**“The Sun Earth Moon System” Study Guide**

*For this test, (12) questions will be based on vocabulary (6) questions in multiple choice format and (6) written response questions.*

\*\*\*\*Know the definition of the following terms:

* Orbit = The path an object follows as it moves around another object. Earth moves around the sun in a circular orbit.
* Revolution = The motion of one object around another object.
* Rotation = A spinning motion.
* Rotation axis = The line on which an object rotates.
* Solstice = Is a day when Earth’s rotation axis is the most toward or away from the Sun.
* Equinox = Is a day when Earth’s rotation axis is leaning along Earth’s orbit, neither toward nor away from the Sun.
* Maria = The large, dark, flat areas on the Moon.
* Phase = The lit part of the Moon or a planet that can be seen from Earth.
* Waxing Phase = more of the Moon’s near side is lit each night.
* Waning Phase = Less of the Moon’s near side is lit each night.
* Umbra = Is the central, darker part of a shadow where light is totally blocked.
* Penumbra = Is the lighter shadow where light is totally blocked.
* Solar Eclipse = When the moon’s shadow appears on Earth’s surface.
* Lunar Eclipse = Occurs when the Moon moves into Earth’s shadow.
* Tide = Is the daily rise and fall of sea level.
1. The Earth orbits the Sun due to its **gravitational pull**.
2. **Earth’s rotation** around the sun causes day and night.
3. The Earth’s rotational axis is always heading in the **same direction by the same amount of gravitational pull** as it revolves around the Sun.
4. As you move away from the equator, Earth’s surface becomes more **tilted**.
5. The **Earth’s rotational axis and motion around the Sun**, causes the seasonal changes that occurs on Earth.
6. During the equinoxes, there is **equal** amounts of both daylight and darkness.
7. Earth completes one full rotation within **24 hours**.
8. When the Moon’s near side is completely lit, it is called a **Full Moon**.
9. When the Moon’s near side is completely dark, it is called a **New Moon**.
10. The **Lunar Cycle** occurs when the moon moves into the Earth’s shadow.
11. Which one affects the Earth’s tide more strongly, the Sun or the **Moon**?
12. What is the difference between a neap tide and a spring tide? A neap tide is when
* A **spring tide** occurs during a full moon and new moon phase. And it occurs when the Sun’s and Moon’s gravitational effects combine and produce higher high tides and lower low tides.
* A **neap tide** occurs a week after a spring tide occurs. Then the Sun, Earth and the Moon form a right angle. When this happens, the Sun’s effect on tides reduces the Moon’s effect. High tides are lower and low tides are higher.