



Build a Rain Gauge!

Overview:

There can be some pretty powerful rainstorms! This activity will allow your students to monitor how much rain came down in a powerful rainstorm or a light drizzle with a rain gauge of their own design.

Materials:

- Container to make the body of the rain gauge. This could be a clean milk jug, clean food containers, etc. The containers should be waterproof.
- Materials to complete the designs of students. This could be scissors, tape, markers, rulers, etc.
- A few one gallon to make rain cans, a push pin and one opaque plastic bag to cover the container (this will be to test the rain gauges).



Procedure:

1. Make rain cans prior to the lesson. Take the gallon containers and close the lids. In one container, poke holes in the top with a push pin about 1 cm apart. In the other container, poke holes that are about 2 cm apart. On both containers, mark where the containers should be filled up to with water (this mark should be the same on both containers).
2. As an introduction, discuss rain with the students. Explain that there are different types of rain: a downpour (heavy rain, large drops), drizzle (light rain, small drops), shower (large drops that last for a short period of time), and a rainstorm (heavy rain with strong winds). Ask students if they know how one determines how much it rained (answer: weather gauge). Meteorologists use rain gauges to determine how much rain occurred in a certain area over a certain period of time. They collect data on how much it rained and use the data to predict future weather forecasts as well as to determine if there were any changes in the climate of an area.
3. Allow students to brainstorm what their weather gauge will look like. What conditions does it have to endure? Should rain be counted in inches or millimeters? Explain to the students that rain gauges should have flat bottoms in order for correct measurements to be made.
4. Have students build their rain gauges.



Build a Rain Gauge!

5. Now it is time to test their rain gauges. Take students outside or to an area that can get wet. Explain to students that the rain cans will be used to simulate rain. The one with 1 cm holes will be hard rain (hold it above the rain gauge for 10 seconds) and the one with 2 cm holes will be soft rain (hold it above the rain gauge for 30 seconds). Test the rain gauges! Is there more rain collected with a hard rain or a soft rain?
6. After, have students reflect on their rain gauges. Were they reading about the same amount of rain as other students? Are there any improvements they would like to make to their rain gauge?
7. Have students collect actual rain water! Place their rain gauges outside and have them record how much rainfall occurred over a week or month period and then make a graph of how much rainfall occurred. If they collect for long enough, have them predict how much it will rain during the different seasons.

Next Generation Science Standards Used:

3-ESS2-1: Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.