



## Rain Activity 2

# Where Does the Rain Come From?

### Objectives and Standards

- To understand how water travels through the water cycle in a closed system

### NSTA Standards Addressed

Content Standards

A, B, C, D, G

### 4-H SET Abilities Addressed

Predict

Observe

Communicate

Summarize/Relate

Interpret/Analyze/Reason

### Background

Rain comes from clouds in the sky; that's an easy observation to make. But where do the clouds come from? And where does the water that puddles on our driveways disappear to after a rain? In this activity, we'll see where rain comes from and where it goes by using a cup as a lake (water reservoir), and a bag as our atmosphere. Come up with other roles for each after you've done the experiment.

### CoCoRaHS Extension Ideas

In your CoCoRaHS investigation, you record precipitation from a rain gauge each day in the summer, and using your gauge and a snow pad in the winter. During the summer months, some days you will go out to record your precipitation observation to find that there is nothing in your rain gauge but that your toes are wet from walking in the grass. The grass is wet because of dew. Investigate what causes dew to form on your grass. Then, for one week, record your precipitation data *and* if the grass is dry, a little wet, or very wet.

### Supplies Needed

- Dixie cup/container for water
- ziplocking bag larger than container
- room temperature water
- windowsill on a sunny day

### Activity

1. Pour a small amount of water in the dixie cup, filling it about half way.
2. Place cup into ziplocking bag in close. Discuss how the bag is symbolic of the atmosphere, encapsulating the Earth and all its sources of water. The cup is a sink for water, like a lake or ocean.
3. Place bag with water-filled cup on a windowsill during a sunny day. Predict what will happen inside the bag.
4. Check often and observe any changes happening in the bag.
5. After a few hours, observe the bag again. Water is now laying on the bottom of the bag. How did it get there? How is this representative of our water cycle?

### Discussion

Matter is neither created nor destroyed. Therefore, all of the rain/snow/hail we experience is recycled water from some other source. This recycling process is called the water cycle. Water in the cup represented water in a basin, like a lake or an ocean. When it was heated by the Sun, the water evaporated. However, the bag, which represents our atmosphere, created a closed loop. Eventually the evaporated water condensed on the bag and precipitated toward the bottom of the bag. The puddles of water sitting outside the cup at the end of the experiment represent the streams and rivers that fill with runoff from rains and melting snows, eventually running into a lake or a stream. This activity re-created the water cycle that the Earth benefits from every day!





*Please send us your feedback!*

As a 4-H Educator, you know what has worked well, what has not, and how we can improve the *Tracking Climate in Your Backyard* curriculum. Please share your feedback about the curriculum. We'd love to receive copies of any reports or newspaper coverage about completed *Tracking Climate in Your Backyard* projects.

Fax or mail your completed feedback to Trisha Smrecak, Museum of the Earth, 1259 Trumansburg Rd., Ithaca, NY, 14850 or fax to: 607-273-6620.

Check the activity completed	Suggestions for improving the activity
<b>Rainfall Activities</b> <input type="checkbox"/> Make It Rain <input type="checkbox"/> Where Does the Rain Come From? <input type="checkbox"/> Stormy Weather	
<b>Snowfall Activities</b> <input type="checkbox"/> Confetti Snow Maps <input type="checkbox"/> How Much Water? <input type="checkbox"/> Edible Education <input type="checkbox"/> The Snowflake Game <input type="checkbox"/> Snow Journaling	
<b>Temperature Activities</b> <input type="checkbox"/> Energetic Weather <input type="checkbox"/> Shade of the Old Oak Tree <input type="checkbox"/> Temperature Through Time	
<b>Wind Activities</b> <input type="checkbox"/> Why Does the Wind Blow? <input type="checkbox"/> Make Your Own Wind Dial	
<b>Hydrologic Cycle Activities</b> <input type="checkbox"/> The Incredible Journey <input type="checkbox"/> Understanding Evapotranspiration <input type="checkbox"/> Pinecones: Mother Nature's Weather Forecasters <input type="checkbox"/> What is a Watershed?	
<b>Climate Activities</b> <input type="checkbox"/> Where is My Backyard? <input type="checkbox"/> Soak up the CO <sub>2</sub> <input type="checkbox"/> Buckets O' CO <sub>2</sub> : How Your Backyard Can Change the Ocean <input type="checkbox"/> Raise the Waters	
<b>CoCoRaHS Participation</b> <input type="checkbox"/> Precipitation measurements and other activities	

Please share your suggestions for improving the Tracking Climate in Your Backyard curriculum.

How have you used Tracking Climate in Your Backyard in your community?

Thank you for completing the Tracking Climate in Your Backyard curriculum feedback. We appreciate learning about how you are using the curriculum and receiving your suggestions for improving it.

Organization \_\_\_\_\_ Contact Person \_\_\_\_\_  
 Email \_\_\_\_\_ Date \_\_\_\_\_