

What's the Weather?

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Weather

Weather is the current state of the atmosphere in a given area. We are all fascinated by and interested in weather. It impacts what we wear, what we do, and how we do it.

One of the common things that we do when we wake up is to check the weather conditions for the day; this allows us to plan what events we might want to consider being involved in for the day.

Weather is rather complicated, because it is dependent on many different factors. Some of the determining factors are: temperature, wind speed, wind direction, air moisture content, barometric pressure, and the trend for the barometric pressure.

To assist us with keeping track of these variables, a short hand system has been designed to record the important weather information for a given location. We call this system the weather station model. You will be involved with learning how to read these station models and, given current weather data, draw a model. This process will develop your ability to understand weather and forecasting.

Current Meteorological Data

NOAA's National Weather Station:

What is NOAA? NOAA stands for the National Oceanic and Atmospheric Administration. It is a federal agency focused on the conditions of the oceans and the atmosphere. Among types of data you can obtain are hourly updates on weather across the country by zooming into your local area and adding a zip code.

The MOST also has a weather station. This station can track the weather as it is occurring. The data can also be used to make forecasts. Go to <http://cnyweatherlab.org/most>

The MOST maintains another weather station in LaFayette. Compare urban and rural data by going to: <http://cnyweatherlab.org/plumleyfarms>



VOCABULARY:

NOAA

Weather

Weather Station Model

Helpful Terms

Relative Humidity

Dew Point

Barometric Pressure

Temperature

Wind Speed

Wind Direction

Barometric Trend

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Students will be able to:

Construct a weather station model

Find the current weather in their zip code area or by using the MOST data

Read a station model accurately

MATERIALS:

Internet access

Projector or white board

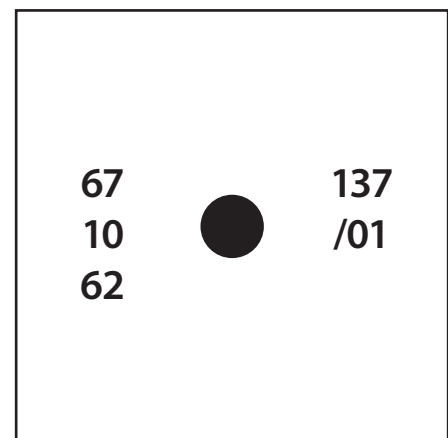
Earth Science
Reference tables

Weather Information and Station Models:

Refer to page 13 of the Earth Science Reference Table for helpful information to construct and/or read station models. Below is a sample for you to read and to practice constructing a station model. Cover the station model on the right side and using the chart see if you can re-create the accurate station model. Check your own work by uncovering the model before going on to the next activity.

Example 1

Humidity	84%
Wind Speed	Calm
Barometer	29.95" or 1013.7 mb
Dew point	62 F
Visibility	10 mi
Temperatures	67 F
Barometric Trend	Increase of .01 mb each hour
Cloudy/Overcast	



Current Conditions

Notes

When using barometric pressure on a station model; remember to drop the 9 or 10 in the front of the number and the decimal point as well. Try the following, convert the pressure to the number you would place on a weather station model.

A 1016.3 mb = _____

B 998.2 mb = _____

C 1019.7 mb = _____

D 997.0 mb = _____

What's the Weather?

Name: _____

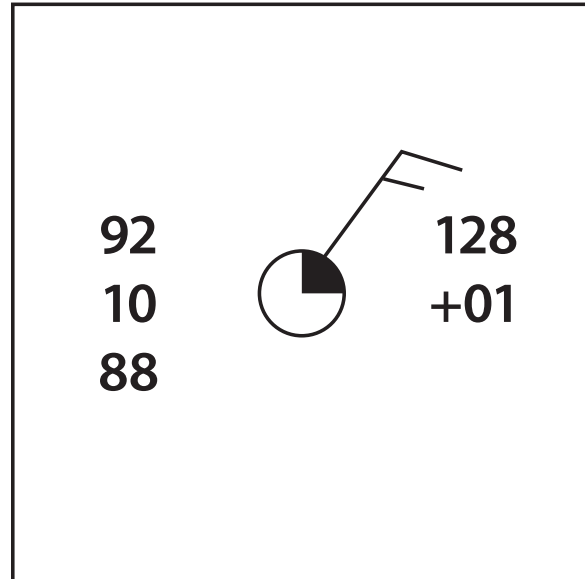
Date: _____

Weather Information and Station Models:

Using the following station model determine the following:

Example 2

Humidity	
Wind Speed	
Barometer	
Dew point	
Visibility	
Temperatures	
Barometric Trend	
Cloudy/Overcast	



Current Conditions

What's the Weather?

