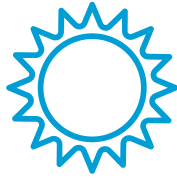


ACTIVITY 4: WEATHER MONITORING



The purpose of this activity is for students to engage in citizen science to track weather patterns in their local area and compare them to meteorological forecasts.

Materials: *note: it isn't necessary to use all of these tools, as some of these measurements can be looked up online; instead, use what is relevant and available in your learning context*

- Thermometer
- Barometer
- Rain gauge
- Wind vane
- Anemometer
- Notepads or a weather log sheet (paper or digital)
- Pencils or pens
- Access to Globe.gov (optional)

First, inform students that they will be working with their groups to monitor* the weather near their home and at school over the course of several days and weeks by collecting and recording weather data in their local environments. Elicit student ideas about how accurate they think the weather forecasts we get from the news and Internet typically are. Explain to them that weather forecasting is an important science and service to the community that uses a lot of scientific data and computer-generated calculations to make predictions about upcoming weather based on past patterns—even using up-to-the-minute data. What they will be doing is collecting several pieces of data to use for weather monitoring, but to a lesser extent than meteorologists use.

**Note: you can provide training and resources for students to learn about monitoring weather patterns and collecting data at Globe.gov.*

Then, provide students with the materials and instruments you want them to have. Determine the length of time during which everyone will collect weather data (e.g., 7 days, 2 weeks, 1 month, etc.) and make sure that the weather logs will capture enough days and all the fields that students can measure data for. Assign an accessible location to be the measurement spot for each day (e.g., a site on school grounds, backyard at home, a local park) where students can safely monitor the weather conditions.

Next, have students set up their weather monitoring instruments in the designated location. Provide instructions on how to use each instrument and encourage students to take measurements at the same time each day. If doing the data collection during class time, give students a set amount of time to collect and record weather data using their instruments and notepads or weather log sheets. Encourage them to note important details, such as temperature, barometric pressure, rainfall, wind speed, and wind direction. Alternatively, they can take some measurements directly with their instruments and look up others (such as barometric pressure) online to include in their notes.

Last, once the data collection period is complete, have students summarize their weather data in some way using a chart, graph, or other visual tool. Use this data to compare weather patterns across different days between groups and to identify any trends or patterns in weather over time. Have them look up and compare their weather data with data collected from nearby weather stations or online weather websites and to identify any differences or similarities. Engage the students in a discussion of what their findings have in common and what differences there are. Help them to explain what might be different between their data. Help them to consider the importance of citizen science and how students' weather data can help scientists better understand and predict weather patterns.