Weather Forecasting

Name: _____ Date: _____ Period: _____

LT1: I can summarize information given in a nonfiction reading to understand how to read a weather forecast.
LT2: I can use data to show how interactions of air masses result in changes in weather conditions.
LT3: I can make predictions for weather in the near future based on data collected currently.

Part 1: Summarizing information from a nonfiction reading

Read the newsela article "How to read a weather map" by NOAA SciJinks on 09.04.19 at MAX level, then complete the remainder of the assignment.

Questions:

1. What two things does atmospheric pressure depend on? _____

   _____

2. Is atmospheric pressure higher in warm air or cold air? Why? _____

   _____

   _____

3. Is dry air or moist air more dense? Why? _____

   _____

4. Does wet air or dry air have a higher atmospheric pressure? Why? _____

   _____

   _____

5. What condition does a blue "H" stand for on a weather map? What characteristics does air in this type of air mass typically have? _____

   _____

6. What condition does a red "L" stand for on a weather map? What characteristics does air in this type of air mass typically have? _____

   _____

7. What type of weather is generally seen in a high pressure system? _____

   _____

8. What type of weather is generally seen in a low pressure system? _____

   _____

9. What direction does a warm front normally move in? What type of weather usually accompanies a warm front? _____

   _____

   _____

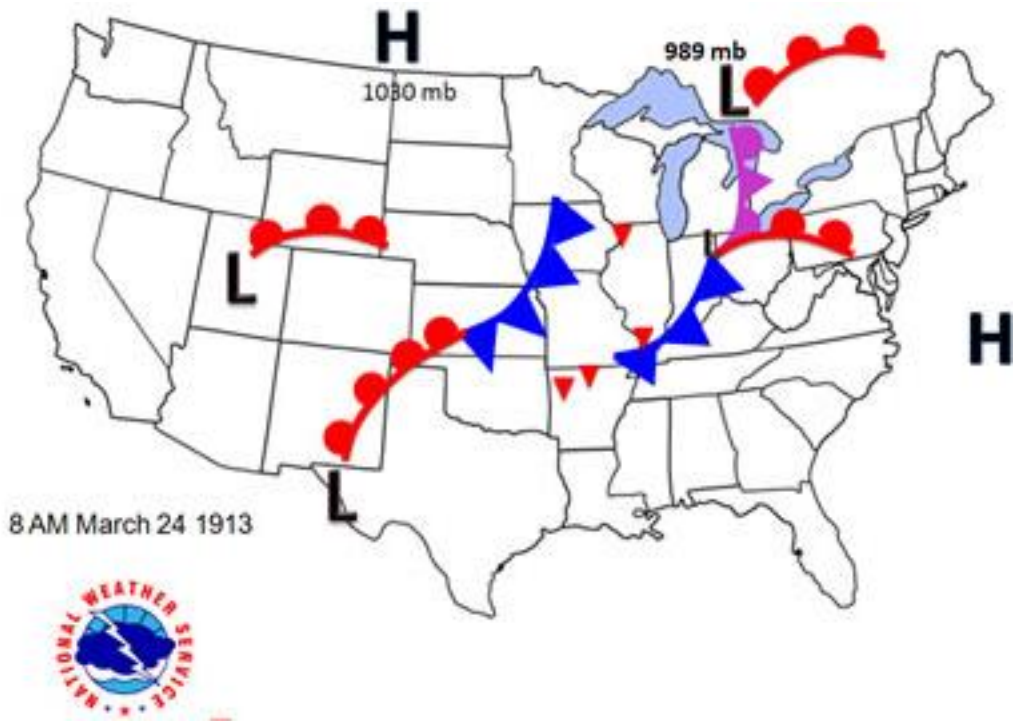
10. What direction does a cold front normally move in? What type of weather usually accompanies a cold front? _____

    _____

Source: betterlesson.com/lesson/632045/3-air-masses-and-fronts-meet-in-the-sky-oh-my

Part 2: Reading a weather map

Look at the weather map shown below:



1. Using your knowledge gained from previous readings, what type of weather front is shown by the line with the half circles? (Hint: If this was a colored map it would be shown in red.) What is the weather like at this front?

2. What type of weather front is shown by the line with triangles? (Hint: If this was a colored map, it would be blue.) What is the weather like at this front?

