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

Quiz Review: Formation of The Solar System

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. Why did this process only occur in the center of the nebula?

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

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

10. Why don’t the terrestrial 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?

12. Newton’s 1st Law states that *objects in motion remain in motion in a straight line and at a constant speed, unless they are acted upon by an outside force.*

a. Are the planets being acted upon by an outside force? If so, what is that force?

b. If the planets were suddenly released by the sun, describe the shape of the paths they would follow as they flew away.