

D.C. Reduce First Challenge – Lunch Edition

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DCPS Recycles!

Government of the District of Columbia

Department of General Services

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About the DC Reduce First Challenge – Lunch Edition

Achieving the [Sustainable DC](http://www.sustainabledc.org/) target of zero waste by 2032¹ will require substantial effort and increased emphasis on the first of the 3 R's – Reduce!

The DC Reduce First Challenge – Lunch Edition is a challenge, open to all DC schools, focused on reducing food waste. During the challenge, schools will conduct simple surveys to count whole uneaten and unopened food items per student lunch, and then take actions to reduce wasted items. The challenge is designed to address waste generated *after* lunch is served (post-consumer waste) rather than waste generated in the kitchen *before* lunch is served (pre-consumer waste).

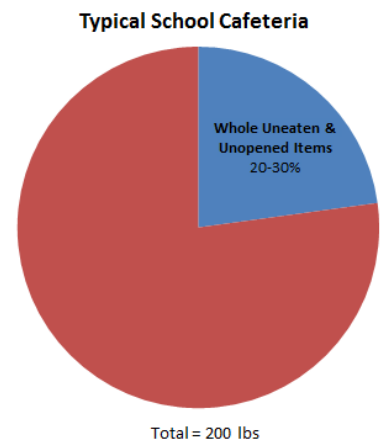
Why Focus on Lunch Waste?

Schools Generate A Lot of Food Waste: Nationally, approximately 12 percent of calories from food on a K-12 student's plate is wasted.² Based on school waste audits conducted by DGS, more than half of the waste generated in cafeterias and kitchens is organic waste. About 20-30 percent of the cafeteria waste is whole uneaten and unopened items.³

Food Waste is a Serious Problem: Food waste is a serious problem with wide-ranging environmental, social and economic consequences. Food waste in the United States is estimated at roughly 30 to 40 percent of the food supply.⁴ The value of that wasted food is approximately \$161 billion a year.⁵ In 2015, the USDA & EPA set a first-ever national food waste reduction goal calling for a 50 percent reduction in food waste by 2030.⁶

Nutrition Loss: Healthy eating is essential for student nutrition and learning. Wasted food means wasted nutrients. Under-nutrition of students can negatively affect overall health, cognitive development and school performance.⁷

Continuous Improvement: The DCPS Recycles! team continually looks to improve program results and works with schools to identify and pilot those reduction models that work best in our schools. In order to recommend DC-wide solutions to lunch waste, we need your data and creative solutions.



¹ Sustainable DC. <http://www.sustainabledc.org/>.

² End Food Waste Now. Accessed August 2016. <http://endfoodwastenow.org/index.php/issues/issues-schools>

³ School waste audits conducted by the DC Department of General Services and Capital City Public Charter School.

⁴ United States Department of Agriculture (USDA). February 2014. <http://www.usda.gov/oce/foodwaste/faqs.htm>.

⁵ Same as above.

⁶ USDA. September 2015. <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2015/09/0257.xml>.

⁷ Centers for Disease Control and Prevention. August 2015. <http://www.cdc.gov/healthyschools/nutrition/facts.htm>



Awards & Recognition

Schools that participate in all four weeks of the challenge will be recognized. Certificates will be awarded for Best Performance, Most Replicable Solution, and Most Learning.



Best Performance – An objective category based on percent reduction from the baseline. The metric is the number of wasted whole uneaten and unopened items per student lunch per week.



Most Replicable Solution – A subjective category to award the most effective and replicable waste reduction solution.



Most Learning – A subjective category to award the school that demonstrates the most learning from participating in the challenge, regardless of whether or not a reduction in waste was achieved.



Challenge Instructions

Week 1 – Establish your Baseline

Data Submission Form: <http://goo.gl/forms/2GvFsq9nq5>

Establishing your baseline is crucial to the challenge. In order to know how much waste you reduce, you must know how much waste you start with. Your baseline will be based on surveys from three (3) days during Week 1.

Step 1: Assign Roles Assign **staff, teachers &/or students** that will remind students to place their whole uneaten & unopened food items in the designated collection container (not in the usual waste bins) and to count and record the items at the end of the lunch period. Also, inform and coordinate with your **custodial staff** and **food services staff** during the challenge.

