

NASA astronaut Scott Kelly on his year in space

Level 3 • Advanced

1 Warmer

Answer the questions in this space quiz.

1. What is the ISS?
2. How many planets are there in our solar system?
3. Approximately how many kilograms does the average human weigh in space?

2 Key words

Fill the gaps in the sentences using these key words from the text.

cramped
veteran

milestone
fragrance

striking
discomfort

charred
quarters

sane
swathes

1. A _____ is someone who has a lot of experience doing a particular activity.
2. A _____ place is uncomfortably small.
3. _____ are rooms or buildings for people to live in.
4. _____ is a feeling of slight pain.
5. A _____ is a pleasant smell.
6. If something is _____, it is black and burnt.
7. If something is described as _____, it attracts our interest or attention because of some unusual feature.
8. _____ are large amounts of something.
9. If you are _____, you are able to think and speak in a reasonable way and behave normally.
10. A _____ is an event or achievement that marks an important stage in a process.

3 What do you know?

Decide whether these statements are true (T) or false (F). Then, check your answers in the text.

1. The ISS is powered by the sun.
2. Astronauts become shorter after spending time on the ISS.
3. American astronauts on the ISS are US government employees.
4. The ISS is 50 years old.
5. Astronauts returning from the ISS usually land in Kazakhstan.
6. The ISS is the size of a tennis court.

NASA astronaut Scott Kelly on his year in space

Level 3 • Advanced

NASA astronaut Scott Kelly on his year in space: 'Maybe you do go bananas'

The American astronaut tells reporters how he kept his wits during more than 340 days in space and what it's been like to readjust to Earth's gravity

Alan Yuhas

5 March, 2016

- 1 Himalayan lakes, spacewalks and the presidential primaries helped Scott Kelly keep his wits over 340 days in space, the astronaut told journalists, after he landed back on Earth from a record-setting mission. "It seemed like I lived there forever," Kelly said. The veteran of past missions said that his biggest surprise was simply how long this one felt. "Maybe, occasionally, you do go bananas," he said.
- 2 Kelly and a Russian counterpart, Mikhail Kornienko, spent nearly a year on the International Space Station (ISS) in order to study the effects of weightlessness, radiation and the cramped quarters of spaceflight on humans – research NASA considers essential for an eventual mission to Mars.
- 3 Kelly said the length of the mission was its biggest challenge and that he felt significantly more sore on returning to gravity than after shorter trips. Kelly and his twin brother, Mark, a retired astronaut, have spent the last year taking physical and mental tests. The tests will continue, to help NASA learn about how the body copes with the severe strains of spaceflight.
- 4 Kelly said he felt aches and had extremely sensitive skin but, so far, his balance has felt mostly decent. However, he said, "the first thing I tried to throw on a table I missed" because "you tend to underestimate the effects of gravity".
- 5 He said the discomfort of returning to gravity – which shrank him back down to normal height after he stretched by 1.5 inches in orbit – took nothing away from the awe he felt after his capsule landed back on Earth. When the Russian capsule opened on to the cool air of Kazakhstan, Kelly said, he smelled "a fragrance like a plant was blooming in that area". It was the fresh air mingled with the charred, "kind of sweet" smell of a spacecraft that had survived re-entry through the atmosphere.
- 6 Backing away from the vessel, he said, the scope of the mission began to sink in: 340 days on a 15-year-old space station which is "a million pounds, the size of a football field, the internal volume, some say, of a six-bedroom house". The ISS, he said, is a place that uses the power of the sun and was built with the help of an international team and millions of taxpayers.
- 7 "There are things we're going to discover about our experience in space in the space station that we don't even know now," Kelly said, comparing the research of more than 450 missions there to the work done by computer scientists at NASA in the 1960s and 1970s. He added: "The view is great, too."
- 8 Kelly made the most of that view, posting spectacular photos on social media of the Earth's cities, landscapes, oceans and atmosphere. "The Earth is a beautiful planet," he said, describing the striking colours of the waters around the Bahamas and the rainbow hues of lakes that dot the northern Himalayas. He said he would like to visit that region, though he would first need to learn "what country actually owns them". But, "predominantly, you just notice how thin the atmosphere is, how fragile it looks," Kelly added. "That, combined with these large swathes of pollution, is kind of alarming."
- 9 The astronaut said he could see entire systems of pollution: smoke clouds from wildfires that covered parts of the US, sections of Asia with continuous, visible pollution nearly all year round. He said the message "we need to save the planet" slightly missed the point: "The planet will get better; it's us that won't be here because we'll destroy the environment." The world's thin shield of atmosphere "makes you more of an environmentalist after spending so much time looking down", he said.
- 10 "It's for us to take care of the air we breathe and the water we drink. And I do believe we have an impact on that and we do have the ability to change it, if we make the decision to." Kelly's active social-media life, which he said was a joint effort with his girlfriend, earned him a huge online following. But he said he was unaware of it, instead he was watching the chaotic drama of the 2016 presidential election. One of the first questions he asked the crew who lifted him out of a space capsule was "How did Super Tuesday go?"
- 11 But the astronaut demurred when asked for his thoughts on the likes of Donald Trump and Bernie Sanders. "I would say that, as a government employee, I am subject to the Hatch Act," he said,

NASA astronaut Scott Kelly on his year in space

Level 3 • Advanced

referring to a law that prohibits some political activity for federal employees. "So I can't say how I think of all the news stories of all the year."

