**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***

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| **Geocentric Model**  *Take notice of where the Earth is located in this model*. | [http://t1.gstatic.com/images?q=tbn:ANd9GcSfac8QqnfDK_GR4yLFjzN6wKPNA16A63YMMZtkzLr4jswg7j1VDg:scienceblogs.com/startswithabang/files/2010/09/image005.jpeg](http://www.google.com/imgres?imgurl=http://scienceblogs.com/startswithabang/files/2010/09/image005.jpeg&imgrefurl=http://scienceblogs.com/startswithabang/2010/09/13/geocentrism-was-galileo-wrong/&h=461&w=489&tbnid=Qli9kwuDnRdoXM:&zoom=1&q=simple%20geocentric%20design&docid=h1FFR-TkbjlJyM&ei=tcxHVObmDbiPsQSrr4KgBQ&tbm=isch&ved=0CB4QMygCMAI&iact=rc&uact=3&dur=281&page=1&start=0&ndsp=20) |

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

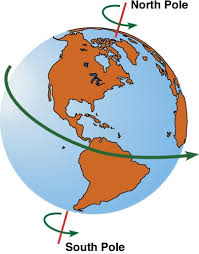
**What led to the development of the heliocentric theory?** *Geocentric could not explain Moon phases*

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| **Heliocentric Model**  *Take notice of where the sun is located in this model* | [http://t0.gstatic.com/images?q=tbn:ANd9GcRJGWXu9A8ZDhbTM7EZOgQYloF0X2hKWXEqNjeOjMCdbK4Ffci4Zw:cf067b.medialib.glogster.com/media/a0/a00ccaee1b368dff88d1e74ee5c5eb948487ee2edcea3f963276a66869fb0cbf/copernicus-solar-system-gif.gif](http://www.google.com/url?sa=i&rct=j&q=heliocentric%20model&source=images&cd=&cad=rja&uact=8&ved=&url=http://www.glogster.com/rebeccalhp/heliocentric-model/g-6lurukrs7j30v3977gr2sa0&ei=DM9HVKCGDZeLsQS6yYHADw&bvm=bv.77880786,d.cWc&psig=AFQjCNEinHmQnoMwLtJON_hRxxpNP4StWQ&ust=1414078604479999) |

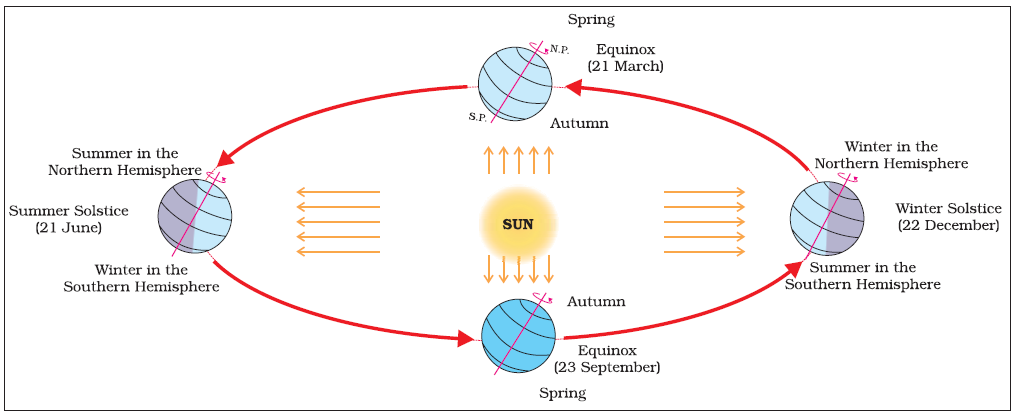
**Earth’s Motions**

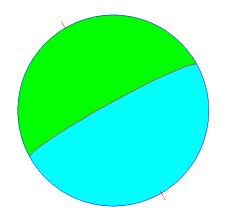
**Rotation vs. Revolution**

**ROTATION**

[](http://www.google.com/imgres?imgurl=http://www.physicalgeography.net/fundamentals/images/earth_rotation.jpg&imgrefurl=http://www.physicalgeography.net/fundamentals/6h.html&h=501&w=393&tbnid=xE2IgogeAvHHIM:&zoom=1&q=earth%20rotation&docid=UCGZeD0qXd6orM&ei=uNJHVJ2xKPLLsASOtoKYDA&tbm=isch&ved=0CCwQMygQMBA&iact=rc&uact=3&dur=1621&page=1&start=0&ndsp=22)

