

Kalamazoo VALLEYTM Museum

RAIN GAUGE

Make your own scientific tool to measure rainfall.

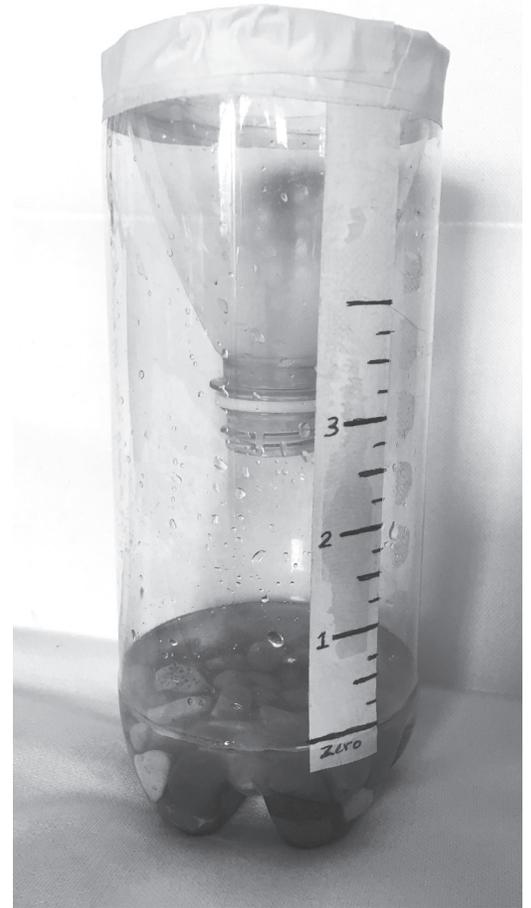
Science should always be attempted with the supervision of an adult. This project is for ages 8+.

Materials:

- Empty plastic bottle (two-liter is best, but try all sizes!)
- Scissors
- A few handfuls of clean pebbles, gravel, or marbles
- Masking tape
- Water
- Ruler
- Permanent marker
- Pencil and a piece of paper

Experimental Procedure

1. Remove the bottle cap.
2. Ask an adult for help using scissors to cut the top off the bottle at the wide part just below where it begins to narrow.
3. Put the pebbles in the bottom few inches of the bottle to keep it from blowing over in windy weather.
4. Turn the top of the bottle upside down to act as a funnel and place inside the interior of the remainder of the bottle. Line up the cut edges and tape them together so that the top is held firmly in place.
5. Place a long piece of tape vertically from the top edge of the bottle to the bottom. Use the marker to draw a line on the vertical piece of tape just a little above the top of the pebbles. This mark will be your "zero" mark.
6. Set the ruler against the vertical tape so that the zero mark lines up with the bottom of the ruler. Then mark and number the inches on the tape. (Or mark centimeters and half-centimeters instead.)
7. Set the bottle on a level surface and pour some water in until it reaches the bottom "zero" mark you made in step 5. Your rain gauge is now ready to use!
8. Put the rain gauge outdoors somewhere level that is open to the sky and it is not likely to get disturbed.
9. Check your rain gauge once a day at the same time of day. You are looking to see:
 - a. If water in the bottom evaporated below your bottom mark. If it has, refill it and record that there was no measurable rainfall.
 - b. If the water has risen above your mark because rain has fallen into your rain gauge. If it has, record the amount of liquid you measure.
10. Continue this process for several rainy days. What differences do you notice?



Did you know?

Kalamazoo gets about 36" of rainfall each year on average.

How much rainfall did you measure in total?

Kalamazoo has about 139 days of precipitation each year.

How many days did you measure that were rainy?

How many days had no rainfall?

Precipitation includes all forms of water that fall to earth, such as rain, snow, and hail.

How could you create a gauge for measuring snow or hail?

Evaporation is the process by which water becomes water vapor.

How often did you have to refill your rain gauge because of evaporation?



Explore water at the Museum this summer with...

- Ocean Bound! the exhibit May 30 through September 13.
- Innovation Lab science with special guests.
- Hands-on craft activities.
- Family quiet room activities.
- A tour of the Food Innovation Center's hydroponics and rain collection system.
- Visit the Museum rain garden and learn about our watershed.
- Sunday Discovery Series lectures for adults.
- *Following the Water* Art Hop evening with music, food, storytelling, and activities.
- And more!

For more information on these and other fun, free activities, visit kalamazoomuseum.org.

A large, dynamic splash of blue water is shown on the left side of the page, with water droplets and a white foam-like base. The splash is positioned behind the museum's name.

Kalamazoo**VALLEY**TM
Museum

FREE General Admission
www.kalamazoomuseum.org

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