

UN environment programme

Youth for food, not waste

A facilitation guide for a youth-led month of action on food waste

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Acknowledgements

Authors

Lily Laugharn, Fernanda Romero, Kotone Yamamoto, Clementine O'Connor and Giorgia Patarnello (UNEP), Ashley Rouse (Edible Schoolyard Project), Jill Conklin (Food For Soul), Elaine Fiore (WRAP), Mary Jane Chandler (WWF-US)

Contributors

Khuloud Al Nuwais (Emirates Foundation), Luciana Delgado (FAO), Jessica Colston (GAIN), Anthony Gikuri Nchagwa (Moshi Co-operative University), Wei Huang (UNEP), Kate Linkins (UNESCO), Kate Redman (UNESCO), Alessandra da Silva Pereira (UNIRIO), Alex Nichols-Vinueza (WWF-US), Fabio de Almeida Oroski (UFRJ), Hino Samuel Jose (CYMG UNEP)

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Foreword

I have always believed that children learn best by doing, through an education of the senses. In edible education, the kitchen and the one-acre garden become classrooms where students learn the academic subjects through growing, cooking, tasting, eating, and caring for the land.

When children grow and prepare food themselves, they begin to understand that eating connects us to agriculture ~ to the farmer, to the land, and to the soil. They learn that food is precious and should never be wasted. And they learn something as simple as: don't put more on your plate than you are prepared to eat.

What is left from the kitchen can become compost, nourishing the soil and growing food again. This is at the heart of regenerative agriculture: caring for the soil and returning to it what we can.

And when schools work directly with local regenerative farmers through School Supported Agriculture, children learn where their food comes from and who grows it. These relationships can help prevent food loss and waste while supporting the farmers who are caring for the land.

It is all connected ~ the farmer, the soil, the garden, the kitchen, the table, and the compost. When children experience those connections with all their senses, they learn to care for the earth and for one another.



Alice Waters
Founder of the Edible Schoolyard Project

Dear Educators,



Photo source: Nathan Cima / Unsplash

We are on a mission to reduce food waste and promote sustainable food systems that feed people, not landfills.

Here is why

- Each year, the world wastes 1.05 billion tonnes of food. This is 19 per cent of food available to consumers being wasted, at the retail, food service, and household levels. (UNEP 2024). This occurs in addition to the estimated 13 per cent of the world's food that is lost in the supply chain from post-harvest up to and excluding retail (FAO 2023).
- All the while, 645 million people experience hunger, and 2.7 billion cannot afford a healthy diet in 2025. (FAO et al. 2026)
- Food loss and waste account for 8-10% of all global greenhouse gas emissions (four times that of the aviation industry!). (IPCC 2019)
- Just from households around the world, over 1 billion meals are thrown away every day– enough to provide at least 1.3 meals a day for each person affected by hunger. (UNEP 2024)
- Growing food that will never be eaten is highly resource, labour and land-intensive. It is estimated that producing this wasted food requires an area of land roughly the size of China (FAO 2013). In addition, the agriculture, postharvest, and consumption stages each account for around one quarter of the total water resources associated with food supply chain losses. (Kummu et al. 2012)

Preventing food waste is also a powerful lever for promoting sustainable food systems. When we work to reduce food waste and empower youth, we...

- Support food security and avoid nutrition loss which disproportionately affects women and children due to unequal caregiving responsibilities, income constraints and gender norms
- Promote circularity through upcycling and composting
- Help households save money
- Lower the cost of waste management and the burden on landfills
- Reduce greenhouse gas emissions, in particular methane
- Support the next generation of decision makers in tackling food waste
- Support sustainable food systems infrastructure in local communities
- Reduce harm to critical habitats and wildlife
- Reduce resource waste like water and energy

Reducing food waste helps achieve Target 12.3 of the Sustainable Development Goals, which calls for halving per capita global food waste at the retail and consumer levels by 2030 and reducing food losses across production and supply chains, including post-harvest losses.

Youth, who are actively forming lifelong behaviours around food, are key players in the transformation of sustainable food systems. This guide not only seeks to educate students on the impacts of food waste, but also helps develop their creativity and savvy in the kitchen, awareness as consumers and provisioners of food, and as advocates for sustainable food systems.

We hope this guide supports you, the educator, in co-creating a dynamic, engaging, and joyful month of learning experiences with your students that will help them tackle food waste in their own right and become enduring advocates for this cause.

Overview

About this guide

The United Nations Environment Programme (UNEP) is happy to collaborate with the Edible Schoolyard Project, Food for Soul, and the Waste and Resources Action Programme (WRAP) to present this Youth for Food, Not Waste: A Facilitation Guide for a Youth-led Month of Action on Food Waste.

This guide equips educators with a framework and several ingredients to co-create a meaningful and engaging Youth-led Month of Action on Food Waste with their students, while ensuring the equitable participation and leadership of girls, boys, and learners of diverse backgrounds and abilities.

The Month of Action is designed to take place over one month, ideally aligned with the International Day of Awareness of Food Loss and Waste (29 September), although it can be implemented at any time of the year.

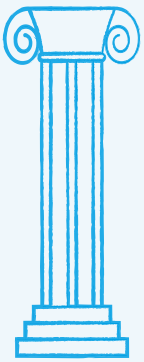
Throughout the month, students investigate the drivers and impacts of food waste, gain hands-on cooking and composting skills, and think critically about how to advocate for food waste reduction through a series of learning opportunities both in and outside the classroom.

Educators are highly encouraged to work with their students to craft a Month of Action on food waste that is tailored to students' learning preferences, the school facility, local and cultural context, and student age. Lessons are intended for adolescents 11-14, but can be adapted in complexity to work for younger or older students.

An important aspect is that the food waste issue has a multi- and interdisciplinary nature, which means that the activities proposed should involve educators from different disciplines who can contribute to identifying the multiple aspects involved with the theme and the skills related to solutions for prevention and reduction. Therefore, working on the topic at school is also an opportunity to carry out multi- and interdisciplinary projects.

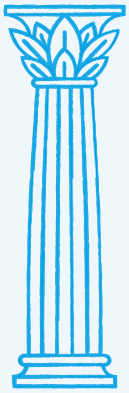
The guide draws on the 2024 UNEP Food Waste Index and principles of behavioural science, and is organized into three pillars: **understanding**, which, introduces food waste and why it matters; **acting**, which builds students' skills in cooking, consumer habits, and organic waste management to be able to address food waste in their own lives; and **advocating**, which empowers students to share their knowledge and promote behaviour change in their communities.

At a glance



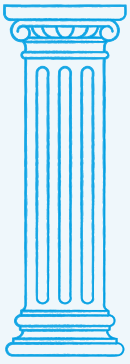
Understanding

- What is Food Waste?
- The Food Cycle: From Farm to Fork (and Beyond)
- What Food Means to Me: Haiku and ZIP Ode Poetry
- Food Memories
- Ne'Ma Food Waste App



Acting

- "Waste Not" Audit
- Use Your Senses: Managing Food
- Saving The Scraps
- Flexible Recipes
- Kitchen Skills
- Kitchen Pitch
- Closing the Loop: Understanding Organic Waste and Composting
- Growing from Your Food Scraps
- Real World Interaction
- Optiwaste App



Advocating

- Beyond the Month
- Spreading the Word
- Full Plates & Equal Places: Linking Food Waste, Gender Equity and Sustainability
- Persuasive Essay

Suggested sequence

Each lesson in this guide includes a minimum suggested duration (for single-session delivery) and an expanded option (for deeper engagement or continuous projects). It also suggests homework, but it can be adapted according to local contexts. This ensures educators can adapt the Month of Action to their school context, schedules, and student needs.

For example, the Optiwaste audit can be completed in one class, but data collection may also be extended across four weeks to observe weekly variations. Similarly, poetry, composting, and campaign activities can be scaled up into longer projects.

Week	Lessons / Activities	Minimum suggested time	Expanded option
Week 1 – Understanding Food Waste & Food Systems	• Intro to Food Waste (30 min) • Food Cycle (20–30 min) • What Food Means to Me – poetry (60 min) • Food Memories (Elder Interview, homework 20-40 min) • Ne'Ma App (30–45 min)	≈ 2.5h-3.5h in class + homework	Local debate + school food system case study + poetry gallery + extended oral history project + deeper app exploration
Week 2 – Acting: Hands-on Food Waste Prevention	• Waste Not Audit (90-150 min) • Use Your Senses (30 min) • Saving the Scraps (60-120 min) • Flexible Recipes (90 min) • Kitchen Skills – Knife Safety (15min)	≈ 4.5h-7h	Optiwaste extended across 4 weeks with weekly data collection + collective recipe booklet + cooking demos

Week 3 – Acting: Composting, Circularity & Analysis	• Closing the Loop: Composting (60–90 min) • Growing Food from Scraps (30 min + observation over time) • Real World Interaction (30–60 min) • Optiwaste App (60–90 min, or longer)	≈ 3h–4.5h	Hands-on composting experiment + reflective report + external visit
Week 4 – Advocating & Campaign, Student Assembly	• Spread the Word / Awareness Campaign (45–60 min) • Full Plates & Equal Places (40-90 min) • Persuasive Essay (60–80 min)	≈ 2.5–4h	Structured debate + full essay with peer review + multimedia campaign + school fair with booths, performances, and presentations + possibility for long-term student committee on food systems (food waste/school composting, local partnerships, and/or lunchtime audits)

On Youth Leadership, Behaviour Change, and Adapting this Guide

This guide is designed to help young people take the lead on food waste prevention and reduction. As you plan your Month of Action, here are some simple ways to strengthen youth leadership and make the experience meaningful, engaging, and student-driven:

Before the Month Begins, invite students into the planning:

Involve youth in co-designing the Month of Action:

- What lessons, activities, or campaigns can students shape or customize?
- Can you partner with an existing student group—like an environmental club or student council?
- If not, could you create a small student leadership team to help plan?

During the Month: Build Ownership, make space for student choice:

Ownership often grows when students have a say. You might ask:

- Do students want to work solo, in pairs, or in small groups?
- Would they like to vote on a field trip, guest speaker, or project theme?
- Can they choose the order of lessons or select which activities to focus on?

Ensure leadership opportunities are shared equitably among girls and boys while encouraging students who are underrepresented in leadership roles to.

Keep learning hands-on and engaging

Encourage students to investigate real problems, reflect on what they discover, try creative ideas, and experiment with solutions. The more active the learning, the more empowered students will feel.

This is also a great time to take your lesson outside, connect with farmers, and try growing some of your food.

Showcase and celebrate, host an end-of-month assembly or celebration

This can be a powerful way to highlight what students learned and achieved. Students can take leadership roles here as well.

- Contact speakers or community partners
- Invite classmates to present their projects
- Collect reflections or stories from peers
- Help plan the flow of the event

Extend Learning Beyond School, encourage students to take action at home

Simple take-home activities or reflection prompts can help students bring zero food waste habits into their families and communities. This strengthens their confidence as leaders and spreads impact beyond the classroom.

A note on tailoring to regional context:

- Opportunity to change some of the references for relevance. For example, translate figures into equivalent local references
- Highlight local initiatives with guest speakers or field trips, invite students to partner with local organizations
- Emphasise traditional practices or relevant cultural practices that enable food waste reduction
- Field trips can include visits to the school's own kitchen, a community garden, or a composting facility.
- Connect with other local schools and UNEP's regional working groups

A note on behavior change

Decisions made throughout the production and consumption of food directly influence how much food we eat, and how much of it is lost or wasted. Understanding this cycle helps us recognize the value of food and the importance of using it with care.

Students can play an important role in reducing food waste by learning sustainable habits at school and sharing them with their families at home. Small changes in daily routines can make a big difference.

Here are some practical actions students can discuss in class and practice with their families:

I) Shop smart: plan meals and make a shopping list before buying food.

II) Store food correctly: learn and share tips on how to keep food fresh for longer.

III) Use the whole food: explore recipes that make use of edible peels, stems, and leftovers.

IV) Plan portions: cook the right amount to avoid unnecessary waste.

V) Share surplus food: organize food-sharing with friends, neighbors, or community groups.

VI) Choose "imperfect" food: support markets and vendors that sell fruits and vegetables that may look different but are perfectly good to eat.

VII) Composting: With prevention as a priority, any remaining food scraps can be composted. Consider using home composting systems or municipal services where available.

By adopting these practices and spreading the message in schools and communities, **youth can help drive a culture that values food and reduces waste.**

01 Understanding



Photo source: CDC / Unsplash

This first pillar introduces students to what food waste is and helps them explore how it shows up in their own lives and communities. It explains the social, environmental, and economic impacts of wasting food, and gives students hands-on ways to observe these impacts - such as conducting food waste audits or visiting a local facility or organization. Throughout these activities, students are encouraged to think about how the food system works and to reflect on the true value of food.

What is Food Waste?

Summary: In this lesson, students will learn the definition of food waste, where and why it occurs, and the social, environmental, and economic impacts associated with it.

Time Required: 30 minutes

Learning Objectives

- Define food waste, introduce the food waste hierarchy[1], and identify related social, environmental, and economic costs
- Examine food waste from the individual and societal scales
- Identify food waste in broader conversations around food systems

Materials Needed

Educator Preparation:

- Slides: What is Food Waste? Grade 6-12 | WWF
- A slide with the Wasted Food Scale | EPA
- Blemished, bruised, or 'ugly' food
- (Optional) A bag of food weighing as much as the weekly average food waste based on the country, according to the Food Waste Index | UNEP

Before You Begin

- Set up the projector and slides
- Set up a few food waste stations around your classroom that share examples of misshapen fruits/vegetables, packaged food items with expired sell-by dates[2] that are still okay to eat, a bag of food weighing approximately the weight of what a single person in that country is estimated to waste on average per month or week, according to the Food Waste Index | UNEP

Ex: Jamaica, 86kg per year (approximately 7 kg per month)

Warm Up: Ask students, as a whole group, small groups, or in partners, "What is Food Waste?"

Activity

- Present slides, using slide notes as speaking points
- Explain the food waste scale
- Do a guided visit of the food waste stations

Take-home investigation (optional)

Prompt: Over the next 3 days, observe and record instances of food waste at home, at school, at a restaurant, or wherever else you can consume food. What are the causes of food waste you see? What are the impacts? If you don't see food waste happening, what types of actions are preventing it?

Reference for Food Waste concept:
United Nations Environment Programme (2024). Food Waste Index Report 2024: Think Eat Save – Tracking Progress to Halve Global Food Waste. Nairobi: United Nations Environment Programme.

[1] A framework that presents priority actions for managing food and food waste, from the most to the least preferable.

[2] Date labels depend on national legislation. In some countries, most packaged foods carry a single expiration date after which retailers cannot sell the product (e.g., Brazil), although fresh packaged fruits and vegetables may not require this information. In other countries, different types of date labels are used, such as "use-by" (safety) and "best before" (quality). Educators should consult national regulations when applying this activity.

The Food Cycle: From Farm to Fork (and Beyond)

Summary: In this lesson, students will learn the main stages of the food cycle, recognize where food loss and waste can occur, and reflect on their own place within the food system.

To that end, teachers, along with the school administration, could access information about the food's journey from supplier to student's plate: how foods are chosen, how the menu is defined, how foods are received, stored, and prepared at the school.

Time Required: 20-30 minutes

Learning objectives

- Define food cycle, introduce food waste hierarchy, and identify related social, environmental, and economic costs
- Examine food waste from the individual and societal scales
- Identify food waste in broader conversations around food systems

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Materials Needed

- Educator preparation: photos about the food system across the supply chain—printed or downloaded on a presentation.

Per student or group of students:

- Writing utensil and sheet of paper
- Food System supply chain sheet

Activity Part 1: Warm Up

Ask students, as a whole group, small groups, or in partners, "How did the food you ate today reach your plate?"

Ask students to name the stages. Write them on the board. Usually, the following come up: farm, transport, supermarket, and home.

Then say: "Let's see what we might be missing."

Activity Part 2: The Food Cycle Explained

The proposal is for students to understand the food cycle, recognizing its complexity until food reaches the plate. To do so, select photos that represent each stage (1 to 6).

