

WATER



Grades K-2

Water Cycle

Objective: Students will learn all about the water cycle and how water travels and is stored. Students will also discover the three states of matter using experiments with water.

Materials:

- Zip top bag
- Markers
- Tape
- Ice cube
- Plate
- String
- Salt

Vocabulary: Evaporation, Condensation, Precipitation, Collection, Transpiration, Sublimation

Lesson:

Why is water so important?

- Plants and animals need water to survive. We use water to drink, cook and clean, for activities like swimming and boating, and to help us power and cool off machines.

What are some ways we can help to keep our water clean?

- No littering, recycling, keeping chemicals out of sinks and toilets, planting trees or plants, and picking up after pets.

Water has been on earth almost as long as the earth itself. It travels through and is recycled by the water cycle.

Water collects in oceans, lakes, rivers, or ground water. Some of the water will warm up, evaporate into gas vapor, and rise. When the vapor cools off, it turns into a liquid, condenses, and turns into a cloud. When the clouds get too heavy, precipitation (rain, sleet, or snow) falls, and can be collected again.

WATER



Grades K-2

There are 3 states of matter: solid, liquid and gas. All of them are highlighted in the water cycle.

- Solid: When liquid water is very cold, it freezes into a solid as ice or snow. Solid ice is also stored in the form of glaciers.
- Liquid: Water falls as rain and is found in oceans, lakes, streams, puddles, groundwater, and even inside plants and animals.
- Gas: Water vapor or steam evaporates and rises. Normally water vapor is invisible, but you can see steam when water is heated as it boils. If you set a kettle to boil, when water reaches its boiling point steam is released.

Activities:

- Water Cycle in a Bag:
 - Take the zip-top bag and decorate one side with an image of the water cycle, including evaporation, condensation, and precipitation.
 - Add a couple of inches of water to the bottom of the bag and seal.
 - Tape the bag to a window and observe the water cycle happen before your eyes.
- Lifting Ice:
 - Attempt to lift an ice cube off the plate using just a string and salt.
 - Use this link or instructions: <https://ansp.org/~media/Files/ans/science-from-home/Lifting%20Ice%20Challenge.ashx?la=en>

Tools:

- Reading:
 - *All The Water In The World* by George Ella Lyon
 - *The Great Big Water Cycle Adventure* by Kay Barnham
 - *The Magic School Bus Wet All Over* by Joanna Cole
- Video:
 - Water Cycle Song - <https://www.youtube.com/watch?v=TWb4KlM2vts>
- Teacher Websites:
 - Information on the Water Cycle
 - <https://climatekids.nasa.gov/water-cycle/>
 - <https://www.natgeokids.com/au/discover/science/nature/water-cycle/>
 - Graphics and Words for a Water Cycle Poster
 - <https://drive.google.com/file/d/0B3XXMYGSdK9obF9CU0JSd3FUaWs/view>

PA Academic Standards:

3.3.K.A4, 3.2.K.A5
3.2.1.A3, 3.2.1. A5
3.2.2.A3, 3.3.2. A4, 3.2.2.A5