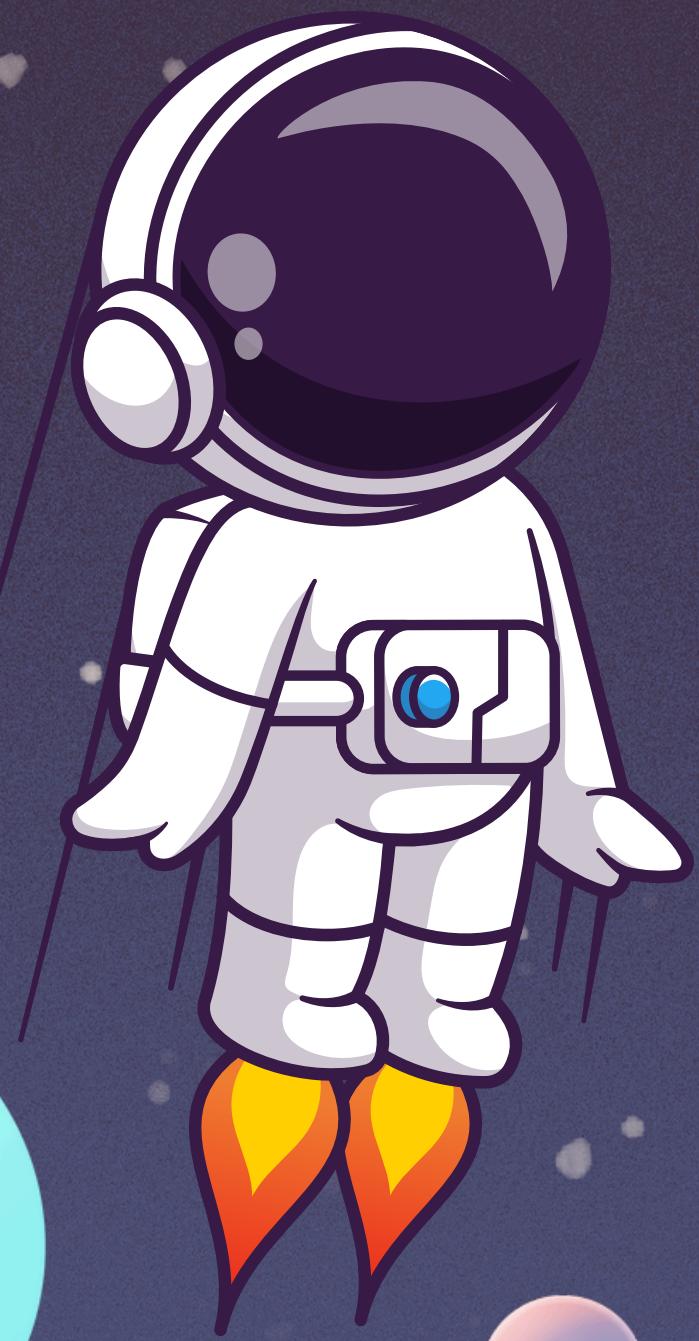
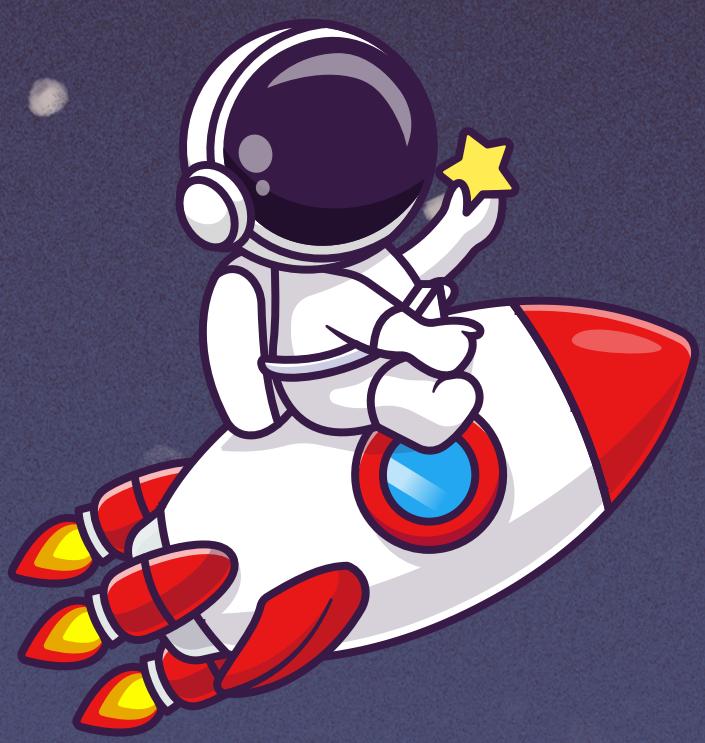


# ASTROPASS



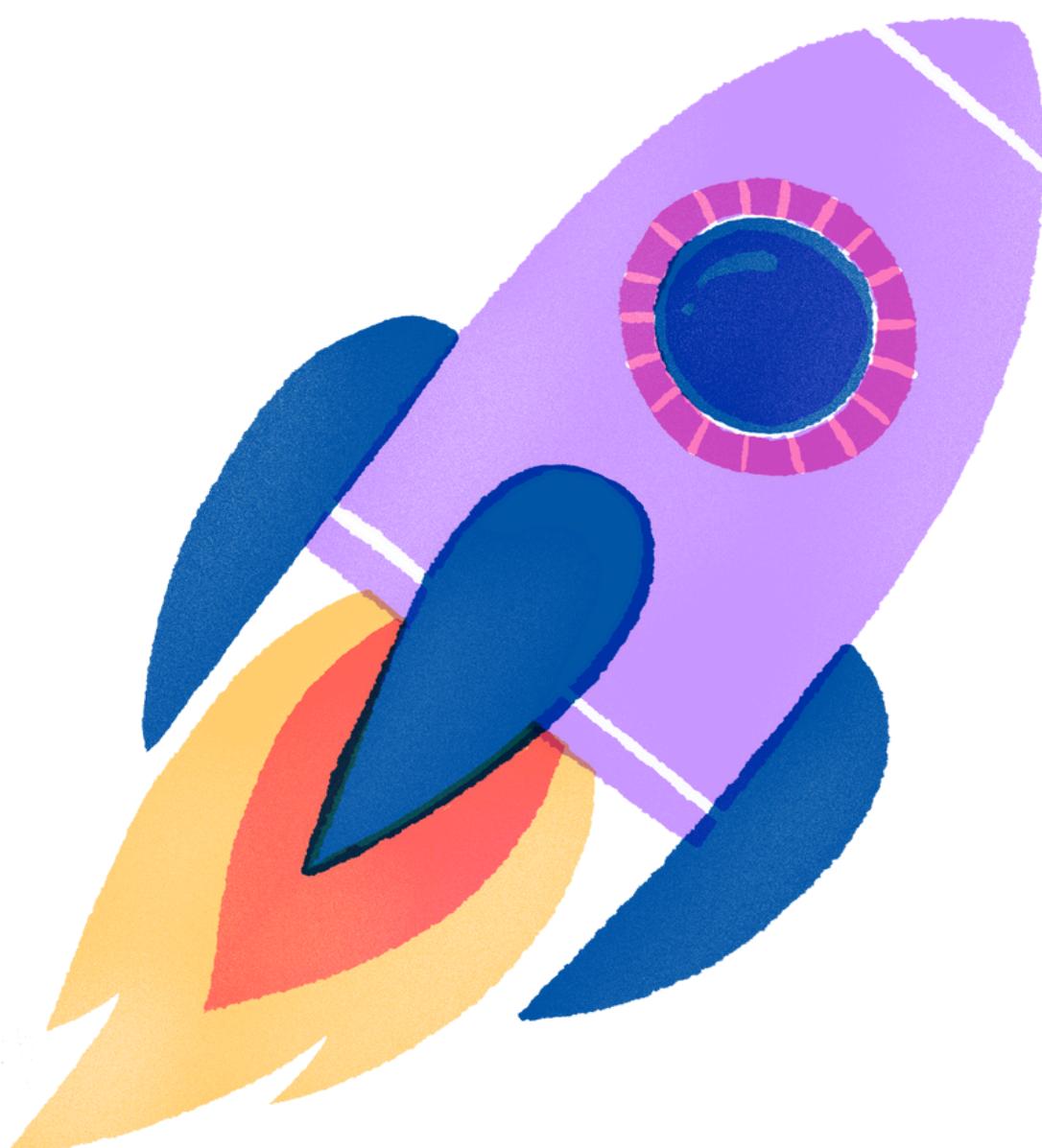
# Your Mission Begins...