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1. Production:

a) Farming (crops & livestock)

b) Inputs: water, land, seeds, labor, fertilizers, energy

c) Risks: climate events, pests, market volatility

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2. Post-Harvest & Storage:

a) Handling, cooling, storage

b) Losses due to poor infrastructure

c) Critical stage in many developing regions

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3. Processing & Packaging

a) Transformation (washing, cutting, cooking, packaging)

b) Standardization (appearance, size, quality control)

c) Waste from trimming, rejection, and overproduction

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4. Distribution & Retail

a) Transport to markets

b) Supermarkets, restaurants

c) Waste from rejection of "ugly" food or expiration dates & overstocking

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5. Consumption

a) Households

b) Restaurants

c) Buffets, schools

d) Waste from behavior, portion size, planning

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6. Recovery or disposal

a) Food donation

b) Animal feed

c) Composting

d) Final disposal → methane emissions

Activity Part 3: Systems Reflection

Encourage reflection on the food cycle with the following questions:

a) Where do you think most food is lost?

b) Which stage uses the most resources?

c) Which stages are influenced by individual behavior?

d) Which requires policy or systemic change?

What Food Means To Me: Haiku and ZIP Ode Poetry

Summary: This activity engages students in exploring the meaning of food through poetry, using forms like haiku and odes to reflect on personal and cultural connections. It builds skills in rhythm and imagery while promoting awareness of gratitude, mindful consumption, and food waste, encouraging students to value food more deeply through creative expression.

Time Required: 60 minutes

Learning Objectives

- Explore poetic forms such as haiku, ode, popular poetry, other forms of poetry, or free verse to express personal connections to food
- Practice counting syllables and understanding rhythm in poetry
- Use sensory details and imagery to create vivid descriptions of meaningful foods
- Reflect on cultural, family, and personal food traditions and memories
- Connect personal food experiences to broader themes of gratitude and mindful consumption
- Build awareness of food's emotional and cultural significance

Materials Needed

- Writing materials (paper, pens, or digital devices)
- Timer for writing activities
- Sample foods or food pictures for inspiration (representing different cultures)
- Syllable counting guides or dictionaries
- Optional: colored pencils for illustrations
- Optional: family photos with food or cultural artifacts



Activity Part 1: Understanding Poetic Forms

Time Required: 10 minutes

A. Haiku Review

Instructions:

1. Explain the haiku structure and write the 5–7–5 pattern on the board.

2. Read the example aloud and discuss:

- What feelings does it express?
- What does the poem say about why food matters?

3. Connect to food waste: encourage students to consider how even small, simple foods can inspire meaning—showing that every food item has value.

Structure: 3 lines with 5-7-5 syllable pattern

Focus: Personal moments, emotions, memories, meaningful experiences

Example: 2025 Poetry Contest Winners | FW Prevention Week

Food is my sunshine,
And I am the plant that grows,
I need food to live.

Christina Cheng
Pinecrest Elementary

B. Zip Ode Review

Instructions:

1. Demonstrate how each number in a ZIP code corresponds to the number of words per line.

2. Read the example aloud and identify elements of gratitude and celebration.

3. Discuss: "How does celebrating food help us appreciate it more and reduce waste?"

4. Reinforce the Youth-Led Month of Action message:

- valuing food = wasting less food.

Structure: Poem of praise or celebration - 5 lines each number of your zip code determines the number of words in that line.

Focus: Honoring something personally meaningful

Tone: Appreciative, grateful, celebratory, personal

Example:
8. Together at the table with family and friends
3. We thank food
4. For moments like these
5. For bringing our family together
5. We thank you for everything.

Blue Agnew
Mountain Academy (Teton Science Schools)

Activity Part 2: Syllable Practice and Personal Food Reflection

Time Required: 10 minutes

A. Syllable Counting Practice

Instructions:

1. Say a word from the list and have students:

- clap the syllables,
- tap them, OR
- count on their fingers.

Example: Have students clap out syllables for meaningful food-related words

1 syllable: love, home, warm, sweet, fresh, rice, bread

2 syllables: comfort, mother, family, birthday, cozy, pancakes

3 syllables: grandmother, memory, tradition, chocolate, spaghetti

4 syllables: celebration, delicious, togetherness, family dinner

5 syllables: refrigerator, unforgettable, community

2. Have them create short food-related phrases and identify the syllables again.

3. Explain: "Paying attention to language details mirrors paying attention to our food—helping us waste less."

B. Personal Food Brainstorming

Instructions:

1. Students create a personal word bank.

2. Give 2 minutes for each category (comfort, celebration, connection, story).

3. Encourage including foods that are commonly wasted (e.g., overripe fruit, leftovers, stale bread).

4. Students circle 3 foods with the strongest emotional or cultural meaning.

Students create their own word bank by reflecting on:

Foods that comfort me:

- What do you eat when you're sad, sick, or stressed?
- What foods make you feel better?

Foods that celebrate:

- What do you eat on special occasions?
- What foods are part of your family traditions?

Foods that connect me to others:

- What foods remind you of specific people?
- What do you love to cook or eat with friends/family?

Foods that tell my story:

- What foods represent your culture or heritage?
- What foods have special memories attached?



Activity Part 3: Haiku Creation - "Food Memory Moments"

Time Required: 15 minutes

Instructions: Students will write 3-4 haiku capturing meaningful moments with food from their personal experience.

Haiku Themes to choose from

1. Comfort Meal: A food that makes you feel better or safe

2. Celebration Food: A food connected to holidays or special occasions

3. Family Food: A food that reminds you of someone special

4. Cultural Food: A food that connects you to your heritage or identity

Example Haiku Series - "What Soup Means to Me":

Haiku 1 - Comfort:
Steam curls from the bowl (5)
Chicken soup when I feel sick (7)
Mom's love in each spoon (5)

Haiku 2 - Memory:
Slurping noodles loud (5)
Dad laughs at my messy face (7)
Joy tastes like ramen (5)

Haiku 3 - Connection:
Sharing one big pot (5)
Everyone gathered around (7)
Food brings us closer (5)

Writing Prompts

- "What food always makes you smile? "
- "What do you eat that reminds you of home?"
- "What food connects you to your family history?"
- "What do you love to share with others?"

Writing Process

1. Choose a meaningful food and reflect on WHY it matters to you
2. Write about the feelings, memories, or people connected to this food
3. Write without counting syllables first (focus on meaning)
4. Go back and adjust for 5-7-5 pattern
5. Read aloud to check rhythm and emotional impact

Activity Part 4: Ode Writing - "In Praise of My Meaningful Food"

Time Required: 15 minutes

Instructions: Students will write an ode (8-12 lines) celebrating a food that holds deep personal meaning, exploring what it represents in their life.

Ode Structure Guide

- Opening: Address the food item directly ("Oh..." or "Dear...")
- Personal Connection: Share why this food matters to you
- Sensory Details: Use details about taste, smell, texture, appearance
- Emotional Impact: Explain how this food makes you feel
- Cultural/Family Connection: If relevant, connect to heritage or family
- Gratitude: Express appreciation for what this food brings to your life

Example Ode - "Ode to My Grandmother's Tamales":

Oh tamales, wrapped treasures
of my childhood,
Your corn masa holds more than
beans and meat—
You carry the stories of my
abuela's hands,
The patience she taught me as we
folded together.

Every Christmas morning, your smell
fills the house,
Steam rising like prayers from the big pot,
You taste like tradition, like belonging,
Like the Mexico I've never seen but feel
in my heart.

In your simple warmth, I find my family,
My roots, my identity served on a plate,

Dear tamales, you are more than food—
You are love, memory, and home
all at once.

Ode Topics to explore

- A comfort food that soothes you
- A celebration of food from your culture
- A food someone specially taught you to make
- A food that represents home to you
- A simple food that holds big meaning
- A food you love to share with others

Reflection Questions Before Writing

- What does this food remind you of?
- How does it make you feel when you eat it?
- What memories are connected to this food?
- Who do you think of when you eat this food?
- What would you want others to understand about this food?

Writing Process

1. Choose a personally meaningful food
2. Spend 2-3 minutes reflecting on why it matters
3. List sensory details and emotional connections
4. Write in free verse (no set rhyme scheme)
5. Use vivid, personal language
6. Express genuine appreciation

Activity Part 5: Poetry Gallery Walk and Reflection

Time Required: 10 minutes

Instructions

1. Students will post their haiku and odes around the classroom and do a gallery walk to read each other's work.

Gallery Walk Guidelines:

- Walk quietly and respectfully
- Read at least 6 different poems
- Leave a positive sticky note comments on 3 poems
- Notice different food items and creative descriptions

2. After the gallery walk, students will reflect on the following questions

Reflection Questions:

- Which poem made you think differently about food waste?
- What sensory details were most effective in the poems you read?
- How did writing poetry change your perspective on "wasted" food?
- Which food item from the poems would you most like to "rescue"?

Extension Activities

For Advanced Students:

- Write a longer narrative poem about the journey of food from farm to table
- Create a poetry chapbook with illustrations about food waste prevention
- Research and write haiku about food waste in other cultures

- Write a slam poem about food waste for a school performance

For Younger Students:

- Illustrate their haiku with colorful drawings
- Create simple rhyming couplets about saving food
- Write acrostic (first letter) poems using words like FOOD, WASTE, or SAVE
- Make up silly songs about eating leftovers

Assessment Rubric

Excellent (4 points):

- Haiku follows 5-7-5 syllable pattern perfectly
- Ode shows clear appreciation and vivid imagery
- Creative use of food waste vocabulary
- Demonstrates understanding of poetic devices

Proficient (3 points):

- Haiku mostly follows syllable pattern (1-2 syllables off)
- Ode shows appreciation with some imagery
- Good use of vocabulary
- Some understanding of poetic devices

Developing (2 points):

- Haiku attempts syllable pattern but has errors
- Ode shows basic appreciation
- Limited vocabulary use
- Basic understanding of poetic devices

Beginning (1 point):

- Little attention to haiku structure
- Minimal effort in ode writing
- Very limited vocabulary
- Little understanding of poetic devices

Food Memories

Summary: Food can be a pathway to our past, our heritage, and our history. One way for us to understand how food can link us to our past is to speak to people who have been around a little longer than we have. The stories, practices, and rituals of our elders can teach us many important lessons. In this lesson, you will explore your kitchen memories of elders and family members that minimized food waste.

Time Required: 20-40 mins (longer if completing recipes, see recipe directions for details)

Learning Objectives

- Reflect on personal and family food traditions, identifying how elders or caregivers prepared, preserved, or valued food in ways that minimized waste.
- Describe the cultural, emotional, and historical significance of food memories, recognizing how recipes and rituals connect generations.
- Interview or recall stories from elders or family members to document practices that reduced food waste at home or in the community.
- Identify at least one food-saving technique passed down through family or cultural tradition (e.g., reusing leftovers, preserving food, creative cooking).
- Create a visual representation (Food Memory sheet or Recipe Card) to illustrate a meaningful food memory and the associated waste-reduction practice.
- Explain how traditional knowledge can inspire modern solutions to reduce food waste today.

Materials Needed

- Colored pencils
- Food Memory visual (see below)
- Recipe Card visual (see below)

Notes: This lesson is based on Kitchen Lessons: Food Memories, which was developed by the Edible Schoolyard Project in collaboration with UNEP (The Edible Schoolyard Project n.d.a) and is designed to complement UNEP's digital campaign #KitchenMemories Series. To learn more, go to the information site for the International Day of Awareness of Food Loss and Waste.

Activity: The Food Memory material below provides step-by-step instructions for the activity.









KITCHEN LESSONS: FOOD MEMORIES

Student Name:

_____

Summary: Food can be a pathway to our past, our heritage, and our history. One way for us to understand how food can link us to our past is to speak to people who have been around a little longer than we have. The stories, practices, and rituals of our elders can teach us many important lessons. In this lesson, you will explore your kitchen memories of elders and family members that minimized food waste.

Time: 20–40 mins (longer if completing recipes, see recipe directions for details)

Materials:

- Colored pencils
- Food Memory visual (attached below)
- Recipe Card visual (attached below)

This lesson was developed by the Edible Schoolyard Project in collaboration with The United Nations Environment Programme (UNEP) and is designed to complement UNEP's digital campaign #KitchenMemories Series. To learn more, go to the information site for the International Day of Awareness of Food Loss and Waste.



KITCHEN LESSONS: FOOD MEMORIES

READ AND ANSWER: Your grandparents, elders, and family members have been ingenious in the ways they have used ingredients and made their meals. Consider who in your family is particularly mindful about food waste. Write your answers to the following questions.

1. Is there someone in your family that is serious about reducing food waste? Describe what they do? How do you feel about their practices and habits?

2. Why do you think they were so serious about food waste? Where did they learn it from?

READ: Our memories and the stories of our elders are filled with important lessons and stories. To get you thinking about your own memories, you will watch a video from StoryCorps in which a woman tells a story about cooking with her grandmother.

WATCH: Watch this short, animated video from StoryCorps of Chloe Longfellow sharing a story of cooking with her grandmother. https://storycorps.org/animation/chloe-longfellow/

ANSWER: What is one thing that surprised you or that you liked about the video?

KITCHEN LESSONS: FOOD MEMORIES

CONSIDER: Think about your family's recipes, tips, and practices for reducing food waste.

DO: Choose ONE of the following activities to explore the recipes and tips from the traditions of your loved ones.

INTERVIEW: Interview an elder or family member on their practices and recipes for reducing food waste. Prepare your questions ahead of time. Sit down with your interviewee or call them up. Then ask them your questions. Here are some questions you might include, but feel free to add your own.

- What is one of your favorite recipes?
- How did you learn about the recipe?
- Would you walk me through the recipe?
- What memories do you have about eating or making the dish?

IMAGINE: Draw or write about a kitchen memory you have with an elder or family member. Ask someone in your family to tell you about a time that sharing food created a connection to where food comes from. Fill out their response in the Food Memory visual (attached below). On the visual you will find some prompts to help you remember specific details, and a space to draw a picture if you want to illustrate the story.

CREATE: Use the Recipe Card visual (attached below) to create and decorate a recipe card of a family recipe that reduces waste. Try to communicate through your decoration why the recipe is important to you. Don't hold back on the design or colors! When you are done decorating your recipe card try making the recipe!

ANSWER: After reflecting on your experience of interviewing an elder, thinking about food memories, or illustrating a family recipe, write your answers to the following questions.

1. What are some practices discussed you could adapt to reduce your food waste?

2. Is there someone whose approach to food waste you draw inspiration from? Who is it and why?

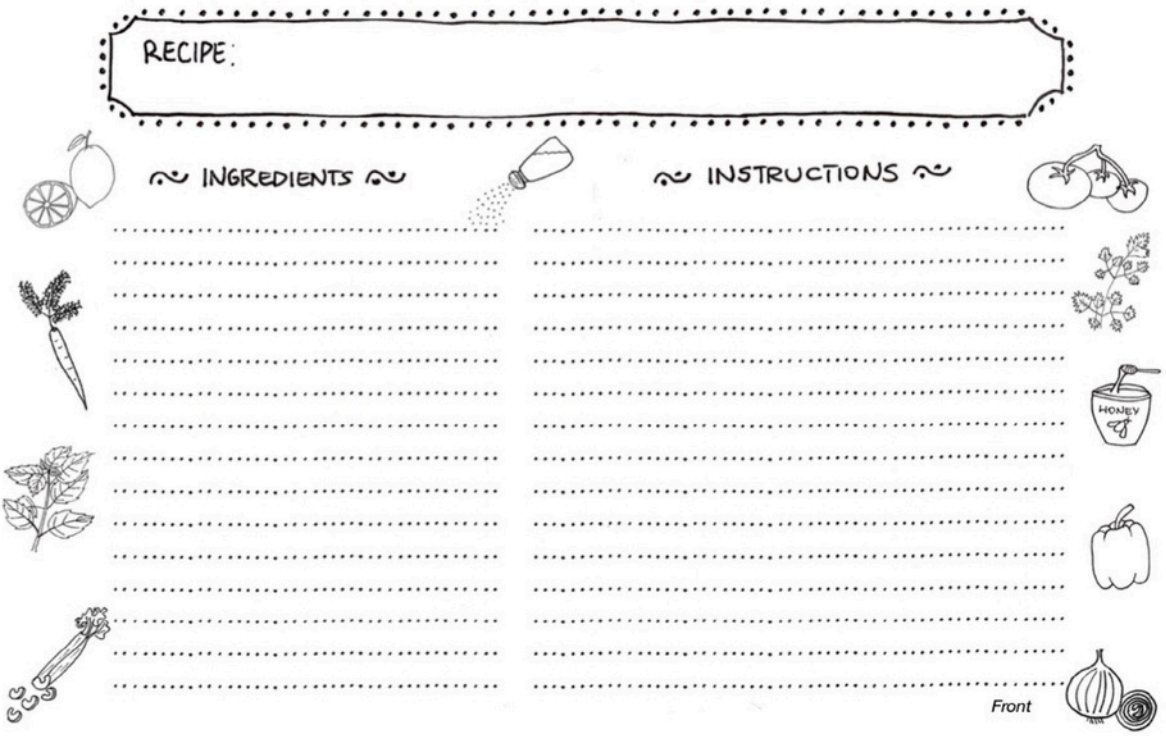
3. What are some of the reasons why you feel it's important to not waste food?

