Chapter 9 – Earth In Space & Beyond Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Lesson: Origin of the Universe

I Can…/Main Ideas Notes

Universe - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that exists in any place.

(\_\_\_\_\_\_\_\_ the space, matter & energy in existence)

Majority of scientists today believe the universe began with the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Gigantic explosion of matter which began to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Universe believe to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ years old

Solar system is about \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ years old.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ tells us the universe is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ expansion is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ = going \_\_\_\_\_\_\_\_\_\_\_\_\_\_ from Earth
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ = going \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Earth
2. Scientists can still detect \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the Big Bang

Atoms cluster to become \_\_\_\_\_\_\_\_\_\_\_

Stars & Planets are clustered in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Galaxies are collections of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_\_ held together by \_\_\_\_\_\_\_\_\_\_\_

I can describe how we

believe the universe

began

I can name the proof

for the big bang theory

I can describe red & blue

shift



Galaxies are

I can explain the

\_\_\_\_\_\_\_\_\_\_\_ Planets (ESRT pg \_\_\_\_\_\_\_\_)

Terrestrial (\_\_\_\_\_\_\_\_\_\_\_\_\_\_) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Jovian (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_% of the Mass of the Solar System is the \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_% is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_% is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Asteroids: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between \_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_
2. Comets \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

When either one hits the planet it creates impact \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Meteor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ also called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Appears as a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Universe is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light years across & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

Light Year - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (about \_\_\_\_\_\_ trillion km)

A star is a \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_ body

Luminosity is the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

differences between

terrestrial & jovian

planets

Other Satellites

orbiting our Sun

Light Year

Lesson: Characteristics of Stars (NEARPOD – IN CLASS)

I Can…/Main Ideas Notes

I can define luminosity

How do stars differ?

1. \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	1. Depending on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_to Earth
	2. Changes due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and because they \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Luminosity is compared to the \_\_\_\_\_\_\_\_\_\_ which = \_\_\_\_\_\_\_\_\_
4. Roughly \_\_\_\_\_\_\_% of all stars fall on a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ across the diagram called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_
5. Temperature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as you move to the \_\_\_\_\_\_
	1. Blue = \_\_\_\_\_\_\_\_\_\_\_\_\_ & Red = \_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Mass of stars is directly related to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Mass Increases than \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

The sun is a mass of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ gas

The incredible \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which creates all of the Sun’s energy

The sun is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_ energy.

Geocentric Model – All the planets, the sun & the moon revolve around a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Heliocentric Model – Helio = \_\_\_\_\_\_\_\_\_\_ Centric = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nicolaus Copernicus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ this new model in \_\_\_\_\_\_\_\_

A major evidence to support Heliocentric theory - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Therefore:

Earth is **closer** – brightness & diameter appears to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Earth is **far away** – brightness & diameter appears to \_\_\_\_\_\_\_\_\_\_\_\_

I can read the H-R Diagram

I can explain how the sun creates energy

Models, Rotation & Revolution

I Can…/Main Ideas Notes

I can describe the

difference between

Geocentric & Heliocentric

model

I can explain why

apparent brightness &

diameter change

I can describe how fast

Rotation is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

It occurs at a speed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ from \_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

Indirect Evidence of Earth’s Rotation

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Focault hung a heavy, long pendulum from a dome. If the Earth didn’t rotate, the pendulum would not rotate throughout the day. Focault’s pendulum turned 360º in one day, proving that the Earth rotates.

Coriolis Effect – As the Earth rotates, the paths of the winds & ocean currents \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Northern Hemisphere curve to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Southern Hemisphere curve to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Earth \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ around the sun once every \_\_\_\_\_\_\_\_\_ days in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ direction. About \_\_\_\_\_\_\_ per day.

Evidence:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of Earth’s axis
	1. Earths axis always points towards \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	1. Apparent shift of \_\_\_\_\_\_\_\_\_\_\_\_\_ of a star as we move \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and than \_\_\_\_\_\_\_\_\_\_\_ away from the star.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the seasons.

we rotate & in what

direction

I can state the evidence

for rotation

I can describe proof for revolution

Lesson: Earth’s Shape & Orbit

I Can…/Main Ideas Notes

Evidence for Earth’s

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from outer space
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the Earth on the Moon during an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	1. Gravity is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of attraction between any \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
		1. **Bigger** the object - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the pull
		2. **Closer the centers** of the two objects the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the pull
4. Ships appear to \_\_\_\_\_\_\_\_\_\_\_\_\_ as they sail away from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. The altitude of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes with a person’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	1. If Earth was flat the altitude of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ would NOT change

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - the Earth \_\_\_\_\_\_\_\_\_\_\_\_ at the Equator and is slightly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at the Poles

\*Always choose the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ object or drawing for Earth’s shape.

