









# Prototype Collection

Promising Tools and Practices from the Circular Food Innovation Lab





# Hello!

This is a collection of prototype tools and materials that were generated through the Circular Food Innovation Lab (CFIL). This project brought together 18 Vancouver-based food businesses, a team of design researchers through Emily Carr University of Art + Design, and circular economy practitioners from the City of Vancouver and the Vancouver Economic Commission to experiment around solutions to the complex challenge of reducing wasted food and increasing circular practices in Vancouver's food system.

This project was funded through the generosity of the Carbon Neutral Cities Alliance Gamechanger Initiative, and Mitacs Accelerate.

Prototyping took place on the unceded ancestral homelands of the x<sup>w</sup>məθk<sup>w</sup>əýəm (Musqueam), Skwxwú7mesh (Squamish), and sə'lilwəta?4 (Tsleil-Waututh) Nations.

To learn more about the overall story of CFIL and what we learned in developing these prototypes, please see our final report, <u>Peeling Back the Layers: Learnings from the</u> <u>Circular Food Innovation Lab</u>.

### Get in touch!

If you have any questions, would like to bounce some ideas around, or are generally interested in connecting, please reach out to us at <u>solving-food-waste@vancouver.ca</u>.

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# Using these tools

This collection is organized by 6 out of our 9 prototypes that we tested in CFIL. The materials that came from these prototypes proved to be promising potential solutions to the complex challenge of wasted food and increasing circularity, and are hopefully replicable across different parts of the food sector. Each tool includes a brief description of how we used it and the context in which it was developed.

### **Prototype Templates: Downloadable and customizable files**

Many of the prototype files in this collection are available for download in .PDF, .PNG, .PSD, and .AI formats. You are welcome to adapt and use the materials in any ways as you see fit! Download the <u>Prototype Templates zip folder</u> on the CFIL webpage

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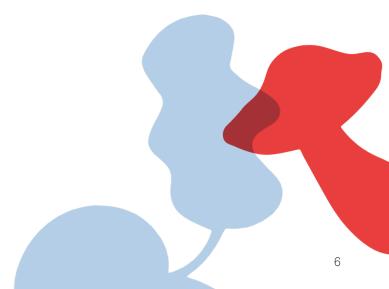
# Prototypes

### A prototype is a tangible or experiential representation of an idea.

Practicing prototyping looks like building low-resource "mock-ups" of potential solutions and testing them with users to answer early questions about whether or not this idea is promising, and what kinds of roles or interactions might be involved in this solution if it were scaled.

As we prototype in a complex challenge space where ideas for solutions aren't typically tangible or product-based, but more so concerned with things like policies, frameworks, interactions, new paradigms or mindsets, some guiding questions that have helped our team in discerning whether or not we have a prototype are: What are users interacting with? How are we making the concept real for them? **Prototyping gives us permission to try, learn and fail before we've poured all our resources into a solution.** 

The prototypes included in this collection tried to intervene on the stuck system. This is a collection of what we think is promising and potentially replicable across other contexts. Although some of these concepts weren't necessarily worth pursuing further for the the contexts we were collaborating in, they might be useful for others.



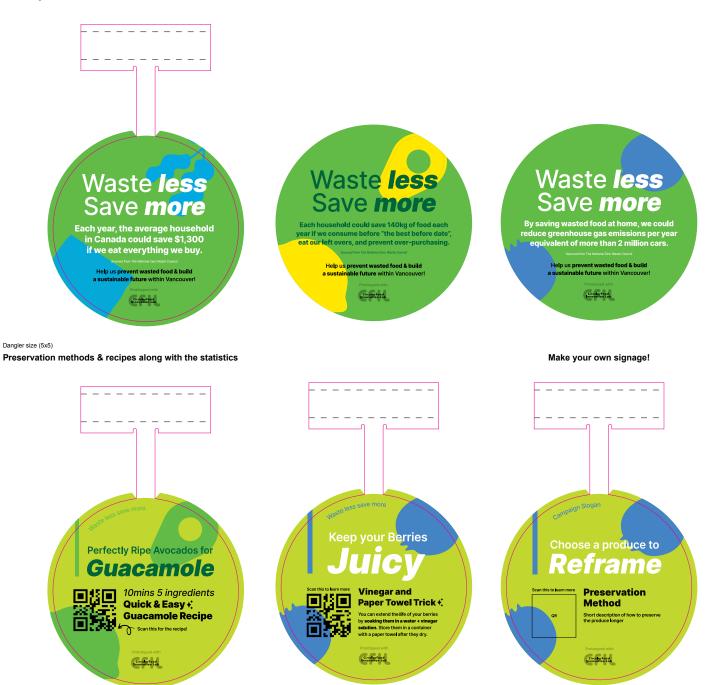


## Reframe

Reframe aimed to intervene on the customers' and vendors' preferences of perfect-looking and "fresh" produce through communicating and educating that "imperfect" and not as fresh foods are valuable, desirable, and as nutritious as aesthetically perfect-looking ones.



