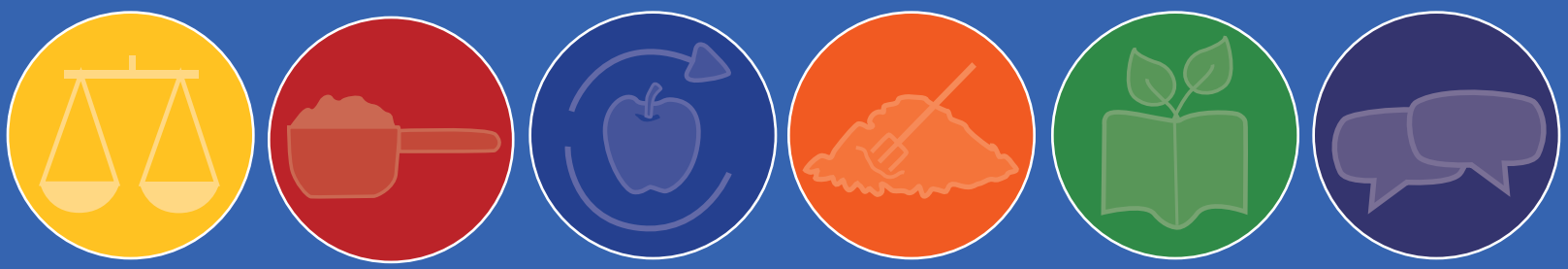
Food Waste Reduction Toolkit for Rhode Island Schools



Acknowledgments

The *Food Waste Reduction Toolkit for Rhode Island Schools* is an integral part of **Get Food Smart, Rhode Island,** a partnership between the Rhode Island Department of Environmental Management and the Rhode Island Schools Recycling Club. It was developed in response to the growing state and local interest in adopting policies to reduce the amount of food that goes to waste.

The *Food Waste Reduction Toolkit for Rhode Island Schools* was adapted from the *Food Waste Reduction Toolkit for Illinois Schools,* a project of the Wasted Food Action Alliance developed by Seven Generations Ahead in collaboration with partners from the Alliance.

The Wasted Food Action Alliance is a diverse set of organizations helping to build a unified approach towards reducing wasted food through collaboration, education, and policy in the Midwest. Seven Generations Ahead is a nonprofit whose mission is to build ecologically sustainable and healthy communities.

To view a list of contributors, download the
Food Waste Reduction Toolkit for Illinois Schools

Seven Generations Ahead
Building Healthy & Sustainable Communities

WASTED FOOD ACTION ALLIANCE
PREVENT | RESCUE | RECYCLE

The Rhode Island Schools Recycling Club gives special thanks to the Wasted Food Action Alliance and Seven Generations Ahead for sharing their food waste reduction research and for allowing us to reprint content from the *Food Waste Reduction Toolkit for Illinois Schools.*

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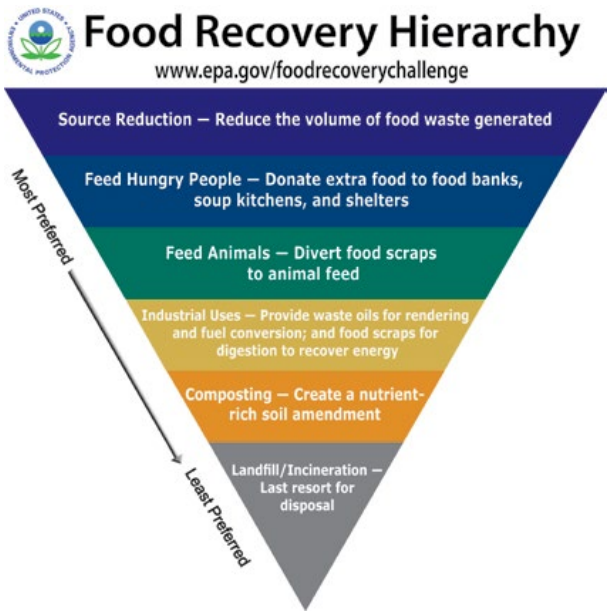
Food Waste: A Unique Role for Schools

According to a study performed by the RI Schools Recycling Club in 2019, Rhode Island K-12 schools generate five million pounds of food waste annually. That is an astounding number for our small state, and it reflects the larger national problem of food waste.

Over one-third of all food produced in the United States goes uneaten while one in seven people is food insecure. Roughly 7 billion school meals are served each year, and much of the waste from these meals is ending up in landfills, consuming valuable resources and contributing to climate change.

K-12 schools have a unique opportunity to shape the way children think about food. Today's students are tomorrow's food decision makers. Like classrooms, cafeterias are places of learning. We can teach the next generation about the value of food and natural resources by reducing food waste through prevention, recovery, and composting. Addressing school food waste can provide a focal point for authentic place-based learning, including many hands-on educational activities.

This Toolkit provides schools with useful information and resources for implementing many of the strategies on the Environmental Protection Agency's Food Recovery Hierarchy (right). A variety of solutions are shared–from quick and easy to implement, to changes that require more coordination and resources. Students, teachers, food service staff, lunchroom staff, parents, and administrators can all play a role in reducing school food waste.



The Toolkit's easy-to-use format allows you to jump in to find the strategies that will work for your school. Several sections include case studies that highlight inspirational food waste reduction efforts from schools in Rhode Island and throughout the country and provide guidance on how to:

- ✓ Measure food waste
- ✓ Prevent food waste
- ✓ Recover and redistribute surplus food
- ✓ Compost food scraps
- ✓ Educate and engage the school community
- ✓ Communicate and celebrate success.

It's time to get started!

Benefits of reducing food waste

- Keeps food waste out of landfills which reduces emissions of methane, a greenhouse gas
- Conserves the energy, water, land, and labor that goes into growing, manufacturing, transporting, and preparing food
- Feeds hungry students or community members through redistribution of uneaten, usable food
- Provides opportunities for nutrition education
- Cost savings from food waste prevention during menu planning and preparation
- Reduced landfill hauling costs (less food waste= less food to haul to the landfill)
- Introduces the school community to zero waste practices
- Teaches the next generation about the value of food and natural resources

Measuring Food Waste

It's hard to solve a problem without first understanding it. Waste audits are a way to measure and understand the amount, types, and sources of waste in your school. Food waste can occur at the time of preparation (pre-consumer kitchen waste), in the serving line, and after students eat (post-consumer plate waste). Audits are great opportunities to engage students in authentic, place-based learning.

Most waste audits involve sorting and measuring categories of waste. Measuring weight and volume provides useful data for most categories, such as food scraps or recycling. Counting and weighing are useful ways to determine the amount of uneaten recoverable food, such as unopened milks or whole apples. Photos can provide valuable waste data, as well.

An audit can also be used to analyze school practices and policies that impact waste generation, such as length of meal time, if the Offer versus Serve method is used, if recess is before or after lunch, and more.

This section provides support on how to conduct a waste audit including:

- ✓ How to determine what to audit
- ✓ Waste audit guides
- ✓ Food waste tracking in kitchens
- ✓ Analyzing waste audit data

What do you want to measure?

If you are interested in commercially composting food scraps and starting a share table, an audit that sorts materials in the following categories would provide that information: recoverable food, liquids, recycling, food scraps, and landfill trash.

If you are considering onsite composting, in which only fruit and vegetable scraps are composted, then you should have one bucket for fruit/vegetable scraps and another for all other food scraps since they cannot be composted in an onsite compost bin.

If you want to know which foods are wasted the most, you could further separate each type of food or food group on the menu into different buckets, for example: recoverable food, liquids, recycling, landfill trash, entree scraps, fruit scraps, vegetable scraps, grain scraps.

Waste audit guides

Waste Diversion Guide for Schools (The Green Team from the Massachusetts DEP) This guide provides a basic framework to manage the food waste diversion process at your school and will help identify the best strategy for processing the food waste collected.

Guide to Conducting Student Food Waste Audits: A Resource for Schools (USDA/EPA/University of Arkansas) This detailed guide offers instructions for conducting a food waste audit while engaging students. It provides guidance on how to measure post-consumer food waste by food type and for conducting peer to peer interviews.

Lunchroom Waste Audit Guide (Seven Generations Ahead) This guide will help you determine how much of your school lunchroom and kitchen waste stream is recoverable food, liquids, recycling, compost, and landfill trash.

How to Conduct a Lunchroom Waste Audit (Solid Waste Agency of Northern Cook County) This 2-page guide explains how to sort materials into categories on a large tarp, which can be an eye-opening experience.

Local assistance and resources

These resources can provide additional technical assistance or guidance for conducting waste audits in Rhode Island schools.

- Rhode Island Resource Recovery Corporation
- Rhode Island Schools Recycling Club
- The Center for Eco Technology

Food waste tracking in the kitchen

Kitchen food waste is generated through food preparation, as well as from the serving line. Many schools systematically track their food waste, incorporating daily weighing and record-keeping in their operations. This can be done manually or with online tracking systems. Tracking food waste in the kitchen engages your food service in identifying and addressing the root causes of food waste.

Why conduct a waste audit?

Doing a waste audit before implementing any waste reduction strategies will:

- Help you figure out which waste prevention and reduction strategies will have the biggest impact
- Establish a baseline
- Determine supplies and equipment needed to implement strategies
- Provide a visual of the food waste to engage students and staff
- Provide mass/volume of food scraps that could be composted, which allows you to estimate the level and cost of hauling service needed

- Provide data to demonstrate benefits (environmental, financial, and social)
- Measure the amount of recoverable food to determine if it warrants a donation program
- Provide the mass/volume of recyclable materials
- Identify opportunities for reducing non-food waste (serviceware and packaging)
- Highlight opportunities for reducing waste from home lunches

A follow-up waste audit (after waste reduction strategies are in place) will demonstrate the effectiveness of your strategies. Keep in mind that waste levels fluctuate day to day due to menu variations.

Tracking Kitchen Waste

CASE STUDY

Gourmet Gorilla is a school food service company serving the Chicagoland area that provides approximately 35,000 meals per day to almost 300 sites. Roughly 90% of their meals are cooked from scratch in a central commissary using a target of 70% local and sustainably grown ingredients.

Gourmet Gorilla uses a computer application and digital scales to measure food waste from the lunch line. Their general procedures are:

- Serving staff at each school enter the starting weight and number of portions delivered to the school in an online form.
- After meal service, the leftover portions are counted and weighed. The data is digitally recorded and sent back to the central office.
- This data is then used by the administrative team to track student preferences and meal participation to better plan future orders.

