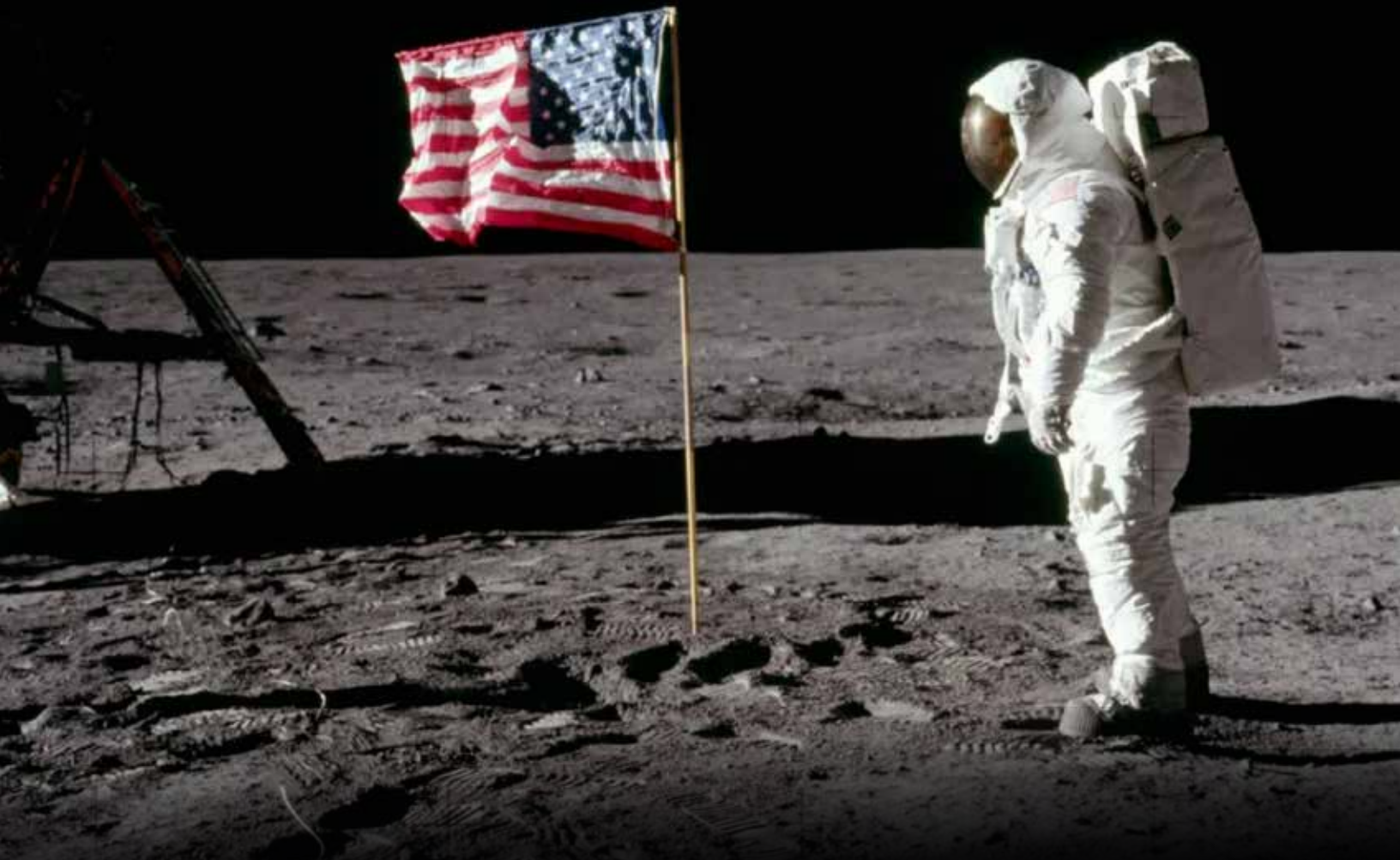


THE MOONWALKERS

A JOURNEY WITH TOM HANKS



ELEMENTARY CURRICULUM GUIDE

FLORIDA STATE STANDARDS ALIGNED



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EXERCISE	SUBJECT	TOPIC	Pg No.
Diary Entry	Language Arts	Astronauts, The Moon	PG. 18
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NASA Mission Planner	Mathematics	Engineering, Apollo Lunar Module, The Moon	PG. 22
Design Space Flight Mission Patches	Visual Arts	Astronauts, the Apollo Missions	PG. 24





WELCOME

Welcome to the education guide accompanying
The Moonwalkers: A Journey with Tom Hanks.

