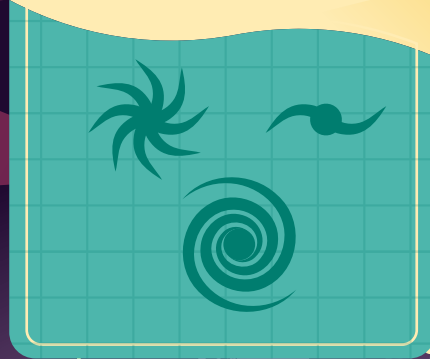


# What Are Galaxies?

At night, you may be able to see a long white streak in the sky. In the past people thought it looked like spilled milk across the darkness—that's how our galaxy, the Milky Way, got its name.

A **galaxy** consists of a collection of stars, planets, and other celestial bodies. Galaxies can be different shapes and sizes. Scientists believe that the universe consists of about 100 billion galaxies, but the number could also be much higher or lower.



It would take a rocket several million years to fly across the entire Milky Way.

As well as our solar system, the Milky Way also contains rogue or **free-floating planets**. These are planets that wander freely through space instead of orbiting a central star.



The **Milky Way** consists of billions of stars. Because it looks like a spiral with several large spiral arms, it is called a spiral galaxy. The sun and the Earth are part of the Milky Way and our entire solar system is located in one of these spiral arms, the Orion Arm.

Until 1920, scientists believed there was only one galaxy in the **universe**—the Milky Way. However, since then, astronomers have discovered countless others.

What are known as **black holes** aren't holes at all. They're places in the universe where gravitational forces are so powerful that even light is swallowed up. Whatever goes into a black hole will never come out again. Scientists believe that everything at the center of a black hole is compressed into a very small space.

## Sagittarius A\*

At the center of the Milky Way is a giant black hole named Sagittarius A\*. It's believed that this is the remains of a huge star that exploded a long time ago. The core of this star would have been so tightly compressed that it gave birth to a black hole with an extremely powerful gravitational pull.

Closest to our Milky Way is the **Andromeda Galaxy**. Our neighbor is 2.5 million light-years away from Earth.

Farthest from Earth is **HD1**. A group of scientists discovered this galaxy after about 1,200 hours of observation.

