

ASTRONOMY UNIT TEST- TOPICS LIST

Test Dates: Free Response-1/10/18, Mult. Choice-1/11/18

Free Response Topics:

Be Able To:

- Calculate the amount of time it takes light to reach a planet, given the distance and speed of light. (Dimensional Analysis)
- Calculate the force of gravity given the Universal Gravitational Equation, Constant, Masses, and Distance Between.
- Calculate the mean from a set of data.
- Explain the differences in density and composition for the Terrestrial vs. Gas Giant Planets.
- Use an H-R diagram to classify stars.
- Know the Life Cycle of Stars
- Explain how the difference in life cycle between a low-mass and high-mass star.
- Explain how temperature and luminosity changes can result in a color change in a star.
- Explain the necessary conditions and process for a Solar Eclipse to occur.
- Explain how the rotation of the sun is different from the rotation of the Earth.
- Describe how energy is created in the core of the sun, then transferred through the other layers out of the sun.

Multiple-Choice Topics:

Know:

- Kepler's Laws
- The Sun's Next Stage in it's Life Cycle
- How the sun gets energy
- Nuclear Fusion
- Astronomical Unit
- Historical Scientists who overturned Heliocentric Model
- Definition of Solar System, Galaxy, Season, Comet, Asteroid, Constellation
- "The Big Bang"
- Estimated age of the Universe
- Earth's Rotation and Revolution (Days and Years)
- Expansion of the Universe
- Characteristics of Planets
- Shape of Galaxy
- Geocentric vs. Heliocentric Models of Solar System
- HR Diagram
- Factors affecting Earth's seasons
- Why cores of stars make Nuclear Fusion Possible
- Direction of Rotation of Earth
- Moon Phases
- Forces affecting Moon
- Tidal Range
- Solar/Lunar Eclipses
- Layers of Sun
- Perihelion/Aphelion
- Planet Order
- Great Red Spot
- Black Holes
- Creating Elements
- Tides
- Terrestrial/Gas Giant Planets