Designed for students ages 9–11 and aligned with Florida’s Grade 5 Science, English Language Arts, Mathematics and Visual Art Standards, this guide provides engaging lessons, activities, and resources to enrich the learning experience before and after viewing the exhibition.

Through hands-on activities and cross-curricular connections, students will explore the science, history, geography, engineering, and innovation behind the Apollo lunar missions. They will discover how curiosity, teamwork, and perseverance helped make one of humanity’s greatest achievements possible.

We hope this experience inspires the next generation of explorers, encouraging students to dream big and develop a lifelong interest in science, technology, engineering, mathematics (STEM), creativity, and space exploration. Perhaps for one student, this journey will become a core memory that sparks a passion for reaching beyond the stars.

ABOUT THE MOONWALKERS: A JOURNEY WITH TOM HANKS

Narrated and created by Tom Hanks, **The Moonwalkers: A Journey with Tom Hanks** is an immersive experience that offers a unique perspective on humanity's past and future voyages to the Moon.

The experience tells the story of the Apollo missions that landed astronauts on the Moon between 1969 and 1972 while also exploring the future of lunar exploration through NASA's Artemis program. Audiences are taken behind the scenes of Artemis, which aims to return astronauts to the lunar surface and pave the way for future deep-space exploration.

Using stunning large-scale projections and immersive audio, the show transports audiences on an unforgettable journey through space. Beginning on Earth, visitors travel to the Moon before returning home, experiencing four distinct chapters that explore the history, science, and future of human spaceflight.

The full experience lasts approximately **55 minutes** and is designed to be viewed from the beginning, with presentations starting every hour on the hour.

The Moonwalkers was co-written by Tom Hanks and Christopher Riley, the two-time BAFTA-nominated writer and director whose work includes acclaimed space documentaries and television programs for the BBC, Netflix, and PBS.

Tom Hanks narrates the experience, sharing personal reflections that reveal his lifelong fascination with space exploration. His narration is accompanied by an original score composed by acclaimed musician Anne Nikitin, creating a powerful and inspiring journey for audiences of all ages.



Image credit: Justin Sutcliffe

FACTSHEET 1: The Apollo Missions

Objective

Before students experience **The Moonwalkers: A Journey with Tom Hanks**, introduce them to the Apollo Program and its lasting impact on science, technology, and space exploration. Use the information below to build background knowledge and encourage classroom discussion.

The Apollo Program

Share the following overview with your students:

The **Apollo Program** was a series of NASA human spaceflight missions that achieved one of history's greatest accomplishments—landing the first humans on the Moon. The program is best known for **Apollo 11**, which successfully landed astronauts **Neil Armstrong** and **Buzz Aldrin** on the lunar surface on **July 20, 1969**.

The Apollo Program was not only a technological triumph but also a major scientific breakthrough. Each mission returned unique rock and soil samples from different locations on the Moon, helping scientists better understand the Moon's history, composition, and formation.

What Was the Apollo Program?

- The Apollo Program was a NASA initiative that sent astronauts to the Moon. There were **11 crewed Apollo** missions between **1968** and **1972**.
- The **first four missions** tested the spacecraft and equipment needed for lunar travel.
- **Six of the remaining seven missions** successfully landed astronauts on the Moon.
- The **first Moon landing** took place in **1969**, and the **last** occurred in **1972**.
- In total, **12 astronauts** walked on the Moon. They explored the lunar surface, conducted scientific experiments, collected Moon rocks, and brought them back to Earth for study.



Image credit: NASA

What Spacecraft Were Used During the Apollo Program?

- NASA developed the **Apollo Command Module**, which carried **three astronauts** to and from the Moon. The crew cabin was about the size of a compact car.
- The **Lunar Module** was designed to carry **two astronauts** from lunar orbit to the Moon's surface and safely return them to the Command Module in orbit.
- NASA used two types of rockets during the Apollo Program: the **Saturn IB** and the **Saturn V**.
- The **Saturn IB** was a **two-stage rocket** used during the early Apollo missions to test the spacecraft in Earth orbit. Standing about as tall as a **22-story building**, it helped prepare astronauts and equipment for future lunar missions.
- The remaining Apollo missions used the more powerful **Saturn V**, a **three-stage rocket** capable of sending astronauts to the Moon. Standing approximately **36 stories tall**, it remains one of the most powerful rockets ever built.

