

Starry, Starry Night

By: Rebekah Murray

“That’s one small step for man, one giant leap for mankind.” - Neil Armstrong

Please Do Not Miss...

If you only have a limited amount of time, please don't skip...

- My Constellation Key Chain
- Create Your Own Solar System

Overview

Have you ever stared into the night sky? What did you see? Have you ever searched for pictures in the stars? What are stars? Are they close to us or far away? Where are the stars? What is space? Have any of you ever been to space? Is it possible for humans to travel to outer space? What do you need to travel to outer space? This week, we are going to be talking about stars and outer space. In books and through activities, we are going to become astronauts exploring outer space! So, hang on!

Background Information

We live in a **galaxy** called the **Milky Way**. There are 400 billion stars in our galaxy. Our **sun** is just one of those stars. Almost everything in our solar system orbits or goes around one **star** called the **sun**. The sun is a star so hot and bright that it sends us heat and light even though it is millions of miles away. We live on a special planet called **Earth**. The Earth and all the other planets in our solar system circle around the sun. The heat and light Earth receives from the sun makes it just right for life. The Earth is not the only planet in our solar system. The closest planet to the sun is **Mercury**, then **Venus, Earth, Mars, Jupiter, Saturn, Uranus** and **Neptune**. Many of the planets have **moons** that orbit around them and some of the planets have rings around them. The Earth does not have any rings that surround it, but we do have one moon. Not that long ago, we sent a spaceship that carried people to the moon. A man by the name of **Neil Armstrong** was the first person to step out of a spaceship onto the moon. He and the other astronauts placed an American flag on the moon. Humans continue to travel to outer space to explore. We call these people **astronauts**. Maybe you will be an astronaut one day! When you look up into the sky, you can see the sun. At night, you can see other stars that are even farther away and our moon. People have been staring at the stars for thousands of years. If you

look closely, you can see pictures in the stars. Over time, people have named these different clusters of stars or **constellations**. See if you can find Orion, Leo, Pisces, Canis Major, the Big Dipper, Cassiopeia and other constellations.

Main Ideas

- We live in a **galaxy** called the **Milky Way**.
- Almost everything in our solar system orbits or goes around one **star** called the **sun**.
- We live on a special planet called **Earth**.
- The closest planet to the sun is **Mercury**, then **Venus, Earth, Mars, Jupiter, Saturn, Uranus** and **Neptune**.
- The Earth has one moon.
- Not that long ago, we sent a spaceship that carried people to the moon. A man by the name of **Neil Armstrong** was the first person to step out of a spaceship onto the moon.
- **Astronauts** are people who travel to outer space to explore.

Materials Needed

- *Starry, Starry Night* by Wade Cooper
- The Constellation Print Out
- Cardstock
- Hole Punchers
- Scissors
- String or Key Chain
- Flashlight (optional)
- Mini Marshmallows
- Toothpicks
- Sidewalk Chalk

Preparation

1. Read "Background Information" to become more familiar with the properties of our skeletal systems.
2. Read through *Starry, Starry Night* by Wade Cooper. Prepare questions that you can ask along the way.
3. Make sure that you have all the supplies that you will need for each day's experiment or craft.

Opening

Read through *Starry, Starry Night* by Wade Cooper.

My Constellation Key Chain

Print a copy of the constellation worksheet for each student, preferably on cardstock. Have each student cut out the circles. Then, have them use a hole puncher to punch out each of the major stars in the constellation. Then, have them poke a hole in each circle and use a string or key chain to tie them all together. After you have constructed your constellations, you can 1) take them outside. The light from the sun will shine through and display the constellations on the ground. OR 2) Inside, you can use a flashlight to create the same effect. Challenge students to take these home and to find them in the night sky.

