

The Moon

Earth's closest neighbor in space

Moon

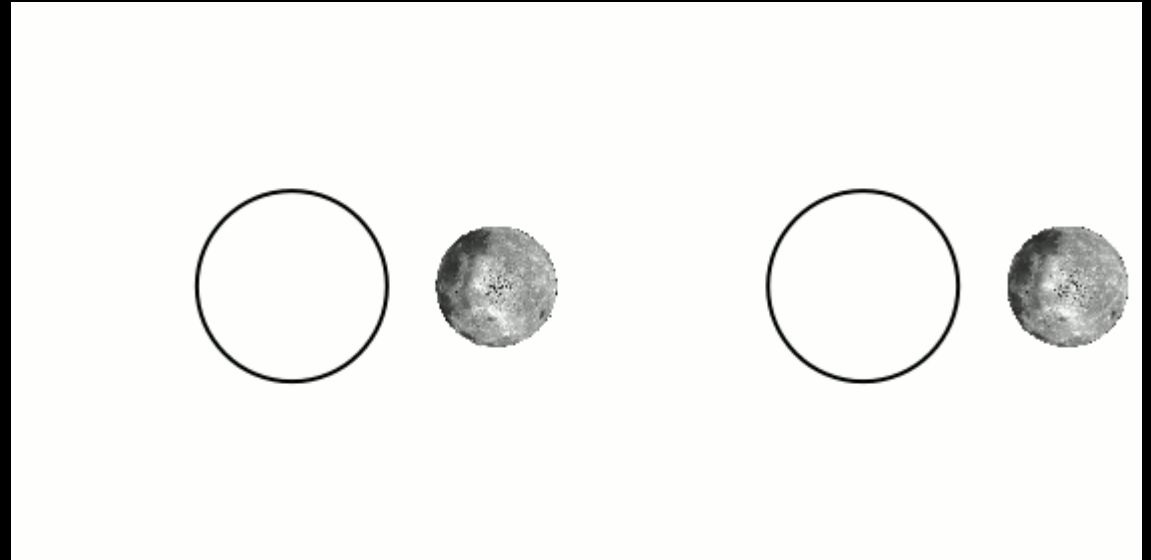
- Satellite: orbits earth
- Gravitational pull: 1/6 of Earth's. Too weak to hold atmosphere. No insulation.
- Hot as 134°C in sunlight.
- Cold as -170°C on the dark side of moon



Movement

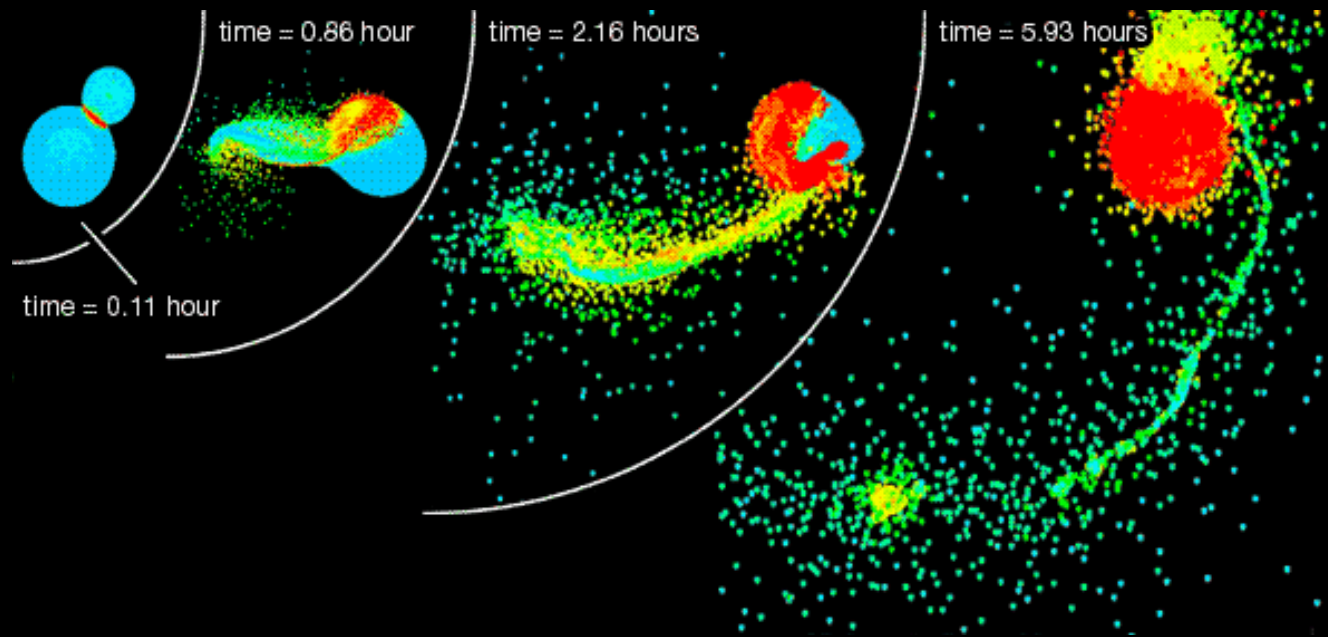
- Elliptical orbit
 - The rate of the rotation is equal to the rate of revolution.
 - Rotation = revolution
- (What does that mean?)