Dangler size (5x5) Positively reframed statistics



### 'Imperfect' food shelf danglers

The sets of shelf dangler and poster signage emerged to reframe customers' expectations of fresh and aesthetic food at the grocery store. Through sharing statistics, preservation methods and recipes (such as guacamole, pies, muffins where the freshness and aesthetic of the produce doesn't matter), we wanted to create a space where "imperfect" food can be reframed and re-valued positively.



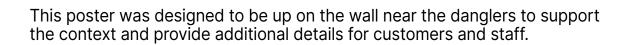
## Waste **less** Save **more**

Save-On-Foods has partnered with Circular Food Innovation Lab to explore how we can all work together to eliminate wasted food.

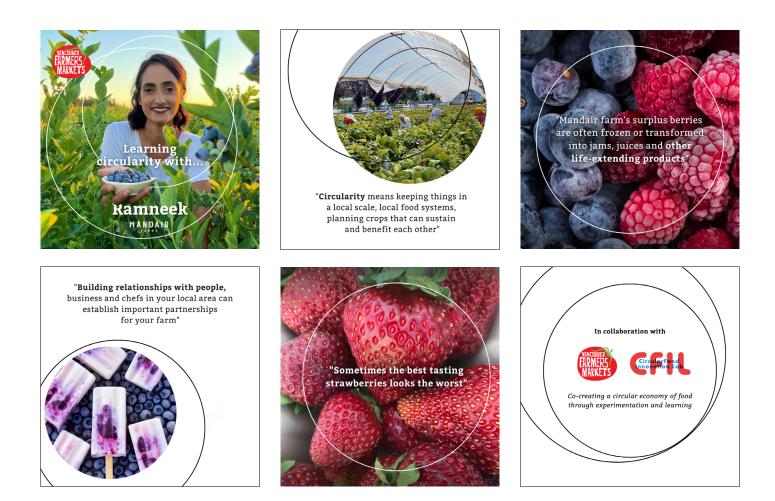
### EXPLORE **OUR INFORMATIVE TIPS** IN THE PRODUCE SECTION!

The Circular Food Innovation Lab (CFIL) is a year-long project co-led by the City of Vancouver, the Vancouver Economic Commission (VEC), and Emily Carr University of Art + Design. We are collaborating with Save-On-Foods and other Vancouver-based food businesses to increase circularity in our city. We are experimenting with ways to intervene on Vancouver's food system, structures and behaviours to prevent and reduce wasted food, and create enabling conditions for a circular economy.









### **Celebrating Circularity Storytelling Campaign**

Through prototyping around the Reframe concept, we realized that it wasn't only customers' perspectives that needed reframing. The farmers we connected with through the Vancouver Farmers' Market were already contributing to circularity, and their knowledge and existing practices already contributed to a more regenerative food system. It seemed more urgent and compelling to celebrate and acknowledge their community's efforts on an open space like their social media channel, in order to invite others to learn and adopt the ongoing practices that some of the farmers were already engaging in. The series of posts and Instagram reel were designed to celebrate and amplify the voices of those who are already doing circular work.



Last Call centred around ways to encourage creative solutions for surplus food and accountability at every stage of food's life cycle. A difficult but important factor that needed to be addressed in this prototype was a reliance on food donation as a solution to surplus. Our goal was not to discredit all the positive impacts food donation has brought, but to encourage businesses to experiment with different actions that could prevent surplus food in the first place.



### **Apple Chips!**

The apple chip instruction was designed to navigate the staff process of valueadd products at a grocery store with kitchen facility. Using apple chip making as an example, we wanted to understand if in-house value-add products could become a prioritized operation over sending the surplus food to donations.

#### WHAT DO I NEED **TO MAKE APPLE CHIPS?**

-2 apples (Any variety works well with this recipe.) -1 tsp of cinnamon -Knife, a cutting board, a baking sheet and an oven

#### **HOW TO MAKE APPLE CHIPS**

Slice and bake. That's all there is to it!

You can also sprinkle the top of the apple slices with a little cinnamon. If you love the flavors associated with pumpkin spice, that is a great alternative!

**Detailed Instructions** Estimated Cooking Time: 2 hours 20 minutes

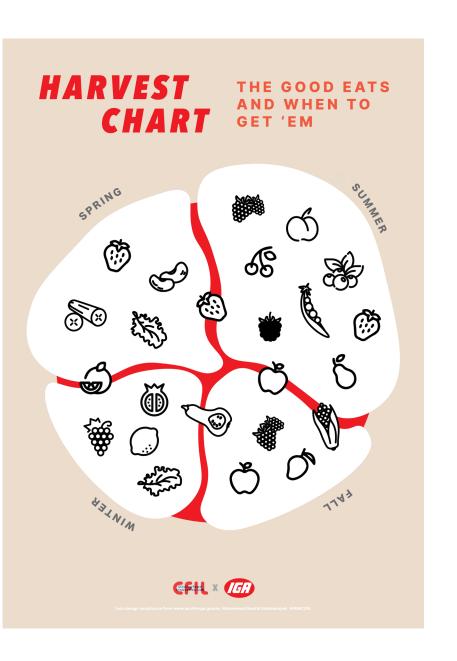
- 1. Preheat oven to 225 °F.
- 2. Wash and dry the apples. You could core apples optionally.
- 3. Slice apples as thin as possible (about 1/8 inch) with a sharp knife.
- 4. Place apples on the baking sheet in a single layer and not touching each other.
- Sprinkle cinnamon evenly over apple slices. 6. Bake for approximately 1 hour and then turn each slice over, and continue to bake
- for at least another hour so. The longer they stay, they crispier they get.
- 7. Enjoy!