Gourmet Gorilla's system currently results in an average of 10-15% waste reduction from the service line. They are in the process of creating a system for measuring plate waste.

Analyzing waste audit data

After the sorting and weighing are done, think about the most effective ways to analyze and use the data. Here are some ideas:

- Present the data graphically.
- Take photos that show the waste sorted into categories (try to get all of it in one photo), the contents of student trays before sorting, and student engagement.
- Based on the results of one day's audit, extrapolate for one school year by multiplying the mass or volume of each category by the number of days in the school year. To make this number more meaningful, express it in more relatable terms, such as number of school buses or elephants. The Measure of Things provides some comparisons.
- Calculate environmental impact using the EPA Waste Reduction Model (WARM). This tool calculates greenhouse gas emissions, energy savings, and economic impacts of your waste. Use WARM Version 15.
- After estimating metric tons of CO_2 equivalents (MTCO2E) of your waste or waste reductions with the EPA WARM tool, you can express this in terms of arctic sea ice. Based on research reported in the journal *Science*, 1 MTCO2E emissions is equivalent to 3 m^2 arctic sea ice.
- K-12 Food Rescue's free online tracking tool allows you to enter the number of food items your school donates and convert it into number of meals rescued and greenhouse gas emissions avoided.
- The World Wildlife Fund's Food Waste Warriors Report Dashboard combines your school's data with that of other schools and calculates the average results and the environmental impact of your waste.

- Estimate how many people could be fed by the uneaten/unopened food and tie that to data about food insecurity in your region.
- Calculate the cost implications of the waste. Does your food service provider have pricing information for food items? What volume of your trash dumpster is used for cafeteria trash and at what cost to the school/district?

Food waste audit case studies/reports

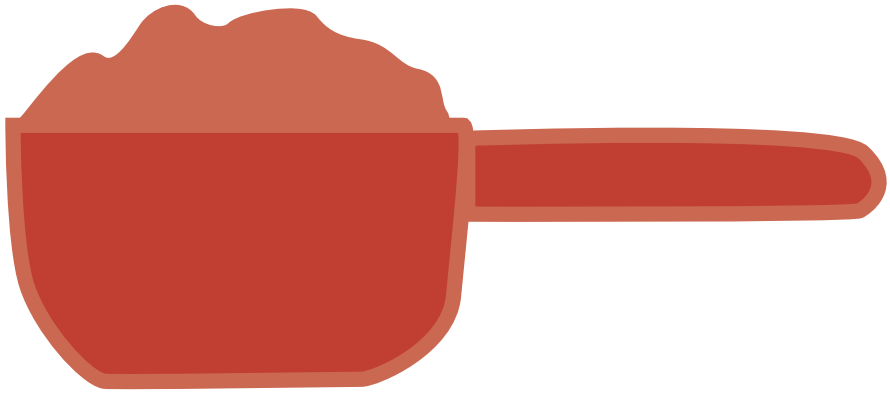
RI Schools Recycling Club Food Waste Audits This report details the results of 15 comprehensive food scrap audits in three public school districts (urban, suburban, and rural) to measure how much food is being wasted every day at school lunches in Rhode Island's elementary, middle, and high schools.

WWF Food Waste Warriors – a Deep Dive into Food Waste in U.S. Schools A 2019 analysis of food waste in 46 schools in nine cities across eight states, including Atlanta, Boulder, Cincinnati, Columbus, Indianapolis, Nashville, Phoenix, Portland, and Seattle.

WWF Food Waste Warrior Business Case This report calculates the cost of food waste and builds the case that reducing plate waste can save money. The resulting savings can be re-invested into school food programs to improve food and nutritional quality, educational programs, and local economies.

Recycling and Waste Reduction Opportunity Assessment: Springfield IL Public School District 186 (The Illinois Sustainable Technology Center) This report features a baseline waste characterization of three middle schools. It includes research on recycling and waste reduction practices on campus and recommends steps for waste prevention, increasing diversion rates, and outreach and education.

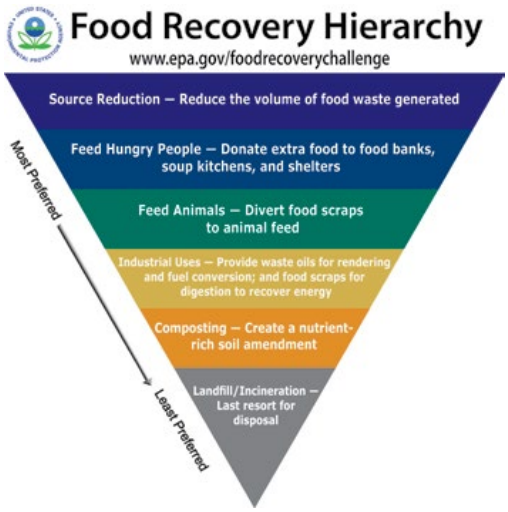
Preventing Food Waste



Source reduction, or preventing food waste, results in the greatest environmental, social, and economic benefits of all the tiers on the EPA's Food Recovery Hierarchy. Quite often, preventing wasted food is a matter of making small creative changes in operations and providing education to form better habits. This section of the toolkit focuses on strategies that food service staff, district administrators, school principals, teachers, and lunchroom supervisory staff can implement to prevent food waste at its source.

This section highlights the following methods for preventing food waste:

- ✓ Scheduling options
- ✓ Enhancing the cafeteria experience
- ✓ Food sourcing, including from school gardens and local farms
- ✓ Menu planning and food preparation
- ✓ Preventing food waste at the serving line, including Offer versus Serve
- ✓ Waste audits and tracking
- ✓ Reducing waste in lunches from home



Scheduling

Try these scheduling strategies to increase the likelihood that your students will have the opportunity to eat a complete, nutritious meal:

- Lengthen the meal period. A study by the Harvard School of Public Health showed that when students had more time to eat there was 13% less entrée waste, 12% less vegetable waste, and 10% less milk waste.
- Stagger the start of lunch periods by having groups enter a few minutes apart to reduce wait time.
- Consider using two spaces for lunch to allow flexibility with scheduling.
- Schedule recess before lunch. A study in *Preventative Medicine* shows that scheduling recess before lunch may increase fruit and vegetable consumption by 54%.

Cafeteria experience

The lunchroom can be an inviting, comfortable place for students to socialize, eat, and rest their minds or it can be an unwelcoming, institutional environment. Use the following strategies to make your lunchroom a place where students feel welcome and enjoy eating.

- Display appealing posters that depict healthy food in dining and service areas.
- Declutter the eating areas.

- Provide a menu board with the day's featured meal options.
- Create a positive atmosphere with good lighting, low noise levels, and a comfortable temperature.
- Friendly staff also contribute to a welcoming environment. They can help students select foods and give gentle reminders to eat or take home lunchbox leftovers.

Food sourcing

Food that is sourced locally often tastes better, may contain more nutrients, supports the local economy, and is better for the environment. Serving fresh, local food in school cafeterias increases the chances that it will get eaten.

School gardens

The sense of pride students feel from growing their own food encourages them to eat a wider variety of fruits and vegetables, preventing these foods from being wasted. Students are less inclined to waste the food they have grown themselves. Gardens also teach students where their food comes from and the value of healthy eating.

RI Farm to School Collaborative offers resources to support gardening in schools from indoor window gardens and planter boxes to hydroponic systems, outdoor raised beds or even a school farm.

Rhode Island Farm to School Network

Farm to School is a national movement whose goal is to strengthen the connection between communities and fresh, healthy food from local producers.

Farm Fresh Rhode Island is the local food system go-to for the community, offering a variety of services, programs, and resources. These services are provided in a variety of settings across the state, including K-12 schools.

Farm to School enriches the connection students and schools have with fresh, nutritious foods and local agriculture by providing youth education and one-on-one food service assistance to facilitate change in institutional purchasing and educational practices at schools.

Every season brings new flavors to explore and celebrate. Farm Fresh Rhode Island's Harvest of the Month campaign engages school cafeterias and classrooms in these celebrations by highlighting the deliciousness of locally grown fruits and vegetables.

Teachers and educators play a crucial role in Farm to School. While cafeterias expose students to new foods, their willingness to try them can be influenced by how fruits and vegetables are introduced in the classroom. Farm Fresh Rhode Island has designed resources to help educators start or continue exploring local agriculture with students.

Food service staff can sign up their district or institution and get full access to all of Farm Fresh RI's resources and materials including:

- A seasonal newsletter, which highlights the local product currently available from your suppliers

- Recipes scaled for food service
- Posters, lunch-line signs, and table tents to showcase in your space the locally sourced foods you are serving
- Access to the Farm to School team for one-on-one purchasing assistance
- Help promoting your local sourcing on social media, if interested

Another resource for local food sourcing is Farm to Institution New England which offers an online local food purchasing toolkit that includes key recommendations for institutions and advocates.

Cafeteria Taste Tests Offering a new locally sourced special in your cafeteria? A Farm Fresh team can visit and help generate excitement, pass out samples, and collect feedback from your eaters. Depending upon your needs, they can deliver a short presentation about the dish and the local farm where the ingredients were grown.

Guidance for sourcing local foods

- Farm Fresh RI's seasonal newsletter highlights the local product currently available from your suppliers.
- Partner with neighboring school districts whenever possible to purchase collectively from local farms.
- Utilize DoD Fresh to buy produce and meat that are sourced locally.
- Use your micropurchase capabilities for buying direct from local producers.
- Reserve a purchasing window (10-15%) when writing primary vendor bids which can allow you to buy from other sources, including local vendors.
- When working with your primary vendor, use contract language that increases options for local food procurement. See the USDA Procurement Methods website for more guidance.
- When selecting a vendor, ask questions such as:
    - What are you doing to provide more local options for your customers?
    - As my distributor, what do I need to do to get new items stocked?
    - What is the volume requirement to place an order?

Resources for procuring local foods

Procuring Local Foods for Child Nutrition Programs (USDA)

Food and Nutrition Service Office of Community Foods Systems (USDA) helps child nutrition program operators incorporate local foods into the National School Lunch Program.

Center for Good Food Purchasing partners with institutions to help them shift towards values-based purchasing and resources.

The Lunch Box offers local procurement guidance.

