

Facilitator Guide

Challenge 4
Mentorship

**Let's Imagine the
Future of STEM
Education in Canada**



Presented by



Mars Startup School Challenge developed by



INSTITUTE WITHOUT
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Mars Startup School materials were produced by Groundswell Projects and the Institute without Boundaries for Canada 2067, an initiative by Let's Talk Science, a national, charitable organization that is focused on education and outreach to support Canadian youth.

For more information on Canada 2067, please visit: www.canada2067.com

This guide has everything you need to lead your team through the Mars Startup School Challenge and help young people's voices be heard.





Welcome to the **Mars Startup School.**

Schools need to innovate and young people have solutions. Mars Startup School is a Canada2067 initiative to engage students from across Canada to reimagine school from the ground up, with a particular focus on STEM (Science, Technology, Engineering & Math) education.

As a facilitator, it is your role to lead the team through the Mars Startup School Challenge, encouraging creativity and collaboration as students reimagine components of the school system to better meet their needs.

This mission requires courage, curiosity and creative thinking.
Let's blast off and get started!

The Startup Design Kit.

Designing a new education system is not an easy task, so we created the following tools and templates to help your team through the Challenge:

1 Student Workbook.

The *Student Workbook* is the students' guide through this Challenge. It includes all the information required to develop and communicate their ideas.



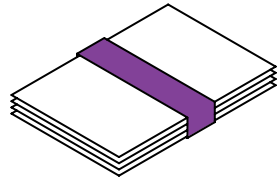
2 Worksheets.

The *Worksheets* will help your team organize your ideas as they design a component of Mars Startup School. They build on one another to ensure your team creates a solid concept.



3 Precedents Cards.

Precedents Cards showcase projects from around the world to provide inspiration and spark creativity within your team. These can be helpful at any point in the process.



Note to facilitator: This facilitator guide includes all the same content as the student workbook and worksheets, with some added tips and tools to help you guide your team in the right direction.

Mars Startup School Challenge.

Here are the steps your team will follow to design a component of the Mars Startup School and totally reimagine STEM education. Let the Challenge begin!

1

Meet Your Team! (25 min.)

Meet Your Team! Get to know your teammates, their special talents and their passions.

2

Design Criteria. (40 min.)

Focusing on a component of Mars Startup School, your team will define design criteria, which will create a framework for your design concept.



3

Concept Design. (60 min.)

Building on your design criteria, your team will design a solution, experience or team that will transform STEM education.



4

Share. (45 min.)

Your team will summarize and share their ideas with Mars Startup School teams who have worked on different components of the school. This is an opportunity to discuss how the ideas work together.

Note to facilitator: As the facilitator it will be up to you to ensure the team stays on track and completes each step of the Challenge. Detailed instructions are provided for each step, but don't be limited to the tools and questions provided. Encourage your team to be creative and have fun!

Step One.

Meet Your Team!



Teamwork and collaboration are key to the success of this Challenge. Spend 25 minutes to get to know your team.

1. Introductions (5 min.)

Get to know each other and the special talents each team member will contribute to Mars Startup School. Quickly go around the table and share:

- Your name
- Where you go to school
- One special talent/strength

Take note of everyone's special talents because this can be helpful in the design process.

2. Play a Game (10 min.)

Two truths and a lie is a great game to help break the ice and loosen the mood on your team.

- Have everyone write 2 truths and one lie on Post-its
- Go around the table and have members of the team guess the lies

Make sure everyone at the table has a chance to play before moving on to Step 2.

3. Discuss Your Vision for Mars Startup School (10 min.)

Before your team gets down to work, take a few minutes to think about how cool this challenge is... to design a Startup School on Mars. Ask your team to imagine the possibilities. In what ways will the school they build on Mars be different from their school here on Earth? Ask students to write down the ideas that first come to mind on Post-its and discuss as a group to get their creativity flowing. Make sure to take notes.

Note to facilitator: When facilitating the team introductions, make sure to introduce yourself! Your participation in this is essential to creating an inclusive, non-hierarchical team. This is an opportunity to briefly describe your role in the Mars Startup School Challenge.



Brainstorm Tips & Rules.

