

# Unit 10 – Astronomy Twitter Review Questions

U10-1: During which month is Earth closest to the Sun?

- Answer: January (Winter Solstice for Northern Hemisphere)

U10-2: Earth is closest to the Sun at a point called the \_\_\_\_\_.

- Answer: Perihelion

U10-3: During which month is Earth farthest from the Sun?

- Answer: July (Summer Solstice for Northern Hemisphere)

U10-4: Earth is farthest from the Sun at a point called the \_\_\_\_\_.

- Answer: Aphelion

U10-5: This motion of Earth causes a change in the severity of seasons.

- Answer: Nutation

U10-6: This movement of Earth is responsible for its day and night cycles.

- Answer: Rotation

U10-7: What would be true of the length of one Earth day if the Earth's rate of rotation were to DECREASE?

- Answer: Longer than 24 hours

U10-8: According to the \_\_\_\_\_ Theory, the age of the universe is approximately 13.7 billion years old.

- Answer: Big Bang Theory

U10-9: List the planets of our solar system in order from closest to Sun to farthest from Sun.

- Answer: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune

U10-10: The four planets closest to the Sun are dense and are called \_\_\_\_\_ planets because they each contain a \_\_\_\_\_ surface.

- Answer: Terrestrial Planets ; Solid

U10-11: The last four planets of our solar system are called \_\_\_\_\_ planets because they are each composed of \_\_\_\_\_.

- Answer: Jovian Planets ; Gas

U10-12: NEED TO KNOW: Correct order and direction of the 8 moon phases.

- Answer: Counter-Clockwise – New Moon → Waxing Crescent → 1<sup>st</sup> Quarter (Half Moon) → Waxing Gibbous → Full Moon → Waning Gibbous → 3<sup>rd</sup> (last) Quarter (Half Moon) → Waning Crescent

U10-13: The new moon phase is positioned directly \_\_\_\_\_ (from) the Sun.

- Answer: Toward

U10-14: It is accepted that Earth's seasons are affected by Earth's axial tilt. Identify two (2) other factors that affect its seasons.

- Answer: 1) Nutation (wobbling) of Earth's axis      2) Angle at which solar radiation hits Earth

U10-15: As all of the planets orbit the Sun, the Sun orbits around \_\_\_\_\_.

- Answer: Solar system's barycenter

U10-16: Which of Earth's motions results in Polaris (North Star) moving away from the North Pole over time?

- Answer: Precession

U10-17: Which form of solar radiation is completely blocked from reaching Earth's surface and why?

- Answer: X-Rays ; Has very short wavelength

U10-18: What season would the Northern Hemisphere experience if it was tilted away from direct solar radiation?

- Answer: Winter

U10-19: How does each electromagnetic wave (radio, x-rays, infrared, visible light, etc) produced by the Sun travel through space to Earth?

- Answer: Radiation

U10-20: Identify three (3) Earth processes that is fueled by solar radiation.

- Answer: 1) Water Cycle      2) Air movement      3) Photosynthesis

U10-21: Where is the Earth/Moon barycenter found?

- Answer: Below Earth's surface

U10-22: What is the name given to Earth's shape and why?

- Answer: Oblate Earth ; Not perfectly spherical, but slightly elliptical where it is gently stretched along the sides

U10-23: What occurs during a solar eclipse?

- Answer: Moon's shadow block's our view of the Sun as Moon comes between Earth and Sun

U10-24: During a solar eclipse, what Moon phase would be visible from Earth?

- Answer: New Moon

U10-25: Which Kepler's Law states that the farther a planet is from Sun, the longer its period of revolution?

- Answer: Kepler's 3<sup>rd</sup> Law (Harmonic Law of Planetary Motion)

U10-26: The wobbling motion of Earth about its axis the results in a change in tilt of +/- 5 degrees is called \_\_\_\_\_.

- Answer: Nutation

U10-27: NEED TO KNOW: Draw/label Earth's tilt, rot/rev of Earth/Moon, rot/rev times, orbital shapes, perihelion/aphelion, perigee/apogee.

- Answer: Refer to class notes

U10-28: NEED TO KNOW: Draw/label Earth's precession and nutation motions.

- Answer: Refer to class notes

U10-29: NEED TO KNOW: Draw/label solar system including order of planets, terrestrial vs jovian, approx size & distance of planets from Sun.

- Answer: Refer to class notes

U10-30: NEED TO KNOW: Draw/label our galaxy including name & shape of galaxy and location of our solar system within galaxy.

- Answer: Refer to class notes

U10-31: NEED TO KNOW: Identify all forms of electromagnetic radiation that is produced from the Sun and each of their benefits/dangers.

- Answer: Gamma Rays, X-Rays, Ultra Violet (UV), Visible Light, Infrared, Radio Waves, Microwaves

U10-32: The turning or spinning of a body on its axis is known as \_\_\_\_\_.

- Answer: Rotation

U10-33: The Nebular Theory suggests that our solar system formed from a huge cloud of \_\_\_\_\_ and \_\_\_\_\_.

- Answer: Gas ; Dust

U10-34: Approximately how old is the Earth's moon?

- Answer: About same age of Earth (4.6 Billion years old) – Simultaneous Formation Theory

U10-35: Approximately how old is our solar system?

- Answer: About 4.6 Billion years old (Nebular Theory)

U10-36: According to Kepler's 3<sup>rd</sup> Law, the period (time) of revolution of a planet is dependent on its \_\_\_\_\_ from the Sun.

- Answer: Distance

U10-37: According to Kepler's 2<sup>nd</sup> Law, planets move fastest when \_\_\_\_\_ to Sun and sweep out \_\_\_\_\_ areas of space in equal amount of time.

- Answer: Closest ; Equal

U10-38: The Big Bang event is responsible for the formation of the \_\_\_\_\_, which includes all matter, energy, space, and time.

- Answer: Universe

U10-39: Our Sun operates under nuclear \_\_\_\_\_, where atoms of hydrogen are combined to form \_\_\_\_\_ atoms.

- Answer: Fusion ; Helium

U10-40: The low-temp microwave radiation (cosmic background radiation) found throughout universe is believed to originate from \_\_\_\_\_ event.

- Answer: Big Bang

U10-41: Which of the following celestial bodies is the smallest? Universe, Galaxy, Star, Planet

- Answer: Planet

U10-42: Based on the observed \_\_\_\_ shifts in light of distant galaxies, astronomers conclude that the universe is \_\_\_\_.

- Answer: Red Shift ; Expanding

U10-43: Which model describes the Sun being at the center of the solar system?

- Answer: Heliocentric model

U10-44: What is the formal name of the shape of each planet's orbit around the Sun?

- Answer: Elliptical

U10-45: Earth's axis slowly but continuously points in different directions as it rotates is referred to as \_\_\_\_.

- Answer: Precession

U10-46: The greatest impact on Earth's ocean tides comes from the gravitational attraction between the \_\_\_\_ and Earth.

- Answer: Moon

U10-47: Jovian planets, compared to terrestrial planets, are \_\_\_\_ in size, \_\_\_\_ in composition, & \_\_\_\_ in relation to one another's distance.

- Answer: Large ; Gaseous ; Far Apart

U10-48: Identify the three (3) layers of protection that the Earth has against the Sun's solar rays.

- Answer: 1) Magnetosphere (magnetic field)    2) Earth's atmosphere  
3) Stratospheric Ozone layer

U10-49: Where is our Sun (solar system) found within the Milky Way (spiral) Galaxy?

- Answer: Within one of the spiral arms

U10-50: What force is most responsible for the collection of cosmic gas and dust into the nebula that formed our solar system?

- Answer: Gravity

