

# Grounded

## Curriculum Objective

To teach students how to define and understand **groundwater**. To educate students how to conduct experiments to demonstrate groundwater movement.

## Washington State Essential Academic Learning Requirements (EALRs)

Science: 1.1 (motion of objects BM 1,2 &3, basis of biological diversity BM 1&2)

Science: 1.2 (biological systems BM 1, 2&3, energy transfer and transformation BM 1,2 &3, structure and organization of living systems BM 1 & 2)

Science: 1.3 (forces to explain motion BM 1&2, life processes and the flow of matter and energy BM 1&2, interdependence of life BM 1&2)

Science 2.1 (questioning BM1, communication BM1)

Communications: 1.1 ( identify visual information such as from a science experiment BM1)

Communications: 1.3 (construct hypotheses BM2)

Communications: 2.2 (organize information with clear sequencing of ideas and transitions BM2)

Communications: 3.2 (work cooperatively as a member of a group BM2)

## Links:

[groundwater basics](#) | [water education](#) | [Biology And Environment](#)



## Background

Water can exist in three different states. It can be solid, like ice; liquid, like water to drink; or invisible, as a gas called water vapor. In the water cycle, water is in all of these states. What is the water cycle (= hydrologic cycle)? The water cycle is the continuous water movement from the ocean to the air, to the land, and back to the ocean again.

When water in the ocean is heated by the sun, the smallest units of water (called molecules) lift up, or evaporate, into the air. Evaporation is when solid liquid or water becomes vapor, or gas. This invisible water vapor cools, attaches itself to bits of dust, sea salt, or smoke and becomes a droplet. This is called condensation. When these droplets travel in large groups in the sky, they are clouds. Eventually, droplets cling together, becoming so heavy that they fall to the earth as precipitation. Precipitation can also be snow, mist, sleet or hail. Some of that water will flow into rivers, streams, lakes, and oceans. This is called runoff. Some water will move downward through the soil. This is called infiltration or percolation. Water that infiltrates or percolates becomes groundwater. Groundwater is defined as water beneath the lands surface.

## Did you know?

The city of Colville uses groundwater for its city water source! How? Some groundwater is stored in an aquifer, which is an underground layer of sand, gravel or rock that can store water. This stored water can be trapped by a well or spring.

## Classroom Activity

Have students cut out pictures of sand, gravel, or rock and paste them onto a piece of cardboard in percolation order. Color in the water that has been infiltrated through the layers above.

## Pework

Some knowledge of the water cycle will be helpful for the students, as well as familiarity with the concept of groundwater.