Scratch: Dreaming a New Dream for School Food (2017, Greg Christian) provides guidance on how to build relationships with farmers and partners to produce high quality meals that don't take a toll on the environment or kitchen staff.

Menu planning and food preparation

While onsite kitchens have more options for preventing food waste, there are many simple planning and preparation waste prevention strategies that all schools can implement whether or not they have a kitchen.

Menu planning strategies

- Create a menu that allows multiple uses for key ingredients throughout the week.
- Avoid the "scatter system" which offers a large number of options. Instead, provide fewer options to avoid over-production.
- Use production records to forecast how much of each item to prepare and/or order.
- Observe which menu options are preferred over time to identify items to eliminate or recipes to adjust.
- Conduct taste tests of potential new recipes.
- Use cycle menus to reduce the number of different items that need to be purchased.

USDA census data shows that a Farm to School program can help reduce plate waste and increase participation in school meal programs.

- Use strategies to manage food inventory, such as first-in-first-out and just-in-time ordering.
- Prepare dishes in small batches to limit overproduction.

Food preparation

- Provide training to kitchen staff on proper food trimming and preparation methods.
- Provide different portion sizes and/or meal selections for elementary, middle, and high schools.
- Limit the number of options to speed up the lunch line, which will give students more time to eat.
- Use fresh items before they spoil or freeze them for a different use.

Resources

Food Buying Guide for Child Nutrition Programs

Farm Fresh Rhode Island

Preventing food waste at the serving line

Offer versus Serve

One of the most effective strategies schools can use to prevent food waste is Offer versus Serve (OVS).

The USDA Guide on Offer versus Serve outlines how to implement the OVS program in K-12 schools in the National School Lunch and Breakfast Program. The guide states that "OVS allows students to decline some of the food offered in a reimbursable lunch or breakfast. The goals of OVS are to reduce food waste and to permit students to choose the foods they want to eat."

OVS is mandatory for all high schools and optional for middle and elementary schools. Food service staff at OVS schools should receive OVS training. Students should also be educated on what comprises a meal under OVS, and signs that detail the requirements should be placed at the beginning of the lunch line.

The San Diego Unified School District created this engaging video to educate the school community about Offer Versus Serve and uses this poster to reduce milk waste.

The USDA offers downloadable posters and tip sheets for educating students and staff about OVS.

Salad bar strategies

Salad bars help students learn about required portion sizes and how to serve themselves.

- Use the salad bar as a place to offer more of the menu's fruit and vegetable items. This avoids packaging waste and the staff time required to portion individual servings.
- Some whole fruits, such as apples and oranges, can be challenging for kids to eat in the time available. Offer these fruits pre-cut in a salad bar.
- When introducing new items, use shallower pans that hold less food until you can determine consumption patterns.
- Prepare sufficient quantities of produce each morning, but only provide small amounts at a time and replenish as needed.
- Use the salad bar as an opportunity to serve other foods, such as yogurt.
- See Salad Bars 101, a webinar from Illinois Farm to School Network, for more guidance on managing a salad bar.

Milk is optional with Offer versus Serve. Many schools incorrectly assume that milk is a mandatory component of every meal and, as a result, approximately 30% of milk goes unconsumed in U.S. lunchrooms. The USDA Guide explains that one cup of fluid milk must be offered, but students may decline milk under OVS as long as they take the required amount of other foods. Consider posting signs that make this message clear to both staff and students.

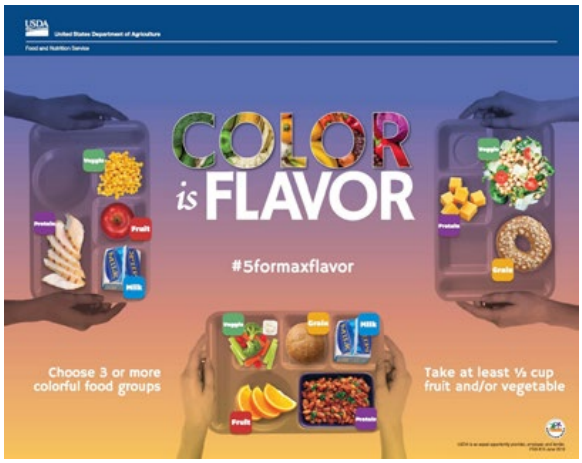
Additional serving strategies

- Place healthier options at the front of the serving line so students are more likely to select them.
- Use bulk milk dispensers to prevent milk and carton waste. A number of school districts have used these dispensers to avoid thousands of gallons of milk from being wasted.
- Use creative names to encourage students to try new foods or choose vegetables.
- Serve condiments using bulk dispensers.
- Avoid serving packaged food, which can be time consuming to open and also creates more waste. If packaged food is unavoidable, opt for factory-sealed items which can be collected for redistribution if uneaten. For example, factory-sealed carrots can be collected, but carrots in an unsealed bag or plastic cup cannot.
- Avoid serving pre-bagged meals whenever possible so students can select only the items they are likely to eat.
- Students should be encouraged to save non-perishable meal components to eat later in the day.
- Install a water refill station or water fountain in the lunchroom and encourage students to bring a reusable water bottle.

Action for Healthy Kids provides simple tools and tips for your lunchroom that will reinforce healthy eating habits and encourage consumption of nutritious foods.

Waste audits and tracking

- Conduct plate waste audits to determine which foods are wasted the most.



- Use production records to track amounts received, served, and not served. Tracking by food type (rather than by total combined weight alone) may allow you to better plan future menus.

Lunches from home

A significant amount of food from home lunches gets wasted. Entire sandwiches, whole fruit, and unopened bags of baby carrots frequently get tossed into the trash without a single bite taken. Here are a few strategies to minimize wasted food from home lunches:

- Encourage students to make their own lunches since they will be more likely to eat what they pack themselves.
- Parents or caregivers who make their child's lunch should discuss their food preferences with them and how much food they have time to eat.
- Cafeteria staff can encourage students with home lunches to take home all uneaten food so parents know what their child is eating and not eating.

- Encourage students to pack a waste-free lunch by using reusable containers and utensils. Not only does this eliminate packaging waste, but students are more likely to bring home uneaten food if it is packed in containers instead of single-use bags.

Resources for packing a waste-free lunch

Waste-Free Lunch Tips (Solid Waste Agency of Northern Cook County)

Pack a Waste Free Lunch (EPA) Tips and activities to help students reduce, reuse, and recycle in their school lunches.

Grants for preventing food waste

USDA Equipment Assistance Grants for School Food Authorities

Chef Ann Foundation offers two grant programs for schools: Salad Bars to Schools Grants and Get Schools Cooking Grants

Annie's Garden Grant

Offer Versus Serve at Beverly Manor Jr. High

CASE STUDY

Beverly Manor Junior High in Washington, Illinois, was motivated to tackle their food waste after parents, staff, and students brought the issue to the attention of the district's food service director. The school, comprised of 400 students in grades 4-8, began by conducting a baseline plate waste audit in order to determine which policy change would have the most significant effect on reducing food waste.

The audit revealed that 27% of food served (108 lbs) was being trashed. Beverly Manor decided that implementing the Offer versus Serve (OVS) method would be a good starting point. They posted instructional signage and trained staff and students on the method. Some of the trainings were even student-led. A follow-up plate waste audit measured 53 lbs of wasted food, an almost 50% reduction from the initial audit.

After witnessing the success of OVS, nutrition services was motivated to further reduce food waste and increase consumption of nutritious meals. Another simple change they made was to add a flavor station with a variety of spices so students can season their own food. The flavor station has increased consumption of healthy foods, particularly vegetables.

With the money saved from these waste reduction measures, Beverly Manor is now able to purchase local produce, further enticing students to eat their veggies!

Food Recovery & Redistribution

After source reduction, recovering surplus food to feed hungry people is the next priority on the EPA's Food Recovery Hierarchy.

Even with waste prevention strategies in place, schools will inevitably generate surplus food. School food recovery programs provide a way to reduce wasted food, feed hungry people, and teach students that food is valuable.

This section focuses on the recovery and redistribution of surplus food, including:

- ✓ Policies and laws regarding share tables and the redistribution of food
- ✓ How to set up and operate a share table
- ✓ Redistribution within a school
- ✓ Donation to an outside organization

Share tables and the redistribution of food

A share table is a place where students may return whole and/or unopened food or beverage items from school meals that they did not eat. These items can be made available to other students to consume during or after the meal service or be donated to an outside organization.

The USDA Food and Nutrition Service and the Rhode Island State Board of Education encourage the redistribution of items placed on a share table through one or more of the following ways, as long as the practice complies with local health and food safety codes:

- Food or beverage items left on the share table can be made available at no cost to other students who may want additional servings.
- Items left on the share table may be served and claimed for reimbursement during another meal service.
- Items left on the share table may be donated to a local food pantry, homeless shelter, or other non-profit charitable organization.

Share tables may be used in the National School Lunch Program, the School Breakfast Program, the Child and Adult Care Food Program, and the Summer Food Service Program.

Share tables are to be used only for food and beverage items served as part of a school meal; no foods from home should be placed on a share table. Instead encourage students with home-packed lunches to take home uneaten food. Students eating school meals should not intentionally choose extra food just to place it on the share table.

Share tables and the redistribution of food have many benefits: preventing wasted food, conserving financial and natural resources, feeding the hungry, and teaching students the value of food.

School share table and redistribution priorities:

1. Students consume the food they are served during school meals.
2. Whole fruit and unopened food items are redistributed through the use of a share table, redistributed within the school community, or re-served by food service.
3. The remaining food surplus is donated to a community organization.
4. Any food that cannot be redistributed should be composted if a composting program is in place.

The National School Lunch and Breakfast Programs use federal funding and are intended to feed students healthy meals. By prioritizing redistribution of food within the school, the original goal of this funding is being fulfilled. Once options for feeding students have been exhausted, surplus food can be donated to help others in the community.

Policies and laws regarding share tables and the redistribution of food

There are several policies and laws at the federal and state levels that encourage the redistribution of school food to prevent wasted food and to protect donors from liability. Local health and safety codes may be stricter than federal and state guidelines, so schools should contact their local health departments before implementing share tables and other methods of redistributing surplus food.

Federal policies and laws

USDA Memo SP 41-2016: The Use of Share Tables in Child Nutrition Programs This memo promotes the use of share tables and outlines the steps to set up and maintain a share table. It also includes food safety requirements and other best practices.