### CircularFood Innovotion Lab

CircularFood Innovation Lab

1. How long did it take? and what equipment did you use? 2. Were there any pieces of equipment you wish you had to complete this task? (For example, mandoline, apple corer, sieve ... ) 3. Do you think you / your department has the capacity to take on this task frequently? 4. What would need to be different to do this regularly? 5. Any other food preservation experiments you think it fits better to your job and facility? Other produce? Other methods?

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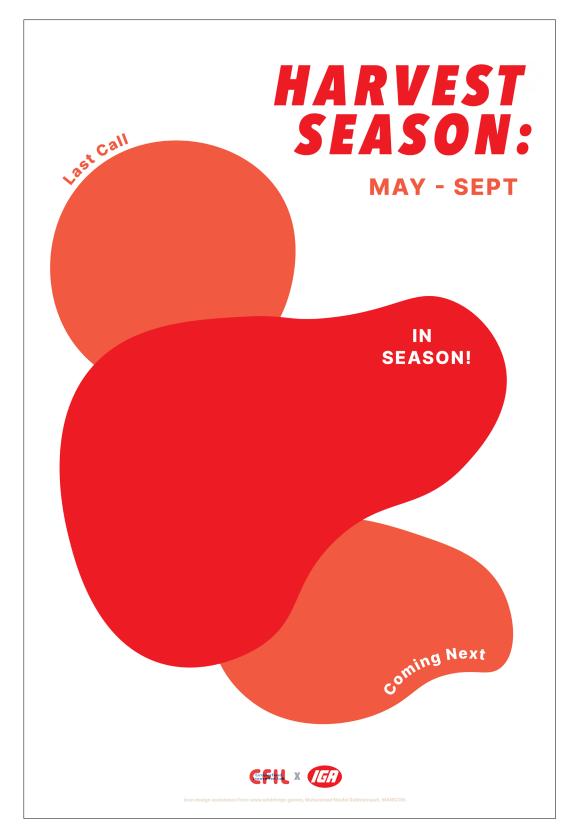


### **Harvest Chart**

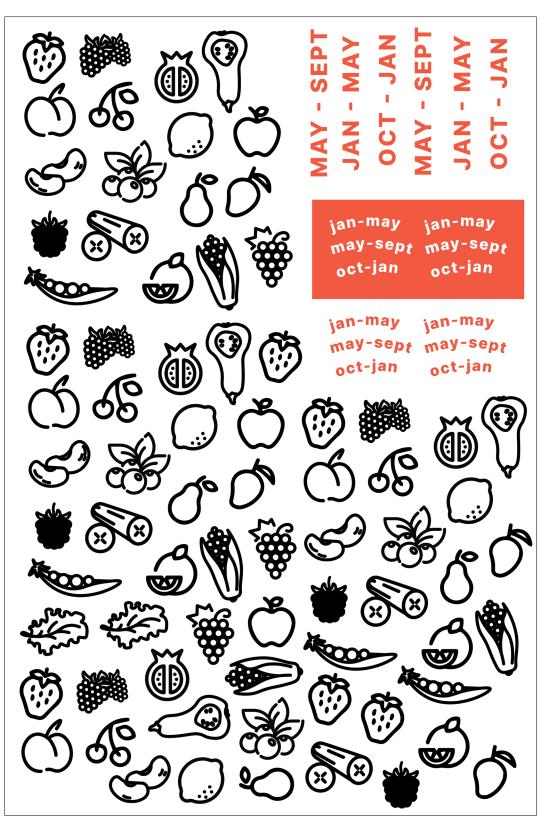
During conversations with IGA Robson (a grocery retailer) and Berrymobile Fruit Distributors (a local fresh produce distributor), we learned that a lack of awareness about true harvest seasons has led to a missed opportunity to sell seasonal produce at its peak, and in educating consumers on how to shop with the seasons.

The Harvest Chart was created as a way to communicate these seasonal peaks and valleys of the produce that is carried in store. An interactive magnet board highlights what is going out of season soon, the ripe foods of the current season, and the items coming in the next season. We also developed a template for a year-round produce harvest chart, available here.



