Weather Cram Sheet Kowalik 2012

1. As temperature increases, air pressure decreases.
2. As humidity (moisture content of the air) increases, air pressure decreases.
3. As altitude/elevation increases, air pressure decreases. High Pressure = sinking air currents, dry conditions, little to no clouds.
4. Low Pressure = rising air currents, moist conditions, increase in cloud development.
5. Wind occurs due to differences in air pressure.
6. Wind always moves from regions of high pressure to regions of low pressure perpendicular to the isobars.
7. Isobars close together = steep pressure gradient = high wind speeds.
8. Wind is named by the direction it is coming from.
9. Surface High Pressure (anticyclones) = Clockwise and outward/divergent winds.
10. Surface Low Pressure (cyclones) = Counterclockwise and inward/convergent winds.
11. The closer the dew point temperature gets to the air temperature the greater the chance for precipitation.
12. Dew point = Air temp > brings 100% humidity!!
13. In the middle latitudes (U.S.), weather moves from the west to the east (northeast).  Prevailing Westerlies.
14. Precipitation occurs when:
* warm, moist air rises
* cools adiabatically (due to expansion),
* reaches the dew point temp.,
* condensation occurs (on condensation nuclei),
* the droplets collect in masses (cloud formation)
* when the drops are large enough = precipitation .
1. Air cools adiabatically as it rises due to expansion from the higher  atmospheric pressure at low elevations to the lower atmospheric pressures at higher elevations.
2. Air warms adiabatically as it sinks due to compression by the heavier atmospheric pressure at lower elevations.
3. Air masses are characterized by their TEMPERATURE and MOISTURE characteristics.
4. The leading edge of the air mass is called the FRONT.

ESRT        [Cold Front](http://www.usatoday.com/weather/tg/wcfront/wcfront.htm)
                 [Warm Front](http://www.usatoday.com/weather/tg/wwfront/wwfront.htm)
                 [Stationary Front](http://www.usatoday.com/weather/tg/wsfront/wsfront.htm)
                 [Occluded Front](http://www.usatoday.com/weather/tg/wofront/wofront.htm)

Climate

1. Mountains force air up the windward ( cool/moist) side and down the leeward (warm/dry) side (the Orographic Effect).
2. Large bodies of water moderate coastal climates, ( warmer winters, cooler summers )