

Being weightless affects your brain in surprising ways!



The Zero-G plane in action!
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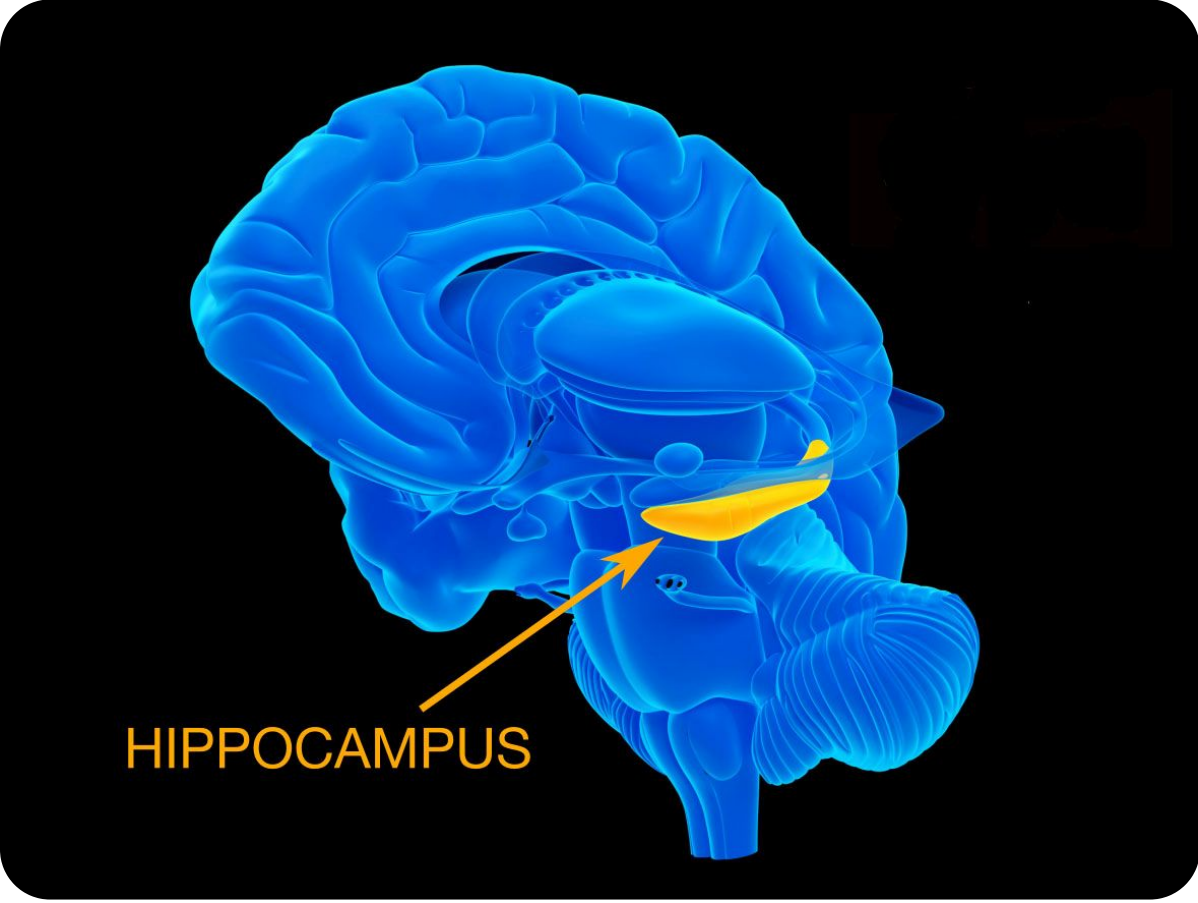
Your brain is amazing! It processes a huge amount of information given to it by your body's senses, all of the time. Having a healthy brain is vital for astronauts too, especially when they are needed to perform complex tasks in space. Have you ever wondered how being weightless in space affects the brain?

This is exactly the question scientists have set out to answer. They have been using a "Zero-G" aeroplane to fly high up into the air, and then plunge down, making it seem to the passengers that they are weightless! A group of volunteers offered to let their brains be studied during these bouts of weightlessness to see how they were affected. Using Virtual Reality headsets they had to complete tasks, such as learning, memorising, and navigating through new environments. The results were surprising!



The volunteers had to complete different tasks while feeling weightless
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Removing the sense of weight for short amounts of time actually helped the volunteers to get better at multitasking and solving difficult maths equations. So far so good! However, they also found it more difficult to find their way around in new places. The scientists suspect that the hippocampus part of the brain, which is like our inner GPS helping with navigation, does not cope well with weightlessness. This could be a problem because the hippocampus also helps us to learn and remember things. Astronauts use it when they are docking craft, landing ships, and exploring unknown areas.



The hippocampus part of the brain is very important
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An experiment called HypoCampus will be taken to the International Space Station in 2019 to continue this research. Will there be any affects of long-term weightlessness on astronauts' brains?

Would you like to take a trip on the Zero-G plane? Do you think that being weightless would help you to get top marks in your maths homework?

Cool fact: when the Zero-G plane dives, passengers are weightless for 20 seconds before the pilot has to pull up.