USDA Memo SP 41-2014: Clarification on Food Consumption Outside of Foodservice Area This memo encourages schools to allow students to take items out of the food service area to eat later as a way to reduce wasted food and encourage consumption of healthy food.

Bill Emerson Good Samaritan Food Donation Act of 1996 This act protects those who donate food and those who receive donated food from civil and criminal liability if food is donated to a nonprofit organization in good faith, is distributed to people in need, and the ultimate recipient does not pay for the donated food.

Richard B. Russell National School Lunch Act This act clarifies that schools who donate food to charity are protected by the Good Samaritan Act.

State policies and laws

The RI Department of Education, RI Department of Health, and the USDA support the recovery for donation of unopened commercially packaged food and whole fruits from school meals in Rhode Island.

Share Table and Food Donation Guidance for RI Schools This two-page document is endorsed by the RI Department of Education and the RI Department of Health.

Rhode to End Hunger: Donate Surplus Food from Your Business A partnership between the RI Department of Health and MEANS (Matching Excess and Need for Stability) database to help get unused, edible food to organizations that can use it. MEANS is a non-profit organization that aims to eliminate food waste in local communities.

Standard Operating Procedures (SOPs)

Many states have developed SOPs for share tables and the redistribution of returned food; some examples are below.

Iowa State University Extension and Outreach-Food Safety

Minnesota Department of Education-Food Safety

Colorado SOP (Colorado Department of Education)

For a detailed analysis of SOPs, see the article Characterizing and Assessing the Quality of State K–12 Share Table Policies as a Potential Mechanism to Reduce Food Waste and Promote Food Security in *The Journal of Nutrition Education and Behavior* (Volume 52, Number 1, 2020) which identifies the prevalence of state-level share table policies, evaluates their common characteristics, and assesses their quality as guides.

Setting up a share table

Share tables are most successful when clear steps and responsibilities are communicated to everyone involved, including food service staff, parents, students, lunchroom monitors, and custodians. Using guidance from the Rhode Island Share Table and Donation Guidance for Schools, plan for how the share table will be used. Students could take food from the share table and eat it at school or bring it home to eat later. The food could also be used for afterschool snack programs, or given to the school nurse, who then provides the food discreetly to those in need. Whatever method you choose, it is important to make sure that everyone involved knows their roles and responsibilities and that they follow through.

Getting started

- Conduct an audit over a few days to determine the number of share table-eligible items that go uneaten on a typical day. Due to daily variations in the school menu, it is a good idea to collect data from more than one day.

"It's good because if kids want more food, they can get some there."

-- 3rd grade student

- Follow local health department guidelines in the document, Rhode Island Share Table and Donation Guidance for Schools, to determine what uses are allowable for food and beverage items collected at a share table.
- Implement best practices for food safety:
  - Monitor the table to ensure that unallowable foods are not put on the share table and allowable foods are handled to prevent any potential contamination (e.g., original packaging is not opened, etc.).
  - Ensure perishable foods, which require temperature control for safety, are stored at or below 41°F. This can be done by providing an insulated bin, such as a cooler, filled with ice or frozen gel packs.
  - Monitor and record the temperature inside the cooler to verify that food is being maintained at safe temperatures.
  - Be familiar with safe food handling practices and the causes and prevention of foodborne illness.
  - Practice good personal hygiene.

    - Clean and sanitize food collection containers, as appropriate.
    - Display signage outlining share table "rules."
- Share table location: If there is a waste sorting station in the lunchroom, consider placing the share table at the beginning in order to ensure visibility and ease of use. If your school does not use a sorting station, the share table should be in some other accessible location. Some schools place their share tables just after the serving line.

Supplies

- Collection container (plastic box, basket, crate, or tray): Shallow and transparent containers on a low table or cart are recommended so that students can more easily see and access their contents.
- Signage: Clearly mark the share table with signage that shows visual examples of acceptable and unacceptable items.

If share table leftovers will be re-served or donated, these additional supplies may be required:

- Separate container at the share table for collecting temperature-controlled for safety (TCS) foods, such as milk. The container may contain ice or freezer packs to keep the TCS items cold. The container may be insulated.
- Cooling system, refrigerator, or another alternative to store TCS items if they will require storage before being donated.

Share table communication

- Staff and families should be notified about the share table procedures in writing; this conversation is particularly important for children who have food allergies.
- Lunchroom supervisory staff should be informed of the share table guidelines.
- Staff and families should communicate to students that the priority is to eat their food rather than donate it.

Monitoring and maintaining the share table

Monitoring will keep the share table running smoothly and ensure that health and safety regulations are followed. A sign should be posted for reference that lists acceptable and unacceptable food items and also clearly explains the guidelines for collection, redistribution, and storage of surplus food, if applicable.

The monitoring responsibilities listed below can be distributed among food service staff, lunchroom moni-

What can be left on a share table or saved for donation?*

Allowed foods

- Unopened commercially packaged items that must be stored at or below 41° F. Examples include:
    - Bagged baby carrots and sliced apples
    - Carton of milk, yogurt, and cheese sticks
- Unopened commercially packaged items that do not need temperature control for safety, such as a bag of pretzels or granola bar
- Whole pieces of fruit with a peel, such as bananas or oranges
- Whole pieces of fruit with an edible peel, such as apples and pears, if wrapped or rewashed

Foods that are not allowed

- Food not provided by School Meal Programs (e.g., foods brought from home)
- Perishable foods that have not been kept at 41°F or lower or that must be held hot
- Opened or unpackaged food items, such as:
    - An opened bag of baby carrots
    - A salad bowl without a lid
    - Whole fruit with an edible peel if not wrapped (place unwrapped fruit in a bin until they have been rewashed and thoroughly dried)
- Packaged items that can be opened and re-sealed

* Rhode Island Share Table and Donation Guidance for Schools

tors, students, and parent volunteers. Consider training students as "share table helpers" to teach them about the value of food while helping their community.

Monitors can be asked to:

- Oversee the exchange of food/ beverages to make sure they are allowable items and that their packaging is intact.
- Collect and properly manage the recovered food at the end of lunch. For example, if applicable: maintain temperature control, wash whole fruits before re-serving, set aside surplus items for donation, compost remaining food items.
- Clean the share table bin, as needed.
- Optional: Track how much food is collected.

Redistributing share table surplus

While share tables are a practical way to redistribute food during meals, there will likely be surplus food remaining after meal time. Depending on local health codes, food items left on a share table may be:

- Given to school personnel to use as snacks
- Taken back by food service staff to be re-served and claimed for reimbursement during another meal service
- Offered to students or families at another time and/ or as part of an in-school food pantry
- Donated to a charitable institution or facility.

Redistribution of share table surplus within the school

If allowable, work with the school nurse, before/after school program directors, or the school social worker to provide the surplus food to hungry students at other times during the school day.

If your school offers a culinary class, share table surplus can be a great source of ingredients for their recipes. This can save or extend the funds needed to purchase ingredients for the class and can also give students a real-world challenge by creating recipes with what's available.

Schools can also use share table surplus in future reimbursable meals, if permitted by local health codes. The USDA encourages schools to reuse food and beverage items from the share table: "Food or beverage items left on the share table may be served and claimed for reimbursement during another meal service."

Using share table surplus for an in-school food pantry or for school families

Distributing share table surplus directly to students and families within the school community is a great way of helping school families experiencing food insecurity. A growing number of schools have established in-school food pantries, often with the support of a local

Share Tables at Sunny Hill

CASE STUDY

Sunny Hill Elementary, a school of 350 K-5 students in Carpentersville, Illinois, has worked with Mindful Waste to reduce their landfill waste by implementing a comprehensive food recovery program in their lunchroom. Mindful Waste, a local nonprofit, operates food recovery programs in all District 220 schools. See their video here.

At Sunny Hill, the Girls Encouraging Meaningful Social Support (GEMS), comprised of fourth and fifth grade students, serve as food recovery student ambassadors. They educate the school community on the importance of rescuing perfectly good food, teach what can and cannot be recovered, and are in charge of data collection each week weighing, tallying, and charting the recovered food prior to pick up.

The food recovery efforts at Sunny Hill prevent an average of 300 whole, edible items from going to the landfill each week. This food is first shared with the Boys & Girls Club that meets daily at Sunny Hill. What remains at the end of the week is picked up by F.I.S.H. Food Pantry in Carpentersville, where it is distributed to community members in need.

Sunny Hill produces an average of only 5 lbs of landfill waste daily as a result of their food recovery and commercial composting programs.

food bank. While many of these pantries' inventories are supplied by food banks, some schools are using share table surplus as a supplement.

Donation to an outside community partner

Schools may also have the option of donating surplus school food to a nonprofit community partner that distributes food to people in need, such as food pantries, soup kitchens, and homeless shelters. To locate a food pantry or food rescue organization in your community, use the following resources:

- The MEANS database can be used to locate a partnering food pantry or soup kitchen.
- A list of agencies accepting food donations can be found at the RI Department of Health.

In addition to share table surplus, schools may also be able to donate surplus pre-consumer "back-of-the-house" foods, including:

- Surplus prepared meal items from the hot lunch
- Extra canned goods or other pantry items
- Extra inventory that, before weekends and school breaks, won't keep until school resumes

Look for other potential areas to capture surplus school food such as school events, teacher meetings, school gardens, and central kitchens.

Questions for the school to consider when looking for a community partner:

- Is there enough food to donate on a regular basis?
- What kinds of items will the school typically have to donate? Will there be any kitchen (pre-consumer, back-of-house) foods?
- Is there someone to pack the food and make sure it's ready for pick-up?
- What is the best day/time for transport?
- If the community partner does not have the capacity to transport, are there school volunteers who can drop off the donations?
- Where can items be stored before pick-up?
- If donating perishable items, is there access to refrigerated storage? If not, are there funds to purchase a dedicated refrigerator?

Questions to ask a potential community partner:

- What items will they accept? Whole fruit? Unopened milks and other factory-sealed foods that require temperature control? Unopened nonperishables? Leftover prepared foods from back-of-the-house?
- How often, and at what time of day, can they accept donations? How frequently does the commu-

Food Recovery Innovation at East Aurora S.D. 131

CASE STUDY

East Aurora School District 131 in Aurora, Illinois, has developed an exemplary food recovery and redistribution program that serves the food insecure in their community and keeps precious food out of landfills. The program began as a collaboration among the Marie Wilkinson Food Pantry, Sodexo (the district's food service provider), Feeding Illinois, Northern Illinois Food Bank, and the school board. All of the District's 20 schools participate in these efforts, including the 4,000-student East Aurora High School (EAHS). Their innovative program provides a replicable model for other districts across Illinois and beyond.