DISCUSS AND DO: Consider using these conversation prompts and activities to discuss food waste as a family.

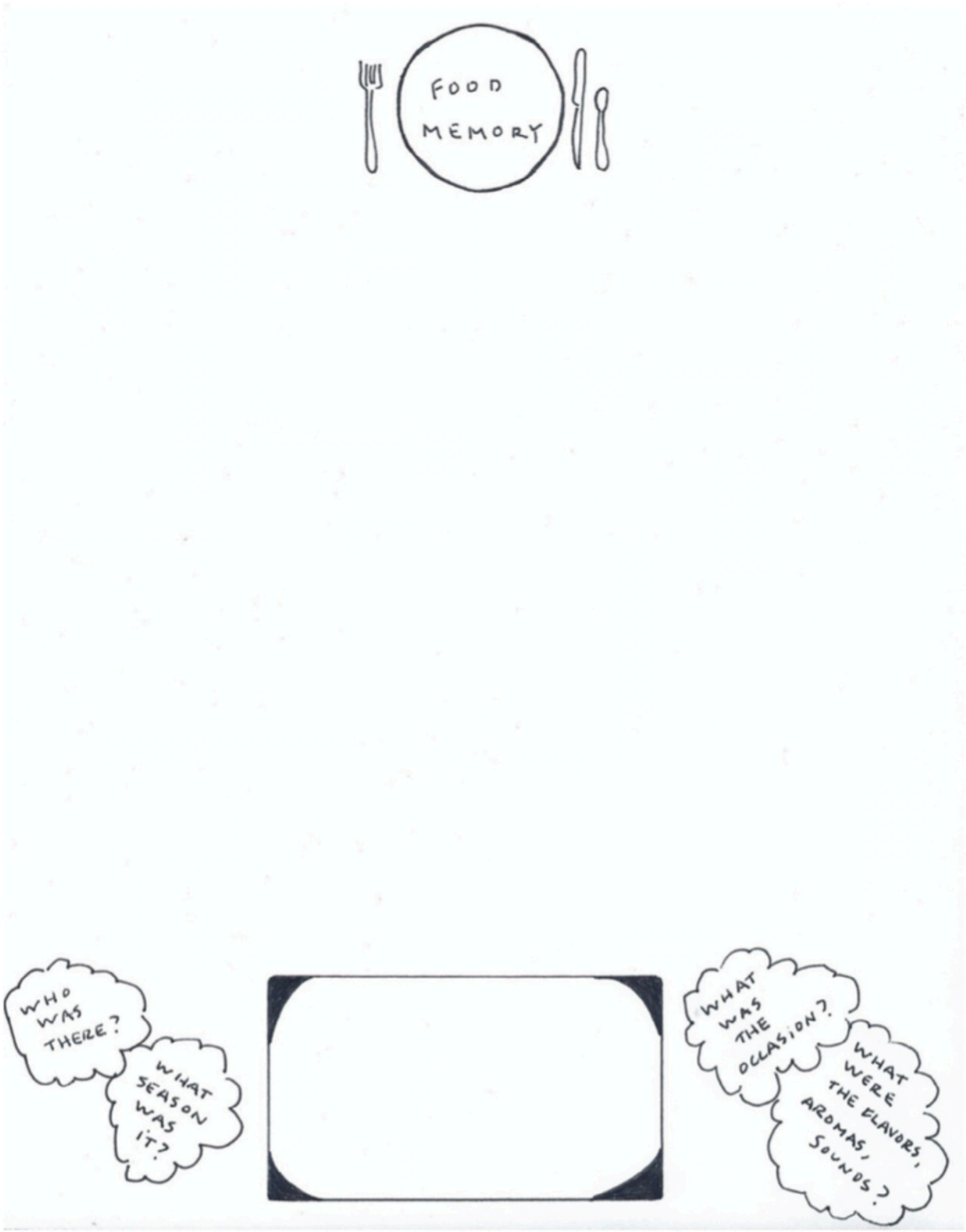
- Discuss the messages you heard around food waste - What did you hear? What do they mean to you?
- Discuss some of your favorite recipes that use ingredients that might be considered waste.
- Talk about practices you can do as a family to decrease food waste. What is one thing each of you can do individually and one thing you can do together as a family?
- Set out to challenge yourself. Consider cooking at least one meal a week where you either use ingredients that would otherwise be wasted or create the least amount of food waste possible. This might mean using leftovers to create a new meal or using produce that is about to spoil.
- Learn together. Check out the United Nations Environment Programme's Think.Eat.Save website. Explore the website as a family and discuss some of statistics and ways that your family could decrease food waste.

KITCHEN LESSONS: FOOD MEMORIES

[RECIPE CARD VISUAL]



[FOOD MEMORY VISUAL]



Ne'Ma Food Waste App

Summary: The 7 Days ne'ma Diary is a school-based awareness and behavior-change initiative designed to educate students on the social, environmental, and economic impacts of food loss and waste. This extracurricular activity targets school-age students and encourages participants to reflect on their daily food consumption habits through structured tracking over seven days.

Through student participation, the initiative extends beyond classrooms into households, influencing families and communities through student-led awareness and behavioral change.

The ne'ma Diary App is a digital educational tool developed to support the implementation of the 7 Days ne'ma Diary challenge. The mobile application enables students to log their daily meals, record food leftovers, and promote positive practices of food donation, helping students understand the value of mindful eating.

The app automatically calculates the environmental impact of food waste, including estimated carbon dioxide (CO_2) emissions and water loss, as well as carbon and water saved. By visualizing these impacts, students gain a clearer understanding of the consequences of food waste and the importance of mindful consumption.

Time Required: Approximately 1-2 minutes for the main recording activity per meal per day (the total daily time may vary depending on the number of meals or snacks consumed).

Learning Objectives

- Help students understand the importance of reducing food waste and its environmental impact, particularly in relation to CO_2 emissions and water loss.
- Inspire students to become ne'ma champions and take collective action toward minimizing food waste.
- Encourage reflection and accountability through daily records of food intake and waste.
- Promote sustainable behaviour, food ethics, and social responsibility through awareness and action.
- Engage parents in reducing household food waste by leveraging the influence of school-based education.
- Provide schools and educators with measurable insights into students' behaviours and progress.

Materials Needed

- Participating schools must ensure students have access to tablets or mobile phones to photograph and document food leftovers accurately.
- Local ownership by schools ensures sustainability and long-term impact.

Activity: Throughout all 7 days, students were expected to log their food intake and wastage, promoting habit-building and reflection. The table below provides an example of the activity plan:

The 7 Days ne'ma Diary is designed for **easy replication and scale**. All core components are fully automated through a secure web platform and mobile application, enabling schools to independently implement the program. Project implementation and ongoing execution are led directly by registered schools, ensuring local ownership as schools are able to independently assign the challenge for two weeks and measure their impact.

Day	Activities
Registration & Onboarding	**Project Launch and Onboarding** It is suggested to initiate the onboarding process 10 days prior to the project activation, which will entail the following steps: 1. School Representative [School Admin] registers the school and teachers via School Admin Registration. Click School Admin Tutorial to view the instruction. 2. Teachers receive login credentials and register participating students. Click Teacher Panel Tutorial to check the instruction 3. Students receive login credentials, download ne'ma Diary App via App Store and complete onboarding. Click Students Tutorial to view the App tutorial! 4. App onboarding and tutorial walk-through
Day 0	An orientation day to teach students the importance of reducing food loss and waste
Day 1–7	**Daily Challenge** Students log meals, record food waste, and donations. • Students may record leftovers per meal or all at once for the entire day; however, please note that all daily data logs must be completed before 6:00 a.m. the following day. Teachers monitor participation through the dashboard • Leaderboards update in real time to encourage engagement
Day 7	**Completion** • Students complete final diary entries • Teachers collect engagement feedback • Automated summary reports are generated
Awarding Ceremony Day	**Awarding and Reflection** • Awarding ceremony date determined by school management • Reflection sessions support learning and discussion • Students and schools receive recognition certificates

02 | Acting



Photo source: Erin Scott / Edible Schoolyard Project

Hands-on Food Waste Prevention:

This pillar equips students with practical skills to prevent food waste by building confidence in the kitchen, encouraging responsible consumption and food management, and introducing composting.

“Waste Not” Audit

“Waste Not”: Food waste awareness and reduction through math-driven decision-making

Summary: A 3 Part Lesson where students construct knowledge through hands-on experience, data collection, and evidence-based experimentation to inform strategies, systems, and solutions to complex challenges.

Learning Objectives

- Conduct a food waste audit in a simulated or real setting, applying appropriate observation and measurement techniques.
- Collect and accurately record quantitative data related to food waste generation.
- Organize collected data into clear tables, charts, or graphs to support interpretation and communication.
- Analyze the data to identify patterns, calculate percentages, and draw meaningful conclusions about food waste trends.
- Develop and present evidence-based solutions to reduce food waste based on their audit findings.

Materials Needed

- Step-by-step audit guidance: How to Conduct an Audit at Your School | WWF

Note: WWF has published extensive guidance and toolkits for conducting student-led food waste audits at schools. See the step-by-step guidance in the annex and learn more here: https://www.worldwildlife.org/teaching-resources/toolkits/be-a-food-waste-warrior

Lesson Plan Outcomes

- Engage: Capture students’ attention and connect to prior knowledge.
- Explore: Provide opportunities for hands-on investigation and discovery.
- Explain: Introduce and clarify scientific concepts.
- Elaborate: Extend learning through applications, problem-solving, and connections.
- Evaluate: Assess student understanding and provide feedback.

Rubric: Educators may utilize the creation of the table, data sets, analysis, and solutions as a measurement of the students’ ability to:

- Develop a clear understanding and process for computing and analyzing data.
- Ability to consistently collect, monitor, and report on information.
- Ability to assess failures, gaps, and improvements in data collection.
- Diversity of data collection tools to inform the purpose and hypothesis of the experiment.
- How to create quantitative and qualitative data assessments.

Activity Part 1: Track the Waste

Time Required: 30 minutes

Modality: Small - medium Groups

Materials Needed

- Food Waste Audit sheet and utensils
- Receptacles for lunchtime food waste collection, such as bins or buckets, with food labels/ signage
- Gloves or protective gear, as necessary, for students to sort through lunch waste
- (Optional but recommended) tarp for food collection, compostable bags to line receptacles, spatula to scoop out food from containers (if applicable)

Instructions

1. During dedicated lunch period(s) collect lunch time waste in receptacles that students can sort. Ideally, the audit would be conducted over a week of lunch periods, with the first day's data being dropped from analysis to reduce bias when the audit is introduced.
   Note: if real-time lunch audits are not feasible, you can simulate the audit with pretend or actual food items
2. Record the type of food wasted, estimated or measured weight, and reason for waste (e.g., too much, didn't like, spoiled).

Prompt: "Food is Wasted. If we determine what/why food is wasted, suggest ways to prevent or reduce it."

Tasks

1. Students consider the prompt and create a set of data points that will help them assess, evaluate, and recommend strategies, systems, or solutions.
2. Students evaluate how much data and for how long, specific criteria, critical control limits, etc
3. Data points are entered into a table format
4. Students create a data table to track the information.

Additional Activity Opportunities:
Educators can provide information as to what types of data tools are available for capturing information and analyzing results.

Activity Part 2: Evaluate the Numbers

Time Required: 30 - 60 minutes

Modality: Small - medium groups

Instructions: After collecting the materials and recording the information, instruct the students to organize and analyze the data in a spreadsheet, producing graphs that allow the results to be visualized.

Tasks

1. Add total food waste weight
2. Calculate percentages by food group (fruits, veggies, grains, etc.)
3. Create a bar graph or a pie chart showing the food categories wasted
4. Identify the most common reasons for waste

Mathematical Concepts: Educator can improve the difficulty of the activity based on students' age/math skills

- Adding decimals
- Mass and capacity measurement units
- Creating Percentages (e.g., 1.2 lbs fruits ÷ 4 lbs total = 30%)
- Visual data representation - what kind of modeling computation helps tell the story
- Mean, mode of data



Activity Part 3: Solving it Together

Opportunity to connect to Pillar 3: 'ADVOCATING' later in the guide, using data to inform infographics or other persuasive communication.

Time Required: 30-60 minutes

Modality: Group

Instructions: Based on their audit findings, students brainstorm solutions to reduce the most wasted item or reason

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Prompt: "What does your data tell you? What factors do you think lead to food being wasted? Based on your most wasted item, create a simple plan that your class or school could implement to reduce that type of waste."

"What surprised you most about the food waste numbers you calculated? How can math enable us to make informed decisions?

Tasks: Groups create a one-page team proposal or poster presentation, including:

1. Summary of findings (math-backed)
2. Suggested change (e.g., smaller portions, share tables, compost bin)
3. A visual (mini poster, pie chart, or slogan)

Further,

- Challenge the students to convert their data into a comic strip or illustrated infographic, showing a meal's journey from plate to bin — and how it could be saved.
- Groups compete for the winning prize.
- The prize showcase is exhibited at a local event, showcase, and presented to city officials.

Use Your Senses: Managing Food

Summary: Students explore scenarios in which they can avoid food waste at home, as consumers at school, and as shoppers

Time Required: 30 minutes

Learning Objectives

Providing students with critical analysis skills and tips for preventing and minimizing food waste

Providing students with ways to respond when they see or experience situations where food waste occurs

Materials Needed

- Writing prompts below

Activity

1. Warm up Discussion (5 min):
In small groups, pairs, or as a classroom encourage discussion around the following questions:

- What are some reasons that people may waste food? Possible responses may include: lack of time, not liking a food or being tired of eating it, forgot, bought too much, portion was too big.

2. Invite students to reflect on the following prompts (25 min):

Prompt: "There are things we can do as consumers in our homes, when we eat out, and as shoppers to prevent food waste. Today we are going to come up with some strategies for preventing food waste."

- Ask each group to discuss the following five scenarios and identify practical actions that could help prevent food waste.
- Read each scenario and discuss it with your group. Identify practical actions that could help prevent food waste. Think about what you would do in each situation and explain why your solution would help reduce food waste.
- If time allows, invite a representative from each group to report back to the classroom on what they discussed in their group.

Use your senses:

Scenario #1
You would like to drink juice that's one day beyond the expiry

Scenario #2
Your bread keeps going moldy before you finish the whole loaf

Scenario #3
You notice food keeps going old in the back of the fridge

Scenario #4
You're served a meal that you don't want to eat because there's no food you like

Scenario #5
You notice a lot of food is wasted at lunch at school, when you travel somewhere, or at home, what do you need to do?

Saving the Scraps

Summary: In this lesson, students will learn about food waste and then try making some recipes utilizing ingredients that might have otherwise been wasted. This three-part series includes lessons that can be done at-home or in the classroom on the traditions of pickling and fermentation, making pesto from greens, and making veggie stock from leftover peels and scraps.

