

Lost in space!



50 lucky volunteers took part in the experiment!

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Our brains are amazing, complex organs. Millions of years of evolution have turned them into masters of multitasking, allowing us to do different things at the same time. Say you're out for a walk, and at the same time you decide to send your friend a text message. This sounds simple, but your brain has to control your body to keep you walking; know where you are; stop you from falling over; operate your phone; compose your message; and so much more!

One reason that our brains are so good at multitasking is that they use parts of our body, together called the vestibular system. This is a whole set of senses and organs that help us perform complex tasks – like walking and texting! For example, our inner ears are part of the vestibular system. They send information to the brain that helps us to keep balanced and control our bodies, so we do not get dizzy and fall over. However, we have found that being weightless in space confuses our vestibular systems!



Could you follow clues to find the golden coin while being weightless?

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A group of volunteers have flown on a special aeroplane called the Zero-G aircraft. By climbing and diving in a particular way, people onboard experience free-fall, which is like being weightless. The Zero-G aircraft can make people weightless for 20 seconds before needing to pull up, but that is enough time to conduct science experiments!

The volunteers onboard the Zero-G aircraft were given virtual reality headsets that made it feel like they were inside a maze. During their 20-second sessions of weightlessness, they had to navigate their way through the maze to find a golden coin. The volunteers found this much more difficult when weightless than when they were back on the ground!

The experiment may have been fun, but it raises some serious concerns. The volunteers' vestibular systems were confused by being weightless, which is also what happens to astronauts in space. If we send humans on long voyages to other planets, they will be weightless for a long time. This will make it harder for them to perform tasks like docking spacecraft, controlling robotic arms, and simply finding their way around new areas.



Virtual reality headsets will be sent to the International Space Station!

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The virtual reality headsets will be sent to the International Space Station, so that astronauts there can continue the experiment. It is thought that the more experienced someone is with being weightless, the better their vestibular system can cope. What do you think the results will be? Will veteran astronauts be able to find the golden coin in record-quick times?

Cool fact: This research could help people on Earth with conditions such as Alzheimer's disease.