When Did Humans First Visit the Moon?

- **Apollo 8** was the first crewed mission to travel to the Moon. Although it did not land, it became the first mission to orbit the Moon before safely returning to Earth. Apollo 8 completed its historic lunar orbit on **Christmas Eve, 1968**.
- **Apollo 11** made the first successful Moon landing on **July 20, 1969**. The crew consisted of **Neil Armstrong, Buzz Aldrin, and Michael Collins**. Armstrong and Aldrin landed on the Moon while Collins remained in lunar orbit aboard the Command Module.
- Neil Armstrong became the **first person to walk on the Moon**, famously saying, "That's one small step for man, one giant leap for mankind."
- **Apollo 13** became one of NASA's most famous missions after an in-flight explosion prevented a planned Moon landing. NASA successfully guided the astronauts around the Moon and safely back to Earth. Their remarkable journey inspired the award-winning film **Apollo 13**.

FACTSHEET 1:

The Apollo Missions

How Did Astronauts Land on the Moon?

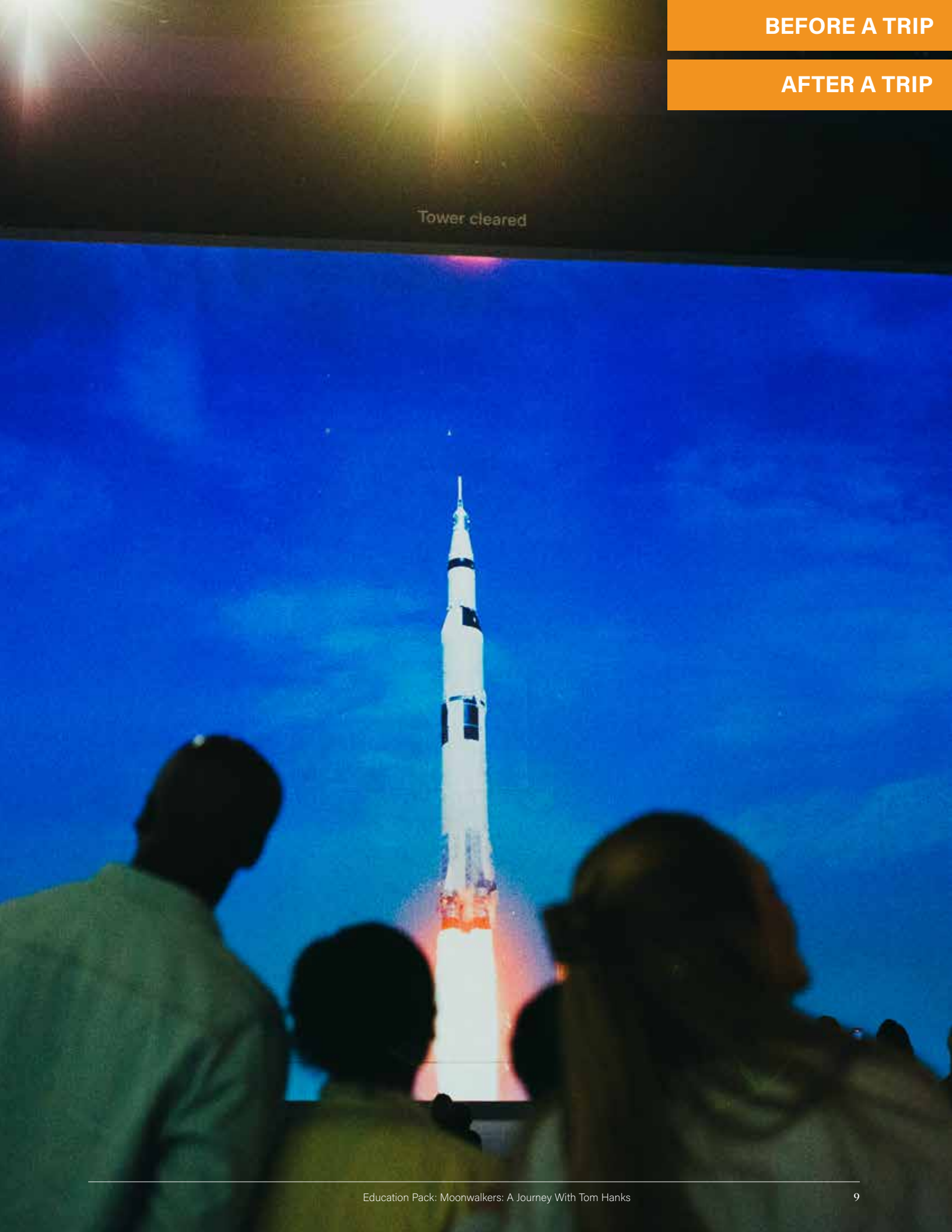
- Apollo missions launched aboard the **three-stage Saturn V rocket**. The first two stages lifted the spacecraft into space, while the third stage propelled it toward the Moon.
- Once in lunar orbit, the **Lunar Module** separated from the **Command Module**. Two astronauts descended to the Moon's surface while the third astronaut remained in orbit.
- During the final three Apollo missions, astronauts used the **Lunar Roving Vehicle (Lunar Rover)** to travel across the Moon and explore a larger area. The rover was specially designed to fold and fit inside the Lunar Module during launch and was left on the Moon after each mission.
- After completing their work, the astronauts returned to the **Lunar Module**, launched back into lunar orbit, and docked with the Command Module. They transferred back into the **Command Module**, leaving the Lunar Module behind.
- Finally, the crew traveled back to Earth. The **Command Module** re-entered Earth's atmosphere and splashed down safely in the ocean, where recovery ships retrieved the astronauts.