Name: _____

Date: _____

Weather Information and Station Models:

Using:

- 1 NOAA's National Weather Station, go to: www.nws.noaa.gov
Click on local state area from the map of the United States
- 2 Click on the Central New York area
- 3 Add the zip code for the exact weather information

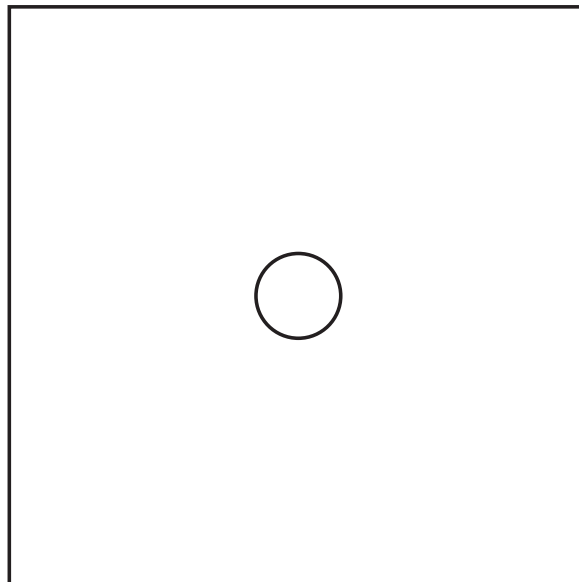
Using the information provided for the zip code you entered, create a station model that accurately presents the information.

Zip Code used: _____ Date: _____ Time: _____

Station Model:

Humidity	
Wind Speed	
Barometer	
Dew point	
Visibility	
Temperatures	
Barometric Trend	
Cloudy/Overcast	

Current Conditions



What's the Weather?

Name: _____

Date: _____

Weather Information and Station Models:

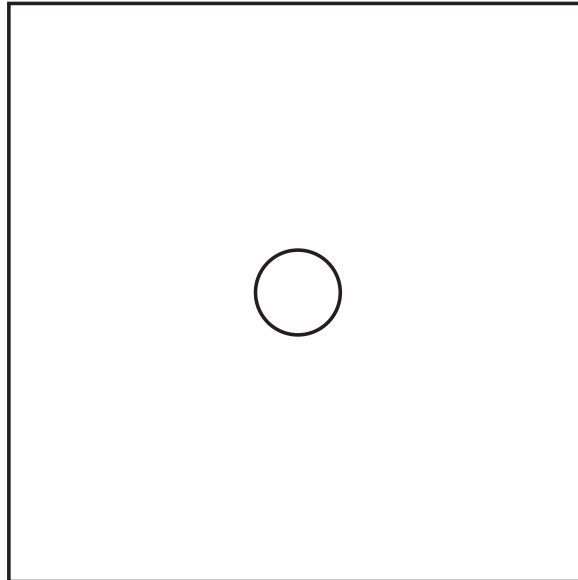
Look up a city in the NOAA system from the Midwest and construct its station model.

Date: _____ Time: _____ Location: _____

Station Model:

Humidity	
Wind Speed	
Barometer	
Dew point	
Visibility	
Temperatures	
Barometric Trend	
Cloudy/Overcast	

Current Conditions



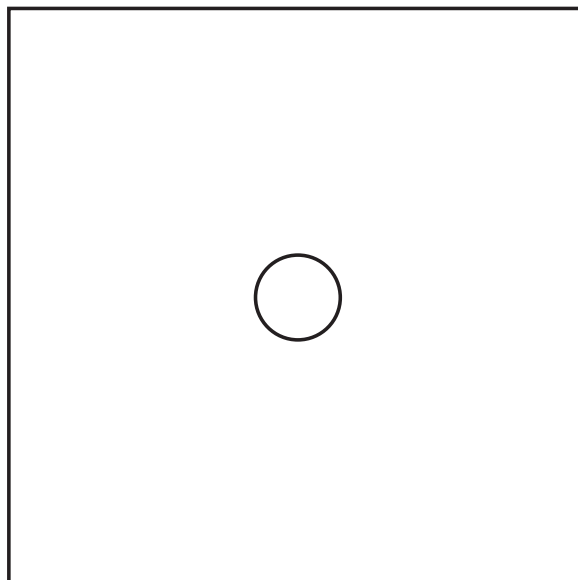
Look up a city in the NOAA system from the West Coast and construct its station model.

Date: _____ Time: _____ Location: _____

Station Model:

Humidity	
Wind Speed	
Barometer	
Dew point	
Visibility	
Temperatures	
Barometric Trend	
Cloudy/Overcast	

Current Conditions



What's the Weather?

Name: _____

Date: _____

Questions:

1 What is the purpose of drawing station models?

2 What does increasing barometric pressure indicate in a weather forecast?

3 Why is wind direction important?

4 List the factors of air masses that impact weather:

New York State Standards

Standard 1:

Math: Key Idea 1

Standard 2:

Key idea 1: Key Idea 3

Standard 4:

Key Idea 2: 2.1b, 2.1c, 2.1d, 2.1e, 2.1f, 2.1g, 2.1h