It means the moon is in tidal lock!



Development

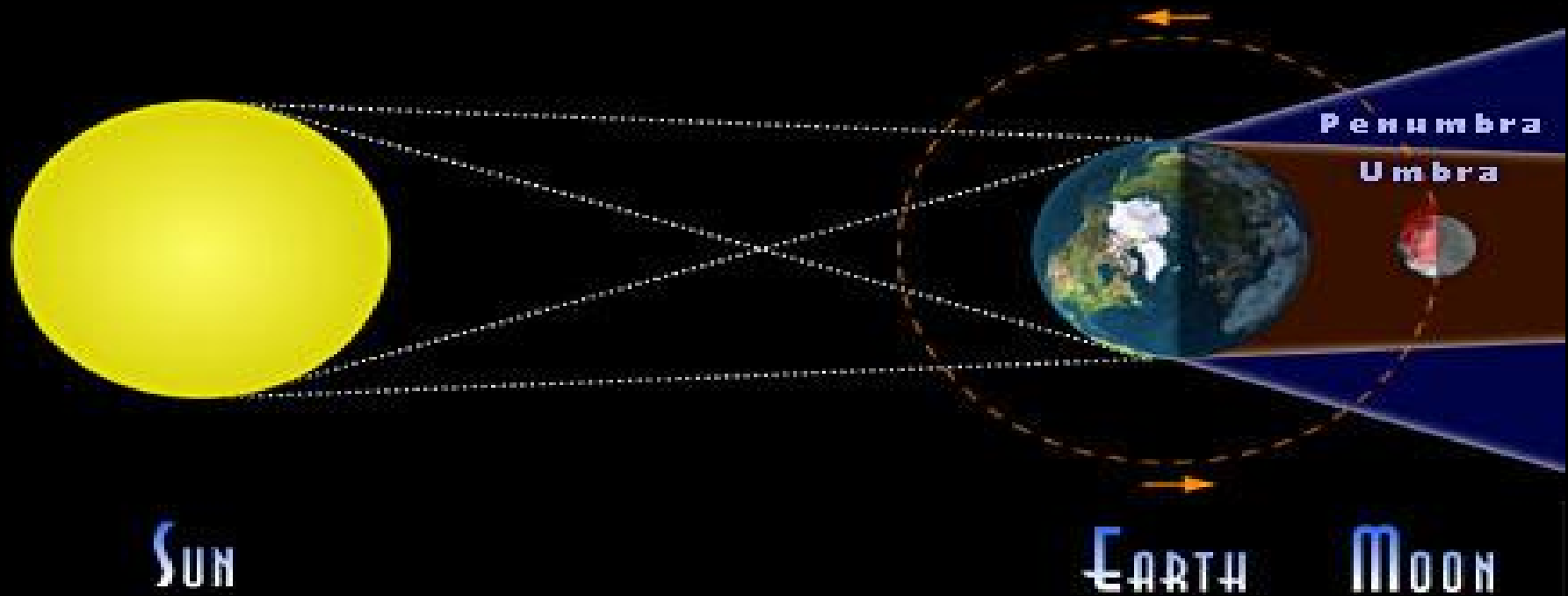
- Giant Impact hypothesis
- Mars-sized object impacted the earth



