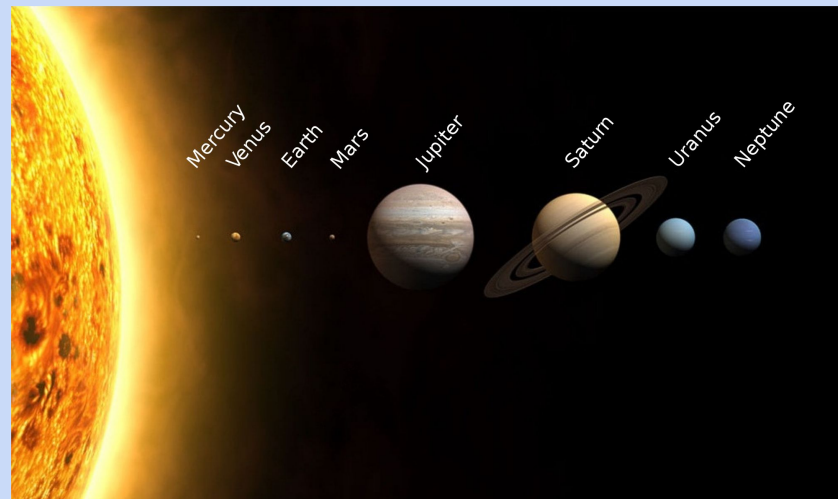


Earth's Place in the Universe

Earth's Place in the Solar System

- Inner planet
- 3rd planet from the Sun
- 1 AU, 93 million miles, 150 million km
- Terrestrial (small rocky inner planet)



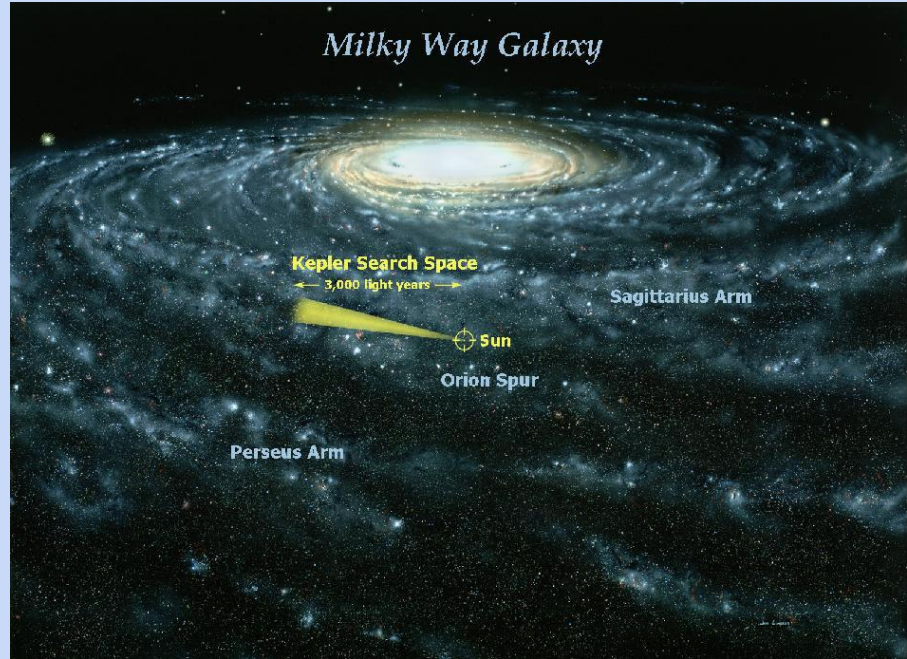
Solar System

- The solar system is held together by the gravity of the Sun.
- The solar system includes:
 - the Sun
 - planets
 - comets
 - asteroids, meteoroids
 - moons

Solar System

- The Solar System formed around 4.6 billion years ago.
- The edge of the solar system is about 39.5 AU from the Sun.
- Mass of the Solar System:
 - The Sun = 99.86 %
 - Planets, moons and other objects make up the rest.

