

Earth Moon and Sun

Test Review

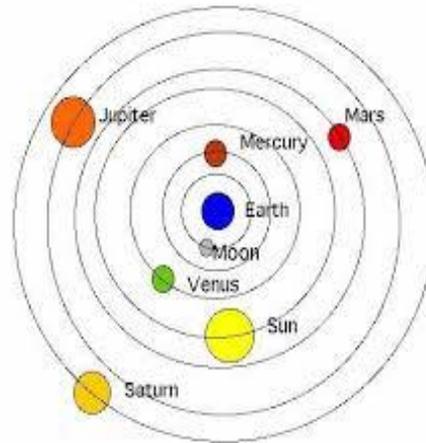
- **Big Bang Theory:** All matter was condensed into a very small space and then an explosion happened. This marked the beginning of what we now call the universe.
- **Geocentric:** The Earth is the center of the universe and the Sun and the planets orbit the Earth.

What led to the Geocentric theory?

Observations of sun rising and setting and stars moving across the night sky

Geocentric Model

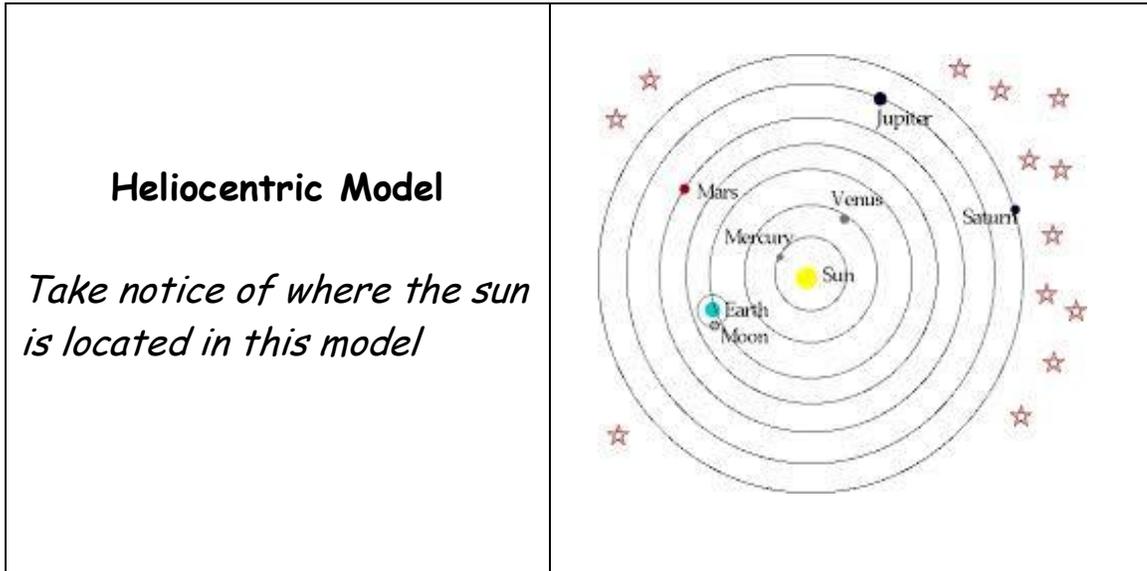
Take notice of where the Earth is located in this model.



- **Heliocentric:** The Sun is the center of the universe and the planets and Earth orbit the sun

What led to the development of the heliocentric theory?

