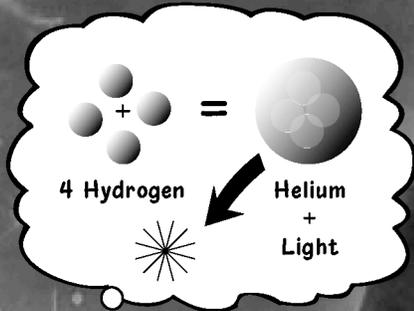


COSMIC CHEMISTRY

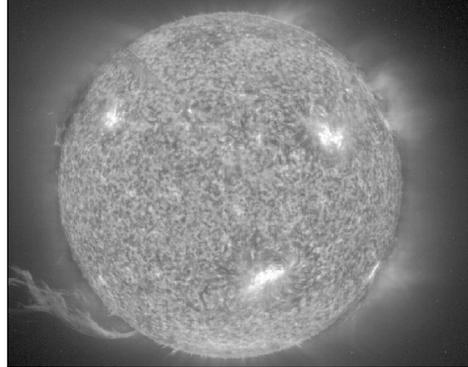
13.7 BILLION YEARS AGO, OUR UNIVERSE BEGAN IN A COSMIC EXPLOSION. HYDROGEN AND HELIUM FILLED THE UNIVERSE...

Observations show that the universe was created about 13.7 billion years ago with **THE BIG BANG**. Billions of galaxies formed, including our galaxy, **THE MILKY WAY**.

Mutual gravitational attractions led to the formation of the first generation of stars.



When enough material (gas) falls into a **new star**, the pressure and temperature at its center are great enough to initiate **nuclear fusion**. A star is born.



A low-mass star ages to become a **PLANETARY NEBULA**

As its nuclear fuel is depleted, its core contracts rapidly. The outer layers of the star expand outward into space, carrying dust and elements with it.

A massive, unstable, aging star becomes a **SUPERNOVA**

The star **EXPLODES VIOLENTLY**, creating even heavier elements very rapidly and **SPEWING THEM INTO SPACE!**

Some of these **heavy elements** **condense** to form small solid grains out of which **new stars** are formed

This process occurs over and over...

Each new generation of stars contains **higher concentrations of heavy elements** than the previous generation. These heavy elements are the **building blocks of planets**.

