BACK TO EARTH WITH A BUMP!

Reported by Amanda Kelper, Media Correspondent, London

After a six month stay on the International Space Station (ISS), astronauts Tim Peake, Yuri Malenchenko and Timothy Kopra have finally returned home to Earth.

Last week, British astronaut Tim Peake returned home from an incredible six month stay aboard the ISS, alongside his crewmates Yuri Malenchenko and Timothy Kopra. He is the first British astronaut to have lived on the ISS.

The International Space Station is a large spacecraft that travels around the Earth. It is a home where astronauts can live while in Space. The Space Station was built in pieces and many nations were involved in its construction. For example, the first piece was launched in November 1998 by the Russians. Construction of the space station was finally completed in 2011.

The men were launched into space on 15th December 2015. The mission involved conducting experiments, testing out new technology and inspiring the next generations of space travellers. Peake told reporters that the best part of his mission was a spacewalk where he had to make a repair on the space station.

Having circled the planet nearly 3,000 times, the crew returned home to Earth in a capsule, which reached speeds of up to 28,000 kilometres per hour. The touchdown was bumpy due to high winds, however the astronauts landed safely in Kazakhstan, all returning in good health. Having arrived back on solid ground, the astronauts were pulled out of the capsule and carried as their leg muscles were too weak to walk. While sitting in their space suits, the men were checked over by medical staff. During these checks, Peake was asked how it felt to be home. 'The smells of Earth are so strong and it's wonderful to be back in the fresh air'.

Landing with a bump! Tim Peake lands safely in Kazakhstan.

Tim later flew from Kazakhstan to the headquarters of the European Space Agency in Germany where he is getting used to life back on Earth. Scientists and doctors are carrying out tests to see how his body has been affected by his time in space. Being in space can have a serious impact on the human body. When astronauts return home, they have to readapt to the gravity on Earth as the lack of gravity in space can also cause your bones and muscles to weaken.

Peake recently commented on how he'd missed family and friends, and even the rain. Tim said he was now looking forward to spending some quality time with his family. When asked if he'd return to space in the future, he replied, '...in a heartbeat'.

Having been recognised by the Queen for his services to science, Tim is now a CMG, or Companion of the Order of St Michael and St George. He dedicated this award to his entire team.

Questions

1. What does ISS stand for?

_____

2. How long did Tim Peake spend aboard the ISS? Tick **one**.

- ☐ six years
- ☐ four months
- ☐ six months
- ☐ two years

3. When was the construction of the ISS completely finished?

_____

4. Explain what the purpose of the mission was. Use evidence from the text to support your answer.

_____

_____

_____

5. Where did the astronauts land? Tick **one**.

- ☐ Germany
- ☐ Russia
- ☐ Kazakhstan
- ☐ Great Britain

6. **Find** and **copy** a phrase that shows that Tim would hurry back to space.

_____

7. Explain why the astronauts had to spend time being monitored by scientists and doctors.

_____

_____

_____

8. What do you think you would miss most about being on Earth and why? Explain your answer fully.

Answers

1. What does ISS stand for?

   International Space Station

2. How long did Tim Peake spend aboard the ISS? Tick **one**.

   - [ ] six years
   - [ ] four months
   - [x] **six months**
   - [ ] two years

3. When was the construction of the ISS completely finished?

   2011

4. Explain what the purpose of the mission was. Use evidence from the text to support your answer.

   Pupil's own response, such as: The purpose of the mission was to conduct experiments, test out new technologies and to inspire the next generation of astronauts.

5. Where did the astronauts land? Tick **one**.

   - [ ] Germany
   - [ ] Russia
   - [x] **Kazakhstan**
   - [ ] Great Britain

6. **Find** and **copy** a phrase that shows that Tim would hurry back to space.

   in a heartbeat

7. Explain why the astronauts had to spend time being monitored by scientists and doctors.
   Pupil's own response, such as: The astronauts had to spend time being monitored to see what affect being in space had had on their bodies. The lack of gravity in space can weaken bones and muscles therefore, the astronauts have to get fit and strong again and readapt to the gravity on Earth.

8. What do you think you would miss most about being on Earth and why? Explain your answer fully.

Pupil's own response, such as: I think that I would miss the sound of birds because there are no birds in space and I enjoy listening to their chirruping and song.

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Last week, British astronaut Tim Peake returned home from an incredible six month stay aboard the ISS, alongside his crewmates Yuri Malenchenko and Timothy Kopra. He is the first British astronaut to have lived on the ISS.

The International Space Station, which orbits the Earth once every 90 minutes, acts as a home for astronauts while they spend time in space. It is also used as a unique science laboratory where astronauts and scientists can carry out experiments. Work on building the space station began back in 1998 when the Russians launched the first piece; the Russian Zarya control module. Several nations worked together to build it. Over time, more and more pieces of the space station were added until completion in 2011. The space station can hold a crew of six people and on Earth, would weigh almost a million pounds.

The men were launched into space on 15th December 2015 and in the months before take-off, they trained intensively for their trip. Training involved learning to speak Russian, spending 12 days under the sea and a winter survival expedition.

During their space mission, the astronauts conducted experiments, tested out new technology and inspired the next generation of space travellers. Peake told reporters that the highlight of his trip was a spacewalk where he had to make a repair on the space station. While he was 400km away from his home, Tim also ran the equivalent of the London Marathon on his treadmill.

Landing with a bump! Tim Peake lands safely in Kazakhstan.

Having circled the planet nearly 3,000 times in 186 days, the crew returned home to Earth via a Soyuz capsule, which reached speeds of up to 28,000 kilometres per hour (25 times the speed of sound). The touchdown was bumpy due to high winds, however the astronauts landed safely near the town of Zhezkazgan in Kazakhstan. They all returned in good health. Having arrived back on solid ground, the astronauts were pulled out of the capsule and carried as their leg muscles were too weak to walk. While sitting in their space suits, the men were checked over by medica staff. During these checks, Peake was asked how it felt to be home. 'The smells of Earth are so strong and it's wonderful to be back in the fresh air'.

Tim later flew from Kazakhstan to the headquarters of the European Space Agency in Cologne, Germany where he is recovering and adjusting to life back on Earth. Scientists and doctors are carrying out tests to see how his body has been affected by his time in space. Being in space can have a dramatic impact on the human body. When astronauts return home, they have to readapt to the gravity on Earth. NASA (National Aeronautics and Space Administration) have learned that without

gravity working on your body, bones begin to thin and weaken. Astronauts also lose strength in their muscles due to not being used for moving or carrying their own body weight. This and other reasons, is why astronauts have to be carefully monitored for a period of time after their space excursion.

In a recent press conference, Peake commented on how he'd missed family and friends, and even the rain. Tim expressed how much he was now looking forward to spending some quality time with his family. When asked if he'd return to space in the future, he replied, '...in a heartbeat'.

His service to science has earned him an honour from the Queen. Peake was made a CMG, or Companion of the Order of St Michael and St George. In response, Tim said, 'I am only one privileged person in a complex team of technicians, scientists, engineers, educators, trainers and flight directors, all working in pursuit of one of the greatest scientific and technical challenges of our time – exploring our solar system for the benefit of people on Earth. This award is for them.'

Questions

1. How many members of crew went to the ISS? Tick **one**.

   - [ ] 2
   - [ ] 4
   - [ ] 3
   - [ ] 1

2. Explain why this mission was particularly significant for Britain. Use evidence from the text to support your answer.

3. What was the first piece of the ISS to be launched into space?

4. How many days did the crew spend in space? Tick **one**.

   - [ ] 3,000
   - [ ] 28,000
   - [ ] 186
   - [ ] 168

5. Where is the European Space Agency?

6. What did Peake find hard about being on board the ISS for so long? Explain your answer fully.

7. **Find** and **copy** a word that shows that Tim considers himself to be lucky to be part of a team.

