



Astronomy Club - Astronomy Basics

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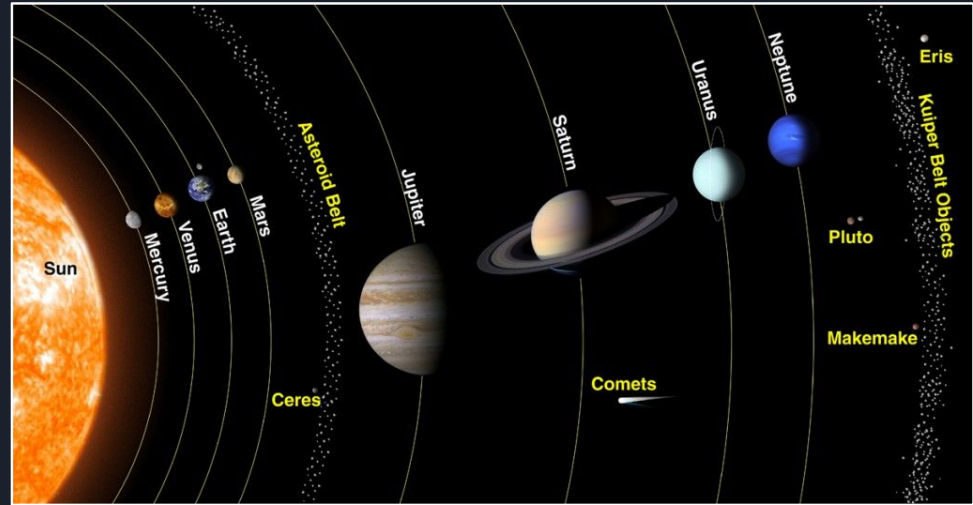
November 29, 2017

PSA:
Astronomy is
NOT Astrology

An abstract graphic on the right side of the slide, consisting of several overlapping, dark gray, 3D-style rectangular blocks arranged in a diagonal pattern from the top right towards the bottom left. Two of these blocks are highlighted with color: a light green block and a blue block, both positioned in the lower-middle section of the graphic.

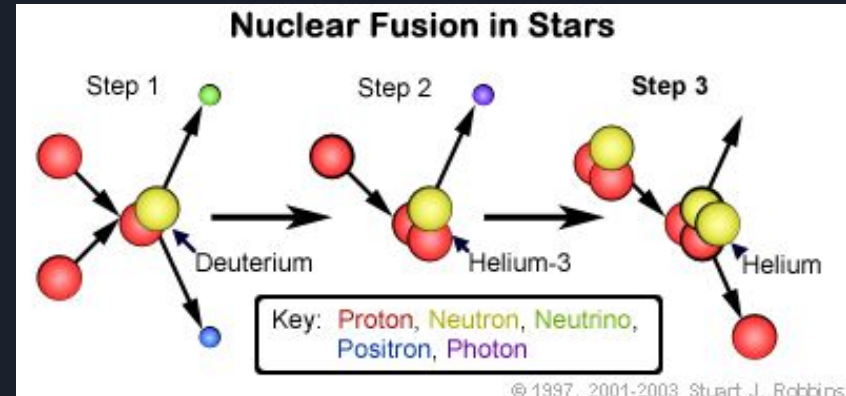
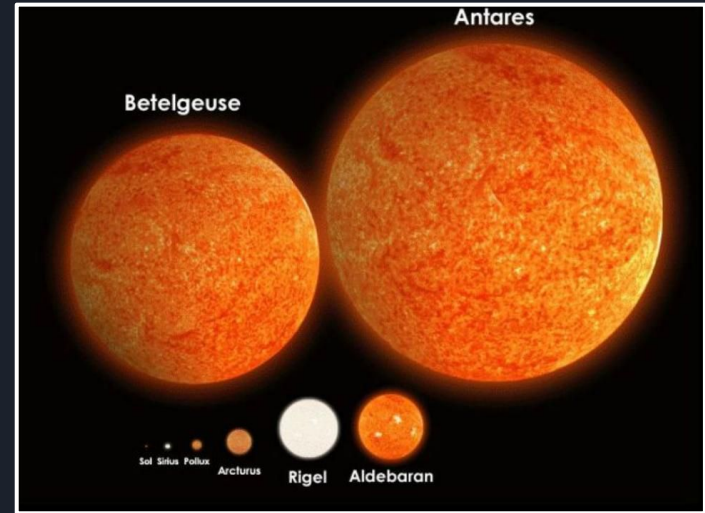
What is Astronomy?