Here are a few brainstorming tips to point out before your team begins imagining Mars Startup School:

- **Be open, honest and imaginative.**

When completing the Challenge there are no right or wrong answers. Always be polite and respectful.

- **Forget about today's reality and dream big!**

Think about how much things have changed in your lifetime and imagine how much they will continue to change in the future.

- **Take it to heart.**

This is an opportunity to influence the next generations in a positive way. It's not often you're asked to contribute to a brighter future for Canada's youth, be thoughtful.

Note to facilitator: After the team gets to know each other it is a great time to set some ground rules and emphasize their role in influencing change in the education system. The points above can help to set the tone prior to moving into your first group brainstorm and creating a vision for Mars Startup School.

Step Two.

Design.



Now that the students' creativity is flowing, it's time to focus on one component of the Startup School. The component that you will be focusing on is Mentorship.

Students look to their friends, teachers, family, members of the community and aspirational characters for support and inspiration to navigate the school experience, stay healthy, happy, motivated and prepare them for life after graduation.

It is up to your team to identify a team of people (aside from teachers) who will help you achieve your personal and academic goals at the Startup School.

Instructions: Our Mentor Criteria (40 min.)

Use the **WORKSHEET: OUR MENTOR CRITERIA** to think about what you want to achieve while in school and who might be an ideal mentor to help you reach your full potential.

- Read each question on the worksheet aloud.
- Spend 2 minutes on each question and encourage everyone on the team to write as many ideas as possible onto Post-its.
- After writing ideas for each question, have everyone on the team place their ideas onto the worksheet and cluster similar ideas.

Summarize the key ideas and features at the bottom of the page to define your design criteria. Mentor criteria may include the qualities and characteristics of your ideal mentor, what they will provide and how you interact with them. You can write directly on the poster!

OUTCOME: Define the goals you want to achieve and the qualities of ideal mentors or mentorship programming that can help you achieve the goals.



Mentor Criteria Worksheet.

Create your support team.
Who can help you achieve your personal and academic goals?

Note to facilitator:

The questions and content from each worksheet are listed to the right. Make sure the students answer each of the questions to the best of their ability and encourage creativity. Remind them that Mars Startup School can be whatever they want it to be! If a number of similar ideas emerge, don't panic. This can be extremely helpful in identifying the ideas and themes that the team is most passionate about. Make sure to spend at least 10 minutes to summarize your design criteria and reach a consensus as a team before breaking for lunch.

- Think of a few people who have mentored you and describe how they helped you. *Consider people in and out of school who helped you imagine, understand or see something new.*
- What do you need the most help with in your school life? *Consider people in your community, school or family who could help you.*
- What goals would you like to achieve while in school? *Consider who can mentor you to help reach your goals and what support you will need.*
- How has your curiosity around STEM been sparked in the past? *Consider what sparked your curiosity and how it can be replicated at Mars Startup School.*
- What qualities do you want in a mentor? *Consider the people you've identified throughout this process and what qualities you feel are important.*
- How do you interact with your existing mentors? *Consider how you will meet them and interact with them over time.*
- Our Mentor Criteria. *Describe the qualities of your ideal mentors, how they help you achieve your goals and how you will interact with them.*

Step Two Cont'd.

Concept Design.



Now that your team has some clear ideas about what they want to achieve at Mars Startup School and who might be ideal mentors, it is time to create the Mars Startup School team.

Instructions: Mars Startup School Team (60 min.)

Use the **WORKSHEET: MARS STARTUP SCHOOL TEAM** to help you define who you will include in Mars Startup School to help you achieve your personal and academic goals.

- Complete the worksheet and name each team member, identify what they will help you with, and describe their qualities, how you interact with them and how they help you. Encourage your team to build upon ideas from the previous brainstorm sessions.
- At the bottom of the page define the mentorship program that may be offered at Mars Startup School and how your team members are involved.
- If you have any additional notes that help describe the role of the mentorship team and the program, add it to the worksheet.

Don't be limited by the questions on the poster. If you feel something else should be included or communicated about your concept - add it!

OUTCOME: Identify 5 members of Mars Startup School team that will support you in achieving your goals. Understand what support students need to reach their full potential.