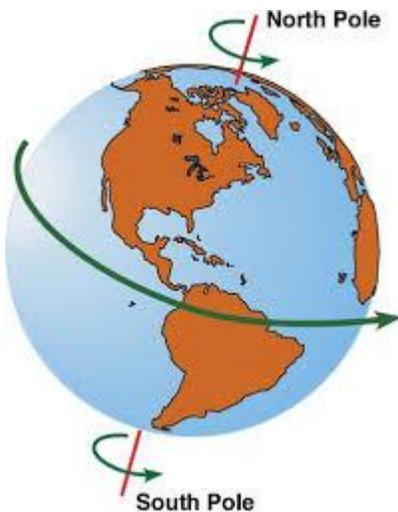
Geocentric could not explain Moon phases



Earth's Motions

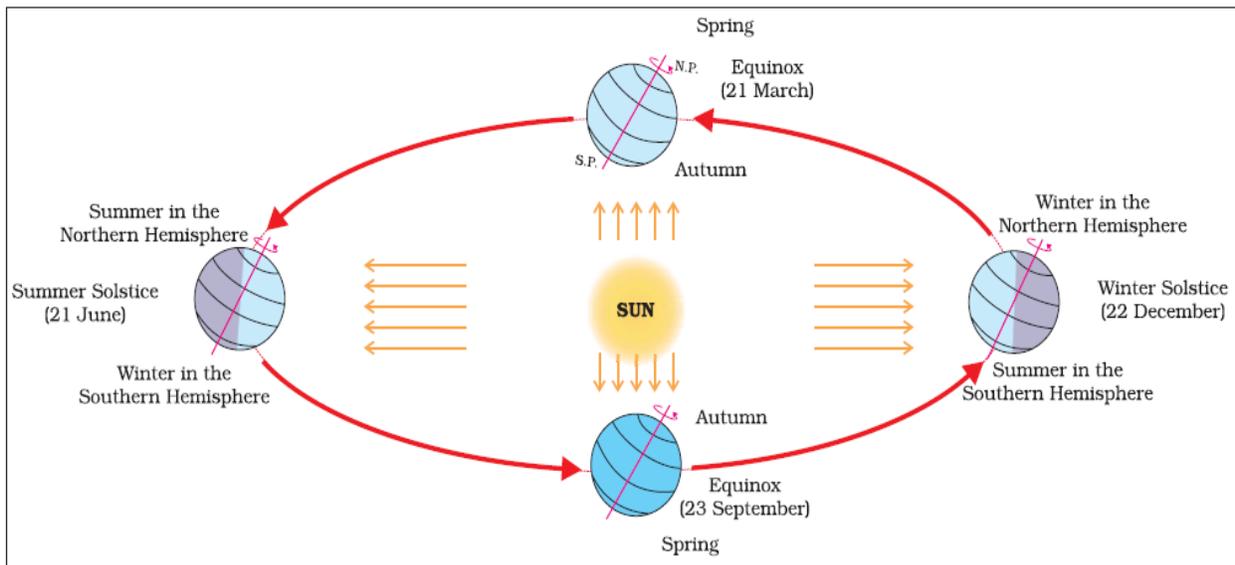
Rotation vs. Revolution

ROTATION

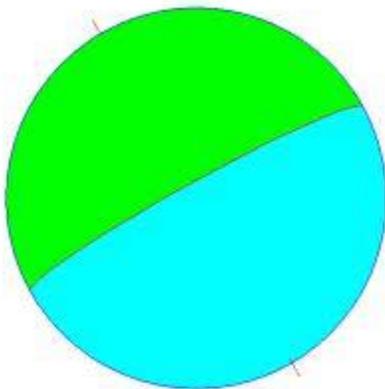


- Rotation = spinning
- For the Earth to make one full rotation it takes 24 hours
- Daily changes rotation of Earth is responsible for include: sunrise and sunset, moon rise and set, and the tides

