



THE UNIVERSITY OF BRITISH COLUMBIA

Faculty of Education

Master of
Educational
Technology
Program



Mission to Mars

Inclusive Makerspace Challenge

Overview of the challenge

This challenge exposes makers to the idea of possibilities of being an agent of change through the process of upcycling.

Materials and Resources Required



You will begin this task by watching the following [video](#) NBC News (2021).



Also, inform yourself more on the mission by visiting NASA's government website [here](#) (NASA Science Mission Directorate, 2022).



No Tech Tools can include (but are not limited to)

- cardboard
- glue
- scissors
- string/yarn/twine
- construction paper
- popsicles
- pompoms
- pipe cleaners

- tape
- recyclable items
- bbq skewers
- tooth pics
- straws
- playdough
- clothes pins

Low Tech Tools can include (but are not limited to)

- Ozobots
- Cublets
- Beebot
- Code-a-pillar
- Sphero
- Tinkercad
- Dolnk
- Animation Creator
- Flip-a-Clip
- StopMotion Recording
- Garageband
- iMovie

High-Tech Tools can include (but are not limited to)

- 3-D printer
- Sphero
- Makey Makey
- Dash and Dot
- Ollie



Note: many of the low-tech tools can also be combined with other educational technology tools to redefine the inclusive makerspace challenge using technology in innovative and critical ways.

It is also recommended to explore and discover digital tools and robots to be used in critical and creative ways.

Inclusive Maker Challenge Instructions

Your challenge is to design an inclusive and accessible means to support safe travel to Mars. Consider your EDIDA frameworks and Liberatory Design Thinking Model through your design.

You will be utilizing your STEAM subjects through this design and will harness your 21st century skills in doing so (i.e., critical thinking and problem solving, creativity and innovation, collaboration, communication, flexibility and adaptability, inclusivity, digital and global citizenship, metacognition).

You can choose whatever tools you wish to move through the design process.

Present your design through a max. 2 minute video (you may use Green Screen) to share your process, thinking, and outcome. This can become an artifact for an inclusive makerspace e-Portfolio.

Be prepared to move your ideations to execution through the design of a prototype and then into the testing phase of your prototype.

Critical Questions for Consideration

1. Why did you select the tools that you did to complete this challenge?
2. How will these tools best support your solution to support travel to Mars?
3. What are some of the challenges you encountered with these tools/this task?
4. What problem(s) did you need to consider through your design?
5. How did you rectify these problems?
6. What is your plan of execution?
7. How might you engage a younger audience in this challenge?

8. How do you ensure that the means by which you support travel to Mars is inclusive?
9. How might you showcase your design/prototype to a global audience?
10. What are your next steps?
11. How might you test your ideas?
12. How did the information from the video and website impact your considerations and decisions in your design?

Background/ Additional Information

NASA Science Mission Directorate (2022, June 13). MARS exploration program. NASA Science. <https://mars.nasa.gov/>



NBC News (2021, February 18). Mission to Mars: Will humans visit the red planet by 2030? [Video]. YouTube.

<https://www.youtube.com/watch?v=LzhTEEYY-rs>



Inclusivity Focus

While designing a critical and innovative solution for supporting travel to Mars, the learner must consider all perspectives from an equity, diversity, inclusion, decolonization, anti-racist, and accessibility (EDIDAA) lens to ensure that travel is accessible to all individuals despite gender, race, culture, location, class, ability, or age.

No Tech, Low-Tech, High-Tech Options

See the materials list for options of no-tech, low-tech, and high-tech options for this challenge. Providing a variety of options for learners to create and design with, creates an inclusive learning environment that honours all entry points (low floors, high ceilings, wide walls).

Extensions

There are endless opportunities for ways to extend the design for supporting travel to Mars for all peoples. To share your own ideas and examples, tweet #UBCMETmakerchallenge.