

Q1. NASA lists 5 main hazards, you will listen to parts of one of the podcasts and tell the class about it later.

- [Radiation](#)
- [Isolation](#)
- [Distance](#)
- [Gravity](#)
- [Environments](#)

### Example

**Radiation:** They are mostly concerned with charged particles, with electrons and protons and some heavier particles travelling very fast and have a lot of energy. And so when they hit something like DNA, they can cause damage. And if you get a large enough dose, they can actually kill cells and can potentially cause cancers. Every crew member on the International Space Station wears a radiation badge. There are area detectors which map out the radiation exposure of each area of the Space Station.

Q2. [Watch](#) Astronaut Chris Hadfield review the realisticness of astronaut movies. At the same time write down some of the real hazards of space exploration and some of the more unlikely ones.

### Unrealistic:

Trying to get help from Houston but in space there is not much they can do.

Astronauts are more prepared for the unexpected.

Space debris

Something can't slow quickly in space

### Realistic:

Fires

Long term space travel would require artificial gravity

Swimming in no gravity water

Q3. Given the hazards that come with space exploration, why do you think we do it and what do we gain from it?

Advance technology  
Further human knowledge  
Exploration for exploration's sake  
Find other life  
Backup planet to create another human colony

Q4. While creating the invention timeline, research an invention and see how it is connected to space travel.

Example:

TPA for invisible braces

Invisible dental braces are made from transparent polycrystalline alumina (TPA), which was developed for missile tracking. TPA is stronger than steel. It has light-absorbing qualities (which makes the material transparent), and its smooth, round properties resist breakage.