

The International Space Station

If you are lucky, one day you may see a bright light crossing the sky, brighter than any plane. Don't worry – it probably isn't a UFO, but the International Space Station (ISS), orbiting the Earth exactly 15.7 times a day, as it has done for the last 10 years. At up to 460 km away from you, and travelling at approximately 27,500 kilometres per hour, it's certainly the furthest and fastest man-made object you'll ever see. And with a total cost of more than \$100 billion, it's also the most costly!

Because of the weightless conditions, it is a perfect laboratory for a number of scientific experiments. But the most important experiment is simply living there. Nearly 200 people, from 15 different countries, have spent time there. Some have stayed for more than six months, which is how long it would take to travel to Mars.

The ISS is about the same size as a five-bedroom house and will be 450 tonnes when it is completed. However, it is a complicated shape, because different parts have been added by the Russian, American, Canadian, European and Japanese Space Agencies, which run it. In fact, it won't be finished until 2011.

Work and sleep takes up nearly the whole day on the ISS. Of course, the word 'day' has a very different meaning on the ISS. For us, there's one sunrise and one sunset every day, but for them, the sun rises and sets 16 times in every 24 hours as they orbit the earth again and again. For ten of these hours, they work on experiments or repairs. They can't shower or take a bath – or even use toothpaste. And eating can be difficult. Usually, they prefer spicy food, because in space, you begin to lose your sense of taste and smell. And of course, there are no beds to sleep in – or even bedrooms – only sleeping bags which they can attach to the walls.

No one knows how the ISS will develop. It's possible that it will continue operating for more than 10 years. However, it's extremely expensive and there are also questions about pollution – each journey to the space station uses hundreds of tonnes of rocket fuel. The same problems of expense and pollution affect the development of space tourism. And it doesn't look very likely that we'll be sending people to Mars any time soon. Could the ISS be the last stop in space exploration?

1 Which paragraph of the text (1–5) answers each of these questions?

- a What is the future of space travel? _____
- b How big is the International Space Station? _____
- c What is the purpose of the International Space Station? _____
- d What is the International Space Station? _____
- e How do people spend their time on the International Space Station? _____

2 Here are some numbers from the article. Match them with the correct information.

Then read the article quickly to check your answers.

27,500	460	10	15	15.7	100 billion	200	450
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- 1 The ISS project costs more than \$ _____
- 2 How many orbits does the ISS complete every 24 hours? _____
- 3 How many tonnes will the ISS be when it is completed? _____
- 4 How many people have visited the ISS? Nearly _____
- 5 How many different countries have visitors to the ISS come from? _____
- 6 How many years has the ISS been in operation? _____
- 7 Approximately, how many kilometres per hour is the ISS travelling? _____
- 8 What is the maximum distance of the ISS from Earth? _____

3 Read the article again and decide if the sentences are true (T) or false (F).

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| 1 The ISS is the brightest object in the sky. | T/F |
| 2 The ISS is the fastest object we can see from the Earth. | T/F |
| 3 The ISS is more expensive than any other man-made object. | T/F |
| 4 Living on the ISS is the most important experiment that is done there. | T/F |
| 5 The longest period which someone has spent on the ISS is six months. | T/F |
| 6 The ISS has more than four bedrooms. | T/F |
| 7 Food tastes better than normal on the ISS. | T/F |
| 8 The ISS may continue operating for more than 10 years. | T/F |

4 Find the words in the article that complete this word-building chart.

verb	adjective	noun
cost		cost
—		importance
experiment	experimental	
complicate		complication
—		spice
taste	tasty	
smell	smelly	
	developed	development
—	expensive	
explore	exploratory	

5 Discuss these questions with your partner(s).

- What would be the most difficult thing for you about living on the ISS?
- Do you think that space tourism is a good idea?
- What benefits have come from space travel?
- Should we continue to spend billions of dollars on space exploration and experiments?

Glossary

celebrate (*verb*) - enjoy a special time - for example, a birthday or good examination result

anniversary (*noun*) - the same day, one year after something special happened: *the couple celebrated their tenth wedding anniversary*

UFO (*noun*) - Unidentified Flying Object; something you see in the sky that you think might come from Space

orbit (*verb*) - go around the Earth.

approximately (*adverb*) - about; not exactly

weightless (*adjective*) - without any weight, so that you float

laboratory (*noun*) - a place where scientists do experiments

experiment (*noun*) - something scientists do to find out new information

complicated (*adjective*) - not simple; made up of many different parts

set (*verb*) - when the sun sets, it goes down at the end of the day

space agency (*noun*) - an organisation for the exploration and research of space; NASA is the North American Space Agency

pollution (*noun*) - when the air, water or land is dirty because of human activity

exploration (*noun*) - going into new places and finding out about them

fuel (*noun*) - something which is used to create heat or power; oil and gas are important fuels

maximum (*noun*) - the largest number, amount or degree that is possible