

Galaxies Factsheet

What are galaxies?



(Image Credit: NASA)

Galaxies are collections of stars, gas and dust and dark matter. They contain millions to thousands of billions of stars, all orbiting around the centre of mass. They are normally categorized by their shape – such as spiral, elliptical or irregular galaxies. There are about 100 billion galaxies in the observable universe, and probably more that we can't see. Light takes thousands of years to cross a galaxy (compare that to about a second for light to get from Earth to the Moon!). The distances between galaxies are even more vast, where space is a near perfect vacuum.

The Milky Way

Our own solar system lies just to the side of one of the spiral arms of the galaxy we call the Milky Way. The Milky Way is a barred spiral galaxy, but because we view the galaxy from the inside, it appears as a glowing band across the sky. There is a very intense radio source at the centre of the galaxy, which is most likely to be a supermassive blackhole.

All the stars that we can see with the naked eye are part of the Milky Way.



The Milky Way viewed from Earth (Image Credit: NASA)

ACTIVITY 1 – Galaxy Zoo

Hubble takes many stunning pictures of galaxies. The human brain is actually better than a computer at classifying the galaxies in terms of shape. Here's where you come in – at <http://www.galaxyzoo.org/> you can learn to classify galaxies in terms of their shape and help astronomers to learn more about the galaxies in the universe.

ACTIVITY 2 – Scale model of the Milky Way



Use this image, and the fact that the Sun is about 28,000 light years from the galactic centre to make a scale model of the Milky Way. How long does it take light to travel from Orion to us?