

POWERHOUSE SCIENCE CENTER

3615 Auburn Blvd., Sacramento 95821 (916) 674-5000

Topics

Astronomy

Grades

1-3

Duration

60 minutes

Vocabulary

astronomy, atmosphere,
planet, moon, galaxy, star,
Solar System

Next Generation

Science Standards

Practices

Asking Questions & Defining
Problems

Core Ideas

ESS1.A The Universe and its
stars

Crosscutting Concepts

Patterns

Systems and System
Models

Scale, Proportion and
Quantity

Performance Expectations

1-ESS1-1. Use observations
of the Sun, Moon and stars
to describe patterns that can
be predicted.

Cosmic Neighborhood

Overview

The program shows students a simulated night sky and what they can see from around their homes. Currently visible planets and constellations will be pointed out. Daily motion will be demonstrated. The Milky Way galaxy will be shown. Program will then cover the Solar System as a part of the Milky Way. The Sun, planets and other objects will be discussed. Questions and answers are highly encouraged. Finally, a meteorite will be passed around so students can touch something that came from outer space.

Objectives

- Students will gain a greater understanding of the physical properties of objects in space.
- Students will be aware of celestial objects and phenomena that they can view themselves.
- Students will be given the opportunity to ask and answer questions.

Teacher Preparation

- Please arrive at Powerhouse with enough time to allow students and chaperones to use the restroom before the program begins.
- If program starts late, content will be altered to fit available time.
- Planetarium shows require one adult chaperone per six students. Please group students with adults.
- The teacher is required to remain in the planetarium throughout the presentation.
- If your group includes students with special needs, be sure to notify Powerhouse in advance.
- Please insure that no light sources (phones, flashing shoes, etc.) will be used while the room is dark.
- Siblings are not allowed to sit in on the show.
- Planetarium seats a maximum of 70 people.

POWERHOUSE SCIENCE CENTER

3615 Auburn Blvd., Sacramento 95821 (916) 674-5000

Vocabulary

Astronomy: the study of space and the physical universe

Atmosphere: a layer of gases that surrounds some planets and moons

Planet: one of the eight large objects that orbit the Sun

Moon: a large object that orbits a planet

Galaxy: a vast formation of stars

Star: an object in space which appears as a tiny point of light but is really very big, very hot, and very far away

Solar System: the Sun and the objects that orbit it, including planets, moons, asteroids and comets

"We are part of this universe; we are in this universe, but perhaps more important than both of these facts, is that the universe is in us."

- Neil deGrasse Tyson

Cosmic Neighborhood

Extended Learning Activities

Planet Banners

Divide class into eight teams. Assign each team a planet. Have each team research their planet and have each student list five things they have learned.

Next give each team a piece of paper and markers/colored pencils. Give them time to design a banner that represents their planet. Encourage them to incorporate things they have learned about their planet into the design. When the design is finished, give each team a sheet of larger paper (or, if possible, cover tables with butcher paper). Have each team produce a finished banner that represents their planet. Then go around and have each team present their banner and explain how it represents their planet.

Star Party

Invite your local amateur astronomy club to put on a star party at your school or other location. Astronomy clubs are often a great way for students to see that astronomy can be a lifelong interest. Many astronomy clubs will participate for little or no charge.

Resources

NASA

<https://www.nasa.gov/audience/foreducators/k-4/index.html>

National Science Foundation

<https://www.nsf.gov/news/classroom/astronomy.jsp>

National Informal STEM Education Network

<http://www.nisenet.org/content-keywords/astronomy>

National Science Teachers Association

<http://www.nsta.org/publications/freebies.aspx> (Keyword: Astronomy)