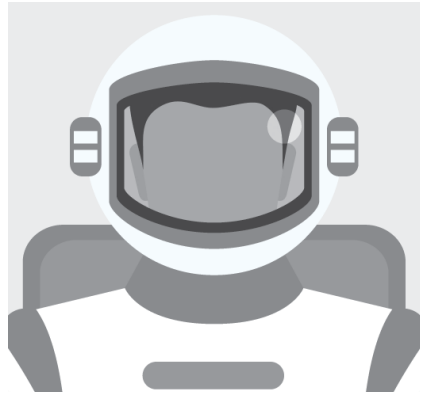
Design Concept Worksheet.

Get specific about who you will invite to help you achieve your personal and academic goals at Mars Startup School.

Note to facilitator:

Your team needs to shift from thinking about the qualities of the team to defining who is on it. This is where you can draw upon the strengths and interests of the team to define different members of the team or think about the mentorship programs. Don't hesitate to break into smaller teams if it increases productivity, but make sure to come back together to summarize a unified concept.

- *The worksheet includes space to write each team member's name, the area of life or school they help with, their unique qualities, how students interact with them, and how they help.*



- **Our Mentorship Program** *What mentorship programming will be provided to students at Mars Startup School and how does it work?*

Step Three.

Share.



During this step your team will summarize their Challenge and ideas to share with the other teams in Mars Startup School. Each team will only have **5 minutes** to present their final concepts, so be sure the team captures and communicates the most important features of your design!

Instructions: Share (45 min.)

Use the **SHARE WORKSHEET** to summarize ideas. This should only take a few minutes to help your team recap the ideas developed throughout this Challenge. Your team can use all the completed posters to help them present.

- Have the team restate the design Challenge in their own words.
- Create a network diagram that demonstrates how your mentors are connected to you and the community and describe how your team aligns with the criteria you identified at the bottom of the **WORKSHEET: OUR MENTOR CRITERIA**.
- Describe how the Mars Startup School team will change the education system and positively impact future students.

Gather with the other teams in your Startup School community to share solutions and have a closing discussion about the future of STEM education.

OUTCOME: Summarize the key ideas your team developed throughout this Challenge and communicate your ideas to the other teams.



Share Worksheet.

Summarize your Challenge and ideas to share with the other teams. This should include the most important features of your design!

Note to facilitator:

As the team fills out the final worksheet encourage them to come up with creative ways to present their ideas to the other teams. Encourage your team to take notes of the other teams' ideas.

- Our vision for Mars Startup School is...
Summarize your initial thoughts on Mars Startup School as discussed during Meet Your Team.
- Our design Challenge was...
Restate your design Challenge in your own words.
- Our mentor criteria...
Summarize key ideas from your mentor criteria.
- This will be different from the education system on Earth because...
Describe how your team will transform the educational experience and how it differs from the traditional system.
- What it looks like and how it works...
Create a diagram that illustrates how the mentors connect to the students, the community and the Mars Startup School.

Let's Wrap It up!



Thank you for participating in this Youth Summit and leading your team through the Mars Startup School Challenge. The ideas that they produced throughout the day will help shape the future of STEM education in Canada.

IMPORTANT NOTE: Before you depart please gather the worksheets, Post-its, sketches and notes your team produced over the course of this Challenge. Place everything on the table in order. Make sure no ideas or sketches are lost! Volunteers will be collecting all workbooks and materials at the end of the day.



Next Steps.

Canada2067

The ideas your team produced today will be collected, captured, summarized and presented to policy makers from across Canada to help shape the future of STEM education.

How to Stay Involved.

If you enjoyed taking part in the **Canada 2067** Youth Summit and completing Mars Startup School Challenge you can stay involved in a number of ways:

- Host your own Canada 2067 Startup School workshop by downloading the materials we used today! www.explorecuriosity.org/canada2067
- Host a conversation about STEM learning using the Canada2067 Conversation Guides. Choose from: STEM and Everyday Life; The People We Learn From; and STEM and the Student's Role in Learning. www.canada2067.ca/en/are-you-a-student/#youth-workbooks
- Join us on social media to raise awareness about Canada2067 initiatives. Support us [@Can2067STEM](https://twitter.com/Can2067STEM). Together we can make difference! [#Can2067](https://twitter.com/Can2067)
- Learn more about STEM opportunities through CurioCity career profiles. www.explorecuriosity.org/canada2067



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