Around and Around It Goes

Purpose

To understand how water molecules move through the water cycle

Background

Water covers about 75 percent of the Earth and is constantly moving. Energy from the Sun, which allows evaporation, and gravity are the driving forces that power the water cycle. The movement is greatly influenced by the contour of the land and geologic features such as mountains, valleys, and hills. While water does circulate from one state to another in the water cycle, the path it can take is variable.

Materials

- Water Cycle Score Card (p. 20)
- 8 cups
- pencil
- scenario strips

Teacher Prep

Make a sign for each station that includes the station name and number. Cut the scenario strips apart and place them in a cup at each station. Before playing the game, discuss cycles with the students. Divide the class into eight groups and send each group to a station to begin. Say the word "CYCLE" when you are ready for students to move to the next station. Repeat until most of the students have cycled through the Cloud station a couple of times.

Procedure

1. You are a water molecule. To find out about your journey through the water cycle, remove a strip from the cup at your station.
2. Read the strip.
3. Write the information on your Water Cycle Score Card.
4. Put the strip back in the cup.
5. When you hear the word "CYCLE," move to the next station, as directed by the strip. You may not be with the same group any longer.
6. Repeat steps 1–5 until you are told to stop. You may go to the same station more than once; be sure to always follow the directions on the strip you removed from the cup.
7. After you finish playing the game, go back to your seat and look at your Water Cycle Score Card.
8. Make a diagram of the path you took. For example, your journey might have taken you from the Cloud • Mountain • Cloud • Lake • Animal • Lake.

Conclusion

Answer (1-5) on seperate paper.

1. Even though each water molecule took a different path, was anything similar about the journeys you took?
2. Classify each part of your journey as evaporation, condensation, or precipitation.
3. Can you think of other parts of the water cycle that were not included in the game?
4. What makes water move through the water cycle?
5. What would happen if all of Earth's water stayed in the oceans?
6. ~~Why did the tree house detectives need to understand the water cycle to help solve their problem?~~

Extension

Choose one

1. Write a story about the journey you took or illustrate the journey by making a cartoon or comic book.

or

2. Choose two different locations on a map. Write a story about how you, as a water droplet, got from one place on the map to the other. Be creative.

Water Cycle Score Card

Station Stop	What Happens	Destination	Classification
Example: *Cloud*	*Falls as rain*	*Mountain*	*Precipitation*
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

~~On the back, draw a diagram of your entire journey.~~

Classification options

- precipitation
- condensation
- evaporation
- ground water
- runoff

} water cycle

- absorption
- hydration
- transpiration
- consumption

} other possible options

STATION PAGE

STATION STOPS

STATION 1 – CLOUD
You fall as rain onto a mountain. Go to the mountain.
You fall as snow onto a mountain. Go to the mountain.
You fall as rain onto a stream. Go to the stream.
You fall as rain on a farmer's field. Go to the plant.
You fall as rain onto a parking lot. Go to the stream.
You fall as snow onto a lake. Go to the lake.

STATION 2 – MOUNTAIN
You evaporate into the air. Go to the cloud.
You soak into the ground and become part of the groundwater. Go to the groundwater.
You soak into the ground and are absorbed by a plant's roots. Go to the plant.
You roll downhill and become part of a lake. Go to the lake.
You become frozen and stay there. Stay at the mountain.
You drip off the rocks and join other drops in a small stream. Go to the stream.

STATION 3 – LAKE
An animal drinks you. Go to the animal.
You flow into a stream. Go to the stream.
You remain in the lake. Stay in the lake.
You are absorbed by the leaves of a plant. Go to the plant.
You evaporate into the air. Go to the cloud.

STATION 4 – STREAM
You evaporate into the air. Go to the cloud.
You continue rolling across the land and become part of the ocean. Go to the ocean.
You are pulled down into the soil on the bank. Go to the groundwater.
An animal drinks you. Go to the animal.
You flow into a lake. Go to the lake.
While flowing down the mountain, you freeze and stay there. Go to the mountain.

STATION 5 – GROUNDWATER
You become part of an underground river that flows to the ocean. Go to the ocean.
You are absorbed by the roots of a plant. Go to the plant.
You are pumped out of a well for a person to drink. Go to the person.
You are pumped out of a well for a person to wash dishes. Go to the stream.
You are pumped out of a well for a farmer to irrigate his field. Go to the plant.
You become part of an underground river that flows to the ocean. Go to the ocean.
You stay in the aquifer. Stay at the groundwater.

STATION PAGE

STATION 6 – ANIMAL
You are breathed out of a person's lungs into the air as water vapor. Go to the cloud.
A person uses you for brushing his or her teeth. Go to the stream.
After using you to process food, the animal urinates, and you end up on the ground. Go to the mountain.
You are excreted as sweat and evaporate into the air. Go to the cloud.
A person takes a drink of water and spits you out onto the ground. You seep into the soil and become part of the groundwater. Go to the groundwater.

STATION 7 – PLANT
The plant transpires you through its leaves. You evaporate into the air. Go to the cloud.
The plant stores you in its fruit and you are eaten. Go to the animal.
The plant uses you to grow. Stay at the plant.
The plant transpires you through its leaves. You evaporate into the air. Go to the cloud.
The plant stores you in a root and you are eaten. Go to the animal.

STATION 8 – OCEAN
You are one of the many water molecules in the ocean and you stay there. Stay at the ocean.
You evaporate into the air. Go to the cloud.
A kelp plant takes you in, releases you through its leaf, and transpires you into the air. Go to the cloud.
You are swallowed by a fish. Go to the animal.