



Space Brain Hack

Student worksheet | Grades 9 to 12

Project title:

Date:

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Educator name:

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Educator email address:

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School/organization/homeschooled:

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City/town:

Province/territory:

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Number of participant(s) in the team (up to six):

Grade level(s) of the participant(s):

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THE CHALLENGE

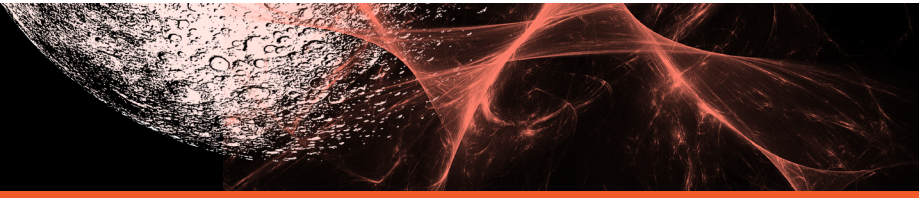
Canada and the global space community are preparing for the Artemis and Lunar Gateway missions, which will take humans back to the Moon and later on to Mars. During these missions, the mental health of astronauts will be a significant concern.

How can astronauts maintain their mental health and well-being on long-duration journeys, potentially deeper into space?

Keeping in mind the difficulties described by your educator, design a solution to answer the question for one or more astronauts that will:

- provide them with sensory simulation and a virtual escape from their work and stressful environment; or
- help them keep in touch with family and friends and with the home planet.





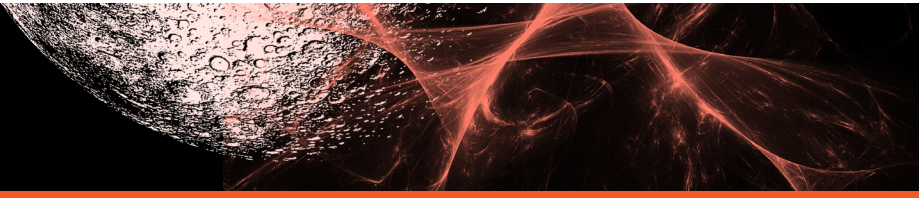
WHAT IS YOUR IDEA?

Describe your solution, how it works, and include a diagram. Be sure to label your diagram. (maximum 300 words).

A large, empty rectangular box with a black border, intended for the student to write their idea and draw a diagram.

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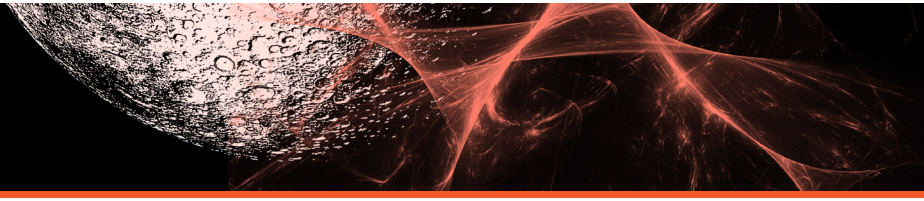
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What are the limitations of your solution? (maximum 200 words)

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How could it be adapted for use by people on Earth? If your solution is for an individual, could it be adapted for other crew members to use? What modifications would be required? (maximum 200 words)

REALITY CHECK

Present and describe your idea to someone outside your team (preferably more than one person). Note what questions they ask or how they think it works. What did their feedback suggest to you? Did they help add elements to your solution or make changes to it? If so, what are they? If no new elements were added or changed, explain why. (maximum 150 words)

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