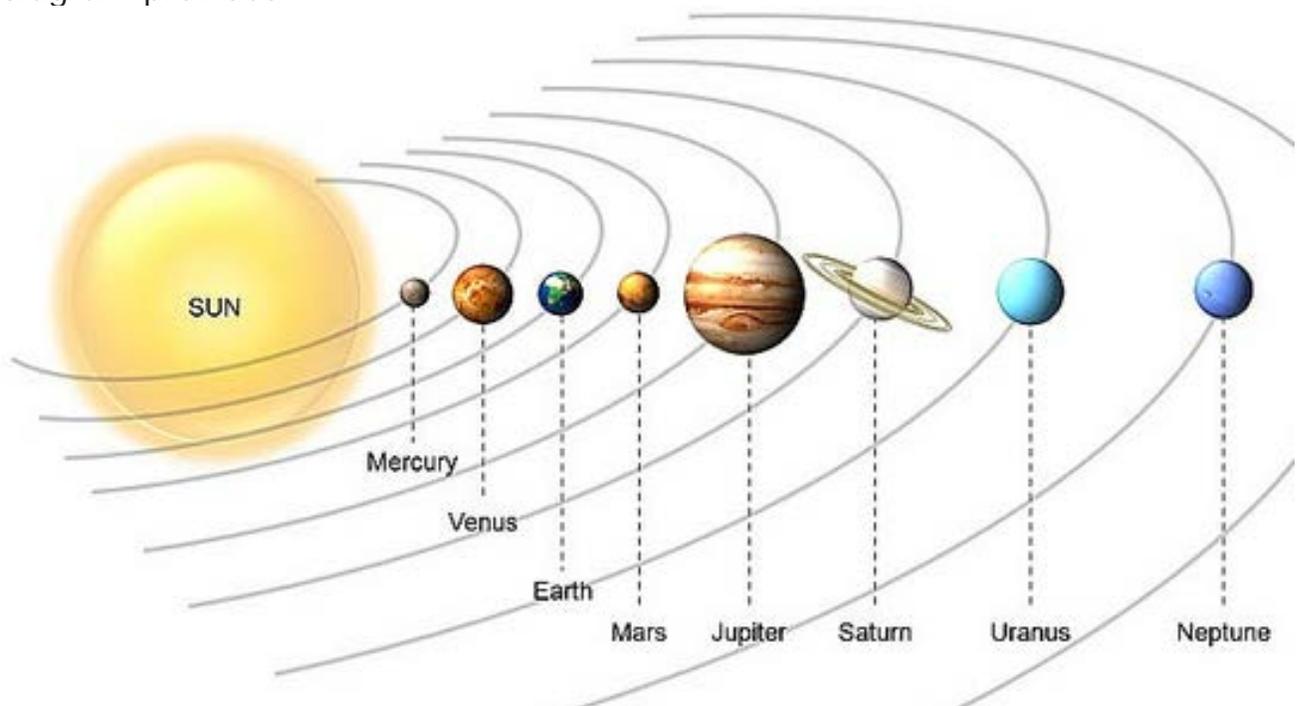
Materials: Constellation worksheet printed on cardstock, hole punchers, scissors, string or key chain, flashlight (optional)

Constellation Snack Idea

Have students construct the six constellations using mini marshmallows and toothpicks.

Create Your Own Solar System

Create a large model of our solar system using sidewalk chalk. Use the diagram provided.



Further Exploration

Launch Your Own Bottle Rocket

Materials: a small soda or water bottle, vinegar, baking soda, 2 paper towels, tape and 3 pencils

Make a stand for your rocket by taping 3 pencils to a water bottle, so that the bottle can set on the ground with the neck of the bottle pointed down. Fill a bottle $\frac{1}{3}$ of the way with vinegar. Place about a tablespoon of baking soda on one paper towel and roll it up like a burrito, pinching both ends. Roll the other paper towel up to form a loose cork for the bottle. Place the paper towel with the baking soda into the vinegar, shake it up for two seconds, place it on the ground and back up.

Students will love this activity and it will give you a great opportunity to talk about space travel.

Wrap Up

- Have students imagine and discuss what they think might exist in other galaxies.
- Have students explain to a partner where in the universe they live.
- Allow students to design their own space shuttle, constructing it with materials or just drawing the design on paper.

Signs of Success

The student will...

- Demonstrate engagement and curiosity in exploring space.
- Students will be able to draw a picture of our solar system and name at least 3 of our 8 planets.
- With their parents, students will use their constellation cards to identify stars in the night sky.

Other Books to Explore

The Big Dipper by Franklyn Branley and Molly Coxe.

Papa, Please Get the Moon for Me by Eric Carle.

How Many Stars in the Sky? by Lenny Hort and James Ransome.

If You Decide to Go to the Moon by Faith McNulty and Steve Kellogg.

Stars by Steve Tomecek and Sachiko Yoshikawa.

To Space and Back by Sally Ride and Susan Okie.

Pennsylvania Educational Standards

Art Education

Reading 1.2.3 A, C, E
1.6.3 A, B
1.8.3 A, B

NRC National Science Educational Standards

Content Standard A: Science as Inquiry

Content Standard B: Biology

AAAS Benchmarks for Science Literacy

12A Values and Attitudes & 12D Communication Skills

Sources

<https://docs.google.com/file/d/0B91cbdesRHx4VV85US1rZWQzVW8/edit>

Sample Schedule For Making It A Week Long Unit

Day 1:

Introduce the concept of outer space.
Read *Starry, Starry Night* by Wade Cooper.

Day 2:

Have students create the constellation key chains.
Use the key chains outside.

Day 3:

Let students design their own constellation snacks.

Day 4:

Using sidewalk chalk, create your own solar system outside.

Day 5:

Review what you learned about outer space.
Launch your homemade bottle rocket.