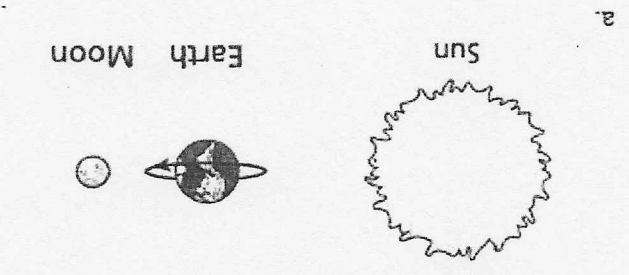


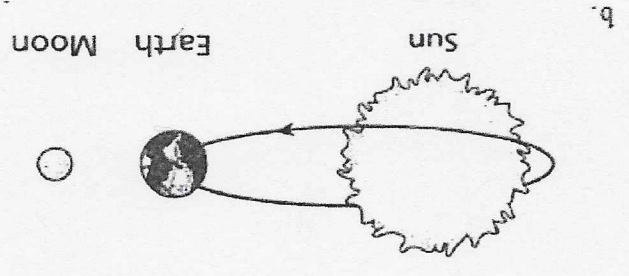
Study Guide Mid-Nine Weeks

Movements to make a Day, Lunar Cycle, & Year

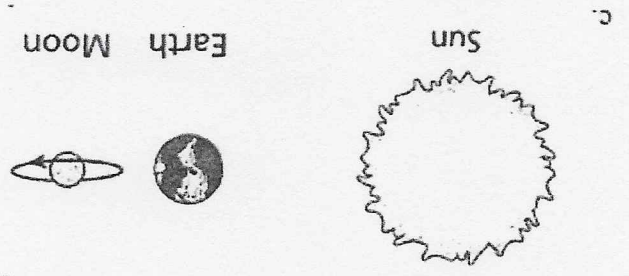
Earth ROTATES on its axis to get "DAY and NIGHT" *24 hrs.*



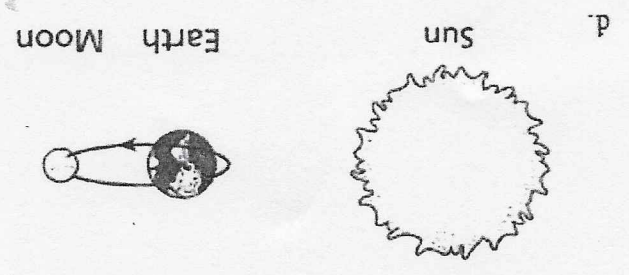
Earth REVOLVES around the sun to get a YEAR *365 1/4 days* and the SEASONS (WITH the TILT of the Earth)



Moon ROTATES at the same speed as it REVOLVES *Approx. 28 Days!*



Moon REVOLVES around the Earth to get Moon PHASES *Approx. 29.5 days*

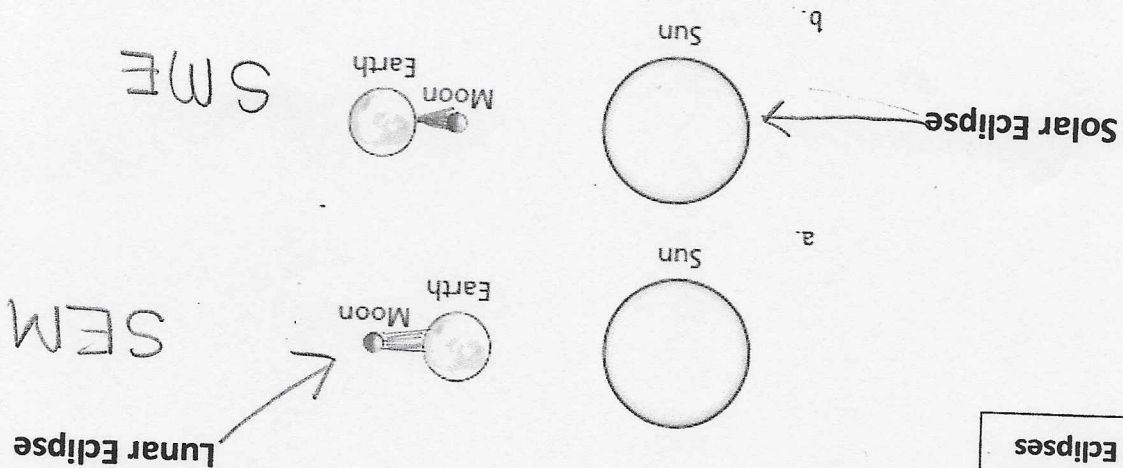


New Moon, Waxing Crescent, Waxing FIRST Quarter, Full Moon, Waning Gibbous, Waning THIRD Quarter, Waning Crescent
 THE MOON Revolves COUNTERCLOCKWISE

