

SNOOPY'S ZERO GRAVITY MISSION

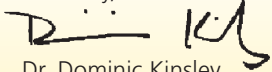
Dear Educator,

Explore, learn, and dream with Snoopy this fall as he soars into space! You and your students can join Snoopy as he prepares for his new role as the official Zero Gravity Indicator (ZGI) on NASA's Artemis I mission, scheduled to launch in February 2022.

Follow along as Snoopy learns more about the exciting Artemis missions, the significance of the zero gravity indicator, and the new technology that is making further space exploration possible. Developed by the curriculum specialists at Young Minds Inspired as part of a unique partnership between NASA and Peanuts Worldwide, these standards-based, easy-to-implement classroom activities will engage your K-2 students with fascinating facts, while boosting their creative thinking and problem-solving skills. Plus, each activity includes extension activities the whole family can enjoy.

Please share this program with other K-2 teachers at your school. And let us know your opinion of the program by visiting ymiclassroom.com/feedback-snoopy-zgi. We look forward to your comments and suggestions.

Sincerely,



Dr. Dominic Kinsley
Editor in Chief
Young Minds Inspired



Questions? Contact YMI toll-free at 1-800-859-8005 or by email at feedback@ymiclassroom.com.

Program Objectives

- Fuel interest in space and raise awareness about NASA's upcoming Artemis missions to help prepare humans to land on the Moon in 2024
- Reinforce STEAM and language arts skills

Target Audience

Students in grades K-2 and their families

How to Use This Program

Download, copy, and distribute the three reproducible activity sheets to all students, or share the PDFs through your school's digital platform. Students will need pencils, crayons, or markers to complete the activities. Have students take their completed sheets home so their families can do the activities at the bottom of each sheet together. Visit ymiclassroom.com/snoopy-zgi for standards alignment.

**Activity 1
Snoopy's Special Mission**

Students learn that Snoopy will be a passenger aboard NASA's Artemis I mission, scheduled to launch in February 2022. Artemis I is an uncrewed test flight that is the first in a series of missions to return humans to the Moon.

Ask students to raise their hands if they would like to be involved in space exploration — perhaps as an engineer who builds or designs rockets or experiments to be conducted on the Moon, or as an astronaut who travels to space. What do they think would be

