WATER AND THE WATER CYCLE

Duration: 30mins
Lesson Goal: Students will learn about the stages of the water cycle

Lesson: The Stages of the WATER CYCLE

Approximately 75% of the earth is covered with water. Sources of water are oceans, icecaps and glaciers, groundwater, freshwater lakes, inland seas and salt lakes, the atmosphere, and rivers. Although the earth appears to have a plentiful supply of water, it is important to realize that fresh water is a limited resource.

Water is essential to life on Earth. In its three phases (solid, liquid, and gas), water ties together the major parts of the Earth's climate system — air, clouds, the ocean, lakes, vegetation, snowpack, and glaciers (from: NOAA)

The Stages of the Water Cycle:

- Precipitation: rain, fog, snow, any big water particles coming down from the sky to the ground
- Infiltration/percolation/runoff: water seeping into the earth or running along it in streams, rivers, etc
- Evaporation/transpiration: water molecules rising into the atmosphere from the surfaces of lakes, rivers, tree leaves, etc as they are heated up by the warmth of the sun
    - Water evaporating/being released from trees and plants is called transpiration
- Condensation: water molecules cooling down as they are higher in the air and forming clouds and LARGER water droplets which fall back to earth as precipitation

Review Activity: Water Cycle ROCK PAPER SCISSORS

Game requirements: prior knowledge of rock paper scissors/Rochambeaux
Materials: None

Rules of Play:

- Game is played through a series of rock-paper-scissors matches with students who are at the same stage of the water cycle as each-other
- Winning a match means student becomes the next stage of the water cycle
- Losing a match means student regresses to previous stage of the water cycle
- There are 4 stages: Condensation (1), Precipitation (2), Collection (3), Evaporation/Transpiration (4) with movements to accompany so that other players know which of the stages you are currently at
    - "Precipitation" should make rain movements with fingers, because in the precipitation stage water is falling as rain, snow, or hail

    - “Collection” should roll/scoot across ground only, because in the collection stage water is moving across the ground into lakes, rivers, aquifers, and other bodies
    - “Evaporation” must jump around, because as water evaporates it turns into a gas which floats up into the air
    - “Condensation” should have their arms out, rounded towards their sides as if they are miming being a droplet of water, because in the condensation stage water is moving from a gas into larger droplets of water in the air
        - Alternatively, have the students come up with their own motions for the stages as a fun review of the functions of each stage of the water cycle
- As it is in the real water CYCLE, once you get through all the stages, you go continue to play from the first stage again!!