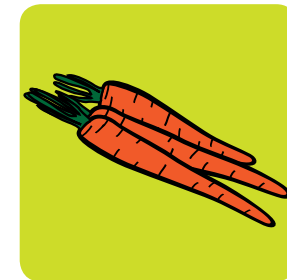


Taking a Closer Look at Food Waste & Food Selection at School



A Lesson Plan for Engaging Students in the Smarter Lunchrooms Movement

EDUCATOR INFORMATION

Smarter Lunchrooms Background:

This lesson plan allows students to take an objective look at food waste (and selection) in their lunchroom. Learn how to evaluate the effectiveness of behavioral economics strategies from the Smarter Lunchrooms Movement to decrease food waste and increase selection by measuring food waste.

Smarter Lunchrooms Process:

This lesson provides the instructions and materials for schools interested in plate waste. Once a Smarter Lunchrooms strategy has been selected (Step 1 - Spot), details planned out (Step 2 - Plan), and the strategy has been in place for 4-6 weeks (Step 3 - Do), schools can evaluate the change by measuring food selected and food wasted (Step 4 - Prove).

This lesson could best be carried out with support from a FoodCorps or AmeriCorps service member, an existing student club such as Family, Career, and Community Leaders of America (FCCLA), 4-H, or a recycling club.

Please review these resources:

- > [Smarter Lunchrooms Handbook](#)
- > [Montana Smarter Lunchrooms Success Stories](#)
- > [How to Reduce Food Waste in Schools report](#)
- > [Offer vs. Serve option](#)
- > [U.S. Food Waste Challenge and Reducing Food Waste: What Schools Can Do Infographic](#)
- > [Help Prevent Wasted Food resource](#)

> [Montana Educational Standards](#)

LESSON TIMEFRAME

Estimated total time required: 5 (50-minute) class periods and 3-6 lunch periods

- Class Period 1: 50-minutes to provide background information about food waste and why it matters.
- Homework Assignment: Students will be asked to spend a lunch period making observations in the lunchroom during mealtime.
- Class Period 2: 50-minutes to share summary of lunchroom observations and learn the “Weigh It” Method for collecting food waste.
- Lunch Periods: Four lunch periods to collect food waste (two days pre-change and two days post-change)
- Class Period 3: 50-minutes to summarize data
- Class Periods 4 and 5: develop a plan to share results and take action.

LESSON OBJECTIVES

Students will:

- Increase awareness of food waste and identify best practices used by schools to decrease food waste, especially of fruits and vegetables.
- Participate in a plate waste collection activity in the lunchroom and analyze the results.
- Analyze the results from the Smarter Lunchrooms Scorecard and identify behavioral economics strategies that schools can use to decrease food waste.
- Develop an action plan to decrease food waste and increase consumption of healthy foods in the lunchroom.
- Evaluate the strategies used to decrease food waste in the lunchroom. Discuss opportunities to collaborate with school staff (administration, food service, and custodial) to carry out the action plan to decrease food waste.

LESSON MATERIALS, PREPARATION, & ADDITIONAL RESOURCES

For this lesson, the following items will be needed:

- Equipment to show online resources, YouTube videos, and project assignments (internet, computer, screen, projector, speakers)
- Copies of the *Is Food Waste an Issue at our School?* Checklist.
- Copies of the “Weigh It” Method for Measuring Food Selection and Waste in Schools

Helpful hints and further resources:

- Talk with the Food Service Director and the principal about your plan to observe plate waste in the lunchroom and invite them to participate in developing a plan to decrease food waste using simple Smarter Lunchrooms strategies.
- Invite the Food Service Director into the classroom to share what she/he is currently doing to reduce waste in the lunchroom. Ask what she/he would like to look at with this food waste study. Is she/he concerned about entrée waste? Fruit and vegetable waste? Other areas? What ideas can she/he share regarding food waste and how to decrease it?
- Consider providing extra credit to students who eat a school meal in the lunchroom during this lesson, as it provides opportunity for hands-on observation.
- Encourage students to expand their awareness of food waste to other areas outside of school, such as at home, grocery stores, and restaurants.