Have you ever wondered what it's like to float in space? To see 16 sunrises in a single day? Or to eat a pizza that you have to stick to the table?

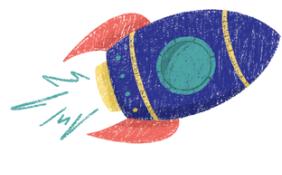
Welcome to your official training for a mission to the International Space Station (ISS)! The ISS is a massive, orbiting laboratory that circles the Earth at 17,500 miles per hour. It's a home, a workplace, and a science lab for astronauts from all over the world.

This e-book is your all-access pass to life in zero gravity. You'll discover how astronauts eat, sleep, and work while floating 250 miles above the Earth. You'll get a front-row seat to the most incredible views in the solar system and learn how to prepare for a spacewalk.

Get ready to see our planet—and your world—in a whole new way. Your mission starts now.



# Table of Content

	Mission 1: Master Zero-G .....	4
	Mission 2: The Ultimate View.....	7
	Mission 3: How to Spacewalk.....	9
	Mission 4: Science in Space.....	11
	Mission 5: Planetary Field Science.....	13
	Mission 6: The Ride of a Lifetime .....	14

# Mission 1: Master zero-G

Ever wondered what it's like to wake up and just... **float out of bed**? Forget walking. On the **International Space Station (ISS)**, you're living in a world where "up" and "down" don't really matter. Welcome to life in **zero-g**!

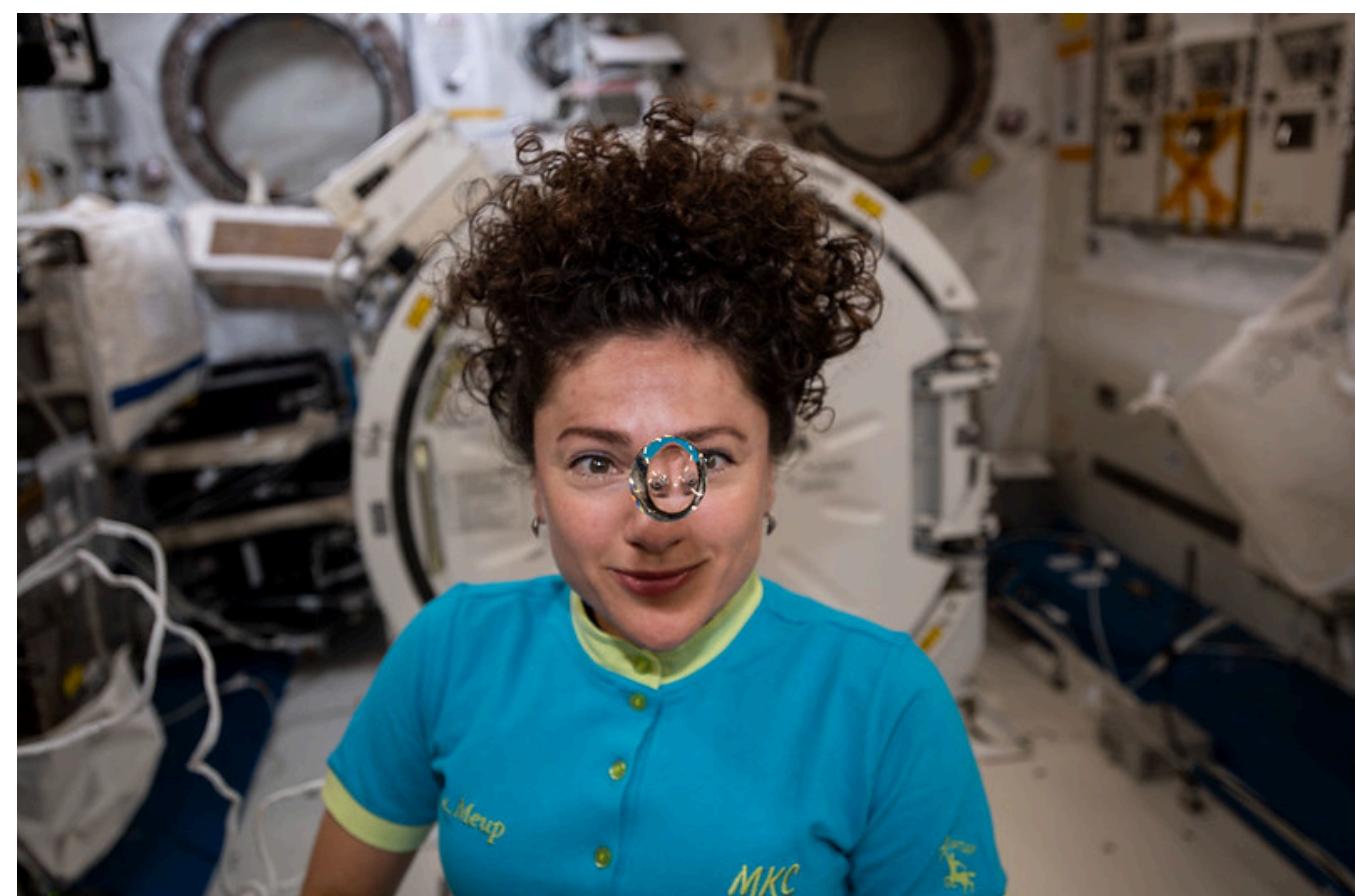
This isn't like the movies. It's called "**microgravity**," and it means you and everything around you are in a **constant state of free-fall** as you orbit the Earth. The result? **You float!**

## Fun with Food and Water

- Think eating is simple? Try doing it when your food can **float away**! That's why astronaut food is often in **special packages** or has a **sticky** texture. But that doesn't mean they can't have **fun**. Check out this **epic pizza night** in space!



- It's not just food that floats. Astronauts can play with water in ways you'd **never imagine**. NASA astronaut Jessica Meir shows how a simple sphere of water becomes a magical floating orb.



## How Do You Sleep? Strapped In!

In the zero-gravity environment of the International Space Station, any wall can be your bed, even if it's right next to the storage closet.

This image perfectly captures the reality of life in orbit: a mix of cutting-edge technology and the universal challenge of finding enough storage space.



## Keeping Clean in Space

Since there are no showers, astronauts use special rinseless soaps, as floating water droplets could damage the station's electronics.

There's no laundry in space, so dirty clothes are discarded, and toilets use air suction instead of a water flush to work in zero gravity.

