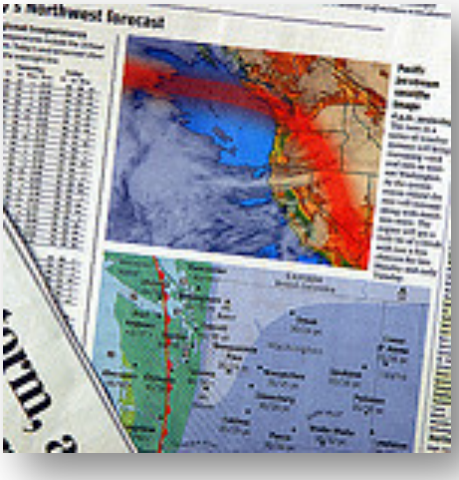
Forecast for Omaha

Activity

The movement of water and air masses in the atmosphere are caused by thermal energy transferred to Earth's surface from the Sun. This energy driven atmospheric movement causes the weather we see day to day. The movement of water and air masses leads to changes in atmospheric conditions, such as wind speed and direction, temperature, humidity, and precipitation, which can be tracked over time. Weather stations exist all over the world and measure these conditions daily, hourly, or even every minute. By knowing the atmospheric conditions today and for the past week, month, year, or decade, meteorologists can use this information to predict what the weather will do tomorrow and next week.



Procedure

1. Draw a chart similar to the following in your lab journal.

Weather for Omaha					
	Monday	Tuesday	Wednesday	Thursday	Friday
Temperature					
Precipitation Symbols					
Probability of Rain (high or low)					
Miles Traveled by Cold Front					
Miles Traveled by Warm Front					

2. Using the weather map provided by your teacher, you will be plotting the cold and warm fronts for the next week and predicting the weather of Omaha, Nebraska. Looking at your weather map, fill in the chart for Monday.
3. Using the information on your weather map, calculate how far the fronts will move each day. To calculate how far they will move, take the speed they are moving and multiply it by the number of hours in a day. Record the distance each front will travel each day in the data table.
4. Using the map scale and the ruler, draw in the new location of each front for the remaining four days of the week.
5. With your fronts now drawn, predict the weather in Omaha, Nebraska, for Tuesday through Friday. Write your predictions of the daily temperature, the probability of rain and the predicted precipitation symbol in the data table.