REVOLUTION



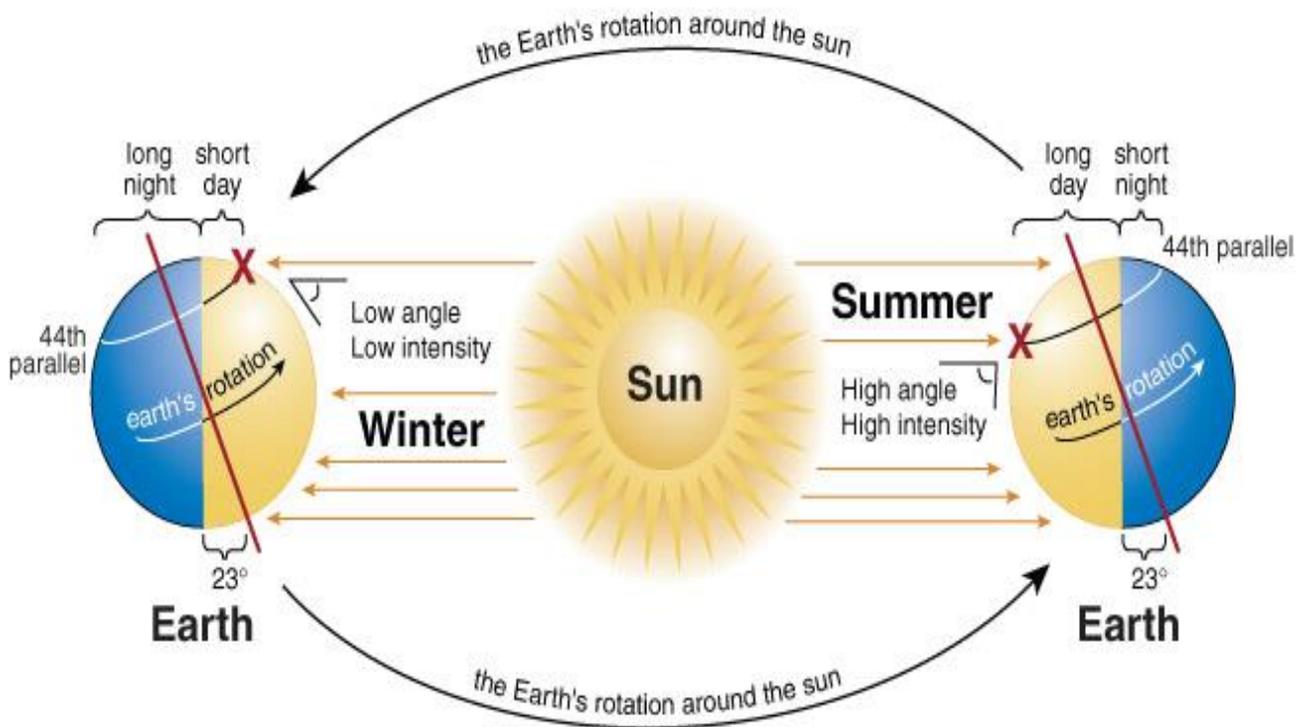
- Revolution = Going around something
- If you live in the NY you live in the Northern Hemisphere.



Label the Northern and Southern Hemisphere on the globe.

