



The Rain Gauge

OBJECTIVE:

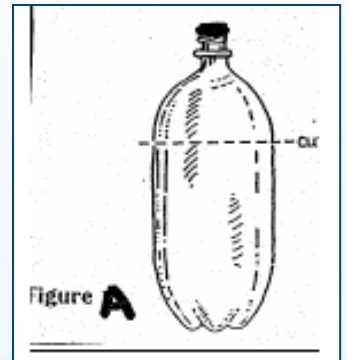
Make and use a rain gauge, an instrument used to collect and measure precipitation (falling water). It measures the depth of the water that would cover the ground if the rain did not drain away or evaporate. Discuss the effects of water conservation practices as they relate to information gathered by rain gauges.

KEY VOCABULARY:

Precipitation is vapor that condenses into clouds and falls on land and water in the form of rain, snow, hail, or sleet. 85% of all precipitation falls into the ocean.

MATERIALS:

- Scissors
- Ruler
- 2-liter soda bottle
- Transparent tape or double-sided tape
- 1-cup aquarium gravel
- Tap water



PROCEDURE:

Discuss the history of rain gauges (bucket, cylinder, funnel). The rain gauge was first used in India over 2000 years ago. The rain gauge has not changed very much in that time, but now people use computers for long distances. Ask students why the information rain gauges provide is so important. Discuss how people can use the information (e.g. farmers, filter plant, travel agents). Emphasize that rain gauges provide historic information, not predictive information. The history gives an idea of average precipitation, but cannot predict daily precipitation.

1. Cut off and discard the top of the soda bottle so that it is 8 inches tall (see Figure A above).
2. Pour the gravel into the bottle to act as a weight and to create a level starting point.
3. Tape the ruler vertically to the inside of the bottle, with the “zero” end at the top of the bottle line above the gravel.
4. Pour water into the bottle until it touches the zero end of the ruler.
5. Set the bottle outdoors and record the amount of daily rainfall. During periods of little or no rain, add water as necessary to keep the starting water level even with the top of the gravel to account for evaporation.

Students may also wish to place a rain gauge in their showers at home to measure their water use. Discuss some other ways students can use a rain gauge and what they should do with the results. Have the students gather weekly and monthly information, compare their findings with weather reports and historical data, and share what they learn with the class and with their families.

Name _____

Date _____

THE RAIN GAUGE Discussion Questions

1. Why did we put gravel in the bottom of our rain gauge and fill it up with water to the bottom of the ruler?

2. Where does rainwater go?

3. How do we collect rainwater?

4. Can we drink rainwater? If not, what happens to it? How can we use it?

5. Why is it important to measure rainfall?

6. What happens if it rains too much? What happens if it does not rain enough?

7. Why is water conservation so important?
