

ACTIVITY 0.2 YOUR BODY IN SPACE

From the Pre-launch Chapter of the Principia Space Diary
<http://principiaspacediary.org/activities/your-body-in-space>

LEARNING LEVEL

KS1, KS2, P1-5

CURRICULUM LINKS & DIFFERENTIATION IDEAS

View detailed curriculum links for England, Scotland, Northern Ireland and Wales, plus differentiation ideas for your region and year level.

principiaspacediary.org/curriculum-planner/



Resources Required

- Add-on: Post-its to encourage questions from the class. Could these be added to a 'Space Diary' wonderwall?
- Computer/s if you wish to complete the Code Club extension activity

Background to this Activity

There are many changes that the human body goes through in space and the International Space Station is the perfect environment to monitor these changes. Many of Tim's activities on the ISS were tests on his body.

Pre-flight, astronauts need to be sure that they do not have any colds or infections that they could take into the ISS. They also see flight surgeons who make sure they do not have any medical conditions that would require treatment so far away from home. There is some medical equipment on board but astronauts would need to be flown home if they had a major health issue.

In microgravity, astronauts float around and therefore there is no load on their body. Their bones and muscles decondition and they need to exercise daily on the space station to counteract the effects of space. Tim trained for two hours per day on the ISS to counter the effects of gravity and he even completed the London Marathon up there.

Astronauts are also prone to motion sickness and kidney stones. Sleep is often disturbed on the ISS as the circadian rhythms are disrupted.

Fluid shifts mean that astronauts may feel as if they have a head cold and this also affects their sense of smell and taste. They can get a puffy face, and sometimes their eyesight may be effected. In fact, the shape of the eyeball can change ever so slightly. This would not be noticeable to the human eye.

Astronauts can grow by up to two inches while in space because the lack of gravity means the spine will expand and relax more easily.

Running the Activity

Ask the questions to your class or have them test each other. For older children, ask them to research the effects of space on the human body and come up with their own questions. Could they make a presentation or give a talk on their research?

Students can use the Zappar app on the iphone or tablet to access the answers. See instructions overleaf.

Quiz Answers

1. True 2. True 3. False 4. True 5. True 6. False 7. False 8. True 9. False

Extensions & Digital Resources

Code your own quiz with our Scratch coding activity developed with Code Club:
<https://codeclubprojects.org/en-GB/space-mission/space-body-quiz/>

ZAP! Students can access the quiz answers themselves using the Zappar mobile/tablet app. See Zappar instructions at the link below and note that the mobile/tablet will need to be connected to the internet: <http://principiaspacediary.org/using-zap-codes-to-strengthen-digital-literacy/>