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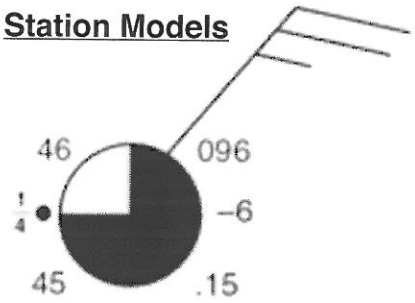
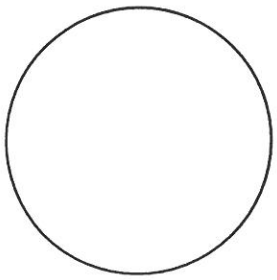
Station Models



Variable	Variable
Temperature:	Dew Point:
Visibility:	Wind Speed:
Wind Direction:	Cloud Cover:
Barometric Pressure:	Barometric Trend:
Precipitation:	Current Weather:



Variable	Variable
Temperature-71 F	Dew Point-68 F
Visibility-1/2 Mile	Wind Speed-45 Knots
Wind Direction-W	Current Weather-T-Storms
Cloud Cover-100%	Barometric Pressure-987.6 mb
Barometric Trend: -33\	Precipitation- 0.11 Inches

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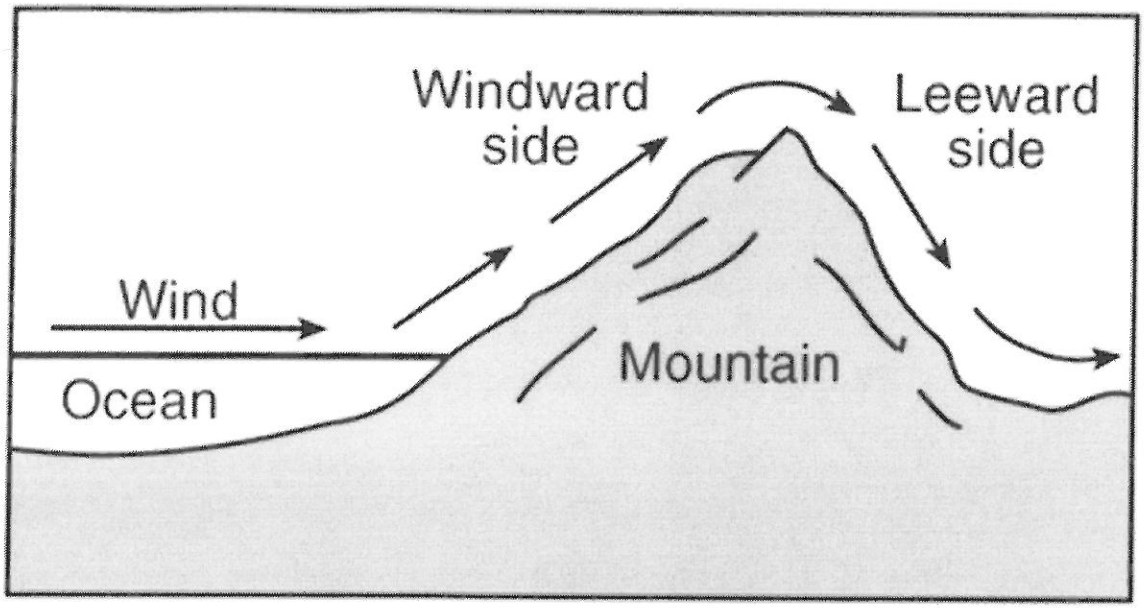
Orographic Lifting



1. What side of the mountain will get the majority of the precipitation? _____
2. Tell me what the temperature and humidity will be like on the Windward side?
   _____
3. What happens to the air mass as it begins to rise over the mountain? _____
4. What temperature does the air mass cool to? _____
5. As air rises, it cools and (expands or contracts)? _____
6. What phase change occurs as a cloud forms? _____
7. When the air mass goes over the mountain, is the humidity high or low? _____
8. The Leeward side of the mountain has a phenomenon called " The _____ Shadow Effect"
9. Tell me what the temperature and humidity will be like on the Leeward side?
   _____
10. As air sinks on the Leeward side it will warm due to (expansion or contraction?)
    _____
11. What is orographic lifting?
    _____
    _____
12. What is adiabatic temperature change?
    _____
    _____