Discussion Questions

Use these questions to guide classroom discussion before the experience:

- Why do humans explore space?
- What challenges do astronauts face during space travel?
- Why was the Apollo Program an important milestone in history?
- How has space exploration changed our understanding of Earth and the Moon?
- What challenges did astronauts overcome to reach the Moon?
- Why do scientists continue to study the Moon today?
- How do you think the Apollo missions inspired future programs like NASA's Artemis missions?

Tower cleared



PEOPLE WHO WALKED ON THE MOON

AS PART OF THE APOLLO PROGRAM

THE MOONWALKERS

1969-72

Apollo 11
21.07.1969

COMMANDER
Neil A. Armstrong

LUNAR MODULE PILOT
Edwin E. 'Buzz' Aldrin

Apollo 14
05.02.1971

COMMANDER
Alan P. Shepherd

LUNAR MODULE PILOT
Edgar D. Mitchell

Apollo 16
21.04.1972

COMMANDER
John W. Young

LUNAR MODULE PILOT
Charles M. Duke

BEFORE A TRIP

AFTER A TRIP

IN THE CLASSROOM

Apollo 12
19.11.1969

COMMANDER
Charles 'Pete' Conrad

LUNAR MODULE PILOT
Alan L.Bean

Apollo 15
31.07.1971

COMMANDER
David R. Scott

LUNAR MODULE PILOT
James B. Irwin

Apollo 17
11.12.1972

COMMANDER
Eugene A. Cernan

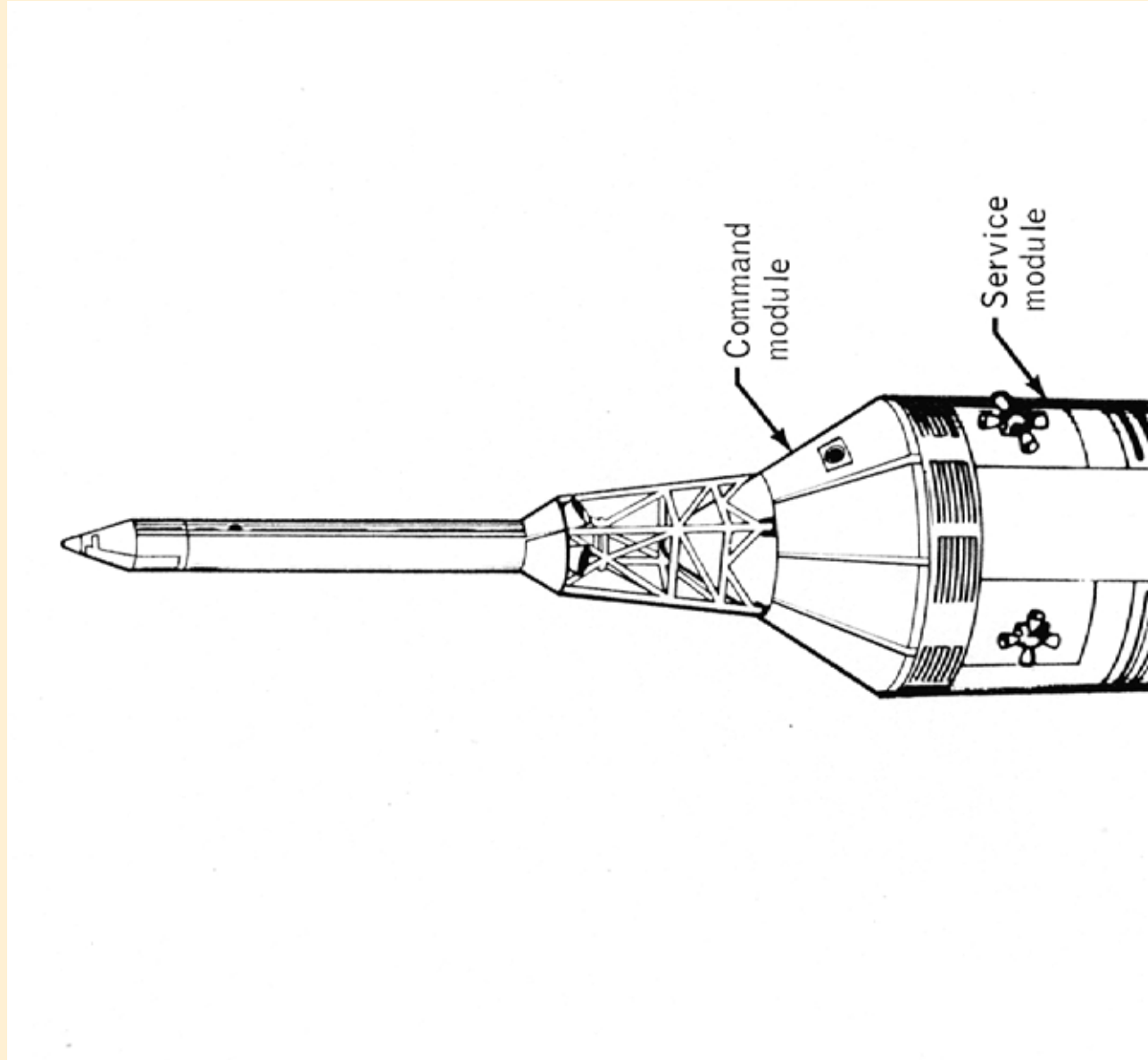
LUNAR MODULE PILOT
Harrison H. Schmitt

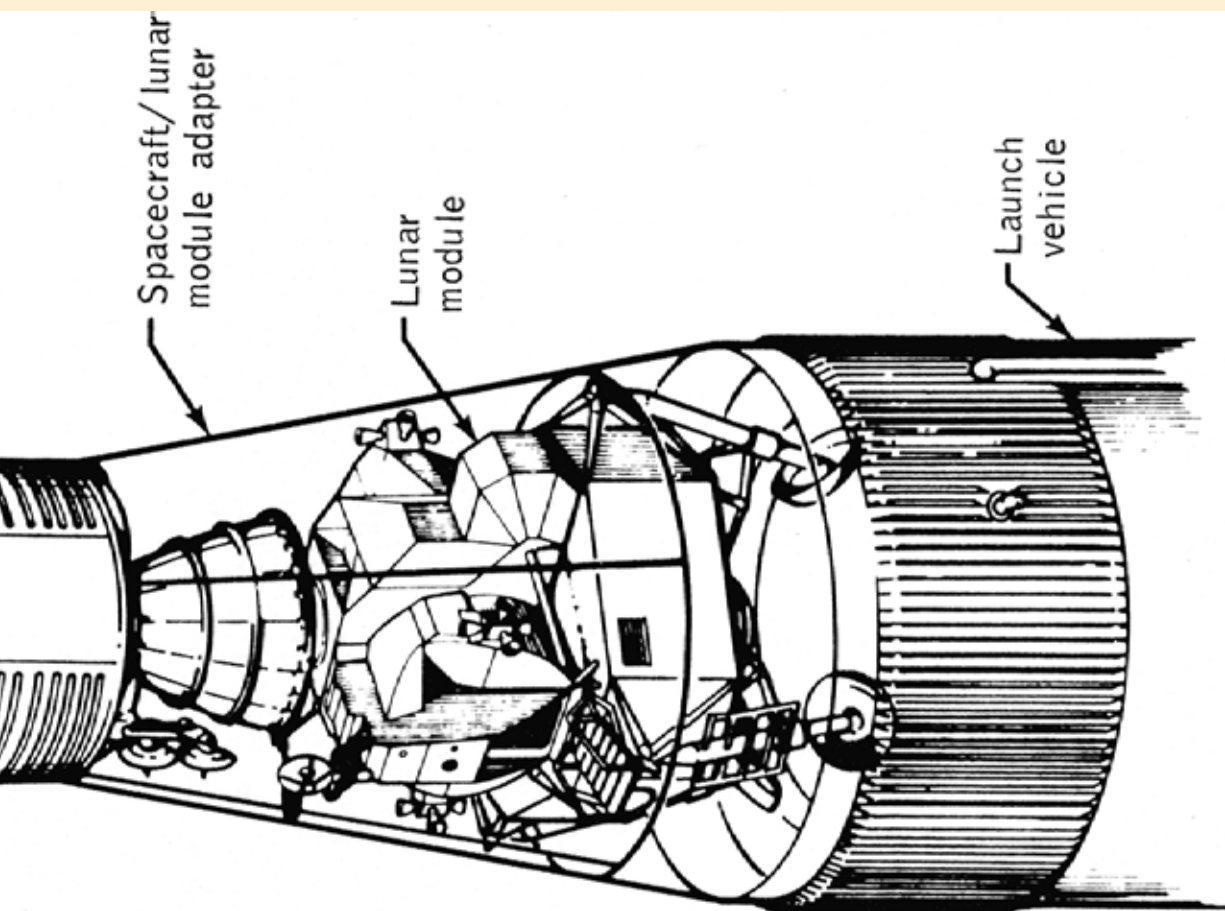
2025

THE FUTURE MOONWALKERS

Image credit: Justin Sutcliffe

THE ROCKET THAT PUT MAN ON THE MOON





APOLLO LAUNCH CONFIGURATION FOR LUNAR LANDING MISSION