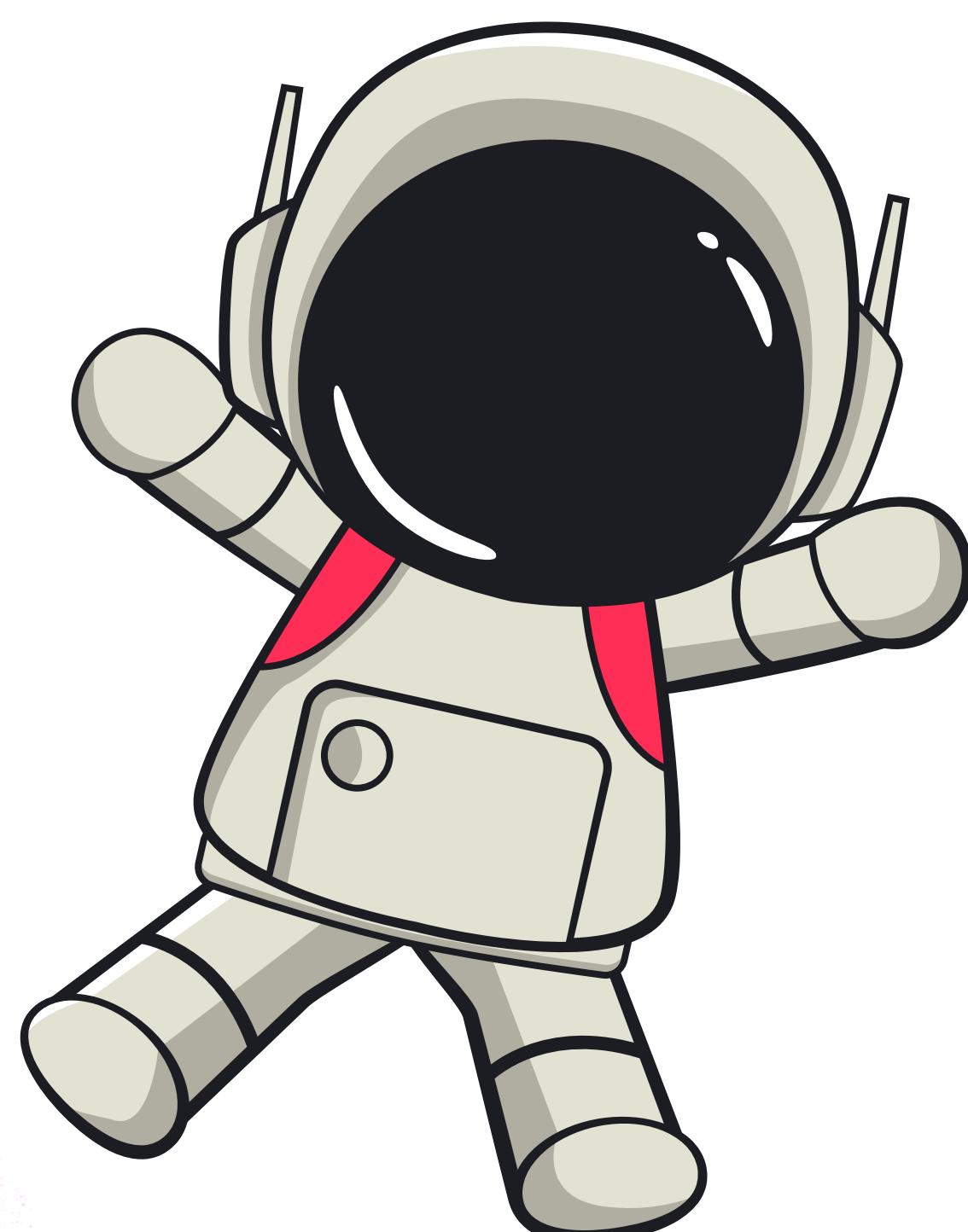
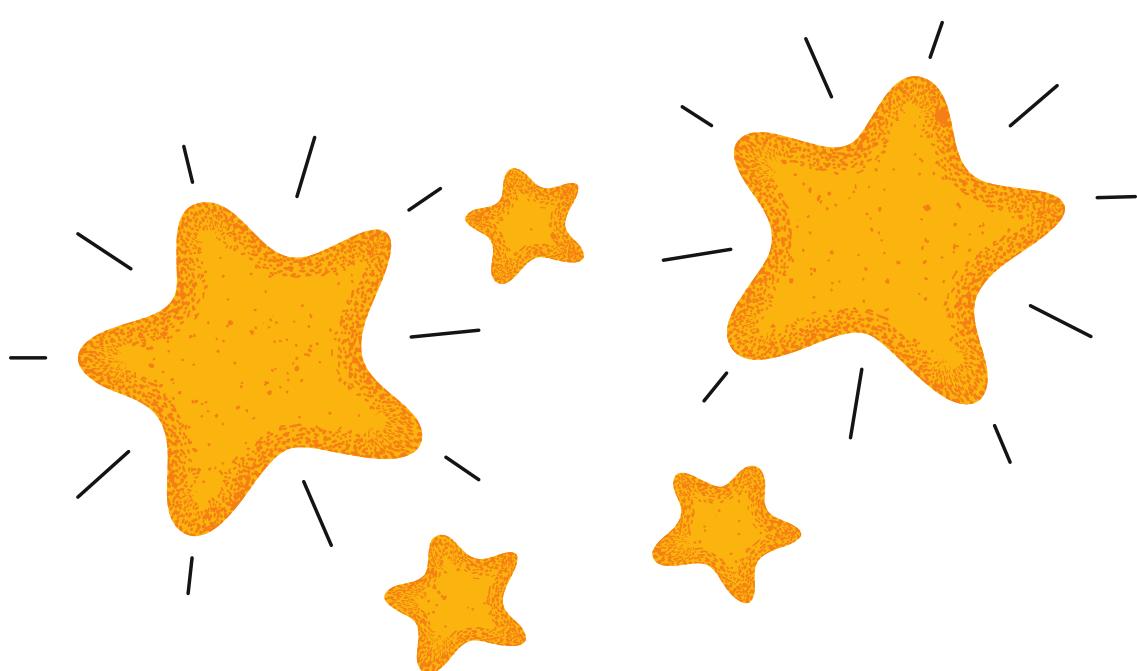


## Did You Know? Zero-G Secrets!

Life without gravity is full of surprises. Here are a few weird but true facts about living in space:

- You get taller! Without gravity compressing your spine, astronauts can grow up to 2 inches taller. They return to their normal height back on Earth.
- Crying is different. Tears don't fall down your cheeks in space. Because of microgravity, they just form a liquid blob on your eye.
- Your feet get super soft. Since astronauts float instead of walk, the tough skin on the bottom of their feet peels off, leaving them soft and smooth.

Ready for your next mission? Let's go see the view.



# Mission 2: The Ultimate View

Imagine floating in a room with **seven windows** that look out onto the entire planet. That's the **Cupola**, the International Space Station's "**window to the world.**" From **250 miles up**, astronauts see Earth in a way most of us can only dream of. They're not just sightseeing—they're watching over our planet.

