

Water Cycle Bracelet

LESSON SUMMARY

This lesson is an easy way for students to learn and remember the steps in the water cycle and see how water moves through it.

LESSON OBJECTIVE(S)

- Students will observe that water can travel different paths in the water cycle.
- Students access prior knowledge about the water cycle to build a model.

FOCUS QUESTION

How does water move through the water cycle?

LEARNING TARGET (I CAN STATEMENT)

I can create a model of the water cycle.

STANDARDS ADDRESSED

TN: 3.ESS2.1

MS: E.4.9A.1

AR: ESS2.C

MATERIALS

- Plastic pony beads in 10 different colors, sorted
- Leather stripes/hemp/twine/string/ pipe cleaners. Go ahead and add a bead for the sun and secure it
- “Water Cycle Definitions and Bead Colors” sheet (below) You can have 1 at each station or project for class. Fill in the colors you have available.
- “Water Cycle Direction” sheet (below) 1 at each station. Fill the sheet in with what each step color bead is before making copies.
- “The Water Cycle” model (below) You can have 1 at each station or project for class
- Dice at least 1 per station
- Scissors

PROCEDURES

1. Remind students of the water cycle by telling them that water never stays in one place on our planet. It changes form (liquid, solid, vapor) and locations. This process is called the water cycle.
2. Go over the vocabulary terms.
3. Give each student a piece of twine (or other material)
4. Ask students to imagine that they are a molecule of water and that they are going to go on a journey through the water cycle. As they move through the water cycle, they are going to add a single bead to their string to mark the journey. When they are done, they will have a piece of jewelry.

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5. Tell them their string already has the sun on it because the energy from the sun powers the water cycle. Ask what state of matter they will be in if the sun has warmed them up. Prompt till water vapor/gas answer is given.
6. Tell them as they have risen in the sky that the air is colder so they will condensed. “Let’s add our condensation bead on our bracelet.”
7. Ask students what would happen if enough of them started to stick together as water droplets. Prompt till you get the answer precipitation. If they say a type of precipitation redirect explaining that their answer is a type of precipitation ex. “Yes, it could be rain because rain is a type of precipitation. In the water cycle we say precipitation since the water falling to the ground be different types of precipitation like rain, snow, sleet, or ice.” Tell them to add their precipitation bead to their string.
8. Tell students that here is where everyone’s jewelry is going to look different. Explain that water does not move through the water the same way every single time. To show this they are going to roll a die. Depending on the number they roll chooses the path they go. At each step, they will add that step’s color bead.
9. Depending on your students, you may want to model the first few together and then let them finish.
10. Once the string is full, tie off the end and cut off the excess.