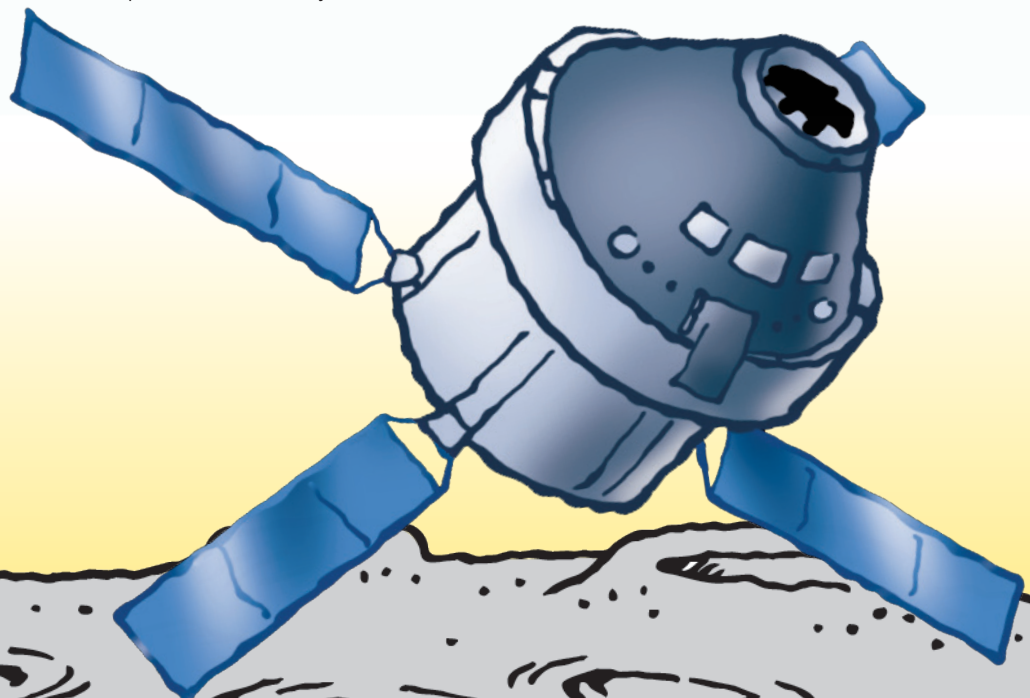


fun about being an astronaut? Let students share their ideas. Point out that one thing all astronauts look forward to is floating in space. Explain that Snoopy is going to get to float in space.

Distribute the activity sheets and read the opening paragraph to students or have them read it with a partner. Explain that NASA plans to send a spacecraft named *Orion* to orbit the Moon in February 2022, and Snoopy will play an important part as the Zero Gravity Indicator, or ZGI. A ZGI shows people watching the launch from Earth when the spacecraft has escaped the pull of Earth's gravity and enters orbit.

At this changeover, the ZGI starts to float inside the spacecraft. A ZGI is usually a plush toy or doll. ZGIs are a space tradition that started with the first launch of a human into space in 1961.

Explain that NASA chose Snoopy because he is brave, adventurous, and experienced — he's already flown into space! A Snoopy plush doll has even been aboard the International Space Station, and the Apollo 10 lunar and command modules were called Snoopy and Charlie Brown. The trip Snoopy will take during the Artemis I mission is aboard a space capsule called *Orion*. (There won't be any humans on board.) Artemis I is just the first in a series of missions in the Artemis program that will return humans to the Moon. NASA will use knowledge gained from Artemis to take the next step — sending humans to Mars.



Invite students to move as if they were floating in space like Snoopy. Prompt them to share what they would bring onto the *Orion* as their ZGI and why. Then have them draw a picture and write a word or sentence on the activity sheet about their imaginary mission.

Extension: Integrate STEAM concepts by having students draw pictures of what Snoopy might see if he looks out the window of the *Orion* on his journey through space.

Activity 2 Snoopy's Special Spacesuit

Students will learn about NASA's new generation of xEMU spacesuits and Snoopy's custom-made suit designed just for his mission as the ZGI on Artemis I.

Begin by telling students that you are going to have them guess what kind of weather you are imagining based on the movements you make. Act out being hot, cold, or being rained on and have them suggest items of clothing you'd wear in that kind of weather (e.g., shorts, t-shirt, flip-flops; heavy coat, scarf, wool cap; raincoat, boots, hat, etc.).

Point out that we wear different clothes to protect us and help us move around in different kinds of weather. Astronauts need special protection, too. Space doesn't have weather like we do here on Earth, but there are harsh conditions such as extreme temperatures and no oxygen. So astronauts wear spacesuits made of materials that will protect them from the heat and cold and allow them to breathe.

The Artemis astronauts will be wearing brand-new spacesuits called xEMU suits. These new suits are easier to put on, take off, and move around in, which will help astronauts when they walk on the Moon. The new suits are also stronger, lighter, and cooler than previous spacesuits, and include technology to keep the astronauts safe.



Tell students that on his mission as the *Orion* ZGI, Snoopy will wear his own special suit made of the same materials that the astronauts on future Artemis missions will wear. Distribute the activity sheet and review the directions, then have students complete the sheet as a class, in small groups, or individually.

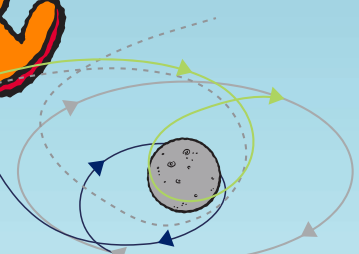
Extension: Challenge students to perform a task wearing heavy-duty rubber cleaning gloves or mittens to simulate "spacesuit" gloves. Can they perform the tasks an astronaut has to? It takes practice and hard work! Tasks could include picking up a small stone, putting a puzzle or nuts and bolts together, or writing their name on a piece of paper and sealing it inside an envelope.

Activity 3 Snoopy in Space

Students will learn more about the Artemis missions, including the upcoming launch of Artemis I, and why NASA is undertaking such an important and ambitious plan.

Prompt students to recall the purpose of the Artemis I mission, which they learned about in Activity 1. Then show them the NASA video at www.youtube.com/watch?v=YOG3tAkPpPE. Pause the video at intervals so you can clarify and discuss important concepts. Encourage students to ask questions and allow them to share their thoughts as they watch. For example, what do they think it would be like to work on the Moon, or travel to Mars?

Distribute the activity sheet and review the directions for both parts. If time allows, let students share their Artemis mission patch designs.



Extension: Have students imagine what Snoopy might say about his exciting mission when he returns. Ask them to draw a picture of Snoopy and/or the *Orion* and write a sentence describing what they think Snoopy would say about the trip to space.

Resources

Artemis Missions:

- www.nasa.gov/what-is-artemis/
- www.nasa.gov/feature/around-the-moon-with-nasa-s-first-launch-of-sls-with-orion

Zero Gravity Indicators:

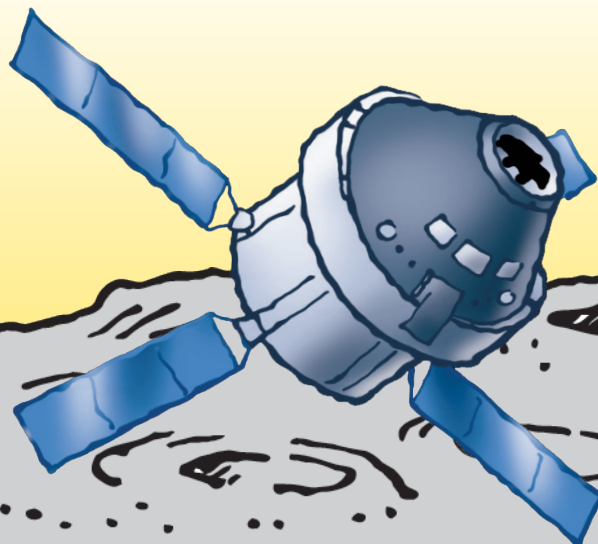
- <https://blogs.nasa.gov/commercialcrew/2021/07/29/public-shares-zero-g-indicator-ideas-for-nasas-boeing-starliner-launch/>

xEMU Spacesuit:

- www.nasa.gov/feature/orion-suit-equipped-to-expect-the-unexpected-on-artemis-missions
- www.nasa.gov/sites/default/files/atoms/files/draw_ocss_final.pdf?utm_source=FBPAGE&utm_medium=NASA%27s+Space+Launch+System&utm_campaign=NASASocial&linkId=88891214
- www.nasa.gov/image-feature/exploration-extravehicular-mobility-unit-xemu

YMI Program Site:

- ymiclassroom.com/snoopy-zgi



Snoopy's Special Mission

In February 2022, NASA plans to send a spacecraft named *Orion* to orbit the Moon and return to Earth. This first test flight will not have any people on it. The mission will help test the new spacecraft. It will be the first step in NASA's Artemis mission to send astronauts to the Moon.

Snoopy will be a passenger on *Orion*. Snoopy is brave and adventurous and has been to space before. This time he will be the Zero Gravity Indicator — the ZGI. When Snoopy starts to float inside the spacecraft, all of us watching here on Earth will know that *Orion* has escaped Earth's gravity.

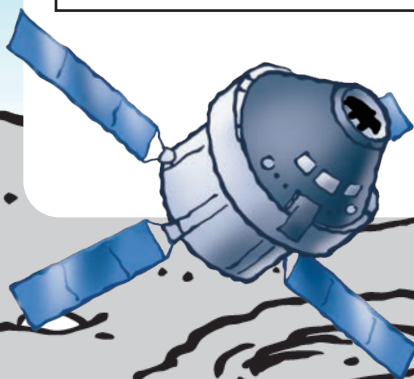
ZGIs have been part of space missions since 1961, when Yuri Gagarin became the first human to go into space. His ZGI was a small doll. Since then, astronauts have taken all kinds of toys and other special objects into space with them as ZGIs!