Image Credit: NASA & National Air & Space Museum

FACTSHEET 2: Life on the International Space Station (ISS)

Use the information below to introduce students to daily life aboard the **International Space Station (ISS)**. Encourage students to compare life in space with life on Earth and discuss how astronauts adapt to living in a microgravity environment.

Sleeping

Astronauts are weightless in space, so they can sleep in almost any position. On the ISS, crew members sleep in individual sleeping bags inside small crew cabins. Their sleeping bags are attached to the wall to prevent them from floating around while they sleep. Each crew cabin is designed for one astronaut and provides a quiet, private space for rest.

Eating

Astronauts have a wide variety of foods to choose from, including fruits, nuts, chicken, beef, seafood, desserts, and brownies.

Available beverages include:

- Coffee
- Tea
- Orange juice
- Fruit punch
- Lemonade

Astronauts also have access to condiments such as ketchup, mustard, and mayonnaise.

However, **salt and pepper are provided in liquid form** because loose grains would float away in microgravity.

Some foods, such as crackers and dried fruit, can be eaten as packaged. Others, including macaroni and cheese or spaghetti, require water before they can be eaten. The ISS also has food warmers to heat meals.

Because there are **no refrigerators** on the space station, all food must be carefully packaged, stored, and prepared to remain safe during long missions.



Using the Toilet

The toilet aboard the ISS looks similar to one on Earth but works very differently. Astronauts secure themselves to the toilet so they do not float away. A vacuum system uses airflow to collect waste, which is then dried and stored for disposal.

Keeping Clean

Astronauts do not take traditional showers on the ISS. Instead, they use no-rinse soap, small amounts of water, and rinse-free shampoo. Water and soap are dispensed from pouches, and towels are used to wipe away excess moisture.

Reflection

After discussing life aboard the ISS, encourage students to reflect on what it would be like to live in space for months at a time.

Discussion Questions

- What do you think would be the biggest challenge about living on the International Space Station?
- What would you miss most about living on Earth?
- What comforts from home would you want to bring with you?

Discuss how food provides more than just nutrition. It can remind people of family, traditions, and home. Ask students why astronauts might enjoy eating familiar foods while living in space.

Activity

Challenge students to design an **astronaut meal pack** that is nutritious, easy to store, and suitable for space travel. Have students explain why they selected each food item and how it would support astronauts during a mission.