Closure

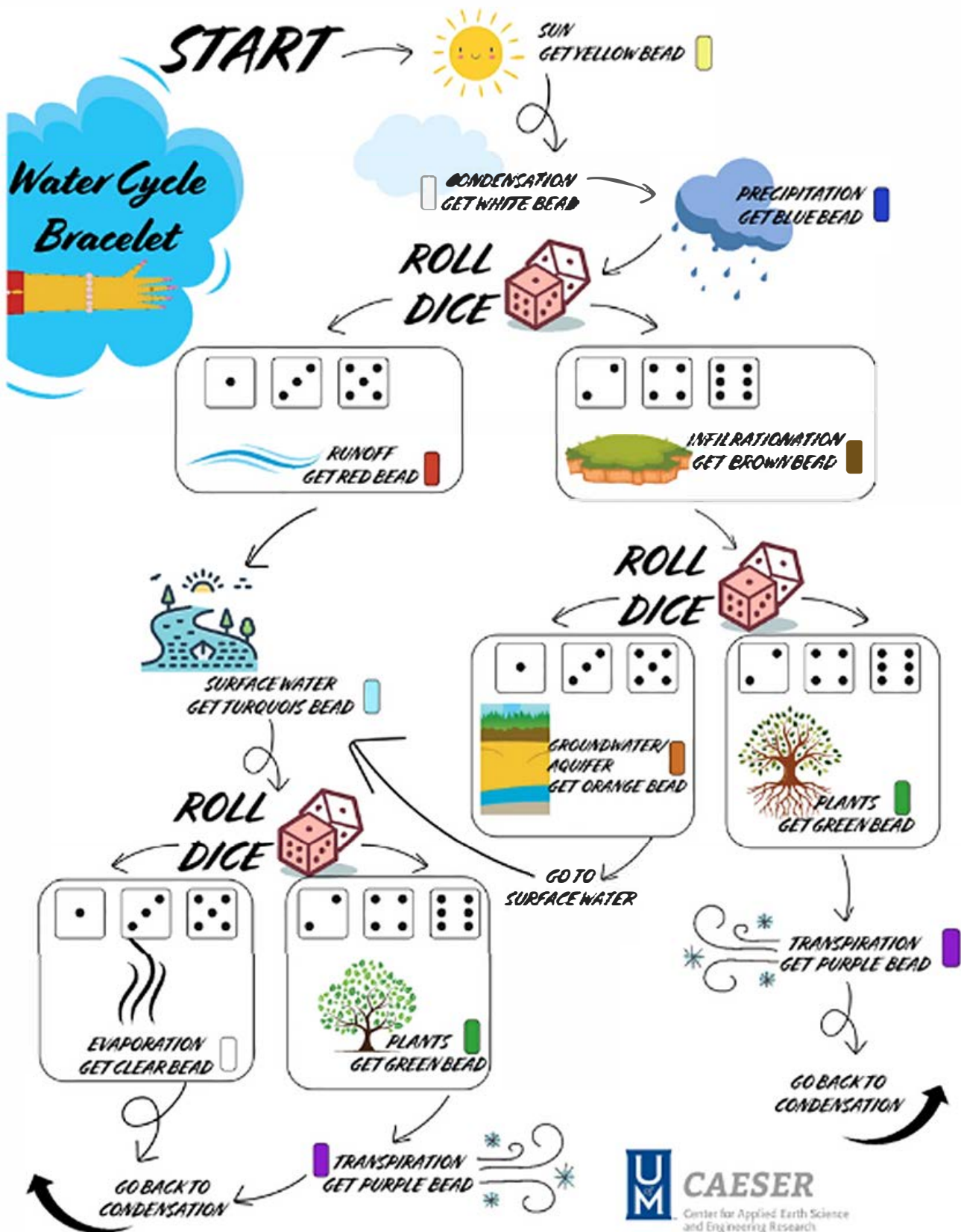
Once everyone’s bracelets are done point out how everyone’s bracelets are a little different from one another. Remind them that water is constantly moving around the planet, but it is not the same way every time.

Resources and Credit

The Groundwater Foundation: www.groundwater.org

Project WET: www.projectwetusa.org

Adopt-A-Stream Mississippi: <https://mswildlife.org/adopt-a-stream/>



Water Cycle Definitions and Bead Colors

Evaporation: The sun sends solar radiation to the Earth's surface and warms the liquid water molecules. The water molecules get enough energy to change the state of matter from a liquid to a gas. We call the water molecule water vapor now.

Evaporation is represented by a clear bead.

Condensation: As water vapor begins to cool, it changes states from gas to liquid, forming water droplets that form clouds.

Condensation is represented by a white bead.

Precipitation: As water droplets in the clouds combine, they grow larger and heavier. Eventually, they become too heavy to stay afloat in the sky and fall to the ground. This is called precipitation. Examples of precipitation are rain, snow, sleet, ice, and hail.

Precipitation is represented by a dark blue bead.

Runoff: When precipitation falls to the ground, it can collect on the ground's surface. This water can run on top of the ground into streams, creeks, and rivers that can eventually flow into ponds, lakes, and oceans.

Runoff is represented by a red bead.

Surface Water: Surface water is any water stored on the ground's surface. Examples include ponds, lakes, rivers, streams, and oceans.

Surface Water is represented by a turquoise/light blue bead.

Infiltration: When water soaks into the soil (or infiltrates) and fills the pore spaces between individual soil particles, it is called infiltration.

Infiltration is represented by a brown bead.

Groundwater (unconfined aquifer): Water stored underground in spaces between sand and gravel or cracks in rocks is called groundwater. Plants can use this water or surface water.