Time Required: Each part is intended to take 20-40 minutes (longer if completing recipes. See recipe directions for details.)

Learning Objectives

- This activity encourages students to feel that cooking and gardening are more accessible.
- This activity supports students to learn hard skills in growing and preparing food, such as knife technique, building a well-balanced compost pile, etc.

Notes

This lesson is based on Saving the Scraps: Reducing Food Waste in the Kitchen, which was developed by the Edible Schoolyard Project in collaboration with UNEP (The Edible Schoolyard Project n.d.b).

Activity Part 1: Saving Scraps for Vegetable Stock Lesson

Summary: No matter the season, vegetable stock is a staple for many cooking projects and is also a great way to reduce food waste. In this lesson, you will learn how to make stock from kitchen scraps, reflect on food waste, and then make some delicious spring and summer soup recipes.

Materials Needed

- Assorted vegetable scraps (e.g., onion peels, carrot tops, garlic skins)
- Water
- Pot for cooking
- Stove or heat source
- Strainer (optional)
- Storage containers (e.g., jars or freezer-safe containers)
- Freezer (to store scraps over time)

Instructions

MAKE: Try your hand at making this recipe for a stock made from organic vegetable scraps that would have otherwise gone in the compost. For this recipe, use our Stock Recipe Visual. We recommend gathering vegetable scraps (for example, onions, garlic, green ends, carrot tops) throughout a couple of days or a week. Keep the vegetable scraps in the freezer and then make a big batch of stock! Get your family involved, ask a parent or guardian to help you!

Now that you have your stock, try making some soup! Look for a recipe in your family's cookbooks or on the Internet or adapt other recipes closer to your cultural habits.



Photo source: Ashley Rouse / Edible Schoolyard Project

Notes: This lesson is adapted from the Edible Schoolyard Project Autumn Harvest Soup Lesson. The Teacher Notes section of that lesson is especially rich with ways to extend the lesson.

Activity Part 2: Create Your Own: Quick Organic Pickles

Summary: Pickles are a delicious snack or accompaniment to many different foods. Pickling — the process of fermenting in a salt brine or using vinegar to preserve and flavor vegetables — is believed to be the oldest method of preserving food and dates back to over 4,000 years old. In this lesson, you will learn one of the many techniques to pickle vegetables.

Materials Needed

- See the Create Your Own Quick Organic Pickles Visual (see below) to determine what materials you will use.

Before You Begin

- Collect all materials
- Check-in with an adult at home before using a knife (if using a kitchen knife is something you do normally with supervision).

Vocabulary

- Salt brine: a solution (mixture) of water and salt.
- Preservation: in cooking, the term preservation refers to the process of treating and handling food so that it slows down the process of spoilage.

Instructions

1. ANSWER: Spend some time thinking about the different types of pickles that you or your family are used to eating. Answer these questions, either with a classmate, a family member, or on your own.

   - Are there types of pickles you really like?
   - Does your family have a tradition of making your own pickles? If you don't know, ask one of your family members

In this lesson, you will make some quick pickles.

2. DO: Complete the Create Your Own Quick Organic Pickles recipe by following each step and making your own choices. Remember to read over your recipe at least once before you begin cooking.

3. RECORD: Write down your recipe by circling each item you are adding or coloring that item in. You can also write down your completed recipe in the recipe card visual (attached below).

4. ENJOY: Now that you have made some pickles, enjoy them as a snack or as an accompaniment with many different foods.

Create your own Quick Organic Pickles



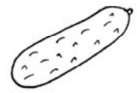
QUICK PICKLES ARE ALSO KNOWN AS REFRIGERATOR PICKLES. THEY ARE VEGETABLES THAT ARE PICKLED IN A VINEGAR, WATER AND SALT (SOMETIMES SUGAR, TOO) SOLUTION AND STORED IN THE REFRIGERATOR.

THIS RECIPE MAKES 2 PINT JARS WORTH OF PICKLES.

STEP ONE

PREP ALL YOUR ORGANIC VEGETABLES FOLLOWING THE DIRECTIONS BELOW AND PACK THEM INTO 2 PINT-SIZED JARS.

- CHOOSE ORGANIC VEGETABLES: 1lb TOTAL


CUCUMBERS


OKRA


CARROTS



RED ONIONS


RADISHES


CAULIFLOWER


TURNIP

OTHER OPTIONS: SUMMER SQUASH, CELERY, ASPARAGUS, WATERMELON RINDS, BELL PEPPERS, GREEN BEANS, BEETS, YELLOW ONIONS. CHOOSE ONE OR PICK A COMBINATION OF A COUPLE.

- CHOOSE PREPARATION METHOD:


THINLY SLICED


CUT INTO SPEARS


DICE

→ WE RECOMMEND CUTTING THE SUMMER SQUASH INTO SLICES. BEETS AND CARROTS PICKLE BEST WHEN PEELED.

STEP TWO

CHOOSE SPICES AND SEASONINGS

- ADD GARLIC (OPTIONAL)


2 CLOVES SMASHED FOR MILD GARLIC FLAVOR, OR SLICED FOR STRONGER GARLIC FLAVOR

- CHOOSE FRESH HERBS AND SPICES: 1-3 SPRIGS OR 1 TABLESPOON MINCED (OPTIONAL)


THYME


DILL


ROSEMARY


OREGANO

OTHER IDEAS: BASIL, GINGER, MARJORAM

→ YOU CAN USE THE DRIED VERSION OF THESE HERBS

- CHOOSE WHOLE SPICES: (OPTIONAL)


2 TEASPOONS BLACK PEPPERCORNS


3 TEASPOONS CORIANDER


1 TABLESPOON MUSTARD SEEDS

OTHER OPTIONS: RED PEPPER FLAKES

- CHOOSE GROUND SPICES:

1 TEASPOON


TURMERIC



SMOKED PAPRIKA


CUMIN

STEP THREE

HEAT VINEGAR AND WATER WITH SALT, SPICES AND SEASONINGS

- CHOOSE VINEGAR: 1 CUP



WHITE OR RED VINEGAR



APPLE CIDER VINEGAR



RICE VINEGAR

- ADD WATER: 1 CUP
- ADD SALT: 1 TABLESPOON

- CHOOSE SWEETENER: 1 TABLESPOON (OPTIONAL)



GRANULATED SUGAR



HONEY



PALM SUGAR

DIRECTIONS: HEAT VINEGAR, WATER, SEASONINGS, SPICES, SALT AND SWEETENER (IF USING) IN A SAUCEPAN. ONCE IT COMES TO A BOIL TURN IT OFF AND LEAVE FOR 3 MINUTES. POUR BOILING MIXTURE OVER THE PREPARED VEGETABLES JARS. LEAVE THE JARS ON THE COUNTER UNTIL THEY ARE COOL. LID THEM AND STORE IN THE REFRIGERATOR THEY SHOULD KEEP FOR UP TO 3 WEEKS.

Activity Part 3: Create Your Own: Any Organic Greens Pesto

Summary: Have you eaten pesto before? Traditionally, pesto recipes are made with basil, but in the recipe we encourage you to experiment with different kinds of greens and herbs! In this lesson, you will make some greens pesto.

Materials Needed

- See the Create Your Own: Any Organic Greens Pesto visual to determine what materials you will use (see below)
- Recipe Card (see below)

Before You Begin

- Collect all materials
- Check-in with an adult at home before using a knife (if using a knife is something you normally do with supervision)

Vocabulary

- Emulsify: combining two liquid ingredients that don't typically stay mixed together in a way so that they don't separate
- Enzymes: protein-based biological catalysts that speed up chemical reactions, including decomposition

Instructions

1. MAKE: This recipe uses various cooking techniques, such as emulsifying and blanching. Take time to read about these techniques before you start making your pesto.
   - To emulsify means to combine two ingredients together which do not easily go together. Ingredients like fat or oil, like olive oil, and water-based liquids like vinegar or lemon juice do not mix naturally, so you must whisk vigorously to combine.
   - Blanching refers to the process of placing vegetables in boiling water for a short time. There are certain enzymes in vegetables that cause those vegetables to lose color, texture, and flavor over time. Blanching makes those enzymes inactive, preserving the color, texture, and flavor of that vegetable. Blanching also converts starches to natural sugars, making vegetables sweeter.
2. DO: Complete the Create Your Own: Any Organic Greens Pesto recipe by following each step and making your own choices. Please note that the recipe requires some special equipment, such as a blender, food processor, or a mortar and pestle. If you do not have that equipment, see the student notes for directions.
3. RECORD: Write down your recipe by circling each item you are adding or coloring that item in. You can also write down your recipe using the recipe card visual.

Notes: If you don't have the equipment listed in the recipe, you can make pesto using a cutting board and a knife by following these steps:

1. On a cutting board using a knife, start mincing the garlic and walnuts, working on the garlic by smashing with the flat side of the knife to continue to break them down.

2. Add greens to the work surface and mince. Then work them into a garlic/walnut mixture, taking plenty of time to get the nuts and herbs to a fine texture before transferring them to a jar or bowl.

3. Add the salt and pepper, cheese, vinegar, and oil to the jar and stir, smashing against the sides with the back of a spoon until a thick green, chunky pesto is formed.

Did you know that pesto freezes well? You can make a large batch of pesto and freeze for later use. Follow these steps:

1. Spoon the pesto into ice cube trays.

2. Place ice cube trays in the freezer for 3-4 hours or until completely frozen.

3. Remove the frozen pesto cubes from the trays and place in a freezer container.

4. The pesto will keep for up to 3 months.



Photo source: Ashe Walker / Unsplash

Create your own ANY Organic GREENS PESTO



STEP ONE

CHOOSE YOUR EQUIPMENT


A BLENDER

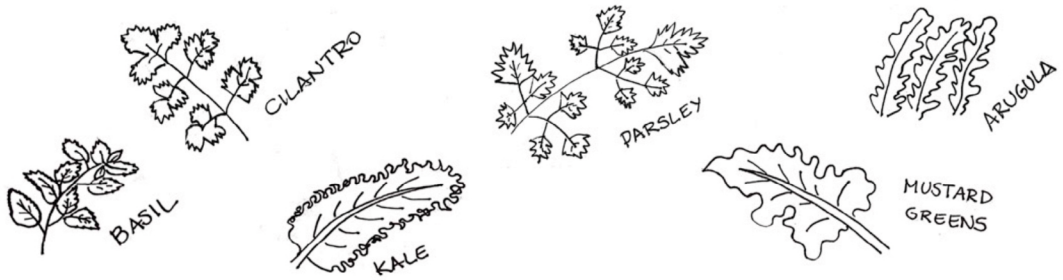

A FOOD PROCESSOR


A MORTAR & PESTLE

STEP TWO

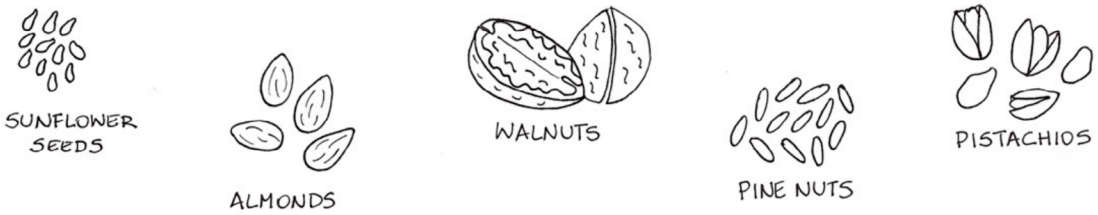
MEASURE AND PREP ALL INGREDIENTS

- CHOOSE ORGANIC GREENS AND HERBS: 1 1/2 CUPS PACKED INTO A MEASURING CUP



DIRECTIONS: WASH, TRIM, RINSE AND CHOP
TRY A MIXTURE OF DIFFERENT TYPES! A NICE COMBINATION IS CILANTRO, PARSLEY, ARUGULA AND BASIL.
IF YOU ARE USING KALE OR MUSTARD GREENS, REMOVE STEMS FIRST YOU CAN EITHER *BLANCH THEM OR LEAVE THEM RAW.

- CHOOSE NUTS OR SEEDS: 1/4 CUP OF:



- ADD OLIVE OIL



1/2 CUP OLIVE OIL

- ADD GARLIC:



1-3 CLOVES FRESH GARLIC



4 CLOVES ROASTED GARLIC

- ADD CHEESE: 1/2 CUP



PECORINO



ROMANO



PARMESAN

→IF YOU WANT YOUR PESTO VEGAN, REPLACE CHEESE WITH 3-4 TBSP NUTRICIONAL YEAST

- CHOOSE ACID: 1 TABLESPOON



LEMON JUICE



WHITE WINE VINEGAR



APPLE CIDER VINEGAR

- ADD SEASONINGS: SALT TO TASTE (START WITH 1 1/2 TEASPOON AND TASTE)
- OPTIONAL SPICES:



1/8 TEASPOON GROUND CUMIN



1/2 TEASPOON PEPPER



1/2 TEASPOON RED PEPPER FLAKES

ADD ALL OR JUST ONE OR TWO!

STEP THREE

MAKE PESTO

READ THE FOLLOWING STEPS FOR THE EQUIPMENT YOU CHOSE:

BLENDER: ADD ALL INGREDIENTS AND BLEND UNTIL SMOOTH.

FOOD PROCESSOR: ADD ALL INGREDIENTS EXCEPT YOUR OLIVE OIL. BLEND UNTIL CHUNKY, THEN SLOWLY ADD OLIVE OIL WHILE THE MOTOR IS RUNNING.

MORTAR AND PESTLE: MIX ALL INGREDIENTS EXCEPT OLIVE OIL AND ACID. POUND INTO A PASTE. THEN ADD ACID. ONCE INCORPORATED, SLOWLY ADD OLIVE OIL.

*THIS RECIPE IS A GREAT WAY TO USE UP YOUR GREENS THAT ARE WILTING, IN EXCESS OR PAST THEIR PRIME.

*TO BLANCH: PLACE THEM IN BOILING WATER FOR 2-3 MINUTES, REMOVE AND PLUNGE INTO ICED WATER OR PLACE UNDER COLD RUNNING WATER (SHOCKING OR REFRESHING) TO STOP THE COOKING PROCESS.

SAVING THE SCRAPS

[RECIPE CARD]

RECIPE:

INGREDIENTS

INSTRUCTIONS

HONEY

Front

Fold or cut here

Back

INSTRUCTIONS

INGREDIENTS

RECIPE:

Flexible Recipes

Summary: In this cooking lesson, students explore how flexible recipes – such as a frittata or a galette[3] – can be one strategy for using a wide variety of foods in order to reduce personal food waste.

Time Required: 90 minutes

Materials Needed: See the Flexible Recipes to determine what materials you will use (see below)

Notes

This lesson is based on Flexible Recipes: Savory, which was developed by the Edible Schoolyard Project in collaboration with UNEP (The Edible Schoolyard Project n.d.a)

Activity

1. Opening Circle

- Introduce the concept of flexible recipes

  Prompt: "One of the most important skills to have in a kitchen is the ability to create a dish without following an exact recipe. This skill is especially helpful when utilizing repurposed foods or ingredients that are about to go bad. Also, it is an opportunity to adapt recipes using local and seasonal foods. One way to do this is by learning the difference between a flexible and a precise recipe." "When you hear the term "flexible recipe" what comes to mind?"

  "A flexible recipe is a recipe that has a base where things can be easily added, replaced, or subtracted. There are lots of flexible recipes in the world that span over many cuisines, cultures, and dietary needs, but today our base will be frittata, which is an egg-based dish that only requires one thing to remain the same, which are eggs."

  "Today we are going to prepare a frittata dish to have alongside two other very flexible recipes which are salad and a salad dressing."

- Transition to table groups

2. Table Groups

- Review knife safety with students.
- Share the recipes, assign food preparation jobs, and begin cooking.
- Conversation prompt while enjoying the food

  Prompt: "What other "flexible recipes" can you think of ?"

