

# Problem Framing

By: Carolyn Van + Lorraine Chuen

Duration: 90 minutes

LEVEL	SUBJECTS	PROVINCES / TERRITORIES	TOOL
Grades 7-8, 9-12	Social Studies, Applied Design, Skills, and Technologies	Across Canada	Unplugged

## Overview

We often jump to creating solutions too prematurely even before understanding the problem intimately, leaving us with making key decisions based on assumptions and biases. This activity helps learners to think through different aspects of a problem and unpack it to understand it more thoroughly.

## Prep Work

Review the slides ahead of time:

<http://bit.ly/hackathon-problem-framing>

## Materials Needed:

- 1 piece of Chart Paper per group of 4-6
- Markers
- Post-it notes

## Terminology

### Problem Framing

Define the problem.

### The 4C's:

#### Components

The different parts to a problem.

#### Characters

The people involved and/or affected from the problem.

#### Challenges

The Key barriers and issues of a problem.

#### Characteristics

The different parts of the outcome/solution to solve a problem.

## Lesson

This lesson is the first step of your Hackathon experience, where we will be working in teams to solve a problem, and creating websites to share our ideas with others.

In order to ensure success of this Teens Learning Code Hackathon, please ensure you and your learners complete this activity before our visit so that upon arrival we are ready to go.

Unpack problems associated with a question “How might we...?” from 4 different perspectives using the steps below.

### **Problem Framing:**

1. Provide an example: Select a question as an example to discuss the 4Cs. (e.x. How might we encourage people to recycle more often?)
2. Divide your class in groups of 4-6 learners.
3. Have each team choose a problem to work on together. See slide #9 for some examples that they can choose or use as inspiration.
4. Hand out anchor chart paper, post-its, and markers.
5. Have a group member create the following grid on slide #10 on the chart paper for their group.
6. Provide them with 10 minutes to unpack problems.
7. Share: Have each group share their work with the class and any lessons learned from the exercise.

### **Forming Teams:**

#### Option A)

Have learners share additional ideas that they would like to focus on for the hackathon. Write down the topics they chose for the problem framing activity, plus any new ideas, on a board or chart paper. Have learners vote on their top 3 choices so that you (the educator) can form teams (see slide 15 for guidance).

#### Option B)

Have learners continue with the same teams, focusing on the same topic that they chose for the problem framing activity.

## Assessment

### **Key Takeaways**

- Develop understanding of key considerations when solving problems
- Challenge learners to dig deep to understand problems intimately before conceptualizing solutions
- Look at a problem in a new ways