

## Stage 1:

Our **Universe** contains billions and billions of galaxies.

Each galaxy is made up of billions of stars and many nebulae (plural of nebula). A **nebula** is a giant cloud of gas and dust. Most of the nebula is made of Hydrogen and Helium gas with some other heavier elements. These nebulae are places where all new stars are born.

\*Check Google Classroom if you are interested to see how the Universe will end...

## Stage 2:

Due to the force of **gravity**, a part of the nebula will begin to contract. As the nebula starts to contract it also begins to spin.

Fun fact: It is usually the explosion of a nearby star that starts this whole process. The explosion shockwave will disturb the nebula and cause certain areas to get closer together, allowing for the force of gravity to take over.

\*These explosions are known as a **SUPERNOVA!**

# ***The Nebular Theory***

### Stage 3:

As the nebula spins, it will flatten out into a disc. This is called the **accretion disc**. In the center, the developing star is referred to as a **protostar** and the small, forming planets are called **planetesimals**.

During this time the temperature is getting hotter and hotter due to the friction of the gas and dust.

\*99.98% of the mass of the accretion disc will become our Sun. We are just leftovers in the outer part of the disc.

### Stage 4:

Once the temperature of the protostar reaches 100 million degrees C it will become a star that gives off energy. It does this by **fusing** H atoms into H atoms and this gives off a lot of energy!

The planetesimals will become planets once they have cleared their path of all other major objects.

\*To **fuse** (fusion) is to make two or more objects into a single object.