Noble Planetarium Classroom Companion

Audio Universe: Tour of the Solar System

Length: 35 minutes
Grade level: 3-8

SHOW OVERVIEW

Audio Universe: Tour of the Solar System is a planetarium show, but unlike traditional shows the soundtrack takes the lead role.

All of the objects in space are represented with rich sounds as well as with incredible visuals. The audience can listen to the stars appear and hear the planets orbit around their heads. Audio Universe: Tour of the Solar System is an immersive experience that can be enjoyed irrespective of level of vision.

EXTENSION IDEAS FOR TEACHERS:

Planet Order Activity – Students place planet cards in order from closest to farthest from the Sun to model the structure of the solar system.
Sun, Earth, Moon Model – Students create a model showing the positions and movements of the Sun, Earth, and Moon to demonstrate orbits and relationships.
Day and Night Model – Students model how Earth's rotation causes day and night using a globe and light source.
Moon Phase Sequence – Students sequence images of the Moon's phases to identify repeating patterns over time.
Planet Characteristics Sort – Students compare physical characteristics of planets such as size, temperature, and surface features.
Gravity and Orbit Demonstration – Students observe how gravity influences the motion of planets orbiting the Sun using a model or simulation.

Critical Thinking Questions:

Ask students, *"Based on what you learned in the show, how are the planets arranged in relation to the Sun?"*
Ask students, *"Based on what you learned in the show, how does gravity influence the motion of planets in the solar system?"*
Ask students, *"Based on what you learned in the show, how does Earth's rotation cause day and night?"*
Ask students, *"Based on what you learned in the show, what patterns can be observed in the Moon's appearance over time?"*
Ask students, *"Based on what you learned in the show, how does Earth's tilt and orbit cause seasonal changes?"*

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
3.8(C) construct models that demonstrate the relationship of the Sun, Earth, and Moon, including orbits and positions
4.8(C) collect and analyze data to identify sequences and predict patterns of change in shadows, seasons, and the observable appearance of the Moon over time
5.8(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky
5.8(D) identify and compare the physical characteristics of the Sun, Earth, and Moon
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
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
8.7(A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons
8.7(B) demonstrate and predict the sequence of events in the lunar cycle
8.8(A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification
8.8(B) recognize that the Sun is a medium-sized star located in a spiral arm of the Milky Way galaxy and that the Sun is many thousands of times closer to Earth than any other star