The Marie Wilkinson Food Pantry serves the nutritional needs of over 11,000 families and individuals in Aurora and Kane County at its two locations in east and west Aurora.

Program highlights

The Marie Wilkinson Food Pantry operates an in-school food pantry at EAHS that is open to students twice per month and open to the community every Saturday.

- Share tables are used in all 20 schools in the district, including EAHS, to reduce waste and provide additional nutrition to students during lunchtime.
- Surplus from share tables is delivered weekly to EAHS and used to supplement the food pantry inventory.
- The pantry inventory is also stocked with food from 40 food rescue pick-ups per week from local grocery stores, as well as with food from the Northern Illinois Food Bank.
- At EAHS, Sodexo food service staff bag and freeze leftovers from the serving line, which get picked up weekly by Wayside Cross Ministries to provide 300 meals per week to the homeless.
- School custodians and kitchen staff take pride in assisting food pantry staff wherever help is needed and are vital to the success of the program.

Share table logistics

- In some district schools, students collect uneaten food for the share table from their classmates at lunchtime.
- District trucks pick up share table surplus on their regular route and take it back to the high school. Half of the recovered food is used at the East Food Pantry at EAHS and the other half is delivered to the West Food Pantry.
- Student workers in EAHS' Transitional Program sort the collected food items into categories to prepare them for distribution at the food pantry.
- Food served outside the lunchroom is recovered, as well. On testing days when students eat school-prepared bag lunches in their classrooms, custodians collect any leftover food for the pantry.
- About 1,700 lbs of surplus food is recovered from share tables every week.

nity partner distribute food to clients? Does this match the frequency that your school can donate?

- Do they have the capacity to pick up the donation?
- How much can they accept?
- If the community partner can accept items that require temperature control, what procedures and/or equipment are needed during transport?

Additional guides and resources

Share Table and Donation Guidance for Rhode Island Schools (RI Department of Health and RI Department of Education) This 2-page guide promotes the safe recovery for donation of unopened commercially packaged food and whole fruits from school meals.

Causes and Prevention of Foodborne Illness (University of Rhode Island College of the Environment and Life Sciences) A 4-page Food Safety Education Program that describes how foodborne illnesses occur and how to prevent them.

Sharing the Table: A Roadmap to Reducing and Recovering Surplus Food in Schools (The Center for Green Schools) This 13-page guide is targeted to school stakeholders to reduce and recover surplus food from school meals. It includes examples from California that schools elsewhere may be able to adapt.

School Food Donation: Oakland Unified School District Program Guide This 64-page guide helps schools navigate procedures for recovering and redistributing surplus food and implementing food donation programs, including coordinating volunteers and community partners.

Washington School Food Share Program Toolkit (EPA Region 10) This 37-page guide outlines the steps for how to reduce wasted food in the cafeteria, including how to set up a food share and donation program.

Iowa Department of Education's Food Waste Reduction in School Meals This website shares tools, programs, and additional resources to reduce wasted food in schools, including the use of share tables.

Green Gloves Resource Drive (Oakland Unified School District) See their Food Donation and Food Share folders and their *How to Use a School Food Share Table* video.

K-12 Food Rescue shares success stories to inspire students to rescue food for donation. They provide an online tracking tool that converts donated food items into pounds, meals, and greenhouse gases.

Food Recovery Network is the largest student movement that fights food waste and hunger in America. They provide support for setting up food recovery programs and recognize institutions that donate to hunger-fighting nonprofits.

School Food Recovery Handbook: A How-to Guide to Reduce Wasted Food in Maine's K-12 Schools (Natural Resources Council of Maine) This 26-page guide provides the steps to reduce wasted food in schools with a focus on collaborative solutions.

Green Lunchroom Challenge (Illinois Sustainable Technology Center) Activities and best practices for food waste prevention and reduction for K-12 schools.

Wasting Less Food in K-12 Settings: Best Practices for Success (National Resources Defense Council) This brief guide covers food waste prevention, redistributing surplus food, and recycling food scraps.

Reduce Wasted Food By Feeding Hungry People (U.S. EPA) This website provides guidance on legal, safety concerns, assistance in locating local food recipients, as well as food donation success stories.

Diverting Food Scraps

Separating food scraps for feeding animals and composting can be done wherever food is prepared or consumed, including in the lunchroom, kitchen, teacher's lounge, classrooms, and at school events. Sending food scraps to feed animals is the best way to manage food scraps and leftover food that can't be donated. Composting is the best way to manage food scraps or leftover food that can't be redistributed, donated, or used for animal feed.

This section highlights:

- ✓ The benefits of feeding food scraps to farm animals
- ✓ Federal and Rhode Island laws that regulate the use of food scraps in animal feed
- ✓ Questions to ask a farmer
- ✓ Types of composting
  - Onsite composting
  - Offsite commercial composting
- ✓ How to start composting in your lunchroom
  - Setting up a sorting station
  - Education
  - Monitoring

Feeding food scraps to animals*

In Rhode Island's thriving local agriculture scene, it may be possible for your school to divert its food waste to be used by a local farm. Contact the Division of Agriculture for a list of licensed pig farms that can accept your food waste. Finding a farmer reasonably close to the school will increase the chance of success. While many farmers are eager to get "free" feed for their livestock, a long drive to pick up the school's food waste isn't always practical or sustainable.

History

The use of food waste as animal feed has been commonplace for centuries. From about 1920 to as late as 1980, residential food-scrap collection was practiced in many Rhode Island communities. This scrap was brought to nearby pig farms, where it was boiled and fed to hungry pigs. It was a sustainable practice. Little was thrown away, and the pig manure was used as fertilizer by produce farmers and landscapers. Recently, there has been renewed interest in the practice of feeding safe, properly treated food waste to animals.

Benefits of feeding food scraps to animals

Using food scraps as animal feed in a safe, resource-efficient way can be an environmentally friendly alternative for farmers and food waste generators, such as supermarkets, restaurants, and schools.

Farmers can save money by using food scraps as animal feed. As commodity prices continue to rise, farmers may be able to economize by sourcing excess food to be used as a feedstock or feed supplement. The nutritional quality of food scraps can be comparable or even superior to traditional feeds.

*Note: Diverting food scraps to feed animals is prohibited in some states. See Leftovers for Livestock: A Legal Guide for Using Food Scraps as Animal Feed for policies in all 50 states.

Schools and other food waste generators can save money in garbage disposal costs. The schools pay tipping fees to dispose of trash by weight, and food waste is very heavy, representing up to 70% of a school's total waste stream. Removing food scraps from the trash can save the school significant disposal fees.

Recycling food scraps reduces the demand for commercial feeds and the land, water, and other resources needed to produce them. Keeping food scraps out of the landfill is one of the most effective ways to help mitigate climate change.

Laws

Federal and Rhode Island laws regulate the use of food scraps in animal feed.

The Federal Swine Health Protection Act (SHPA) outlines the conditions that must be met in order to ensure the safety of the meat and animal byproducts that are fed to swine.

Leftovers for Livestock: A Legal Guide for Using Food Scraps as Animal Feed is a comprehensive guide covering all 50 states.

Rhode Island Law on Feeding Food Waste to Animals regulates the feeding of food scraps to swine. Individuals or facilities, if licensed by the state, may feed animal-derived and vegetable food scraps to swine provided that the food scraps have been heat-treated to 212 degrees Fahrenheit for at least 30 minutes or else treated in some other manner approved by the Division of Agriculture at the RI Department of Environmental Management.

My Blue Heaven Pig Farm

CASE STUDY

Students at schools in Burrillville, Cumberland, North Smithfield, and Woonsocket, RI are showing the rest of us how it is done. All schools in these districts send their food scraps straight to My Blue Heaven, instead of the landfill. It's a farm where over 250 pigs and piglets chow down every day – and we hear they even eat their vegetables. So how many pounds of scraps per year are we talking? How about 720,000 pounds? Seriously.

It was 30 years ago that Bill Gagnon and the Burrillville Town Council began this program for their school district, and today, it has expanded to include 28 schools in Woonsocket, Cumberland and North Smithfield.

City and town administrators allocate funds for solid waste disposal for the public schools, and couldn't be happier at the incredible cost reduction this program has produced. The Johnston Landfill charges a fee of $47 per ton. The schools in their communities divert approximately 360 tons of food waste over the school year. That adds up to almost $17,000 in savings each year.

The food scraps are happily picked up every day by My Blue Heaven, a pig farm in Pascoag where each year approximately 3,000 hogs are fed very well, thanks to this program.

Here's how it works

- School custodians set up the sorting bins for students.
- Food service providers oversee the process, helping students to sort their food in the proper bins and making sure the food waste is contaminant free.
- Custodians set aside the food scraps for daily pick-up.
- My Blue Heaven shows up daily to haul away the food scraps for a fee.

Mike Debroisse, Superintendent of Woonsocket City Solid Waste, says the program is "working great" and here's why: Approximately 360 tons of food scraps are diverted from the landfill each year, reducing carbon emissions by 196 metric tons. That's the equivalent of eliminating the annual exhaust of 42 cars from the air we all breathe.

Questions to ask a farmer

A successful relationship between a local farm and school depends on clear communication and shared expectations. It is best to make sure both the farmer and the school are clear on the answers to the following questions:

- What types of food waste/scraps can the farmer accept?
- How much food waste can the farmer handle?
- How many times per week and how many months of the year will the farmer pick up the food waste/scraps?
- Where will the waste be placed at the school, and how will the farmer access it?
- Will the farmer accept different types and amounts of waste during different seasons?
- When can the farmer return the buckets/containers, and will they be required to clean them?

Composting food scraps

Composting is a way of recycling food scraps and other organic materials. Decomposition happens all on its own in nature when soil organisms, such as bacteria, fungi, worms and insects, consume organic matter for their own energy and create soil nutrients in the process. When we compost, we create conditions that optimize and speed up the decomposition process accomplished by soil organisms.

Composting offers many curriculum connections and opportunities for student leadership. It connects kids to science, math, and engineering while keeping food waste out of landfills, nourishing soil instead. And that compost can be used to grow healthy food. Composting is easy if you plan well and involve both students and school staff.

