

Name _____

LAB

Date _____

Partner _____

SYNOPTIC WEATHER MAP LAB

Per. _____

INTRO: A basic principle in Earth Science is that energy causes change. In order to understand the changing earth, we must understand the energy systems that cause those changes. The study of energy in the atmosphere leads to identifying systems that can be mapped. Many atmospheric variables provide a picture of past and present conditions that help us forecast future weather.

OBJECTIVE: You will construct a weather map showing several atmospheric variables and learn to identify patterns that can be used to predict weather.

VOCABULARY:

ISO BAR:

CYCLONE:

AIR MASS:

SOURCE REGION:

FRONT:

PROCEDURE:

1. Use a pencil to lightly draw isobars between points of equal atmospheric pressure (there should be a high pressure center) - lines for 1024 mb (240), 1020 mb (200), 1016 mb (160) and a low pressure center. - 1012.0 (120), 1008.0 (080), 1004.0 (040)

2. EXTEND EACH STATION MODEL'S WIND ARROW TO SHOW WHICH WAY THE WIND IS BLOWING

3. DRAW A LINE AROUND THE AREA WHERE IT IS RAINING AND LIGHTLY SHADE IT

4. DRAW IN A COLD AND WARM FRONT USING PROPER SYMBOLS.

(HINT: FRONTS START IN THE MIDDLE OF A LOW PRESSURE CENTER)



DISCUSSION QUESTIONS: (Answer in Complete Sentences)

1. With respect to the cold front, where does precipitation occur?

2. With respect to the warm front, where does precipitation occur?

3. What are the two characteristics that are used to describe an air mass?

4. Compare the characteristics of an air mass to its source region.

5. Compare the following conditions on either side of the cold front:

a) temperature:

b) air pressure:

c) wind direction:

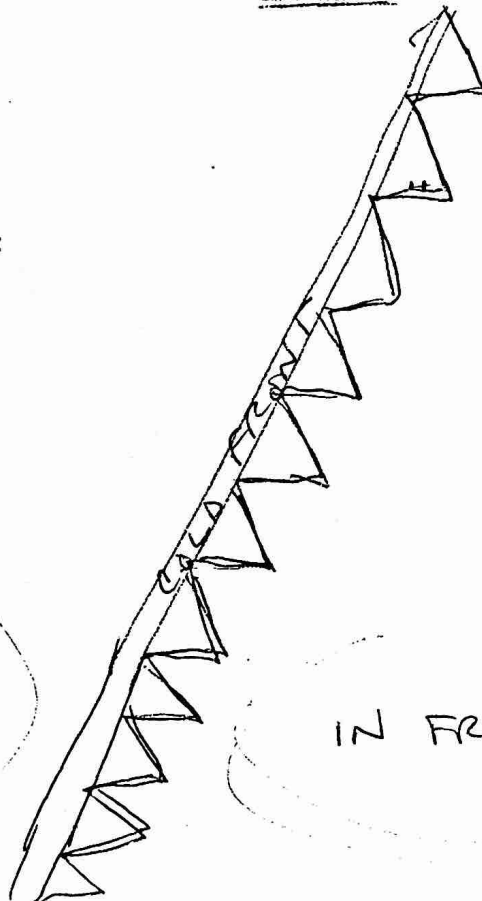
a) Temperature:

b) Pressure:

c) wind direction:

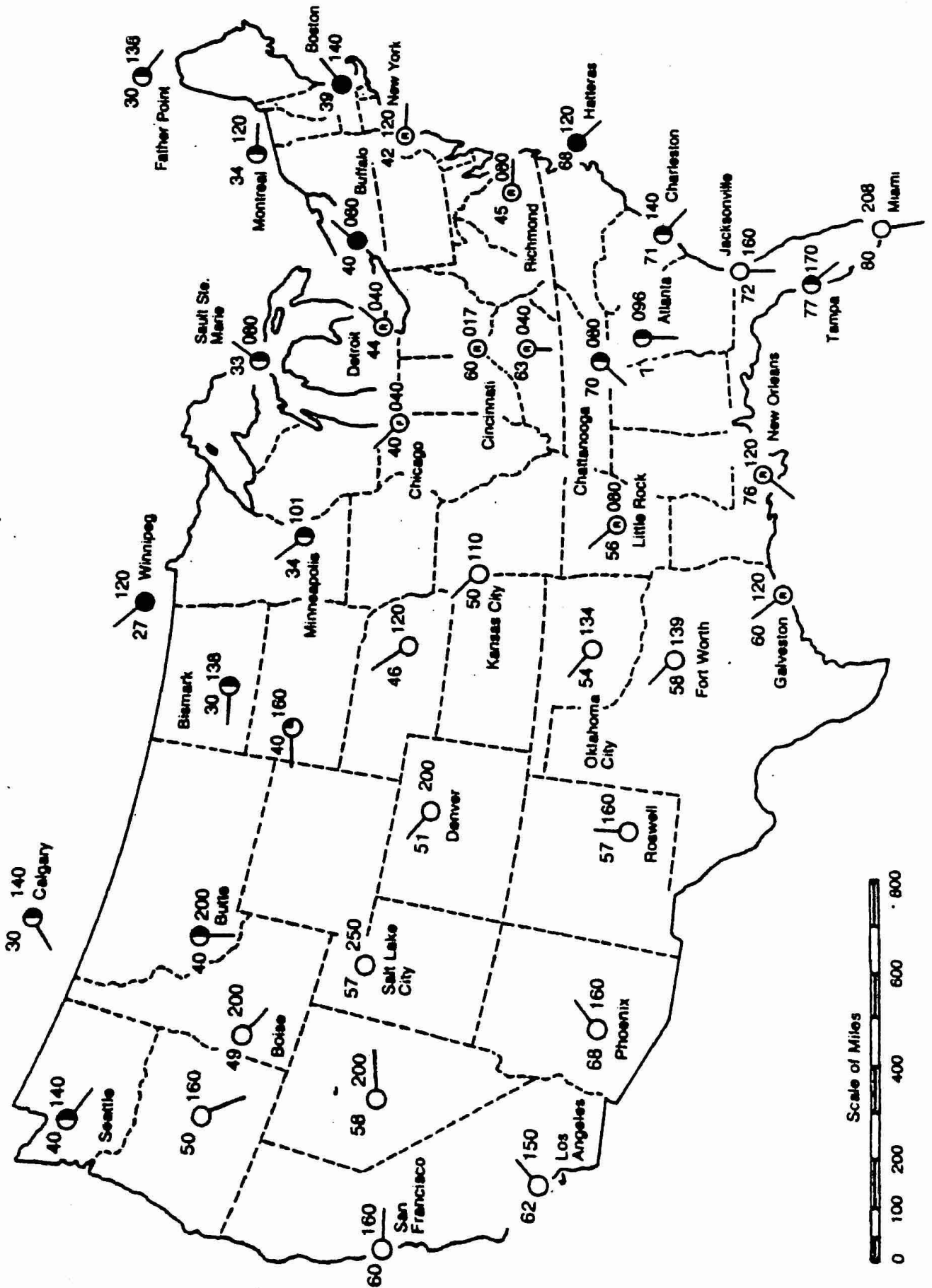
BETIND IT

IN FRONT OF IT.



SYNOPTIC WEATHER MAP

Weather Data Map



CONCLUSION QUESTIONS:

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1. Describe the general weather conditions associated with a high pressure area in terms of:

a) temperature:

b) wind patterns

c) cloud development:

d) precipitation

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2. Describe the general weather conditions associated with a low pressure center in terms of:

a) temperature:

b) wind patterns:

c) cloud development:

d) precipitation: