Noble Planetarium Classroom Companion

Our Solar System

SHOW OVERVIEW

Our Solar System is a full-length animated show about the planets in our solar system with live narration. Our presenters will go in depth about the unique characteristics about each planet, the asteroid belt, the Kuiper belt, and of course, Pluto.

Length: 25 minutes
Grade level: 3-7

EXTENSION IDEAS FOR TEACHERS:

Planet Comparison Chart – Students create a simple chart comparing two planets based on size, temperature, atmosphere, and distance from the Sun. They should explain how these characteristics make each planet unique.

Build a Model Solar System – Students create a scaled or relative model of the solar system using drawings or classroom objects. They should describe patterns they notice about planet size and spacing.

Asteroid Belt Engineering Challenge – Students design a spacecraft that could safely travel through the asteroid belt. They should explain how their design protects the spacecraft from collisions.

Kuiper Belt Discovery Poster – Students create a small poster showing what the Kuiper Belt is and why Pluto is classified as a dwarf planet. They should describe how objects in this region are different from the main planets.

Planet Travel Brochure – Students design a brochure advertising one planet as a travel destination. They should explain the planet's major features and challenges visitors might encounter.

Critical Thinking Questions:

Ask students, *"Based on what you learned in the show, why are the planets closer to the Sun different from the planets farther away? What patterns do you notice?"*

Ask students, *"Why do scientists classify Pluto as a dwarf planet instead of a major planet? What characteristics make it different?"*

Ask students, *"How do features like gravity, atmosphere, and temperature affect whether a planet or moon could support life?"*

Ask students, *"Why is the asteroid belt located where it is? What might this tell scientists about how our solar system formed?"*

PROGRAM TEKS

3.8(B) describe and illustrate the Sun as a star composed of gasses that provides light and thermal energy

3.8(D) identify the planets in Earth's solar system and their position in relation to the Sun

6.11(A) describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, and comets

6.11(B) understand that gravity is the force that governs the motion of our solar system

6.11(C) describe the history and future of space exploration, including the types of equipment and transportation needed for space travel

7.9(A) analyze the characteristics of objects in our solar system that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere