

The Water Cycle Journey

Objective

To help students understand the water cycle

Timeframe

- Introduction - 5 minutes
- Activity - 10 minutes
- Discussion & Wrap Up - 5 minutes

Materials

- 9 stations:
 - Soil
 - Plant
 - River
 - Clouds
 - Ground Water
 - Ocean
 - Lake
 - Animal
 - Glacier
- 9 dice, each at its labeled station
- Water Cycle Poster
- "My Journey as a Water Drop" card for each student
- Crayons or markers

Introduction

- What forms can water take?
 - Solid - ice
 - Liquid - rain
 - Gas - vapor
- Are we able to make more water?
- What different places can water go as it moves through and around Earth? (the water cycle)

SUN

CONDENSATION

EVAPORATION

PRECIPITATION

The Water Cycle

ICE AND SNOW

SNOWMELT

RUNOFF

RIVERS

SPRINGS

SEEPAGE

LAKES

PLANTS

OCEANS

GROUNDWATER

The Water Cycle

- **Evaporation** - heated by the sun, water vaporizes from oceans, rivers, lakes, plants, animals and soil
 - *example: water returning to clouds*
- **Condensation** - process of forming a liquid from a gas
 - *example: water collecting on outside of a cold glass or on a window*
- **Precipitation** - liquid or frozen water that is returned to the earth by gravity
 - *examples: rain, snow, sleet, hail, drizzle or mist*

Activity

1. 9 stations, each with a sign and die (matched up), should be set up before students arrive.
2. During this station, each of the students will experience the water cycle as a drop of water.
3. Explain the stations and how they represent water movement.

Activity

4. Provide each student with a "My Journey as a Water Drop" card and crayon or marker. Instruct them to map their journey through the water cycle.
5. All students begin at River Station and form a single line.
6. Each student rolls a die to determine their destination. If they roll "Stay," they go to the back of the line and wait to roll again.

Activity

7. As the students arrive at their next stations they, get in line and roll again. When students roll a "Stay," they move to the back of the line and wait to roll again.
8. Collect the cards and we'll get them to the teachers at the end of the Water Fair.

Discussion

- Could you have predicted your movement?
- Did you go into the ocean? Were you there a long time? Why?
- If we were to remove one of these stations, would the water cycle continue?



Here's more info to help you explain how water moves

STATION	DIE SIDE LABELS	EXPLANATION
Soil	one side <i>plant</i>	Water is absorbed by plant roots.
	one side <i>river</i>	The soil is saturated, so water runs off into a river.
	one side <i>ground water</i>	Water is pulled by gravity; it filters into the soil.
	two sides <i>clouds</i>	Heat energy is added to the water, so the water evaporates and goes to the clouds.
	one side <i>stay</i>	Water remains on the surface (perhaps in a puddle, or adhering to a soil particle).
Plant	four sides <i>clouds</i>	Water leaves the plant through the process of transpiration.
	two sides <i>stay</i>	Water is used by the plant and stays in the cells.
River	one side <i>lake</i>	Water flows into a lake.
	one side <i>ground water</i>	Water is pulled by gravity; it filters into the soil.
	one side <i>ocean</i>	Water flows into the ocean.
	one side <i>animal</i>	An animal drinks water.
	one side <i>clouds</i>	Heat energy is added to the water, so the water evaporates and goes to the clouds.
	one side <i>stay</i>	Water remains in the current of the river.
Clouds	one side <i>soil</i>	Water condenses and falls on soil.
	one side <i>glacier</i>	Water condenses and falls as snow onto a glacier.
	one side <i>lake</i>	Water condenses and falls into a lake.
	two sides <i>ocean</i>	Water condenses and falls into the ocean.
	one side <i>stay</i>	Water remains as a water droplet clinging to a dust particle.

Here's more info to help you explain how water moves

STATION	DIE SIDE LABELS	EXPLANATION
Ocean	two sides <i>clouds</i>	Heat energy is added to the water, so the water evaporates and goes to the clouds.
	four sides <i>stay</i>	Water remains in the ocean.
Lake	one side <i>ground water</i>	Water is pulled by gravity; it filters into the soil.
	one side <i>animal</i>	An animal drinks water.
	one side <i>river</i>	Water flows into a river.
	one side <i>clouds</i>	Heat energy is added to the water, so the water evaporates and goes to the clouds.
	two sides <i>stay</i>	Water remains within the lake or estuary.
Animal	two sides <i>soil</i>	Water is excreted through feces and urine.
	three sides <i>clouds</i>	Water is respired or evaporated from the body.
	one side <i>stay</i>	Water is incorporated into the body.
Ground Water	one side <i>river</i>	Water filters into a river.
	two sides <i>lake</i>	Water filters into a lake.
	three sides <i>stay</i>	Water stays underground.
Glacier	one side <i>ground water</i>	Ice melts and water filters into the ground.
	one side <i>clouds</i>	Ice evaporates and water goes to the clouds (sublimation).
	one side <i>river</i>	Ice melts and water flows into a river.
	three sides <i>stay</i>	Ice stays frozen in the glacier.