Ages:
6th grade and up

Duration:
15 minutes

Materials:
For each student
- A Venn diagram on 11x17 paper titled "Star Cities"
- A half-sheet of mailing labels with printed photos of objects (Jupiter, asteroids, stars, and galaxies)
- A pair of scissors

LUNAR AND PLANETARY INSTITUTE

~ LPI Education/Public Outreach Science Activities ~

Our Neighborhood in the Universe

Overview —

This can be used as a formative assessment activity, as students use stickers of celestial objects to create a Venn diagram classifying objects in our solar system, galaxy, and universe.

Objective —

The students will:
- Classify planets, stars, and galaxies as a part of our solar system, our galaxy, or our universe.

Before You Start: *print the images of the objects onto mailing labels, or decide to have students either write in the objects or draw them.*

Activity —

1. Hand out a copy of the Venn diagram and a half sheet of the mailing labels to each student.
2. Ask the students to separate the objects by cutting the stickers in half (each label has two photos on it).
3. Ask your students to determine information about each image: what it is, and where it belongs: in our solar system, in our galaxy, or in our universe, and to place it accordingly.

Discussion for the class:

What do the asteroids and planets orbit? (The Sun)

What are the asteroids and planets a part of? (Our Solar System)

What do the stars we can see without a telescope orbit? (our Galaxy)

Where do the galaxies belong—what are they a part of? (our Universe)

Background —

Our solar system includes everything that orbits our Sun: the eight planets, all of their moons, dwarf planets, asteroids, comets, and meteoroids.

Our galaxy (the Milky Way) includes our solar system as well as hundreds of billions of other stars, and enormous clouds of gas and dust (nebulae). Many of these stars are in clusters. Every star we can see without a telescope is in our galaxy.

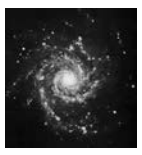
We can also see other galaxies, far away from our own galaxy. [Although these galaxies also have stars and nebulae and clusters of stars, they are too far away for us to see the nebulae and stars without telescopes.] Our universe includes everything we can or can't see: the solar system, everything in our galaxy, and all of the other galaxies and the space in-between.

Ties to Standards —

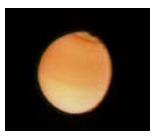
Standard D: Earth and Space Science
Grades 5-8
Earth in the Solar System: The earth is the third planet from the sun in a system that includes the moon, the sun, eight other planets and their moons, and smaller objects, such as asteroids and comets. The sun, an average star, is the central and largest body in the solar system.

Stickers Template

Spiral Galaxy

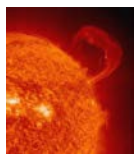


Saturn's moon Titan



Andromeda Galaxy

Sun



Comet

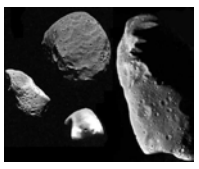
Triangulum Galaxy

Jupiter

Stars (Pleiades)

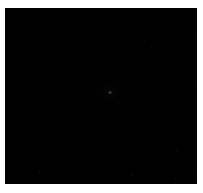
Galaxy

Asteroids



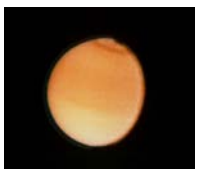
Orion Nebula

Polaris the North Star



Spiral Galaxy

Saturn's moon Titan



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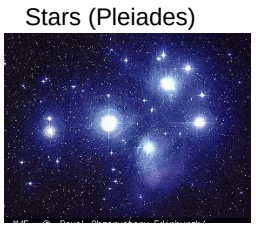
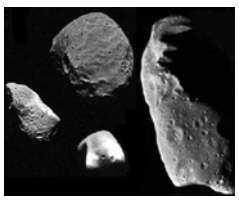