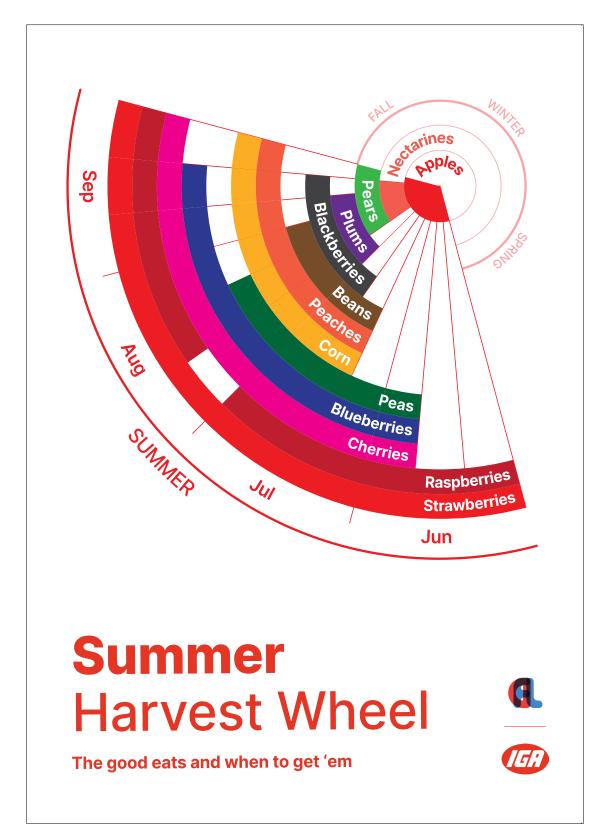


This is an interactive magnet board - staff can change food magnets based on what's in season.



Illustrations of produce for cutting out and placing on interactive magnet board according to the seasons.





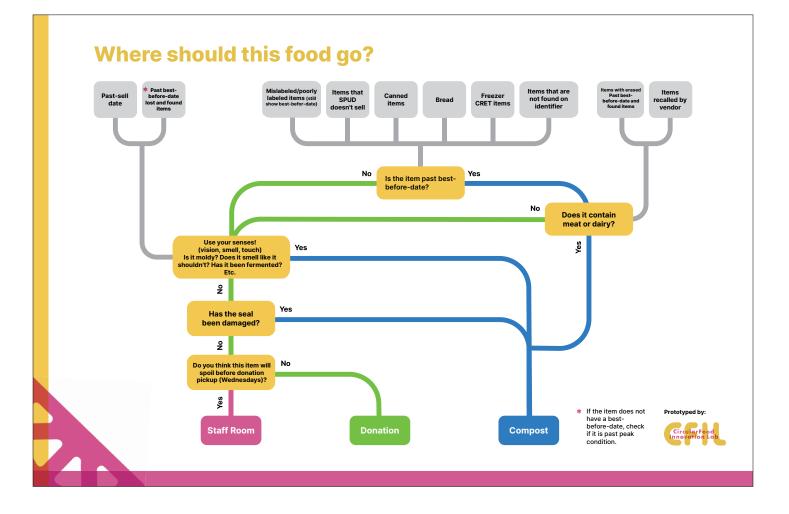
Postcards with the detailed summer harvest chart can be used to educate both consumers and staff on abundant local produce during the summer season, mainly for the produce stands and pop-up stores in public.



## **Tracing Foodsteps**

Tracing Foodsteps aimed to develop, communicate and improve procedures for rescuing surplus food across different departments within a workplace, and making the next best decision for what happens to it. This prototype took place in the back-of-house for a regional grocery distributor.





### **Judgment Guide Map**

This tool can help with a consistent understanding of what food waste is and how we can sort the donatable items to avoid throwing out food which is still good for consumption. It was developed in an effort to make the food sorting process (between donation or compost) standardized and efficient by enabling any staff member to sort through the food items on the spot rather than leaving it all for a supervisor. This map was co-designed with the businesses' staff based on their knowledge and experience executing this task.



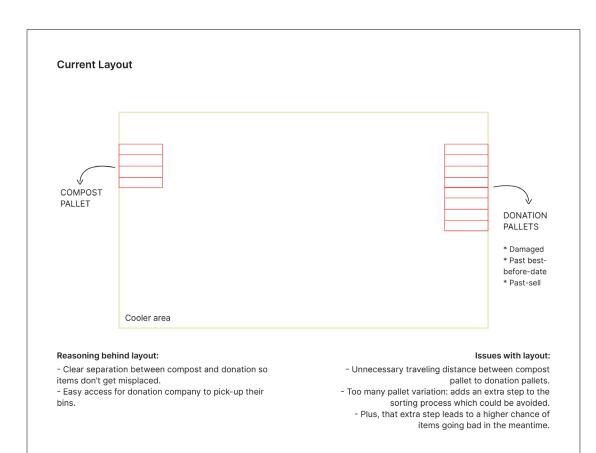
Circular Food SPUD PALLET ARRANGEMENT BOOKLET Prototype: Tracing Foodsteps	
What is this? A compilation of suggestions for arranging your donation/ compost pallets in a more intuitive, time efficient, and clear communicative way.	Caption
How to use:	
These suggestions can be implemented by themselves or can be added to one another. Feel free to alter them to best fit your needs and spacial restrictions.	Cooler area
	Pallet Bin

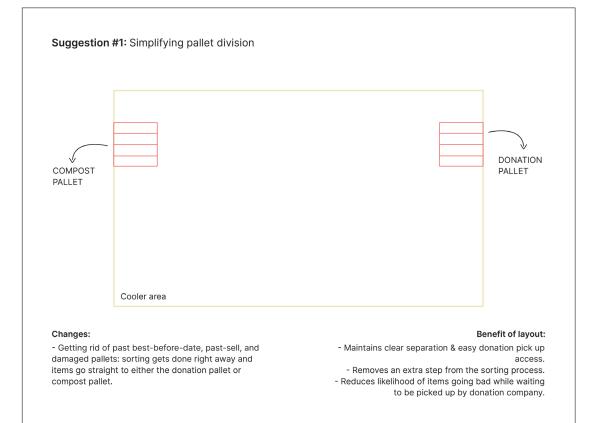
### **Spatial + Organizational Suggestions Booklet**

Warehouse staff shared that spatial organization systems were getting in the way of effectiveness and awareness when sorting through surplus food between donation and compost. This booklet is a compilation of spatial suggestions for arrangements of pallets and bins when sorting food pulled from inentory. They are meant to be suggestions to be adapted, mixed, and/or implemented to where and how you best see fit within your environments.