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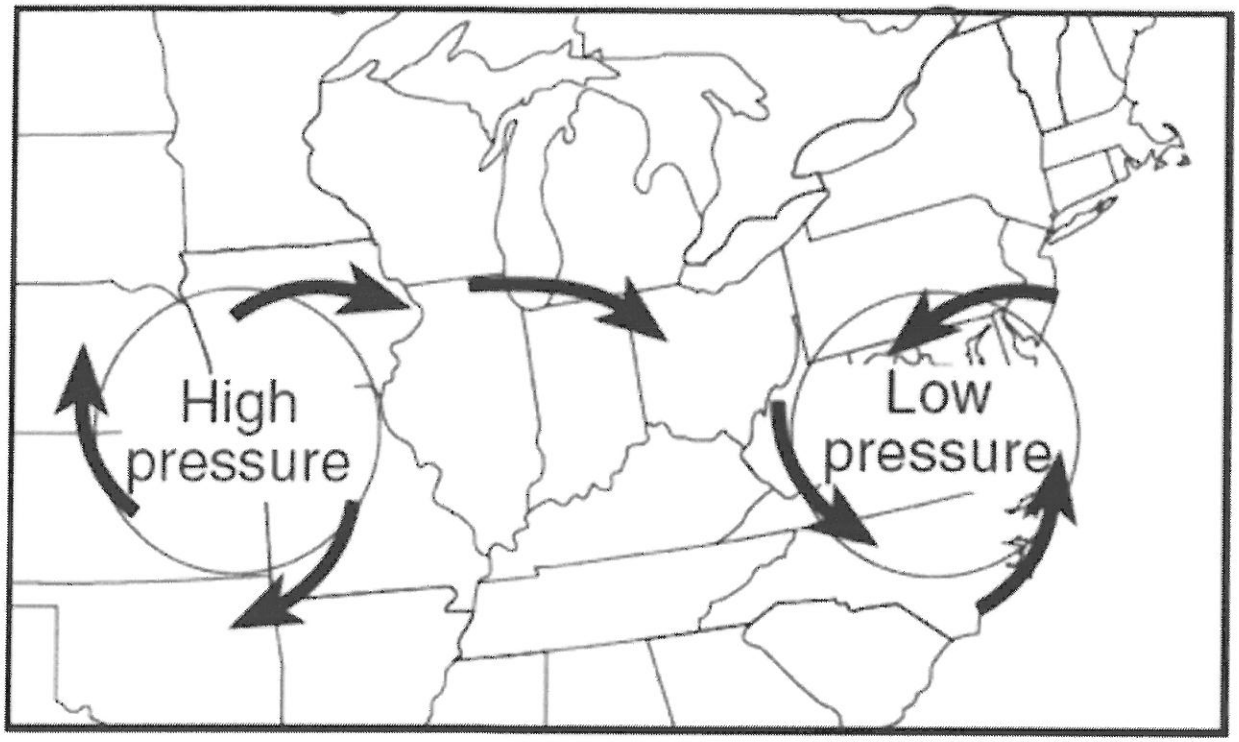
High and Low Pressure Characteristics