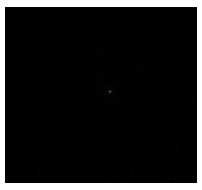
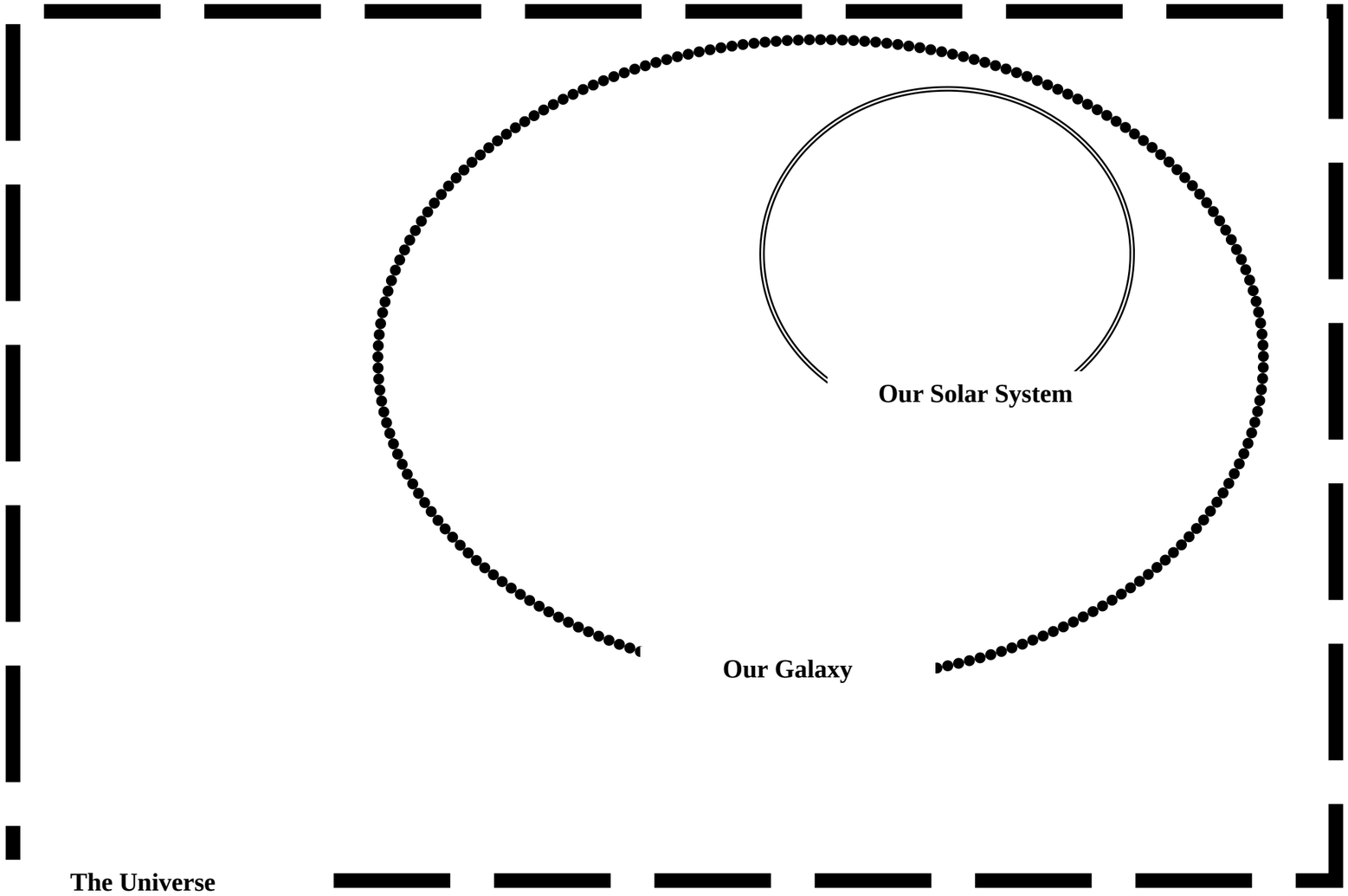
Galaxy

Asteroids



Orion Nebula

Polaris the North Star



Our Neighborhood in the Universe Place the photos in the right spot.