



# ISS



## LIFE IN SPACE



Figure 0-1.



# The International Space Station: Life in Space



Figure 1-1. <http://www.raumfahrer.net/raumfahrt/iss/home.shtml>



# Reading Text

*Read the text about life on board of the space station ISS.*

*Then do the following exercises:*

*Review part 1: you have to decide whether the following statements (1-9) are true or false.*

*Review part 2: you have to identify the sentences in the text which contain the proposed words.*

## Statements

1	On the ISS, astronauts spend less time in bed than on earth.
2	The main task the team has to do on the ISS is maintenance.
3	On a Sunday, astronauts do not have to work at all.
4	Astronauts are required to take their meals while secured to the floor.
5	The way the meals are processed can spoil the flavour.
6	Special freight spaceships bring provisions to the ISS.
7	Water must be reused several times.
8	Astronauts use headphones in order to avoid the sound of the air-conditioning.
9	Astronauts wear airtight suits during their stay on the ISS.

## Reading text

What is life like for the astronauts on board the International Space Station (ISS)? The Earth environment that most **resembles** the microgravity experienced on the ISS is water - which is why astronauts train in large swimming pools. Inside the ISS, astro-

nauts can play with floating drops of water and, instead of walking, can push themselves off the walls and drift through the air.

Astronauts experience 16 sunrises and sunsets in one day, as the ISS orbits Earth every 90 minutes. This is difficult to adapt to, and they sleep an average of 5-6 hours per day instead of the 7-8 hours of sleep they enjoy on Earth. They do, however, **observe** a strict work/sleep schedule. Lack of sleep can, of course, be caused by the **excitement** of the first steps in "weightlessness", the magnificent views of Earth and the darkness of the cosmos.

The crews spend around 160 man-hours per week doing scientific experiments. The rest of their time is spent on maintenance, Station control activities and spacewalks. Spacewalks (or extra-vehicular activities, EVAs) are necessary for construction, maintenance and for the installation of scientific components outside the Station. Sunday is generally a day of rest, although some experiments continue to run and must be monitored.

The astronauts need to take good care of themselves on board, and their health and safety are priorities. They must be in good physical and mental condition. They eat three meals a day, and mealtimes are important for the crew to socialize. There is a kitchen area where food can be heated, a fridge-freezer and a table. There are tethers on the floor to hook feet onto, to keep astronauts in a sitting position, but often they eat while floating around. **Velcro** is used to secure the various food Containers on the table and prevent them from floating off. Most of the food is freeze-dried, frozen, thermo stabilised or ready to eat. These treatments and the conditions of "weightlessness" mean that the taste of food is often **impaired** (somewhat like trying to eat when you have a heavy cold).

The range of nationalities on board means that the diet has to be carefully chosen. Astronauts can state their own dietary preferences before beginning their stay on the ISS, but they are free to change their minds during a mission, as long as the nutritional value (2,800 calories per day) is maintained. Food is periodically **delivered** from Earth in cargo spacecraft (such as ESA's ATV or Russian Progress vehicles).

There are also dehydrated foods and drinks which are reconstituted by adding water. Syringes are used to rehydrate Single portions of food to avoid waste: water is a pre-

cious **commodity**. Transporting water to the ISS is very expensive, so some water is recycled from the cabin itself by condensation. Because water needs to be conserved, non-foaming toothpaste is preferred. Wet wipes are used for personal hygiene. Astronauts will have their first shower when they return to Earth.

There is no "up" or "down" in space. Sleeping involves **wrapping** yourself in a sleeping bag **attached** to the wall. The astronauts use ear plugs to keep out the noise of the life-support Systems that are continuously running, as well as sounds caused by the thermal expansion and contraction of the ISS itself. They try to secure their free-floating arms, which could end up blocking the air tubes that circulate the air in the ISS and cause a dangerous build-up of carbon dioxide in one place.

The temperature is maintained at a comfortable level by the air-conditioning system so astronauts can wear light clothing. Air pressure is kept the same inside as on Earth. During launch and landing, or when performing spacewalks outside the ISS, astronauts wear special pressurised spacesuits to protect them from the extreme conditions.

The men and women chosen as astronauts work as a team. Their training helps them to cope with the lack of privacy and to be able to live in such an environment for months at a time. It becomes home for them.



# Review

**Exercise 1:** in part1 you have to decide whether the statements are *true* or *false*.

**Exercise 2:** in part2 you have to identify the sentences in the text which contain the proposed words.

# Review

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## part 1

### Review part1

#### Question 1 of 9

On the ISS, astronauts spend less time in bed than on earth.

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- A.** true
- B.** false



Check Answer



# Review part2

review part 2

## Question 1 of 9

Assign the correct term to the white spots.

International Space ... he astronauts on board the International Space Sta  microgravity  The Earth environment that most resembles the microgravity experienced on the ISS is water - which is why astronauts train in large swimming pools.  play with floating drops astronauts can play with floating drops of water and, instead of walking, can push themselves off the walls and drift through the air.

play with floating drops

microgravity

International Space ...



Check Answer







# List of Sources

**Figure 0-1. (Cover)**

<http://dljqu7gly74ds1.cloudfront.net/wp-content/uploads/2014/03/ISS-and-Earth.jpg>

**Movie (Intro)**

<https://www.youtube.com/watch?v=ls9yJTphLxg>

**Text**

<http://www.scienceinschool.org/2008/issue10/iss>, Shamim Harte-Velani and Carl Walker (2013-11-12)

# Attach

to fix one thing to another

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## Verwandte Glossarbegriffe

Drag related terms here

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**Index**

Find Term

Chapter 2 - Reading text

# Commodity

a product that you can buy or sell

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## **Verwandte Glossarbegriffe**

Drag related terms here

# Deliver

to take goods to a person or place

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## **Verwandte Glossarbefgriffe**

Drag related terms here

# Excitement

a feeling of being very enthusiastic

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## **Verwandte Glossarbegriffe**

Drag related terms here

# Float

to stay in the air or move gently through the air

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## **Verwandte Glossarbegriffe**

Drag related terms here

# Impair

to harm something and make it less good

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## **Verwandte Glossarbefgriffe**

Drag related terms here

# Lack

not having enough of something

---

## **Verwandte Glossarbegriffe**

Drag related terms here



# Maintenance

the work is done to keep something in good condition

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## **Verwandte Glossarbefgriffe**

Drag related terms here

# Observe

to obey a rule

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## **Verwandte Glossarbegriffe**

Drag related terms here

# Resemble

to look like or be like someone or something

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## **Verwandte Glossarbegriffe**

Drag related terms here

# Velcro

material that consists of 2 pieces of cloth that stick together, used to fasten

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## Verwandte Glossarbegriffe

Drag related terms here

# Wrap

to fold something around somebody or something

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## **Verwandte Glossarbegriffe**

Drag related terms here