

Noble Planetarium Classroom Companion

Forward! To the Moon

SHOW OVERVIEW

Kari Byron from Crash Test World and MythBusters launches us on a journey beyond the Earth towards a sustainable future in space. NASA's 21st-century Artemis program, named after the Greek moon Goddess and twin of Apollo, is the next step in our mission to explore the universe.

EXTENSION IDEAS FOR TEACHERS:

Design a Moon Mission Spacecraft – Students design a spacecraft capable of traveling from Earth to the Moon and explain how their design supports safe space travel.

Build a Lunar Habitat – Students design a Moon base that protects astronauts from extreme temperatures, lack of atmosphere, and radiation.

Gravity and Motion Model – Students model how gravity keeps the Moon in orbit around Earth and how gravity affects space travel.

Artemis Program Timeline – Students create a timeline showing important milestones in space exploration from Apollo missions to the Artemis program.

Moon Surface Investigation – Students observe images of the Moon's surface and identify features such as craters, dust, and rocky terrain that affect exploration.

Design a Space Suit – Students design a spacesuit that allows astronauts to safely explore the Moon's surface and explain how the suit supports survival.

Critical Thinking Questions:

Ask students, *“Based on what you learned in the show, how does gravity affect the motion of the Moon and spacecraft?”*

Ask students, *“Based on what you learned in the show, why is NASA returning to the Moon through the Artemis program?”*

Ask students, *“Based on what you learned in the show, what challenges do astronauts face when exploring the Moon?”*

Ask students, *“Based on what you learned in the show, what types of equipment are needed for successful space missions?”*

Ask students, *“Based on what you learned in the show, how has space exploration changed from the Apollo missions to the Artemis program?”*

Ask students, *“Based on what you learned in the show, why do astronauts need special accommodations to live and work in space?”*

Length: 25 minutes

Grade level: 6-8

PROGRAM TEKS

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(B) identify the accommodations, considering the characteristics of our solar system, that enabled manned space exploration

8.8(C) identify how different wavelengths of the electromagnetic spectrum such as visible light and radio waves are used to gain information about components in the universe