Astronomy 1 Unit Study Guide

1. Draw and label an illustration of the Geocentric Model and Heliocentric Model of the solar system. (S6E1a)

2. _____ proposed the heliocentric model of the solar system? (S6E1a)

3. Explain the Geocentric Model of the Solar System. (S6E1a)

4. Explain the Big Bang Theory. (S6E1a)

5. Read the statements below. Identify whether the statement is True or False. If the statement is False, explain why it is False. (S6E1a)

   a. The universe continues to expand.

   b. The Big Bang theory suggests that the universe formed billions of years ago through a big explosion.

   c. The solar system formed at the same time as the Big Bang Theory.

   d. The Big Bang is the only existing theory to explain the origin of the universe.

6. Identify the objects that are part of our solar system. (S6E1a)

7. Describe the evidence that the universe is expanding. (S6E1a)

8. Describe the location of our Sun in the universe. (S6E1a)

9. Describe the location of the Sun in our Milky Way Galaxy. (S6E1a)

10. Define a galaxy. (S6E1b)

11. Why can't the shape of the Milky Way Galaxy be seen from the Earth? (S6E1b)

12. Define revolution. (S6E1c)

13. Identify the Inner Planets and describe how they are different from the outer planets in our solar system. (S6E1c)

14. Identify the Outer Planets and describe what they all have in common. (S6E1c)

15. Although the planets in our solar system have distinctive characteristics, they also have similarities. Identify a characteristic that is similar among the planets in our solar system? (S6E1c)

16. Why do objects appear to move across the sky? (S6E1d)

17. Based on your knowledge of the planets Earth and Venus, how are the two planets most different? (S6E1c)

18. Mercury is about 58 million km away from the Sun with an orbital speed of around 47.8 km/second. Uranus is about 2900 million km away from the Sun with an orbital speed of around 5.5 km/second. What conclusion can you draw about a planet's distance from the Sun and its orbital speed? (S6E1e)

19. Describe how distance affects the Sun's gravity on planets and other objects in the solar system. (S6E1e)

20. Identify which statement below describes a comet, asteroid, or a meteor.

a. Structure is considered to be like a large, dirty snowball _____

b. Pieces of dust and rock that burn up in the Earth's atmosphere _____

c. Piece of rock similar to the material that formed the planets _____

d. Composed of dust and rock mixed with frozen water, methane, and ammonia _____

e. Smaller pieces of rock broken from older _____ become meteoroids.

f. Considered harmless even though they can be observed at times from Earth _____

g. Most of these are located between the orbits of Mars and Jupiter _____

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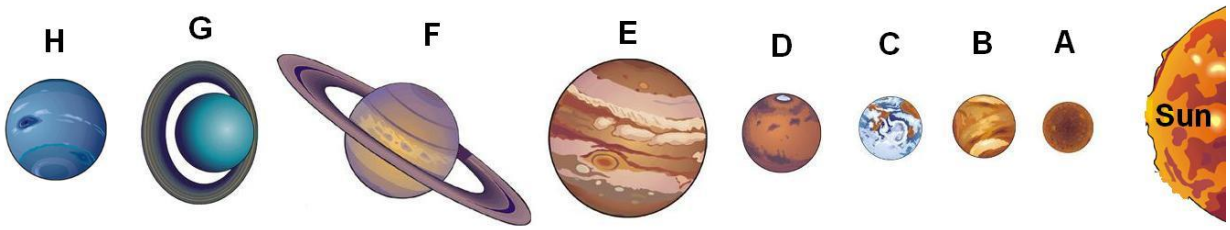

Write the characteristics into the correct planet's box in the table on the next page. The number beside each statement indicates how many times the statement can be used.

*Note: Students are not expected to know each characteristic individually. Rather, students are expected to know characteristics of a planet collectively and/or characteristics that are common to several planets.

• Larger than Earth (4)	• Least dense planet
• Has one moon	• Spins clockwise
• All water is now frozen	• Has no moons
• Largest planet	• Spins the fastest
• "Earth-like" characteristics (3)	• Day is 10 hours long
• Once had active volcanoes	• Hottest planet (can melt lead)
• 1 year equals 29 ½ Earth years	• Appears red because of rusted soil
• Smaller in size in relation to Earth (2)	• Has at least 63 moons
• Only known planet to sustain life	• Has no atmosphere
• Thinner atmosphere than the Earth	• Large red spot
• Largest, most impressive ring system	• Has severe dust storms at hurricane speeds
• Faint ring of dust	• Has canyons, craters, mountains, volcanoes
• Gaseous planet (4)	• Second largest planet in the solar system
• Coldest planet	• Third largest planet
• Tipped on its side	• Atmosphere of methane
• A day is longer than a year due to slow spin	• More than 70% of the surface is covered by water
• Close to the Earth's size (95% of radius)	• Brightest object in the sky after the Sun and moon
• Atmosphere of hydrogen, helium, and methane	• Innermost and smallest planet in solar system
• Has large storm system like the Great Dark Spot	• Surface has many craters and high cliffs

	Letter	Planet	Characteristics
22.	A		
23.	B		
24.	C		
25.	D		
26.	E		
27.	F		
28.	G		
29.	H		