High Pressure Characteristics	Low Pressure Characteristics

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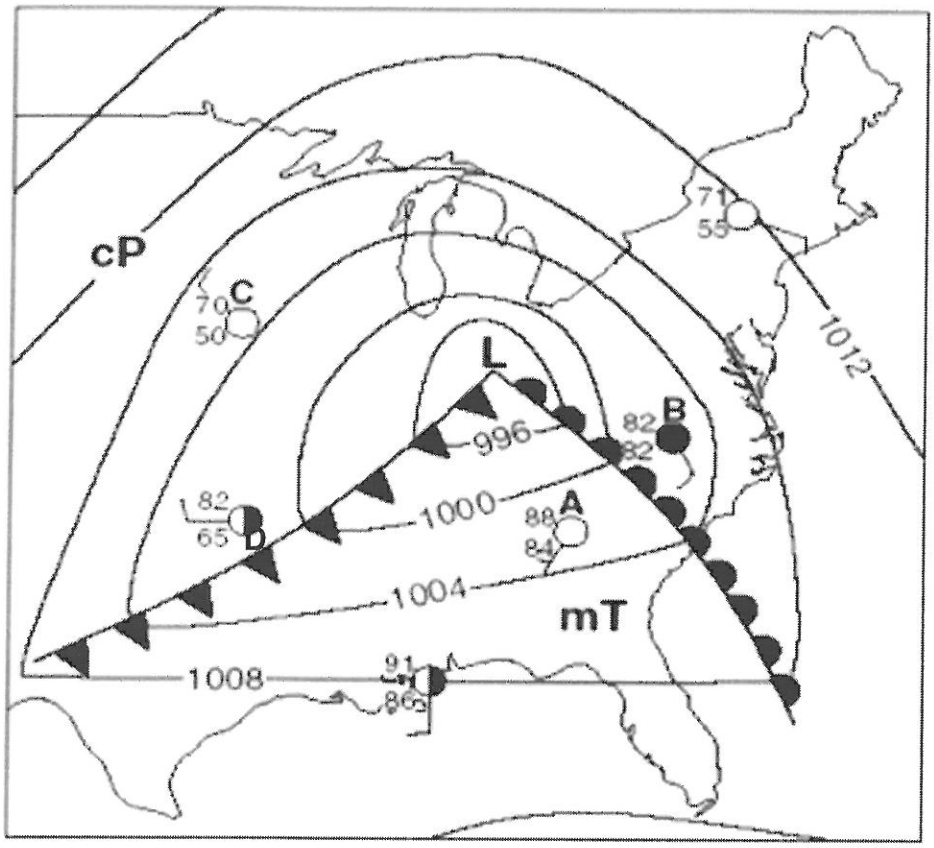
Weather Practice



1. What is the name of the storm pictured above? _____
2. Is Low pressure dry weather or wet weather? _____
3. Draw in where the precipitation will be found for both the warm front and the cold front
4. Where does the mT airmass come from? _____
5. Where does the cP airmass come from? _____
6. In station model B, what does it mean when both the air temp and dew point temp are both 82° F?

   _____
7. What direction are the winds blowing around the low pressure? _____
8. What station model just experienced torrential rains and a tornado warning? _____
9. What station model has the driest air? _____
10. What station model is experiencing slow steady precipitation? _____
11. What station model has a slowly falling barometer? _____
12. What 2 station models have a flood warning with very dangerous lightning? _____
13. What happened the pressure of station model D over the past hour? _____
14. What direction will this low pressure center move over the next 24 hours? _____

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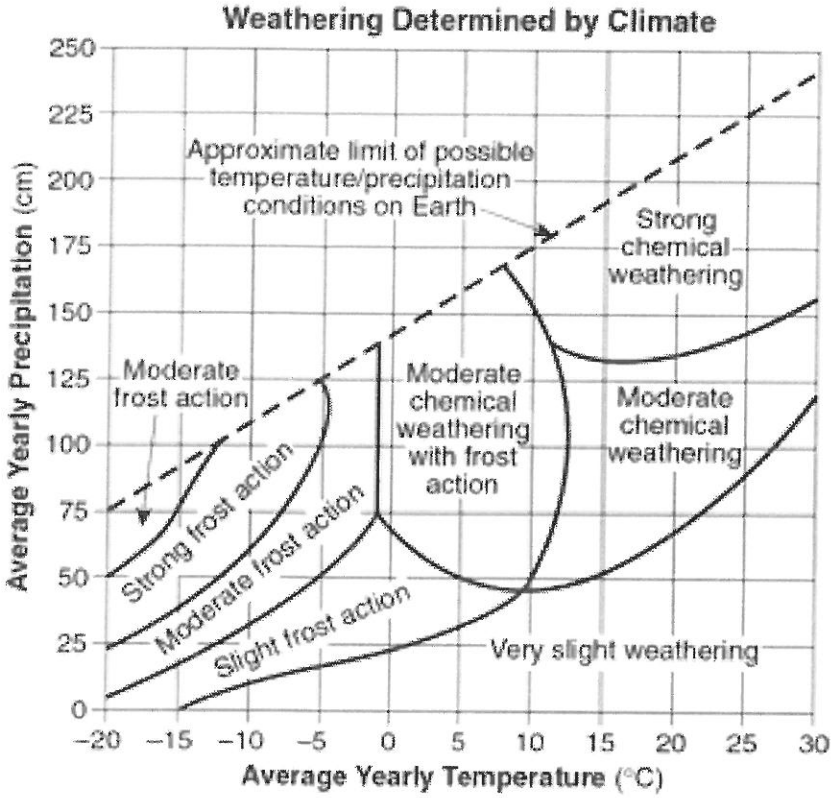
Weathering Conditions



