

FACTivity



Time Needed

This FACTivity is meant to take a month to complete. The initial setup should take 1-2 class periods, and then it just takes a few minutes each day to monitor and record information.

Materials

- Five rain gauges or the materials to make rain gauges
- Paper for logbook or your science notebook

Rain gauge materials

- Five 2-liter bottles
- Tool to be able to cut top off plastic 2-liter bottles
- Duct tape
- Ruler
- Permanent marker
- Stones/ pebbles
- Water

The question you will answer in this FACTivity is: How much precipitation falls over a month's time at my school (or where I live)?

The method you will use to answer the question is:

1. Find five rain gauges. If you don't have rain gauges, you can easily make them. To make a rain gauge, follow these instructions. See the illustration on page 40.
2. Get a 2-liter plastic bottle and have an adult cut the top of the bottle off. Keep the top. Place duct tape around the areas that were cut so that sharp edges are covered.
3. Place pebbles or stones in the bottom of the bottle. These stones will help keep the bottle upright if it is windy outside.
4. On the bottom part of the bottle use a ruler to make a scale of horizontal lines. Start marking the lines from two inches above the bottom to two inches from the top. The lines should be separated by $\frac{1}{2}$ inch.
5. Fill the bottom with water to the first line on your scale.
6. Next, place the cut off top upside down into the bottle. The upside down top creates a funnel. Now your rain gauge is ready.
7. Number your rain gauges from 1 to 5. Take two rain gauges and place them in flat areas away from buildings or trees. Take the other three rain

gauges and place them in flat areas underneath trees and near buildings.

8. Create a logbook so that you can keep track of the precipitation over an entire month. Make a separate page for each rain gauge and write the number of the gauge as well as a brief description of the area in which the rain gauge is located. Be sure to date each entry.
9. Each day, check the rain gauges to see whether water has evaporated from the rain gauge. If water has evaporated, then fill the gauge with water again to the first line. After it rains and you have taken your measurement, empty the rain gauge and fill to the first line. Doing this will help you make better measurements when it rains. Make a note in your logbook every time you have to fill up the water to the first line.
10. After a month, examine the data you collected. Create a graph for each rain gauge and the amount of precipitation.

As a class, discuss what you learned when you examined the data. Here are some questions to get you started.

- Were there really wet times and really dry times? Did you see the same thing with each of the rain gauges?
- How did different rain gauges compare?
- Did all the gauges get the same amount of precipitation? If not, why do you think they may be different?
- Did you have to fill certain rain gauges with water more often than others? If so, why do you think this is?

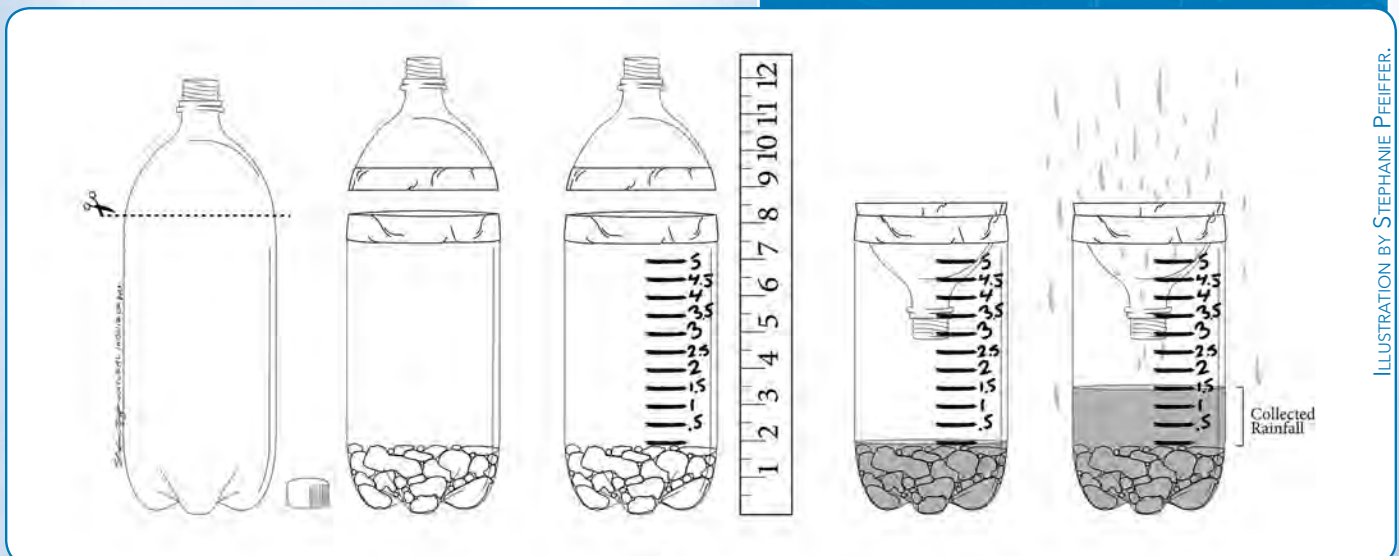


ILLUSTRATION BY STEPHANIE PEIFFER.

FACTivity Extension

You may want to continue this rain gauge project for a longer period of time. Additionally, you could compare your data to weather data that has been collected by the National Oceanic and Atmospheric Organization (NOAA). See the NOAA Web site for more information. <http://water.weather.gov/precip/>

Web Resources

Coweeta Long Term Ecological Research Web Site
<http://coweeta.uga.edu/>

Coweeta LTER Schoolyard Program
<http://coweeta.uga.edu/lterschoolyard>

U.S. Geological Survey (USGS) Water Cycle for Kids
<http://ga.water.usgs.gov/edu/watercycle-kids.html>

USGS Science in Your Watershed
<http://water.usgs.gov/wsc/watersheds.html>

Natural Inquirer Ecosystem Services Edition
<http://www.naturalinquirer.org/Eco-i-26.html>



If you are a Project Learning Tree-trained educator, you may also use the following activity as an additional resource: "Field, Forest and Stream."