Station Models

PURPOSE: The purpose of this lab is to familiarize you with the abbreviations that meteorologists use to construct weather maps.

VOCABULARY: **(10 points)**

condensation _____

dewpoint _____

precipitation _____

air pressure _____

barometric trend _____

visibility _____

OBJECTIVES: Upon completion of this laboratory exercise, you will be able to:

1. Define the terms: condensation, dewpoint, precipitation, air pressure, barometric trend, and visibility.
2. Determine the temperature, present weather, barometric pressure, percentage of cloud cover, visibility, dewpoint temperature, wind directions, wind spend, the barometric trend, and the amount of precipitation for a given location.
3. Locate 10 key cities on a map of New York State.
4. Construct a station model from given data.
5. Identify instruments used to measure weather variables.

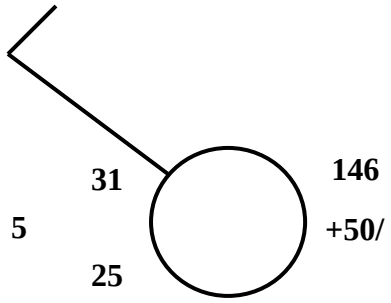
MATERIALS:

Earth Science Reference Tables pen/pencil

PROCEDURE: PART A **(20 points)**

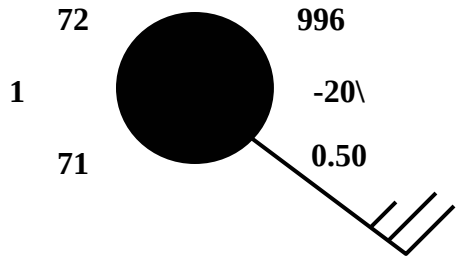
In this part of the laboratory exercise, you will learn how to read a weather station model.

Using your *Earth Science Reference Tables*, fill in the data tables below each station model.



Temp (°F)	Dewpoint (°F)	Barometric Pressure (mb)	Barometric Trend (mb)	Cloud Cover (%)

Wind Direction	Wind Speed (knots)	Visibility (mi)	Precipitation (in)	Present Weather



Temp (°F)	Dewpoint (°F)	Barometric Pressure (mb)	Barometric Trend (mb)	Cloud Cover (%)

Wind Direction	Wind Speed (knots)	Visibility (mi)	Precipitation (in)	Present Weather

PROCEDURE: PART B **(10 points)**

In this part of the laboratory exercise, you will locate ten locations in NY State.

(a) On the map provided, find and label each of the ten locations listed in the data table below.

PROCEDURE: PART C **(40 points)**

In this part of the laboratory exercise, you will construct station models from data provided.

(a) Using the data table below, construct a station model for each of the ten locations. Draw your station models directly on the map of NY State.

Important Reminders
All barometric pressures must have three digits.
All barometric trends must have two digits.
No abbreviations, decimals or units are allowed on the station models.

	Albany	Syracuse	Plattsburgh	Rochester	Binghamton
Temperature (°F)	19	15	5	30	14
Present Weather	Snowing	Snowing	Clear	Sleet	Snowing
Visibility (mi)	1	1	10	½	½
Dewpoint (°F)	19	14	0	29	14
Wind Speed (knots)	10	10	25	15	15
Wind Direction	NE	NW	N	SW	NE
Precipitation (in)	3.0	12.0	0.0	0.25	4.0
Barometric Pressure (mb)	990.3	988.7	1002.5	999.5	986.7
Barometric Trend (mb)	-4.0	-2.0	3.6	-1.0	-3.5
Cloud Cover (%)	100	100	0	100	100

	NY City	Watertown	Jamestown	Ithaca	Buffalo
Temperature (°F)	22	31	21	13	35
Present Weather	Cloudy	Freezing Rain	Cloudy	Snowing	Rain
Visibility (mi)	5	½	5	¾	¼
Dewpoint (°F)	18	31	18	12	33
Wind Speed (knots)	5	15	5	10	30
Wind Direction	SE	N	SE	NE	SW
Precipitation (in)	0	2.25	0	5.0	0.5
Barometric Pressure (mb)	1002.5	993.5	1003.5	995.6	1000.1
Barometric Trend (mb)	-1.7	-2.4	-1.6	-3.5	2.5
Cloud Cover (%)	50	100	75	100	100

QUESTIONS: **(20 points)**

1. What is the reason that meteorologists use weather station models instead of writing all of the information out?

2. Why is the barometric trend important to know?

3. If the barometric pressure is increasing, the weather will become _____
_____

4. If the barometric pressure is decreasing, the weather will become _____
_____

5. What are the rules for converting the barometric pressure to be put on a station model?

6. Which variable on the weather station model do you believe is the most important? Why?

7. For each of the weather variables below, state the instrument that would be used to measure it.

Variable	Instrument
Temperature	
Dewpoint	
Barometric Pressure	
Wind Speed