EPS 100 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Test Review: Astronomy

Part 1: Objects in The Universe

1-14. Match these terms to the descriptions below.

Binary Solar Flares Nebula Meteor Asteroid Meteorite Black Hole

Galaxy Comet Constellation Supernova Andromeda Circumpolar Milky Way

1. A rock from outer space that hits the Earth

2. A “dirty snowball” of rock and ice that orbits the sun

3. A group of millions or billions of stars that is held together by gravity

4. A collection of stars that can be connected, dot-to-dot, to form a picture or pattern

5. This describes a star system with two stars that orbit one another.

6. An area of super-strong gravity surrounding an infinitely small and dense point of matter – where not even light can escape.

7. This is not our galaxy, but it is the closest galaxy to our galaxy.

8. Our galaxy

9. A rock, smaller than a planet, that orbits the sun

10. The explosive death of a very large star

11. This describes stars that may be seen all year long.

12. A cloud of dust and gas that can form into a solar system

13. A rock from space that is passing through the Earth’s atmosphere; a “shooting star”

14. Giant explosions on the surface of the sun

15. List the planets, in order, based on their nearness to the sun.

16. Which way does a comet’s tail point?

17. List all of the planets that have rings.

18. Where are the coldest planets?

19. Which planets are mostly gas?

20. One color star that you will not see is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

21. Where is the asteroid belt?

Part 2: Solar System Formation

22. Before the solar system took its current form, it was called a nebula, and it contained *dust* and *ice*. Describe the nebula that gave rise to our solar system.

a. What materials made up the nebula’s *dust*?

b. What materials made up the nebula’s *ice*?

c. Describe the nebula’s size, compared to today’s solar system.

d. Describe the nebula’s temperature.

e. Describe its motion.

f. Describe its shape.

23. As time passed, the size of the nebula changed.

a. Describe the change in its size.

b. Why did the nebula’s size change in this way?

24. As the size of the nebula changed, its motion also changed. Describe the change in the nebula’s motion.

25. The change in the nebula’s motion caused a change in its shape. What shape did it become?

26. Describe how the temperature of the nebula began to change. Did it heat up or cool down?

27. Why did the temperature begin to change?

28. Birth of The Sun:

a. Our sun’s energy comes from a process called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

b. Our sun’s main fuel is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

c. When this fuel is used up, it turns into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

29. Why don’t the inner planets have large gas layers, like the gas giants?

30. The planets are in stable orbits. They do not fly away from the sun, and they do not get pulled in to the sun.

a. What prevents the planets from flying away from the sun?

b. What prevents the planets from being pulled in to the sun?

Part 3: The Young Earth

31. The early Earth was a hot, molten liquid. What caused the outside of the Earth to form a solid crust?

32. Scientists used rock samples to find the age of the earth. Where did they get those samples?

33. What is the approximate age of the Earth?

34. How do scientists think the moon was created?

35. According to the video you watched, where do scientists think much of the Earth’s water came from?

36. Before about 3.5 billion years ago, there was no oxygen on the Earth. Scientists think the Earth’s oxygen

was first produced by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

37. Where did most of our planet’s coal, oil, and gas deposits (i.e. “fossil fuels”) come from?

Part 4: The Greenhouse Effect

38. Water is the number one greenhouse gas. List the next two most important greenhouse gases, and list one source of each of them.

Greenhouse gas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Comes from: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Greenhouse gas: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Comes from: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

39. What effect do atmospheric greenhouse gases have on infrared radiation (heat radiation)?

40. What effect do atmospheric greenhouse gases have on sunlight?

41. Where does most of the infrared radiation (heat radiation) in our atmosphere come from?

42. Explain briefly how greenhouse gases warm the atmosphere? Make sure that you describe the role of sunlight, greenhouse gases, the Earth’s surface, and infrared radiation.

43. Actual greenhouses are used to raise plants that need a warm environment. What part of a greenhouse plays the same role that greenhouse gases play in Earth’s atmosphere?