### Tracing Foodsteps

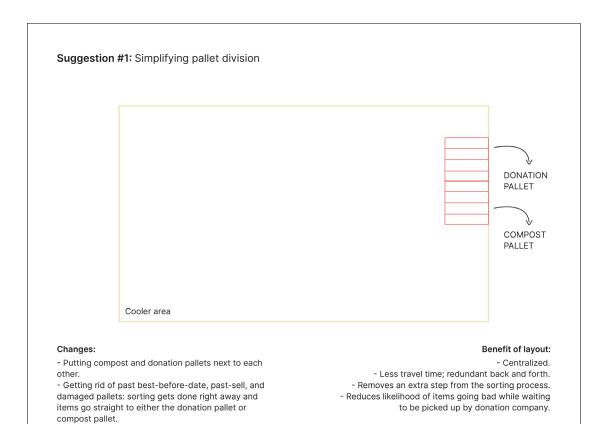






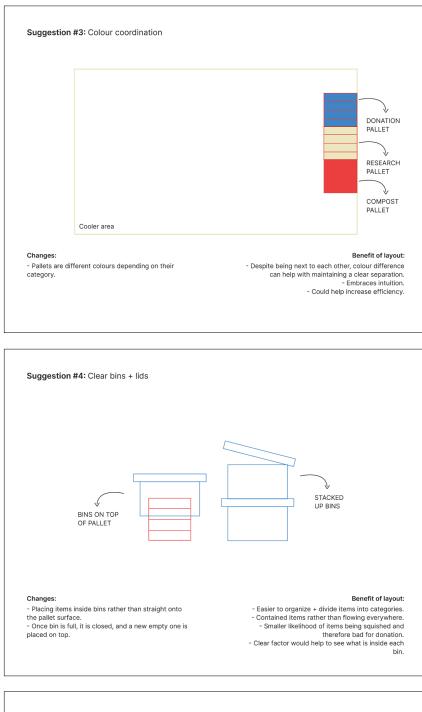
### Tracing Foodsteps





Suggestion #2: "Research" pallet DONATION PALLET ľ RESEARCH PALLET 1 COMPOST PALLET Cooler area Benefit of layout: Changes: - Addition of a 3rd pallet for communal sorting + - Help between workers: if someone isn't sure collective help with decision-making. whether the item should be placed for donation or compost, they can leave it in the research pallet and the next person doing the sorting can decide. - Creates space and time for collaboration.

- Increased likelihood of less items being misplaced.





- Addition of a 3rd pallet specifically for pet food.

- Helps with sanitation and clear separation of items.

### **Tracing Foodsteps**

### **Measure What Matters**



## **Measure What Matters**

Tracking and sharing data on wasted food contributes to a clearer understanding to where food is being lost across the supply chain. As the task of measuring this data can fall to the wayside amidst competing priorities, we developed Measure What Matters.

# atters

### **Food Measurement: A Focusing Exercise Outline**

### Who will be involved in this prompt?

A measurer: a staff member in your business who had been in charge of measuring the food waste in the past or is ready to perform this task now.

### What will you need for this prompt?

A measuring tool/platform\*: If your business has adopted a measuring tool/platform in the past, that is your tool. If your business does not already have a measurement tool, there is no need to worry; for this prompt, you can use any type of measuring tool available in your business based on your preference.

### \*What do we mean by measuring tool/platform?

"For this prompt, it is preferred to keep track of the food waste manually. This means either keeping track of food waste by weight or through volume on a poster and/or excel sheet that is updated daily, to track over the time of the exercise. Using a consistent container and keeping track of the number of times it fills up is sufficient for this prompt."

**Documentation:** We have prepared a few prompting questions that the measurers can respond to throughout the measuring experiment. These would help you document the measurement and reflect on your process. You can either print them as it is or use the same questions to make an online google form accessible for everyone through their devices.

### **Prompting questions:**

1. How did you feel when you were measuring your food waste every day?

- 2. Did the measurement exercise go as you expected it would? Was anything different?
- 3. When performing the measurement task, what did you find worked well or helped you do it smoothly?
- 4. Was there anything about the task that was frustrating or unhelpful?

5. Is there anything you would change about the measurement technique/tool/platform or procedure?

**6.** Where do you think was the source of the food waste in your operation? Any specific location or procedures that led to wasting food? What do you think were the reasons behind food waste? (past expiry day, etc.)

