Name: _____

Date: _____ Period: _____

Review: Modern Astronomy

Directions: Carefully read over the checklist of items that you need to know for the "Modern Astronomy" test. Be sure to attend extra help if you have any questions.

STARS AND STELLAR EVOLUTION

- ☐ Stars - the majority of known matter in the Universe
- ☐ Thermonuclear Fusion - the combining of lighter elements into heavier elements to produce energy
- ☐ Mass determines what happens to a star throughout its stellar evolution

CLASSIFICATION OF STARS

- ☐ Luminosity - Rate at which a star emits energy relative to the Sun.
- ☐ ESRT Chart: Classification of Stars Chart [H-R Diagram]
- ☐ Star Types: Main Sequence, Giant, Supergiant, White Dwarf

GALAXIES

- ☐ Galaxy - system of millions or billions of stars and various amounts of gas held together by gravity
- ☐ Galaxy Types: elliptical, irregular, spiral
- ☐ Milky Way Galaxy is a spiral shaped galaxy with approximately 200 billion stars
- ☐ Our solar system is located ⅔ of the way out on one of the spiral arms
- ☐ Size sequence [increasing in size]: Earth → Sun → Solar System → Milky Way → Universe

THE UNIVERSE

- ☐ Universe - all the space, matter, and energy that exists in any place
- ☐ Big Bang - states that all matter and energy started out concentrated in a small area and after a gigantic explosion, matter began to organize into subatomic particles and atoms
- ☐ Evidence of the Big Bang:
  - ☐ Background Radiation - left over energy [long wave radiation] created by the explosion found in all parts of the Universe
  - ☐ Doppler Effect - apparent wave length shifting of electromagnetic energy caused by the relative motion between the energy source and the observer
- ☐ ESRT Chart: Electromagnetic Spectrum
- ☐ Red Shift - when Earth and the celestial object are moving apart the spectral lines move towards the red wavelength —"Red Fled"
- ☐ Blue Shift - when Earth and the celestial object are coming together the spectral lines move towards the blue wavelength — "Blue to You"