Gravity depends on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Newton’s Law of Gravitation- Objects close to the focus have

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (revolve) around the sun

shape

I can name the shape of

the Earth

I can describe gravity

**LABEL THE PICTURE**

**LIKE IN THE VIDEO**

I can explain gravity’s

A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is any object that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ around another object.

It’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that keeps the planets & all satellites in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Earth’s orbit is an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* There are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in an ellipse
	+ Plural of focus - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ One focus may be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*An ellipse is much like a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Law #1: All planets move around the sun in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_--> the shape of an ellipse where \_\_\_\_\_ = a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_ = a \_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a line drawn

through the \_\_\_\_\_\_\_\_\_\_ extending to either

end of the ellipse.

Law #2: A line joining a planet & it’s star

marks \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ areas during

equal time

Planet is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the focus (star)

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ orbital \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (speed)

Planet is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to the focus (star)

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ orbital \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (speed)

effects on an orbit

Earth’s Orbit

Kepler’s 1st law of

Planetary Motion

Eccentricity =



I can calculate

Eccentricity

**Practice: (SHOW WORK)**

I can explain Kepler's

2nd law of planetary

motion

Sun

**LABEL the Picture** 🡪

Earth

Aim: The Moon & Its Phases (NEARPOD – IN CLASS)

Things to Know….

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	* That orbit (­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) is tilted at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	* It takes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to complete one full revolution
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	* It takes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to complete one full rotation
	* Because the moon \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ we only see the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the moon
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	* It reflects the sun’s light
4. If the Earth were a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the moon would be a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_ feet away!

Phases: Observing & Identifying

* The phase of the Moon we see from Earth depends on how much of the \_\_\_\_\_\_\_\_\_\_\_\_ side of the Moon \_\_\_\_\_\_\_\_\_\_\_ Earth.



*Moon Phases*

* New Moon
	+ During a new moon phase the side of the moon facing Earth \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* After the new Moon, the Moon \_\_\_\_\_\_, or the lighted side of the Moon you see \_\_\_\_\_\_\_\_. Remember the Moon revolves around the Earth \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Full Moon
	+ The lighted side of the Moon that we see from Earth has reached its \_\_\_\_\_\_\_\_\_\_ The entire side of the Moon is \_\_\_\_\_\_\_\_\_\_\_\_ from Earth.
* After the Full Moon, the lighted side of the Moon you see from Earth is getting \_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_\_. The lit side of the moon we see is now on the \_\_\_\_\_\_\_\_\_\_\_\_.

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| New Moon | Waxing Crescent | First Quarter | Waxing Gibbous |
|  |  |  |  |
| Full Moon | Waning Gibbous | Third Quarter | Waning Crescent |

**Web Activity**:

1. Look up the phase of the moon on the day you were born. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What phase will the moon be in on your next birthday? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Directions*: Draw & Label the moon phases shown below.



Lesson: Eclipses & Tides

I Can…/Main Ideas Notes

I can explain a solar

A solar eclipse is when the \_\_\_\_\_\_\_\_\_\_\_\_ passes directly between the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Occurs during the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ phase
* Solar \_\_\_\_ \_\_\_\_ \_\_\_

Lunar Eclipse – Darkening of the

moon caused by the \_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Occurs during the

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

eclipse & state the

order of the Earth,

Moon & Sun



I can explain a lunar

eclipse & state the

order of the Earth,

Moon & Sun



Partial or Total lunar eclipses

* Caused by the different \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - center or the darkest part of the shadow
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - outside or the lighter part of the shadow
* Lunar \_\_\_ \_\_\_ \_\_\_

Tides = the \_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_ of the waters of the earth

Caused by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_

Spring Tides:

\_\_\_\_\_\_\_\_\_\_\_\_\_ high tide & \_\_\_\_\_\_\_\_\_\_\_\_ low tide

* Happens during a \_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_ moon
* Sun, Earth & Moon are all in a \_\_\_\_(**S**traight line = **S**pring tide)
* Greatest \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Neap Tide

Water changes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Happens during the \_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_
* Sun, Earth, & Moon form a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (**N**inety degree angle = **N**eap tide)

I can state what causes

the tides

I can differentiate

between spring & neap

tides



