



Name: _____

Galaxies: Home of Stars

A galaxy is a huge collection of stars, planets, gas, and dust all held together by gravity. Galaxies are like giant neighborhoods in space where stars live. Our galaxy, the Milky Way, is just one of billions of galaxies in the universe!

What Is a Galaxy?

Galaxies are enormous, stretching across millions of light-years. They contain billions or even trillions of stars, along with planets, moons, and clouds of gas and dust. A light-year is how far light travels in one year, about 6 trillion miles!

Types of Galaxies

Galaxies come in different shapes and sizes. Scientists group them into three main types:

Spiral Galaxies: These look like spinning pinwheels with arms that swirl outward. The Milky Way is a spiral galaxy.

Elliptical Galaxies: These are shaped like smooth, round ovals or stretched-out circles. They can be very large or very small.

Irregular Galaxies: These have no clear shape and look scattered or messy.

What Is the Milky Way?

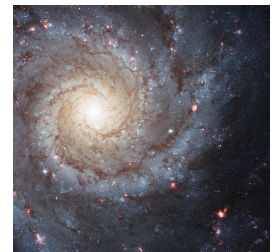
The Milky Way is the galaxy we live in. It is a spiral galaxy with a bulging center and long arms full of stars and gas. Our solar system is located in one of the Milky Way's arms, about halfway from the center to the edge.

How Do Galaxies Form?

Galaxies form over billions of years. Scientists think they started as small clouds of gas and dust that were pulled together by gravity. Over time, these clouds grew larger and formed stars, creating the galaxies we see today.

What Is at the Center of a Galaxy?

Many galaxies, including the Milky Way, have a supermassive black hole at their center. A black hole is an area in space where gravity is so strong that not even light can escape it. This black hole helps hold the galaxy together.



Spiral galaxy



Elliptical galaxy



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Fun Facts About Galaxies

The Milky Way has about 100 billion stars, and it's still growing by pulling in gas and smaller galaxies.

The closest galaxy to the Milky Way is Andromeda, which is also a spiral galaxy.

Some galaxies are very old, forming more than 13 billion years ago, shortly after the universe began.

The largest galaxies can have trillions of stars, while the smallest might only have a few million.

1. What is a galaxy? _____

2. What are the 3 main types of galaxies? _____

3. How does gravity help galaxies form? _____

4. Describe how many stars a galaxy can have. _____
