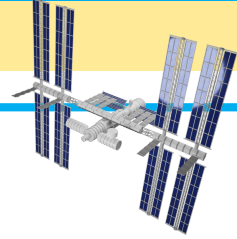




THE SPACE RACE



The Space Race

Today's shortcut explored how people and countries are racing against each other to reach, explore, and even live in space. Read through the questions before you listen, but don't pick up a pencil until the podcast is over!

1. Which two countries came out of World War II both wanting to be the global superpower?

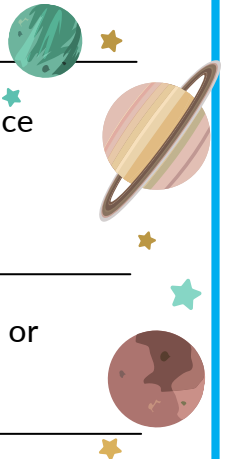
2. What phrase was used to describe the relationship between the two countries? Why do you think this phrase was used?

3. There is a planet that two countries are currently racing to land humans on. Name the planet and the countries.

4. Why do you think those countries are so eager to land humans on that planet? Can you think of at least three reasons?

5. Name one of the billionaires currently involved in a space race, and which non-space company they started. (Bonus points if you can name all three!)

6. Why do some people not like it that rich people are in a space race? Do you agree or disagree? Why?



Inventions in Space....

One argument for why people and nations should spend money on space exploration is that important scientific experiments and discoveries are made in space. Read through these examples, and answer the questions.



NASA

Medical Experiments

Researchers on the International Space Station are doing work on diseases such as cancer, heart disease, and asthma. Here, astronaut Alexander Gerst is breathing into an ultra-sensitive gas analyser for the Airway Monitoring investigation. The study will help to plan safer, long-term missions to the Moon, Mars and beyond—and may also help doctors treat asthma patients on Earth.



Wireless Headphones

Developed by NASA to stop astronauts getting tangled in wires.

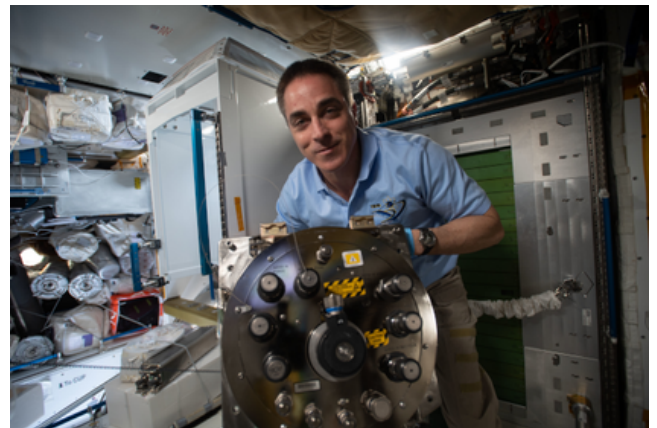


Camera Phones

One third of all cameras contain technology developed in the 1990s, to make quality cameras small enough to put on a spacecraft.

Water Purification Systems

We all need water to survive—but where do you get it in space? NASA's water recovery system purifies and filters the station's water, recovering and recycling 6,000 litres each year—which is 93% of the water astronauts use in space. And yes, that means they wind up drinking their own wee. "It tastes like bottled water," Layne Carter, water subsystem manager for the ISS, told Bloomberg News. "As long as you can psychologically get past the point that it's recycled urine." Apparently, Russian astronauts can't—they have a different water system on the same space station. Back on earth, many people lack access to clean water, so the different space technologies can be used in their communities.



ISS Commander Chris Cassidy installs part of the urine—that means wee—processing assembly in 2020.

NASA

Inventions in Space...

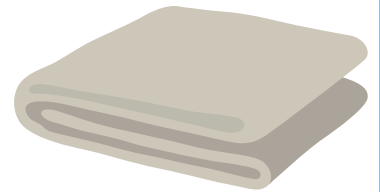
Landmine Removal

Surplus—that means leftover—rocket fuel is used to destroy landmines. It burns a hole through the device, without detonating it.



Foil Blankets

Used on Earth in emergencies to help get and keep people warm, they were developed from a super lightweight insulator, created to protect spacecraft and astronauts.



Responding to Natural Disasters

The International Space Station orbits—that means goes around—the Earth every 90 minutes. Astronauts take digital photographs of natural disasters, such as hurricanes, floods, and bushfires, and then send the pictures straight back to Earth. The image shows how response crews could slide a toggle on their screen over a map of Australia, and see exactly where the 2019/2020 bushfires were. The astronauts' photos of the fires were laid over before photos.



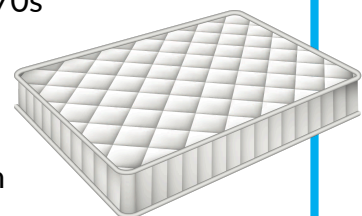
The Humble Dustbuster

NASA asked Black & Decker to develop something lightweight that they could use to collect rock samples on the moon. After building it, the company used the technology to develop the household dustbuster.



Memory Foam

Initially developed in the 1970s to make airline pilots' seats more comfortable, then used in space shuttles, memory foam is now used in many mattresses and pillows on Earth.



Inventions in Space....

1. Which of the inventions do you think has the most benefit to people back on Earth? Why?

2. Would you drink recycled wee, if you were an astronaut? Why or why not?

3. Some primary and high school students are collaborating with scientists on the ISS, who conduct experiments for them. If you could design an experiment in space, what would it be?

4. How would your experiment help people back on Earth?