Introduction to the Smarter Lunchrooms Movement

Say: **“Today we are going to look at ways we can make small changes in our lunchroom to encourage students to waste less food.”**

Questions for students:

- Why do you think eating healthy foods is important?
- How do you think food choices impact our health?
- We make food choices every day. What do you think influences the food-related decisions that we make on a daily basis?
- Do you think our school environment impacts our food decisions? If so, how?
- Do you think there are ways we can improve our school lunchroom environment or the lunch line itself to encourage healthier choices?
- Do you think there are ways we can design our school lunchroom environment to encourage less food waste?

Say: **“Today I’m going to introduce to you the Smarter Lunchrooms Movement, which is a project that works to promote healthy eating in the lunchroom, without adding cost for schools or taking away choices for students.”**

Introduce the Smarter Lunchrooms project. Consider reviewing or showing the [Smarter Lunchrooms Makeover video](#).

Let’s look at how Behavioral Economics influence behavior and choice in the cafeteria.

Summary of the Smarter Lunchrooms Movement: <https://www.smarterlunchrooms.org/sites/default/files/documents/SLM-Flyer-Inkjet.pdf>

Class Period 1

Say: **“Did you know that 30 to 40% of food purchased in our country is wasted?” Why do we waste food in the lunchroom, at home or when eating out? “Why does food waste matter?”**

Information for the Educator:

Food waste in the United States is a pressing problem!

- Approximately 31% of all food in the United States, or 133 billion pounds of the available food supply at the retail level is wasted.¹ This food waste represents an economic loss of approximately \$161.6 billion per day.² The average American family wastes \$2000 worth of food per year.
- While Americans throw food away, hunger remains an issue in the U.S., with an estimated 14% of households that are food-insecure.³ One in five households in Montana are at risk for hunger.
- Food waste results in detrimental consequences for the climate, water, land use, and biodiversity.⁴ The U.S. Department of Agriculture and U.S. Environmental Protection Agency have recently partnered to set the nation’s first food waste reduction goals to reduce the amount of food wasted in America by 50 percent by 2030.⁵
- A plate waste study conducted in 1998 in nine Montana schools indicated over 40% of vegetables were wasted.

These statistics could be turned into a walking quiz, multiple choice, or true/false guessing game. Post the answer choices on colored pieces of paper and hang on the walls around the classroom. Have students get up and stand by the answer they choose. How many correct answers did your students get? This activity may be a good way to assess students’ existing knowledge on this topic.

1. Buzby et al. 2014 | 2. Buzby et al. 2014 | 3. ERS USDA 2015 | 4. FAO 2013 | 5. USDA 2015



How to Reduce Food Waste in Schools:

Review this [How to Reduce Food Waste in Schools report](#) (ask students to read in class, use an activity listed below, or assign as homework before the class) and discuss the key strategies (1-4 listed below) in class.

Best Practices used by Schools to Decrease Food Waste:

1. Correct use of the [Offer vs. Serve option](#) for school meals. Offer versus Serve allows students to select foods that they want to eat as they go through the service line instead of pre-serving foods on the lunch tray.
2. Use of share tables. Share tables allow students to place unpeeled and uneaten foods on a table for other students to consume.
3. Scheduling physical activity or recess before lunch.
4. Allowing enough time for students to eat once they sit down with their tray.

The [U.S. Food Waste Challenge](#) includes challenging all K-12 schools across the country to step up with innovative new programs such as using techniques listed on [Smarter Lunchrooms Self-Assessment Scorecard](#) to help reduce food waste. The [Reducing Food Waste: What Schools Can Do Infographic](#) is helpful tool in explaining this topic.

Try using a close reading activity with your students when reviewing these reports. Ask them to read closely. Place a star by something they relate to and/or agree with. Place a question mark next to something they don't understand. Place a lightbulb or lightning bolt next to something they would like to try.

Or, divide the class into groups and give them a section of one of the above-mentioned references. Give them 10 minutes to review it and then have each group explain it to the rest of the class.

The use of simple and low-cost Smarter Lunchrooms strategies can help schools decrease food waste.

Specifically, the following strategies from the [Scorecard](#) could help decrease waste:

Focus on Fruit

- At least two types of fruit are offered.
- Sliced or cut fruit is offered.
- At least one fruit is identified as the featured fruit of the day and is labeled with a creative, descriptive name on the service line.