Benefits of composting

Composting has environmental, economic, and educational benefits.

Composting provides many environmental benefits:

- Reducing food waste is one of the most effective ways to help mitigate climate change. When food and other organic materials decompose inside the oxygen-free environment of a landfill, methane is produced. Methane is a greenhouse gas that is 84 times more potent than carbon dioxide on a 20-year timeframe. Compost-amended soils also sequester carbon; the process of capturing and storing carbon dioxide in the atmosphere with the goal of reducing climate change.
- Adding compost to soils returns nutrients that support the soil food web. Compost also improves soil structure and water retention, reduces storm-water run-off, and minimizes the need for synthetic pesticides and fertilizers.
- Diverting food waste through composting extends landfill capacity.
- Recycling efforts typically increase when composting is implemented because more attention is paid to sorting and where the waste is going.

There are also economic benefits to composting. Removing food waste from the trash may significantly reduce trash volume, resulting in lower removal costs. Other economic benefits include job creation and turning what was once an environmental and financial liability into a valuable commodity.

Composting in schools can be used to educate students about the connection between wasted food and climate change and provides a hands-on way to learn about a closed loop food system. Composting can also provide leadership opportunities by engaging students in the lunchroom sorting process and maintaining an outdoor compost bin.

Types of composting

The main methods available to schools for composting food scraps are onsite composting and offsite commercial composting. The chart on page 30 compares the two options. Schools can even opt to use both onsite and commercial composting to obtain the benefits

from each (perhaps collect fruit/veggie snacks in the classroom for onsite compost and use commercial composting in the lunchroom).

For a more comprehensive description of the variety of composting methods, see the EPA's Types of Composting and Understanding the Process.

Onsite composting

Onsite composting provides hands-on opportunities to learn about decomposition, the soil food web, and how to turn food scraps into soil nutrients.

Onsite composting is ideal for schools that generate fruit and vegetable scraps and have space on their campus for a compost bin. Photos below (left and middle) show examples of school compost bins.

Most towns and municipalities in Rhode Island allow onsite food scrap composting, but check with your local community or county waste and recycling coordinator to identify any potential restrictions. Schools may compost less than 25 cubic yards of active compost without a permit. Any amount that exceeds 25 cubic yards requires a permit from RI Department of Environmental Management.

Vermicomposting and in-vessel composting

Vermicomposting relies on worms to convert food scraps into compost and is a useful way for students to learn about the composting process in the classroom. "Worm bins" are primarily used in classrooms for educational purposes since they cannot handle the volume of food scraps typically generated in a lunchroom.

In-vessel composting converts all food scraps, including meat and dairy, into compost using special containers in which the internal temperature, moisture, and aeration are monitored and controlled, causing decomposition to occur at a faster rate.

Composting onsite using an in-vessel container can be a good option if there is no commercial facility in your area or if you'd like to have access to the compost for use on your school garden or landscaping. The U.S. Composting Council created a Compost Equipment Guide for institutions to learn about different options for in-vessel and other types of mechanical onsite composting equipment.

Offsite commercial composting

With commercial composting, all food scraps and food-soiled paper may be accepted for composting. These materials are stored outside in a separate cart or dumpster. A compost truck collects the materials (typically once a week) and transfers them to a commercial composting facility where they get processed into finished compost and sold as a valuable soil amendment.

Offsite composting offers a viable alternative for schools that don't have space or the people to maintain an onsite compost bin. Once the initial logistics are arranged, very little maintenance is required.

Over the past 10 years, Rhode Island has gone from one commercial composting facility to several commercial and public ventures.

Earth Care Farm in Charlestown, RI is a commercial composting facility producing quality farm-made compost. Field trips are available.

American Organics is a new medium-scale commercial composting facility located in North Smithfield, RI accepting uncontaminated food scraps from schools in the northern half of the state.

Onsite Composting at Waters School

CASE STUDY

Waters School, a Chicago Public School, has a thriving student-led onsite composting program that helps sustain their school and community gardens. The program was inspired by "What a Waste," a video that the school's garden and ecology program leaders created which exposed the huge amount of perfectly good food that was going to waste. The entire school community of 640 students in grades K-8 was galvanized to participate after seeing the waste with their own eyes. In its 12-year existence, Waters' composting program has diverted approximately 9 tons of fruits and vegetables from the landfill.

Logistics

Each day, students sort their recycling, landfill, and fruit and vegetable scraps during lunch. The food scraps are collected in 5-gallon buckets. At the end of lunch, three 8th grade compost captains carry the buckets to the compost bin next to the school garden. Using a shovel or sidewalk ice scraper, they chop the food scraps into smaller pieces, empty the contents of the buckets into the bin, and cover it with "browns," such as dry leaves and straw. The students clean the buckets before returning them to the cafeteria. The entire process only takes about ten minutes of the students' day but provides them with invaluable leadership experience and skills.

Over the course of about three months, the food scraps and other organics transform into nutrient-rich compost. Eighth grade students and other volunteers from the school community distribute the finished compost in the flower gardens. (Per CPS guidelines, compost produced on-site can only be used in CPS ornamental gardens and not in edible gardens.) The students are treated to a sit-down celebration luncheon every fall where they have the opportunity to discuss any questions or concerns about the process.

Authentic learning

Onsite composting provides endless hands-on learning opportunities for the children at Waters. The compost bin is often featured on garden field trips during which students poke around the compost to learn about soil critters and the soil foodweb. Using a large compost thermometer, students identify the most active (ie, hottest) areas of the bin and hypothesize about the temperature variation. They also test the pH of compost samples relative to other substances, such as wood ash and citrus.

CPS Composting Cohort

In addition to managing the composting program at Waters, their Ecology Director leads the districtwide Composting Cohort that supports schools with starting their own onsite composting program. Schools in the Cohort attend a composting workshop at Waters and receive a compost bin, *Rodale's Guide to Composting*, and composting tools. Through the Cohort, school composting leaders receive on-going mentorship, including a site visit and ideas for integrating composting into the curriculum. The Cohort also provides schools the opportunity to network and share best practices, challenges, and successes. In the first year alone, the Cohort converted roughly 45 tons of food scraps into compost.

If food scrap composting is available through your current waste hauler, you can ask to modify your existing contract to include composting. If your hauler does not offer composting services, there are several local food scrap haulers you can contact:

The Compost Plant collects food scraps from a variety of businesses, including higher education institutions, restaurants, schools, and hospitals.

Bootstrap Compost is a residential and commercial food scrap pickup service operating in the Greater Providence, RI area.

Rhodeside Revival, located in South Kingstown, provides residential and commercial food scrap collection across all of Rhode Island.

Questions to ask a potential hauler:

- What types of organic materials do they accept? Do they accept compostable serviceware?
- Frequency of pickups? Once per week works well for many schools.
- If your existing hauler takes organics, ask about a discounted rate for adding that to your contract; costs vary across the region and the country.
- What is the ideal location for the collection container?
- Does the hauler provide compost education?
- Does the hauler provide containers and/or compostable bags, or are the containers switched out for clean ones at pickup time?

Getting started

Once you've decided if onsite or offsite composting is right for your school, you are ready to get started.

Build a team

Implementing a successful composting program requires a team effort. Bring together administration, facilities staff, food service staff, teachers, parents, and students from the start. If your school does not already have a green team, form a student or parent/teacher green team to lead the effort. It can be helpful to visit other schools that are already composting to learn from their best practices.

Waste audit

Conducting a waste audit will help you estimate the volume of food scraps and other compostable materials generated in a typical day. For onsite composting, this information will help you determine the number of buckets needed. For commercial composting, this information will help you estimate the level of compost hauling service you will need, as well as its cost. See the section on *Measuring Food Waste* for guidance on conducting a waste audit.

Sorting station location

Take time to observe the flow of students and staff on a typical day.

- Where do students enter and exit? Does this routine change depending on weather and where recess will be? Locating the station on the way to

	Onsite composting with a compost bin	Offsite commercial composting
Waste diversion	**Limited diversion** Can compost only fruit/ vegetable (plant-based) scraps, in addition to yard waste, so waste diversion is less than with commercial composting.	**Significant diversion** Can typically compost: • ALL food scraps (check with hauler about meat/ bones). • Food-soiled paper (napkins, pizza boxes). • Certified compostable tableware (confirm with hauler). Unlike recyclable products, compostable products can be composted if food-soiled. Schools typically divert 40-50% by weight.
	Recycling efforts typically increase when composting is implemented because more attention is being paid to sorting and where the waste is going.	
Cost	**Relatively low cost** Start up costs include buying or building a bin and purchasing a few hand tools ($120-$500).	**Hauling:** An ongoing cost that can be significant. Typically, this added cost is at least partially offset by reduced need for trash hauling. **Supplies:** Depending on the hauler, compostable liner bags, which are typically more expensive, may be needed. This cost will be partially offset by a reduced need for trash bags. Refer to the Biodegradable Plastics Institute for compostable products that are tested and certified.
Availability	**Generally available** Most schools with some outdoor space can have an onsite compost bin.	**Limited availability** Commercial composting is not available in all regions.
Educational & student engagement opportunities	**More opportunities** Students learn how to manage a compost bin, analyze compost data, and use compost in their school garden. Composting can be used for lessons or experiments and provides hands-on learning opportunities in many subjects.	**Fewer opportunities** The actual composting process happens offsite and is not as directly accessible to students. School events, however, may be easier to make zero waste if the hauler/facility accepts compostable products.
	Both methods engage ALL students in learning about the importance of composting and its impact on climate change.	
	Both methods can equally engage student leaders that help monitor the lunchroom sorting process and prevent contamination.	
Effort	**Greater effort** • Need to purchase or build a bin. • Students, with adult supervision, need to empty food scraps daily and turn the compost often. • Maintenance is needed to keep out rodents and prevent odors. • Need to collect and store a supply of "browns," such as dried leaves, throughout the school year.	**Less effort** • No need to manage an outdoor bin. • Requires little maintenance. • Only need to arrange logistics with hauler to pick up the food scraps.
Use of finished compost	Schools can use compost on their gardens. Check for local or district guidelines about using compost generated onsite on edible gardens.	Schools may be able to get finished compost from the compost facility. Check if testing or certification of compost is required.

the exit will make for the most efficient flow. Think about where your sorting volunteers will stand and ensure there is room to accommodate them behind the station or in between the containers.