3. What does the H on the map stand for? What type of weather usually accompanies this symbol?

4. What does the L on the map stand for? What type of weather usually accompanies this symbol?

Review of Weather Terms

High Pressure • mass of cool, dry air • generally brings fair weather and light winds • can bring sunny skies • represented as a big H on a weather map	Cold Front • boundary between a cold and a warm air mass • colder air moves in replacing war air • heavy precipitation • represented as a blue line with triangles pointing toward the direction it is moving
Low Pressure • mass of warm moist air • generally brings strong winds and stormy weather • represented as a big L on a weather map	Warm Front • boundary between a cold and a warm air mass • warmer air replaces cold air, longer periods of precipitation fall • represented as a red line with half circles pointing toward the direction it is moving
Air Mass Types • cP – continental polar: cold, dry • cT – continental tropical: hot, dry • mP – maritime polar: cool, moist • mT – maritime tropical: warm, moist	

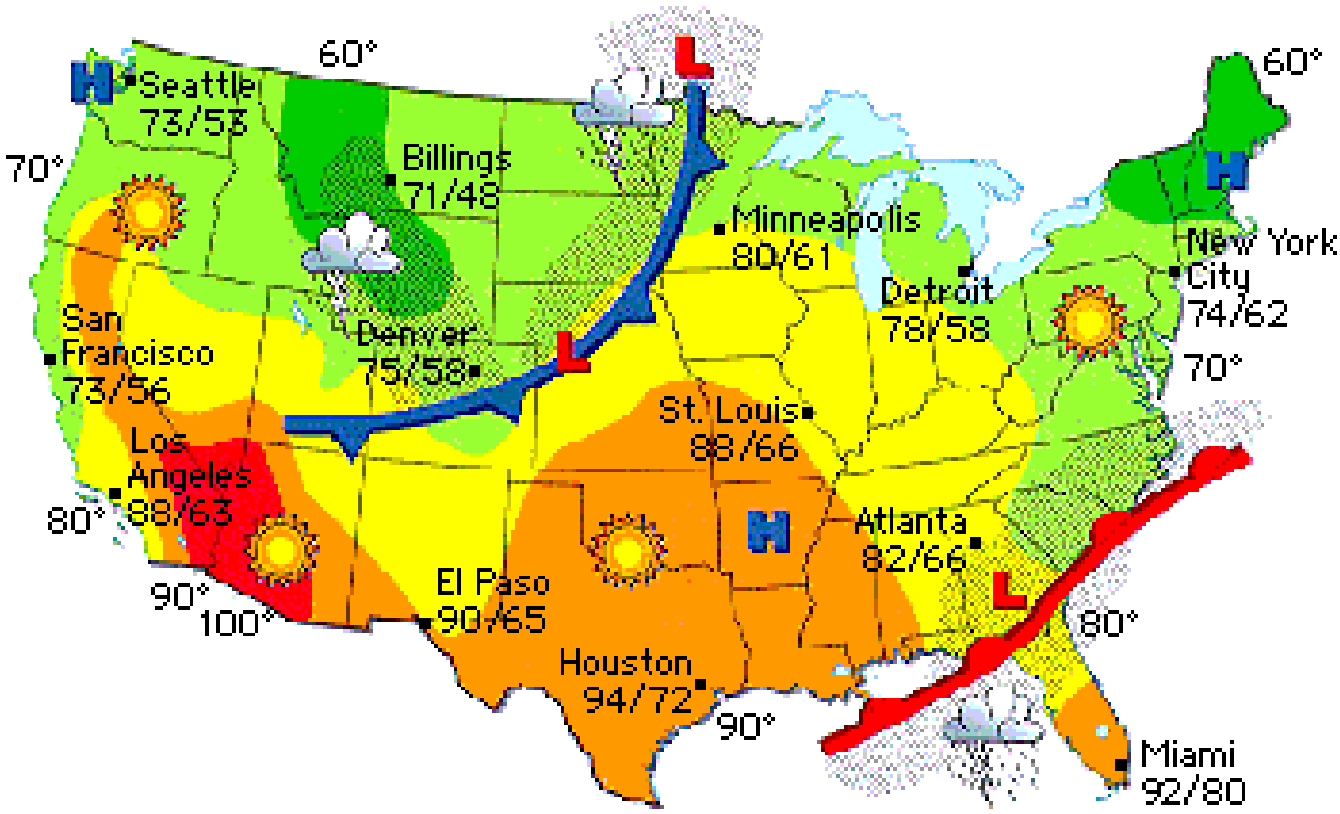
Part 3: Weather predictions based on given data

You have been hired by the West Linn local news channel as a meteorologist to forecast the weather. Your first assignment is to forecast the weather in four different areas to the United States using what you know about pressure, air masses and fronts.

1. Examine the map of the United States and locate the four cities named in your data table.

2. Identify and describe the fronts heading towards each city and the air mass that follows it. (Use cP, cT, mP or mT.) Record this information in your table.

3. For each city predict how the incoming front will change the weather (temperature, air pressure, precipitation) in the local area. Record this information in your data table.



City, State	Incoming Front	Incoming Air Mass	Effect of the Front on Local Weather	
			Temp.	Possible Weather
St. Louis, Missouri				
Seattle, Washington				
Atlanta, Georgia				
Minneapolis, Minnesota				