Step 2: Choose your Sample Size: The metric used to measure progress is the number of whole uneaten & unopened food items per student lunch. Determine your sample size by choosing the number of student lunches that you will survey. Example sample sizes are one lunch table, one class, one grade level, one lunch period, or even multiple lunch periods. **The sample size is up to you! The sample size can be different each day. While a higher sample size is ideal, smaller sample sizes will not be penalized because of the normalized (per student-lunch) metric.**

Step 3: Set Up. Set up a table and/or container (e.g. a milk crate) next to your waste bins where students can place their whole uneaten & unopened items after they are done eating lunch. An example of a sign you can use to designate where students should put the items is provided on page 7.

Step 4: Collect & Count. For three (3) days during Week 1, collect and count the number of whole uneaten & unopened food items after lunch. Use the Daily Worksheet provided on page 5.

Step 5: Summarize & Submit. Summarize the data from the 3 days using the Weekly Summary Worksheet on page 6. Submit your baseline by completing the Data Submission Form: <http://goo.gl/forms/2GvFsq9nq5>.

What is the metric for success?

The metric used to measure progress is the number of **whole uneaten & unopened food items per student lunch**. Determine your sample size by choosing the number of student lunches that you will survey. Example sample sizes are one lunch table, one class, one grade level, one lunch period, or even multiple lunch periods. The sample size is up to you!



School Without Walls @ Francis Stevens

What leftover food should be counted?

Only whole uneaten & unopened food items, such as:

- Whole fruits (apples, bananas, oranges...)
- Uneaten vegetable & fruit cups
- Unopened milk cartons
- Unopened yogurts
- Unopened items brought from home, etc.

*DO NOT COUNT condiment packets - they are not a meal component & will skew the data. Can count separately.

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Challenge Instructions (continued)

Weeks 2 & 3 – Take Action

Actions Submission Form: <http://goo.gl/forms/zPIRDPb1Ex>

During Weeks 2 and 3, use your baseline data to come up with a hypothesis. Propose strategies you think will reduce the number of whole uneaten and unopened items per student lunch. Then, take action during Weeks 2 and 3. You will test your hypothesis by collecting data again in Week 4. You can use this opportunity to apply science concepts with your students, such as conducting an experiment and how to write and test hypotheses.

For ideas on how to reduce food waste, review the resources provided below. Also, use your creativity to come up with your own ideas!

Submit your strategies and actions taken AT LEAST ONCE during Weeks 2 & 3 by completing the Actions Submission Form: <http://goo.gl/forms/zPIRDPb1Ex>.

Week 4 – Report Results

Data Submission Form: <http://goo.gl/forms/2GvFsq9nq5>

During Week 4, test your hypothesis by once again collecting and counting the number of whole uneaten and unopened items per student lunch for 3 days. Repeat Steps 1 through 5 used to establish your baseline during Week 1.

Be honest with your results. Even if your numbers do not go down, simply conducting the surveys teaches students about eating healthy food and reducing waste.

Submit your results by completing the Data Submission Form: <http://goo.gl/forms/2GvFsq9nq5>.

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**DC Reduce First Challenge
Whole Uneaten & Unopened Items
Daily Worksheet**

Date: / /

| | | | | | | |
|-------------------------------|-------|-------|------------------------------|-------|-------|-------|
| Baseline Week (Week 1) | | | Results Week (Week 4) | | | |
| Circle One: | Day 1 | Day 2 | Day 3 | Day 1 | Day 2 | Day 3 |

Number of Student Lunches in Sample:

| Item | Number |
|---|--------|
| Unopened Milk Cartons | |
| Whole Fruit. Write fruit of the day: _____ | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| | |
|---|--|
| Total Number of Whole Uneaten & Unopened Items | |
|---|--|

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**DC Reduce First Challenge
Whole Uneaten & Unopened Items
Weekly Summary Worksheet**

| | | | | |
|---|------------------------|--------------|--------------|---|
| Circle One: | Baseline Week (Week 1) | | | Final Week (Week 4) |
| | Day 1 | Day 2 | Day 3 | Week's Total (Day 1 + Day 2 + Day 3) |
| Number (#) of Whole Uneaten & Unopened Items | | | | A |
| Number (#) of Student Lunches in Sample | | | | B |

=

| | |
|---|----------------|
| Number of Whole Uneaten & Unopened Items per Student Lunch | = A / B |
|---|----------------|

DGS would also like to track data for typical items found across D.C. schools. This data will help us inform appropriate protocols for school share tables and donations.

