

Snoopy's Special Mission

Snoopy is headed back into space! In February 2022, he is scheduled to orbit the Moon and return to Earth aboard the *Orion* spacecraft. His journey will be the first step in NASA's Artemis mission to send a new generation of astronauts to the Moon.

Snoopy will be *Orion's* ZGI — Zero Gravity Indicator. When he begins to float inside the spacecraft, NASA will know that *Orion* has escaped Earth's gravity.

ZGI's have been part of space missions from the start. Yuri Gagarin, the first human to orbit the Earth, used a doll as his ZGI, and later astronauts have taken all kinds of ZGI's into space.



Part 1: Many people think the term *zero gravity* means there is no gravity in space. Not so! Gravity is everywhere in space — it's the glue that holds the universe together. Any object with mass has gravity, and the more mass, the stronger the force of gravity. For example, the Moon has much less mass than the Earth, so the force of gravity there is only about one-sixth of what we feel on Earth. That's why astronauts feel lighter on the Moon.

Instead of “zero gravity,” astronauts often use the term *microgravity* for what they feel in orbit. As they circle the Earth, they are actually in a kind of constant freefall that makes them feel weightless. But it's the circular motion of their spacecraft that causes this feeling, not zero gravity.

In the paragraphs above:

1. Find and underline two new things you learned.
2. Put a circle around the word that tells where gravity can be found in space.
3. Put a square around the word that tells what kind of gravity astronauts experience in orbit.

Part 2: What would you bring to space as a ZGI if you were on an Artemis mission? Name and write about it here.

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?