Vary the Vegetables

- At least two types of vegetables are offered.
- Both hot and cold vegetables are offered.
- At least one vegetable is identified as the featured vegetable of the day and is labeled with a creative, descriptive name on the service line.
- Offer unique seasoning blends for students to “dress up” their vegetables.

Student Involvement

- Students provide feedback to inform menu development.

School Community Involvement

- Elementary schools provide recess before lunch.

Additional Best Practice Strategies to Decrease Food Waste:

- School food service staff use Offer versus Serve correctly.
- Students and lunchroom supervisory staff know how Offer versus Serve works.
- Signage promotes choice “Choose one and done.”
- Students can self-serve fruits and vegetables.
- School food service staff serve smaller ($\frac{1}{4}$ cup serving) portion of fruits and vegetables to students in younger grades (K-2 or K-5). Example: Provide a “cub” portion ($\frac{1}{4}$ cup) for grades K-5. Older students (grades 6-12) receive a larger “tiger” portion ($\frac{1}{2}$ cup).
- Start a share table. Collect and measure the amount of food “saved/reused” in the share table.
- Share results with students with a large poster in the cafeteria tracking amount of food saved.
- Have a “Who Wastes the Least?” Challenge amongst grade levels.
- Have students set goals on how to waste less food at school and write on a huge poster in the lunchroom.

Say: **“Change starts with you! Challenge yourself to decrease waste in your personal life, home, and at school.”**

STUDENT HOMEWORK

Assign students to observe food waste in the cafeteria for two days each using this checklist: *Is Food Waste an Issue at our School? Checklist*

Important: Remind students to bring their *Is Food Waste an Issue at our School? Checklists* to Class Period 2.



Class Period 2

Schedule several days after Class Period 1 to allow students time to observe the lunchroom and complete the checklists.

Have a class discussion based upon the students' recent food waste observations. Break students into groups of 3-4. Ask them to compare and summarize the results from their completed *Is Food Waste an Issue at our School?* Checklists. Report back to the class.

- What foods were wasted the most?
- What did they learn from their lunchroom observations?
- Ask the students what the reasons were for the foods being wasted.

Helpful Resource: [Help Prevent Wasted Food](#)

Say: **“Our school is using Smarter Lunchrooms strategies to decrease food waste and increase selection of certain foods in the cafeteria.** (Meet with your school's School Lunch Advisory Committee (SLAC) and Food Service Director to see what strategies they are using in the lunchroom.) **To measure the success of a Smarter Lunchrooms strategy, it's important collect data BEFORE the change is made and AFTER the change has been made. This allows you to make comparisons with real data.**

Now that we have an idea what food waste looks like in our lunchroom, let's plan to study it and take action to change it. We will collect plate waste data to see if the Smarter Lunchrooms strategy worked.” (Steps 3 and 5 listed below.)

The Smarter Lunchrooms Path using plate waste to Prove It looks like this.

1. School has completed the Spot It step and has selected one food item of a school meal to measure: Fruit, Vegetable, Entrée, or Milk.
2. School selected 1-2 strategies from the Scorecard or Best Practices to put into action.
3. *Collect two days of baseline or “pre” change data.*
4. School makes a Smarter Lunchrooms strategy change. (This will be done in collaboration with the Food Service Director and her/his staff).
5. *After 4-6 weeks, collect two days of “post change” data.*
6. School redoes the Scorecard and takes photos of the changes.

Say: **“The Food Service Director and the school's School Lunch Advisory Committee have completed a Smarter Lunchrooms assessment and want to implement these strategies (list here) to decrease food waste. We will help them collect the pre and post plate waste data. We will be looking at just one food item (list here).”**

Review the *“Weigh It” Method for Measuring Food Selection and Waste in Schools.*

Lunch Periods

This step takes place in four lunch periods; two before and two after the 1-2 strategies are implemented in the cafeteria.

Measure the amount of food selected and wasted by following the *“Weigh It” Method for Measuring Food Selection and Waste in Schools.* Data will be recorded on the [Weigh It Data Collection Form](#).

