**ISS Activity #6**

## What you need for this activity:

- Access to the internet
- Scratch paper

## Topic: One Year Mission – Scott Kelly and Mikhail Kornienko

Astronauts usually spend 6 months on the ISS before they fly back to Earth. Every 3 months, 3 of the crew return to Earth and three new crew members fly up on the Soyuz to the Space Station. This allows an overlap of 3 months for crew members who have already been on the ISS for 3 months, with 3 new ones.

However, a mission to Mars would be around 30 months, so 5 times longer than an ISS tour of duty. Although much is known about the physical effects of staying in space for 6 months, it is less clear what happens over longer periods.

The One-Year mission used 2 astronauts, Scott Kelly or the USA and Mikhail Kornienko of Russia, staying on the ISS for 12 months, to gather data about their physical and behavioral wellness.

So, what are the risks?

https://www.nasa.gov/hrp/bodyinspace

Name the 5 risks:

(1) .....

(2) .....

(3) .....

(4) .....

(5) .....

Which of these are most serious (from your point of view)?

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It's no co-incidence that Scott Kelly was chosen for the One-Year mission. He has a twin! This meant that Scott and his twin, Mark, could take the same measurements and provide the same samples at the same time, so that they could be compared.

***Mark and Scott Kelly***

The full results for the One-Year mission are not yet in, but this document shows what tests were selected and how often they are being done:

https://blogs.nasa.gov/ISS_Science_Blog/wp-content/uploads/sites/207/2016/03/One-Year-Return_20160307_large.jpg

It will be a while until all the data is collected and we see results.

Read the commentary below by one of the managers in the Human Research Program. There's also a video of Scott Kelly talking about the mission:

https://www.space.com/32160-one-year-mission-astronaut-science-continues.htm

Being on the Space Station, even for a year, is not the same as going to Mars, so NASA plans to add 15-18 new projects to further explore this issue, building on the results from the One-Year mission.

If you could go to Mars, would you go? What would interest you about the experience? What would you miss in leaving Earth for so long?

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