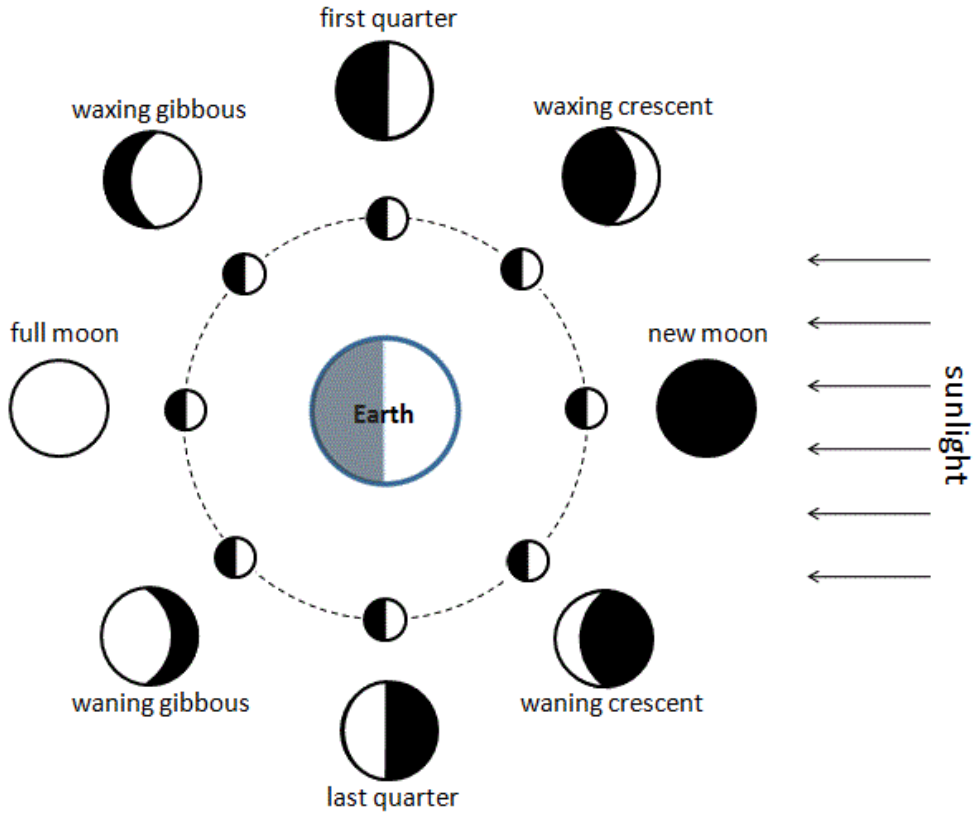
Space Final Exam Study Guide

Name:_____ Class Period:_____

1. **Draw and label a diagram showing the 8 phases of the moon. Make sure to include the SUN in your diagram, and use arrows to illustrate the direction of Moon's revolution around Earth.**



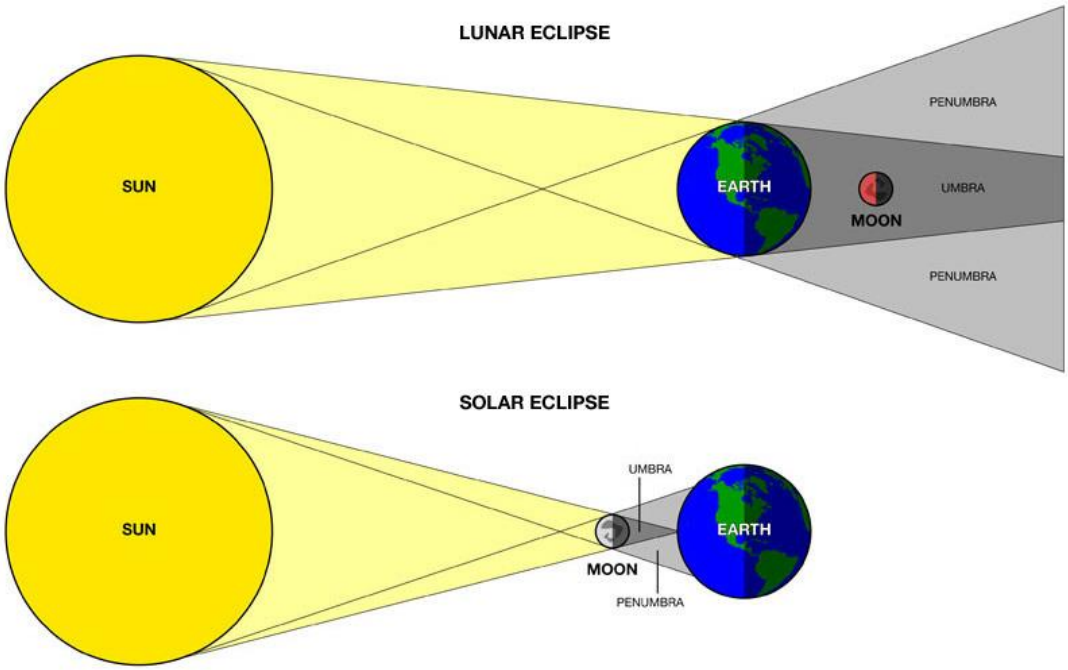
2. **Define ocean tides and explain what causes them.**