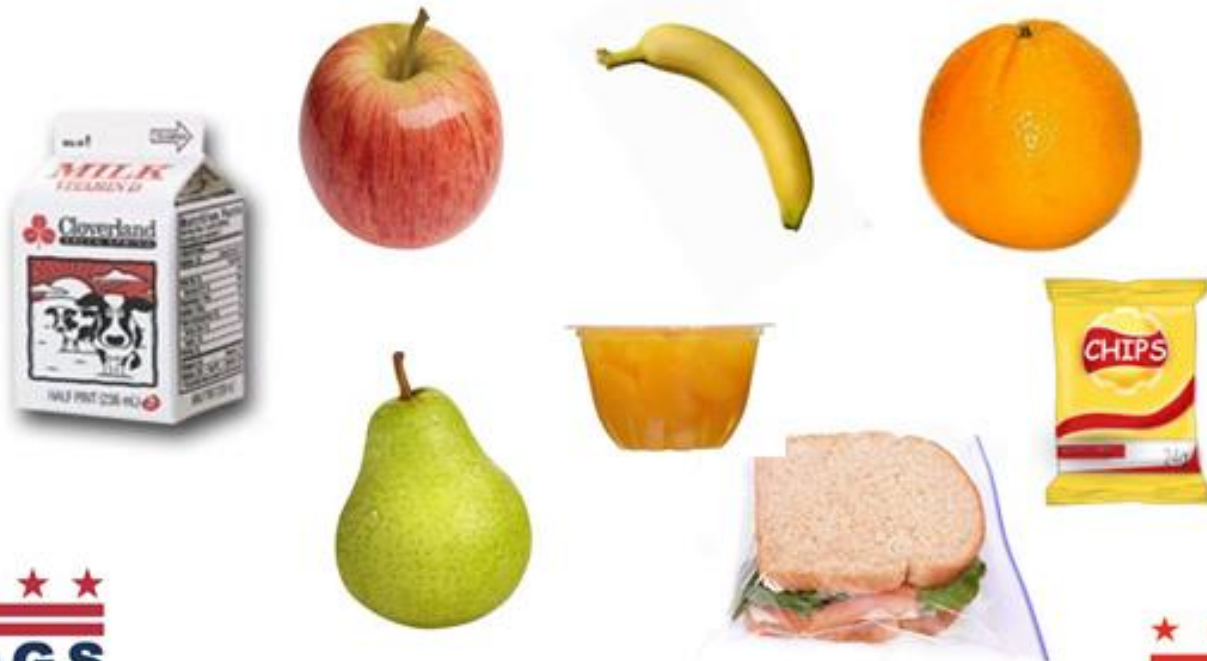
| | Day 1 | Day 2 | Day 3 | Week's Total # of Typical Items (Day 1 + Day 2 + Day 3) |
|--------------------------------------|--------------|--------------|--------------|--|
| Unopened Milk Cartons | | | | |
| Whole Fruit: Apples | | | | |
| Whole Fruit: Bananas | | | | |
| Whole Fruit: Oranges | | | | |
| Whole Fruit (Other): _____ | | | | |

Submit your data to DGS at <http://goo.gl/forms/2GvFsq9nq5>.



Example Signage for Collection

WHOLE UNEATEN & UNOPENED ITEMS



***DO NOT COUNT** condiment packets. They are not a meal component & will skew the data. You can count them separately (optional).

How to Reduce Lunch Waste?

When developing an action plan to reduce whole uneaten and unopened food waste generated during lunch, choose strategies based on the hierarchy below.





Reduce First (Priority) Strategies

Eat & Drink A strategy may be as simple as having an adult **sit down with students during lunch** and **encouraging them to eat food**. Other simple strategies include **re-naming menu items** with fun, clever names or **writing a song** about drinking milk.

