

# LIFE ON BOARD THE INTERNATIONAL SPACE STATION

At 6.41 p.m. this Thursday, a small bright light will appear low in the night sky before disappearing in the darkness.



1 Few people will notice and even fewer will care, but for a handful of people, that light on the horizon is a place called home. What looks like a wandering star in the heavens is sunlight reflecting off the International Space Station. To get to the space station takes two days. The station flies at an altitude of about 350 kilometres (that's more than thirty times the cruising height of a jumbo jet) and travels at an incredible 28,000 kilometres per hour.

In total, the living space on the station is the equivalent of roughly one and a half Boeing 747s. This living space is made up of different 'modules' built by Russians, Americans and other nations. There are sixteen solar panels attached to the station and they provide electrical power. The space station has a permanent crew of six. Although they have some training in how to live in weightlessness, when they first arrive on board the ISS, they take a while to get used to living without gravity, crashing into things as they try to move from one room to another. In time, people learn to fly down the length of the station without touching anything.

20 As they live so close together, personal hygiene is essential, but the weightless conditions make washing difficult. Many astronauts use moist wipes. Hair-washing is trickier. Sunita Williams, who spent 195 days on the space station, explains how she managed: 'Washing hair took time. I'd put a little water under my hair, pat it down with my hand so it wasn't splashing everywhere, then put some shampoo in my hand and move it around. Then I'd wet a towel and try to soak it up.'

It takes the space station one and a half hours to fly around the planet, meaning that it circles the globe sixteen times a day. For those on board, the visual effect is spectacular. If the covers on the windows are opened, the light can be

so blinding that astronauts reach for their sunglasses. But after forty-five minutes of daylight, a dark line appears on the planet, dividing Earth into night and day. For a couple of seconds, the space station is bathed in light which is a coppery colour, and then complete darkness. Another forty-five minutes later, the sun rises to fill the station with brilliant light again.

The short days and nights would disrupt the astronauts' body clocks, so a bedtime schedule is imposed by mission controllers: the crew are told when to put the shutters down on the windows and go to bed. Each of the crew has a cabin where they can attach a sleeping bag to the wall and settle down for the night. Unsurprisingly, falling asleep can be difficult. Just as you are nodding off, the lack of gravity can make you feel as though you've fallen off a ten-storey building. In place of an alarm clock, sleeping crews are woken by music played over the communication system controlled by staff on the ground.

When astronauts first arrive at the space station, they're in awe of the views. It is the sight of our planet that takes the breath away. On board, you can get a panoramic view of Earth. But for the really exceptional views, you need to step outside for a spacewalk. One astronaut describes the experience: 'Sometimes you feel that you are on this big flying building and it's going round the world, but most commonly you feel that someone is rolling this huge ball-shaped map beneath you. You have no feeling of motion.'

Those who have visited the space station can look at it shooting across the sky at night. They can imagine the astronauts in their sleeping bags and think, 'My goodness, I was there!'



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