**Additional Resources
Located under
Space-Related
Education Resources
on Pg. 28**



BEFORE THE EXPERIENCE - IN THE CLASSROOM

LANGUAGE ARTS

Florida B.E.S.T. Standards

- **ELA.5.R.2.2** - Explain how relevant details support the central idea(s), implied or explicit.
- **ELA.5.C.1.2** - Write personal or fictional narratives using a logical sequence of events and demonstrating an effective use of techniques such as dialogue, description, and transitional words and phrases.
- **ELA.5.C.3.1** - Follow the rules of standard English grammar, punctuation, capitalization, and spelling appropriate to grade level.
- **ELA.5.V.1.3** - Use context clues, figurative language, word relationships, reference materials, and/or background knowledge to determine the meaning of multiple-meaning and unknown words and phrases, appropriate to grade level.

Classroom Activity: Astronaut's Diary

Objective:

Students will write two diary entries from the perspective of an astronaut to explore the emotions, experiences, and discoveries of a mission to the Moon.

Instructions for Teachers

Have students imagine they are astronauts preparing for a journey to the Moon. Ask them to write a diary entry before their mission, encouraging them to reflect on the following questions:

- How are you feeling about the mission?
- What are you most excited about?
- What do you hope to discover on the Moon?

After students have completed The Moonwalkers experience or the accompanying lesson, have them write a second diary entry after their Moonwalk. Encourage them to consider:

- What did you see on the Moon?
- What did you experience during your mission?
- How did the journey change the way you think about space exploration?

Extension Activity:

Invite students to share their diary entries with the class or illustrate one of the scenes they described. This activity strengthens narrative writing skills while reinforcing concepts related to the Apollo missions, space exploration, and scientific discovery.

SCIENCE

- **SC.5.E.5.2** - Recognize the major common characteristics of all planets and compare/contrast the properties of inner and outer planets.
- **SC.5.N.1.1** - Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, interpreting data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.
- **SC.5.P.13.1** - Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.

Classroom Activity: Engineering a Safe Moon Landing

The Apollo Lunar Module had to land gently on the Moon using rocket engines because there is almost no atmosphere to slow it down with parachutes. Students learn about the Apollo Lunar Module from the Education Pack before designing their own landers.

Materials

- Plastic cups
- Index cards
- Straws
- Tape
- Cotton balls
- Marshmallow (astronaut)
- Paper clips
- Scissors
- Meter stick

Challenge

Working in teams, students design a lunar lander that protects their “astronaut” (marshmallow) when dropped from increasing heights.

Test Heights

- 1 meter
- 1.5 meters
- 2 meters

Students may redesign after each test.

*([Engineering a Safe Moon Landing Worksheet](#))

***Refer to QR code located with Student Worksheets on Pg. 26**

Florida B.E.S.T. Standards

- **MA.5.NSO.2.4** - Explore the multiplication and division of multi-digit numbers with decimals to the hundredths using estimation, rounding and place value.
- **MA.5.AR.2** - Demonstrate an understanding of equality, the order of operations and equivalent numerical expressions.
- **MA.5.M.1** - Convert measurement units to solve multi-step problems.
- **MA.5.DP.1** - Collect, represent and interpret data and find the mean, mode, median or range of a data set.

Classroom Activity: NASA Mission Planner

Mission Scenario

NASA is preparing for a new mission to the Moon, and your students have been selected to join the Mission Planning Team!

As NASA mission planners, students will use math and problem-solving skills to calculate travel time, determine the supplies needed for the crew, and estimate the overall mission costs. Their goal is to ensure the astronauts have everything they need for a successful journey to the Moon and back.

This version is more immersive and immediately places students in the role of NASA engineers and planners, making the activity more engaging while maintaining an educational tone.

*([NASA Mission Planner – Grade 5 Math Worksheet](#) and [NASA Mission Planner – Grade 5 Math Worksheet Teacher Answer Sheet](#))

***Refer to QR code located with Student Worksheets on Pg. 26**

VISUAL ART

- **VA.5.C.1** - Cognition and reflection are required to appreciate, interpret, and create with artistic intent.
- **VA.5.C.1.2** - Use prior knowledge and observation skills to reflect on, analyze, and interpret exemplary works of art.
- **VA.5.S.1** - The arts are inherently experiential and actively engage learners in the processes of creating, interpreting, and responding to art.
- **VA.5.S.1.2** - Use media, technology, and other resources to inspire personal art-making decisions.
- **VA.5.H.3.1** - Discuss how skills learned through the analysis and art-making process are used to solve problems in non-art areas.

