



Water-Themed Lessons & Activities

from **FAIRMOUNT WATER WORKS**

Measuring Rainfall Over Time: Make your own Rain Gauge

Introduction:

Many climate scientists are projecting that Philadelphia is going to be experiencing a hotter, wetter climate. They use past data collected over more than 30 years to help make these projections. Start collecting your own rainfall data over time by making a simple rain gauge, so you will be able to record, graph and analyze your own rainfall data over time.

Learning Objectives:

Students will be able to

- Collect, measure and analyze rainfall data over time
- Compare and analyze rainfall data with others

Materials:

- Cleaned plastic bottle from recycling bin
 - Stones or pebbles to weigh down the bottle
 - Masking Tape
 - Permanent Marker
 - Ruler
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Activity Procedure:

1. Carefully cut the top off the bottle just below the curved part; invert it and put place it inside the bottom so it makes a funnel
2. Place your stones in the bottom of the bottle as a weight to stabilize the bottle from tipping in the wind and rain
3. Fill water to cover the stones until the water is just above the stones and appears like a straight line. This will establish your baseline. Mark this line with a sharpie. This will be your baseline for your measurements
4. Place the end of your ruler at this baseline and mark off lines up the side of the bottle in inches
5. Now place your bottle in a safe spot outside and somewhere it will be able to collect the water
6. After a rain event use your ruler and the bottle's markings to measure and record rainfall amount in inches
7. Before the next rain event, empty out the rainwater but keep it filled up to your baseline mark for accurate measurement
8. Make a chart to record your answers and include date, time and number of inches. After a week or month, graph your data; compare with National Weather Service for Philadelphia, other cities, and/or averages over time.

Suggested Grade Level: K-8th

Suggested Subject Area(s): Environmental Science