**What is Climate?**

Climate and weather are not the same thing. Read through the information provided in this website (<http://www.eo.ucar.edu/basics/>) , and then describe the difference between weather and climate in the space below.

Weather-

Climate-

Thinking about your personal experiences in Windham/Raymond, describe the climate of Maine. What are winters like? Summers? Spring? Fall?

How would you describe our climate to someone who had only ever experienced the climate of the Sahara Desert?

How would you describe our climate to someone who who had only ever experienced the climate in Hawaii?

How would you describe our climate to someone who grew up on the north coast of Alaska, far north of the Arctic Circle?

**The transfer of Heat Energy: Conduction, Convection, and Radiation**

Read through this website (<https://www.e-education.psu.edu/egee102/node/2053>) to explore heat energy, and then define the following terms. Describe an example of when you personally experienced each form of heat:

-Conduction of heat

-Convection of Heat

-Radiation of Heat

Use this website

(<https://sealevel.jpl.nasa.gov/overview/overviewclimate/overviewclimateair/>)

to answer these questions

-What is better at holding water vapor, warm air or cold air?

-What happens to cold air as it sinks?

-What happens to warm air as it rises?

Use this website (<http://www.kidsgeo.com/geography-for-kids/0053-climatic-controls.php>) to explain how each of the following conditions impacts the climate of a particular region:

Prevailing Winds:

Mountains:

Large Bodies of Water:

Ocean Currents:

San Francisco receives about 24 inches of precipitation per year. Reno, Nevada is only 200 miles east of San Francisco, yet it only receives 7.5 inches of precipitation per year. Use an online map to study the differences between these two locations, and then develop a theory that explains why San Francisco's climate is very wet, while Reno's is very dry.

Venice, Italy is located at a latitude of 45.3 degrees north of the equator. Portland, Maine is located at a latitude of 43.7 degrees north of the equator. Average January temperatures in Venice are 43 F (High) and 31 F (low), and in Portland they are 31 F (High) and 12.5 F (Low). Both cities are located on the sea. If Venice is much farther north than Portland, why are winter temperatures so much warmer than those in Portland? Develop a hypothesis to explain the differences between these two climates.