1. Describe the climate needed for chemical weathering to be dominant.

_____

2. Describe the climate needed for physical weathering to be dominant.

_____

3. Provide a few examples of physical weathering. _____

4. Provide a few examples of chemical weathering. _____

5. Describe what a chemical weathering landscape would look like.

_____

6. Describe what a physical weathering landscape would look like.

_____

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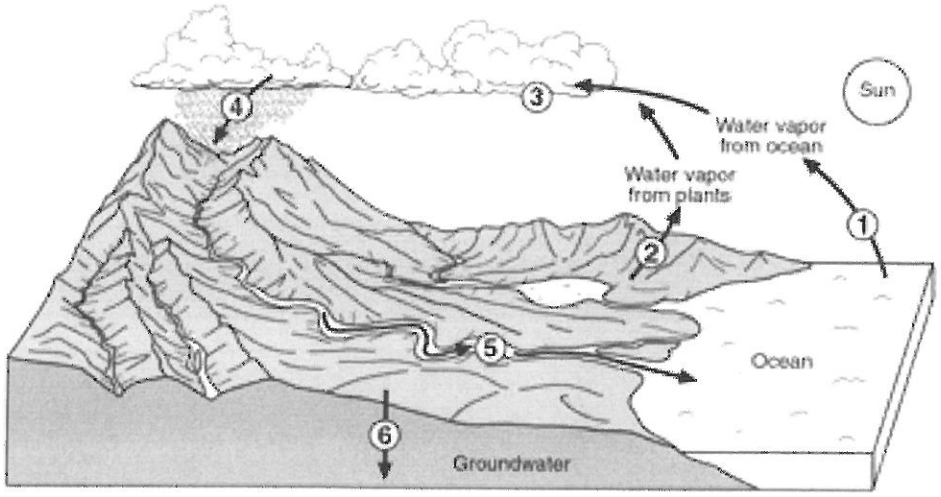
The Water Cycle



1. Label the processes from the diagram above....

   i. _____
   ii. _____
   iii. _____
   iv. _____
   v. _____
   vi. _____

2. Provide the necessary ground conditions for runoff.

   _____

3. What does the term "saturated"? _____

4. Provide the necessary ground conditions for infiltration.

   _____

5. Clouds form from what process? _____

6. Water enters the atmosphere through 2 processes...what are the?

   _____

7. What are the 2 groundwater zones? _____

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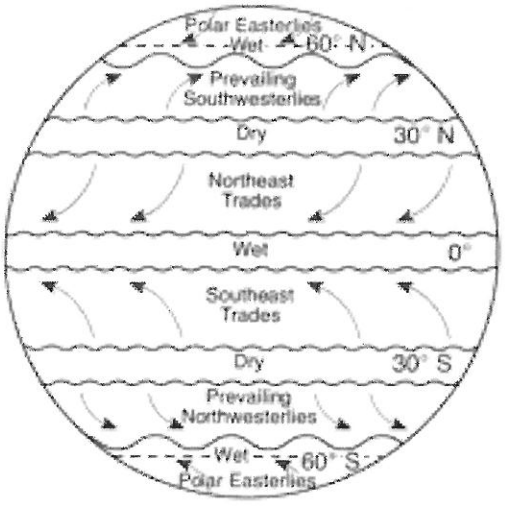
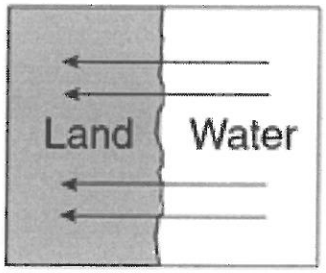
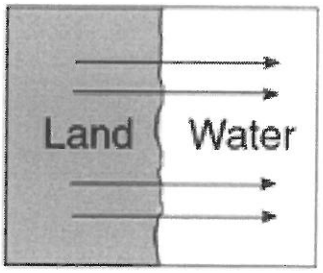
Winds







1. Winds in the northern hemisphere travel in what direction? _____
2. Winds in the southern hemisphere travel in what direction? _____
3. Winds that converge at the surface do what? _____
4. Winds that diverge at the surface do what? _____
5. Which diagram shows a land breeze? _____
6. What time of day does a land breeze occur? _____
7. Which diagram shows a sea breeze? _____
8. What time of day does a sea breeze occur? _____
9. Winds are caused by differences in what? _____
10. What are lines of equal pressure called? _____
11. How do you determine where the strongest winds are on a weather map?

