

GALAXIES



Galaxies are defined as large groupings of stars, dust, and gas held together by gravity. They vary greatly in size and shape. Most of the objects we know of in space are contained within galaxies. They contain stars, planets, moons, comets, asteroids, nebulae, dust, neutron stars, and black holes. Our own solar system is located within a galaxy. And just like our solar system, our galaxy is in motion. The stars within the Milky Way revolve around the central core.



Vocabulary

Comets : A celestial object consisting of a nucleus of ice and dust and, when near the sun, a 'tail' of gas and dust particles pointing away from the sun.

Asteroids : a small rocky body orbiting the sun.

Nebulae : A cloud of gas and dust in outer space, visible in the night sky either as an indistinct bright patch or as a dark silhouette against other luminous matter.

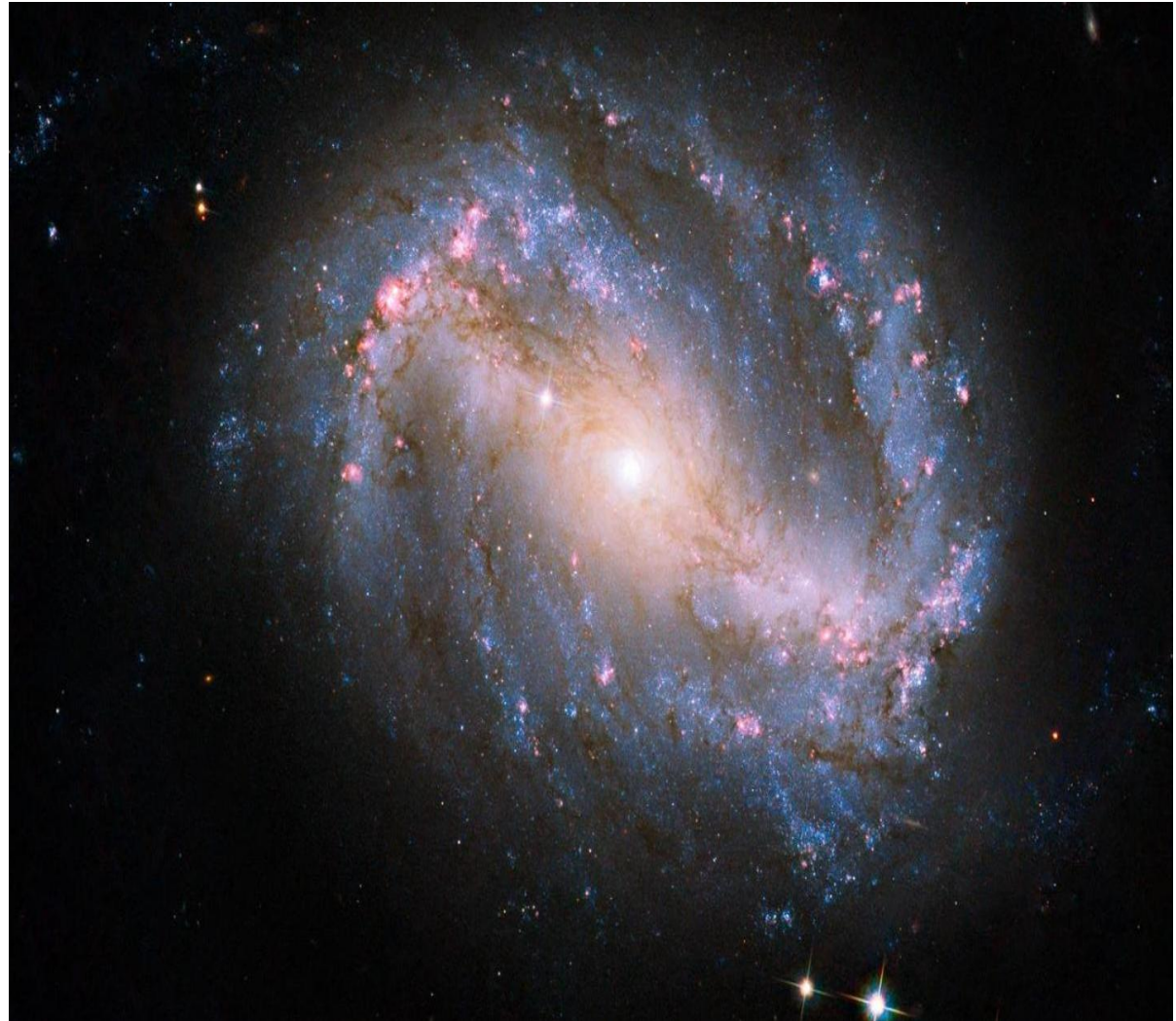
Black holes : A region of space having a gravitational field so intense that no matter or radiation can escape.

Oasis : A fertile spot in a desert, where water is found.

Gigantic : Of very great size or extent; huge or enormous.

TYPES OF GALAXIES

- **Spiral Galaxy**
- **Barred Spiral Galaxy**
- **Elliptical Galaxy**
- **Irregular Galaxy**



Spiral Galaxy - Spiral galaxies are characterized by a distinct flattened spiral disk with a bright center called the nucleus. Our own Milky Way is a spiral galaxy. Spiral galaxies are represented by the letter S and are divided into four subgroups. These are **S0**, **Sa**, **Sb**, and **Sc**. **S0** galaxies have a bright nucleus but have no spiral arms. **Sa** galaxies have spiral arms that are wound tightly around the nucleus while the arms of **Sc** galaxies are wound much more loosely.



Barred Spiral Galaxy - A barred spiral galaxy is very similar to a spiral with one important difference. The arms spiral out from a straight bar of stars instead of from the center. About one third of all spiral galaxies are barred spiral in shape. Barred spiral galaxies are represented by the letters SB and are arranged into three subgroups according to the openness of the arms. These subgroups are labeled **SBa**, **SBb**, and **SBc**. **SBa** galaxies have a short bar of stars extending from the center while **SBc** galaxies have a long, well-defined bar.



Elliptical Galaxy - Elliptical galaxies vary in shape from completely round to extremely elongated ovals. Unlike spiral galaxies, they have no bright nucleus at their center. Elliptical galaxies are represented by the letter **E** and are divided into seven subgroups according to their shape. These subgroups are labeled **E0 to E7**. **E0** galaxies are nearly circular in shape while **E7** galaxies are extremely elongated or stretched out.



Irregular Galaxy - A fourth type of galaxy is known as the irregular galaxy. These galaxies have no discernible shape or structure. Irregular galaxies are divided into two classes, **Im** and **IO**. **Im** class galaxies are the most common and show just a hint of structure. Sometimes the faint remnants of spiral arms can be seen. **IO** class galaxies are completely chaotic in form. The large and small Magellanic Clouds are examples of **Im** class irregular galaxies.



Reviewed By	Reviewed On	Comments / Changes Made
Shilpa	10.09.2015	Title changed from Exercise to Home assignment
Ruchika	29.02.2016	No changes made