

Half-Day Design Challenge

For Youth in Grades 7-10



About Up4 The Challenge™

Up4 The Challenge™ is a not-for profit organization that works strategically with members of the community, educators, school boards, universities, community organizations, government, businesses, and other stakeholders to provide youth programming in Ontario that promotes STEM (science, technology, engineering, and mathematics) as a means to achieve positive social change in the community. Our programs provide youth with tools and improved confidence to address social and environmental challenges through a human-centred design approach. We specifically aim to reach youth who have been traditionally underrepresented in the STEM fields.

During our programs, participants use a human-centred design process to create innovative solutions to challenges in their community while developing an appreciation for the potential for STEM as a tool for positive change. Each program is unique and is customized to address specific youth leadership and learning objectives.

Core Program Elements

- Human-centred design challenges that integrate an appreciation for STEM as part of the solution
- 21st century competencies, such as problem solving, critical thinking, teamwork, and communication
- Community-based, real-world learning
- Fostering equity, diversity, and inclusion through student-centred approaches and culturally relevant social themes.

Half-Day (3-Hour) Program Outline

Understanding Human-Centred Design:

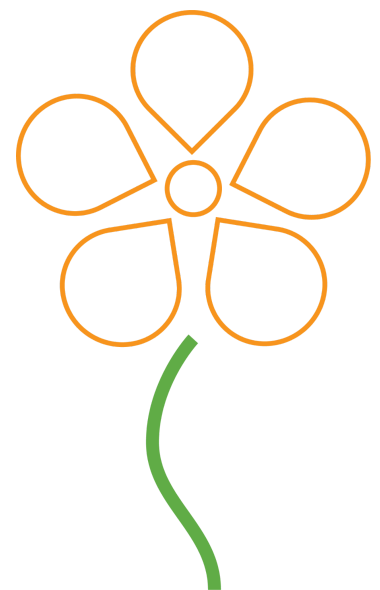
- Who are the end-users? What are their needs?
- Explore issues and opportunities:
Why is this challenge important?

Idea Generation:

- Group brainstorming session
- Create a low-fidelity prototype to share with end-users
- Getting feedback on design ideas

Implementing STEM to support your Social Outcomes:

- Iterating on prototypes
- Implementing design solutions in the community



Curriculum Connections for Teachers and Educators

The following are examples of curriculum connections that can be made to specific subjects and levels as outlined in the Ontario Curriculum Documents:

Science and Technology

Relating Science and Technology to Society and the Environment; Developing Investigation and Communication Skills

Canadian and World Studies

Developing an understanding of how to influence change within the diverse communities to which they belong, and of how individuals and groups can participate in action that promotes change

Health and Physical Education

Demonstrate the ability to make connections that relate to health and well-being – how their choices and behaviours affect both themselves and others, and how factors in the world around them affect their own and others' health and well-being

Mathematics

Manage, analyse, and use data to make convincing arguments and informed decisions, in various contexts drawn from real life

The Arts

Developing creativity, communicating, understanding culture, and making connections

English

Generate, gather, and organize ideas and information to communicate for an intended purpose and audience

Note: All programs can be modified to address specific cross-curricular overall expectations for grades 7-10 through discussion with the group educator or supervisor.