First, prepare by completing the following steps:

1. Read and review the *“Weigh It” Method for Measuring Food Selection and Waste in Schools.*
2. Work with the Food Service Director to determine the best days and menus to sample. Important: The same menu needs to be served on the two days before and two days after the strategies are in place in the lunchroom.
3. Once the four dates are determined, assign a group of 4-5 students to complete the Weigh It Method on each date.
4. Gather supplies and prepare data collection sheets.
5. Assign someone (student, teacher, or adult mentor) to be in charge of managing the data collected.
6. Complete the [Weigh It Data Collection Form \(Excel spreadsheet\)](#)
7. Summarize the data with the [Plate Waste Summary Sheet \(Excel spreadsheet\)](#) to compare the results from the pre and post dates. Students could prepare a handout or PowerPoint Presentation so it can be shared it with the Food Service Director.



★ Class Periods 3, 4, & 5

We will use our data to PROVE it.

Say: “Great job in conducting a plate waste study! The 4th and final step of the 4-Step Smarter Lunchrooms Plan is to ‘Prove It.’ To wrap up our lesson, we will talk about how we could ‘Prove It,’ and what our final steps would be if we actually want to start creating changes in our lunchroom.”

Information for educator:

The success of the Smarter Lunchrooms strategies to decrease food waste can be measured in several ways:

- Amount of food items selected – Using your pre and post data collected in the plate waste study, see if the amount of food item selected increased or decreased as a result of the change. Did the two strategies (name them) increase student selection and/or decrease waste?
- Amount of plate waste – did the amount of food waste decrease as a result of the change?
- Did the school meals program make changes to how much food is served? Is Offer versus Serve used correctly? Did the school put up signs to promote Offer versus Serve (Choose One and Done)?
- Did the school start a share table or share basket?
- Number of students choosing salad bar – Using a counter, count the number of students making selections at the salad bar, or determine if the amounts of items selected by students have changed.
- Number of student choosing school lunch – Using meal participation records, determine the number of students participating in the school lunch program or any changes in the number of students participating in school lunch over time.

Review with the students that to prove something, information or data must be collected before and after the change(s). Use these ideas or questions to draw conclusions from the plate waste activity. Use the information from the *Data Summary Report* for this discussion.

Say:

- “To determine if the strategies used were successful in helping students make healthier choices and waste less food, we need to review the data and talk about the results.
- Did our data show any change in the food choices selected?
- Did our data show any change in the amount of food wasted (thrown away)?”

To summarize the lesson:

Say:

- “Considering the strategy or strategies that were used, were they enough to decrease food waste? Are there other strategies or best practices that could be considered?
- Could we start a share table? Should we collect and measure the amount of food “saved/reused” in the share table.
- Now that we have brainstormed ideas to decrease food waste, how might we advocate for some of these changes, or be involved in making our ideas happen in the lunchroom? What partners would be needed to make these changes?
- How could we use the data collected to increase awareness about food waste amongst our peers, families, and community?”
 - Students write an article for the school newspaper.
 - Students create a Photovoice essay on food waste.
 - Students create a poster showcasing the results and hang in the lunchroom.
- Invite the Food Service Director into the classroom to discuss results and plans to move forward.

> Assessment Tools



Is Food Waste an Issue at our School? Let's Find Out!

Review this assessment form. Then, spend 1-2 days in your cafeteria making observations about food waste.

Name: _____ Date: _____

School: _____

Lunch menu (list items available):

Salad bar available?

- Yes
 No

Salad bar observations:

Take notice at the service line: (Check all that apply.)

- The tray is not "pre-made" for students. Students get to choose which foods (specifically fruits or vegetables) are placed on their tray.
- Several choices of fruits and vegetables are available.
- Students serve themselves.

Take notice in the lunchroom: (Check one.)

- Students have enough time to eat once they sit down with their tray.
- Students are rushed while they're eating.

Take notice at the tray return/trash cans: (Check all that apply.)

What food items are wasted the *MOST*?

- Fruit
 Vegetable
 Entrée
 Bread/Grain
 Milk

- The most wasted food items are partially eaten.
 The most wasted food items are not eaten at all.

What food items are wasted the *LEAST*?

- Fruit
 Vegetable
 Entrée
 Bread/Grain
 Milk

- Students have the option to place unopened milks, whole, fresh fruits, and packaged items on a share table.
- If yes, how many of these items are placed on the share table? _____
- Students were throwing away food instead of putting it on the share table.
- Students can take food out of the cafeteria to eat later. (Ask Food Service Director and Principal for answer.)

Comments (Anything else that you observed that is important to food waste):

Please print.