7. What might be some ways to reduce the waste that you measured in this task?

**8.** If you prefer, you can voice record your responses to all the questions in one file and attach it for us here!

### **Food Measurement: A Focusing Exercise**

The goal of this exercise was to learn about businesses' experiences when performing a simple method of measurement with tools already available to them. Our curiosity with these tests was to understand how measuring food waste could become part of everyday procedures and contribute to better wasted food management in businesses.





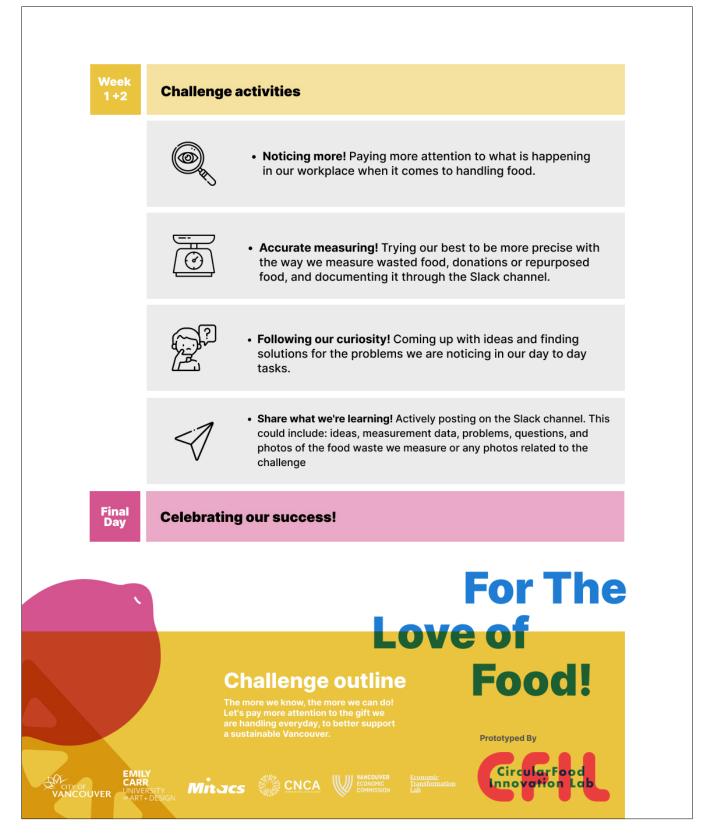
Staff reflections poster: designed to encourage staff members to share their feelings and discoveries in relation to the challenge. The poster was displayed in the staff room on the bulletin board so that staff members wouldn't feel pressured or apprehensive about writing down thoughts/ideas.

### For The Love of Food Challenge

This challenge emerged from the shared concern of staff engagement in the practice of tracking food movement within and through a business. We developed a 2-week challenge which asked all the departments at the grocery store to measure their wasted food. The challenge was framed as a test to inform a possible new policy by the City of Vancouver which would require food businesses to measure and record their wasted food.

Framing this activity as an undertaking that the store has committed to, rather than something they are volunteering for, might contribute to city-wide problem-solving around the issue of wasted food, and making it a part of daily work duties allowed staff to take time to engage with the measurement and think through problems + solutions around this issue.





Challenge instructions: designed to be sent out to staff through their communications channel.



#### **Reflective Journal prompts**

#### Meeting prep

Before the pilot policy introduction meeting, please take a look at this section. Prepare to take a few notes about the meeting, either during it or after it.

- How were people showing up to the meeting? How do you imagine they were feeling? What do you think they were thinking about?
- What was the initial reaction when the city person told them about the challenge and their extra task? Remember to notice their facial expressions, their body language and what they were saying.
- Did your employees have any questions or concerns? If so, what were they? How did you respond? How do you imagine people left the meeting? How do you think they were feeling?

#### Challenge set up

Measurement takes place everyday in every department of the store. Your task is to walk around, pay attention, and be engaged with your staff.

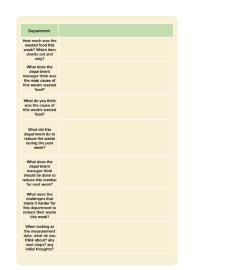
As the employees are measuring each department's food waste, please be present to observe how things are going. When talking to your staff on the measuring day, try to think about not just what they are saying but also what they are thinking, doing and feeling.

• Is something specific surfacing for you during that conversation?

Afterwards, think about what could be their gains and pains. Document those as well. Pains: frustrations, fears, barriers

Gains: needs, wants, measures of success

For the rest of the week, you can use the prompts we have provided to gather information and reflect upon them. You will be able to use your gatherings to brainstorm ideas for reducing each department's food waste.



#### Brainstorming

You can do this activity on your own, but for better results, we would recommend doing it with the department managers or other staff members. Two brains are always better than one!

- Take another look at the information you have gathered during the past week and start brainstorming ideas to reduce the waste for the upcoming week.
- Try to start by thinking about impossible ideas (seemingly!). Don't pay attention to the constraints, and list as many ideas as you can.
- Pick your favourite ones and try to imagine how you could modify them to better fit your situation and constraints.

Reflective journal prompts: designed for the store owner/general managers - to help with reflection and systems thinking through out the course of the challenge.