## Witnessing Nature's Power

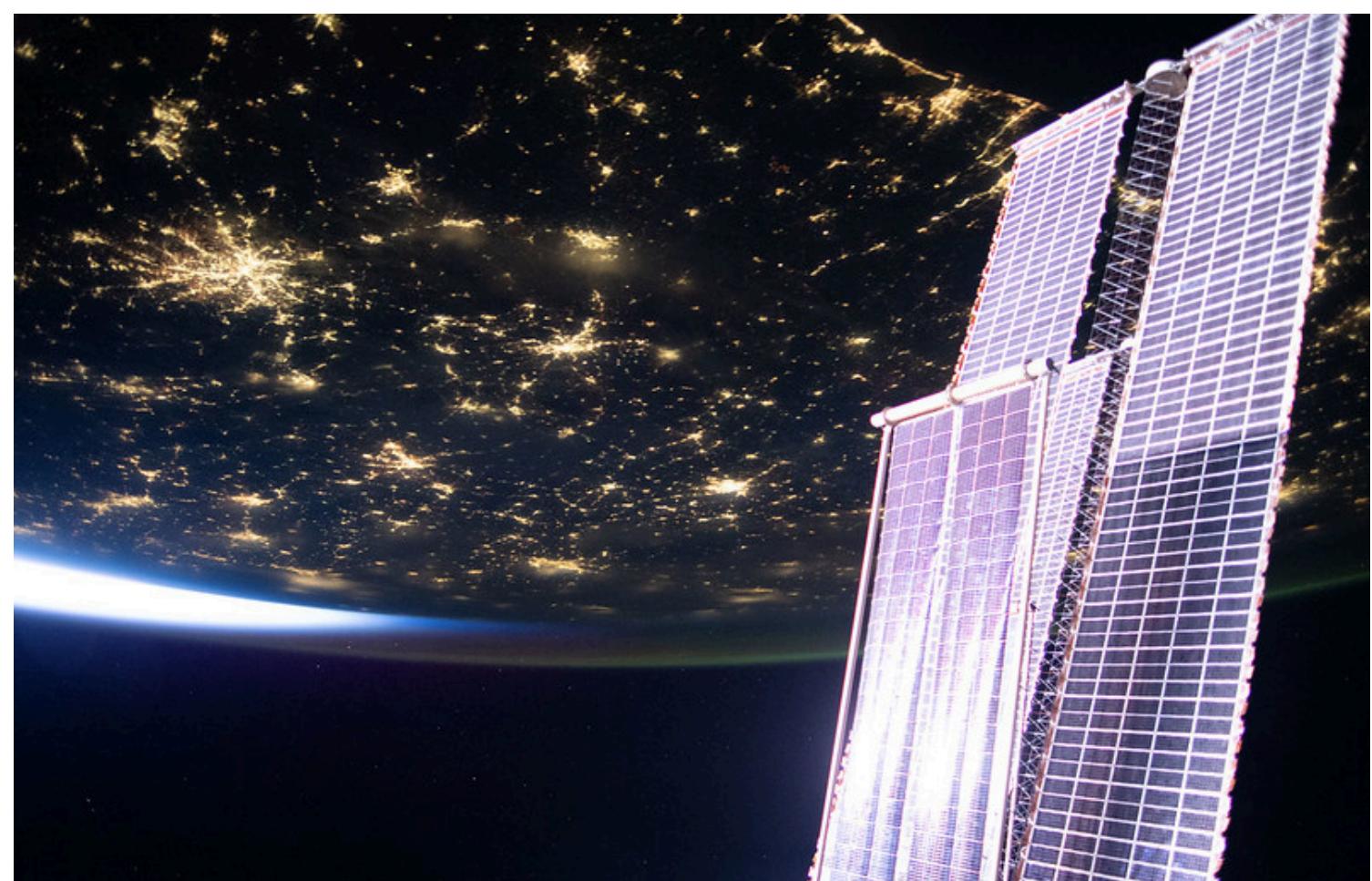
From the ISS, astronauts can see **massive weather patterns forming**. They see the swirling arms of **hurricanes** and the **smoke plumes** from giant **wildfires**. Their unique point of view helps scientists and disaster relief teams on the ground.



This is Hurricane Milton as seen from the space station. Photos like this help meteorologists understand and predict a storm's path, giving people on the ground more time to prepare.

## The World at Night

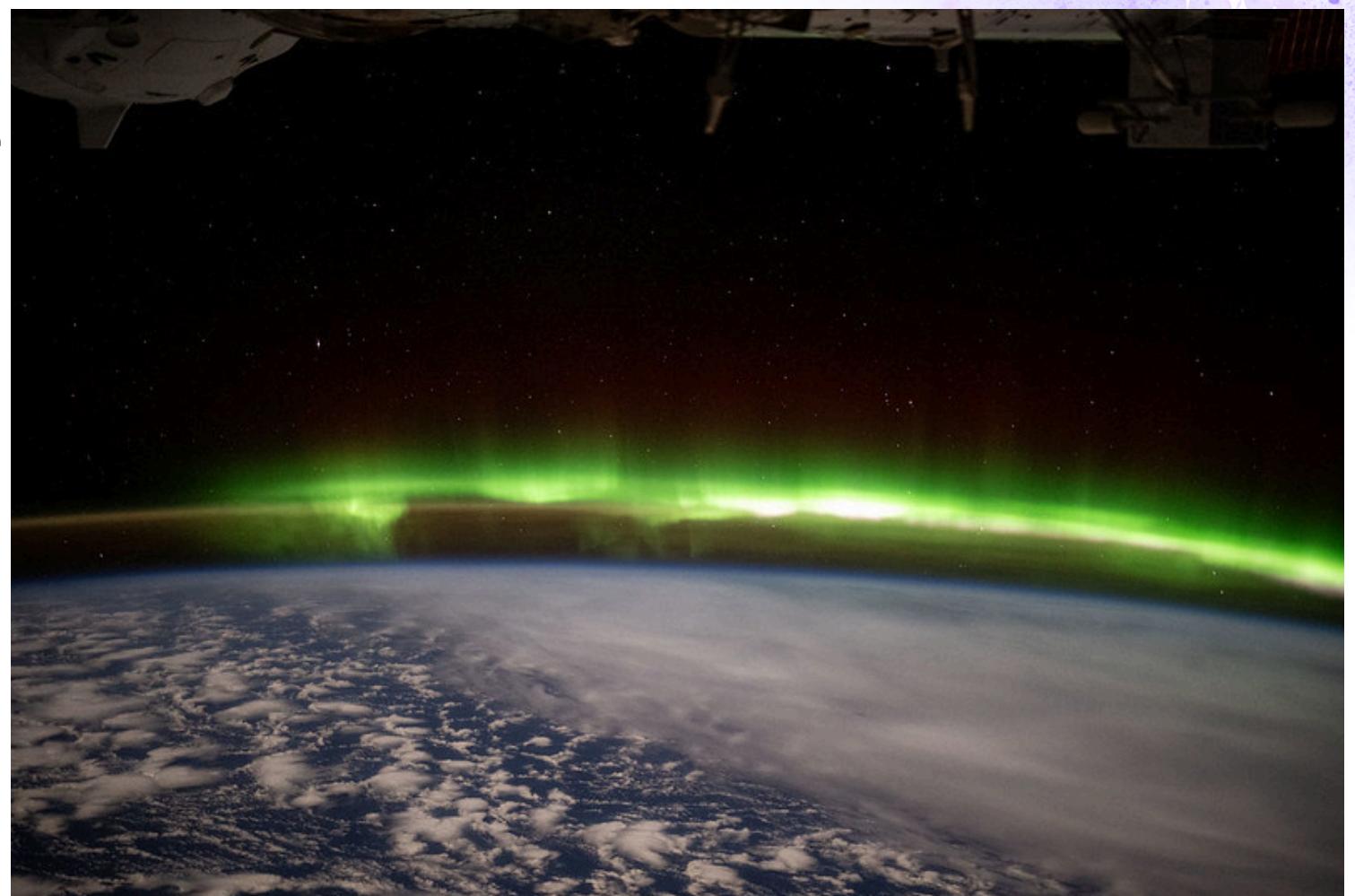
When the sun goes down (which happens **16 times** a day on the ISS!), the planet transforms into a **sparkling web of light**. Cities shine like **clusters of stars**, and you can see the connections between different parts of the world.



The glittering lights of New Delhi, India, as seen from orbit. This view helps researchers study light pollution and urban growth.

## The Northern & Southern Lights

From space, astronauts don't just see the auroras—they fly right through them! They witness vast curtains of green and purple light dancing over the poles.



Astronauts fly through the aurora, witnessing vast curtains of green and purple light dancing over the poles.