- 12 Besides the news, he said, steady work helped keep him sane: "I tried to have milestones that were close, like when is the next crew arriving, the next spacewalk, the next robotics, the next science experiment. That made a difference to me, keeping my sanity." Being back on Earth with the rest of humanity had not quite sunk in, he added, recalling how shocked he had been to see a crowd of people after a previous mission. "There'll be a point here pretty soon where I'll start feeling that kind of culture shock," he said.

- 13 Although a NASA scientist said Kelly embodied

the qualities needed for a mission to Mars, the astronaut himself predicted that he would not fly again with the space agency. "But I don't think I would ever say I'm absolutely, 100% done," he added, noting the sudden successes of private spaceflight companies such as SpaceX. "They might need a guy like me someday," he said. "Maybe, in the next 20 years, you'll be able to buy a cheap ticket, just go for a little visit."

© Guardian News and Media 2016

First published in *The Guardian*, 05/03/16

4 Comprehension check

Choose the best answer according to the text.

1. What did Scott Kelly do to help to stay sane on the ISS?
 - a. He watched US political events on TV.
 - b. He had an active social-media life.
 - c. He tried to have milestones.
2. What was his biggest challenge?
 - a. the length of the mission
 - b. the effects of weightlessness
 - c. the cramped quarters he lived in
3. What did he find alarming?
 - a. the effects of gravity
 - b. the fact that large areas of the world are covered in pollution
 - c. the fact that federal employees are prohibited from engaging in political activity
4. What was the purpose of Kelly's mission?
 - a. to break the record for the longest time spent on the ISS
 - b. to compare his body with that of his twin brother
 - c. to conduct research for an eventual mission to Mars

NASA astronaut Scott Kelly on his year in space

Level 3 • Advanced

5 Find the word

Find the following words and phrases in the text.

1. a three-word verb phrase meaning *remain sane* (para 1)
2. a two-word verb phrase meaning *become crazy* (para 1)
3. an adjective meaning *good or good enough* (para 4)
4. a verb meaning *think that something is less important than it really is* (para 4)
5. a noun meaning *a feeling of great respect and admiration* (para 5)
6. a two-word phrasal verb meaning *become completely understood* (para 6)
7. a noun meaning *shade or colour* (para 8)
8. a verb meaning *refuse to do something* (para 11)
9. a two-word noun phrase meaning *the confused feeling people sometimes get when they are in a new place* (para 12)
10. a verb meaning *be the best possible example of a particular quality* (para 13)

6 Verb + noun collocations

Match the verbs in the left-hand column with the noun phrases in the right-hand column.

- | | |
|------------------|-----------------------------|
| 1. underestimate | a. your sanity |
| 2. make | b. culture shock |
| 3. miss | c. the most of something |
| 4. keep | d. qualities |
| 5. feel | e. the effects of something |
| 6. embody | f. the point |

7 Word-building

Fill the gaps in the sentences using the correct form of the word in brackets at the end of each sentence.

1. Sections of Asia are covered with _____, visible pollution all year round. [CONTINUE]
2. A _____ election will take place in the USA in November 2016. [PRESIDENT]
3. One of the aims of the mission was to study the effects of _____. [WEIGHT]
4. Kelly said he felt _____ more sore than after previous missions. [SIGNIFY]
5. He posted _____ photos on social media. [SPECTACLE]
6. He says he has become more of an _____ after observing the world's thin shield of atmosphere. [ENVIRONMENT]

8 Discussion

Discuss these statements.

- Space exploration is a complete waste of money. That money would be better spent here on Earth.
- If there is a space mission to Mars, it will be a one-way trip so no one will volunteer to go.
- The only hope for the human race is to move to other planets.

NASA astronaut Scott Kelly on his year in space

Level 3 • Advanced

KEY

1 Warmer

1. the International Space Station
2. eight (There were nine but Pluto has been demoted to a dwarf planet.)
3. 0kg

2 Key words

1. veteran
2. cramped
3. quarters
4. discomfort
5. fragrance
6. charred
7. striking
8. swathes
9. sane
10. milestone

3 What do you know?

1. T
2. F
3. T
4. F
5. T
6. F

4 Comprehension check

7. c
8. a
9. b
10. c

5 Find the word

1. keep your wits
2. go bananas
3. decent
4. underestimate
5. awe
6. sink in
7. hue
8. demur
9. culture shock
10. embody

6 Verb + noun collocations

1. e
2. c
3. f
4. a
5. b
6. d

7 Word-building

1. continuous
2. presidential
3. weightlessness
4. significantly
5. spectacular
6. environmentalist