

Photo Description

This image shows a rain gauge—a clear tube with numbers and marks on the side—attached to a wooden fence. The gauge measures how much rain falls from the sky. It has a white plastic funnel at the bottom that catches rainwater and a glass tube that fills up to show how much rain has fallen.



Scientific Phenomena

Anchoring Phenomenon: Water falls from clouds as rain and collects in a container, allowing us to measure and observe the amount of precipitation.

Why This Happens: When water evaporates from oceans, lakes, and land, it rises into the atmosphere as water vapor. This vapor condenses in cooler air to form clouds. When water droplets in clouds become too heavy, they fall back to Earth as rain. A rain gauge captures this water in a measured container, helping us track rainfall patterns and amounts. This is a fundamental part of the water cycle and weather observation.

Core Science Concepts

- Precipitation and Water Cycle: Rain is water that falls from clouds. It is part of nature's continuous water cycle (evaporation, condensation, precipitation).
- Measurement and Quantification: Rain gauges use numbered scales to measure the depth of rainfall in inches or millimeters, introducing students to basic measurement and data collection.
- Weather Observation: Tracking rainfall over time helps us understand weather patterns and prepare for different seasons.
- Simple Tools for Science: A rain gauge is an instrument scientists use to collect data about our environment systematically.

Pedagogical Tip:

For Kindergarten, avoid complex explanations of the water cycle. Instead, focus on the observable—rain falls down, gets caught in the tube, and we can see how much there is. Use concrete language: "The rain fills up the tube like water filling a cup." Allow students to physically see and touch (when safe) the water level to develop understanding through sensory experience.

UDL Suggestions:

Provide multiple means of engagement and representation: (1) Set up a rain gauge where students can observe it daily and create a visual chart with pictures or colors showing "a little rain" vs. "a lot of rain"; (2) Offer tactile experiences by letting students pour water into a similar container to understand how the gauge works; (3) Use real photos and videos of rain, not just the gauge itself, so students connect the tool to the actual phenomenon they've experienced.

Discussion Questions

1. What do you think happens to the rain after it falls into the tube? (Bloom's: Understand | DOK: 1)
2. Why do you think we use a rain gauge instead of just looking at the rain? (Bloom's: Analyze | DOK: 2)
3. If we measure the rain every day for a week, what patterns might we notice? (Bloom's: Evaluate | DOK: 3)
4. Where does the rain come from before it falls into the gauge? (Bloom's: Remember | DOK: 1)

Extension Activities

1. Create a Classroom Rain Gauge: Help students make a simple rain gauge using a clear plastic cup, a ruler, and tape. Place it outside and check it together each day. Record observations with pictures or tally marks on a chart. Discuss: "Did we get more rain on Monday or Tuesday?"
2. Rain Dance and Movement: Play music and have students move like falling raindrops—starting high and floating down slowly. Then ask: "What happens to the raindrops after they land in the gauge? Do they stay there or go somewhere else?" This introduces the concept of water movement and collection in a kinesthetic way.
3. Water Pouring Exploration Station: Set up a water table or small containers where students pour water from different heights into clear containers with measurement marks. Ask: "How can we tell which container has more water? How is this like a rain gauge?"

NGSS Connections

Performance Expectation (K-ESS2-1): Use and share observations of local weather conditions to describe patterns over time.

Disciplinary Core Ideas:

- K-ESS2.D Weather and Climate — Students observe and describe weather conditions, including precipitation (rain).

Crosscutting Concepts:

- Patterns — Students notice patterns in rainfall over days and weeks.
- Scale, Proportion, and Quantity — Students use measurement tools to quantify rainfall.

Science Vocabulary

- * Rain: Water that falls from clouds in the sky to the ground.
- * Gauge: A tool that measures something, like how much rain has fallen.
- * Measure: To find out how big, tall, or how much something is using numbers or a scale.
- * Precipitation: Water that falls from clouds to Earth, such as rain, snow, or sleet.
- * Weather: What it's like outside—hot or cold, sunny or rainy, windy or calm.

External Resources

Children's Books:

- Rain by Manya Stojic (explores rain in different parts of Africa and how animals respond)
- Come On, Rain! by Karen Hesse (a story about children waiting for and celebrating rain)
- Rain by Sam Usher (beautiful illustrations and simple text about rainy weather)

YouTube Videos:

- "The Water Cycle Song" by Scratch Garden (2:47 minutes) — A catchy, animated song introducing evaporation, condensation, and precipitation. <https://www.youtube.com/watch?v=CBRVeqAWcKc>
- "Where Does Rain Come From?" by Crash Course Kids (3:16 minutes) — A friendly, animated explanation of how rain forms from clouds. <https://www.youtube.com/watch?v=VPYP-pSjqho>