  Here are some ideas: Fried Rice, Vegetable Soup, Stir Fry, Roasted Vegetable Tray Bake, "Clean out the Fridge" Pasta Sauce, Grain Bowl, Potato Hash, Quesadillas, Savoury Bread Pudding, Vegetable Curry, Dumplings, Potstickers, Shepherd's Pie, "Odds and Ends" Tart or Quiche, Gratin, Risotto, Congee, Chili, Couscous Salad, Panzanella, Savoury Muffins, Croquettes, Empanadas, Spring Rolls, Burritos, Okonomiyaki and Yakisoba.

3. Closing

- Clean up the classroom
- Invite students to think about foods they often have leftover, and which flexible recipes might be a good fit :

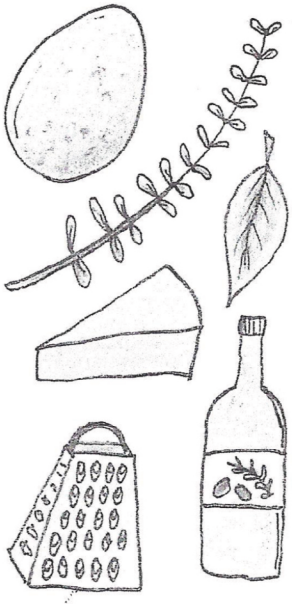
  Prompt: "Which flexible recipes are you going to try at home?"

[3] Recipes can be adapted according to the cultural habits.

FRITTATA

INGREDIENTS

- 8-10 eggs
- 2 tablespoons water
- 1½ teaspoons salt
- ½ teaspoon freshly ground pepper
- ½ cup grated cheese
- 2-3 cups assorted fresh vegetables and herbs
- 2 tablespoons olive oil



TIPS AND HINTS

- try adding a pinch of lemon zest to the egg mixture
- combine odds+ends of leftover cheeses to make ½ cup
- leftover cooked pasta is a great addition, or leftover chopped bacon or ham
- reserve a little grated cheese to sprinkle on top before putting the frittata in the oven

① Preheat oven to 375°. Crack the eggs into a large mixing bowl, add the water, salt, pepper and cheese and whisk till well blended

② Wash and roughly chop the vegetables and herbs

③ In a large cast iron skillet, heat the olive oil over medium heat, add the chopped vegetables and herbs and cook until they are tender but not completely cooked.

④ Pour the egg and cheese mixture over the vegetables, stirring gently to mix, cook, stirring occasionally, until some of the egg is cooked and some remains raw. (Don't worry, it'll finish cooking in the oven.)

APPLE galette

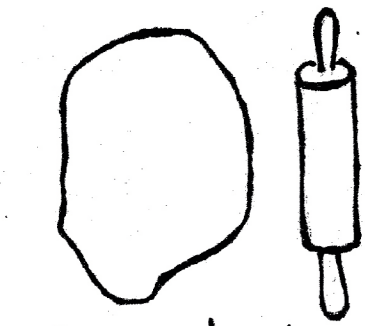
PIE DOUGH: (for a 9-inch pie shell)

1½ cups	flour	* combine flour + salt
¼ tsp	salt	cut in shortening
½ cup	butter (chilled)	slowly add water
3-4 TBS	ice water	* bake at 400°F

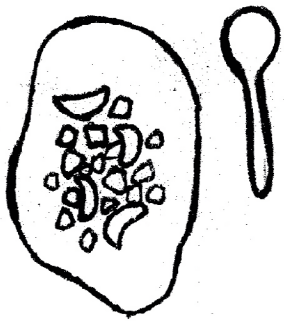
until golden brown

- 4-6 apples
- 4-5 TBS sugar
- 1 tsp cinnamon

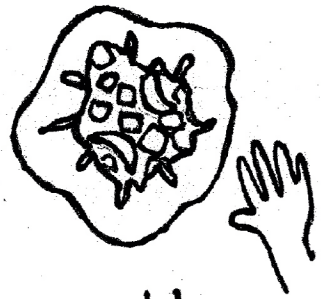
- peel apples and slice or dice
- sprinkle with cinnamon + sugar



roll out dough



add apple mixture



fold!

Kitchen Skills

Salvaging overripe foods

Ex: Banana bread



Minimizing waste knife skills



Repurposing leftovers

Flexible recipes



Preserving foods

Ex: Pickling jams

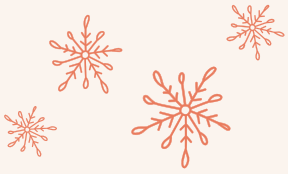


Food management

"Eat me first" shelf



Freeze things to stay fresh

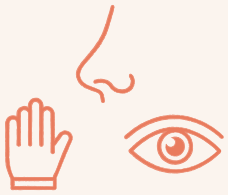


Need what you buy & buy what you need

- Make a list
- Buy loose



Use your senses to check freshness



Being savvy in the kitchen: having good food prep skills, developing the ability to follow and create recipes, knowing how to properly store food and discern when things are still fresh or safe to eat–in addition to being a smart shopper–are all skills that directly support reducing food waste.

Below are some suggestions for recipes or activities that are linked to different skill areas that will build confidence and encourage creativity in the kitchen. Educators are highly encouraged to add other recipes that reflect regional ingredients and traditions, while also addressing gender stereotypes related to kitchen chores by ensuring that all students have equal opportunities to participate in practical tasks, regardless of gender.

Kitchen Pitch

Summary: This quick activity encourages students to get creative with limited ingredients by asking them to pitch a recipe from random ingredients.

Time Required: 15 minutes

Learning Objectives

- Creative problem solving working amongst limitations
- Presenting ideas with confidence, despite limited time and information

Materials needed

- Small strips of paper with ingredient names (approximately 20 ingredients), preferably local and seasonal foods, and put each onto a small strip of paper
- A bowl or container to draw the ingredients

Prompt: "Creativity in the kitchen can help prevent food waste. Making the most of every ingredient not only reduces waste and costs, but has also inspired many iconic dishes, from french toast and ravioli, to fried rice and pickles. Today we are going to put this creativity into practice by coming up with quick recipes using random ingredients."

Notes: The prompt is adapted from Saving the Scraps: Reducing Food Waste in the Kitchen, which was developed by the Edible Schoolyard Project in collaboration with UNEP (The Edible Schoolyard Project n.d.b)

Activity

1. Invite students to draw 3 strips from a bowl - record what they get - and return strips to the bowl
2. Give students 3 minutes to come up with a meal featuring those three ingredients, then pitch it to the others in their small group

The results may be surprising; the aim is not to come up with complete recipes, rather to encourage rapid ideation and creativity, incorporating ingredients at hand. 'Half-baked' ideas are welcome.

Example: The student draws the three following foods:

- Apple
- Oats
- Beets

Prompt: "With my ingredients, apples, beets, and oats, I came up with 'Easy as ABC' Apple & Beet Crumble: a sweet, tart warm dessert with baked apples and beets on the bottom and crumbly oats on top."

03 Acting



Photo source: Ashley Rouse / Edible Schoolyard Project

Composting, Circularity & Analysis:

This pillar equips students with practical skills to prevent food waste by building confidence in the kitchen, encouraging responsible consumption and food management, and introducing composting.

Closing the Loop: Understanding Organic Waste and Composting





Photo source: Ashley Rouse / Edible Schoolyard Project

Summary: Students will learn what organic waste is, why it is important to manage it properly, and how composting works. Students will also discuss how separating organic waste at home can help reduce overall food waste. Through hands-on activities and brainstorming, they will understand the basic science of decomposition and propose simple solutions to reduce organic waste in their school, household, or community.

Time Required: 60–90 minutes

Learning Objectives

- Identify what organic waste is and why it should be separated.
- Understand the basic process of composting and the difference between "greens" (nitrogen-rich, wet scraps like kitchen waste, grass) and "browns" (carbon-rich, dry materials like leaves, cardboard).
- Develop a simple plan to reduce and manage organic waste in their environment.
- Practice teamwork, problem-solving, and communication skills.

Activity Part 1: Introduction and reflection

Prompt

- "Think about the last meal you had. What food scraps or leftovers did you throw away?"
- "How do you think those items are handled after being thrown in the trash?"
- "How can composting make us more aware of the food we waste?"
- "Do you think people throw away less food when they separate waste for composting? Why?"

Instructions

1. The educator gives a brief explanation about organic waste (examples: peels, scraps, leaves).
2. Students make a short list of organic waste items they usually see at home or school.
3. The educator asks which students separate organic waste at home and whether they know where that waste goes. The discussion then explores how much of the city's household food waste is sent for composting.
4. If organic waste is separated, explain how it can be recycled through composting. If composting is not an option, mention the possible destinations: a landfill as an adequate solution, or an open dumpsite as an inadequate one.

Activity Part 2: Hands-on activity

Compost sorting game + build a simple compost bin

Instructions

1. Introduce the topic

- Prepare cards or images with different types of waste.
- In group discussion, students separate which items can go into a compost pile and which cannot.
- At the end, make a list of food we can and cannot put in the compost bin, and which we should avoid.

Questions for discussion

- Which items were surprising to include or exclude?
- Why do we need a mix of "greens" (nitrogen-rich) and "browns" (carbon-rich) in composting?
- What happens if we put the wrong items in compost?
- How long does it take compost to decompose?

Safe to add (go ahead)	Add with caution (avoid if possible)	Do not add
Fruits	Citrus Fruits	Meat
Vegetables	Cooked food with little to no seasoning	Lemon
Leafy greens	Napkins and paper towels	Cooked food with plenty of seasoning
Grains and seeds	Dairy products	Oils and fats
Tea bags (without tag) and chimarrão herb	Flowers and herbs (medicinal or aromatic)	Liquids
Coffee grounds and filter		Pet waste
Crushed and cleaned eggshells		Bathroom waste

Source: Adapted from Manual de Compostagem Doméstica com minhocas, Morada de Floresta, 2016.

2. Build a simple compost bin

- First, decide if the composting will be demonstrative or regular.
- Choose the composting method:

  i) Aerobic composting (uses oxygen to break down waste; easy to do with kitchen scraps and garden waste);

  ii) Vermicomposting (uses worms to break down food waste).
- Then, decide which type of organic waste to compost, including green waste and/or food waste.
- Define a spot to set up the composter.
- Finally, monitor the composting process and, once it is ready, use the mature compost in a garden or planting area.

Materials Needed: To build the aerobic compost bin, you will need (per group or for the class):

- A plastic container
- Dry leaves, shredded newspaper or cardboard (“browns”)
- Fruit and vegetable scraps (“greens”)
- A spoon, a garden fork, or a stick to stir

Step-by-step: How to build a basic aerobic compost bin

1. Use a clean plastic container (with a lid). Drill a few holes on the sides and bottom for air circulation and drainage.

2. Add a first layer of browns (dry leaves, shredded paper or cardboard).

3. Add a layer of greens (fruit and vegetable scraps).

4. Alternate layers of greens and browns, ending with browns.
5. Stir gently with a stick every few days to keep oxygen flowing.

6. Sprinkle a little water if the compost is too dry, or add more browns if too wet.

7. After 4–8 weeks (depending on conditions), the compost will look like dark, crumbly soil — ready to use!



Photo source: Tehzeeb Kazmi / Unsplash

Growing from Your Food Scraps

Summary: In this lesson, students explore how common kitchen scraps can be used to regrow food using simple techniques such as placing them in water or soil. Through observation and experimentation, students learn about plant growth, resourcefulness, and how to reduce food waste by giving new life to food scraps.

Time Required: 30 minutes (plus ongoing observation over 1–2 weeks)

Learning Objectives

- Understand how some vegetables can regrow from leftover food scraps
- Explore basic plant growth processes through observation and experimentation
- Develop scientific thinking by forming hypotheses and recording observations
- Recognize how regrowing food can help reduce food waste
- Build awareness of resourcefulness and circular food practices

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Materials Needed

- Food scraps (examples below)
- Water
- Small jars or containers
- Shallow bowls
- Potting soil (optional, depending on plant)
- Access to natural light
- Observation chart or notebook
- Camera or mobile device (optional, for documenting progress)

Before You Begin

1. Ask students to check their kitchen for any of the following vegetables: Beets, Bok Choy, Carrots, Celery, Garlic, Ginger, Green onions, Leeks, Lettuce, Potato, Radishes and Turnips.

2. Explain that not all scraps will regrow successfully and that this activity is an experiment.

Activity

1. Predict and Prepare:

- Ask students to select one or more food scraps.

  Prompt: "What do you think will happen if we place this food scrap in water or soil? Which ones do you think will grow best?"

- Students write a simple hypothesis about which scrap will grow and why.

2. Grow from Scraps: Students set up their chosen scraps using one of the methods below:

Sprouting in Water Before Planting

- Place vegetable bases (e.g., lettuce, celery, bok choy) in shallow water
- Do not fully submerge
- Replace water every few days

Direct Planting in Soil

- Plant scraps like potatoes, ginger, or garlic in soil
- Ensure correct positioning (e.g., roots down, shoots up)
- Place in a well-lit area

3. Observe and Record: Over the next 1–2 weeks, students observe their plants.

Students:

- Record observations every 3–4 days
- Draw or describe changes
- Optionally take photos twice per week

Prompt: "What changes do you see? Are there new roots, shoots, or leaves?"

4. Reflect: After the observation period, students reflect:

- Which food scraps grew successfully?
- What conditions helped or prevented growth?
- How does regrowing food relate to reducing food waste?

Student Notes

- Growing from food scraps is an experiment; not everything will grow
- If water becomes cloudy or smells, replace it
- Ensure plants receive enough light
- If nothing grows after one week, try again with a different scrap

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References

Growing Food from Kitchen Scraps. (n.d.). *Temple University*.

Reilly, K. (2018, February 7). *How to Grow Fruits & Vegetables from Food Scraps.* EatingWell.

Science Made Simple. (n.d.). *The Scientific Method.*



Photo source: Ricardo Resende / Unsplash

Real World Interaction

Summary: This activity connects classroom learning to real-world practice by allowing students to interact directly with professionals who work in food preparation, redistribution, composting, and waste management. Through field visits or guest speakers, students gain first-hand insight into how local organizations address food waste, the challenges they face, and the creative solutions they implement.

Time required: Variable (typically 30–60 minutes for a guest session, or longer for field visits, depending on location and logistics).

Learning Objectives

- Recognize how different real-world professionals (such as chefs and farmers) address food waste in their daily work.
- Describe the steps local organizations take to reduce, redistribute, or recycle food waste.
- Compare school-based practices with community-based strategies, identifying similarities, differences, and opportunities for improvement.
- Ask informed questions and engage meaningfully with experts to deepen their understanding of food waste challenges and solutions.
- Reflect on the social, environmental, and economic impacts of food waste observed during the visit or presentation.
- Propose actionable ideas that their school or community could adopt to reduce food waste.

Activity

- Explore the possibility of enabling students to engage with a diverse range of real-world practitioners, for example, the school chef/canteen staff, women farmers, women chefs, food bank manager, compost manager, local urban garden, youth and indigenous leaders, professionals from underrepresented groups working for food waste reduction etc.
- Explore the possibility of taking students on a field trip to see first-hand how local organizations and businesses are addressing food waste for composting, redistribution, or other enterprises.
- Gauging understanding and the agency of teachers and students on food waste and its close relations with daily life encounters.
- Discuss with your school administrators the feasibility of arranging such a visit and consider allowing students to influence the selection or help arrange the visit.



Photo source: Katie Standke / Edible Schoolyard Garden

Examples of visits could include:

- A farm or urban garden that integrates compost made from locally sourced organic waste. Prioritize women-managed farms and urban gardens.
- A local restaurant or food business that is taking practical action to reduce food waste.
- A local food bank. How the food bank recovers surplus food, organizes, and redistributes food. Can talk about local associations in partnership, the types of donations, and how many people this serves, and what are the appropriate donation items/challenges.
- Indigenous territories that have ancestral practices for extending the storage life of food, such as dehydration.
- A local composting or waste management facility. To help students understand where their own waste goes, how they can partake in enabling far more effective waste management (through simple acts), and how it is managed. Possibility to talk about how the waste is treated, diverted, and what types of communication or interventions are held with residents.

