



Space

Preschool Activities

OBJECTIVES

- Students will learn about the Earth's place in the solar system.
- Students will learn that space and other planets do not have the same environment as earth.

Vocabulary

- Meteor
- Meteoroid
- Meteorite
- Solar System
- Constellation
- Moon
- Sun
- Planets
- Earth
- International Space Station

Quick Facts

- Gas Giants: Jupiter, Saturn, Uranus, Neptune
- Planets that have rings: Saturn, Jupiter, Uranus, and Neptune
- You wouldn't be able to walk on Jupiter, Saturn, Uranus or Neptune because they have no solid surface!
- There are more stars in the universe than grains of sand on all the beaches on Earth. That's at least a billion trillion!
- One million Earths could fit inside the sun
- If you had to fly a plane to Pluto, the trip would take more than 800 years!
- The sunset of Mars appears blue

Source: natgeokids.com

Literature Connection

Hello, World! Solar System, by Jill McDonald

Chicken in Space by Adam Lehrhaupt, illustrated by Shahar Kober

Little Explorers Outer Space by Ruth Martin & Allan Sanders

National Geographic Kids Explore My World: Planets by Becky Baines

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Space Match

Using die-cut planets have students match them.

Sensory Box

- Black, silver, gold, and copper foam balls.
- Black Beans
- In both include plastic planets; stars (confetti, etc.); plastic astronauts, rockets, etc.

Constellation Creations

Materials

- Constellation cards (or printed pictures, preferably laminated)
Suggested constellations: Southern Cross; Cassiopeia; Aries, the Ram; Cancer, the Crab; Taurus, the Bull; Delphinus; Equuleus, the little horse; Sagitta, the Arrow; Triangulum; and Ursa Minor
- Mini-marshmallows
- Spaghetti
- Black Construction Paper
- tape

Directions

- Show students constellations. Tell them the stories behind them.
- Allow students to copy the constellations.
- Tape constellations to black construction paper.
- Write Latin and English names of constellations with metallic Sharpie.

Lesson Extension

After discussing the myths behind the constellations, have students create their own constellation and the story to go with it.

Discussion/ Guided Questions

Pre-activity

- Explain what a constellation is and their connections in history.
- Cassiopeia was a queen who bragged about her beauty, saying she was more beautiful than the Greek gods, and was placed in the sky on her throne as a punishment. The throne is very small and she has to hold tight so she does not fall off. Delphinus, though, was a dolphin who saved a man from drowning. (At least, in one version of the story.)

During Activity

- How many stars are in the constellation? If the marshmallows are stars, how many stars do you need then?
- Does the picture look like anything to you? (e.g. Delphinus looks like a kite, Triangulum looks like a triangle, Equuleus looks like the letter “u”)

Quick Facts

- Constellations are useful because they can help people to recognize stars in the sky.
- In ancient times, stars were used as a calendar!
- Stars and constellations can be used for navigation.
- Stars are made of gas.

Tech Connection

iPad App: Star Chart

ASTRONAUT HELMETS

Vocabulary

- Orbit
- Tether
- Space walk

Materials

- Brown paper bags (large enough to fit over students head)
- Stickers
- Glue
- Poof Balls
- Other miscellaneous crafts

Preparation

- Cut a rectangle into one side of the paper bag, near the bottom. This is for the students to see out of.
- Cut sides so the bag will sit on students shoulders.

Directions

- Read: **Chicken in Space**. Talk about what Chicken is wearing.
- Show students the parts of an astronaut's uniform.
- Have students create their own helmet not forgetting to include a straw for water.

Guiding Questions

- With Chicken in Space
- Could an animal go to space?
- If you went to space, what would you want to take with you?
- What would happen if we traveled to outer space?
- What do you think we will see?
- What can we find in outer space?
- What do you think it is like on the moon, sun, and planets?

Pre-activity

Why does an astronaut need a helmet?

During Activity

Ask students to identify what they have added to their helmet and why.

Quick Facts

- A dog, a Russian cosmonaut named Laika, orbited the earth before humans.
- A monkey went to space before any humans did.

Tech Connection

- Watch shuttle launches on YouTube.
- Watch the SpaceX shuttle land.
- NASA's YouTube channel, particularly Chris Hadfield sharing science with students while on the ISS.

Meteors

Materials

- Flour
- Cocoa
- Pans
- Assorted balls (basketball, golf ball, etc.)

Directions

- Put flour about 3 inches deep in a pan.
- Add a layer of cocoa (for contrast) on top.
- Drop balls and create craters.