- Good signage in a visible location is key to a successful sorting station. Signs should be color-coded, include photos of the most common items that students will encounter, and be placed at eye-level.
- Will more than one sorting station be needed? Depending on the size of your lunchroom and number of students eating at one time, you may need more than one station. Note, however, that using more than one sorting station requires more oversight/volunteers, uses more bags, and increases the number of containers that the custodian will need to empty.
- To maximize participation, remove all extra stand-alone containers from the lunchroom.

Sorting station set-up

The goal of a sorting station is to separate waste streams. How you sequence the containers can make sorting easier and reduce contamination. The following sequence works well for sorting stations with recycling and composting: Share table (optional) - Liquids - Recycle - Landfill - Compost - Tray stacking.

Determine the size of compost container needed for your sorting station. Food scraps are dense, so smaller containers work best. For onsite composting, 5-gallon buckets work well. For offsite composting, containers that are 5-20 gallons are ideal. Also, if you need to use compostable bags, keep in mind that smaller bags cost less than larger bags.

Monitoring

Identify student sorting station volunteers from each lunch period who will help students learn the routine, ensure participation, and prevent contamination. Some schools use student volunteers from existing clubs, such as a green team or student council. Other schools open up this leadership opportunity to all students.

Student monitors are especially important in the first week or so to help establish the new routine but may not be needed on an ongoing basis. Parent volunteers and/or school staff should be available to help with initial implementation and regular check-ins (weekly or biweekly).

Education

To have a successful composting program, students need to understand what can be composted and why it is important. One of the biggest challenges for schools is to make sure the food scraps are uncontaminated by plastics and other non-compostable items. Ensuring that the food scraps are not contaminated requires quality control on the part of the school. Education can be done using presentations and videos in the classroom, lunchroom, or in an assembly. Demonstrations on the actual sorting station in the lunchroom are also helpful in teaching the sorting process.

Consider creating your own slideshow presentation or how-to video to educate students, or use one of these: Composting for Kids (Video, 5:56, Highfields Center for Composting) Note that paper and wood are compostable at a commercial facility.

[How to Sort Waste in the Cafeteria](#) (Video, 3:08, Hennepin County) Covers commercial composting and recycling in schools.

[The Compost Story](#) (Video, 6:46, Kiss the Ground)

[How to Sort Cafeteria Waste at School](#) (Video, 3:35, Green Gloves/Oakland Unified School District)

Launch day implementation

- Train kitchen, lunchroom, and custodial staff on the new system.
- Expect students to need additional time for sorting the first week or so, but over time, the process will become routine and take less time.
- If your school has a kitchen, set up their compost container at the beginning of the day so that all meal prep scraps can be included. Kitchens will need sorting containers and signs, which should be placed in locations easily accessible to staff.

Post implementation

- Monitor outdoor landfill, compost, and recycling dumpsters over the first several weeks. Adjust pickup schedules and container sizes based on the new volumes of each materials stream. This is also an opportunity to monitor costs and identify potential savings.
- Share successes with school community. See the section on *Communicating and Celebrating Success*.

Guides and tools for implementing composting

[Guide to Composting Onsite at Schools](#) (The Institute for Local Self-Reliance) A detailed resource that contains instructions for building and managing your own onsite compost bin, putting together a team to maintain the compost, and troubleshooting.

[Organics Recycling in Schools: Best Practices Guide](#) (Hennepin County Public Works, Minnesota) This guide contains detailed steps on how to set up a lunchroom sorting station, school case studies, and expert advice on implementing a sustainable organics recycling program.

[Composting at School](#) (The Northeast Recycling Council) This presentation provides detailed information about how to establish a food waste diversion and composting program in schools.

[A Guide to Starting a Composting Program in Your School](#) (Green Mountain Farm to School) A detailed guide on how to set up both onsite and offsite composting programs. Logistical guidance, signage, log sheets, and more are included.

Additional resources

[Rhode Island Resource Recovery Corporation](#)

[EPA's Sustainable Management of Food: Composting](#)

[Institute for Local Self-Reliance - Composting for Community](#)

[Biodegradable Products Institute](#)

[Green Gloves Sorting Videos](#)

Commercial composting at Narragansett Elementary School

CASE STUDY

Down in the southern part of Rhode Island, Narragansett Elementary School understands how to help make the world a better place. Last year, they kept over 5,320 pounds of food out of the landfill. Where did it go? To Earth Care Farm in Charlestown, where it is used to make rich nutritious compost – a "super food" for all growing things.

It all began when Narragansett Elementary School parent Jennifer Fishman heard about a successful waste reduction program that her friend had started in another elementary school. Jen approached the principal, who was receptive and suggested she get help from the school garden club, which was also very supportive.

Jennifer began by assessing just how much waste the cafeteria generated. She was guided by the expertise of Diane Calvin, a waste management engineer and Director of foodScape RI. Diane helped Jen secure a grant from the Rhode Island Resource Recovery Corporation and win approval from the Narragansett School District Administrator.

Here's how it works

In the spring of 2019, the program began, with a sorting station in the cafeteria. At first, food scraps were separated on Fridays only, but in just a few months, it became a daily practice. Rhodeside Revival, an independent hauler, picks up scraps weekly in the winter and twice weekly in the warmer months. The scraps go to Earth Care Farm in Charlestown where they're used to make rich compost.

Back in the cafeteria, parents have volunteered to help kids sort their food waste properly, keeping it contaminant free. They also help by transporting untouched food to local charities. At least 1,250 lbs. of unopened packaged food has been donated to the Galilee Mission and Welcome House charities.

Going forward, one teacher will be designated to recruit new volunteers each school year and write grants to continue funding for the program.

The school is able to give valuable feedback about food waste to Chartwells, their food service provider. As a result, quantities of unwanted packaged food have been reduced and so have food expenses. Chartwells now allows older students to choose their food items rather than giving them a pre-filled bag containing items they won't eat.

From May until mid-December of 2019, Narragansett Elementary School diverted approximately 2.66 tons of food scraps from the landfill to the compost farm. At this rate, annual diversion would be 4.8 tons, reducing carbon emissions by 2.6 metric tons – the equivalent of eliminating the exhaust from 6,452 gallons of gasoline from the air we all breathe.

Education & Engagement

Addressing school food waste can be a focal point for learning. Food waste presents an authentic problem and provides excellent opportunities for place-based and project-based learning.

Place-based learning is an educational approach that uses a student's own environment as the basis for hands-on learning experiences. Project-based learning engages students in exploring and solving real, often complex, problems and cultivates critical thinking, creativity, and communication skills.

By actively participating in food waste reduction efforts, students learn the environmental, economic, and social impacts of food waste.

This section of the Tookit will cover:

- ✓ Engaging students to take action on food waste
- ✓ Curricula about food and food waste
- ✓ Teaching tools and resources

Ways to engage students

Food waste reduction projects may be one-time events or longer-term efforts. Some activities can be integrated into a classroom project or curriculum, others may be extracurricular or service learning projects. All have the potential to empower students to make a difference.

Short-term projects

- Conduct a waste audit to learn data collection and analysis skills. See the *Measuring Food Waste* section.
- Take a field trip to a local landfill, commercial composting facility, or food pantry.
- Expand palates and learn about healthy eating through tastings. See the *Preventing Food Waste* section.
- Write stories about student efforts for the school newspaper or other news outlets. Be sure to include photos. See the *Communicating and Celebrating Success* section.

- Create artwork that educates about food waste and inspires others to take action.
- Advocate for change by presenting data and ideas for reducing food waste to the school principal, PTO, school board, city council, or other governing organizations.
- Learn about food, how it is grown, where it is grown, and what foods are indigenous to which countries.
- Start a culinary class using surplus food from a share table and/or foods grown in the school garden (as permitted). Design a chef's challenge to fully utilize foods that are available.
- Create a short documentary film for the Young Filmmakers Contest and the One Earth Film Festival that focuses on food waste.
- Create a poster about the benefits of composting for the International Composting Awareness Week Poster Contest.
- Give presentations about food waste to classmates or to students in neighboring schools.
- Invite local experts to speak (farmers, food pantry staff, composters, nutrition educators).

Long-term projects

- Monitor a lunchroom share table. See the *Food Recovery* section.
- Monitor the lunchroom sorting station to teach other students how to sort and ensure that sorting is done properly. See the *Composting Food Scraps* section.
- Manage a school compost bin. This can involve emptying food scraps daily, measuring and recording the amount of food scraps added, turning the compost, and harvesting finished compost for the school garden. See the *Diverting Food Scraps* section.
- Maintain a classroom vermicomposting "worm" bin. See *Diverting Food Scraps* section.

Student-led sustainability at the Academy for Global Citizenship

CASE STUDY

At the Academy for Global Citizenship (AGC), a K-8 public charter school of 460 students on the southwest side of Chicago, Illinois, education and engagement are vital to their goal of student-led sustainability. Students as young as first grade engage in an inquiry based unit called "Our Cool School" that looks at what makes their school unique and highlights the sustainability practices that are at the heart of AGC's mission.

Food is a central learning tool for all students at AGC. Through activities such as working in the garden, studying the origins of the foods they eat, and composting, students learn the value of food while helping the school minimize food waste.

One way students raise awareness about food waste is by conducting audits. They take turns weighing food waste after lunch and illustrate this data on a bar graph to demonstrate any patterns. The graph is posted in the cafeteria to remind everyone to finish their food.

For the IB Exhibition Project, a group of 5th graders chose to study the impacts of food waste. They identified which school lunches generated the most waste by weighing food waste and noting their corresponding menu items after lunch each day. Next they surveyed their peers to get feedback on the menu offerings and shared this information with the kitchen staff so they could adjust the menu accordingly.

- Help manage a food donation program. Roles may include tracking how much food is donated and organizing the food items for donation. See the *Food Recovery* section.
- Grow food in a school garden that can be served in the cafeteria or used for tastings. See the *Preventing Food Waste* section.

Curricula

The Soil Story Curriculum (Kiss the Ground/Life Lab, middle school) This 5-lesson curriculum connects composting to the regeneration of soil health and the vital role that soil can have in reversing climate change. Lessons cover the carbon cycle, photosynthesis, soil science, and regenerative agriculture.

Food Waste Warrior Lessons and Activities (World Wildlife Fund, Grades K-12) Students learn how food impacts the environment and about the importance of reducing food waste by doing waste audits and other hands-on activities.