- The the study of celestial objects outside our atmosphere.
 - Celestial objects: planets, galaxies, nebulas, stars, etc.



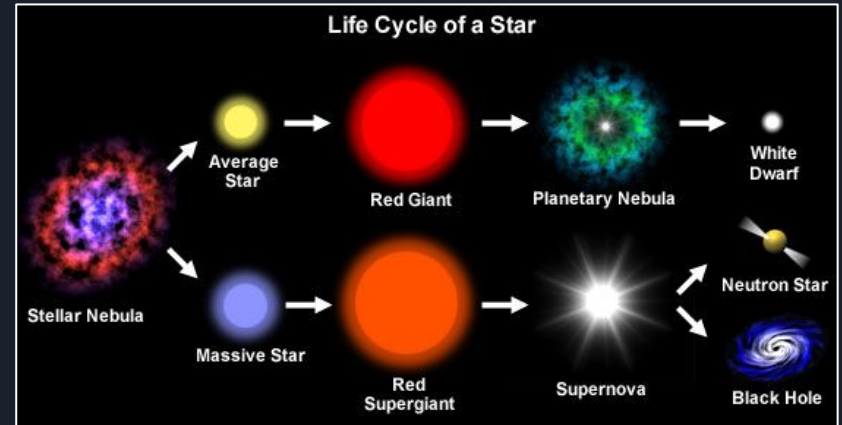
Stars

- Spheres of plasma held together by gravity
 - Plasma: ionized gas of positive ions and free electrons with no electric charge
 - Sensitive to magnetism
- Burn hydrogen by fusing hydrogen atoms together into helium and releasing energy as heat and light.
 - Bigger stars burn faster b/c of gravity on the core



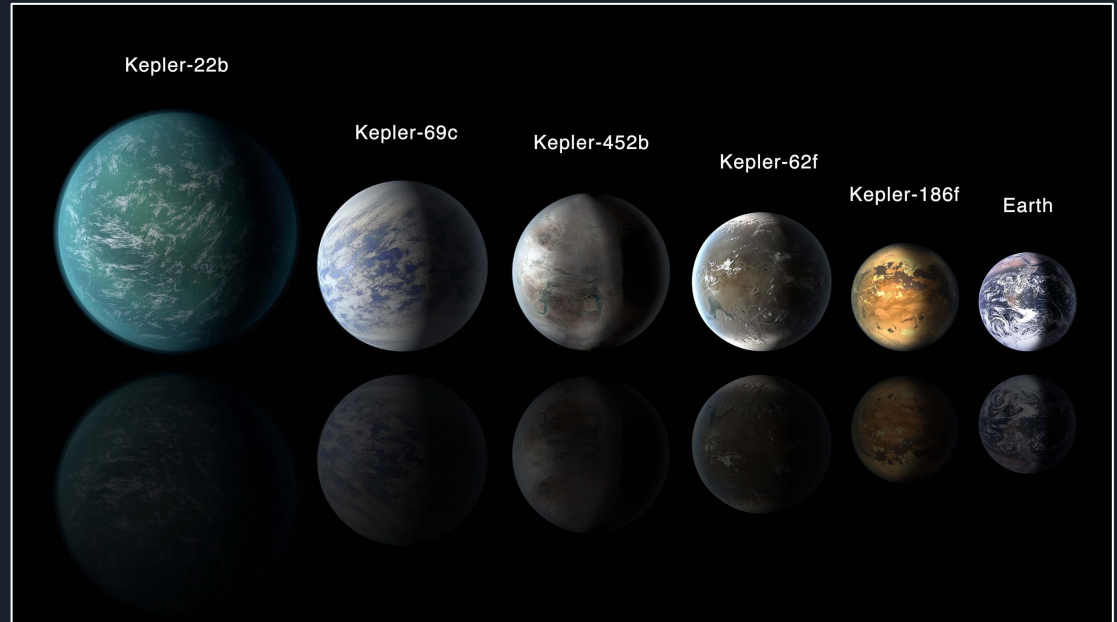
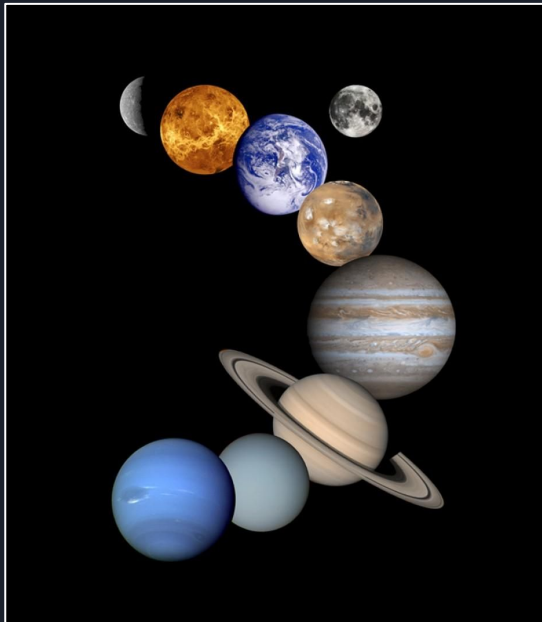
Stars