Don't Take For school lunches: Under the USDA offer versus serve program students can **opt not to take milk or foods they do not want to eat** as long as their plate meets meal requirements. *An explanation of the National School Lunch Program's offer versus serve (OVS) meal requirements is below (page 10).* **Important note:** If you select this strategy, you must **inquire with your kitchen manager first** about the OVS program.

For lunches brought from home: Encourage students who bring their lunches to bring their uneaten items back home. Talk to guardians about having a discussion with their student about how their lunches can be modified to reduce food waste.

More (Non-Priority) Strategies

There are food waste reduction strategies that may not be implementable during the challenge because they may require more substantial changes by food services or school administrators. These include **changing recipes** (i.e. through taste tests) or **changing school schedules** (i.e. adding time for lunch or eating lunch after recess instead of before). For example, DC Central Kitchen and Walker Jones Education campus had student taste tests and Fresh Feature Fridays when students voted on their favorite recipes. Read more: <http://sustainableagriculture.net/blog/dc-school-farm-to-school/>.

There are also strategies to *use* the whole uneaten and unopened food that a student is served but decides not to eat. These include allowing students to keep non-temperature controlled items to **eat later** in the day and using food during cooking classes or snack time; setting up a **share table** for students to make unwanted food available to other students during lunch; and **donating** leftover food to the community. These are not considered priority strategies because (1) they *use* but do not *reduce* food waste generated during lunch, (2) they do not ensure that the nutritional needs of each student are met during lunch, and (3) the standard food safety protocols necessary for DGS to promote these behaviors do not exist yet for schools.



Offer Versus Serve (OVS) Meal Requirements Explained

- In DCPS, OVS applies to ALL grade levels -

- Charter Schools should check with their food services to see if OVS can be applied -

Offer Versus Serve (OVS) is a program designed by the U.S. Department of Agriculture (USDA) to allow students to choose the foods they want to eat, thereby reducing food waste.⁸ In DCPS, OVS applies to all schools. Below are the guidelines on what constitutes a “reimbursable lunch” under the OVS program as well as tips for how to use those guidelines to reduce food waste during the Challenge.

Offer Versus Serve: Guidance for the National School Lunch Program and the School Breakfast Program

The meal pattern for lunches consists of five food components:

1. Fruits
2. Vegetables
3. Grains
4. Meats/meat alternates (m/ma)
5. Fluid milk

Elect:

- At least 3 of 5 food components **AND**
- For the fruit and vegetable components:
 - One of the choices selected must be at least a ½ cup serving of the fruits or vegetables component OR a ½ cup total serving of both fruit and vegetable.

If only three components are selected, and two of these are fruit and vegetable, the student may only select the ½ cup portion for the fruit OR vegetable. For the other two components, the student must select at least the minimum daily required serving of the components for them to be counted. *(for [grades] 6-8, ¾ cup and for 9-12, 1 cup)*

Source: Food and Nutrition Service of the U.S. Department of Agriculture.



Tips for using OVS in Reduce First Challenge:

- **Students are not required to take milk IF** they are taking three other food components from serving line. **Example:** Meatball sub (meat + grain) and an orange (fruit) fulfills the three required components that students are required to take.
- **Students must take a fruit or vegetable, but they are not required to take both IF** they have two of the three other components (milk, meat, and grain). **Example:** Hamburger on bun (meat + grain) and potato wedges (vegetable) constitutes three of the five components.
- **Students who eat at the salad bar can decline a milk and/or fruit IF** they have a serving of both meat and grain with the vegetable component of their salads. **Example:** Students must take at least one serving of vegetables and two additional components such as turkey (meat) and a muffin (grain).

⁸ “Offer Versus Serve: Guidance for the National School Lunch Program and the School Breakfast Program.” Food and Nutrition Service. U.S. Department of Agriculture. Effective beginning school year 2015-2016. http://www.fns.usda.gov/sites/default/files/cn/SP41_2015a.pdf.



