**Astronomy Midterm Study Guide**

**Exam:** Wed, Dec 3. Can be retaken through Firm Deadline (Fri, Dec 12) if all classwork complete. Covers all astronomy material from 2nd quarter. You will be able to use your *Solar System Foldable* and your *HR Star Diagram* on the exam.

**Assignments:**

Quiz 1: Solar System

* Solar System Research
* Solar System Foldable

Additional:

* Drake Equation

Quiz 2: Stars & Planets

* Solar System Crossword
* Solar System Formation Video Notes (“How the Solar System was Made”)
* Stars Reading Assignment
* Star Systems Notes
* Planet Notes
* Astronomical Distances
* HR Star Diagram
* Star Notes

**Topics Outline:**

* Astronomical Distances: astronomical unit (AU), parsec (pc), light-year (ly)
* Star Systems: Solar System, exosystem, binary star system, multiple star system
* Solar System Formation: rock line, frost line
  + Nebular Hypothesis: Solar Nebula, Supernova, Contraction, Protostar, Accretion Disk, Sun Formation, Migration, Bombardment
* Future of Solar System: what will happen? Red giant, planetary nebula, white dwarf
* Solar System Facts: sun, eight major planets, belts, oort cloud (know order, basic facts)
* Stars: white dwarf, black dwarf, black hole, neutron star, supernova, apparent brightness, absolute brightness
  + spectral class: O, B, A, F, G, K, M – hottest? coolest? color?
  + luminosity class: main sequence, giants, supergiants
  + star life cycle (low-mass vs. high-mass stars)
* Planets: (know layers/composition of types)
  + Major planets: terrestrial planets, gas giants, ice giants
  + Minor planets: asteroids, meteoroids (*meteors, meteorites*), comets, dwarf planets
  + Exoplanets: brown dwarf, rogue planet
  + What’s difference between planets, moons, and dwarf planets?
  + What’s difference between asteroids, meteoroids, and comets?
  + What’s difference between stars, brown dwarfs, gas giant planets?
  + Are dwarf planets and dwarf stars in the same category?
* Drake Equation: the probability of finding intelligent life other than our own in the universe
  + How is playing the lottery similar to scientists finding intelligent life on other worlds?
  + Have we found evidence of extraterrestrial life yet?
  + Know steps 1 - 8