# Nourishing Staff Engagement

From our site visits and conversations with staff, we learned that staff members wanted to talk and share ideas but didn't feel empowered to do so. At the same time, we heard from those in leadership positions that they experienced high staff turnovers and lack of interest from staff in wanting to change things. Starting from a horizontal perspective of collaboration and cocreation where we could challenge hierarchical frameworks and treat all participants as experts, we developed a workshop that would help to encourage staff engagement and honor their contributions to problem-solving for circularity.





### **Nourishing Staff Engagement Workshop**

This workshop was designed to encourage staff to notice and observe their workplace, actions and relationship with food. Through team activities we aimed to get insights, recognize their important role in creating change, and the relevance of their voice.



### Nourishing Staff Engagement Workshop: Coming together to address wasted food in our workplace

**Length of workshop -** Approx. 85 minutes (could stretch to 90 minutes with a few different rounds of ideation, or brainstorming)

Materials List (\* = not a necessity but good to have)

- Sticky notes
- Markers
- Tape
- Sheets of sticky dots cut into strips of 3-5
- Map of your facility that food travels through
- Print-outs of images to represent different people, entities, and perspectives (e.g. scientist, toddler, grandparent, political figure, climate activist, queen, Google, Beyonce, Homer Simpson, animals, plants, students, etc..)
- \* Name Tags (for surfacing activity)

### 1- Intro (5 min)

Starting the workshop with introductions of ourselves and the workshop, we also used this time to mention system impact and acknowledge the feelings of helplessness that arise. It is Important to level with participants and let them know that it's not wrong to question initiatives like this. Especially when working within a big messy complex challenge like the food sector, these initiatives, activities or actions can feel like a small drop in the ocean of problems but these small actions, these tiny drops, can lead the way to significant systemic change.

### 2- Warm Up/Ice Breaker (15 min)

This is just a fun and somewhat silly way to break the ice, get the staff thinking about food and allow everyone to learn a little bit about each other!

Invite participants to work in pairs.

Partner One describes their favourite meal from their culture/childhood.

Partner Two listens and draws what they think the meal looks like from the description.

### 3- Surfacing (25 min)

Pull out the floorplan/map of the facility.

This is when the real legwork of the workshop begins.

Tell participants that they are starting a journey from the perspective of a food.

They choose a food to embody, write a name tag for themselves, and become that food.

They then lead the group on their personal journey through the location.

Prompt the participants to explain:

- Where do you come from, where do you enter, who do you interact with, which people are responsible for dealing with you, etc?
- Although our embodied food person is leading the mapping of their journey, they are encouraged to ask their colleagues if they are not sure what happens at every point in their journey.



Once the path has been completed and before the next food journey begins, everyone is invited to place a sticker down on the areas on the map where they see the possibility for intervention.

Whether they know how they would intervene or not, the desire is to identify areas where there could be improvement.

Once all the food journeys are mapped and participants have returned to their regular selves, we are left with a map that has four or five clusters of stickers, revealing to us the areas where your colleagues see the most opportunity for change.

### 4.A- Ideation pt. 1 (15 min) - What would Beyoncé Do?

Now continuing to push participants out of their comfort zone, the ideation activity doubles down on the embodiment exercise and pulls the staff into new and strange points of view.

Share the images you've assembled of different people, entities and perspectives. Using the areas of intervention identified on the map as areas of focus, invite participants to choose a character or persona from the images provided and try to approach the problem, and possible solutions, from that perspective.

Example: How would Beyoncé, Homer Simpson, a toddler, a scientist or any number of other viewpoints address this problem?

Participants write down as many ideas from their chosen point of view as possible. Ideation tips to share with participants:

- Be sure to give time and space for participants to step into this activity
- Encourage quantity over quality, reiterating that in this space of blue sky thinking
- There truly are no bad ideas
- Stay focused on the topic
- Defer judgment verbal and non-verbal
  Example: If someone chooses the scientist image, an idea might be: Scientists create hunger inhibitor pills to stop guests from taking more food from the buffet that they can eat

### 4.B - Ideation pt.2 (10 min)

Armed with their plethora of wild ideas, invite participants to choose their two favourites. This decision does not have to be based on feasibility or how close to a tangible concept it is. Simply which two inspire them the most. They then pair up and together break down the ideas that they have chosen. Attempting to find the guiding themes and values within the idea.

Example: Scientists create hunger inhibitor pills to stop guests from taking more

- food from the buffet that they can eat
- $\rightarrow$  Guiding Themes: Guest behaviour/ portion control

Once these themes are identified the participants can then start making their way back into a more realistic space.

Now that we have used these generative techniques to show us the core issues behind our current practices, we can ask ourselves: what are solutions/strategies that we can implement that are within our capabilities?



Example: Scientists create hunger inhibitor pills to stop guests from taking more food from the buffet that they can eat

- → Guiding Themes: Guest behaviour/ portion control
- $\rightarrow$  Practical Solutions or Strategies:
- Smaller quantities at the buffet that can be refilled upon empty, offer individual portions, or provide smaller dishware to combat the "eyes are bigger than the stomach" effect.
- Start the service with a smaller 'starter buffet' so that guests won't overfill their plates when the mains come out.
- •

### 5- Prioritization/Voting (15 mins)

Post the solutions/strategies on a scroll on the wall. Provide a sheet of stickers to each participant and invite everyone to gather around.