_____

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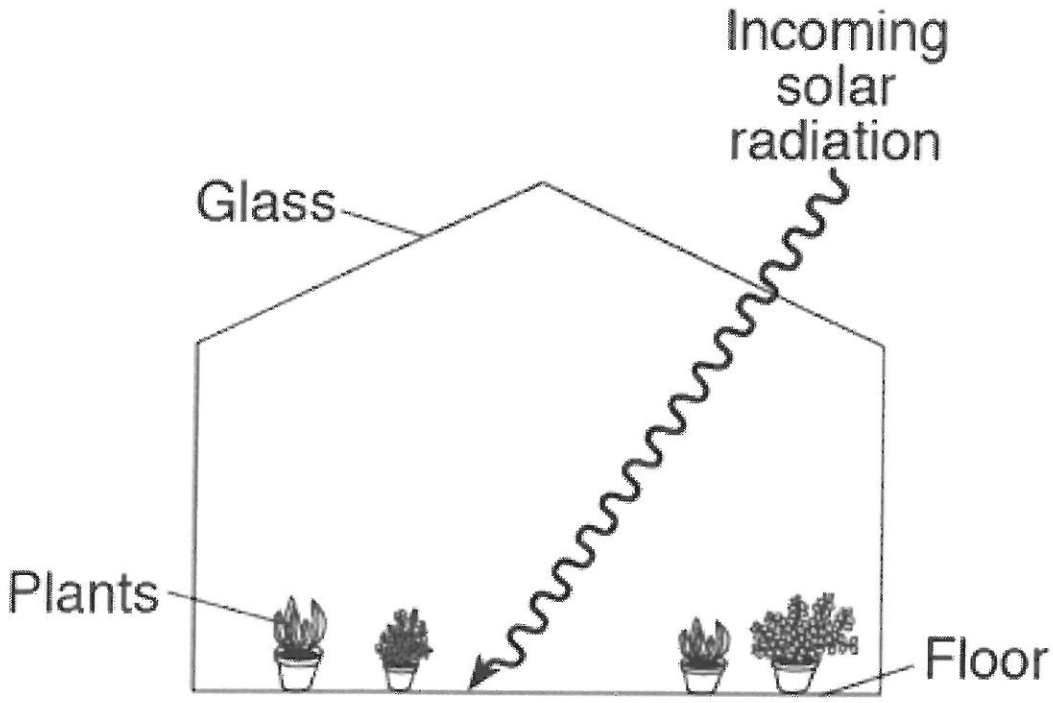
The Greenhouse Effect



1. What type of radiation enters the greenhouse (provide wavelength and names of waves) _____

2. What type of radiation tries to escape the greenhouse (provide wavelength and names of waves) _____

3. Provide a few examples of greenhouse gases. _____

4. The glass in the greenhouse is equivalent to which greenhouse gas? _____

5. What are some possible reasons for the increased amount of carbon dioxide in the atmosphere?

_____

6. Dark colors are good at doing what? _____

7. The electromagnetic spectrum is organized by what? _____

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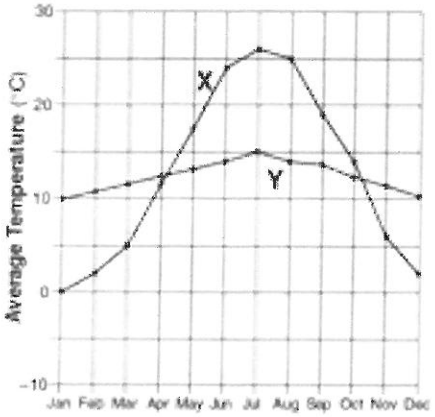
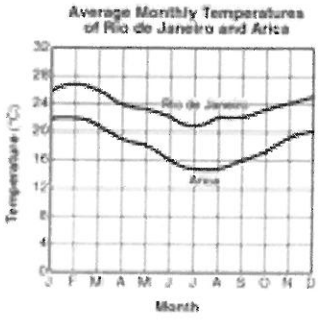
Climatic Conditions

