***Topic 3 Review***

1. The universe began with a big explosion--"The Big Bang".
2. Our solar system is located on one of the outer arms of our Milky Way Galaxy (Spiral Shape).
3. An object speeding away from us will shift the light waves to the longer wavelength – **red shift**.

Objects coming towards us, the light waves shifted to the shorter wavelength – **blue shift** due to the Doppler Effect.

1. Luminosity = brightness of a star, increases as you go up the HR Diagram (ESRT), depends on size. Bigger = Brighter
2. Temp = color, decreases to the right, HR Diagram (ESRT) Blue=Hot, Red=cool
3. Our Star = Sun, life cycle=main sequence, red giant, white dwarf (Plot it on HR)
4. Star structure = nuclear fusion of Hydrogen(light) into Helium(heavy), balance: thermal pressure(out) and gravity(inward)
5. Solar system = everything that revolves around the sun: planets, moons, asteroid belts, comets
6. Geo*centric* – Earth *centered* model of solar system (out dated)

Helio*centric* – Sun *centered* model of solar system (currently used)

1. Aphelion - the point on an orbit farthest from the sun (A – away). Perihelion - the point on an orbit closest to the sun.
2. Eccentricity = distance between foci (a perfect circle = 0, a line = 1) Length of major axis (see cover of ref. tables) also (Solar System Data on page 15 ESRT)
3. Ellipse (The closer the foci, the closer to a perfect circle (both foci in same spot).)



1. Earth is closest to the sun in January and farthest in July.
2. The earth revolves counterclockwise around the sun (365 1/4 days).
3. The closer a planet is to the sun the higher its velocity (the faster it orbits), the larger it appears to be and the greater the gravitational attraction.
4. Terrestrial Planets = inner 4 planets, rocky, dense

Jovial Planets = outer 4 planets, gaseous, less dense

1. Asteroid Belt located between Mars and Jupiter