

## Reading 2

### Skills:

- Details
- Scanning

**Getting started:** What would it be like to live in the space?

### LIVING IN THE ISS



The International Space Station (ISS) is a modular space station (habitable artificial satellite) in low Earth orbit. It is a multinational collaborative project between five participating space agencies: NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada). The station serves as a microgravity and space environment laboratory in which scientific research is conducted in astrobiology, astronomy, meteorology, physics, and other fields.

The ISS was assembled, piece by piece, 400 km above the surface of Earth, altitude where it maintains an orbit. It has been continuously occupied since 2000, and in all this time, more than 200 astronauts

from 19 different countries have worked in its weightless environment. These astronauts test the spacecraft systems and equipment required for space missions, and also conduct research to advance our understanding of science, from how humans can live in space to how to prepare for exploration beyond Earth, for instance in possible future long-duration missions to the Moon and Mars.

The ISS is the biggest and costliest structure ever built in space. It's the size of a soccer field, and its cost is estimated at around \$150 billion. On Earth, it would weigh 420,000 kg, and it is powered by electricity generated by 2,500 m<sup>2</sup> of solar panels. Astronauts spend about 35 hours each week conducting research and experiments in the spacecraft's weightless environment. The station travels at a speed of 7.6 km a second and completes an orbit of Earth every 90 minutes.

### **Life on Board**

The space station needs regular maintenance work and occasional repairs. Sometimes astronauts have to put on spacesuits and go outside to do this work. ISS astronauts have made about 200 spacewalks. Daily exercise is vital to maintain the crew's health and fitness and prevent the effects of weightlessness. The astronauts use an exercise bike and treadmill to help minimize muscle and bone loss.

ISS astronauts carry out experiments in a variety of physical and biological sciences, including studies of plant growth. This is important because future astronauts will have to grow their own food. When the astronauts aren't working, they relax by reading, listening to music, and watching movies. They also like to spend time watching Earth through the Cupola's windows, the largest in any built spacecraft.

*\*Adapted from How Super Cool Tech Works. DK Publishing.*

Complete the following chart with information from the text:

The International Space Station	
Participating agencies	
Type of research conducted in the ISS	
Altitude	
Weight	
Speed	
Time to complete an orbit of Earth	
Years occupied	
Nations that have had people in the ISS	
Number of spacewalks	

### What do you think?

What are the cons of spending several months in a place like the ISS?