Earth Science Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Atmosphere Unit: Weather Cycle Period\_\_\_\_\_\_\_\_\_\_

**Weather Maps Summary**

In this activity, you will be looking at weather data from Orem, Utah for 18 consecutive days. Now you will construct graphs of some of this data, examine the weather maps for patterns in the data, and draw some conclusions about how the atmosphere really works on a daily basis.

**Part one**: Construct **line graphs** (points should be connected) of the data on provided sheets

1. **Daily High Temperature and Daily Low Temperature** (5 points)
2. **Air Pressure** (5 points)
3. **Relative Humidity** (5 points)

**Part Two:** Answer the following conclusion questions **based on the information your graphs and maps provide.** Your explanations should be complete thoughts and should make sense to someone who doesn’t understand weather very well. You should use specific examples and dates from your maps to illustrate your ideas.

1. What appears to be the relationship between air temperature and air pressure? (3 points)
2. What appears to be the relationship between air temperature and relative humidity? (3 points)
3. What appears to be the relationship between relative humidity and air pressure? (3 points)
4. What appears to be the relationship between relative humidity and precipitation? (3 points)
5. You have been told that high pressure air is cool dry; low pressure air is warm and wet. Discuss the data that confirms or denies this statement. (3 points)
6. Explain how Utah’s location relative to areas of high and low pressure influences the direction of the winds we get here. (3 points)
7. How does the presence of clouds affect the range between daily high and low temperatures? How does this fit into the concept of the weather cycle? (3 points)
8. What seems to be the most common type of weather front and cloud type here in the winter? How can these observations best be explained?
9. What are the major air masses that have affected Utah during this observation period? Where did these air masses come from, and how did their characteristics influence the weather?
10. How does the location of the jet stream relative to Utah affect our weather? How does the jet stream affect our weather when it is to the north of us? To the south of us? Directly south of us? Directly over us? (3 points)
11. Describe the general pattern of atmospheric conditions (temperature, air pressure, relative humidity, winds, and cloud type) as storms approach Utah. (3 points)