They read the other ideas generated by the group and use their stickers to identify ones that stick out to them. Prompt them to pick ideas that they would be excited to try out, ones they think could have a high level of impact, etc.

### 6- Synthesis/TakeAway

You are then left with a sheet full of ideas generated by your brilliant colleagues, ranked by level of excitement or impact. This is an amazing tool to take back to the business as it is a direct reflection of how staff experience the problems they are facing every day as well as a treasure trove of ideas you know they are already thinking about applying and testing.

There are many different ways to further build on these ideas. Here are some suggestions:

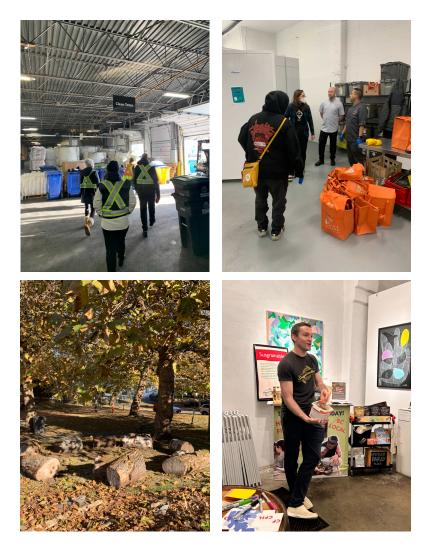
- Invite management or colleagues to work collectively on these issues raised and potential ideas.
- Develop some criteria for how to determine which ideas to pursue further. <u>Here are some we use</u> <u>as an innovation unit</u>.
- Further develop these ideas by <u>storyboarding</u>. This helps to uncover additional questions or areas that need to be considered in order to determine where to go next with a certain idea.



## **Learning Journey**

Learning journeys are meant to take your team to the edges of what they know; to visit the places, people, and experiences that are relevant to the challenge being explored and that they know the least about. It's more than a field trip or interview - it's a sensing experience. The idea for a Learning Journey in CFIL came about as a way to deepen lab participants' learnings about the complexity of the challenge we're working on and to find inspiration from those who are already practicing circularity.





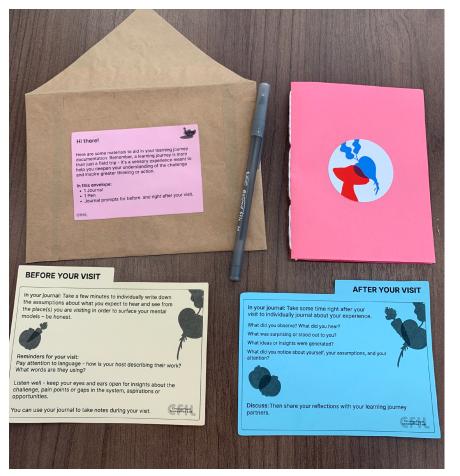
### **Learning Journey**

### We prototyped two types of learning journeys:

- Site visits to Recycling Alternative, Food Stash Foundation and Chéńchenstway Indigenous Healing Garden.
- A public gathering on circularity with a talk given by Susgrainable, a business that upcycles spent grain for healthy baking mixes.

### Learning Journey Principles to cultivate when doing this activity

- Labour of love using different currencies aside from money (time, love, relationships, gifts, etc.).
- Create accountability to each other.
- Embodied awareness of the system.
- Reuse materials, create your own circular systems every moment is an opportunity to enact the future you imagine.
- Bring in elements of intrigue/surprise.
- Challenge hierarchies/siloes expertise is everywhere.





### **Learning Journey Materials**

We developed a few materials to aid in the learning journey. This included:

- $\bullet$  A small journal that we made from 8.5×11 paper and thread
- Reflection cards for before + after the visit
- A thank-you card for the learning journey host

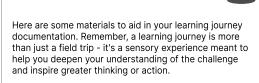
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**Learning Journey** 



### Learning Journey





In this envelope:

1 Journal1 Pen

Hi there!

• Journal prompts for before and right after your visit.

Constantine .



In your journal: Take some time right after your visit to individually reflect about your experience.

What did you observe? What did you hear?

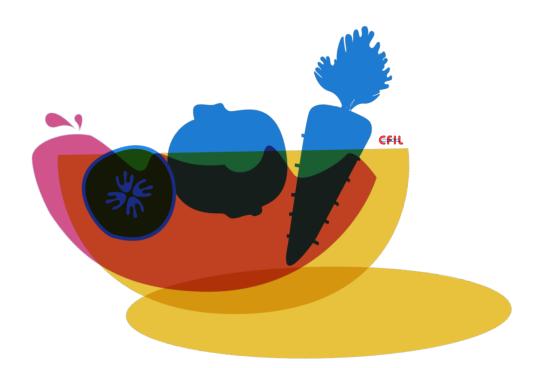
What was surprising or stood out to you?

What ideas or insights were generated?

What did you notice about yourself, your assumptions, and your attention?



Discuss: Then share your reflections with your learning journey partners.



# Thank you!



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