Smarter Lunchroom Movement

The [Smarter Lunchroom Movement](#) started in 2009 to create sustainable research-based change to promote healthful eating in school lunchrooms. The movement is based on research by the Cornell Center for Behavioral Economics in Child Nutrition Program and is funded by the USDA ERS/FNS.⁹ The [Smarter Lunchrooms Self-Assessment Scorecard](#) contains various strategies to encourage healthful eating, which consequently decreases food waste.¹⁰

Below is a sampling of strategies from Smarter Lunchrooms which may decrease lunch waste:

Target Specific Items

- Give daily fruit or vegetable creative, age-appropriate names

Signage, Priming & Communication

- Place signs promoting featured menu items in other areas of the school such as the main office, library or gymnasium.
- Dining space is branded to reflect student body or school (i.e. school lunchroom is named for school mascot or local hero/celebrity)

Staff, Teacher, Administrator Involvement

- Teachers and administrators dine in the lunchroom with students
- Staff is encouraged to model healthful eating behaviors to students (i.e. dining in the lunchroom with students, encouraging students to try new foods, etc.)

Student Involvement

- Let students self-serve
- Student groups are involved in the development of creative & descriptive names for menu items
- Student groups are involved in creation of artwork promoting menu items
- Student groups are involved in modeling healthful eating behaviors to others (i.e. mentors, high school students eating in the middle school lunchroom).
- Students, teachers, and/or administrators announce targeted items in daily announcements.

Recognition & Support of School Food

- A local celebrity (Mayor, sports hero, media personality) is invited to share lunch with students.

Scheduling Changes

- Schedule recess before lunch can reduce plate waste by as much as 30%.
- Extend lunch periods from 20 to 30 minutes reduced plate waste by nearly one-third.

Source: Smarter Lunchrooms Self-Assessment Scorecard

⁹ Smarter Lunchrooms Movement. Accessed January 2016. <http://smarterlunchrooms.org/>

¹⁰ Smarter Lunchrooms Self-Assessment Scorecard. Accessed January 2016.

http://smarterlunchrooms.org/sites/default/files/lunchroom_self-assessmt_score_card.final_4-3-14.pdf

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Resources

- **USDA Offer Versus Serve:** Guidance for the National School Lunch Program and the School Breakfast Program. Food and Nutrition Service. U.S. Department of Agriculture. Effective beginning school year 2015-2016:
http://www.fns.usda.gov/sites/default/files/cn/SP41_2015a.pdf
- **Smarter Lunchroom Movement:** <http://smarterlunchrooms.org>
Smarter Lunchrooms Self-Assessment Scorecard:
http://smarterlunchrooms.org/sites/default/files/lunchroom_self-assessmt_score_card.final_4-3-14.pdf
- **USDA's What You Can Do To Help Prevent Wasted Food.**
<http://www.fns.usda.gov/sites/default/files/tn/USDAHelppreventwastedfood.pdf>
- **USDA Reducing Food Waste: What Schools Can Do Today:**
<https://www.flickr.com/photos/usdagov/15032644782/sizes/l/>
- **USDA K-12 Resources for Food Waste:**
http://www.usda.gov/oce/foodwaste/resources/K12_schools.html
- **End Food Waste Now: Schools.**
<http://endfoodwastenow.org/index.php/issues/issues-schools>
- **DC Department of Public Works – Waste Prevention Tips.**
<http://dpw.dc.gov/page/waste-prevention-tips>
- **School Cafeteria Discards Assessment Project (SCrAP) – Environmental Research & Education Foundation**
<https://erefdn.org/school-cafeteria-waste/>
- **U.S. Food Waste Challenge:** Schools across the country are taking steps to reduce food waste through the U.S. Food Waste Challenge, run by the USDA and EPA. To register your school in the U.S. Food Waste Challenge, complete and [submit this form](#). Note: The D.C. Reduce First Challenge is *not* affiliated with the U.S. Food Waste Challenge.

Contact Us! Beth Gingold, Schools Conservation Coordinator
D.C. Department of General Services, beth.gingold@dc.gov, 202-727-3587



Results from March 2016 Challenge

During the D.C. Reduce First Challenge in March 2016, students in 11 DC Public Schools (DCPS) and one public charter school participated in the DC Reduce First Challenge – Lunch Edition.

Who Participated?