Lunar Eclipse

Lunar: Moon travels through Earth's shadow

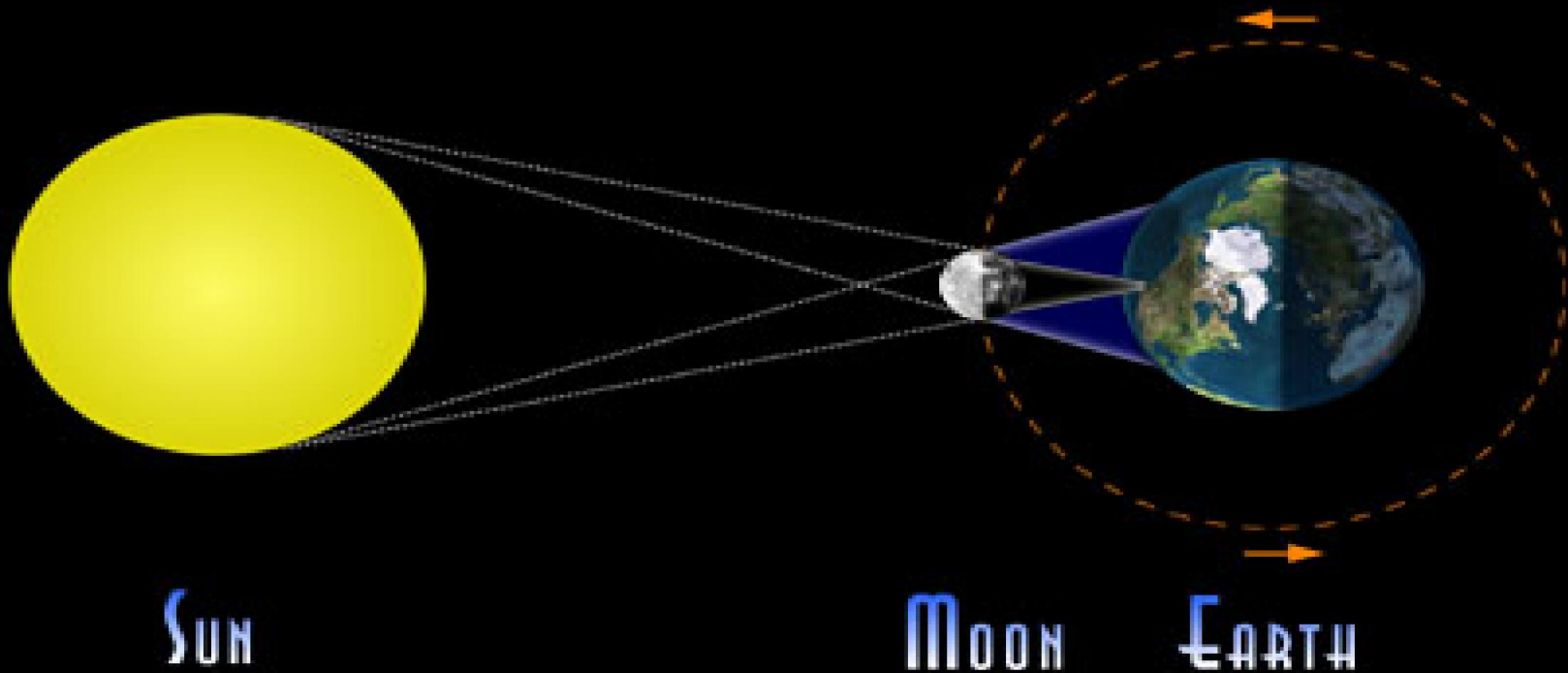
LUNAR ECLIPSE GEOMETRY



Solar Eclipse

Solar: Earth travels through Moon's shadow.