“Weigh It” Method for Measuring Food Selection and Waste in Schools

The “Weigh It!” method is a way to measure food selection and food waste in your cafeteria. This method will be used to gather data before and after changes are made in the cafeteria. To be able to measure CHANGE in selection and waste during lunch, it is best to measure two days before a change is made and two days after a change is made. It is important that the food service team serves the exact same foods on the two days before and the two days after. You will need at least four volunteers to help each day. This method will be used to study the one food item decided on by the SLAC team. This food will be referred to as the “studied food.”

MATERIALS NEEDED:

- Rubber gloves
- Food scale
- Spatulas or scrapers
- Paper, pens, pencils, or markers
- Clipboards
- Three trash cans or several 5-gallon buckets lined with clean trash bags
- Masking tape to label the buckets
- One table
- Cleaning wipes
- Extra trash bags

(Some of these materials may be provided by the school food service. Ask the Food Service Director to provide instructions on how to use the food scale.)

“WEIGH IT!” METHOD STEPS:

A. GETTING READY:

1. Read this entire handout.
2. First, GET APPROVAL from your Food Service Director, custodian, and principal and together with them select the days when you will be implementing the “Weigh It!” Method. The lunch menu should be the same for each set of dates. Explain to them that you will need to be in the cafeteria about 20-30 minutes BEFORE the lunch period to set up and weigh the food that will be served. Request a table and three trash cans to be available for use on “Weigh It” days. Explain that all other trash cans will need to be removed from the cafeteria.
3. Make four BIG signs:
 - One sign for a table: “PLACE ALL TRAYS AND FOOD WASTE HERE.”
 - For the trash cans or buckets: label each with the name of the food (i.e. apple, green beans) you will be collecting and leave one or two labeled “ALL OTHER TRASH.”

4. Recruit adult helpers to monitor trash cans or buckets with students and assign student volunteers.
 - Adult volunteers are helpful to generally oversee how things are going, step in where needed, and to help supervise weighing.
 - One student volunteer will make announcements during lunch that all students need to put their trays and food waste on the table, NOT in the trash cans. This person will also direct traffic to make sure students put their trays and food waste on the table.
 - Three student volunteers will be behind the table separating trash.
 - The food item you are measuring will go into a clearly identified trash can. Examples include: “Fruit Waste, Vegetable Waste, Entrée Waste, Salad Bar Waste, or Milk Waste”
 - All other food waste goes in the “ALL OTHER TRASH” trash can.
 - All food waste from home-packed lunches goes in the “ALL OTHER TRASH” trash can.
5. If you would like to see an example of a plate waste study, refer to this video at this link: <http://www.montana.edu/teamnutrition/smartpleasantmeals/smartcafes.html>

B. ON MEASUREMENT DAYS:

1. Have the *Weigh It Data Collection Sheet* ready for use. Read the step by step directions on this sheet to collect the data.
2. Get one table and three trash cans from the Food Service Director and label accordingly.
 - a. Set up the table near the cafeteria exit or tray return area and place the trash cans or buckets behind the table so that students do not have access to the trash cans.
 - b. Put all the other trash cans in another room (not in the cafeteria). This way food waste will only end up in your trash cans or buckets.
 - c. Ask the Food Service Director or cook to assist you in recording the weights to complete the 10 columns on the Weigh It Data Collection Sheet. Record the menu on the sheet.
 - d. All volunteers put on rubber gloves and go to their assigned places during the lunch periods.
 - e. Before lunch service, assign one student to count the students and adults going through the service line or salad bar that contains the “studied food.” A hand clicker or a tally sheet can be used to count people.
 - f. During lunch service, assign one student to take photos of 3-4 students’ lunch trays before they start eating (just the tray, not the student) so that your team will know what lunch looked like that day. Keep the pictures with the Data Collection Sheet.
 - g. Make an announcement to each cafeteria period: **“Hi everyone, we are doing a study in the lunchroom today. Please help us out by putting all trays and food and beverage waste on this table and NOT in the garbage cans. Thanks!”**



“Weigh It” Method continued.