Classroom Activity: Mission Patch Design

Discussion (10 minutes)

NASA astronauts wear mission patches that represent the goals, crew, and spirit of each space mission. Begin by showing students examples of NASA mission patches from the Apollo and Artemis programs. Discuss how each patch uses symbols, shapes, colors, and imagery to represent the mission's purpose, crew, and goals.

Emphasize that patches aren't always circular (e.g., triangular, shield-shaped, diamond shapes) to spark creative layout choices. What other shapes can help define a message?

This design project could use fine-point paint markers and Sharpies, or it could be a mixed-media project with various papers and markers (scissors and glue).

After the discussion, have students design their own mission patch for a future Artemis mission.

Students should include:

- A **mission name**
- **Symbols** that represent the mission's purpose
- **Colors** that communicate the mission's theme or values
- A **mission slogan** or motto

Discussion Prompts

Encourage students to consider the following as they design their patches:

- If you were part of the Artemis crew, what would your mission accomplish?
- What shapes and symbols best represent exploration, discovery, and teamwork?
- Who might be part of the mission? Consider a diverse crew that could include women, people from different countries, and astronauts with disabilities. And why.
- What future technology or equipment is most important in your design? Such as the **Orion spacecraft**, the **Gateway** lunar space station, a lunar lander, or a Moon base?
- How can your design reflect the future of space exploration?

Project (30 minutes)

Students create a mission patch including:

- Requirements:
- Mission name
- Mission slogan/motto
- At least 5 meaningful symbols
- Color scheme with purpose
- Balanced composition
- Neat craftsmanship

*([Handout, Art Terms/Color Reference Sheet](#))

Extension Activity:

Invite students to present their mission patches to the class, explaining the meaning behind their symbols, colors, and slogan. This activity reinforces visual communication, critical thinking, and creativity while strengthening students' understanding of NASA's Artemis program and the future of lunar exploration.

***Refer to QR code located with Student Worksheets on Pg. 26**



Gallery of human space flight mission patches from Project Mercury, Project Gemini, Project Apollo, the Shuttle Program, the International Space Station Expeditions, and SpaceX Crew Missions.

STUDENT WORKSHEETS INCLUDED

- [NASA Mission Planner – Grade 5 Math Worksheet](#)
- [NASA Mission Planner – Grade 5 Math Worksheet Teacher Answer Sheet](#)
- [Engineering a Safe Moon Landing Worksheet](#)
- [How to Draw Artemis Rocket](#)
- [Art Terms Reference Sheet](#)
- [Time Capsule Activity](#)
- [Astronaut Pudding Activity](#)
- [What Did You See Activity](#)
- [Maze Activity](#)

SPACE-RELATED EDUCATION RESOURCES

- NASA Artemis: <https://www.nasa.gov/artemis>
- NASA for Educators Grades 5-8: <https://www.nasa.gov/learning-resources/for-students-grades-5-8/>
- NASA Moon: <https://moon.nasa.gov>
- What is the Space Launch System: <https://www.nasa.gov/learning-resources/for-kids-and-students/what-is-the-space-launch-system-grades-5-8/>
- International Observe the Moon Night: <https://moon.nasa.gov/observe-the-moon-night/>
- NASA Space Place: <https://spaceplace.nasa.gov>
- Sketch the Moon Together: <https://science.nasa.gov/resource/moon-observation-journal/>

Fact Sheet 2 Additional Resources

- How Do Astronauts Live? (YouTube Playlist - KidVision Space Adventures): <https://youtu.be/gzLxsF9utjY?si=zOntazCx8CgVp1Fk>
- What Is the International Space Station?: <https://www.nasa.gov/learning-resources/for-kids-and-students/what-is-the-international-space-station-grades-5-8/>
- Life On the International Space Station: An Astronaut's Day: <https://florida.pbslearningmedia.org/resource/nyis16-sci-lifeonboard/life-on-the-international-space-station-an-astronauts-day/>
- Space Hygiene: Showering in Space: <https://florida.pbslearningmedia.org/resource/nyis16-sci-shower/space-hygiene-showering-in-space/>
- Running in Space!: <https://florida.pbslearningmedia.org/resource/nyis16-sci-running/running-in-space/>

SCAN FOR
WORKSHEETS



Mission Control Center during Apollo 15.