

INCREDIBLE JOURNEY

LEARN ABOUT OUR WATER CYCLE DURING A WORKING MODEL ACTIVITY FROM THE PERSPECTIVE OF A WATER MOLECULE

Second Grade NGSS DCI Addressed:

[ESS1.C](#) The History of Planet Earth

- [2-ESS1-1](#)

[ESS2.C](#) The Roles of Water in Earth's Surface Processes

- [2-ESS2-3](#)

[PS1.A](#) Structure and Properties of Matter

- [2-PS1-3](#)

Pre-Trip Information/Activities:

[Water Cycle Video](#)

[Water Cycle Vocabulary Word Search](#)

Materials:

- Spinners (9)
- Bins of Colored Beads (9)
- String
- Labels (9)

Objectives:

- Model the movement of water through the water cycle
- Identify the three phases of water in the water cycle

Set Up:

- Spread out the 9 bead containers
- Prop the label card up in the bead container and put the spinner in front of it
 - Glacier – Mint
 - Lake – Dark Blue
 - River – Teal
 - Clouds - White
 - Soil - Brown
 - Ground Water - Purple
 - Plants - Green
 - Animals - Black

- Ocean – Light Blue

Introduction:

- What is the water cycle?

Water cycle- the cycle of processes by which water circulates between the earth's oceans, atmosphere, and land, involving precipitation as rain and snow, drainage in streams and rivers, and return to the atmosphere by evaporation and transpiration.

- Can you name all the different places we find water on the earth
 - Glacier
 - Lake
 - River
 - Clouds
 - Soil
 - Ground
 - Plants
 - Animals
 - Ocean

Each strand starts with a YELLOW bead to represent the sun, as it takes the energy from the sun to move water around the earth. Give each student a bracelet with a yellow bead tied on and explain that they are going to be very small molecules of water on an incredible journey through the water cycle.

Activity:

- 1) Have each participant take a string with a yellow starter bead (represents the sun)
- 2) Spread participants evenly amongst stations
- 3) If there are multiple students at a station, have them form a line
- 4) Have participants grab a bead from their first station and slide it onto their string
- 5) Have participants spin (make sure the spinner stays at its designated station!)
- 6) If spinner reads "STAY," then the participant grabs another bead and repeats process
- 7) If spinner shows a different water feature, the participant travels to that features station and grabs the corresponding bead, place on string
- 8) Repeat the process until bracelet is formed (max 15 beads)
- 9) Once completed, tie off the end of the string to secure the beads. Can tie as a bracelet if desired.

Final Discussion:

At the end of the game have students sit down and talk about where they went, why they ended up spending a lot of time in one area and not others. The ideas below include a few discussion points

In the event the group is not in a discussing mood you can have them see how many different 'water' places they have been or experienced

- Where does water spend most of its time?
 - Students might spend a lot of time in the ocean or clouds because most of the earths water is found in those two places
- Why did they spend most of their time there? OR why did they follow the path they did
 - This will require them to think about the connection between each place they visited.
- Find out how many students got to spend time in a plant or animal (it should be very little)
- Where are places we share water with animals?
- How much water is available to humans?
- How does water get polluted?
- How can we clean up our water?
- Are there ways we can conserve water during a drought?

Post-Trip Activity (to be done in class after trip)

- Have students write their story as a water molecule, using their imagination of how they traveled from one place to another (what kind of animal or plant?, the name of the lake or ocean, how far did the cloud travel?) (W.2.3)
- Have students label HOW they were able to move from one place to another using water cycle vocabulary (condensation, transpiration, precipitation, consumption, evaporation...etc)

Incredible Journey

My Journey as a Water Molecule

Name _____

As a water molecule:

Where did you spend the most time? _____

Why do you think this is? _____

Where did you spend the least time? _____

Why do you think this is? _____

What places did you not travel to? _____

Why do you think this is? _____

Clouds
Clouds are made of water vapor.

Sun
When it is cold, rain turns to snow.

Precipitation
The warmth of the sun makes water evaporate.

Snow and Ice
Water vapor evaporates (transpires) into the air from plants and trees.

Transpiration
The same water goes around and around the earth in the water cycle.

Evaporation

Runoff

Lake

Ocean

Ground Water

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Eat and Learn
The Water Cycle

Ground water seeps back to the surface to flow out.

Water freezes into ice and snow on mountains.

Water flows down rivers to the ocean.

Long ago dinosaurs may have drunk the same water we drink today.

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