_____

8. In your own words, explain what impact being in space can have on an astronaut's body.

_____

_____

_____

9. What did Tim Peake mean when he said that he would return to space in a heartbeat?

_____

_____

_____

Answers

1. How many members of crew went to the ISS? Tick **one.**

- [ ] 2
- [ ] 4
- [x] **3**
- [ ] 1

2. Explain why this mission was particularly significant for Britain. Use evidence from the text to support your answer.
Pupil's own response, such as: This mission was significant for Britain because Tim Peake was the first British astronaut to have lived on the ISS.

3. What was the first piece of the ISS to be launched into space?
The Russian Zarya control module

4. How many days did the crew spend in space? Tick **one**.

- [ ] 3,000
- [ ] 28,000
- [x] **186**
- [ ] 168

5. Where is the European Space Agency?
Cologne, Germany

6. What did Peake find hard about being on board the ISS for so long? Explain your answer fully.
Pupil's own response, such as: Peake found being away from his family and friends difficult and he missed them. He also missed the rain.

7. **Find** and **copy** a word that shows that Tim considers himself to be lucky to be part of a team.
privileged

8. In your own words, explain what impact being in space can have on an astronaut's body.
Pupil's own response, such as: When they are in space, there is no (or very little) gravity and this means that their bones can begin to thin and their muscles can weaken because they do not have to use them much to move around.

9. What did Tim Peake mean when he said that he would return to space in a heartbeat?
Pupil's own response, such as: When he said that he would return to space in a heartbeat, Tim Peake meant that he would do it quickly and without thinking, just like our hearts beat quickly and without us having to think about it beating.

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Reported by Amanda Kelper, Media Correspondent, London

Following an arduous, six-month expedition on the International Space Station (ISS), astronauts Tim Peake, Yuri Malenchenko and Timothy Kopra have finally returned safely home to Earth.

Last week, British astronaut Tim Peake returned home from an incredible six month stay aboard the ISS, alongside his crewmates Yuri Malenchenko and Timothy Kopra. Peake has broken a record and is the first British astronaut to have lived on the ISS.

Orbiting the Earth once every 90 minutes, the International Space Station serves as a home for astronauts when in space. It is also used as a unique science laboratory where astronauts and scientists can carry out invaluable experiments. Several nations worked together to build and use the space station and work began back in 1998 when the Russians launched the first piece; the Russian Zarya control module. Over time, more and more pieces of the space station were added until its completion in 2011. The space station can hold a crew of six people and on Earth, would weigh almost a million pounds. The space station has made it possible for people to have an ongoing presence in space and to continue to carry out research that could not be done anywhere else.

The men were launched into space on 15th December 2015 and in the months before take-off, they trained intensively for their trip. Training involved learning to speak Russian, spending 12 days under the sea, physically demanding fitness training and a winter survival expedition.

During their space mission, the astronauts conducted experiments, tested out new technology and inspired the next generation of

Landing with a bump! Tim Peake lands safely in Kazakhstan.

space travellers. Peake told reporters that the highlight of his trip was a spacewalk where he had to make a repair on the space station. While he was 400km away from his home, Tim also ran the equivalent of the London Marathon on his treadmill.

Having circled the planet nearly 3,000 times in 186 days, the crew returned home to Earth via a Soyuz capsule, which reached speeds of up to 28,000 kilometres per hour (25 times the speed of sound). The touchdown was bumpy due to high winds, however the astronauts landed safely near the town of Zhezkazgan in Kazakhstan. They all returned in good health. Having arrived back on solid ground, the astronauts were pulled out of the capsule and carried as their leg muscles were too weak to walk. While sitting in their space suits, the men were checked over by medical staff. During these checks, Peake was asked how it felt to be home. 'The smells of Earth are so strong and it's wonderful to be back in the fresh air'.

Tim later flew from Kazakhstan to the headquarters of the European Space Agency in Cologne, Germany where he is recovering and

adjusting to life back on Earth. Scientists and medical staff are carrying out tests to see how his body has been affected by his time in space. Living in microgravity (the condition of being weightless) can have a devastating impact on the human body. NASA have learned that without gravity working on your body, bones begin to lose density and thin. Another concern is that the fluid in an astronaut's body shifts upwards to their heads (as it is not pulled down by gravity) which can put pressure on their eyes and subsequently cause problems with their vision. Because it does not take much effort to float around in space, astronauts can also lose muscle and cardiovascular strength during their time in space. These and other possible dangers related to space travel are all reasons why astronauts have to be carefully monitored for a period of time after their excursion, to ensure that they are fit and well enough to function on Earth again.

