

Background information:

Think back the Big Bang and the subsequent events afterwards. Imagine this giant ball of hot "dust" flinging outwards into space. As discussed earlier, this smattering of material was not constant, creating areas rich in dense mater and other less dense.

What was the temp like in these dense areas?

What was likely happening in those dense clusters?

Describe the cycle that would occur in these dense areas?

Do stars mirror this above behavior? Explain.

Refer or Read p. 211 about the Solar System and p.111 Gravity

Since we were children, we knew about gravity. What we throw up , must come down. The reason for this is that our mass is attracted to the Earth's mass and so when we jump up, we come back down. However, did you know that when we jump up the Earth is also attracted to us?

Universal Law of Gravitation: any two masses exert an attractive force on each other

$$F = G (m_1m_2/d^2)$$

If 2 quarks are close enough to each other with enough heat and speed they will: _____ to form _____. Likewise these atom can fuse to form _____ and so on.

Questions:

1. What happens to the Force of Gravity when the mass doubles?

2. What happens to the Force of gravity when the distance doubles?

So closer or larger the objects that are attracted to each other the _____ the force!

Now let's take a different approach and consider a star that is going to supernova. Describe what you know about this star right before it implodes.

Now describe what happens during the supernova.

Draw a simple diagram of our solar system. Do you see any patterns to our solar system? Can you explain them?

_____ acts as a centripetal force!

Bringing it all back to the beginning. How do we know the composition of stars? How is this information brought back to us here on Earth?