

# Primary Sources: Here's What It's Like to Spend a Year in Space

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NASA astronaut Scott Kelly in 2015. He is working outside of the International Space Station. There is nothing around him but empty space. Photo by: Scott Kelly/NASA.

*Editor's note: In 2015, U.S. astronaut Scott Kelly and Russian astronaut Mikhail Korniyenko traveled to outer space. They lived for an entire year on the International Space Station (ISS). The ISS is a large station in space. It was built by people from many different countries. NASA, the United States' space agency, also helped.*

*When Kelly came home, he wrote a book about his life in space. In the book, he talks about living without gravity. On Earth, gravity pulls everything back to the ground, but in space, there is no gravity. Everything floats. There is also no oxygen, or breathable air in space. Below is a small part of Kelly's book.*

## **"I Know The Planet In A Way Most People Don't"**

From the ISS, I look down on Earth. I feel as though I know the planet in a way most people don't. Some parts of the world, especially in Asia, are so covered by air pollution. These areas need

treatment or at least a chance to heal. One of my favorite views of Earth is of the Bahamas, the islands in the Atlantic Ocean. The deep blue of the ocean mixes with bright turquoise. Where the sun hits it, the water looks like it is swirled with gold. The sight always reminds me to stop and enjoy the view of Earth. I am lucky to experience it.

### **"A Bunch Of Giant Empty Soda Cans"**

The ISS is a station in space that astronauts can live in. It is shared between many countries. There is no gravity up here, and I wake up thinking that I'm upside down. When I turn on a light, it feels like the room is spinning, but I know it's actually my brain trying to get used to it.

My room in the ISS is tiny. It is just barely big enough for me and my sleeping bag, two laptops, some clothes, books and photos of my girlfriend and my daughters.

From the outside, the ISS looks like a bunch of giant empty soda cans attached to each other end to end. The station is about the size of a football field.

### **"Messing Up This Video Game Can Also Be Very Dangerous"**

NASA has been working with private companies to build spacecraft. These are machines that fly into space. They bring cargo, or goods, to the station. The most successful private company has been Space Exploration Technologies, better known as SpaceX. It makes the Dragon spacecraft, which launched yesterday. This morning, we will try to capture it with the space station's robot arm and keep it attached. It is a bit like playing a video game, but the equipment is real and costs hundreds of millions of dollars. Messing up this video game can also be very dangerous.

Right now Dragon is carrying food, water, oxygen and spare parts to fix the station. It will also bring us new science experiments to do. One of the most important is a small group of live mice. They will be used to learn what happens to bones and muscles when there's no gravity. Dragon is also carrying small packages from our families.

### **"I Can't Put Anything Down"**

Back in my room, getting dressed is a bit hard because I can't "sit" or "stand." Living without gravity makes this impossible. The hardest part is putting on my socks without gravity to help me bend over. I have to use my strength to pull my legs up to my chest. My pants have lots of pockets and strips of Velcro to keep things attached. I can't put anything down since there is no "down" or



"up." I have decided to experiment with how long I can make my clothes last. Can I wear a pair of underwear for four days instead of just two? Can a pair of socks last a month? Can a pair of pants last six months? I'll try to find out.

### **"A Strong Smell Hits Me, Like Sparklers On The Fourth Of July"**

The Dragon spacecraft is now arriving. My crewmate Samantha Cristoforetti is controlling the robot arm and attaching Dragon to the station. She is one of the few women who served as a fighter pilot in the Italian air force. She is also friendly, laughs a lot and can speak many languages. She is fluent in English, Russian, French, German and Italian.



When we open a door into Dragon, a strange smell hits me, like sparklers on the Fourth of July. It is the smell of space. We take the goods, and I open my family's package back in my room. There are chocolates, and a picture from my twin brother, Mark, who also used to be an astronaut. It has a note on the back that jokingly says, "Hope the WCS is working up there!" WCS stands for waste collection system, a space toilet. Also, there is a card from my daughters, Charlotte and Samantha.

I put everything away, eat a piece of the chocolate and check my email again. I think about my kids, wondering how they are doing with me being gone. Then, I go to sleep.

## Quiz

- 1 Which conclusion is BEST supported by the section "I Can't Put Anything Down"?
- (A) Simple activities on Earth can be difficult to do in space.
  - (B) Scott Kelly lacks the strength to do simple activities in space.
  - (C) One of Scott Kelly's jobs is to do experiments with clothes in space.
  - (D) Clothes in space are completely different from clothes on Earth.
- 2 Which detail from the article BEST supports the idea that the International Space Station is shared by other countries?
- (A) The station is about the size of a football field.
  - (B) NASA has been working with private companies to build spacecraft.
  - (C) It will also bring us new science experiments to do.
  - (D) She is one of the few women who served as a fighter pilot in the Italian air force.
- 3 What is the relationship between the Dragon spacecraft and the International Space Station?
- (A) Dragon delivers essential goods to the space station.
  - (B) Dragon gets essential goods from the space station.
  - (C) Dragon brings astronauts from the space station to Earth.
  - (D) Dragon lets astronauts on the space station play video games.
- 4 How does Scott Kelly feel when he sees the Bahamas from space?
- (A) He feels sad because the islands are covered by pollution.
  - (B) He feels excited because he knows there is gold in the water around the islands.
  - (C) He feels fortunate because the water around the islands looks so beautiful .
  - (D) He feels concerned because of the wind swirling around the islands.