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

Quiz Review: Formation of The Solar System

Part 1: Solar System Formation

1. Before the solar system took shape, 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.

2. 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?

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

4. What force caused the nebula’s motion to change in this way?

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

6. The nebula changed in shape because part of it was pulled outward, away from its center. What pulled it outward?

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

8. Why did the temperature begin to change?

9. 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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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

11. 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 2: The Young Earth

12. Scientists think that the early Earth was completely molten. One reason the Earth was hot was because its gravity compressed the Earth. According to the video you watched in class, what other source of heat caused the Earth to heat up to the point that it melted completely?

13. As soon as the Earth melted, layers began to form. Why did the Earth’s materials separate into different layers?

14. After the Earth melted, what caused the outside of the Earth to form a solid crust?

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

16. What is the approximate age of the Earth?

17. How do scientists think the moon was created?

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

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

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

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