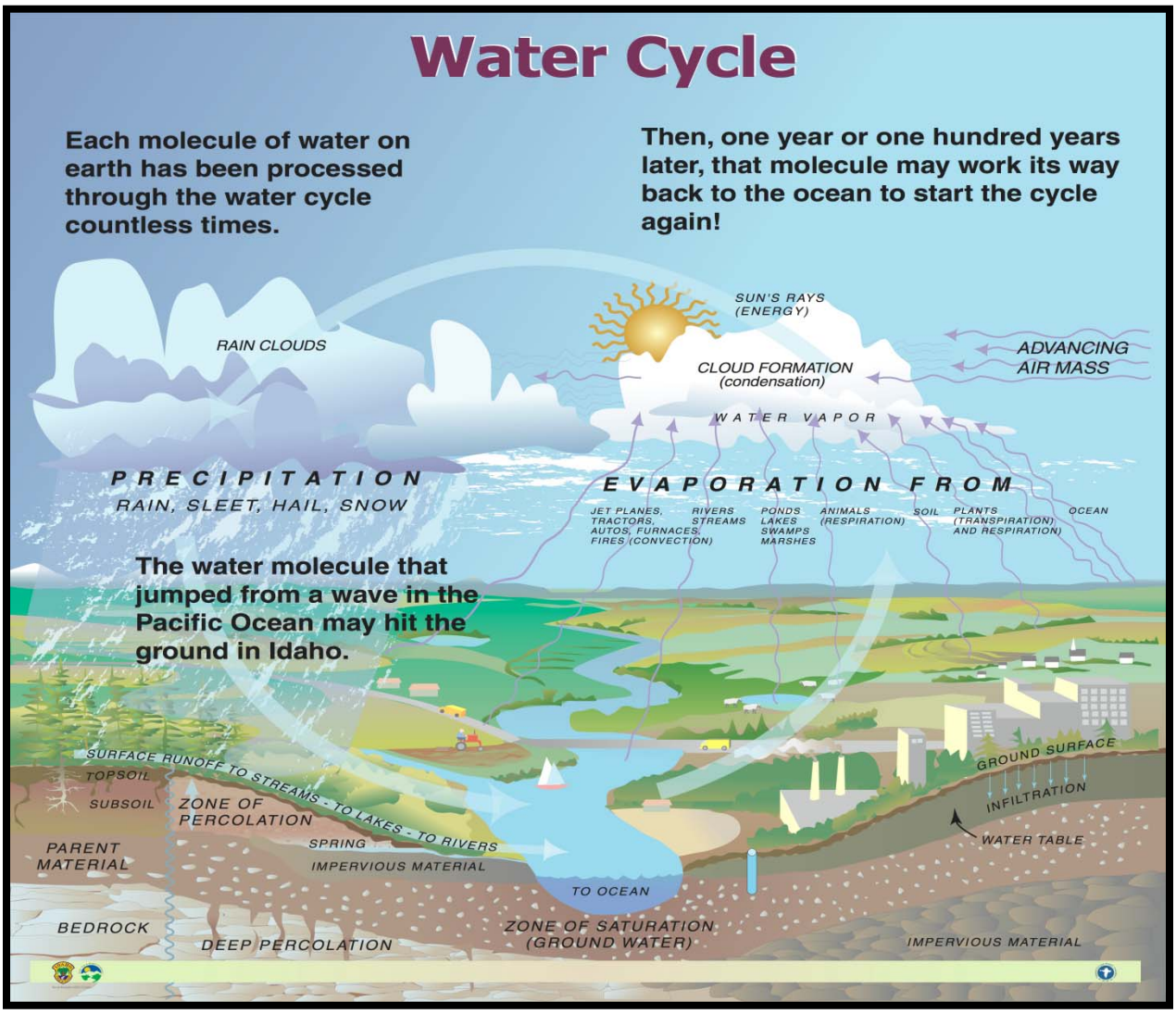

Learning Objectives-after this lesson, students will be able to:

Describe the different stages in the water cycle
Explain the source of local precipitation
List the three forms of water

Vocabulary Words

Dew Point	Hydrology
Evaporation	Precipitation
Condensation	Relative Humidity

THE WATER CYCLE

Earth's water is always in a state of motion, and the **Water Cycle**, also known as the **Hydrologic Cycle**, describes the continuous movement of water on, above, and below the surface of the Earth. The Water Cycle is truly a "cycle" because it has no beginning or end. Water can change form between solid (ice), liquid (water), and vapor (steam) at various places within cycle. These processes can happen in the blink of an eye or over millions of years.

The Water Cycle has no particular starting point. Oceans are a convenient starting point that many scientists use because most of the Earth's water is stored there.

Terminology

Evaporation
Evaporation is part of the hydrologic cycle in which liquid water is converted to a gas (vapor) and enters the atmosphere. Ninety percent of atmospheric water comes from evaporation. The vapor on the surface of oceans, lakes and rivers rises with air currents that travel upwards.

Condensation
Condensation is the opposite of evaporation and occurs when water changes from a gas to a liquid. As rising air cools, it cannot hold as much water vapor as it could when it was warmer. The cool condensed air collects as liquid on tiny particles, such as dust and pollen, in the sky and forms clouds. Morning dew is an example of condensation. Without condensation, water would not collect in clouds. Clouds are crucial to the water cycle because they move water around the globe.

You can see condensation happening not just in the formation of clouds, but at home as well. When you pour glass of cold water on a hot day, water forms on the outside of the glass. That water didn't somehow leak through the glass; it actually came from the air. Water vapor in the warmer air outside the glass turns back into liquid when it touches the cold glass.

Precipitation
As clouds move around the atmosphere, growing and colliding, they may accumulate so much water that they can no longer hold it all. When this happens, water falls from the sky as precipitation**,** and may be in the form of rain, snow, hail or sleet. Precipitation on the land near Sandpoint flows into lakes and streams where it is eventually is carried back to the Pacific Ocean.

Run-off/collection
Most precipitation falls back into the oceans or onto land. When it falls on land, the precipitation flows over the ground as surface runoff or soaks into the ground. Runoff flows to freshwater streams, rivers and lakes; and a substantial amount soaks into the ground and is stored in underground aquifers. Eventually, sometimes a few days, sometimes hundreds of years later, this water finds its way back to the oceans where the water cycle begins all over again.

At the WaterLife Center

Lake Pend Oreille, and on a lesser scale, this low lying Wetland Forest Trail, act as collection areas for the water that is precipitated here. Most of the precipitation in northern Idaho comes from the evaporation and condensation of water from the Pacific Ocean.

Suggested Activities

Have the students draw a simplified version of the water cycle in their journal including evaporation, condensation, and precipitation.

Lead The Incredible Journey lesson in Project WET.