

Oort Cloud
Kuiper Belt
Comets are
Way out there!

My Very Educated Mother Just Served Us Noodles
Mercury Venus Earth Mars Jupiter Saturn Uranus Neptune
Asteroid Belt
Moons are natural satellites

Planes
Dwarf Planets
Pluto
Eris
Haumea
Makemake

Our Sun is a star

rotation
rotates a day
A revolution
takes a year
space - meteoroid
atmosphere meteor
ground meteorite

Solar flares
solar wind
corona

Sun's have
cycles
Electromagnetic radiation
| AU = 92,960,000 miles
149,600,000 km

Astronomy

Galaxies
3 shapes
• spiral
• elliptical
• irregular

Our solar system is on the Orion Arm of the Milky Way Galaxy

Spiral shaped
100,000 LY across
we are 25,000 LY
from the center

Progression of theories

Big Bang

Geocentric - Aristotle
Ptolemy
Previous Theory
Earth Center of Universe

Heliocentric - Copernicus Current
Kepler Theory
Galileo Sun center of Solar System

Constellation (imaginary pattern) appear to move, but really are caused by Earth's revolution around the Sun
Day and Night
Sunrise East
Sunset West
caused by Earth's rotation on axis 24 hr spin on axis
"counter clockwise"

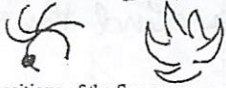
Astronomy Exam Study Guide

Key

- Name the three types of galaxies in the universe.
Spiral, Elliptical, and Irregular
- Galaxies are moving away from us. What does this tell us about our universe? *It is expanding + That the universe is about 13.7 billion years old.*
- The farther away a galaxy is from Earth, the (slower faster) it is moving away. What theory does this support?
(Galaxy) Hubble's Law
- What happens to the amount of light we see from Earth as the moon changes from full moon to new moon?
You see less and less of the lighted side of the moon.
- How could you tell the difference between a stone and a meteorite?
Meteorites come from meteoroids which come from comets or asteroids.
- Which planet has the greatest gravitational pull with the sun? the least gravity pull with the sun?
Greatest ~ Mercury Least ~ Neptune
- Why are you less likely to see a solar eclipse than a lunar eclipse?

8. Describe the how our solar system was formed beginning with the Big Bang.
Formed from a collapsing cloud of gas and dust.

9. Illustrate a simple drawing of our galaxy including where our solar system would be located.



10. Draw/label the positions of the Sun, moon, and Earth during a lunar and solar lunar eclipse.

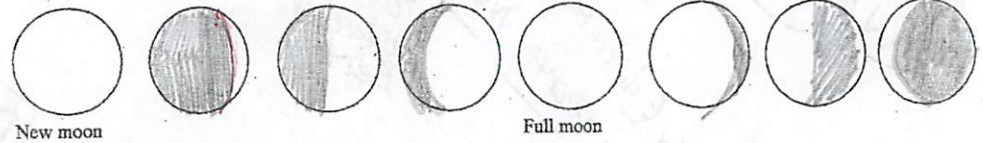
Lunar: *S E M or M E S* Solar: *S M E or E M S*

- What does the phase of the moon we see from Earth depend upon?
How much of the sunlit side of the moon faces Earth.
- Why do comets have tails? Name the 3 parts of a comet. *As the comet approaches the sun, it heats up and its gas and dust stream outward*
Three parts: nucleus, coma, tail
- What is gravity? Who is responsible for the 3 laws of gravity?
Force that attracts all objects toward each other. Newton.
- Name the members of the solar system.
Sun, Planets and their Moons, and a series of smaller objects.
- As mass increases, the pull of gravity increases. (See Newton's Laws p. 674)
- Describe the rotation and revolution of Earth's moon.
Rotation is the spinning of Earth on its axis. A revolution is the movement of one object around another. (p. 515)
- List the Terrestrial and Gas Giant planets in order. List characteristics for each type.
Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.
- Describe the difference between heliocentric and geocentric solar systems. Draw each.
Geocentric - Earth is perceived to be at the center of the revolving planets and stars
Helio-centric - Earth and the other planets revolve around the sun

19. What is the phase of the moon during a solar and lunar eclipse?

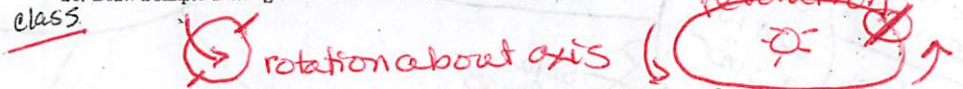
Solar = new moon Lunar = full moon

- Explain the difference between a meteoroid, meteor, and meteorite.
Meteoroid - chunk of rock or dust in space
Meteor - once the meteoroid enters the sky
Meteorite - once the meteor hits the Earth's surface
- Where are most asteroids located? *Between Mars and Jupiter*
- What are the two forces that hold an object in orbit? What happens if one disappears?
Inertia and Gravity ~ the moon would move off in a straight line
- Shade in the moons below in order starting with new moon. Put the name under each.



24. Which is your favorite planet? List 5 characteristics about it.

- Describe the Earth's revolution and rotation. *One complete revolution of Earth around the sun is called a year. Earth's rotation causes day and night.*
- Draw a simple drawing of the motions of revolution and rotation.



- Why do the stars and constellations we see at night change throughout the year?
The Earth is revolving around the sun. Our position changes in orbit.
- Why does the sun appear to rise and set?
The Earth is rotating on the axis West to East
- Why do we only see one side of the moon's surface from Earth?
The moon rotates during the same time it revolves around earth.
- What phase of the moon does a solar eclipse occur? A lunar eclipse?

Solar = new moon Lunar = full moon

31. Draw a comet as it orbits the sun. Be sure to show details.