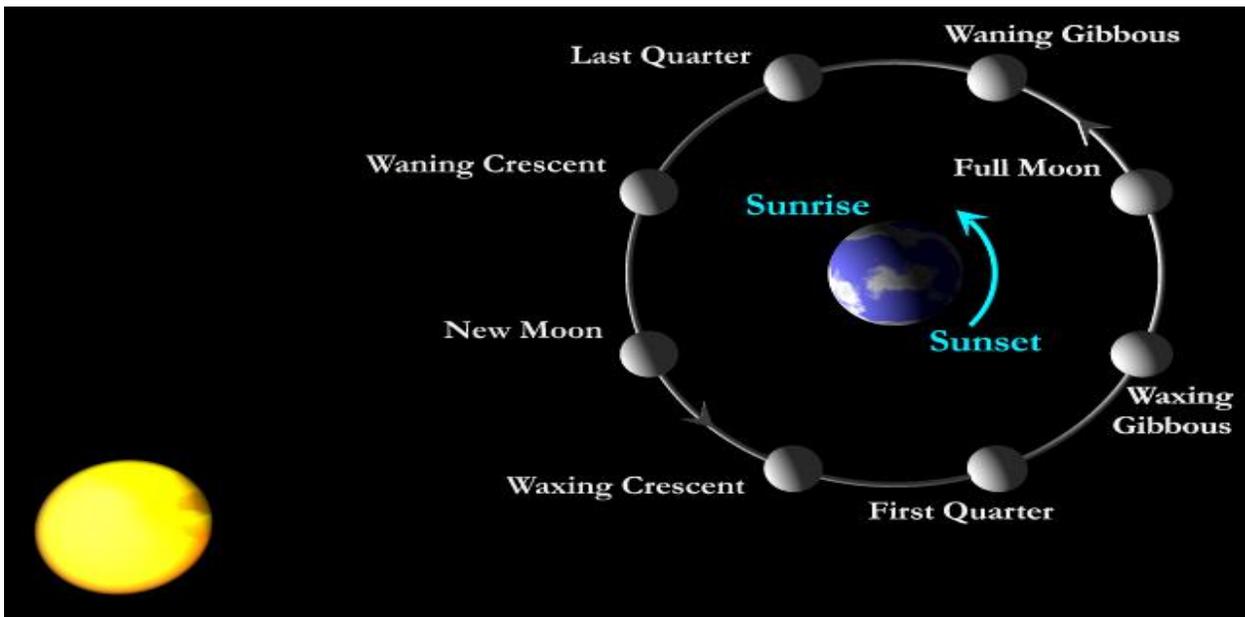
- The Earth revolves around the Sun.
- For the Earth to make one full revolution it takes 365 days or 1 year.
- The Earth's revolving motion is responsible for yearly changes in seasons and stars in the night sky
- During the Summer, the Earth is tilted toward the sun and receives more direct sunlight.

- During the winter, the Earth is tilted away from the sun and receives more indirect sunlight.
- The Seasons are caused by the tilt of the Earth on its axis not how close the Earth is to the sun.
- If the Earth was not tilted on its axis, there would be the same number of hours of daylight and there would be no change of season.



The Moon

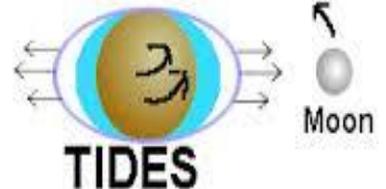
- The Moon revolves around the Earth.
- As the moon revolves around the Earth, it is exposed to different amounts of sunlight that reflect off its surface. The moon DOES NOT produce light - it REFLECTS it!!!
- The different amount of sunlight it reflects causes the phases of the moon.
- The different phases we see is due to the changing appearance of the moon as it moves into the shadow of the Earth.



Tides

- The gravitational attraction between the moon and the Earth causes the tides
- Water rises for 6 hours, then falls for about 6 hours in a regular cycle.

The moon's gravitational pull causes the ocean to bulge at the point nearest the moon and on the opposite side of the Earth.



Eclipses

An eclipse is when one celestial body (star or planet) is blocked by another.

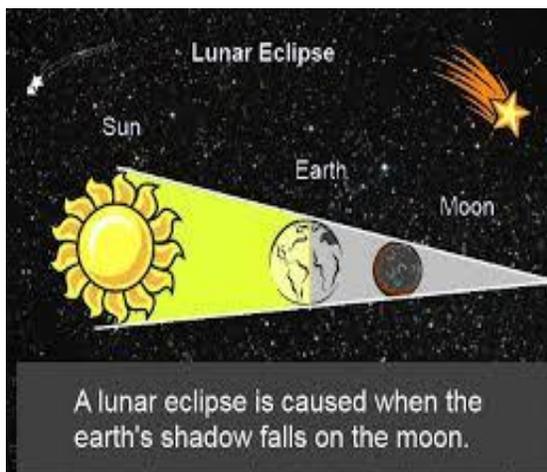
There are **2** types of eclipses: **Solar** and **Lunar**

Solar Eclipse



- When the MOON is between the sun and the earth
- Only happens during NEW MOON phase

Lunar Eclipse



- When the Earth gets between the sun and the moon.
- Only happens during FULL MOON phase

