

## The Water Cycle

The water cycle, also known as the hydrological cycle, describes the continuous movement of water through the Earth's atmosphere, surface and underground systems. Driven primarily by solar energy and influenced by gravity, it ensures that water is constantly recycled around the planet.

Evaporation is the process by which solar energy converts liquid water from oceans, lakes, rivers and other bodies of water into water vapour, which enters the atmosphere. Transpiration — the release of water vapour through plant leaves — also contributes significantly, and the two processes together are referred to as evapotranspiration.

As water vapour ascends into the atmosphere, decreasing temperatures cause it to condense around microscopic dust particles, forming clouds and fog. This process is called condensation.

When water droplets within clouds combine and grow sufficiently heavy, they fall to Earth as precipitation. The form precipitation takes — rain, snow, sleet or hail — depends largely on atmospheric temperature at different altitudes.

Water that reaches the ground follows a number of pathways. Surface run-off channels water into streams, rivers and eventually back to the oceans. Infiltration allows water to permeate the soil and replenish underground stores known as aquifers. Some water is absorbed by vegetation and re-enters the cycle through transpiration.

The water cycle plays a vital role in distributing fresh water across the planet, regulating climate and supporting all known forms of life.

## Questions

1. What is another name for the water cycle?
2. What are the two main forces that drive the water cycle?
3. What is evaporation?
4. What is transpiration, and how does it contribute to the water cycle?
5. What is the term used when evaporation and transpiration are considered together?
6. What causes water vapour to condense in the atmosphere?
7. What does water vapour condense around to form clouds?
8. What factors determine whether precipitation falls as rain, snow, sleet or hail?
9. What are aquifers?
10. Why do you think the water cycle is described as vital for regulating the Earth's climate?



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