



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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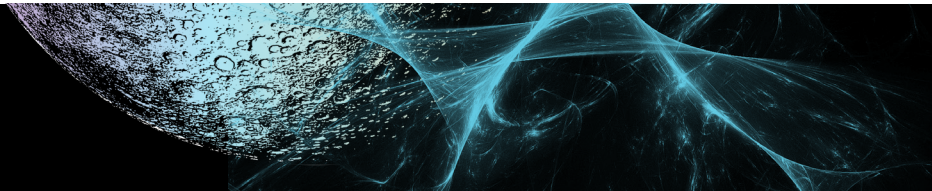
THE CHALLENGE

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 long-duration and long-distance missions, resupply missions will not be as frequent as those to the International Space Station and hence, it is important for astronauts to have access to a variety of food.

You are a future lunar astronaut on a one-year mission on the Moon. Design a food production system that creates fresh food for you and your fellow crewmates, full of flavour and nutrients with the least possible waste.

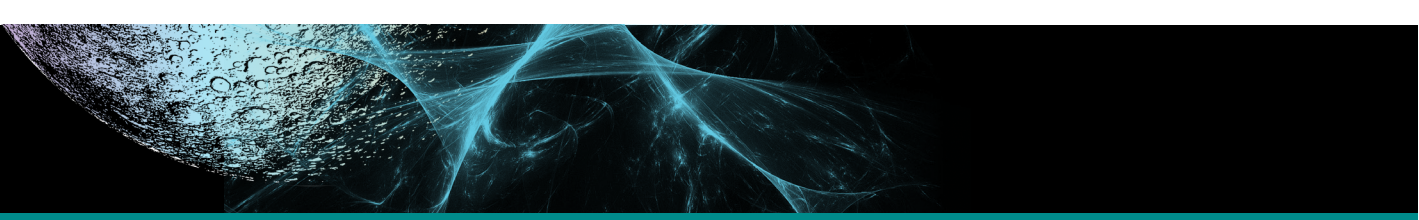
Keep in mind the constraints presented to you and generate enough fresh food to supplement the packaged food for a crew of four adults.





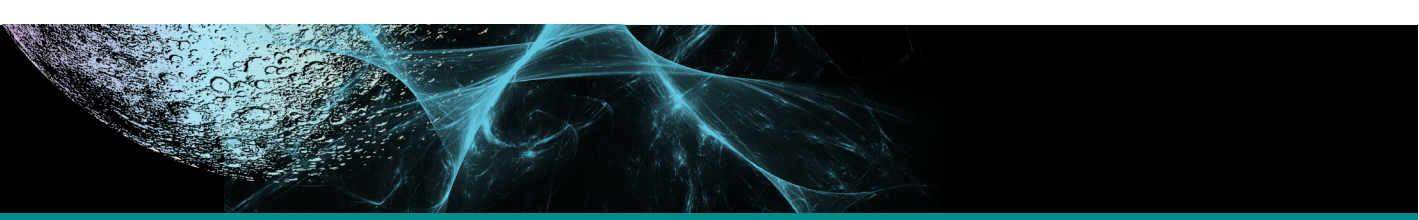
WHAT IS YOUR IDEA?

Describe your solution, how it works, and include a diagram. Be sure to label your diagram. (maximum 300 words)
(1 page for text, additional half page for the diagram)



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 and in what situations? 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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