- Some stars are arranged in constellations
- Star Life Cycle
 - Cloud of gas → protostar → T-Tauri star → main sequence star → red giant → white dwarf, neutron star, or black hole



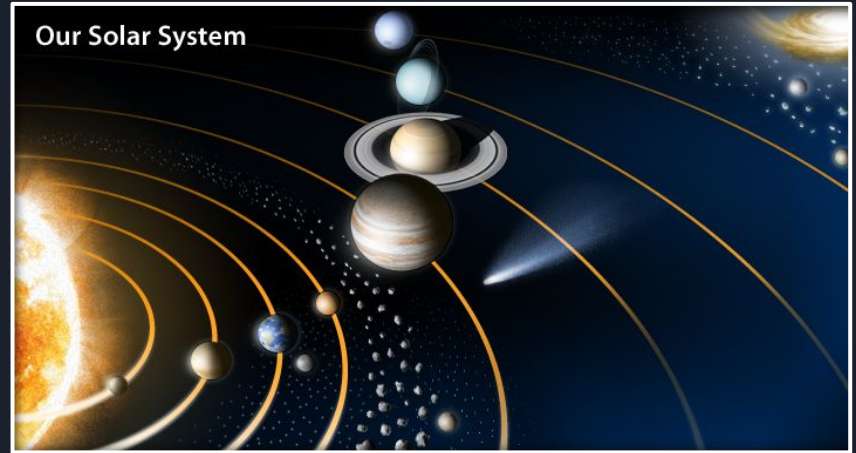
Planets (and exoplanets)

- Celestial bodies formed by the accumulation of mass due to gravity
 - Massive enough to revolve around a star



The Solar System

- System of eight planets revolving around the sun
 - 4 Terrestrial planets
 - 4 Jovian Planets
 - Asteroid Belt
 - Kuiper Belt
 - Oort Cloud
- Planets and sun formed in an accretion disc of gaseous material



Other Things in Space!

- Galaxies
 - Massive regions with millions of stars
 - Spiral, elliptical, or irregular
- Black Holes
 - End state of massive stars
 - Bodies with gravity so immense, even light can't escape
- Nebulae
 - Colossal masses of hydrogen, helium, plasma, dust, gas
 - Areas of star formation
- Comets
 - Masses of ice, organic material, & gas
 - Followed by a "tail" of debris
- Asteroids
 - Small, rocky masses mostly between Mars & Jupiter
 - You can research their orbits at YSPA!!!
 - <http://yspa.yale.edu>



End!