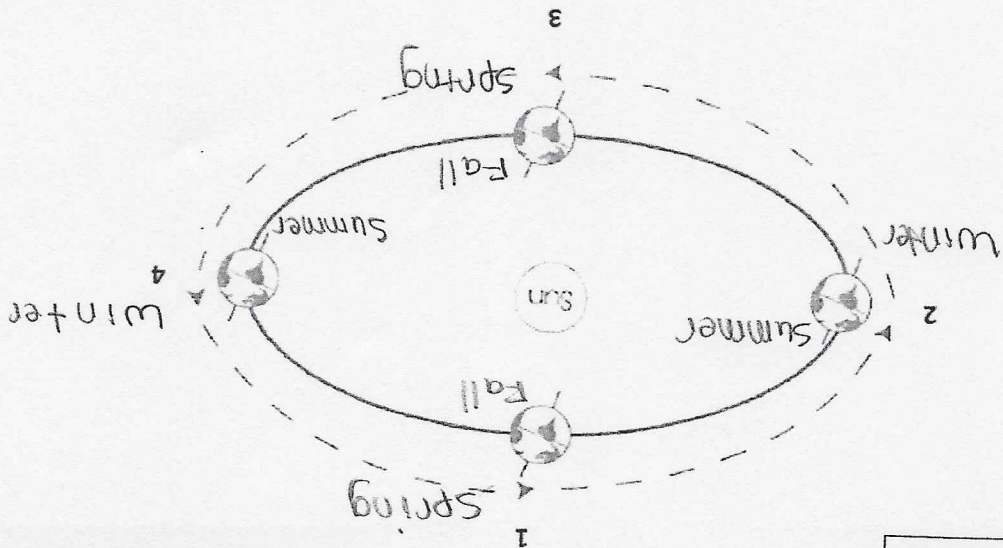
Components of the Universe

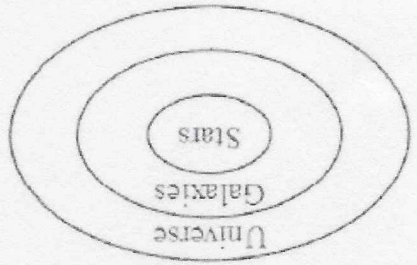
1. Eight Major planets make an elliptical orbit (revolution) around the sun with sun in the center of their orbits.
 - a. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune
 - b. Pluto is now a Dwarf Planet and is on the edge of our Solar System
2. The Asteroid Belt is full of rocky objects that vary in size and mostly orbit between Mars and Jupiter
3. Comets are a large mass of rock, gas, and dust. Comes orbit very closely to the sun and then orbit outside of our Solar System in the Kuiper Belt and Oort Cloud.

Solar and Lunar Eclipses

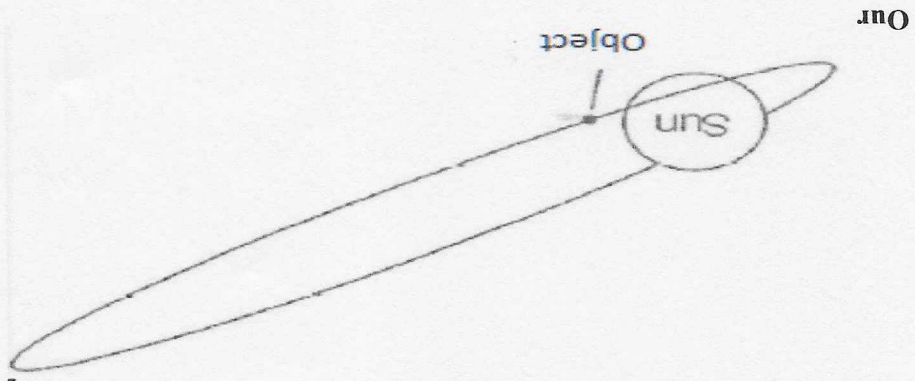


Seasons





- a. Stars, Solar System, Galaxies, Universe
10. The Order of the component sizes from the smallest to the largest:
- 9. Once a Black Hole is full, it will shoot out light energy and become a Quasar including light into its center
 - 8. Black Holes are areas in space with huge gravitational field that pulls anything close
 - 3. Irregular = No defining Shape = Young Stars
 - a. We live in a Spiral Galaxy called the Milky Way
 - 2. Spiral = Middle Age Stars = looks like a Pinwheel
 - 1. Elliptical = Old stars - round in shape
 - i. There are 3 types of Galaxies
 - c. Many Stars together will form a Galaxy
 - b. Our Sun is a middle aged star
 - a. Stars have a life cycle: Born, Live, and Die
 - 7. Stars = Are burning balls of gas (Hydrogen and Helium)
 - 6. Meteors = Are Meteoroids that travel and burn through the Earth's Atmosphere
 - 5. Meteoroids = Meteoroids that are in space
 - 4. Meteorite = Meteoroids that reach the surface of the earth



- a. Halley Comet is the most famous comet that orbits the sun every 76 years
- b. Comets have a head/nucleus and a dust tail that extends millions of kilometers.
- c. As a Comet orbits near the sun, it will develop a second tail, call the ion tail that will point away from the sun is made of gas

Layers of the Atmosphere

1. Layers in order from Top Layer to the bottom layer:

- a. 5. Exosphere = Thinnest Layer – Satellites Orbit in this layer
- b. 4. Thermosphere = Hottest layer – Contains the Ionosphere that show the Auroras and Radio Waves Bounce off
- c. 3. Mesosphere = The middle layer where meteors burn because of friction *coldest*
- d. 2. Stratosphere = The second layer that contains the Ozone layer that protects the earth from UV rays
- e. 1. Troposphere = The Bottom layer that WE LIVE in and WEATHER occurs (small planes fly)

3 Ways that Heat is transferred in the Atmosphere

1. Conduction = transfer through direct contact — *Must Touch*
2. Convection = the transfer through AIR or WATER
3. Radiation = the transfer through SPACE from the sun (or microwave)