Earth Science Lecture - Test 2 Review

(Test is Monday, October 8th)

Oceanography

Terms: parts per thousand, salinity, density, pycnocline, thermocline, gyres, Coriolis Effect, surface zone, transition zone, deep zone, cations, anions, ion

- know where the chemicals in sea water come from
- how the oceans are layered and what causes the layering
- how can the salinity of sea water be changed?
- know the major Atlantic and Pacific gyres and their direction of movement
- know how ocean gyres affect the climates of certain portions of the earth

Atmospheric Sciences Part 1 - The Structure of the Atmosphere

Terms: troposphere, stratosphere, mesosphere, thermosphere, tropopause, stratopause, mesopause, ozone, Ozone Layer, atmospheric pressure, high pressure systems, low pressure systems, barometer, bar, UV radiation, infrared radiation, auroras

- what is the composition of the atmosphere?
- what is the structure (layering) in the atmosphere and how is it determined?
- how and where does ozone form in the atmosphere?
- know the weather conditions in high pressure and low pressure systems

Atmospheric Sciences Part 2 - Weather

Terms: weather, climate, orographic lifting, rainshadow desert, mid-latitude cyclones, tropical cyclones, warm fronts, cold fronts, warm sector, convection, tropical disturbance, tropical storm, hurricane, relative humidity, water vapor content, water vapor capacity, hygrometer, dew point temperature, condensation, sublimation

- how relative humidity is calculated
- how water vapor capacity and relative humidity is controlled by temperature
- what happens to water vapor in air when it reaches the dewpoint temperature
- know how a barometer works
- know the processes that cause air to raise

Atmospheric Sciences Part 3 - Climate and Global Atmospheric Circulation

Terms: seasons, solar angle, solstice, equinox, axial tilt, Green house effect, Greenhouse Gases, Hadley Cell, Ferrel Cell, Polar Cell, ITCZ, Sub-tropical high, Polar front, Polar Easterlies, Westerlies, Trade winds

- what causes the seasons and when do they occur?
- how the average solar angle is calculated
- how seasons, solar angle and atmospheric thickness control the climate
- how the Greenhouse effect works
- know how to predict wind direction in high pressure and low pressure systems
- global wind patterns and atmospheric circulation patterns