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The Milky Way

What and where?

- The milky way is a galaxy that contains our Solar system
  - Stars, stellar remnants, interstellar gas, dust and dark matter that are bound together by gravity make a galaxy
- Our galaxy belongs to a group of 50 closely bound galaxies known as the Local Group
- This Local Group is located towards the edge of a relatively small supercluster called the Local Supercluster

Formation

- It is estimated that our galaxy's age is about 13.6 billion years
- The oldest stars in the Milky Way were formed from globular clusters shortly after the Big Bang
- The Milky Way has also grown because of galaxy mergers and accretion of gas directly from the Galactic halo
- According to recent studies the formation of new stars in the Milky Way is slowing down

Shape and size

- The Milky way is a barred spiral galaxy
- In its early days the galaxy was a sphere but due to its weight it collapsed to a disk
- The Milky Way is the second-largest galaxy in the Local Group
- Its diameter is about 100,000 lightyears

Structure

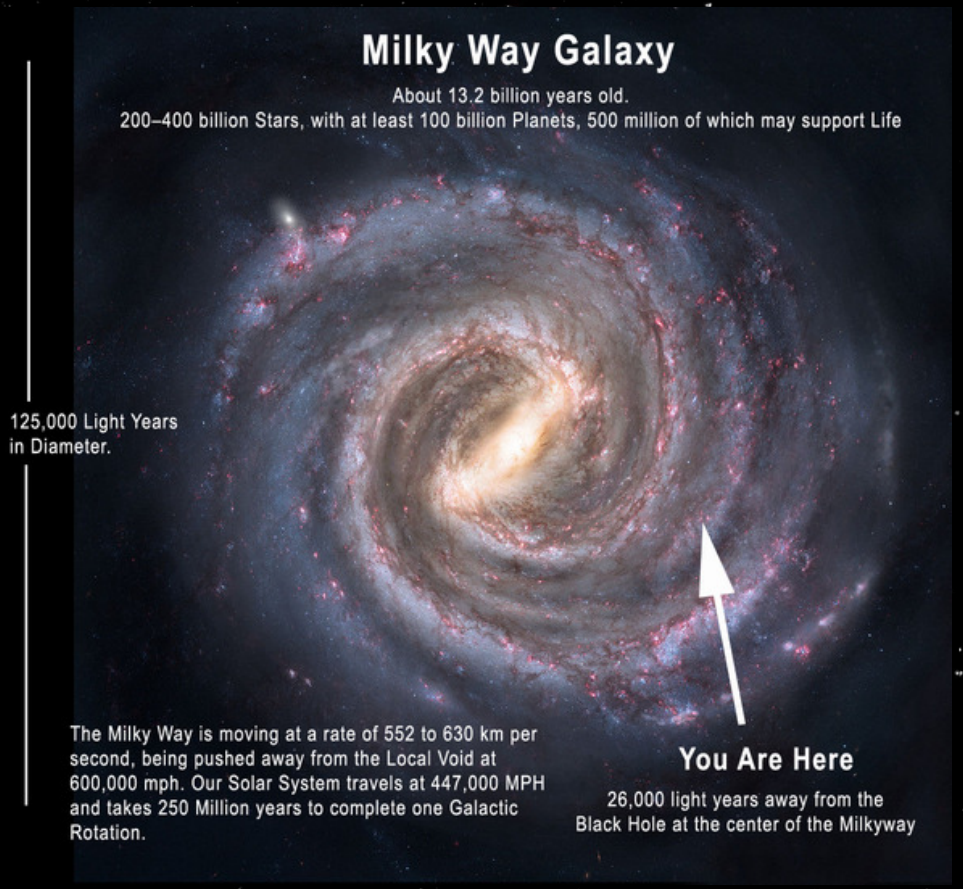
- The Milky Way has over 200 billion stars in it.
- Its mass consists of luminous matter, which is like 10% and the rest 90% is dark matter.
- The gas and stars are held together by the gravity of dark matter so they don't fly apart 'cause of the speed and heat of galaxies.
- The luminous matter, visible mass, contains dust and gas.
- Dust is made of silicates and graphite coated with water ice.

Center

- There's a black hole in the center of our galaxy. It has a name and it is Sagittarius A*. The name was given by Robert Brown.
- It is a supermassive black hole (SMBH) which is the largest type of black hole and it is found in every currently known very big galaxies' centers.
- Sgr A* was discovered on February 13 and 15, 1974.

Location Of Earth On the Milky Way

- In the night sky you should be able to see the Milky Way at certain hours from March through October.
- The distance where we are is about 26k light years away from the Black Hole.



Future

- It has been predicted that in about 4 billion years The Milky Way and another galaxy called Andromeda will collide
- The new galaxy is nicknamed Milkomeda or Milkdromeda
- It is still highly unlikely that any individual stars will collide due to the distance between stars

Video

Sources

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