## The Shadow of an Eclipse

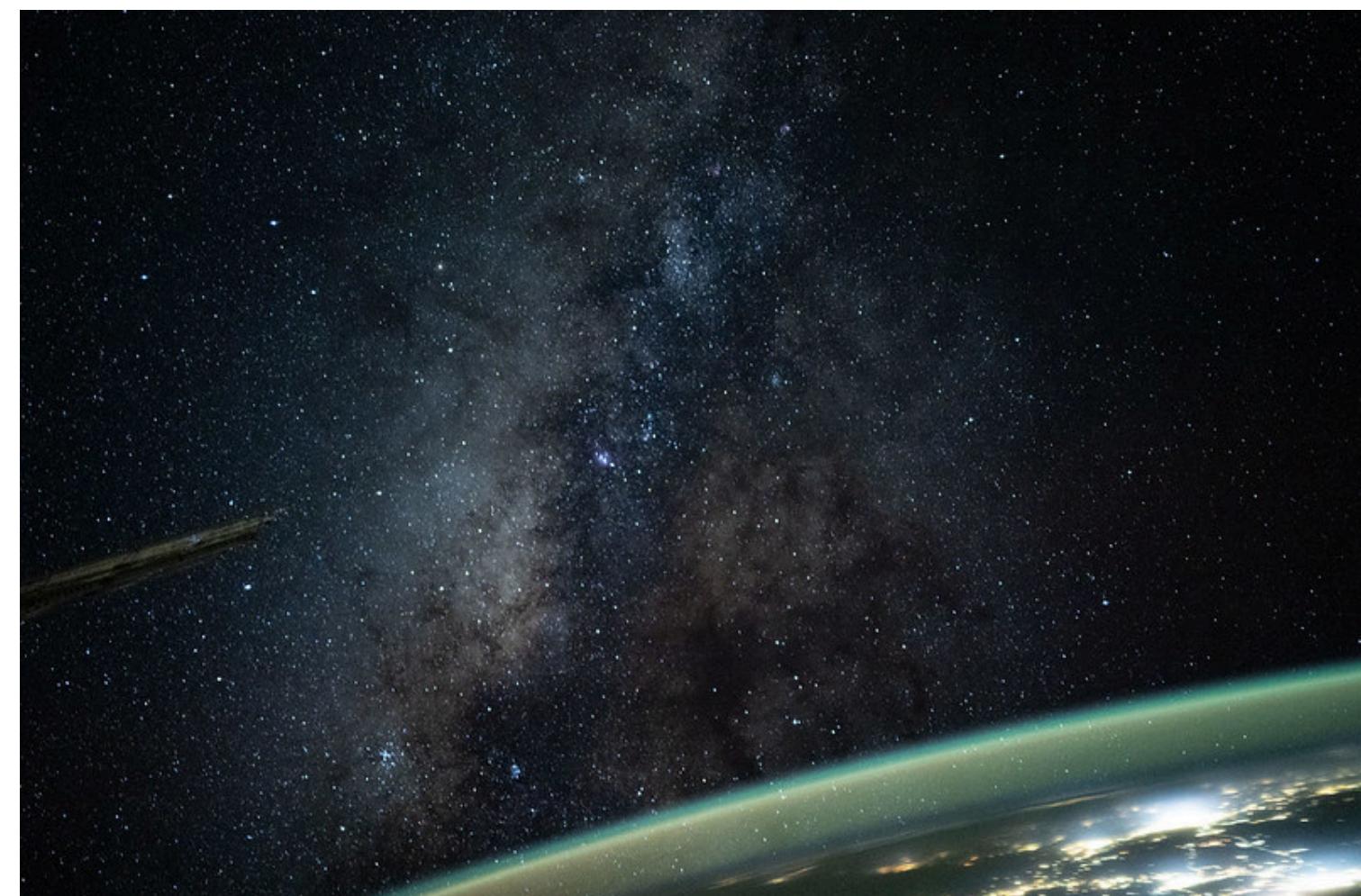
During a solar eclipse, astronauts can see the Moon's shadow moving across the face of the Earth. It's a massive, dark circle that brings a moment of twilight to entire regions.



During a solar eclipse, the massive shadow of the Moon can be seen racing across the Earth's surface.

## Stars Like You've Never Seen

With no atmosphere to blur the view, the Milky Way is a brilliant, dense river of stars. Astronauts see a universe packed with light and color.



With no atmosphere in the way, the Milky Way is a brilliant, dense river of stars, seen in incredible detail.

# Mission 3: How to Spacewalk

Okay, floating inside is cool. But what if something breaks on the outside? You can't just pop out. You need to do a spacewalk, or what astronauts call an EVA (Extravehicular Activity). It's one of the toughest parts of their job.

## Your Personal Spaceship: The Spacesuit

A spacesuit is basically your own personal spaceship. It's called an EMU, and it's packed with everything you need to survive out there—like oxygen, protection from super-hot and super-cold temperatures, and a shield from space radiation.



An astronaut's spacesuit, or EMU, is a personal spaceship. It provides oxygen and protection, allowing them to work safely in the vacuum of space.

## Training Ground: The World's Coolest Pool

So how do you train for being weightless? By going for a swim in a giant pool! At the Neutral Buoyancy Laboratory (NBL), astronauts train in a massive pool with life-sized models of the ISS. The water makes them feel like they're floating in space. For every one hour they spend on a real spacewalk, they train for seven hours in the pool.



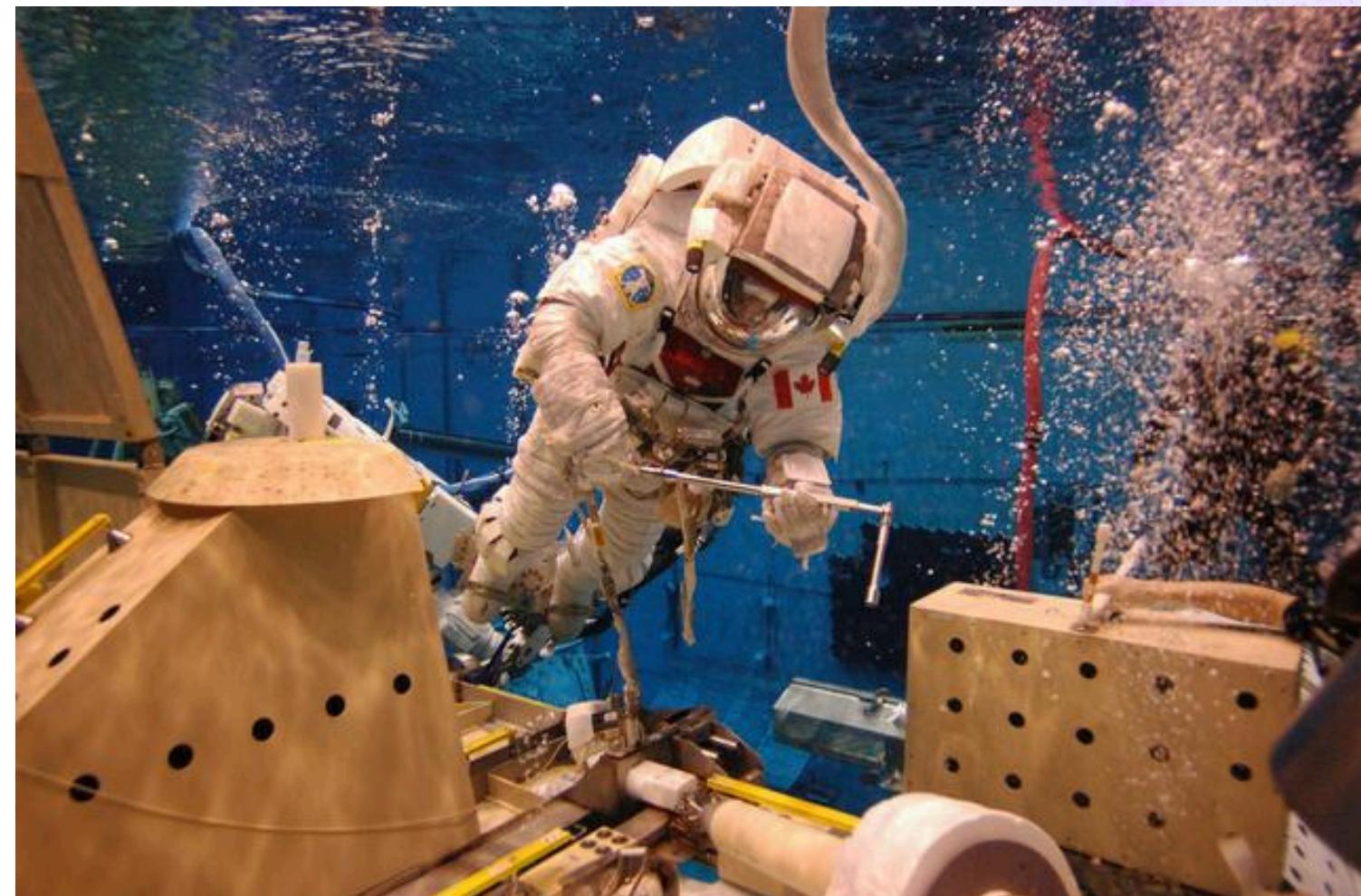
An astronaut practices tasks on a mockup of the ISS, deep inside the Neutral Buoyancy Lab. The water simulates the feeling of microgravity.