If the logistics or timing of a field trip is not feasible, consider inviting a representative from any of the above to speak to the class. Alternatively, on school campus, consider inviting the head custodian or chef in the cafeteria to come speak to the class about any initiatives the school is taking to reduce on-campus waste or challenges that they face in their work.

Homework opportunity (optional):
Turn this into a reflective exercise with a short written reflection after the field trip or pair the visit with a project to support local businesses in managing their food waste (see "Spread the Word: Support a local business" in Section 4 "ADVOCATING").

Optiwaste App

Summary: Optiwaste is an FAO-developed app designed to identify, measure, and reduce food waste in food service settings. During the program, students investigate food waste at their school, collect and record data using the FAO Optiwaste app, analyze the findings, and design and implement practical, locally relevant solutions.

Time Required: Flexible. This activity can be conducted in a single session (approximately 60–90 minutes) using a simplified audit, or expanded into a 4–5 week project for more comprehensive data collection and analysis.

Learning Objectives

- Identify where, when, and why food waste occurs in their school food service. Understand the school meal management, who makes the menu, and what kind of dimensions are considered to make the menu.
- Weigh, sort, and record food waste data accurately using the FAO Optiwaste app.
- Interpret results and propose targeted actions to reduce waste.
- Understand the broader food waste problem and engage in youth-led advocacy, such as awareness campaigns or presentations, using evidence from their data.

Materials Needed

- Phones, tablets, or laptops with the Optiwaste App | FAO[4]
- Scales to weigh food waste
- Bins[5] labeled by food groups
- Gloves, aprons, shovels, and cleaning products

Activity

1. Before week 1 (Prepare): Set up an Optiwaste account with school details, place and label bins, and test scales.
2. Week 1 (Plan): Map service points and food waste management logistics; assign student roles; design the measurement plan, and test the FAO Optiwaste app.
3. Week 2 (Measure): Weigh and record food waste daily; hold short reflection sessions for student ideas.
4. Week 3 (Analyze): Review the dashboard and export data for analysis; reflect on the problem and select actions to reduce food waste.
5. Week 4 (Act): Implement reduction actions, create student-led campaigns, and present results.

[4] Optiwaste is a free, easy to use, and data-driven tool accessible from both desktop and mobile devices. To download the app, visit: https://www.fao.org/platform-food-loss-waste/food-waste/fao-optiwaste/en

[5] Keeping the bins clean is essential to ensure accurate data.



Photo source: © WWF-US / Rebecca Drobis

04 | Advocating



Photo source: Ashley Rouse / Edible Schoolyard Project

Pillar three focuses on advocacy– empowering students to share and amplify their learning within their school, families and local communities. It helps them build personal conviction about why reducing food waste matters and think critically about how to take action and spread awareness.

Beyond the Month

At the end of the month, or periodically throughout it, collect feedback on what worked. What methods worked best for engaging students? What challenges did you face? What made students feel most inspired and empowered to act? Gather these insights and save them for the following year.

After the Month of Action has concluded, there are still opportunities to engage on food waste with your school:

- Consider creating a more permanent student committee on food waste reduction. Students could semi-regularly conduct food waste audits to track school progress and make and implement recommendations emerging from data and/or interviews.
- If the school facilities support this, consider starting or maintaining a school garden and a composting system, managed by students, using scraps from lunchtime waste.
- Collaborate with local businesses and non-profits to identify regular volunteer opportunities for interested students.

Share this guide and learnings with other neighboring schools and think about ways to collaborate.



Photo source: Fajar Herlambang STUDIO / Unsplash

Spreading the Word

At school

After reflecting about the value of food and learning how to effectively avoid, minimize, and measure food waste, how can students share what they learned with other students? What are their take-aways on why addressing this subject is important, what it means to them, and their vision for the future? In synthesizing what they learned to introduce it to others, students are re-enforcing what they've learned.

Some methods for this may include:

Through art, or infographics

Posters can share school-specific statistics gained from the food waste audit, or share the national or global averages on food waste. Posters can also share tips or impact of addressing food waste.



Photo source: © WWF-US / Anonymous Student

Installations

Can provoke thought and be sourced through salvaged materials found at school or in the home.



Photo source: Ed Us / Unsplash

Peer learning

And demonstrations to other classrooms can be an effective way to deepen the learnings of the students who teach and spread the information to others who have not had similar exposure to information.

Moshi Cooperative University in Tanzania, students lead demonstrations among to peers.



Photo source: Anthony Gikuri Moshi Cooperative University

Composting schools

Educators can also encourage discussions on the importance of organic waste management, at school and beyond. Propose students to create a simple plan for how your class or school could reduce organic waste and start composting". Each group will present their plan to the class and display their poster/infographic in the classroom or hallway to raise awareness.
Instructions:

1. In groups, students brainstorm 3–5 steps to reduce and manage organic waste at school or home.

2. Groups create a mini poster or infographic that includes:

- What the plan is (ex., create a compost bin in the school garden).
- Why it matters (environmental and social benefits).
- How everyone can participate (clear and simple actions).

School-wide Zero Waste Lunch or Pledge

School Assembly and Showcase

A school assembly or showcase is a great way to ceremonially close the Month of Action. Co-designed with your students, the assembly can be an opportunity to invite students to share their learnings and reflections.

The assembly could feature:

- Skits acting out some of the scenarios and solutions they discovered
- A presentation of findings of the school food waste audit
- Photos from throughout the month of the audit, recipes, composting, interviews, or the field trip
- A performance of poetry or persuasive writing written during the Month
- Guest speaker
- A power talk session, where students share their experiences in reducing food waste to promote peer learning and confidence-building.

Educators can engage students in the design and organization (invitation of speaker, selection of performances), and the performance of the assembly itself.



Photo source: Ashley Rouse / Edible Schoolyard project

Beyond school

Take it home!

Propose students conduct food waste audits of their household for a week. Not only is this another exercise to firsthand understand what food is being wasted and how to measure it, it allows for students and their households to think of solutions to avoid future waste.



Photo source: Ello / Unsplash

Support a local business

After learning the fundamentals of food waste measurement and reduction, students can provide support to a related local business, such as a restaurant.

The support can include but is not limited to:

- Presenting to staff the business case for reducing food waste (Hanson & Mitchell, 2017).
- Grocery stores Median 5:1 return for each dollar spent
- Restaurants Median 8:1 return for each dollar spent
- Hospitality Median 23:1 return for each dollar spent
- Supporting or training on how to do a Food Waste Audit
- Interviewing different staff on challenges
- Identify most commonly wasted foods
- Share relevant materials such as Recipe of Change hospitality guide (see Annex)
- Provide suggestions for how to reduce waste through a final presentation or report to the business



Photo source: Sushil Nash / Unsplash

Full Plates & Equal Places: Linking Food Waste, Gender Equity, and Sustainability

Summary: In this lesson, students explore the connections between food waste, gender equity, and sustainability through critical thinking, systems analysis, and problem-solving. Using tools such as causal mapping and basic quantitative reasoning, they examine cause-and-effect relationships and develop integrated ideas for advocacy and action.

Time Required: 40-90 minutes or break apart into modules.

Learning Objective

- Students think critically about and communicate the global impacts of food waste and its connection to hunger.
- Identify how gender inequities in agriculture, labor, and household food distribution affect food systems.
- Propose integrated solutions that tackle food waste, gender equity, and sustainability at once.
- Collaborate to design a creative campaign or action that addresses at least three SDGs.

UN Sustainable Development Goals Reference

Correlate learning outcomes to key SDGs based on their relevance:

- SDG 2: Understand how food waste exacerbates hunger and food insecurity.
- SDG 5: Recognize how gender inequality affects access to food, resources, and decision-making.
- SDG 11: Understand how food waste presents unique challenges in cities, where pressure on landfills may be more acute and where home composting and feeding food scraps to animals may be less prevalent.
- SDG 12: Learn strategies to reduce food waste and promote sustainable practices through behavioral change.
- SDG 13: Understand how food waste contributes to climate change.



Activity Part 1: Engage + Educate - Critical thinking through self discovery

Time Required: 10-30 min exchange

Modality: Classroom

Instructions: Select a film (documentary, short film, movie, or video) featuring the work of women smallholder farmers and addressing food waste Show the students the film, prompting questions before or after.

Example of Films and Resources

- The Women Who Feed Us | Groundswell International - 15 youth-led films collection honoring women farmers

- Film Festival Links | Groundswell International - multiple features at each film festival and stories aligning with the Year of International Women Farmers
- Women's Work: The Untold Story of America's Female Farmers | Kimberly Hogberg
- Mini Stories | From Soil to Soul - series of short videos leading the way in food justice
- Cultivating Youth | Kani Lam
- Gather | Sanjay Rawal
- The Gleaners and I | Agnes Varda
- Wasted! The Story of Food Waste | Anna Chai & Nari Kye

Prompt: Ask students the following questions:

- "Who prepares, purchases, stores, and grows food in your household and community?"
- "How are these responsibilities divided between women, men, girls and boys?"
- What social norms influence these roles, and how might they affect food waste and food security?
- "Who prepares food in your school?"
- "Who decides what's eaten — and what's wasted?"
- "What happens to the food we throw away?"
- "What does it mean to say, 'Food is power'?"
- "Could the problem of food insecurity be solved by reducing food waste?"



Activity Part 2: Researching + Connecting Real World Effects

Time Required: 15-30 minutes

Modality: Individual

Learning Objectives: Students will:

- Investigate the scale and impacts of food waste.
- Explore connections between food systems, gender equity, and sustainability.
- Analyze economic, environmental, and social consequences of waste.
- Practice evidence-based creative and analytical writing.
- Connect local actions to global challenges and solutions.

Instructions: Share insights and data on the key topics, informing students of the realities and intersection of food, gender, and sustainability.

1. Pre-study Homework: Ask students to research and answer the following:

- If a school wastes 12kg of food per day:
  - How much is wasted in a month? In a year?
  - How would you calculate the economic loss of this waste?
  - The environmental loss?
  - The social loss?

- Closing the gender gap in access to productive resources (e.g. land, farming tools, seeds, training, market access) could increase women's farm productivity and income by 20% annually. How much additional income could women in a country working in agriculture make?

Assumptions:

- 100,000 women smallholder farmers in a country
- Average yield per farm = 1.5 tons per acre
- Average acreage per farmer = 2 acres
- Income from production = 300 (add unit of local currency) per ton

The level of complexity may be adjusted depending on grade level.

2. Research Probing Questions: Ask students to calculate and discuss:

- What is the country's current total annual agricultural production?
- What is the current annual value?
- What would the production be with a 20% increase?
- How much additional income would be generated?
- Who benefits when women farmers earn more income?

3. Creative Writing (optional): Using the information gathered during the research activity, create a short form of narrative that demonstrates the human impacts of food waste and inequity in food systems. The level of complexity and writing expectations may be adjusted depending on grade level.

Prompt: Imagine a piece of food that was thrown away. Tell its story from the farm to the cafeteria.

Outcomes

- 250 words minimum - 500 words maximum (to be determined by instructor and grade)
- Writing should include:
- Beginning, middle, and end
- At least three facts learned from research
- A character (farmer, student, cafeteria worker, etc.)
- One practical solution to reduce food waste

Learning Examples / Facts: Teachers may share or display the following examples to support student learning

- 19% of all food is wasted at retail (UNEP 2024), food services, and household levels, yet 645 million people go hungry and 2.7 billion cannot afford a healthy diet which often impacts women and children. (FAO et al. 2026)
- Households are the largest source of food waste, accounting for around 60% of the global total. This translates into more than 1 billion meals' worth of edible food being discarded every day worldwide, enough to provide at least 1.3 meals daily for every person affected by hunger (UNEP 2024).

- Food loss and waste account for 8–10% of global greenhouse gas emissions, worsening climate change. If food loss and waste were considered a country, they would rank as the third-largest emitter of greenhouse gases in the world, after China and the USA. (IPCC 2019; FAO 2015)

- In 2021, women made up over 40% of the global agrifood workforce, yet rural women disproportionately face precarious jobs, poor working conditions, and limited rights. (FAO 2026)

Example of Resources for Teachers

- Food Waste Index Report | UNEP - Global data on food waste generation and impacts.
- The State of Food and Agriculture | FAO - Global agricultural trends, food systems, and sustainability.
- The State of Food Security and Nutrition in the World | FAO - Current data on hunger, nutrition, and food access.
- Gender and Agriculture Sourcebook | FAO - Evidence and teaching resources on women's roles in agriculture and food systems.
- Food Loss and Waste Resources | FAO - Definitions, data, and classroom-ready background information.
- Education | National Geographic Society - Food systems, sustainability, and agriculture lessons.
- The Female Farmer Project - Stories and educational resources highlighting women in agriculture.



Activity Part 3: Explore Systems Thinking > Cause + Effect Map or Diagram Exercise

Time Required: 15-30 minutes

Modality: Small groups

Instructions: Students co-create a Cause-and-Effect Web (on chart paper or whiteboard). Students can identify feedback loops and intersections between food waste, gender equity, and sustainability.

Example: "If less food is wasted → more resources are available for schools → more meals are available for girls → school attendance improves → more educated future leaders."

Tasks

1. Identify the Problem: Clearly define the effect or outcome you want to analyze.

2. Brainstorm Causes: Identify potential factors that might have contributed to the problem.

3. Categorize Causes: Group the causes into logical categories (e.g., the "6 Ms" in a fishbone diagram).

4. Create the Diagram: Draw the diagram, connecting the main categories to the central effect and adding specific causes as branches.

5. Analyze the Diagram: Examine the relationships between causes and effects to understand the problem's complexity and identify potential solutions

The teacher explains different types of causal maps and diagrams, and what and why they are used. Causal maps help students:

- Visualize complex relationships
- Identify root causes rather than symptoms
- Understand how systems interact
- Recognize feedback loops
- Develop problem-solving skills
- Explore unintended consequences

Examples of Causal Maps and Diagrams

A. Cause-and-Effect Chain: Shows a simple sequence of events (Suggested for Grades 2-6). Example:

Food Waste
(e.g. Food waste at schools can reduce the amount of meals and ingredients available for students.)

↓

Less Food Available
(e.g. Replacing food that was purchased but never consumed or managing waste can increase school expenses.)

↓

Higher School Costs
(e.g. Higher costs may reduce funding for meal programs and educational needs.)

↓

Smaller Meal Programs
(e.g. Students who rely on school meals may have less access to important nutrients.)

Reduced Student Nutrition
(e.g. Reduced nutrition can affect students' ability to focus, learn, and participate in school activities.)

↓

Lower Academic Performance

Discussion Questions:

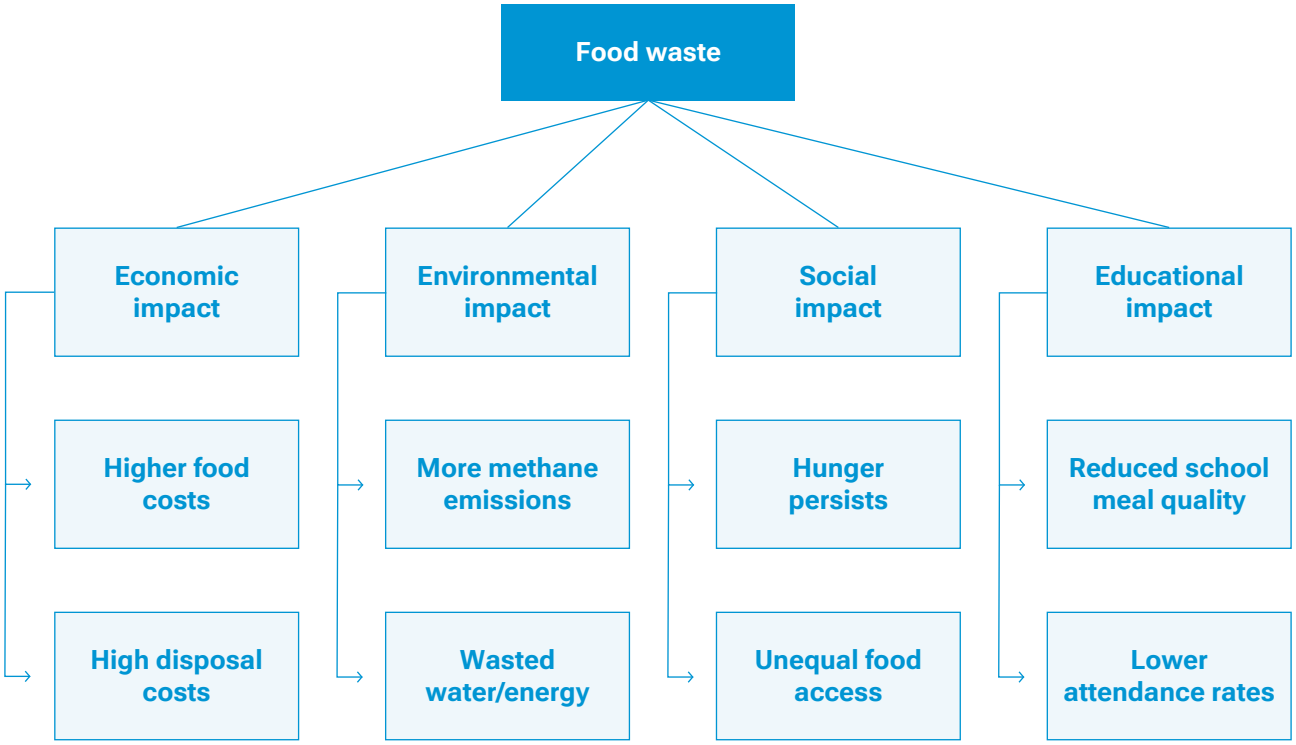
- Where could intervention occur?
- Which link has the greatest impact?
- What happens if one link changes?