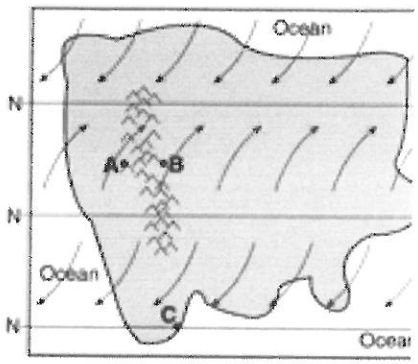


A

B



C



D

1. In diagram A, explain why the 2 cities have very different temperature curves?

_____

2. Explain the summers and winters of an inland region.

_____

3. Explain the summers and winters of a coastal region.

_____

4. What substance has the highest specific heat on the planet? _____

5. Describe the differences in heating/cooling for substances that have high or low specific heats.

_____

6. In diagrams B and C, explain the difference in temperature curves for Arica and Rio de Janeiro. Both cities are at the same latitude.

_____

7. In diagram D, explain the difference in climate for positions A and B.

_____

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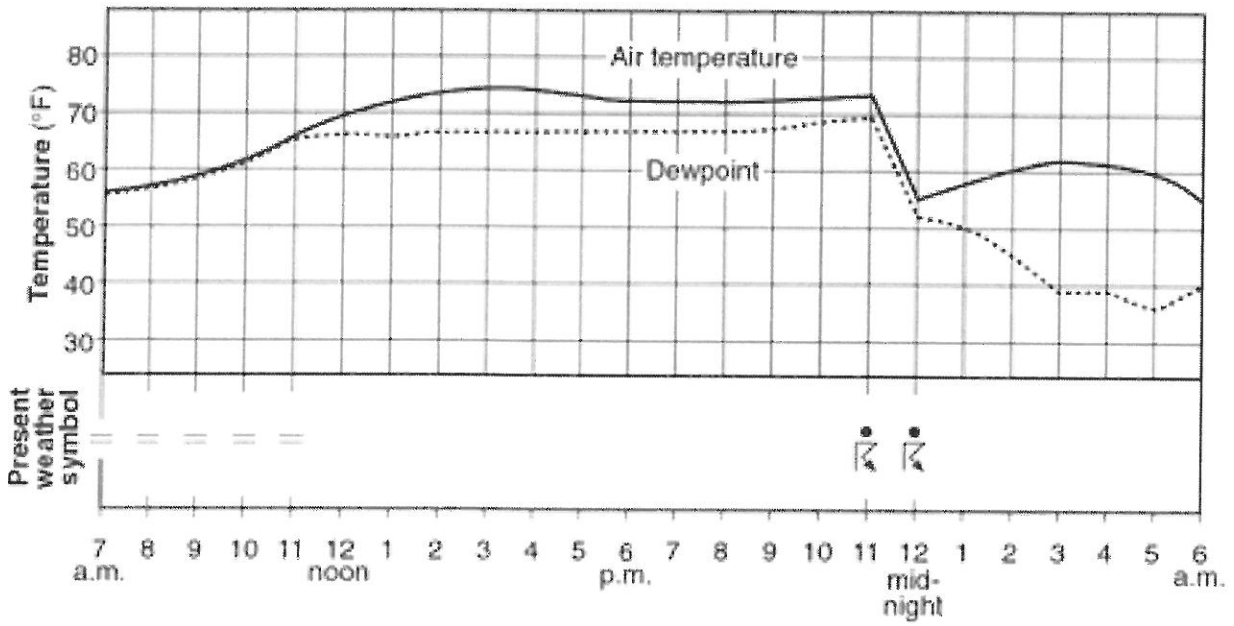
Temperature and Dew Point



1. Low pressure is going to bring in what type of weather? _____

2. High pressure is going to bring in what type of weather? _____

3. As the air temperature approaches the dew point, what happens outside?

   _____

4. As the air temperature and dew point get farther apart, what happens to the weather outside? _____

5. Clouds form when warm air rises, expands, cools to the _____

6. In the diagram above, what 2 time blocks represent the best chance for precipitation? _____

7. As air temperature approaches the dew point, what happens to the relative humidity?

   _____

8. Air that is saturated is said to have what type of humidity? _____