

Galaxies, Local group, and Universe

- Universe
 - Definition: The space that contains all know matter and energy.
- Local Group
 - Definition: Name of a cluster of galaxies.
 - Milky Way Galaxy belongs in the Local Group.
- Galaxies
 - Spiral
 - Normal- have arms that are close to the center of the galaxy.
 - Barred- Have arms that extend from a barge bar of stars and gas that pass through the center of the galaxy.
 - Elliptical-shaped like large 3D ellipses. (Football shaped)
 - Irregular- Many different shapes.
- The Milky Way Galaxy
 - Our home, where our solar system is located.
 - Contain almost 1 trillion stars and about 100,000 light years wide.
 - Black Hole in the center.
 - Spiral Galaxy. Not sure if it is normal of barred.
 - Sun takes 225 million years to orbit center of Milky Way.

Stuff to Know about Moon Phases so you don't Fail Your Mid-Term
Charles Wang / Hibiki 8C

Important Vocabulary that will boost your B- to a B

New Moon- Phase of the moon where the moon is in front of the Earth. Earth's POV: Not Illuminated
 Full Moon- Phase of the moon where the moon is behind the Earth. Earth's POV: Completely Illuminated
 1st and 3rd quarter-Phases in the moon when half the moon is illuminated.
 Waxing- The first half of the moon phases in the entire cycle.
 Waning- The second half of the moon phases in the entire cycle.
 Gibbous- Phase when more than half of the moon is illuminated.
 Crescent- Phase when less than half of the moon in illuminated.

Summary:

- Phases due to the light received on the moon (changes because of the revolution)
- 27.3 for moon to make a revolution around the Earth
- Takes 24 hours to change each moon phase

Life Cycle of Stars

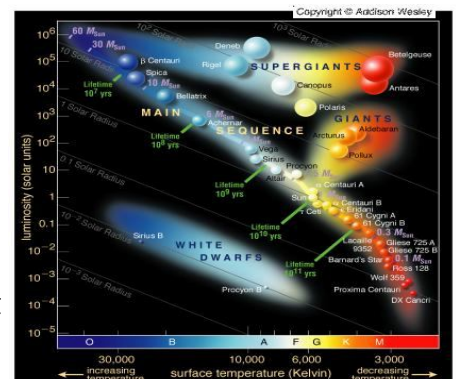
Starts out a 3000k moves up to 6000k then 10000k then to 15000k then to 20000

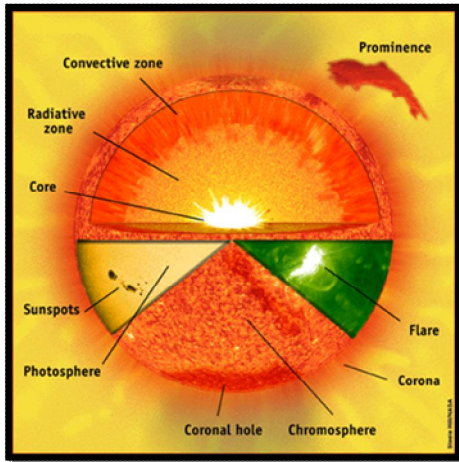
The sun is 6000k

Colours

Hot= Blue bright stars in the upper left of the H-R diagram
 Cold= Red, Dim stars in the lower right of the H-R diagram
 Yellow main sequence stars fall in between

Hottest stars generate the most light and the coolest the least





Joshua Oh and Mahima Ghill

- Photosphere: Lowest layer that gives off light.
- Chromosphere: Above the photosphere, it extends 2,000Km above the photosphere.
- Core: Produces Helium by fusing hydrogen.
- Radiation Zone: Energy travels

through the radiation zone and into the convection zone.

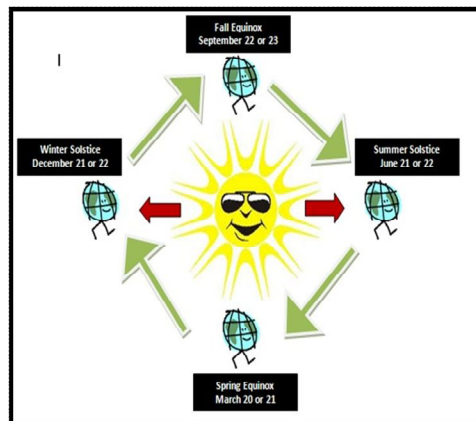
- Convection Zone: Circulates the gases in giant swirls.
- Corona: Outer most layer, extends millions of kilometers into space.
- Sunspots: Cooler areas on the sun's surface.
- Prominences: Huge arching columns of gas.
- Flare: Large columns of gas bursting from sunspots.

Seasons

By Dylan D'Souza

Facts and Definitions

- ✚ **Solstice** is the day when the Sun reaches its greatest distance north or south of the equator
- ✚ **Winter Solstice** – December 20 or December 21
- ✚ **Summer Solstice** – June 21 or June 22
- ✚ **Equinox** occurs when the Sun is directly above Earth's equator
- ✚ **Spring Equinox** – March 20 or March 21
- ✚ Earth's orbit is an **ellipse**, an elongated, closed curve
- ✚ **Revolution** is Earth's yearly orbit around the Sun
- ✚ Earth's **axis** is tilted 23.5°



Causes	Effects
<ul style="list-style-type: none"> - Revolution - when an object goes around another larger object - Earth takes 1 year to revolve around the Sun - Extra: Moon takes 1 month to revolve around Earth 	<ul style="list-style-type: none"> - 4 Seasons (Spring, Summer, Fall, Winter) - Equinox - Sun is directly above equator - Solstice - Sun reaches greatest distance north/south of equator
<ul style="list-style-type: none"> - Tilt on Axis - Earth tilts 23.5° off its axis 	
	<p>Spring Equinox Mar. 20 or 21</p>
<ul style="list-style-type: none"> - Direct Radiation - light struck 	<p>Anthony Yu, Brandon Lee & C</p>

The Doppler Shift

Jessica & Justin

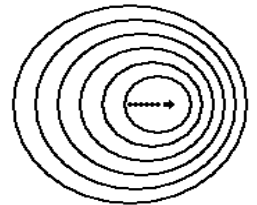
The Doppler shift shows either the star is moving away from the Earth or moving towards the Earth.

Red Shift

The star is moving away from the Earth because its light waves are being extended.

Supports the Big Bang Theory.

OBJECT RECEDING:
LONG RED WAVES



Blue Shift

The star is moving towards the Earth because its light waves are being contracted.

Supports the Oscillating Theory.

OBJECT APPROACHING:
SHORT BLUE WAVES