Groundwater is represented by an orange bead.

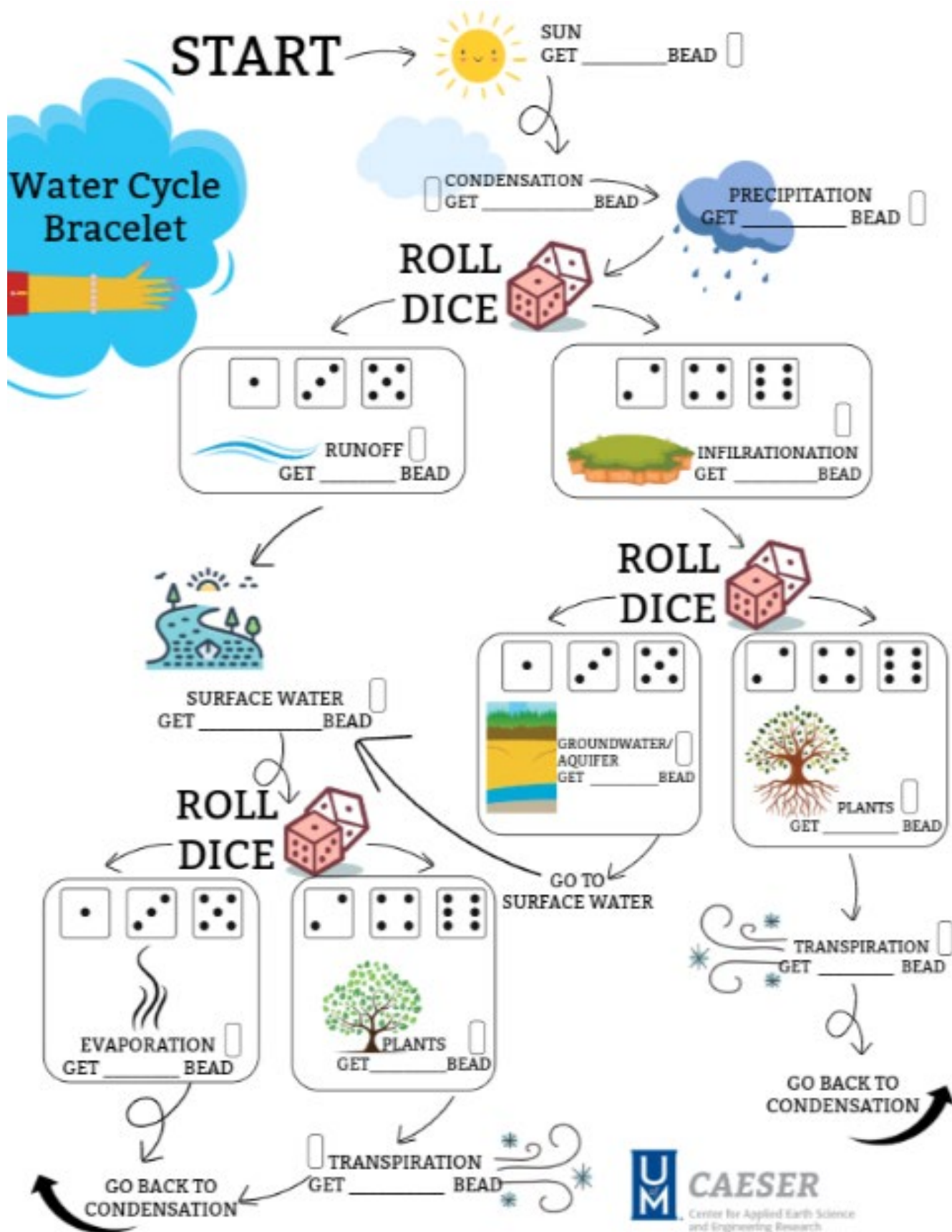
Plants: Plants take water in the soil through their roots to be used to stay alive.

Plants are represented by a green bead.

Transpiration: Plants and animals use water to stay alive. As they use the water, they will give off water vapor as a by-product. Plants do this through their leaves—animals do it through exhaling.

Transpiration is represented by a purple bead.

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The Water Cycle