## Look Closer: The Art of the Spacewalk

Spacewalk training is all about getting the details right.

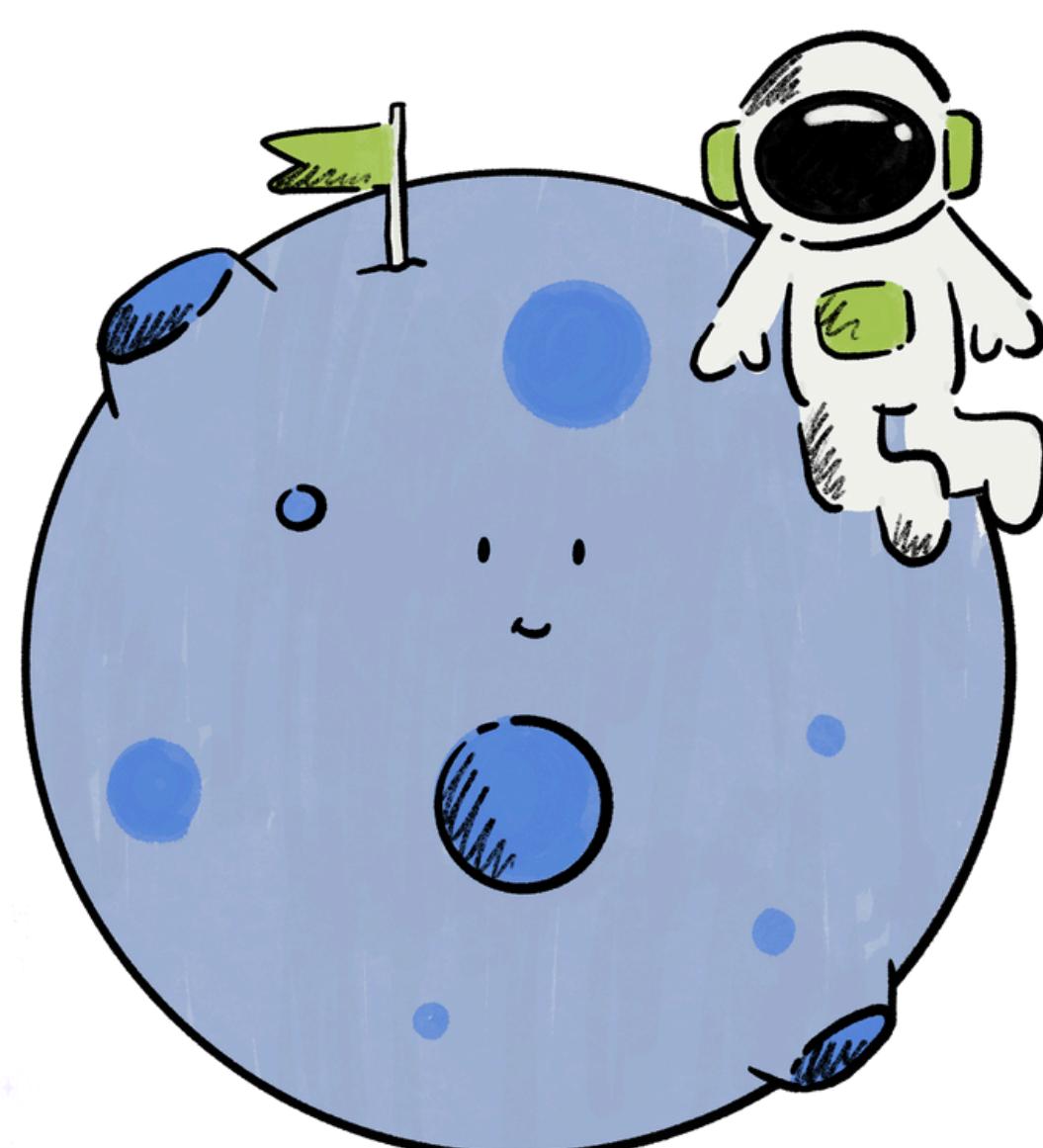
- Perfect Floating: Weights balance the suit so astronauts hover like in space.
- Safety Lines: Tethers keep astronauts from drifting away; they practice using them.
- Practice, Practice, Practice: Astronauts rehearse every repair step with real tools.

Spacewalks are a huge deal. They show how brave and smart humans can be, and they're a key part of keeping the space station working and exploring farther than ever before.



Astronaut practicing a spacewalk in the Neutral Buoyancy Lab

**Ready to see what all this work is for? Let's explore the science happening on board.**



# Mission 4: Science in Space

Why live in a floating can 250 miles above Earth? For the science! The ISS is a super unique lab, and the discoveries made there help us in surprising ways.

## Future Farming: Space Salads

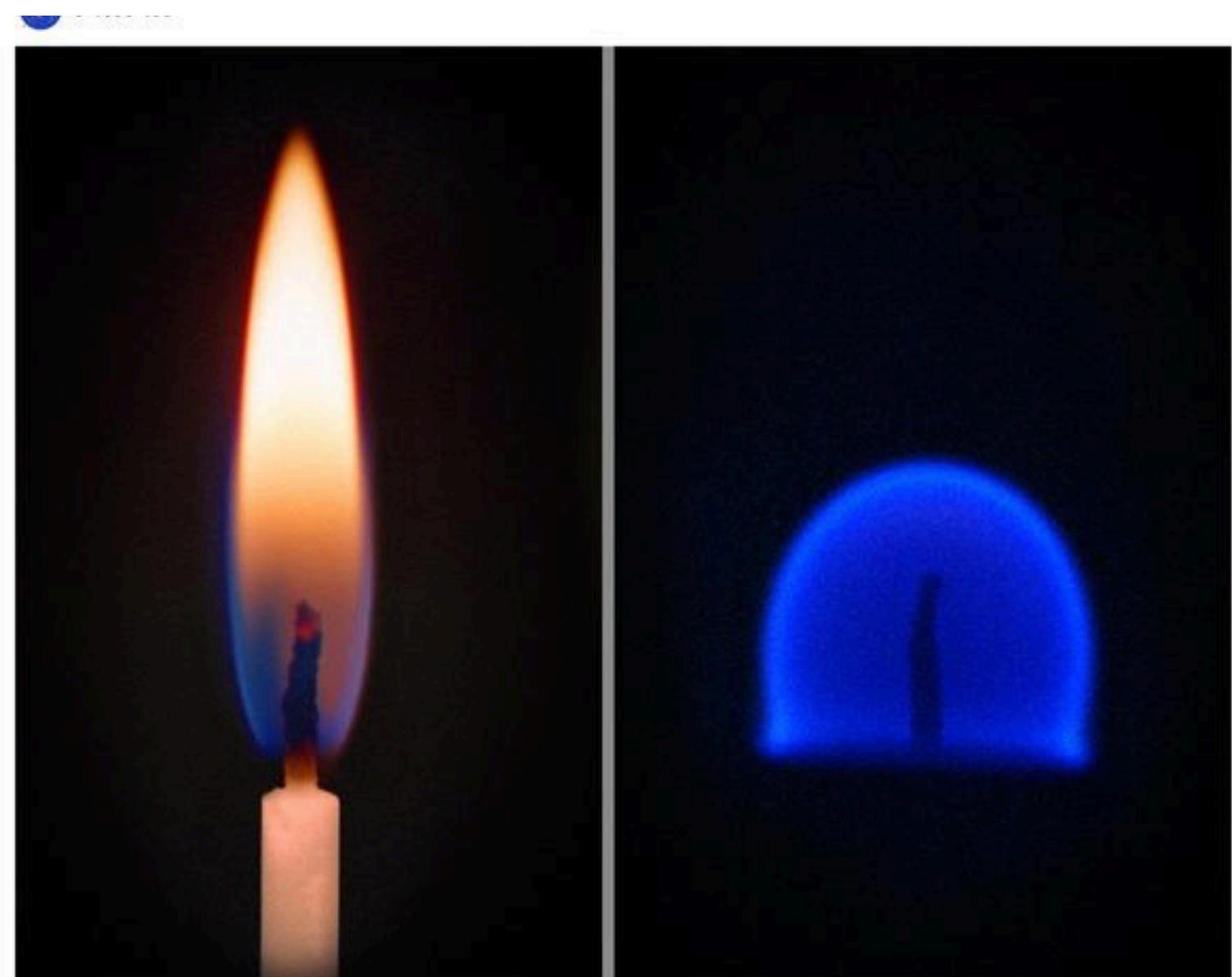
To go to Mars, we need to grow our own food. On the ISS, astronauts practice by growing fresh vegetables. This helps with future space missions and also teaches us how to grow food in tough places on Earth.