- h. During the lunch periods, collect the trays from the students. Thank them for giving you their trays and not throwing the food/trays away. Monitor disposal of trash during lunch service. Collect ALL TRASH from the lunch periods that are served the “studied food” you have just weighed. Separate the trash accordingly putting the “studied food” trash in the marked garbage can and all the rest of the trash/food in the “All Other Trash” garbage can.
 - i. Collect and record the data on the [Weigh It Data Collection Sheet](#) and the [Data Summary Report](#).
 - i. Print and write neatly.
 - ii. Check your math twice.
 - iii. Double check the data sheet and make sure that it is complete with your team before cleaning up.
 - iv. Throw away all waste in the food buckets. Clean up all equipment.
 - v. Thank the school food service staff.

TIPS FOR DATA COLLECTION:

1. Ask the Food Service Director or Cook to weigh all food added to the pan during the meal service of the “studied food.” In the data collection sheet, add this amount of extra food added during the meal service to column 3 (Food Pre-service).
2. Use the “Tare” Method to Weigh
Place the pan on the scale, TARE the scale (tare returns the weight to zero), and then put the fruit (for example) into the pan to get the weight of the fruit.
3. Is a share table used in the cafeteria? A share table allows whole pieces of fruit or vegetables, unopened milk cartons, and or individually wrapped, un-opened packaged foods to be reused in another meal or students can take these free of charge during mealtime.

If a share table is used in the cafeteria, and has the studied food item on it, then weigh the “studied items” in the share table. Don’t count this as food waste if the food is reused. You can make note of how much “studied food” is recovered/reused at the share table.

Is there a share table for unopened milk cartons? If so, count and make note of how many milk cartons are “shared.”

- If reused, do not count these as milk waste.
- If the unopened milk cartons are thrown away, you will count this as milk waste. Count and note how many unopened cartons are collected, open the cartons, and add the milk to the waste buckets.

Say **“Now you are ready to begin collecting plate waste data in your cafeteria. Follow the steps on the Weigh It Data Collection Sheet to determine how much food is being wasted in your cafeteria!”**

A Lesson Plan for Engaging Students in the Smarter Lunchrooms Movement

EXTRA: If you would like to evaluate salad bar waste:

1. Select one item from the salad bar to study.
2. Put the pan of the salad bar item on the scale, press TARE on the scale (tare returns the weight to zero), to get the weight of the one item. Ask the Food Service Director or Cook to weigh any additional amount of the studied food added to the salad bar during lunch service. Add those weights to the specific weight of the food item for Pre-Service Weight.
3. After the meal service is over, weigh the amount of the food that is left over and has not been served on the salad bar.
4. The total amount of the salad bar food item offered minus the amount of salad bar food group that is not served is the amount of salad bar item selected by students during the meal.
5. Ask the Food Service Director for the number of students and adults using the salad bar. Do all students have access to the salad bar? If yes, you would count the total number of students eating lunch. If not, you will need to count the number of students using the salad bar. Some schools have this information in their point of service counts. Others do not. You may need to count the number of students and adults using the salad bar with a hand tally clicker.

Calculations for amount selected:

total amount offered minus amount left over = the amount of salad bar food selected by students/adults

amount of salad bar food selected by students and adults divided by the total number of students/adults using the salad bar = amount of salad bar food selected per student/adult

6. Collect the salad bar item food waste from students’/adults’ trays in either garbage bag lined 5-gallon buckets or in a trash can. This is the amount of salad bar food wasted. Subtract the weight of items from a share table.

Calculations for amount wasted:

total weight of salad bar waste by students/adults divided by the number of students/adults collected = the amount of salad bar food waste per student/adult

Portions of this waste protocol were adapted from Plate Waste Protocol in Montana Schools, developed by Carmen Byker Shanks, Katie Bark, and Molly Stenberg. Portions of this protocol were also adapted from Michigan Team Nutrition’s Cafeteria “Weigh It” Resource.



WEIGH IT DATA COLLECTION FORM

School Name: _____

Date of Collection: _____

Number of Students Eating Lunch: _____

Grade Levels Served: _____

[> View Excel File Here](#)

	Menu Items Served	Pre-Service Pan with Food (1)	Empty Pan (2)	Food Pre-service (3)	Post-Service Pan with Food (4)	Post-Service Weight of Food (5)	Food Selected (6)	Food Wasted (7)	Food Consumed (8)	Percentage Wasted (9)
1										
2										
3										
4										
5										

Milk Data

Total Number of Cartons Collected	Chocolate (Number of Cartons Collected):			White (Number of Cartons Collected):			Number of unopened chocolate milk cartons collected
	Bucket (1)	Milk Selected (2)	Wasted Milk and Bucket (3)	Bucket (1)	Milk Selected (2)	Wasted Milk and Bucket (3)	
							Are these reused or thrown away?
							Number of unopened white milk cartons collected
	Milk Wasted (4)	Percent Wasted (5)		Milk Wasted (4)	Percent Wasted (5)		
							Are these reused or thrown away?