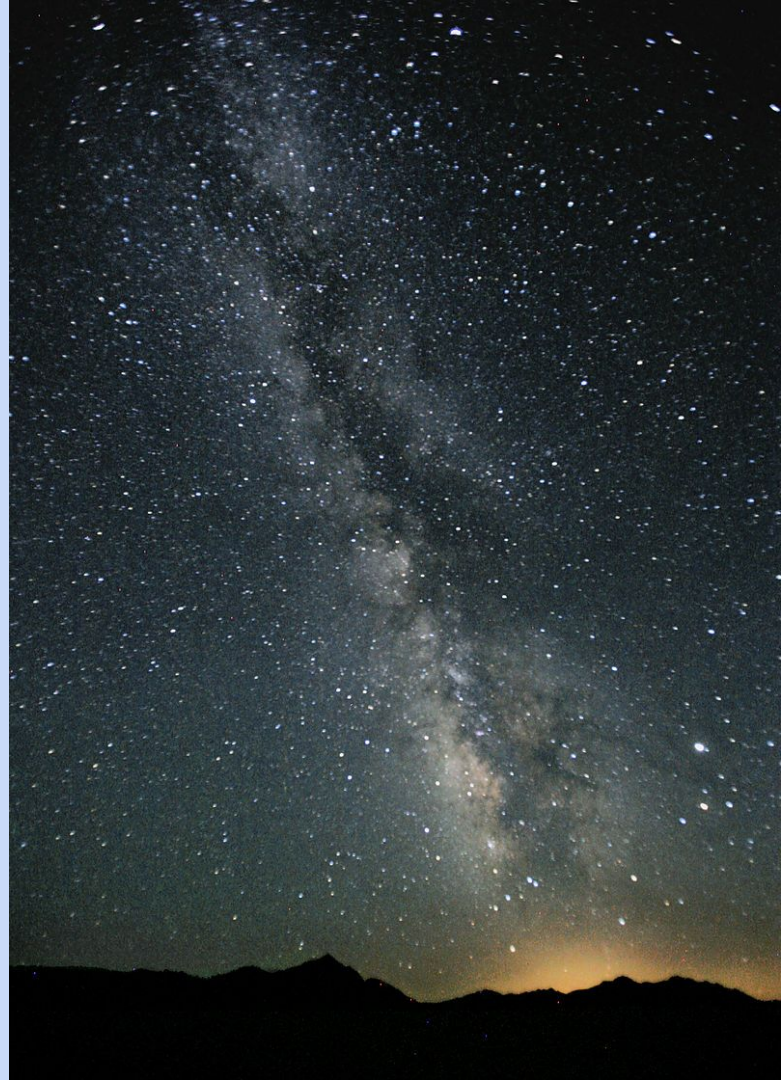
Milky Way Galaxy



Milky Way Galaxy

- The solar system exists within the Milky Way galaxy.
- spiral galaxy
- formed approximately 14 billion years ago
- made up of stars, clouds of dust and gas

This is what the Milky Way looks like from Earth →



Milky Way Galaxy

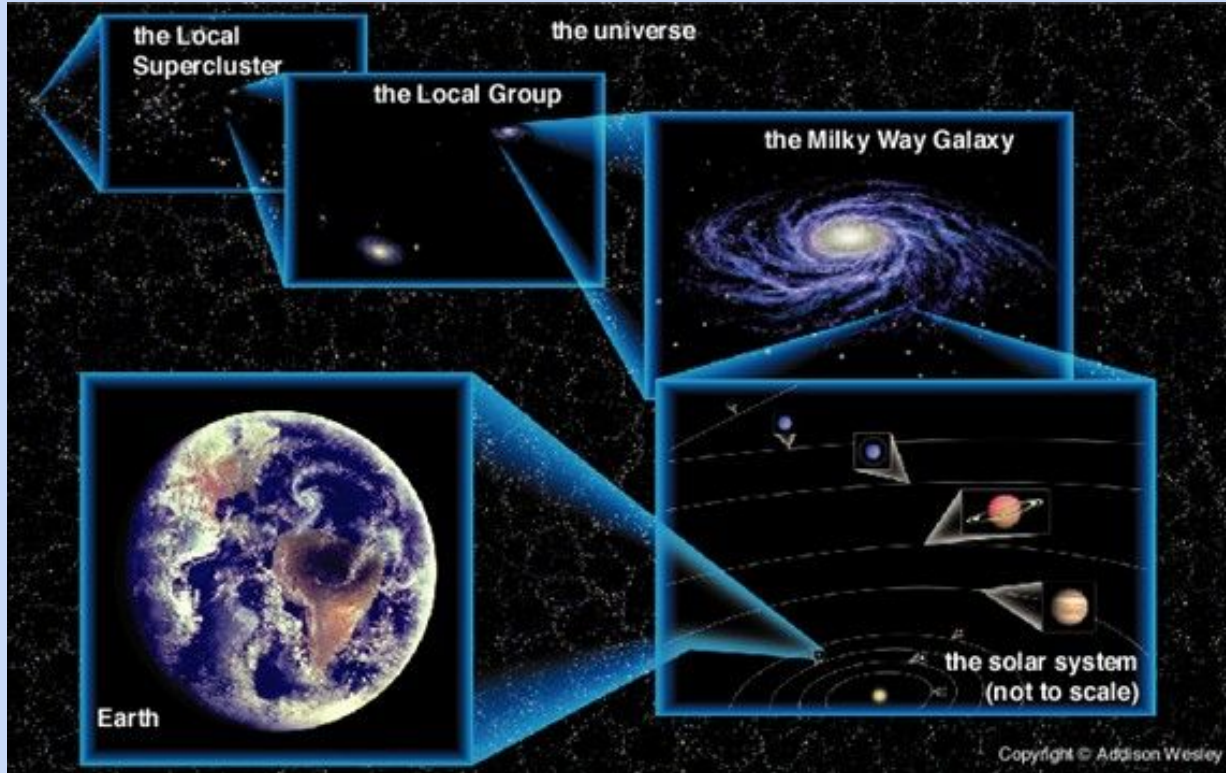
- contains over 200 billion stars
- 100,000 light-years across
- The center is a black hole and its gravity holds the Milky Way together.
- Earth is located on the *Orion Arm (Spur)* of the Milky Way.
- It takes our Sun (and solar system) 225 million years to revolve around the Milky Way.



Local Group & Local Supercluster

- The Milky Way galaxy exists within a group of neighboring galaxies known as the ***Local Group***.
 - Milky Way galaxy, Andromeda galaxy, Triangulum galaxy, and others
- The Local Group is 10 million light years across.
- The Local Group is also part of a larger realm known as the ***Local Supercluster*** (Virgo Supercluster).

What is our cosmic address?



Cosmic Address

We live in Massachusetts → in the United States → in North America →
on ***Earth*** →

in the ***Solar System*** →

in the ***Milky Way Galaxy*** →

part of the ***Local Group*** →

within the ***Local Supercluster*** →

in the ***UNIVERSE!***