An astronaut harvests fresh greens grown on the ISS. This experiment helps scientists understand how to provide food for future long-duration spaceflights

## Even Fire is Different Up Here

Fire acts weird in space. On Earth, flames are teardrop-shaped. In zero-g, they're perfect spheres! Studying this helps us build better engines and improve fire safety on Earth.

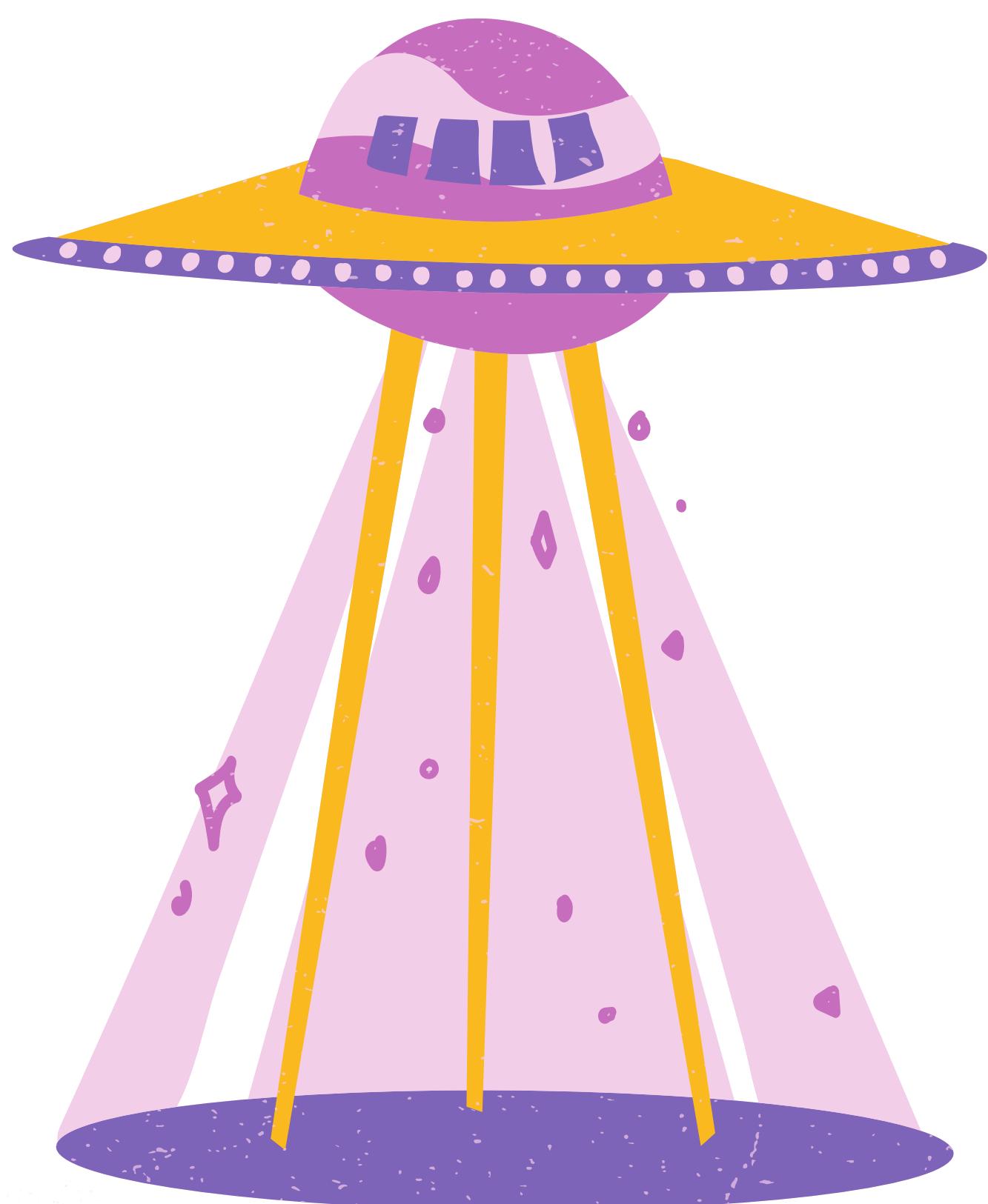


National Aeronautics and Space Administration

On the left, a normal flame. On the right, a spherical flame in microgravity. This shows how gravity shapes even the simplest things

## Solving Space Health Mysteries

Living in space is awesome, but it can be tough on the body. One of the biggest challenges is that astronauts' vision can get blurry on long missions. Scientists are running special tests to figure out exactly what's happening to astronauts' eyes. By solving this mystery, they can keep crews healthy for future long-haul trips to Mars and maybe even help people on Earth with similar vision problems.



