

Space

Lesson 1: What is a Galaxy?

Today's focus

I will:

- be able to recognize that a galaxy consists of gas, dust, and many stars, including any objects orbiting the stars
- be able to identify our home galaxy as the Milky Way.

Bellringer

Latisha bought three different brands of cat food. She placed an equal amount of cat food in three equal-sized bowls. She placed a different brand of cat food on the floor each day, over a three-day period. Each day, Latisha's cat eats a different brand of food.

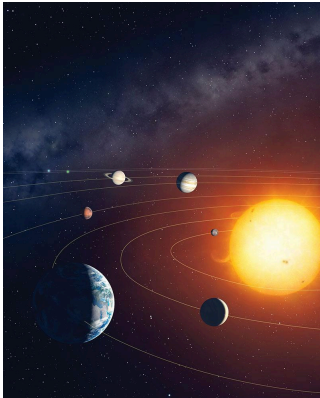


Latisha observes her cat eating the food. Which of the following is an observation that would provide evidence for a conclusion?

- The cat ate more of Brand C than of Brand A or Brand B.
- Brand A tastes better to a cat than Brand B or Brand C.
- Small cats like Brand B better than Brand A or Brand C.
- The cat wanted to eat more of Brand C but it got full.

Engage

Observe these two photos. One photo is of our solar system. The other photo is of our galaxy. What do you notice? What do you wonder? What do you see that's different?



Space

Think About This!!

Number the following objects in descending order according to their size.

1 (Biggest) - 6 (Smallest)

_____ planet

_____ universe

_____ moon

_____ galaxy

_____ solar system

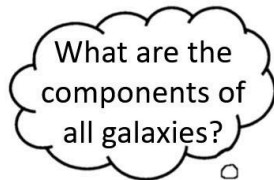
_____ star

Video: Our Place in the Galaxy

Observe this video and think about the following questions. How big is our galaxy?
Where are we located in space?

Galaxies

Although galaxies come in many different shapes, they all contain the same components.



Reading Passage: Found Inside a Galaxy Stars and galaxies are not distributed evenly throughout space. Galaxies are clusters of stars that consist of billions of stars, along with the planets and other solar system objects that orbit the stars, as well as gases and dust particles. Galaxies are held together by gravity. There are billions of galaxies in the universe with huge areas of empty space between them. Galaxies come in different shapes and sizes.

Our home galaxy is the Milky Way galaxy. The Milky Way galaxy contains many solar systems besides our solar system. Looking into the center of the galaxy, the Milky Way appears as a faint band of glowing clouds in the night sky.

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How are galaxies alike? _____

How are galaxies different? _____

What is the name of the galaxy where our solar system is located? _____

Galaxies

A galaxy is a group of billions of stars, gas, dust, and objects that orbit the stars (asteroids, comets, moons, planets).



Our home galaxy is known as the Milky Way Galaxy.



Galaxy Song



Gas and Dust and Many Stars
All Held Together by Gravity
Gas and Dust and Many Stars
Together Make a Galaxy

Edpuzzle Video: What is the Milky Way Galaxy?

Circle the correct answer.

1. What is a galaxy? just a lot of dust and debris a group of stars, dust and gas
2. Our solar system is inside the Milky Way galaxy. True False
3. If you look up into the night sky, you will **ALWAYS** be able to see the Milky Way galaxy. True False
4. What galaxy do we live in?
 The Almond Joy galaxy The Kit Kat galaxy The Milky Way galaxy

Space

Video: Review of the Universe (Study Jams)

Word bank: galaxy galaxies Milky Way galaxy solar system

Our sun and the planets that orbit around it form a _____.

A _____ is an enormous group of stars and planets.

The sun and billions of other stars form the _____.

The Milky Way is one of countless _____ that form the universe.

Reading Passage: Found in a Galaxy

Dust:

Clouds of cosmic dust consisting of tiny particles of solid material float around in the space between stars. It is not the same as the dust you find in your house but more like smoke with small particles of varying sizes. Scientists know that dust is very important and we find lots of it around young stars. In fact, the cosmic dust helps stars to form, and it is also the material from which planets, like the Earth, are formed.

Gases:

While hydrogen and helium make up most of the gases in outer space, tiny traces of other elements such as carbon, oxygen, and iron also exist in our galaxy.

According to the text, why is dust so important to a galaxy? _____

Exit Ticket

Chang's teacher asked him to describe a galaxy. Which of the following is the best description of a galaxy?

- a. All of the matter that exists in space
- b. A star and all the moons that orbit it
- c. A group of stars in a set pattern that can be seen from Earth
- d. A group of stars, gas, and dust, including the planets and objects that orbit the stars

Which is true of the Milky Way Galaxy?

- a. The Milky Way galaxy can not be seen from Earth.
- b. The Milky Way galaxy is the only galaxy in space.
- c. The Milky Way galaxy contains the planet Earth.
- d. The Milky Way galaxy is very close to Earth's galaxy.