



Throughout the guide teaching tips are in red.

**Activity Description
and
Estimated Class Time**

This activity requires students to collect weather data for several days and generate a weather log. Students will need about 5 minutes per day to record information. Weather changes from day to day and sometimes minute to minute. This activity is designed to familiarize students with weather data and provide an opportunity to find patterns in the data. This activity is designed as an exploration. Students' observations and questions are the main goal.

Objectives

Students will develop an understanding of the following ideas and content:

- Procedures for collecting direct observations of weather,
- Methods for recording data,
- Techniques for recording cloud shapes and types.

**Correlations to
North Carolina
Science Standards**

7.E.1.4 Predict weather conditions and patterns based on information obtained from:

- **Weather data collected from direct observations and measurement (wind speed and direction, air temperature, humidity and air pressure).**
- **Weather maps, satellites and radar**
- **Cloud shapes and types and associated elevation**

**Brief Science
Background**

Wind speed and direction, air temperature, humidity and air pressure are all important for predicting weather. In other lessons in this unit, students learn how to use these data on weather maps to predict weather. In particular, changes in air pressure indicate future precipitation. In general, falling pressure predicts moisture on the way and rising pressure indicates clearing skies.

Materials

Materials for each student

- Support Document 1 - Weather Log

Preparation

- Be prepared to project the following websites:
<https://weather.com/>
<https://www.wunderground.com/maps/>

**Procedure**

1. Ask students to list information they think a meteorologist would need to know to predict tomorrow's weather.
2. Give each student a copy of SD-1, the Weather Log. Ask students to compare it to the items listed in step 1.
3. Project: <https://weather.com/>
4. To obtain current weather conditions, enter your zip code in the search box.
5. Allow students a few minutes to fill out the weather log. The first day you introduce the weather log, be sure all students know how to complete it correctly.
6. Let students know that they will complete the log each day.
7. After a few days, ask students to make a list of observations about their weather data. They should keep track of observations on the backside of the weather log. In addition to observations, students should keep track of patterns they notice and questions they have.

The goal of this activity is for students to notice and wonder about the weather. Weather is constantly changing and provides an excellent topic for students to identify patterns and generate questions. Do not answer their questions at this time. Instead, let them know that the class will explore weather science for the next several weeks and we will address many of these questions.

Extension

1. After a day or two of collecting weather data, project the current weather map after students collected weather data for that day.
Weather map: <https://www.wunderground.com/maps/>
2. After showing the class the weather map, ask them to write observations and questions in their notebook.

Name _____ Period _____ Score: _____ / _____

Weather Log

Date	Time	Temp °F	Relative Humidity %	Barometric Pressure ↑ ↓	Wind		Current Condition	Precipitation	
					Direction	Speed		Type	Amount
	:	°F	%	↑ ↓					in
	:	°F	%	↑ ↓					in
	:	°F	%	↑ ↓					in
	:	°F	%	↑ ↓					in
	:	°F	%	↑ ↓					in
	:	°F	%	↑ ↓					in
	:	°F	%	↑ ↓					in
	:	°F	%	↑ ↓					in
	:	°F	%	↑ ↓					in
MM/DD	Include AM or PM	Degrees Fahrenheit	Amount of Water Vapor Present in the Air	Circle Rising ↑ or Falling ↓	N, NE, E, SE, S, SW, W, NW	miles per hour (MPH)	Condition: Clear Cloudy Fair Overcast Fog Sunny	N = None R = Rain S = Snow H = Hail L = Sleet	Inches

Location _____