Composting in the Classroom: Scientific Inquiry for High School Students (Nancy M. Trautmann and Marianne E. Krasny) This 126-page manual offers numerous in-depth compost experiments and guidance for students to design their own experiments.

Scraps Into Soil (Population Connection, Grades K-5) Students learn to differentiate between natural and man-made waste products, examine their decomposition rates, and determine how composting impacts the amount of waste that goes to landfills.

Food Waste Curriculum (Purdue Agriculture) Most lessons are K-5, but some include middle school and high school standards.

Pilot Light Food Education Standards Created by chefs, these standards teach the important role that food plays in students' lives and the need to acknowledge and embrace its value.

FoodSpan Curriculum (Grades 9-12) Highlights critical issues in the food system and empowers students to be good food citizens.

Don't Throw Me Away: A Zero Waste Curriculum (Seven Generations Ahead, Grades K-5) Addresses the challenges of waste and how it is handled in our schools and communities. Students learn different options for conserving and recovering resources such as reusing, recycling, and composting.

Learning Lab (U.S. Green Building Council, Grades K-12, $40) Project- and STEM-based lessons that encourage student leadership and sustainability literacy.

K-12 Food Rescue Toolkit This functional academic curriculum creates a business learning environment with job descriptions, job applications and interviews, marketing, and program management.

The Edible Schoolyard Project (Grades K-12) Lesson plans that engage students in hands-on education that teaches them how to grow, prepare, and value food.

USDA's Team Nutrition Garden Education Curricula that integrates nutrition education into core subjects using school gardens, local farms, and farmers markets.

Teaching tools and resources

The following resources can supplement your school's food waste education efforts.

Books

Worms Eat My Garbage (2017, Mary Appelhof, Joanne Olszewski, Amy Stewart)

Garbage Helps Our Garden Grow: A Compost Story (2010, Linda Glaser)

American Wasteland: How America Throws Away Nearly Half of Its Food (and What We Can Do About It) (2011, Jonathan Bloom)

Chemistry Curriculum Focuses on Waste

CASE STUDY

Tenth grade chemistry classes at Solorio Academy High School in Chicago, Illinois, incorporate zero waste thinking into their unit on conservation of mass. The unit, which teaches Next Generation Science Standard HS-PS-1-7, addresses the central question: "What happens to all of our garbage?" Students investigate this question in various ways both inside and outside the classroom by:

- Exploring different types and representations of molecules and atoms found in garbage.
- Creating mathematical representations for the chemical and physical changes that occur when waste decomposes, breaks down, or is incinerated.
- Volunteering at the lunchroom waste sorting stations to help classmates recycle, compost, and recover food at a share table. Other student projects include teaching about zero waste at neighboring schools, leading neighborhood clean ups, and making art installations with recycled objects.
- Constructing an argument for changes we need to make to our consumption and waste systems in the United States.

"The action component was not always part of the unit" explains teacher Greta Kringle. It was actually driven by her students who said at the end of the unit one year: "That's it? We're not going to do anything about this huge problem in our society?" The following year, Kringle enlisted the school in the Chicago Public Schools Commercial Composting Program, which has provided the solution-oriented action that her students had been missing.

Aside from chemistry class, students in Solorio's extracurricular Zero Waste Ambassadors Club keep the lunchroom program running smoothly by regularly serving as volunteers and managers. Club membership has grown from roughly 20 students to 90 students over the past 3 years. Often, students join to earn service learning hours but it ends up becoming something they truly enjoy doing and really care about.

"The process has not been easy," says Kringle. "There are some days that volunteers don't show up for their shifts and the custodians get frustrated with the program. It gets better every year, but it does take time, organization, and students you can rely on to follow through with a commitment."

Every year, the chemistry department tries to make the content connections richer and improve something about the service learning component. This year, they plan to separate the content into two units. The conservation of mass unit will now focus primarily on food waste. A new unit will center around plastics by asking, "How do we get plastics from oil? Why are plastics everywhere?" and focus on molecular structure and function (HS-PS-1-3).

According to Kringle, Solorio's waste reduction efforts have led students and teachers to think more critically about how much waste they produce. Many have started backyard composting at home and have shifted to reusable lunch containers. Some teachers bring their food waste to the cafeteria and have become more thoughtful about the number of copies they make.

What started as a unit of study at Solorio has since permeated the school culture and beyond.

"The fact that we're sharing this experience is amazing. You'd be surprised; a lot of kids do care. Some might do it at first as a service learning project, but once they see the impact, they want to be on the Zero Waste Team."

--10th grade student

Alice Waters and the Trip to Delicious (2014, Jacqueline Briggs Martin)

Videos

The Compost Story (6:46) and The Soil Story (3:19) (Kiss the Ground)

Soil Health Theater (USDA Natural Resources Conservation Service)

Food is our Future (2:05, Mindful Waste) Highlights the issue of school food waste, its impacts, and what can be done about it.

Just Eat It: A Food Waste Story (74-minute documentary) Available in some public libraries or for purchase. Curriculum to accompany film is available.

The Global Food Waste Scandal (14:01, Tristram Stuart, TEDSalon)

Posters and infographics

Reducing Food Waste: What Schools Can Do Today infographic (USDA)

International Compost Awareness Week posters (Composting Council Research & Education Foundation)

Compost Impacts More Than You Think (Institute for Local Self-Reliance)

Organizations that educate and engage

Rhode Island Schools Recycling Club offers Get Food Smart Rhode Island, a project to help Rhode Island schools develop strategies to reduce, recover, and divert food waste.

RI Resource Recovery Corporation provides educational programs and support, including field trips to the central landfill and tours of the Materials Recycling Facility, as well as support for recycling programs.

The Center for Eco Technology provides free technical assistance on how to reduce wasted food for schools.

Healthy Soils Healthy Seas Aquidneck Island non-profit that offers a Zero Waste Education Initiative for lunchroom composting. Their in-depth lessons and guidance also bring compost education to classrooms.

Seven Generations Ahead Their Zero Waste Schools Program shifts operations and minds towards generating zero waste through source reduction, recycling, composting, and food recovery.

Your local county or solid waste agency

Mindful Waste partners with schools on waste reduction and composting education and offers Project Foodprint, a K-8 curriculum.

Cafeteria Culture An environmental education organization based in New York City that works with youth to achieve zero waste schools, rid waters of plastic, and create climate smart communities using citizen science, civic action, media, and the arts.

USDA's What You Can Do To Help Prevent Wasted Food This booklet discusses ways to reduce, recover, and recycle food before it goes to waste. Provides tips for school nutrition professionals, teachers, parents, students, and school administrators.

Grants

Captain Planet Foundation offers two grants:

- ecoSolution Grant
- ecoSTEM Kit Grant

Communicating & Celebrating Success

One of the best ways to ensure the long-term success of any waste reduction effort is to communicate and celebrate your school's accomplishments. Doing so:

- Creates awareness about wasted food
- Acknowledges the work of those involved
- Provides documentation of efforts to help demonstrate progress over time
- Inspires schools to take on additional food waste reduction projects
- Gives schools a positive story to share
- Inspires other schools to take action
- Encourages school families to reduce food waste at home
- Can help support goals in your school's wellness plan while engaging parents.

What to communicate and celebrate

Success can be conveyed in a variety of ways:

- Waste audit data demonstrates impact (weight or volume diverted from landfills, amount of food rescued, and greenhouse gas emissions avoided). See page 5 for different ways to analyze data.
- Photos are a powerful way to share the impact of your efforts. Try to capture photos that show the before and after, student engagement, and the volume of food waste diverted.
- Number of students, staff, and/or community members impacted can be used to quantify a program's success.
- Estimate how many people could be fed by the uneaten/unopened food and tie that to data about food insecurity in your region.
- Testimonials/quotes from staff and students.
- Highlight new routines that contribute to reducing food waste, such as longer lunches, share tables, or using the Offer versus Serve method.
- Calculate the cost savings associated with your waste reduction efforts. Does your food service provider have pricing information to quantify savings from prevention and recovery? Have there been any cost savings associated with downsizing trash hauling? Has your school or district saved any money by redistributing surplus food within the school?

In-school communications

Share your program successes through one or more of the following methods:

- One-page summary for the school community that highlights impacts
- Social media (PTA listserv, Facebook page, Twitter)
- School newsletter
- School website
- Morning announcements
- Bulletin board with rotating information to highlight successes while providing education
- Back-to-school welcome packet
- Student TV station or TV monitors for school news
- A letter from your principal or superintendent can show administrative support.

- Announcements at meetings (PTA, school board, staff/faculty meetings, and assemblies)
- Reconvene your planning group to share results and experiences.

Celebrating success with the broader community

Your school can serve as a model and inspire others to implement similar programs. Sharing successes will also help demonstrate your school's environmental commitment. Use the following tools to reach your desired audience:

- Press releases and articles to local media
- A regular column in the local newspaper
- Solid waste agency community newsletters
- City council presentations
- Case studies
- Podcasts
- Conference exhibits or presentations
- Press conference – Your school's food waste reduction efforts may help local governments reach their environmental goals. Contact them to share your story and data.


Opinion The Providence Journal

Christopher Ratcliffe is the co-director of the R.I. Schools Recycling Club.

The math on food waste is sobering.

In the face of rising food insecurity nationwide, it's estimated that Americans waste 300 million pounds of food each day, enough to fill a 90,000-seat stadium every day.

Programs that celebrate success and provide recognition

- Get Food Smart, Rhode Island (Rhode Island Schools Recycling Club) This program spotlights schools' food waste reduction programs.
- Food Recovery Challenge (EPA) Participants in this voluntary incentive program set goals and implement strategies to reduce wasted food in their operations, then report results to compete for recognition from the EPA.
- U.S. Department of Education Green Ribbon Schools This award recognizes K-12 schools, districts, and institutions of higher education for their sustainability practices that correspond to the pillars of reducing environmental impact and cost, improving health and wellness, and providing effective environmental education.

- Eco-Schools USA (National Wildlife Federation) This program engages students in making their schools and communities more sustainable. Using their Seven Step Framework, schools are recognized at three levels of achievement: Bronze, Silver, and Green Flag.
- Food Recovery Verified This donor recognition program is administered by the Food Recovery Network and recognizes institutions that donate surplus food to a nonprofit that fights hunger.

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