

ARTEMIS MISSION: TO THE MOON AND BACK



OVERVIEW	In this lesson, students will explore NASA's Artemis missions and learn why humans are returning to the Moon. Through videos, guided discussion, visual supports, and a hands-on paper doll craft, students will compare Earth and the Moon, investigate how astronauts stay safe in space, and reflect on the purpose of space exploration. This lesson emphasizes curiosity, imagination, and inclusion while introducing young learners to real NASA missions. Duration: 60–75 minutes
LEARNING OBJECTIVES	Students will: • Learn what the Artemis missions are and why NASA is going back to the Moon. • Identify basic differences between Earth and the Moon. • Explain why humans need special equipment to live and work on the Moon. • Identify the main parts of an astronaut's space suit and their purposes. • Express ideas about space exploration through discussion and creative work.
ARIZONA STANDARDS	Science Standards K.E2U1.5 Observe and ask questions about patterns of the motion of the sun, moon, and stars in the sky. 1.L1U1.6 Animals (<i>including humans</i>) depend on their surroundings to get what they need, including food, water, shelter, and a favorable temperature. 1.E1U1.5 Living things need water, air, and resources from the land, and they live in places that have the things they need. 2.L2U1.9 Obtain, analyze, and communicate evidence that organisms (<i>including humans</i>) need a source of energy, air, water, and certain temperature conditions to survive. K-5 Career Literacy Standards 1.4 Practice sharing ideas through verbal, visual, and written communication (i.e., organizing thoughts, speaking slowly and clearly, etc.) 1.5 Demonstrate active listening skills by asking thoughtful and relevant questions, paraphrasing messages, respectfully engaging with others' ideas, and using appropriate eye contact, body language, and attention
NEXT GENERATION SCIENCE STANDARDS	1-ESSI-1 Use observations of the Sun, Moon, and stars to describe patterns that can be predicted. K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.

ARTEMIS MISSION: TO THE MOON AND BACK



MATERIALS	• Projector or smart board • Artemis mission videos (see Lesson Procedure) • Slides showing space suit illustrations and real photos: https://docs.google.com/presentation/d/1BGrFjztbAYSukg7D1GsLqtqv9W31oVd0k8Gsp8Jjbw/edit?usp=sharing • Artemis astronaut paper doll craft • Crayons, markers, scissors, glue • Chart paper or whiteboard • <u>NASA You Are Going!</u> coloring book pages (optional)
BACKGROUND KNOWLEDGE	• Basic awareness of the Moon and Earth • Understanding that humans need air, water, and protection to survive • Familiarity with tools or clothing used for safety (helmets, coats, etc.)
VOCABULARY	• Artemis: NASA's program to return humans to the Moon. • Astronaut: A person trained to travel and work in space. • Moon: Earth's natural satellite. • Space Suit: Special clothing that keeps astronauts safe in space. • Life Support: Systems that provide air, water, and temperature control.
SET UP	• Print the paper doll activity. The first two should pages should be printed double sided, so that the front and back of the astronaut are on the same page. • Prepare the short slide presentation so that students can compare the paper doll illustration to the real Artemis spacesuit. • Queue selected videos ahead of time. • Set up tables with craft supplies for easy access during the hands-on activity.

ARTEMIS MISSION: TO THE MOON AND BACK



LESSON PROCEDURE

Activity 1: Introduction to Artemis (15 minutes)

Show an Artemis-related video. Here are some recommendations:

- Artemis II Mission Overview <https://www.youtube.com/watch?v=7XzhtWcepos>
- Artemis II : Meet the Astronauts: <https://youtu.be/IPyl6d2FJGw>
- Why NASA Is Racing Back to the Moon (0:43 - 3:29)
https://youtu.be/2vw0_AsfWMk?si=ycJqv8YZ2sHWQUdT

Next, introduce NASA's *You Are Going!* book and video. (There is also a free astronaut coloring book available on the same NASA website.) <https://www.nasa.gov/you-are-going/>

(Optional) Show this video explaining why it would be difficult to live on the moon:
<https://youtu.be/wG7byaLSmFU>

After the videos, lead the class in a guided discussion. Questions might include:

- **Why is NASA going back to the Moon?** (NASA is going back to the Moon to learn new things about the Moon, like what it's made of and how it was formed. Also, by learning how to live and work on the Moon, NASA is getting ready for even bigger trips someday—like going to Mars.)
- **Who are astronauts? Who gets to be an astronaut?** (Astronauts are highly trained people who travel into space to explore, do experiments, and fix or build things on spacecraft. They are usually adults who studied science, engineering, medicine, or flying. Astronauts must be very healthy, good at solving problems, and great at working on a team. They also train for years before going on a real mission.)
- **Where is the Moon compared to Earth?** (The Moon is Earth's closest neighbor in space. It is about 239,000 miles (384,000 kilometers) away. That's far away, but close compared to other planets. The Moon travels around Earth in a big circle, and it takes about one month to go all the way around once.)
- **What do astronauts bring with them to space?** (Astronauts bring food, water, clothes, tools, science equipment, and computers. They also bring special spacesuits that protect them from the cold, heat, and lack of air in space. Since there are no stores on the Moon, astronauts must carefully pack everything they will need to survive and do their work.)
- **How do astronauts get ready to go to the Moon?** (Astronauts train for many years. They practice flying spacecraft, fixing equipment, and walking in spacesuits. They also exercise a lot because space makes muscles and bones weaker. Astronauts even practice in underwater pools to feel what it's like to float. They also study science so they can understand what they're seeing and doing on the Moon.)
- **How do astronauts travel from Earth to the Moon?** (Astronauts ride inside a spacecraft that is launched on top of a huge rocket. The rocket blasts off from Earth and pushes the spacecraft into space. For Artemis, NASA uses the Space Launch System (SLS) rocket and the Orion capsule. After traveling for several days, the spacecraft reaches the Moon.)

ARTEMIS MISSION: TO THE MOON AND BACK



LESSON PROCEDURE

Activity 2: Space Suit Slide Show (10-15 minutes)

Present slides and discuss. Slides include the paper doll illustration alongside a real NASA photo. Discussion questions might include:

- Which part helps astronauts breathe?
 - *The helmet and backpack help them breathe.*
- Would it be hard to live on the Moon?
 - *Yes, because there is no air, no water, and it's very cold.*
- How is the Moon different from Earth?
 - *The Moon has no air, no plants, and less gravity.*
- What protects the astronauts on the moon from the Sun and rocks?
 - *The suit protects them from the hot Sun and flying rocks.*
- Why do astronauts need all these parts on the Moon but not on Earth?
 - *Because Earth has air and keeps us safe, but the Moon does not.*

Activity 3: Paper Doll Astronaut Craft (15-20 minutes)

Students color, cut out, and assemble their Artemis astronaut paper dolls. You can encourage them to draw hair on the doll before assembly.

As students work, ask guiding questions:

- What is your astronaut getting ready to do?
- You are gluing _____ onto your astronaut. Why is that suit part important?

Activity 4: Conclusion & Reflection (5-10 minutes)

Bring students together to reflect:

- What did you learn about the Moon today?
- Would you like to go to the Moon?
- What would be fun about going to the Moon?
- What would be scary about going to the Moon?
- What would you bring if you went to the Moon?
- What would you study on the Moon?
- Why do you think space exploration is important?

EXTENSIONS AND TAKE HOME ACTIVITIES

- Role play training to be an astronaut and preparing to go to the moon.
- Complete pages from the NASA astronaut coloring book.
- Draw a picture of yourself as an Artemis astronaut.
- Watch the You Are Going! video at home with family and discuss it together.