Stars

Stars are the most recognized objects in our night sky and are also the building blocks of galaxies. Studying the birth, life, and death of stars can tell us about the galaxies and planets around them. Stars form from clouds of gases, primarily helium and hydrogen, that spin and collapse inward, growing hotter and denser until atomic nuclei inside begin to fuse together. The star then enters what is called the Main Sequence. Depending on the mass of the star its color and size will vary, from red to yellow to blue. The larger the mass of the star the faster its life cycle moves, eventually collapsing on itself becoming novae, supernovae, or even black holes. There are billions of stars in just our galaxy, and billions of galaxies in our universe. Many of these stars have planets that orbit them like our own Sun.

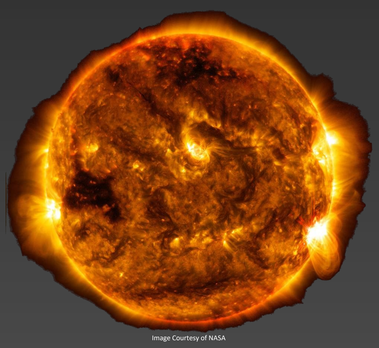

Image Courtesy of NASA

Sun

Our sun, the center of our solar system, is a yellow dwarf star. It is approximately 4.5 billion years old. Made of hot gasses, hydrogen and helium, the gravity of the Sun keeps all of the objects in our solar system in its orbit. The Sun releases a solar wind, a stream of particles and magnetic fields, that streams across the solar system to touch the surface of every object. The radiation carried by the solar wind provides the energy that powers our planet. We see it as sunlight. 1.3 million Earths could fit inside the sun! It, and all of the things that orbit it, are part of the Milky Way Galaxy.

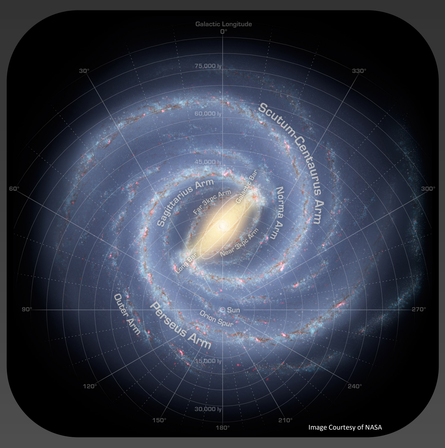

Image Courtesy of NASA

Milky Way

The circle just below the center of the above image shows our solar system's place in the Milky Way Galaxy. We are but a tiny part of a much larger galaxy with spiraling arms. The Milky Way is part of a "neighborhood" of over thirty galaxies all bound to each other by gravity. The largest one of the group is the Andromeda Galaxy.

Constellations

A constellation is an area where visible stars form a perceived outline or pattern. Ancient peoples used the images they saw in the night sky to help tell stories about their beliefs or mythology. Orion, a cluster of stars that in Greek mythology depicts a hunter, is visible around the globe and is easily recognizable.

Black Holes

A black hole is a dense object in space from which no light, nor anything else, can escape. The image below is the only image captured of a black hole, and is only visible by seeing light bending around it due to the intense gravity.

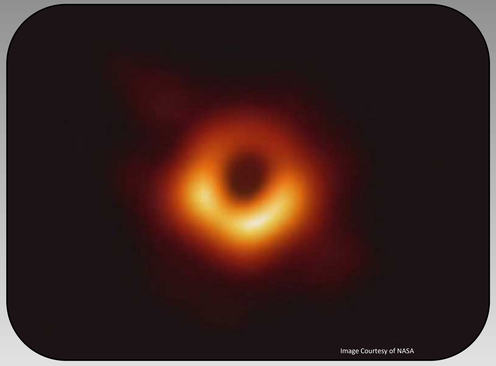

Image Courtesy of NASA