

FACTIVITY LEAF RUBBINGS



TIME NEEDED

30–40 minutes

MATERIALS

(for each student or group of students)

- A hard surface, such as a table or desk
- A plain white piece of paper
- Crayons, colored pencils, or regular pencil
- A leaf (can be from a tree or off the ground)
- Tape (optional)

METHODS

1. Go outside and find a leaf (or more than one leaf). Observe the leaf's size, texture, and features. Do you know what kind of leaf it is? Notice that the two sides of a leaf are different. On one side, the veins are much more noticeable.
2. Place the leaf on the hard surface. The side with the more noticeable veins should be facing up.
3. Place the white sheet of paper over the leaf. You can tape the leaf on the hard surface to keep it from moving.
4. Using the side of the crayon or pencil, rub over the leaf. As you rub, you will see the leaf's features appear on the white paper. You can use different colors and different amounts of pressure to create your leaf picture.
5. If you know or can identify what kind of leaf you have drawn, write its name on the paper and post your leaf picture on the wall. Compare and contrast different leaf sizes, shapes, and vein patterns.

ALTERNATE FACTIVITY MEASURING PRECIPITATION



TIME NEEDED

One month. Initial setup should take one or two class periods, then a few minutes each day to monitor and record information.

MATERIALS

(for each student or group of students)

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

Rain gauge materials

- Five 2-liter plastic bottles
- Tool to cut off the tops of plastic 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?

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METHODS

1. Find five rain gauges. If you do not have rain gauges, you can make them using by following steps 2-6.
2. Get a 2-liter plastic bottle and have an adult cut off the top of the bottle. Keep the top. Place duct tape around the area that was cut so that any 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 2 inches (5.08 centimeters) above the bottom to 2 inches (5.08 centimeters) from the top. The lines should be separated by $\frac{1}{2}$ inch (1.27 centimeters).
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. Your rain gauge is ready (Figure 29).
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 write a date on each entry.
9. Each day, check the rain gauges to see whether water has evaporated from them. If water has evaporated, then fill the gauge with water again to the first line. After it has rained and you have taken your measurement, empty the rain gauge and fill again to the first line. 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 have 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 things 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 the amounts may have been different?
- Did you have to fill some rain gauges with water more often than others? If so, why do you think that is?



FIGURE 29.

How to make your own rain gauge.
Illustration by Stephanie Pfeiffer.