SOLAR ECLIPSE GEOMETRY

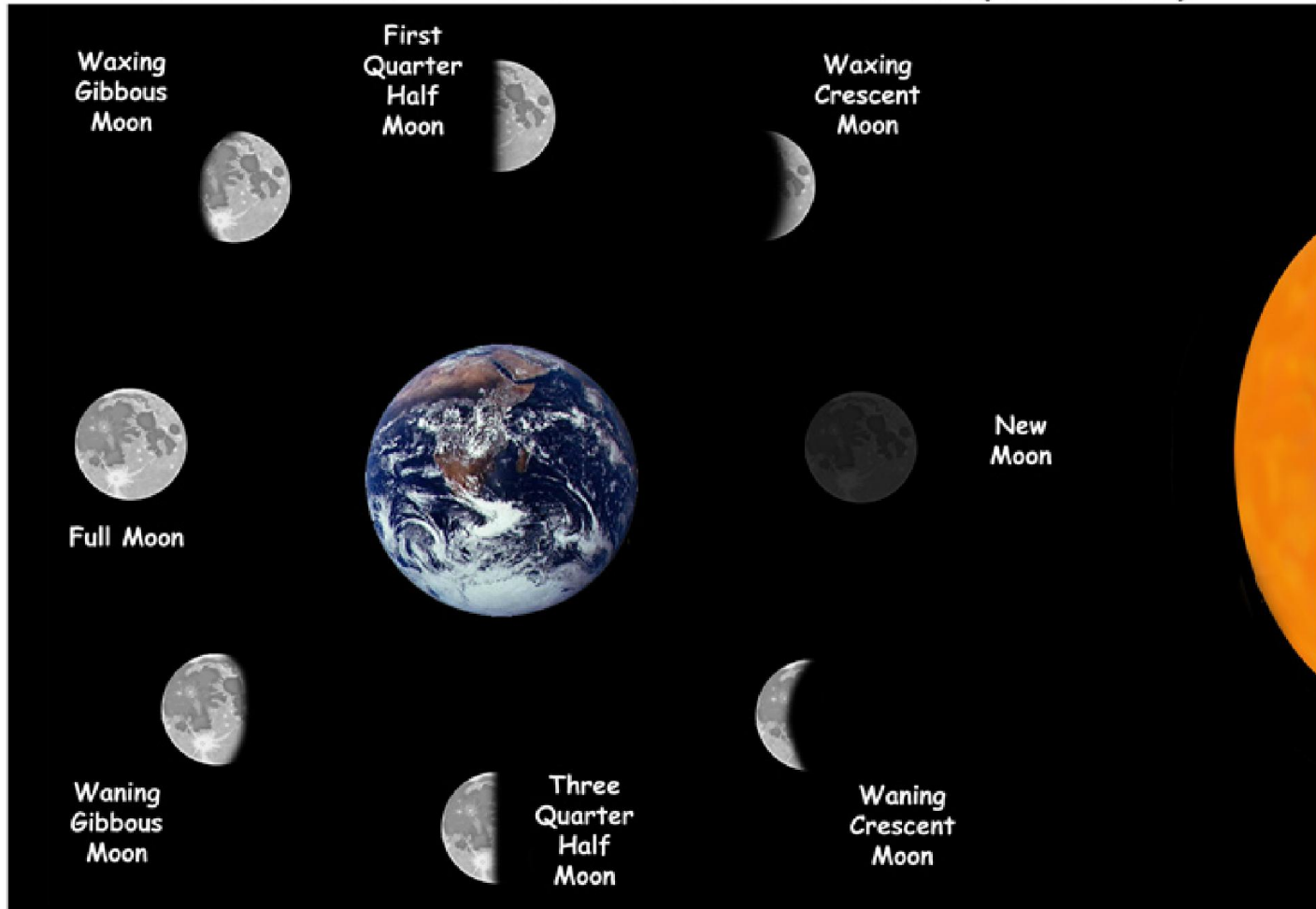


Phases

- Waxing crescent, gibbous
- Waning crescent, gibbous
- First and Last Quarter
- New and Full

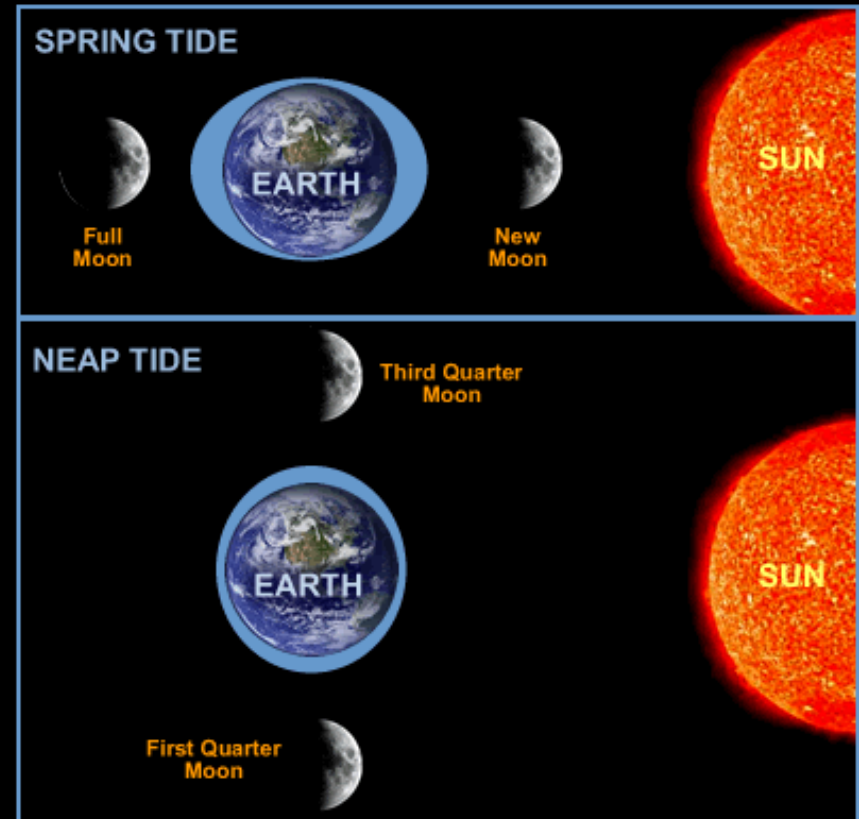
Moon Phases

Phases of the Moon as it Revolves Around the Earth (not to scale).



Moon and Earth

- The moon and Sun have an affect on the oceans of the Earth
- Spring tide- all three lined up
 - High tides higher and low tides lower.



Moon and Earth

- Neap tide- 90 deg angle
 - High tides are lower and low tides are higher

