



“You are the Next Space Explorers”

Lesson 2: Full Moon

Description:

Earth’s Moon hangs there hovering like a celestial nightlight. It is our companion in gravitational lock. Our Moon speaks for itself in terms of its “get to know me” status. What is the relationship between the Earth, Moon and the Sun? Where did the Moon come from? What is the Moon really made of? Where should we set up residence?

Articles, Activities and Videos in this mission reflect a very holistic view of the space program (history, people, science and culture). Whenever possible students are provided with the opportunity to share their learning and understanding through a variety of mediums (e.g. images, words, videos, voice, song).

Target Grade level or Course:

5th-9th grade science, social studies and math

Instructional resources:

Type of Resource	Name of Resource	Description of Resource
Video	We Go as the Artemis Generation	Our generation, the Artemis generation, will explore further than we’ve ever gone before. The Artemis program will send the first woman and next man to walk on the surface of the Moon and build a sustainable base to prepare for missions to Mars and beyond.
Activity	Mystic Moon	In this activity, students will explore a myriad of Moon lore. From music to art to stories, the Moon is a prominent feature in popular culture artifacts.
Article	Getting to Know the Moon	Learn more about the origin of the Moon and its composition.
Article	What Can the Moon Help Us Learn About the Universe?	The more we learn about the Moon, the more we learn about our solar system and the universe.
Activity	Phasing In and Out	In this activity, students will create models to represent

		the movement and phases of the Moon.
Activity	Building an Earth-Moon Model	In order to understand objects and systems that are very large or very small, scientists often create models. In this activity, students will create a model of relative sizes and distance between the Earth and the Moon.
Article	What are Tides?	How does the Moon affect what happens on the Earth? Tides are a prime example of the Moon's gravitational pull in action.
Activity	Fg: Universal Gravitation	In this activity, students will use an online simulation to explore the factors that determine the size of the force of gravity and learn how astronomers determine the masses of really large astronomical objects.
Activity	Lift Off!	What is the science behind spacecraft launch? In this activity, students will launch your own rockets and observe these laws in action.
Article	Artemis: But This Time to Stay	NASA is moving forward on its Artemis program, intended to land the first woman and next man on the Moon by 2024.
Activity	What's in a Name?	In this activity, students will research why Artemis was chosen to be the name of the next mission to the Moon.
Article	Artemis Program Timeline	In launching the Artemis I mission in 2021, NASA will test the powerful Space Launch System (SLS) and the Orion spacecraft together as a first step in a series of increasingly complex missions destined to support human habitation of the Moon.
Article	Living on the Moon	In order to survive on the Moon, people need oxygen, water, food and shelter. To make living on the Moon practical, we will need to "live off the Land".
Activity	Rating Landing Sites	In this activity, students will observe landforms on a map of the Moon to determine potential landing sites for the Artemis missions. Students will rank their choices and try to persuade a NASA committee to land at their recommended site.
Activity	Home on the Moon	In this activity, teams of students follow an engineering process to design and create models of their home to be constructed on the Moon.