INSTRUCTIONS FOR MILK DATA:

1. Weight of Bucket= weigh the empty bucket
2. Weight of Milk Selected= (8 ounces) multiplied by the number of cartons collected
3. Weight of Wasted Milk and Bucket= pour all leftover milk into the bucket and weigh it (make sure to pour any full cartons that were going to be thrown away into this as well)
4. Weight of Milk Wasted= (weight of the bucket with wasted milk (#3) - weight of the bucket (#1))
5. Percent of Milk Wasted = (weight of milk wasted (#4) divided by (weight of milk selected (#2)))

Instructions for Data Collection:

(organized by column)
Begin by writing down the menu item(s) or studied food(s) in the first column.

1. Weight of pan with food pre-service = weight of the pan with the studied food being served before lunch. Add the weight of any additional food that is served during the meal service to this amount.
2. Pan weight = weigh an empty similar sized pan
3. Food weight pre-service = (weight of pan with food before lunch(#1)) – (pan weight(#2))
4. Weight of pan with food post-service = weight of the pan with leftover food in it after service
5. Weight of food post-service= (weight of pan with food post-service(#4) – (pan weight(#2)))
6. Weight of food selected by students = (weight of food pre-service(#3)) – (weight of food post-service (#5))
7. Food waste weight = weigh the amount of food wasted by collecting student tray waste into a bucket. Subtract the weight of the bucket from this number to get the weight of food waste.
8. Food consumed = (weight of food selected (#6)) – (food waste weight (#7))
9. Percentage wasted = (weight of food wasted (#7)) divided by (weight of food selected by students (#6)) multiplied by 100



DATA SUMMARY REPORT

School Name: _____

Type of Food Observed: _____

Dates of Intervention: _____

[> View Excel File Here](#)

PRE-INTERVENTION

Day One	
Date: _____	
Number of Students Eating Lunch	
% of Food 1 Wasted	
% of Food 2 Wasted	
% of Food 3 Wasted	
% of Chocolate Milk Wasted	
% White Milk Wasted	

Day Two	
Date: _____	
Number of Students Eating Lunch	
% of Food 1 Wasted	
% of Food 2 Wasted	
% of Food 3 Wasted	
% of Chocolate Milk Wasted	
% White Milk Wasted	

POST-INTERVENTION

Day One	
Date: _____	
Number of Students Eating Lunch	
% of Food 1 Wasted	
% of Food 2 Wasted	
% of Food 3 Wasted	
% of Chocolate Milk Wasted	
% White Milk Wasted	

Day Two	
Date: _____	
Number of Students Eating Lunch	
% of Food 1 Wasted	
% of Food 2 Wasted	
% of Food 3 Wasted	
% of Chocolate Milk Wasted	
% White Milk Wasted	

PRE/POST INTERVENTION

Average % of Food 1 Wasted in Day 1+ Day 2 Pre	
Average % of Food 2 Wasted in Day 1+ Day 2 Pre	
Average % of Food 3 Wasted in Day 1+ Day 2 Pre	
Average % of Chocolate Milk Wasted Day 1+ Day 2 Pre	
Average % of White Milk Wasted in Day 1+ Day 2 Pre	

Average % of Food 1 Wasted in Day 1+ Day 2 Post	
Average % of Food 2 Wasted in Day 1+ Day 2 Post	
Average % of Food 3 Wasted in Day 1+ Day 2 Post	
Average % of Chocolate Milk Wasted Day 1+ Day 2 Post	
Average % of White Milk Wasted in Day 1+ Day 2 Post	

Change in % Food 1 Wasted (Pre-Post)	
Change in % Food 2 Wasted (Pre-Post)	
Change in % Chocolate Milk Wasted (Pre-Post)	
Change in % White Milk Wasted (Pre-Post)	