What would you choose to bring to space as your ZGI? Draw and write about it here.



About Artemis: To the ancient Greeks, Artemis was the goddess of the Moon. She was the twin sister of Apollo. America's earlier missions to the Moon were named for Apollo.

Families: Snoopy will be the ZGI (Zero Gravity Indicator) on NASA's Artemis I mission to the Moon, scheduled for February 2022! What would you choose as your family ZGI?



Snoopy's Special Spacesuit

Snoopy is an important member of the Artemis I team. He even has his very own spacesuit! It is orange, just like the other astronauts' spacesuits. It has gloves and boots to protect his front and back paws. It even has the NASA patch.

Look at this picture of Snoopy in his special spacesuit. Read the words next to him or listen as your teacher reads them. Then draw a line from the word to that part of Snoopy's spacesuit.



glove

boot

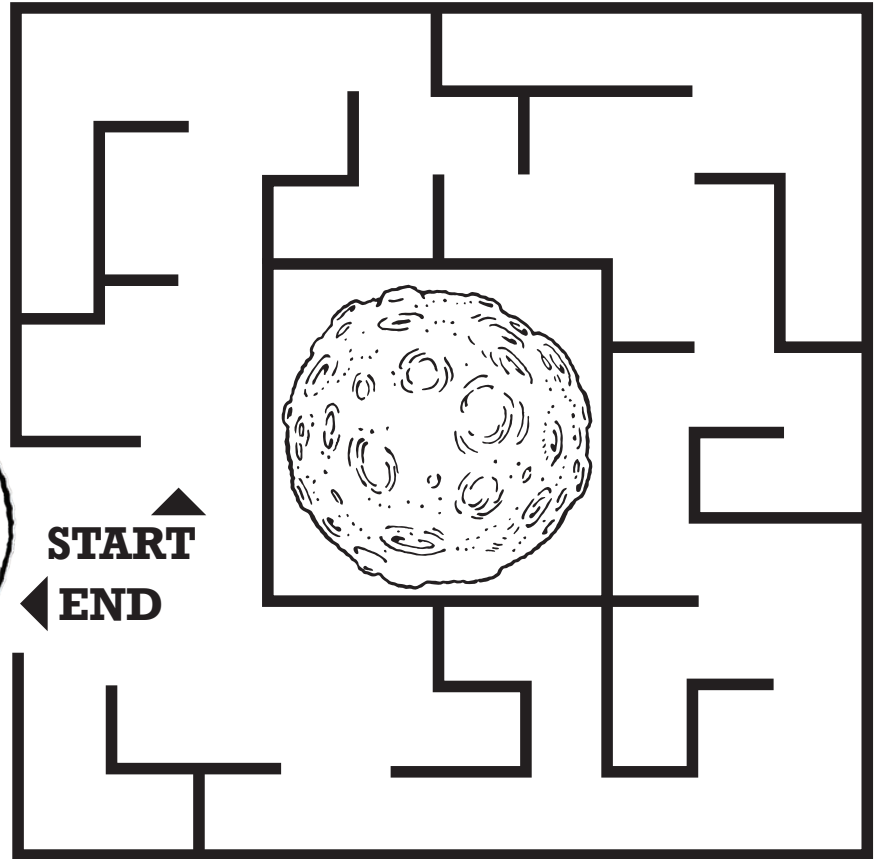
patch

pocket

Families: You can learn more about NASA's new generation of xEMU spacesuits by visiting www.nasa.gov/suitup.

Snoopy in Space

Part 1: Artemis I is a go! Help Snoopy and the *Orion* spacecraft make it around the Moon and back to Earth by completing the maze!



Part 2: Imagine that you are part of a future Artemis mission. As a member of the crew, you get to help design a mission patch! Draw your design below.



Families: The first Artemis mission is scheduled to launch in February 2022. Visit www.nasa.gov/what-is-artemis to learn more about the mission and the fascinating plans NASA has for future space travel and exploration.

