

Practice Quiz: Solar System Formation, Part 2

On the last quiz, we followed the formation of the early solar system until the solar nebula had become a warm, spinning disk of ice and dust. This quiz starts where the last quiz left off.

1. In the next stage of the solar system's formation...
 - a. What formed at the center of the nebula?

 - b. Why did it form at the center? Why not at the edge?

2. In one part of the nebula, dust and ice remained. In another part of the nebula, only dust remained.
 - a. What is the name of the boundary between these two areas?

 - b. Where in the nebula did both dust and ice remain?

 - c. Why did ice not survive in the other part of the nebula?

3. The Sun was born when a process called _____ began.

4. What temperatures are required for nuclear fusion to take place?

5. Why are these temperatures required?

6. In the Sun, what is the main element that fuses, and what gets created when it fuses?

7. Use Einstein's famous formula to explain how to calculate the energy that gets produced when Hydrogen fuses into helium. Label the formula to explain what all of the parts mean.

8. What force caused the dust and ice in the solar system to clump together?

9. Once the planets reached a sized that was about _____ across, the force of _____ was strong enough to quickly pull in other clumps.

10. If I rub a piece of styrofoam against a piece of rabbit fur, the Styrofoam takes electrons from the rabbit fur.
 - a. After doing this, does the rabbit fur have a positive charge or a negative charge?

 - c. Why does this cause the fur to stick to the foam?

11. Why are the outer planets covered by large gas layers (probably surrounding rocky cores), while the inner planets are just rocky?

12. Today, the planets in our solar system are held in stable orbits. _____ prevents the planets from flying away from the Sun, and _____ keeps them from falling into the Sun.