



## Design Challenge 1: Considering Life as a Refugee<sup>1</sup>



### Overview:

Imagine making the decision with your family to leave your home and walk in the pursuit of a better life. Refugee families are making the decision to leave what they know and walk through dangerous terrain, often taking only the clothes on their backs and a few personal items. The image of the little boy on the Turkish beach brought this crisis home for many Canadians, and it broke our hearts.

### Design Rationale:

In 1943, Maslow created a hierarchy of needs to better understand what motivates people to do what they do. His model is depicted in five stages, suggesting the bottom or basic needs most strongly motivate people to take action. In the case of refugees, one can only assume that they make the decision to leave because the risk or threat to their families' needs is so significant that the pursuit of an uncertain alternative is better than where they are.

### Problem Scenario:

Your team has been selected to develop something wearable or portable that would help refugees on their travels. Currently, we see many refugees walking with a shopping bag or small suitcase. Your team needs to design something that would address some of the basic needs and help families to make their walk to a better future.

### Parameters:

- Each group member should research a different historical reason for the immigration of specific cultural groups to Canada and fill out an individual inquiry frame worksheet - Irish potato famine, Chinese railway workforce, World War refugees, underground railway, Acadians, gold rush, western settlement campaign, etc..
- The whole group must read the article "Refugee hurricanes and climate change" by Peter Nix from the Cowichan Valley Citizen newspaper and complete an empathy exercise.
- Your prototype could be a scale version rather than actual size
- The group must determine who would be a genuine audience for their product and then create a presentation format that caters well to that audience and present their creation publicly.

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<sup>1</sup> Adapted from [innovativelearningcentre.ca](http://innovativelearningcentre.ca) and BC's ADST curriculum

<sup>2</sup> Laurent, O. (2015, September 4). Aylan Kurdi: Why Publishing the Photo of a Dead Boy Matters. Retrieved February 20, 2018, from <http://time.com/4022765/aylan-kurdi-photo/>



## Design Challenge 2: Considering Innovation<sup>3</sup> that is Sustainable<sup>4</sup>



### Overview:

We live in an interconnected world; our actions and activities impact living conditions for others both locally and globally. In 2000, the United Nations drafted initial Millennium Goals (<http://www.un.org/millenniumgoals/>) to improve quality of life. Recently, these goals were revised, focusing on issues of environmental sustainability, happiness, and well-being. Of primary concern is achieving the highest quality at the lowest cost which we refer to as frugal innovation. It refers to removing nonessential features from a solution in order to make it as widely applicable as possible.

### Design Rationale:

As Canadians, most of us enjoy an enviable quality of life - clean water, expectation of safety, democratic government, etc.. We expect these qualities will be sustained, maintained, and improved. However, concerns related to environmental sustainability increasingly impact our life. It is important that we find solutions to our local problems that respect this sustainability at local and global levels and continue to provide the quality of life that is important to us: our values and lifestyle, a sense of happiness and well-being, and addressing concerns that face us in ways that are respectful of larger contexts.

### Problem Scenario:

Your team has been selected to look at sustainability issues in our region. Your team must choose an issue that resonates with you and develop a prototype to address the concerns raised by that issue. The issue you choose should have an impact on the day-to-day quality of life for an identified group. The solution should also increase their happiness, be frugal in design, and have little impact on the environment.

### Parameters:

- Each group member should research a different aspect of resources to be sustained and fill out an individual inquiry frame worksheet - the history of a natural resource in Canada, connections between natural resources and economic projects, or geological issues regarding our natural resources, etc.
- The whole group must read "[Solving Big Social Problems by Thinking Small](#)" by Jaideep Prabhu and complete an empathy exercise<sup>5</sup>.
- Your prototype could be a scale version rather than actual size
- The group must determine who would be a genuine audience for their product and then create a presentation format that caters well to that audience and present their creation publicly.

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<sup>3</sup> Adapted from [innovativelearningcentre.ca](http://innovativelearningcentre.ca) and BC's ADST curriculum

<sup>4</sup> Investing in a sustainable future. (2017, February 7). Retrieved February 20, 2018, Published in Biofore, UPM's Stakeholder Magazine

<sup>5</sup> Additional inspiration: <https://www.theguardian.com/sustainable-business/art-sustainability-imagination-create-change>



### Design Challenge 3: Considering Identity that is Inclusive



#### Overview:

There has been an interesting history before and after 1867 of trying to define what is truly “Canadian.” We have been called a mosaic when the United States is called a melting pot. We pride ourselves on being different from Americans, but yet there is still tension amongst our French and English speaking citizens, and tension with our Indigenous groups. There is a contingent of separatists in the east that often highlight our different perspectives and call for constitutional revision and their own status. There are Aboriginals who will not sing our national anthem, which changed multiple times until 1980, as they do not recognise the same vision of Canada as European descendants. Identity is personal, regional, and national.