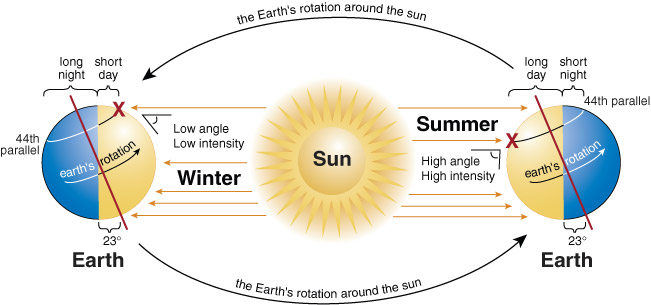
* Rotation = *spinning*
* For the Earth to make one full rotation it takes *24 hours*
* Daily changes rotation of Earth is responsible for include: *sunrise and sunset, moon rise and set,*  and the *tides*

**REVOLUTION**

* Revolution = *Going around something*
* [](http://www.google.com/imgres?imgurl=https://www.uwgb.edu/dutchs/Graphics-Geol/Animations/PlanPrecess.gif&imgrefurl=https://www.uwgb.edu/dutchs/AstronNotes/HowSolSysWorks.HTM&h=483&w=494&tbnid=tHuhybpsNdqbBM:&zoom=1&q=earth%20tilted%20on%20its%20axis&docid=TJWSzlQils4dtM&ei=it5HVKDnA9LhsAS3pIKgCQ&tbm=isch&ved=0CBIQMygKMAo4rAI&iact=rc&uact=3&dur=567&page=13&start=298&ndsp=25)If you live in the NY you live in the *Northern* Hemisphere.

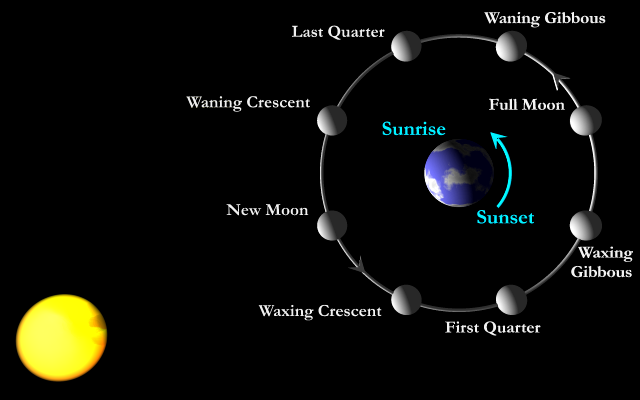
Label the Northern and Southern Hemisphere on the globe.

* 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*.

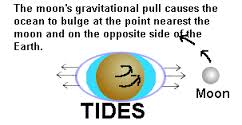


**The Moon**

* 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**

* [](http://www.google.com/url?sa=i&rct=j&q=the+moon+and+tides&source=images&cd=&cad=rja&uact=8&ved=0CAcQjRw&url=http://www.solpass.org/6-8Science/6s/standards/study6.8.htm&ei=JypJVJWKFYnBggSR_4LAAw&bvm=bv.77880786,d.cWc&psig=AFQjCNGZFwFpTBTN79CJQHzc2rVU3SfsJA&ust=1414167351693570)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.

**Eclipses**

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

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

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| [http://t2.gstatic.com/images?q=tbn:ANd9GcQkznuFpvMGuNJ42qMDUd-ETcuFWOECeMSbCQKoFRVZjjYvGeoL:www.scientificamerican.com/sciam/cache/file/333AC413-6E33-44BE-8BC8A0B0D554026F.jpg](http://www.google.com/url?sa=i&rct=j&q=solar%20eclipse&source=images&cd=&cad=rja&uact=8&ved=0CAcQjRw&url=http://www.scientificamerican.com/article/annular-solar-eclipse-will-be-viewable-in-us-sunday/&ei=3fZIVJGEFMvBggSCsoHYCA&bvm=bv.77880786,d.eXY&psig=AFQjCNHryK1gt0saaPZq-vvdiXmItLBBeA&ust=1414154331414236)**Solar Eclipse** | * When the *MOON* is between the sun and the earth * Only happens during *NEW MOON* phase |
| **Lunar Eclipse**  [http://t2.gstatic.com/images?q=tbn:ANd9GcT7BQS2QJyKk4mBgRmHJIAXvgWQeX1gyW2fnNmWxx3Q_dxzsud8Rg:oakdome.com/k5/lesson-plans/photo-editing/lunar-eclipse/lunar-eclipse-starfield.jpg](http://www.google.com/url?sa=i&rct=j&q=lunar+eclipse&source=images&cd=&cad=rja&uact=8&ved=0CAcQjRw&url=http://oakdome.com/k5/lesson-plans/photo-editing/lunar-eclipse-illustration.php&ei=tvVIVMuyFdLGgwSYloKgDQ&bvm=bv.77880786,d.eXY&psig=AFQjCNHKAy-iDlNobVWnurFFSp4PeATQsg&ust=1414153979238102) | * When the *Earth* gets between the sun and the moon. * Only happens during *FULL MOON* phase |