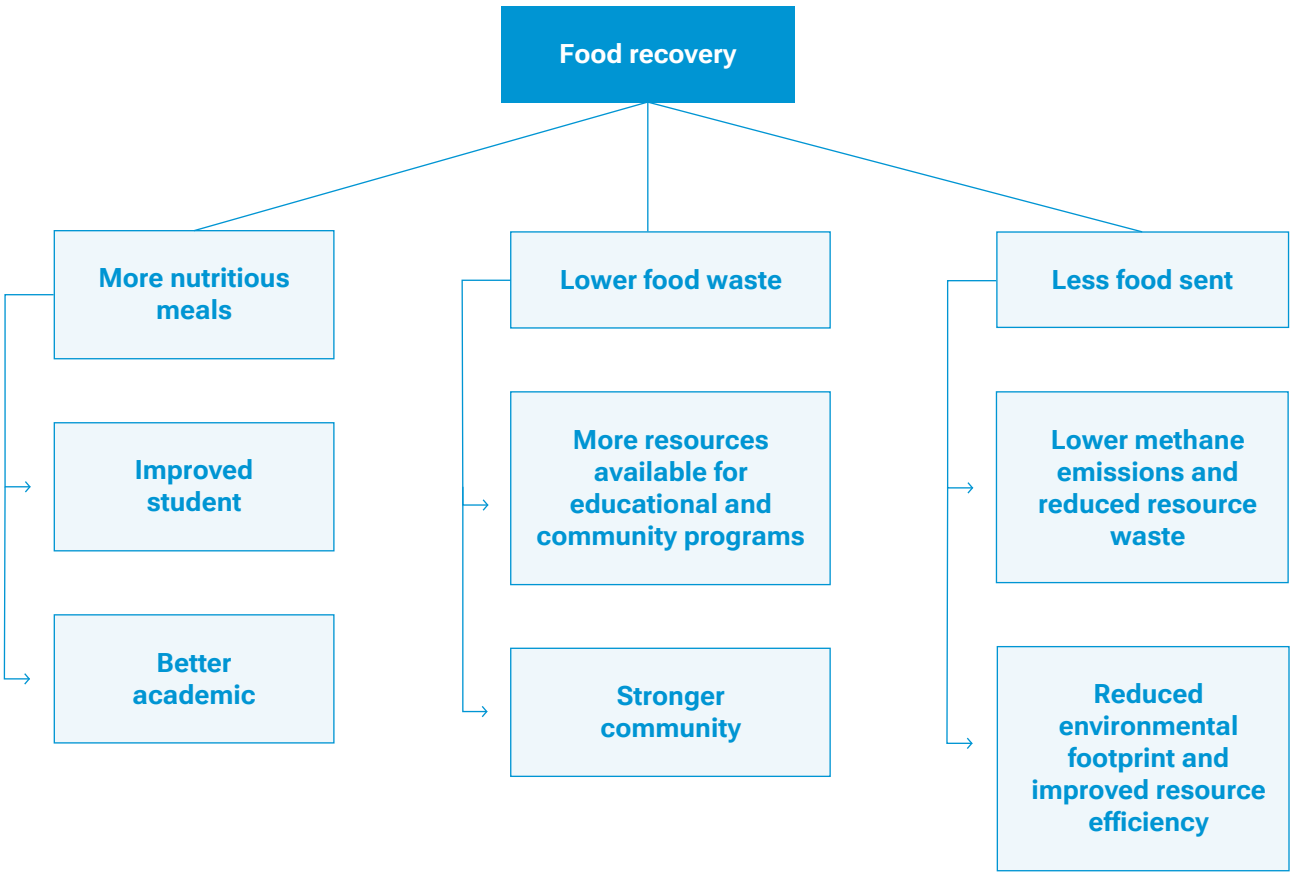
B. Cause-and-effect Web: Shows multiple interconnected outcomes

Example:

1. Students Define Problem (Problem Tree)

2. Students Define Solution (Solution Tree)

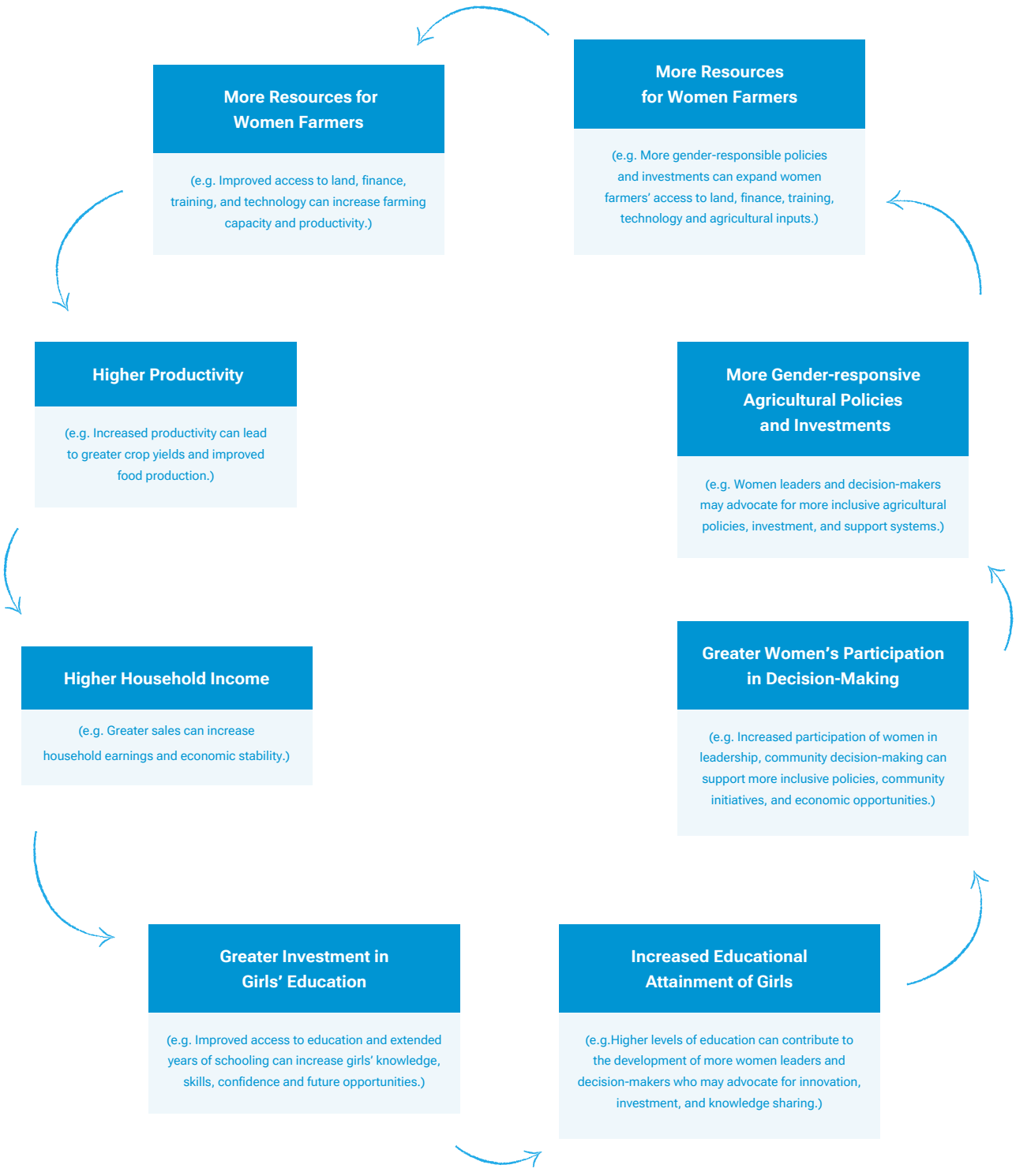

Food waste
Economic impact
Environmental impact
Social impact
Educational impact
Higher food costs
More methane emissions
Hunger persists
Reduced school meal quality
High disposal costs
Wasted water/energy
Unequal food access
Lower attendance rates


Food recovery
More nutritious meals
Lower food waste
Less food sent
Improved student
More resources available for educational and community programs
Lower methane emissions and reduced resource waste
Better academic
Stronger community
Reduced environmental footprint and improved resource efficiency

C. Feedback Loop Diagram: Illustrates how actions reinforce or influence future outcomes over time. (Suggested for Grades 6-12)

Prompt: "How can supporting women farmers create broader social and economic benefits?"

Example:



Discussion Questions

- Is this a reinforcing or balancing loop?
- What breaks the cycle?
- What strengthens it?

D. Systems Map: Shows multiple interacted systems and relationships between factors. (Suggested for Grades 8-12)

Prompt: "How could reducing food waste improve educational outcomes, gender equity, and environmental sustainability?"

1. Student Challenge Questions:

Where do these systems intersect?

Examples:

- Household income affects both education and food security.
- Women farmers influence agricultural productivity and environmental sustainability.
- Food waste reduction can improve school meal programs and student learning outcomes.

Which variables appear most often?

Examples:

- Income; Education; Access to resources; Food waste; Women's empowerment; Crop yields; etc.

What may be the highest leverage point for change?

Examples:

- Improving access to education for girls
- Increasing resources for women farmers
- Reducing food waste in schools
- Expanding agricultural training

2. Students identify

- 3 causes of food waste.
  Examples: Overproduction, Poor storage, Large portions
- 3 effects of food waste
  Examples: Financial losses, Hunger, Greenhouse gas emissions
- 1feedback loop
  Example: Less Food Waste
- 2 equity connections
  Examples: Women Farmers, Girl's Education, Indigenous Foods

3. Students then create and label their own system-thinking diagrams.

Persuasive Essay

Summary: A 3 part activity that can be expanded upon to include reading assignment, creative writing, individual and group work structures - scalable for multiple grade levels depending on age and curriculum outcomes.

Note: For the opportunity to connect learnings, use findings from the school lunchtime audit, field trips, or any other experiences before mentioned in the guide!

Time Required: 60-80 minutes

Learning Objectives: Students, developing upon what they've learned throughout the month, utilize storytelling and persuasive writing to advocate for food waste reduction. This exercise encourages:

- Developing clear, concise, and compelling written communication on food waste reduction
- Speaking and presenting with the ability to articulate thoughts clearly
- Critical Thinking and Analysis: Fostering critical and creative thinking skills, enabling individuals to analyze information, recognize patterns, draw informed conclusions, and evaluate arguments.
- Creativity and Self-Expression: Nurturing imagination and the ability to express ideas, beliefs, and feelings through language in a variety of ways.
- Cultural Understanding and Empathy: Promoting cultural understanding and empathy by exploring diverse perspectives, traditions, and ways of life through literature and other forms of language.

Rubric: Educators can measure a cross section of skill development per student utilizing the lesson plan outcomes; and creating additional surveys that gather quantitative and qualitative data per student.



Activity Part 1: Understanding Food Systems and Food Waste Through Storytelling

Summary: Students will explore the topic of food waste through reading, reflection, writing, discussion, and a group call-to-action. The session integrates individual insight, peer collaboration, and collective impact.

Time Required: 20 minutes

Modality: Individual

Learning Objective: Students reflect on their personal experiences and attitudes toward food waste, then express those ideas through short-form narrative writing.

Prompt: "Think about a time you saw food being wasted — at home, school, a restaurant, or on social media. How did it make you feel? Why do you think it happened? "

Instructions

1. Educator selects 1 or allows choice over the following: Write a 1-page narrative (real or imagined) from the perspective of;

- Someone impacted by that waste (e.g., a farmer, chef, child affected by hunger, custodian, compost bin, or even the leftover food itself).
- Effects of food waste on environment, utilizing a statistic or evidence example in the overview
- A world without waste - reflections of what the world would be like if it was not wasting food

2. Open circle share: students are allowed or asked to present their narratives, Educators prompt the classroom to reflect on narrative. Takeaway themes are captured

3. Link this initiative to arts exploration (optional): where the narratives are then translated into an art activity that depicts the story - could be painting, diorama, creating an art work made from wasted foods, materials etc.

Activity Part 2: Mobilize Change

Summary: Students participate in the co-creation of a motivational narrative, storyboard that has the potential to mobilize and create change action with a clear call to action - perhaps integrate use of AI or technology as a set of requirements.

Time Required: 20 minutes

Modality: 2-3 people - Partner(s) or small/medium size group

Learning Objective: Partners or Group brainstorm and write a short persuasive call to act in the form of a letter, blog post, speech, or social media caption convincing their peers why reducing food waste matters and what they can do.

Prompt: "What statistic, cause or outcome do you think is most compelling to get people's attention and interest?" - think about the appropriate tone, imagery, voice that can create a dynamic and compelling pitch for preventing and reducing food waste.

Students must include:

- 1 or more surprising fact or statistic
- A cause and effect premise
- How to act, engage or make a difference on the topic
- A youth-focused audiencetone
- Clear timeline, time stamp

Examples of Resources for Teachers: provide information that helps them determine starting evidence. This could be an activity on its own - gathering resources to inform the lesson.

- Global food waste stats: Food Waste Index 2024 | UNEP
- Food Recovery Hierarchy | EPA
- The Children and Youth Major Group (CYMG): Youth-friendly examples of activism. The group organizes 3 networks to connect youth-led communities, regional forums, 14 Thematic Working Groups to help the facilitation of youth contributions.

Activity Part 3: Make It Happen: From Message to Action

Summary: Students actualize the results of Lesson 2 into a civic engagement, capacity building, or campaign activity that influences, advocates and urges action on the cause. Students are encouraged to utilize a cross section of multi-media platforms, ai and technology to complete the lesson.

Time Required: 20-40 mins

Modality: Group

Learning Objective: Educators stimulate students to actualize their creative imaginative and innovative ideas into tangible plans that create social change.

Instructions

1. Students vote on the Activity Part 2 outcomes that they will develop further into social civic engagement activities

2. Students assemble into groups, assign roles, responsibilities and tasks among team members while ensuring equitable participation and leadership opportunities across genders and promoting inclusive decision-making

3. Groups Perform to class or assembly

Examples of Activity Outcomes

- Create a short skit or spoken word performance about food waste
- Design a poster, infographic, or mural concept
- Record a 30-second PSA video using phones
- Invent a slogan and design a reusable food-saving kit or youth pledge board

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Additional Activity Opportunities

- Host a competition where teams pitch concepts and vote #1 or top 3
- Winner gets a chance to roll out activity
- All activities are rolled out and supported by the broader academic institution
- Students hold a social cause day - raise awareness and support for local non-profits and charities

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Definitions

Food waste...is defined as food and the associated inedible parts removed from the human food supply chain in the following three sectors: retail, food service and households. "Removed from the human food supply chain" means one of the following end destinations: co/anaerobic digestion; compost / aerobic digestion; land application; controlled combustion; sewer; litter/discards/ refuse; or landfill (UNEP 2024).