In a recent press conference, Peake commented on how he'd missed family and friends, and even the rain. Tim expressed how much he was now looking forward to spending some quality time with his family. When asked if he'd return to space in the future, he replied, '...in a heartbeat'.

His service to science has earned him an honour from the Queen. Peake was made a CMG, or Companion of the Order of St Michael and St George. In response, Tim said, 'I am only one privileged person in a complex team of technicians, scientists, engineers, educators, trainers and flight directors, all working in pursuit of one of the greatest scientific and technical challenges of our time – exploring our solar system for the benefit of people on Earth. This award is for them.'

Questions

1. Who were Tim Peake's crewmates?

2. Explain fully how Tim prepared for his mission. Use evidence from the text to support your answer.

3. How often does the ISS orbit Earth?

4. Explain why you think the ISS took so long to be built. Use evidence from the text to support your answer.

5. Why do you think Tim ran the equivalent of the London Marathon on his treadmill?

6. What did the astronauts return to Earth in?

7. In which town did the astronauts land? Tick **one.**

- [ ] Kazakhstan
- [ ] Cologne
- [ ] Zhezkazgan
- [ ] London

8. Why were the astronauts carried from the capsule? Tick **one**.

- [ ] Their leg muscles were too weak.
- [ ] Their spacesuits were too heavy.
- [ ] They couldn't be bothered to walk.
- [ ] They weren't feeling well.

9. Describe three ways in which astronaut's bodies can be affected when spending time in space. Use evidence from the text to support your answer.

_____

_____

_____

10. Why do you think Tim dedicated his CMG to the entire team?

_____

_____

_____

Answers

1. Who were Tim Peake's crewmates?

   Yuri Malenchenko and Timothy Kopra

2. Explain fully how Tim prepared for his mission. Use evidence from the text to support your answer.
   Pupil's own response, such as: Tim prepared for his mission by learning to speak Russian, spending 12 days under the sea and taking part in physically demanding fitness training and a winter survival expedition.

3. How often does the ISS orbit Earth?
   Once every 90 minutes

4. Explain why you think the ISS took so long to be built. Use evidence from the text to support your answer.
   Pupil's own response, such as: I think that the ISS took so long to be built because it was made by several nations who would have had to communicate about who was building which part, each piece had to be launched into space which is not an easy task and the station is quite big as it holds six people plus a science laboratory.

5. Why do you think Tim ran the equivalent of the London Marathon on his treadmill?
   Pupil's own response, such as: I think that Tim ran the equivalent of the London Marathon in order to keep fit while he was on the ISS. It says in the text that astronaut's muscles weaken if they are not used as it doesn't take much effort to float about.

6. What did the astronauts return to Earth in?

   A Soyuz capsule

7. In which town did the astronauts land? Tick **one.**

   - ☐ Kazakhstan
   - ☐ Cologne
   - ☑ **Zhezkazgan**
   - ☐ London

8. Why were the astronauts carried from the capsule? Tick **one**.

- [x] **Their leg muscles were too weak.**
- [ ] Their spacesuits were too heavy.
- [ ] They couldn't be bothered to walk.
- [ ] They weren't feeling well.

9. Describe three ways in which astronaut's bodies can be affected when spending time in space. Use evidence from the text to support your answer.
Pupil's own response, such as: When spending time in space, astronaut's bones can become less dense and grow thin, their muscles and cardiovascular system can weaken by not having to use them while floating around easily and they can experience problems with their vision as the fluid in their bodies shifts upwards and puts pressure on the eyes.

10. Why do you think Tim dedicated his CMG to the entire team?
Pupil's own response, such as: I think that Tim dedicated his CMG to his entire team because he said in the news report that he is part of a complex team who are all in pursuit of exploring the solar system for the benefit of people on Earth.