stages of the water cycle. (NOTE: This image also includes the process of infiltration, where water that falls back to earth is absorbed into the ground, becoming groundwater.)