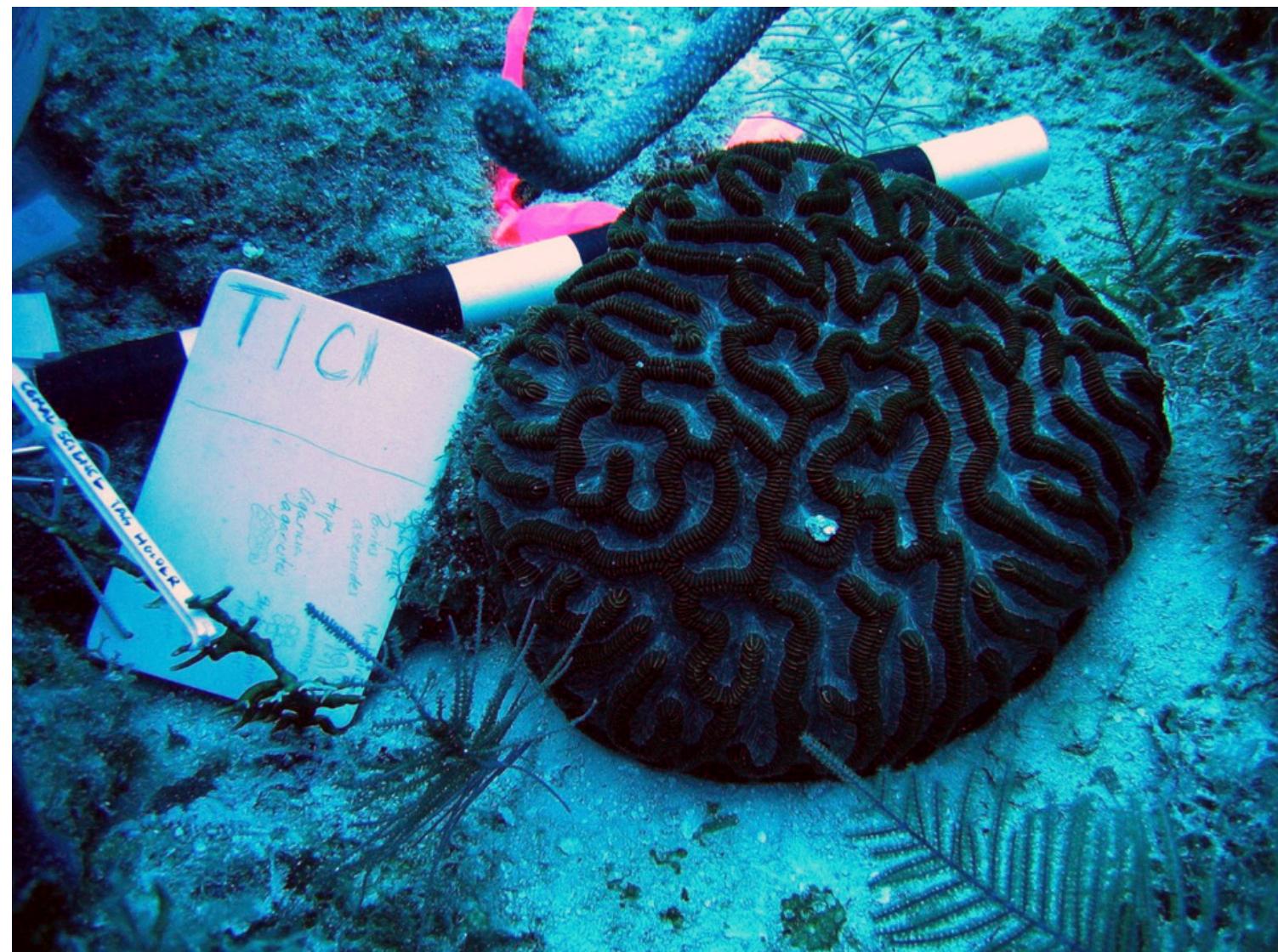
# Mission 5: Planetary Field Science

Planetary Field Science is about sending astronauts to be hands-on scientists on other worlds.

They directly study rocks, soil, and landscapes to understand a planet's history. This on-the-ground work is our best method for finding real evidence of past life.

## NEEMO project

The crew of NEEMO 6 has spent a great deal of time identifying and studying types of coral. Pictured near this specimen are some of the tools with which the crew has been working vigorously in order to measure, photograph, and document some of the coral they've encountered.

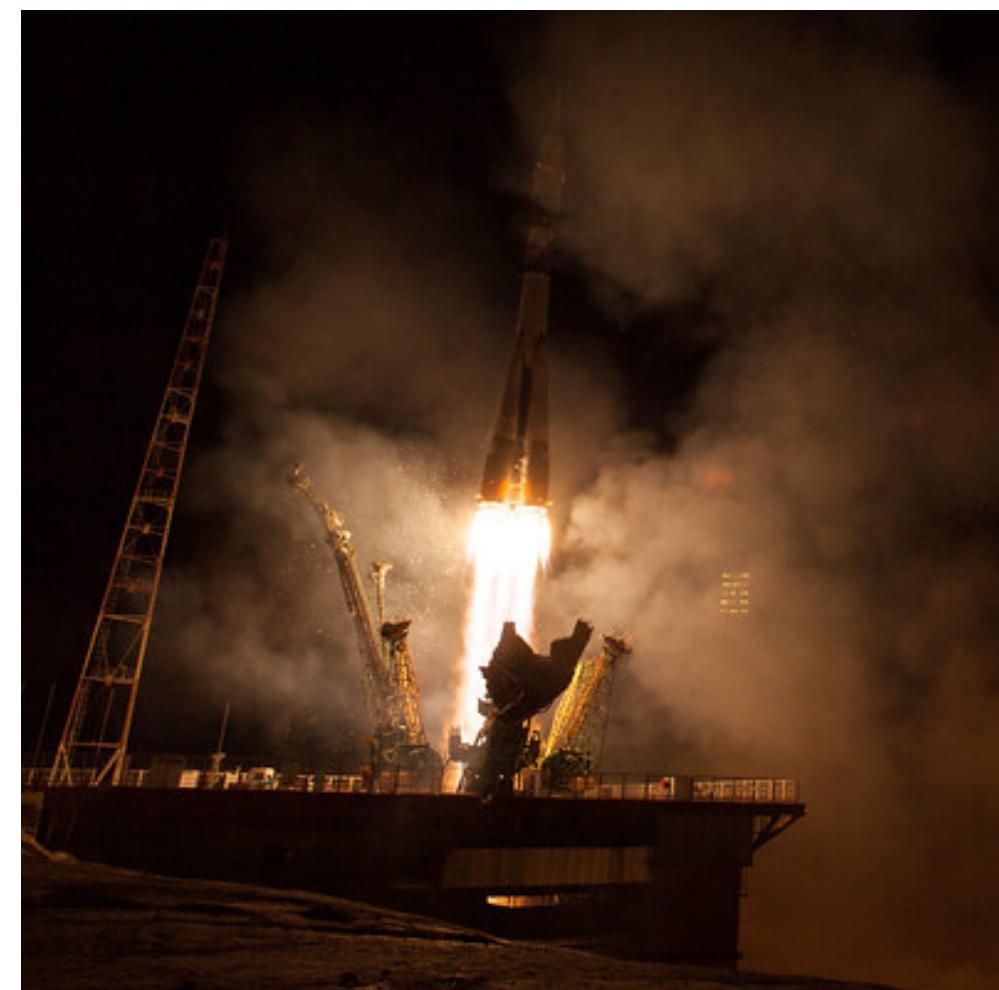


# Mission 6: The Ride of a Lifetime

An astronaut's journey doesn't start on the space station—it starts on the launchpad. Getting to and from the ISS is one of the most intense and exciting parts of the entire mission.

## 3, 2, 1... Liftoff!

Astronauts launch to the ISS aboard a powerful rocket, like the Russian Soyuz. Strapped into a tiny capsule on top of millions of pounds of rocket fuel, they feel an incredible force pushing them back into their seats as they blast through the atmosphere. In less than 10 minutes, they go from a standstill to traveling over 17,000 mph!



A Soyuz rocket soars to the sky, carrying a new crew on the first leg of their journey to the International Space Station.

## Welcome Home: Landing in a Field

Returning to Earth is just as wild. The same tiny capsule that took them to space detaches from the station and barrels back through the atmosphere, glowing like a meteor. After a series of parachutes deploy to slow it down, the capsule fires braking rockets just before touching down with a bump in the fields of Kazakhstan.



A Soyuz rocket soars to the sky, carrying a new crew on the first leg of their journey to the International Space Station.

## From Start to Finish

The journey to space and back is a huge challenge that requires courage, training, and teamwork. It's a fiery beginning and a dramatic end to an incredible mission living and working among the stars.

# Mission Accomplished!

Congratulations, Astronaut!

You have officially completed all your missions and experienced life on the International Space Station!

You've learned how to live in zero gravity, seen our amazing planet from above, and discovered what it takes to be a space explorer.

The journey doesn't end here. Keep looking up and never stop exploring!

# Our Team



Zeyad Ashraf



Sherif el-Gendy



Ahmed Loay



Ekram Ahmed



Arwa Mohamed



Alaa Khaled

# Astronaut