Food...is defined as any substance – whether processed, semi processed or raw – that is intended for human consumption. "Food" includes drink, and any substance that has been used in the manufacture, preparation or treatment of food. Therefore, food waste includes both:

> "edible parts": i.e. the parts of food that were intended for human consumption.
>
> "inedible parts": components associated with a food that are not intended to be consumed by humans. Examples of inedible parts associated with food could include bones, rinds and pits/ stones (UNEP 2024).

Food waste prevention... Waste prevention, also known as source reduction, means using less material to get a job done. Waste prevention methods help create less waste in the first place—before recycling. Waste prevention offers the greatest environmental benefits and provides substantial cost savings to organizations (US EPA, n.d.).

Food waste hierarchy...is a framework that presents priority actions for managing food and food waste, from the most to the least preferable, based on their impact or benefits, for example, from an environmental, social or economic perspective. These approaches fit into what is known as the "waste hierarchy," or "food material hierarchy" which prioritizes the most sustainable methods of managing food waste—starting with prevention; redistribution; reuse to animal feed; and moving towards recycling to other human use and nutrient recovery including composting; energy recovery; and disposal respectively (FAO 2022; UNEP n.d.).

Food loss...is defined as all the crop and livestock human-edible commodity quantities that, directly or indirectly, completely exit the post-harvest/slaughter production/supply chain by being discarded, incinerated or otherwise, and do not reenter in any other utilization (such as animal feed, industrial use, etc.), up to, and excluding, the retail level. Losses that occur during storage, transport and processing, also of imported quantities, are therefore all included. Losses include the commodity as a whole with its non-edible parts decrease in edible mass at the production, post-harvest and processing stages of the food chain (UNEP 2024).

Food waste index... tracks the global and national generation of food and inedible parts wasted at the retail and consumer (household and food service) levels. UNEP is its custodian. In contrast to the Food Loss Index, the Food Waste Index measures total fresh mass of food waste (rather than specific commodities) (UNEP 2024).

Methane...is a potent greenhouse gas with 80 times the warming potential of carbon dioxide over its first two decades in the atmosphere (UNEP n.d.).

(Food) redistribution...involves directing surplus, edible food that would otherwise be discarded to people in need, thus improving food security. This can be facilitated by food banks, partnerships with large food suppliers (such as schools, hospitals, and hotels), and mobile apps that connect surplus food with recipients in real time (UNEP n.d.).

Surplus food...refers to food that is redistributed for consumption by people, used for animal feed or used for bio-based materials / biochemical processing (UNEP 2021).

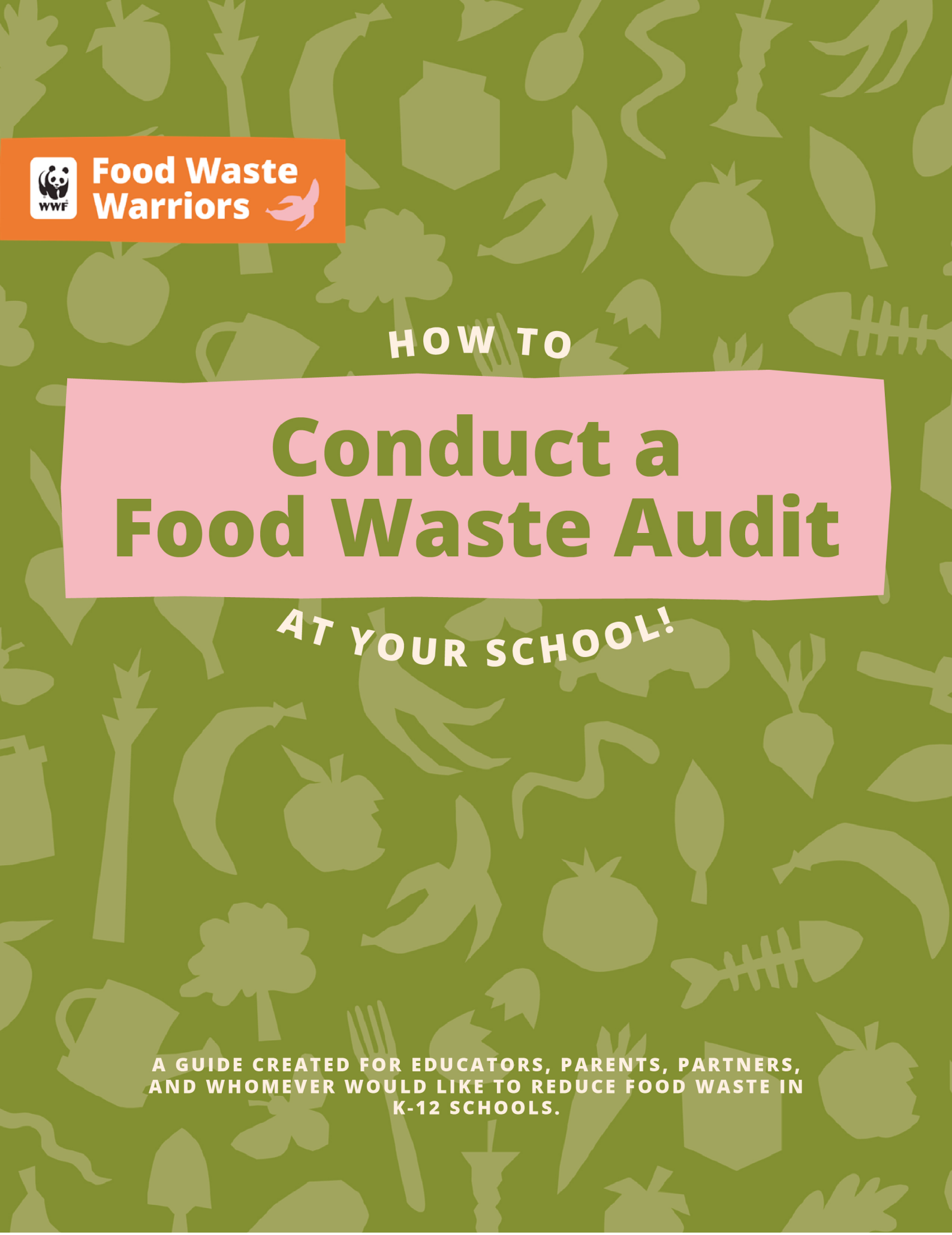
Annex



Photo source: Ashley Rouse / Edible Schoolyard Project

General Resources

- Food Waste Index Report | UNEP
- Recipe of Change Hospitality Toolkit | UNEP
- Curriculum Resources on Reducing Food Waste | Edible Schoolyard Project
- Changing behaviour to help more people waste less food - A guide | Champions 12.3
- The Business Case for Reducing Food Loss and Waste | Champions 12.3
- Do Good - Save Food! - nine easy tips to reduce food waste | FAO
- The ugly truth about food waste in landfills | Food Cycle Science's Leachate
- Composting Impacts | Institute for Self Reliance
- Educating Youth About Wasted Food | US EPA
- Municipal Solid Waste Landfills | US EPA
- Food Waste FAQ | U.S. Department of Agriculture
- Be A Food Waste Warrior | WWF
- WWF Audit guidance | Resource: How to Conduct an Audit at Your School (WWF 2025) | Note: WWF has published extensive guidance and toolkits for conducting student-led food waste audits at schools. Learn more about Be a Food Waste Warrior toolkit here: https://www.worldwildlife.org/teaching-resources/toolkits/be-a-food-waste-warrior


Food Waste Warriors
WWF
HOW TO
Conduct a Food Waste Audit
AT YOUR SCHOOL!
A GUIDE CREATED FOR EDUCATORS, PARENTS, PARTNERS, AND WHOMEVER WOULD LIKE TO REDUCE FOOD WASTE IN K-12 SCHOOLS.

Why conduct a food waste audit?

A FOOD WASTE AUDIT HELPS IDENTIFY THE TYPES AND AMOUNTS OF FOOD WASTE GENERATED, PROVIDING VALUABLE DATA TO DEVELOP STRATEGIES THAT REDUCE WASTE.

The US wastes an estimated 30-40% of its food, while more than 41 million Americans face hunger, including nearly 13 million children. At the same time, wasting food wastes inputs like water, land usage, energy, money, and labor; and can lead to harmful impacts for wildlife and their natural habitats.

What is "Food Waste Warriors"?

Food Waste Warriors is a WWF program established in 2018 with the mission to reduce food waste in K-12 schools across the country by encouraging lasting behavior changes in students. FWW has been implemented in 600+ schools in 31 US states.

WHAT WE DO:

- **Provide open-source food waste curricula for K-12 students**
- **Advocate for evidence-based solutions in schools**
  - » **Ex. longer lunch periods, lunch after recess, composting, offer vs. serve, share tables, bulk milk dispensers, donation programs, adapting recipes to match student preferences and cultures, etc.**
- **Leverage policy change at local, state, and federal levels**
- **Empower students, teachers, and staff to improve the sustainability of their school system**

Steps to Getting Started

1 GET PERMISSION

Working with schools and kids can be daunting, but it doesn't have to be! The first thing you'll need to do before planning for your food waste audit is get permission from the school administration and to make sure the cafeteria staff are informed. See an example of an email you can send to the principal to get the process started:

Dear [Principal's Name],

I am the parent of [Student's Name] and am reaching out to ask for permission to conduct a food waste audit at [School Name] during lunch hours this coming month. This is part of World Wildlife Fund's Food Waste Warriors program which you can learn more about ***here****. The goal of the audit is to assess how much food is being discarded to make the first step in exploring ways to reduce waste within school settings. The audit would only involve students who eat school lunch and would only affect how students would dispose of food during the lunch period.*

I will bring all necessary materials with me and would just ask for a few minutes towards the end of each lunch period to explain the audit to students. My goal is to raise awareness and encourage mindful waste practices without disrupting your school's lunch routine!

Please let me know if this would be possible, if there are any volunteering forms I need to fill out beforehand, and if you would be able to connect me to the cafeteria manager to make sure we can all be on the same page! I am happy to discuss this opportunity further at your convenience.

Best,
[Your Name + Contact Info]

Steps to Getting Started (cont'd)

2 SET DATE AND TIME

Depending on the size of school you're working with, school lunch could last 2-3 hours. Make sure to clarify:

- ❒ (1) the date of the audit
- ❒ (2) the time the lunch starts so you can arrive 30 minutes early to set up
- ❒ (3) how many lunch periods there will be, and
- ❒ (4) the best point of contact in the school and cafeteria.



3 GATHER YOUR MATERIALS

- ❒ 4-5 5-Gallon Buckets
- ❒ 4-5 Labels for Buckets (Fruit, Vegetable, Milk, Entree, Other)
- ❒ Bag Lining for Buckets
- ❒ Gloves
- ❒ Scales
- ❒ Cleaning Supplies
- ❒ Data Collection Sheet
- ❒ Writing Utensil(s)
- ❒ Plastic Tarp (optional)
- ❒ Spatula (optional)
- ❒ Clipboard (optional)

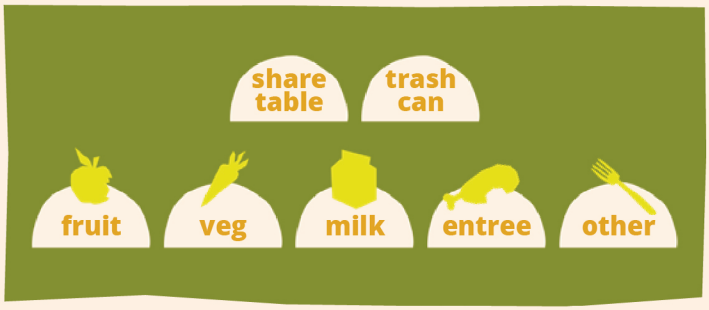


Before Lunch Begins

4 CHECK-IN AT THE FRONT DESK (5MIN)

Try to be at the school at least 30 minutes before the start of lunch so you have time to set up the cafeteria, take initial weights, introduce yourself to kitchen staff, and get acquainted with the lunchroom, meal for today, and general lunchroom procedures.

5 SET UP (10 MIN)



Create a sorting station in the cafeteria:

a. Put buckets on top of plastic tarp
b. Label the 5 buckets
c. Add bag inserts to buckets
d. Set up a table or area for packaged food that hasn't been opened

HOT TIP!

Put the buckets in front of the trash cans. Making a physical 'barrier' will remind students to sort their waste first!

6 TAKE INITIAL WEIGHTS (15 MIN)

Fill out the first three columns on the data sheet. You will need to ask the cafeteria manager for permission to weigh one serving of each of the foods without their packaging (ex. Take the baby carrots out of the plastic wrap and weigh them on the scale to get X. Do this for each food item. If there are multiple vegetables offered, you could take the average weight of the servings).

During Lunch

7 MAKE AN ANNOUNCEMENT

After everyone has sat down to eat and before people start throwing their lunch away, it is best to make a lunchroom announcement. Some schools have microphones, other times teachers will help you quiet the lunchroom down so you can make a quick announcement. Announcement could be something like this:

> *Hi everyone! I'm [Name]. Some of you have already noticed, so I wanted to address how the lunchroom looks a little bit different today. Today is a special day because your school is collecting information about the food in the cafeteria.*
>
> *If you brought your lunch from home, you will proceed as usual to the trash cans to throw out your food waste as you normally do. However, if you are eating school lunch, you're going to sort your food waste into their respective buckets. There will be a bucket for fruit, vegetable, entree, and milk. The important thing to remember is that we are only throwing food into the buckets—not our trays, our cartons, our plastic wrap, etc. Only food. I will be here to help you as well as some of your teachers.*

8 SORT FOOD WASTE

This is the messy part! Be sure to use gloves and the scraper to help sort the food. Recruiting a few lunch aides to help with the cause will help the audit move along smoothly and quickly.

Do your best to take note of the food that hasn't been opened yet and that the packaging doesn't make its way into the buckets. You can put unopened waste on a separate table and use those foods to fill out the last column on the data sheet.

After Lunch

9 WEIGHTS

Take weights of the buckets after the lunch window is over and fill out the remaining columns in the data sheet.

10 CLEAN UP

Use paper towels, rags, etc. to clean up any spills. Spill out the liquid food waste (milk) into the drain. Dispose of the solid food waste in the buckets either by composting them or throwing them away in the larger trash cans (whatever method the school currently has in place).

11 CHECK OUT

Thank everyone for their help and participation! You've just facilitated a school food waste audit with a little help from your friends.

12 OPTIONAL: LOG RESULTS IN KNACK DATABASE

After you've filled out the data sheet, we ask that you add the information into our **Knack Database**. This is a national database that holds food waste audit data from hundreds of schools across the country. Inputting your food waste audit results will help us keep track of school food waste data in schools across the country to push for district-level changes as well as state- and national-level policy change.

Now What?

After conducting a food waste audit, you might be surprised by just how much uneaten food your school cafeteria produces each day. It can be eye-opening to see the numbers, and it may leave you wondering, "Now what?" The good news is that there are several practical next steps you can explore to reduce waste and make your cafeteria more sustainable!

IDEAS ON HOW TO CHANGE SYSTEMS WITHIN YOUR SCHOOL TO REDUCE FOOD WASTE:

- **Consider the feasibility of setting up a share table, where unopened and untouched food items can be safely offered to others**
- **Look into Offer vs. Serve policies that give students more choice and reduce unwanted food on trays**
- **Explore composting, food sorting stations, or even rearranging the schedule to have recess before lunch, which can increase appetites and reduce waste**
- **Switch to bulk milk dispensers to cut down on single-use cartons**

Each school is different, so finding the right combination of solutions starts with understanding your data and getting creative with the next steps.

Were you able to conduct a food waste audit and want to talk about what your next steps might look like? Feel free to reach out to **fwwstaff@wwf.org**.

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www.unep.org
unep-communication-director@un.org