Ocean tides are the rise and fall of the ocean that is caused by the gravitation pull of the sun and moon. The moon's gravity has the MOST impact on the Earth's tides.

3. **Explain how moon phases and ocean tides are connected.**

Spring and Neap tides occur during specific phases of the moon:
NEAP: 1st and 3rd quarter moon: tidal range is moderate
SPRING: Full and New Moon: tidal range is extreme
Moon's revolution (phases) are what cause the tidal bulge to move around the Earth.

4. **Draw and label a diagram of both a solar and lunar eclipse. Make sure to label what moon phase each eclipse is.**



5. **What causes day and night on Earth (and all planets)?**

Rotation on its axis every 24 hours.

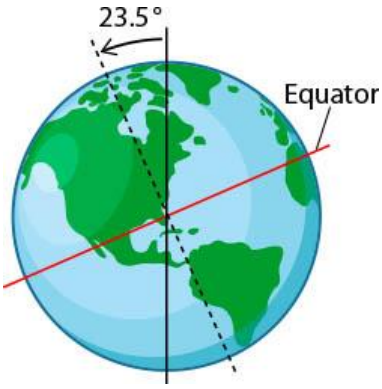
6. **What is the difference between rotation and revolution? What is Earth's period of rotation and revolution?**

Rotation is spinning in place (around an axis) and revolution is when one object circles another one in a particular path or orbit.

Earth's period of Rotation: 23.56 hours

Earth's period of Revolution: 365.25 days

7. **What is an axis? Describe and draw Earth's tilt on its axis.** **An axis is an imaginary line that goes through the center of a planet/moon/star around which it rotates.**



8. **Define gravity. What two factors determine the strength of an object's gravitational pull?**

Gravity is the force of attraction between all objects. The two factors that determine the strength of an object's gravitational pull are: DISTANCE and MASS

9. **Rank the following space objects in order from smallest to largest:**
Galaxy, moon, planet, solar system, sun, asteroid, meteor

Meteor, Asteroid, Moon, Planet, Sun, Solar System, Galaxy

10. **Who is Copernicus and why was he important? What is the difference between heliocentric and geocentric models of the solar system?**

Copernicus discovered that the sun is the center of the solar system. Heliocentric: "sun centered"

Geocentric: "Earth centered"

11. **Describe the equinoxes and solstices, including dates, angles of light, and length of day.**

Winter solstice: Dec 21st, shortest day of the year, facing directly away from the sun, indirect sunlight

Summer solstice: June 21st, longest day of the year, facing directly toward the sun, direct rays of sunlight

Spring Equinox: March 21st, equal hours of daylight/nighttime, neither directly nor indirectly facing sun, angles of sunlight are slanted

Fall Equinox: Sept 21st, equal hours of daylight/nighttime, neither directly nor indirectly facing sun, angles of light are slanted.

12. Define or draw ☺ the following Constellation Terms:

A. **Polaris:** the North star that Earth is tilted toward

B. **Circumpolar:** seen all year round

C. **Ursa Major:** the big bear with the big dipper tail

D. **Cygnus:** the swan

E. **Orion:** the hunter with the 3-star belt

F. **Scorpius:** the scorpion

G. **Cassiopeia:** the queen