ARIZONA project WET WATER EDUCATION TODAY

THE UNIVERSITY OF ARIZONA Cooperative Extension

Water Cycle

Materials	Bead Color Key
• 9 dice • 9 bead cups with lids • 9 metal rings • 9 different colored beads • 9 station signs with A Frames • Chenille Stems looped at one end • Whiteboard with Expo marker • Whiteboard Eraser	1. River: Baby blue 2. Lake: Royal blue 3. Cloud: White 4. Ocean: Turquoise 5. Groundwater: Orange 6. Plant: Green 7. Soil: Brown 8. Glacier: Glitter 9. Animal: Red

Supporting Information:

Evaporation: Liquid water turns into a gas and floats up into the air

Condensation: Water Molecules in the form of a gas stick to a particle of dust and then to each other, forming larger and larger clouds

Precipitation: Precipitation happens when water droplets in a cloud get too heavy and fall from the sky to form rain, snow, hail, and sleet

Percolation: Water filters through earth materials deep in the ground

Flow: Liquid moves and flows across the earth's surface and even underground

Common Questions and Supporting Facts:

Animal Station: Yep, animals drink and pee! It is totally okay to confirm to the students that animals pee and water molecules are returned to the water cycle. Expect lots of giggles.

Plant Station: Plants pull water from the ground through their roots. Water returns to the cycle through transpiration and evaporation. This is the act of water leaving the plant as vapor through pores known as stomata

Scientists helped to determine the chances of a molecule moving, as reflected on the dice!

Set the Stage for Success:

- Model excitement with your expressions and encourage engagement by asking open ended questions to get the students sharing their own ideas and thoughts
- Go over the rules as a group and demonstrate "how to" roll the dice. Show what it looks like when you get a bead (once it's your turn in line and before rolling)
- Show the sides of the dice. Talk about what the "Stay" side means (Move to the back of the line at the same station, get another bead when you get to front of line again)
- Move around the circle and interact with the kids as they collect beads
- Kids will get frustrated when they get "stuck". Use your judgement on whether to use the moment to teach or to announce a "natural event" of your choosing and send the individual (or the whole line) to a new station

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Narrative

Min.	Directions:	What You Say:	Big Ideas:
6	Introduce yourself and begin with a group discussion about the Water Cycle. As students name places where water is found, write them on the whiteboard.	• Can anyone share something they know about the water cycle? • Where are some places you find water here on earth? [Make sure all 9 places are mentioned] • Does water only travel in one set path through the water cycle?	• Water is found in glaciers, clouds, rivers, lakes, oceans, animals, plants, groundwater, soil • The water cycle is more like a web than a circle (contrary to what we often see in pictures of the water cycle). Water does not move in a set pattern
4	Encourage kids to stand up with you and act out how water molecules travel through systems. Repeat the terms out loud together as you act out the following motions: Feel free act out the motions multiple times	What are some of the different ways water travels through the water cycle? Evaporation: Wiggle fingers as you raise hands upwards. Condensation: Bring raised hands together above your head. Precipitation: Wiggle fingers down, in a "raining" motion. Percolation: Lower hands towards ground and rotate them back and forth with palms down and fingers slightly bent. Flow: Simulate wave motions out to the side with your hands and arms. Feel free to add a little dance rhythm pizazz to your flow.	• Water moves through the water cycle by evaporation, condensation, precipitation, percolation, and flow. • Water constantly changes form and moves through the earth's natural system

15	Introduce the directions for "The Incredible Journey" Activity. Hand out chenille stems for bracelet/keychain. Tie loops on stems ahead of event or do together as a group with a demonstration. Have teachers and chaperones help as needed. Have kids count off #1-9 and line up behind their number. Start Game.	Now it's your turn to become a Water Molecule and begin your own unique Incredible Journey! 1. Show how to take bead, gently toss dice up, and travel to end of line of their next stop (even if they roll the same stop!) 2. Show the sides of a dice, and explain the "Stay" side 3. Count off into groups, 1-9, and then send to stations to begin If Cloud or Ocean back up much, shout "Monsoon!" and let that line of kids choose a new spot	Game Tips for Success: Set the Tone for Fun! Interact with the kids as they travel through the system. Watch for frustrations at cloud & ocean. Respond with light-heartedness-- Ask why water might get stuck or simulate a "natural event" to send them elsewhere if they have truly been stuck a long time. End game with about 5-10 mins for recap.
5	~10 min before end time, give game wrap up warning, and gather up to recap for last 5-7 mins. Use this time to help kids tie off stems and practice terms. Encourage kids to take turns sharing some of the places they traveled while encouraging the group to act out HOW they may have gotten there (evaporation, precipitation, etc.)	[Have students hold up bracelets and look at their neighbors] • Look at your neighbor, were your water journeys the same? • Where were some places you got stuck? Why? Fun Supporting Facts about Water on Earth: 97% in ocean saltwater, 2% in frozen glaciers, 1% fresh in lakes and rivers	• Water constantly changes form and moves through the earth's natural system • Water moves by evaporation, condensation, precipitation, percolation, and flow • The water cycle is more like a web than a circle