

# Water Cycle in Bag Experiment

## Overview

In this simple “water cycle in a bag” experiment, you will observe the different stages of the water cycle process up close.

This experiment is provided by Rookie Parenting Science (<https://www.rookieparenting.com/what-is-water-cycle/>).

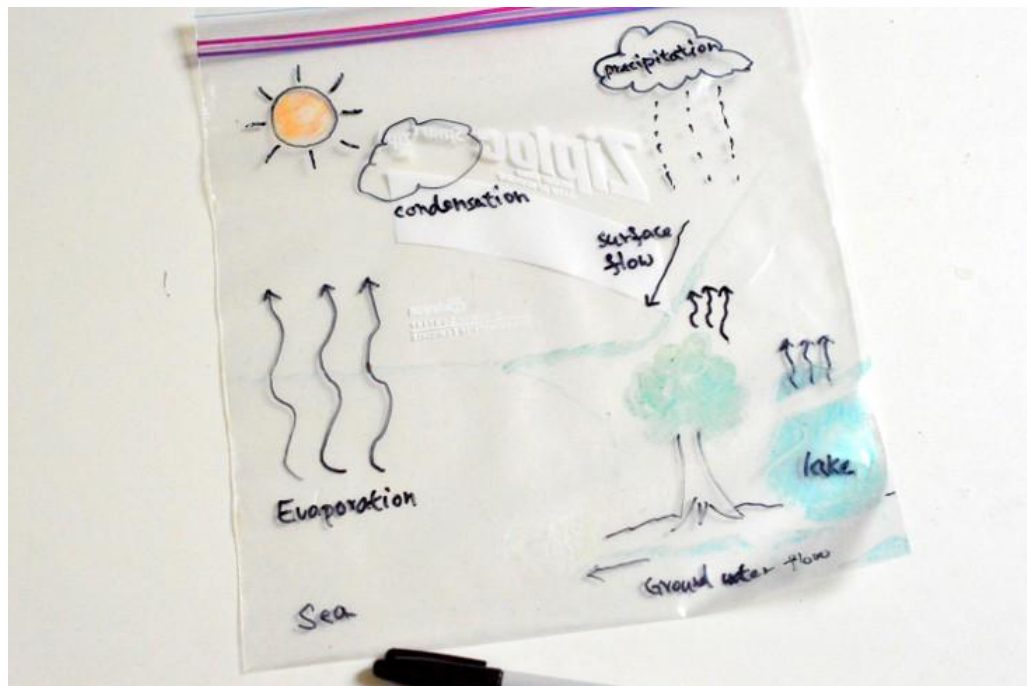
## Materials

- a ziplock plastic bag (2 gallon bag)
- color markers (e.g. Sharpie Permanent Markers or any non-erasable markers)
- water
- blue food coloring (optional)
- packing tape

## Tools

- adult supervision

## Prep Work: Draw the Water Cycle Diagram (15 minutes)



Draw the water cycle diagram on the zip lock bag.

- Draw a cloud with raindrops towards the top right corner of the bag and label it "precipitation."
- Draw an arrow down to the bottom of the bag from the rain cloud and label it "flow."
- Draw a tree, towards the bottom of the bag, and underneath its surface label that area "groundwater."
- Draw a body of water next to the tree and label it "lake."
- Draw arrows pointing upwards from the tree and lake towards the precipitation cloud. These arrows represent water evaporating from the surface by turning from a liquid to a vapor and returning to the atmosphere. Label the arrows "evaporation."
- Draw the sun towards the top left-hand corner of the bag and label it.
- Draw a cloud underneath the sun and label it "condensation."
- In the left-hand corner of the bag, towards the bottom, label that area the "sea".
- Draw another series of arrows pointing upwards from the sea to the condensation cloud. Label these arrows "evaporation" as well.

## Instructions (40 minutes)

1. Warm up the water until steam starts to rise but do not let it boil.
2. Add blue food coloring into the water to represent ocean water.
3. Pour the water into a ziplock bag and zip it up.
4. Hang the bag upright on the window (or door) using packing tape.
5. As the water evaporates, vapors rise and condense at the top of the bag. A white patch can be seen resembling clouds in the upper atmosphere.
6. After a while, water droplets appear on the inside of the bag. As they become bigger, they will eventually slide downward. The sliding down resembles the flow stage that brings water back into the sea.
7. If the water is still warm or if the bag is left in the window facing sunlight, it will keep cycling through the four different stages (evaporation, condensation, precipitation, and flow which means the water will take liquid form and fall down to the surface and eventually underground) of the water cycle.