- Ballou High School (Ward 8)
- Barnard Elementary School (Ward 4)
- Cardozo Education Campus (Ward 1)
- J.O. Wilson Elementary School (Ward 6)
- Key Elementary School (Ward 3)
- Malcolm X Elementary (Ward 8)
- Mann Elementary School (Ward 3)
- Mundo Verde Bilingual PCS (Ward 5)
- Phelps ACE High School (Ward 5)
- River Terrace Education Campus (Ward 7)
- School Without Walls @ Francis-Stevens (Ward 2)
- Takoma Education Campus (Ward 4)
- Van Ness Elementary School (Ward 6)

The Results

The results demonstrate that simple, no-cost communication strategies can be used to reduce waste! Results by the numbers:

- 13 schools participated in at least one data collection survey.
- 8 schools participated in all four weeks of the challenge.
- Data on unopened and uneaten whole food items was collected for over 5,000 student lunches.
- All 8 schools who participated in the full four weeks reduced unopened milk carton waste.



- Overall, schools reduced the number of unopened milk cartons per student lunch from 1 unopened milk carton per 4 lunches (1:4 ratio) to 1 unopened milk carton per 6 lunches (1:6 ratio).
- Participating schools reduced uneaten whole fruit waste (including apples, bananas, and pears) per student lunch from 1 uneaten whole fruit per 4 lunches (1:4 ratio) whole fruits wasted to 1 uneaten whole fruit in 9 whole fruits wasted (1:9 ratio).



Winners & Success Stories

Schools took a variety of actions to reduce the number of whole, uneaten and unopened items from school lunches during the four weeks of the challenge. These actions included a class lesson about food waste, encouraging students to eat during lunch, initiating student discussions about healthy eating, conducting student polling and surveys, educating students about the USDA's Offer versus Serve program, extending lunch time, share tables and food donations. Read some success stories below!

– **Awarded Best Performance – Mann Elementary School (Ward 3)** decreased the number of whole uneaten and unopened items per student lunch by 62 percent compared to its baseline. School staff in a variety of roles, including Mann's principal, custodial staff and teachers, got involved with the competition. Staff engaged students in conversations about how to reduce food waste in the cafeteria. Mann also implemented a share table for students to share unwanted food. The unopened and uneaten food was then used for snack time, cooking classes and donations to a local homeless shelter.



– **Awarded Most Replicable Solution – Pre-K students at Van Ness Elementary School (Ward 6)** created the motto "Try it! You might like it!" to encourage each other to try new foods during school lunch. Conversations with students about healthy eating and trying new foods resulted in a 49 percent reduction in whole uneaten and unopened items per student lunch.



– **Awarded Most Learning – Phelps ACE High School (Ward 5)** students conducted surveys of their peers to learn about student taste preferences and why certain foods were being wasted. Students led lunch table dialogues about the importance of healthy eating and trying new foods. These efforts resulted in a 24 percent reduction in the number of unopened and whole uneaten items per lunch.



School Without Walls @ Francis-Stevens (Ward 2) decreased the number of whole uneaten and unopened items per student lunch by 60 percent compared to its baseline number. The teacher leading the school's efforts, Ms. Karin Harrison, said that during the challenge students became "abundantly aware of how much good food was being thrown in the compost." The challenge precipitated school-wide conversations on healthy eating and composting. In addition, the school donated leftover food to a local charity.

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Cardozo Education Campus (Ward 1)'s reduction strategy was to educate students, teachers and staff about the guidelines for what constitutes a reimbursable school meal. Specifically, students were educated that they are not required to take milk as long as their lunch is made up of other required meal components. Cardozo reduced unopened milk cartons per student lunch by 27 percent between Week 1 and Week 4.

Inspired by its participation in the challenge, **Key Elementary School (Ward 3)** re-launched its "Waste Free Wednesdays" program in which students who bring lunch from home only bring items they will eat. A peer-to-peer strategy in which older students sat with younger students to encourage them to eat their lunch was also implemented as part of the challenge. Key's efforts contributed to a 16 percent reduction in the number of unopened and whole uneaten items per lunch.

At **River Terrace Education Campus (Ward 7)**, teachers engaged students in conversations about healthy eating and realized a 17 percent reduction in unopened milk cartons per lunch served.

Barnard Elementary Schools (Ward 4) reduced unopened and whole uneaten items by 8 percent by discussing with students the importance of trying new foods and caring for the environment.