

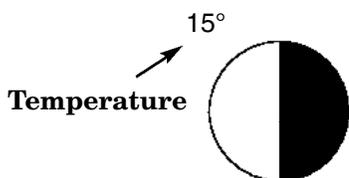
## 13. Data Plot II

**OBJECTIVES:** After completing this lesson, a student should be able to:

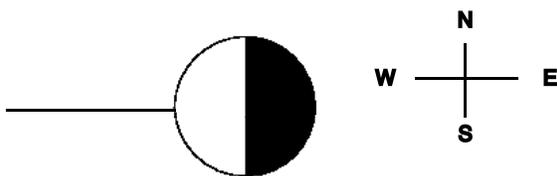
- \* Plot temperatures on worksheet #2 (Grades 1-3)
- \* Determine how sky cover may affect temperature (Grades 1-3)
- \* PLOT WIND and PRESSURE on worksheet #2 (Grades 4-8)

### TEACHER BACKGROUND: (Grades 1-8)

In this lesson, we will continue to plot data on our weather maps. Grades 1-3 students will add temperatures to the upper left of their sky symbols. To illustrate, draw and discuss the following example on the board before the temperature data is presented:

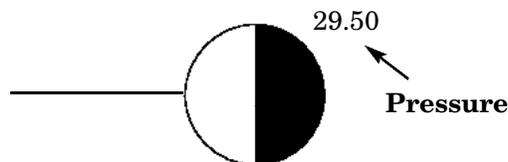


Meanwhile, since grades 4-8 students have already plotted temperatures, they will be adding wind and pressure readings. First, some important notes on plotting wind data. Remind students about the directions on the weather map. If they haven't already done so, they can make a "plus sign" and label each point on the sign with the four directions. (See figure below.) Remember that the top is always north, bottom is south, left is west and right is east. To plot wind, draw a short line from the edge of the sky symbol to the direction that the wind is *coming from*. The following example indicates a station that is reporting a partly cloudy sky and a west wind.



The wind line can, of course, extend to any direction around the sky symbol. Pressure data, however, is always found in the same standard location near all station symbols. You may want to briefly review how pressure is measured before you proceed to plot pressure data.

For our purposes, all four numbers of a station's pressure observation will be plotted on the map. Unless a strong storm (such as a hurricane) is occurring, most pressure readings begin with either a 29 or 30. This represents the height (in inches) of the column of mercury within the mercurial barometer. A pressure reading of 29.50 indicates a column of mercury that is 29 and a half inches high. The meteorologist always plots the station pressure reading to the upper right of the station model. In the example below, a station is reporting a partly cloudy sky, a west wind and a pressure reading of 29.50.



Now that we have completed the explanation of how we will plot the second half of the data plot, turn the page in order to begin plotting the data. Since this data coordinates with the previous data plot, all information should be drawn on the same worksheet #2 weather map. Later, we will use this weather map to make our own forecasts!

## Data Plot II

**MAP-GRADES 1-3** (Time: 10 minutes)

**Materials:** Worksheet #2, pencil

**Preparation:** Distribute the students' worksheets #2. (Collect them after this lesson.)

**Procedure:**

1. Review the data already plotted in the previous lesson.
2. On the board, write the letter of each station below and the corresponding temperature in either Celsius or Fahrenheit. (You may choose to plot only some of the stations.)
3. Ask students to place the temperature to the upper left of the appropriate sky symbol.

STATION	TEMP	
	C	F
A	-3	27
B	-2	29
C	-4	25
D	-1	30
E	14	57
F	22	72
G	21	70
H	5	41
I	26	79
J	27	81
K	7	45
L	19	66
M	15	60

**Evaluation:** Which station is the warmest? (J) The coldest? (C) Refer to the back page for map key.

**Excursion:** What kind of sky are the warmest and coldest stations reporting? How might sky cover plotted on our weather map affect temperature at each station? (More clouds could mean less sunshine and perhaps cooler temperatures. A clear sky provides sunshine that warms the air. Oceans can affect temperatures, as well.)

**MAP-GRADES 4-8** (Time: 15 minutes)

**Materials:** Worksheet #2, pencil

**Preparation:** Distribute the students' worksheets #2. (Collect them after this lesson.)

**Procedure:**

1. Review the data already plotted for specific cities (or states) in the previous lesson.
2. On the board (or handouts), list the following stations with their wind and pressure data.
3. Ask students to place the correct wind line and pressure report next to each station. Be sure to plot the pressure only to the upper right of each sky symbol.

STATION	WIND	PRESSURE
	<i>coming from:</i>	
A	NORTH	30.10
B	EAST	30.10
C	NORTH	29.80
D	EAST	29.80
E	SOUTH	29.80
F	SOUTH	30.10
G	NORTH	30.40
H	WEST	29.80
I	SOUTH	30.10
J	SOUTH	30.10
K	NORTH	30.40
L	SOUTH	30.00
M	SOUTH	30.40

**Evaluation:** Which stations are reporting a north wind? A south wind? Refer to the back page for map key.

**Excursion:** We have already concluded that sky conditions can affect temperatures. Determine how wind affects temperature. (With the exception of station G, the clear, warmer stations report a south wind. Note that G is still warmer than those stations with clouds.)

**WEATHERSCHOOL QUESTION:**

**Obtain the question and correct answer from your local Weatherschool TV channel!**