#### Design Rationale:

Our history texts and laws are often Eurocentric and until recently, our First Nations were not included positively, or at all in some cases, in those records. There was controversy over a design for our flag as well, which was only adopted in 1965. If we are to continue to grow and build a strong country whose citizens defend values of democracy, freedom of speech, and inclusion of all people, it is important to define our identity and strengthen its values. Only when we feel a part of some greater community do we truly embrace our “true north strong and free.”

#### Problem Scenario:

Your team has been selected to consider what makes up our regional and/or national identity and develop something that honors and represents all people who make up Canada, or perhaps more locally, Frances Kelsey School. Your team needs to design something that by its nature embraces and highlights the heart of our identity.

#### Parameters:

- Each group member should research a historical aspect of Canada’s journey to an identity and fill out an individual inquiry frame worksheet - nationalism, confederation, unification, separatism, indigenous treaties or truth and reconciliation, etc.
- The whole group must read “[Cultural Identity a Challenge for Children of Immigrants](#)” by Tara Sprickerhoff and complete an empathy exercise<sup>6</sup>.
- Your prototype could be a scale version rather than actual size
- The group must determine who would be a genuine audience for their product and then create a presentation format that caters well to that audience and present their creation publicly.

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<sup>6</sup> Additional Inspiration: [https://www.huffingtonpost.ca/sen-art-eggleton/canada-income-inequality\\_b\\_4351197.html](https://www.huffingtonpost.ca/sen-art-eggleton/canada-income-inequality_b_4351197.html)



## Design Challenge 4: Considering Social Change that uses Positive Action



Overview: Many people in the world do not enjoy the freedom of speech and democratic inclusion we have here in Canada, but instead are caught in what we term humanitarian crises. They are discriminated against because of race, religion, gender, age, etc., sometimes experiencing violent and horrific acts as a consequence. We hear news of this with residential schools, from Syria, the Democratic Republic of Congo, Somalia, Iraq, and more. When a group of people feel they have reached the point of needing to stand up against oppression or threat, they can often band together and take unified action in an attempt to have their voices heard by their own government and by other countries that may be able to help influence social change. Even within Canada, this type of group dynamic action planning is changing how we view aboriginal issues and gender identity.

### Design Rationale:

Human history is full of war, conflict and power struggles. As humans with different values, morality, and ethics try to live together, it is inevitable that there will be struggles. With social media creating a world that is much more interconnected and one in which boundaries are not as defined, the effects of group action can be incredibly powerful, but sometimes short-lived. Think of public shaming events that are recently trending. So positive change is difficult and David DiSalvo in [Psychology Today](#) magazine writes that “long term behaviour change is one of the hardest challenges we’ll ever face” (2017). Systemic, effective, long-standing change takes strategic planning and commitment over time to be successful.

### Problem Scenario:

Your team has been selected to choose an issue that you feel requires heightened awareness and long term change and then create an action plan to work toward creating that shift in perspectives, values, and/or actions. The long-term plan needs to be varied, comprehensive, and far-reaching, but contain SMART goals that work toward the final outcome.

### Parameters:

- Each group member should research a different historical conflict and fill out an individual inquiry frame worksheet -Indian Act and residential schools, wars of independence, slavery, Industrial Revolution, Haitian Revolution, etc..
- The whole group must read the article “[What to know about march for our lives and other student-led gun control protests](#)” by Sarah Gray from and complete an empathy exercise<sup>7</sup>.
- Your prototype could be a scale version rather than actual size
- The group must determine who would be a genuine audience for their product and then create a presentation format that caters well to that audience and present their creation publicly.

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<sup>7</sup> Additional inspiration: <https://www.fastcompany.com/3065781/3-principles-to-guide-designing-for-social-change> AND <https://metoomvmt.org/>

### Design Challenge Inquiry Research

**Parameter: “Each group member should research a different aspect of (depends on choice) and fill out an individual inquiry frame worksheet - (list of specifics depending on choice,etc.)”**

Your inquiry frame work must include the following:

- clear indication of design challenge choice by title and/or short description
- 3 reliable sources proven with concise but comprehensive notes taken
- citations in a form that would be found in a correctly formatted bibliography

### Design Challenge Prototype/Creation

**Parameter: “Your prototype could be a scale version rather than actual size”**

Your prototype must meet the following:

- to-scale model of actual creation or actual size model
- authentic connection to design challenge chosen
- attention to detail, impressive to a target audience beyond teachers and school community

### Design Challenge Presentation

**Parameter: “The group must determine who would be a genuine audience for their product and then create a presentation format that caters well to that audience and present their creation publicly.”**

Your presentation must include the following:

- the prototype/creation
- a description of the target audience (age? gender? geographic area? etc.)
- how this would be marketed to the target audience (use social media, webpage, speaking/oral presentations, buy ad space, plaque on creation, etc.)
- a brief explanation of how the empathy exercise impacted your process/design
- a brief connection between the historical research and its impact on your process/design (what inspired you? what did you struggle with? what was similar or different from groups/facts you researched? etc.)

Your presentation will be marked on the following:

- explains deep learning, how research connects to prototype
- goes beyond a school project focus, work shared beyond school walls, target audience
- shows productive collaboration
- organization
- engaging presentation, interesting for audience