Davis County Community School District
Photo Credit: Jennifer Trent

FOOD WASTE MINIMIZATION TOOLKIT FOR IOWA SCHOOLS

August 2017

IOWA WASTE EXCHANGE

IOWA DEPARTMENT OF EDUCATION

DNR

CONTENTS

INTRODUCTION 1
FOOD INSECURITY 1
IOWA FOOD BANKS 2
FOOD INSECURITY IN IOWA BY THE NUMBERS 2
SCHOOL MEAL PATTERN 3
BUILDING A HEALTHY MEAL 3
WASTE 4
BUDGET 4
WASTED NUTRITION 4
WASTE AUDIT – WHAT AND WHY 5
PRIOR TO AUDIT 5
ASSESSMENT/OBSERVATION 5
OBTAIN APPROVAL 6
ESTABLISH TEAM 6
LEVERAGE RESOURCES 6
IOWA WASTE EXCHANGE PRIMARY SERVICE AREAS 6
WASTE AUDIT PLANNING 7
INVOLVING STUDENTS 7
FOOD WASTE LESSON PLANS AND ACTIVITIES 7
DURATION 8
WASTE CATEGORIES 8
OBTAIN NEEDED EQUIPMENT 9
SAFETY 10
WASTE AND TRAFFIC FLOW 10
RECRUIT AUDIT TEAM 11
COMMUNICATE WITH FACULTY/STUDENTS/STAFF 11
DAY OF AUDIT 12
WELCOME/THANK YOU 12
SETUP AUDIT AREA 12
INSTRUCT SORTING TEAM 12
ASSIST STUDENTS/FACULTY/STAFF IN SORTING 12
WEIGH AND DOCUMENT WEIGHTS OF MATERIALS 12
CLEAN UP AND DEBRIEFING 12
CALCULATING THE DATA 13
PREPARING A WASTE MINIMIZATION PLAN 14
GOALS/TARGETS 14
ACTION PLANS 14
TIMELINES 14
WASTE MINIMIZATION STRATEGIES 15
REDUCE 15
RECOVER 15
FOOD SHARE TOOLKIT 15
GOOD SAMARITAN ACT 15
RECYCLE 16
RECYCLING LESSON PLANS AND ACTIVITIES 16
COMPOSTING/VERMICOMPOSTING 17
COMPOSTING LESSON PLANS AND ACTIVITIES 17
SMARTER LUNCHROOM 17
RESOURCES 18
APPENDIX A – SAMPLE INTERVIEW QUESTIONS 19
APPENDIX B - IOWA SOLID WASTE AGENCIES 20
APPENDIX C - WASTE SORT DATA COLLECTION FORM 22
APPENDIX D – SAMPLE ANNOUNCEMENT SCRIPTS 23
APPENDIX E – SAMPLE POSTER CONTEST RULES 24
APPENDIX F – FOOD WASTE MINIMIZATION ACTION PLAN 25

Photo Credit: Sheriffa Jones

FOOD WASTE MINIMIZATION TOOLKIT FOR IOWA SCHOOLS

INTRODUCTION

School food service departments are tasked with balancing cost and student participation while simultaneously reducing the amount of food waste.

In order to assist Iowa schools in addressing food waste, the Iowa Department of Natural Resources (DNR) and the Iowa Department of Education (DOE) partnered to produce this waste minimization toolkit to assist school administrators and nutrition staff in maintaining a sustainable balance in reducing food insecurity and waste.

PILOT PARTICIPANTS

Center Point Urbana Intermediate—Center Point Urbana CSD
Clay Elementary—South East Polk CSD
Cornell Elementary—Saydel CSD
Davis Count Elementary—Davis County CSD
Horace Mann Elementary—Ottumwa CSD
Johnson STEAM Academy—Cedar Rapids CSD
Lovejoy Elementary—Des Moines CSD
Sacred Hart, Spencer—Sioux City Diocese
Trinity Lutheran, Cedar Rapids, Missouri Synod
Waverly High School—Waverly CSD

In 2016 a pilot project included observing, investigating, documenting respective reduction areas as well as performing on-site waste sorts and assessments at eleven Iowa schools.

Schools were selected to participate based on an application process documenting their interest in pursuing reduction initiatives. Lessons learned throughout the pilot are included in this toolkit.

FOOD INSECURITY

The Center for the Study of Social Policy (CSSP) (CSSP, 2016) states that good nutrition is vital for brain development and learning in infancy and early childhood. Research has shown that food insecurity has a negative impact on children's reading and mathematics performance. Children in early education and preschool programs who are hungry or are stressed about when they will next be able to eat will struggle to stay awake, focus and learn.

FOOD INSECURITY

Did you know?

The Iowa Food Bank – located in Des Moines - partners with 39 Iowa schools to provide an in-school food pantry as a convenient source of healthy foods to students and families in need. In-school food pantries are operated by school staff with the assistance of community partners. In addition, food banks serving Iowa have backpack programs and mobile food pantry programs. Contact your area food bank to inquire about programs in your region.

Photo Credit: Food Bank of Iowa

IOWA FOOD BANKS

Food Bank of Siouxland, Inc. 1313 11th Street Sioux City, IA 51105 (712) 255-9741 https://siouxlandfoodbank.org	**River Bend Food Bank** 4010 Kimmel Drive Davenport, IA 52802 (563) 345-6490 https://riverbendfoodbank.org
Food Bank for the Heartland 10525 J Street Omaha, NE 68117 (402) 331-1213 https://foodbankheartland.org	**HACAP Food Reservoir** 1515 Hiawatha Drive Hiawatha, IA 52233 (319) 393-7811 www.hacap.org
Food Bank of Iowa 2220 East 17th Street Des Moines, IA 50316 (515) 564-0330 www.foodbankiowa.org	**St. Stephen's Food Bank** 3145 Cedar Crest Ridge Dubuque, IA 52003 (563) 557-7474 www.ststephensfoodbank.org
Food Bank of Southern Iowa 703 West Main Ottumwa, IA 52501 (641) 682-3403 www.foodbankofsoutherniowa.org	**Northeast Iowa Food Bank** 1605 Lafayette Drive Waterloo, IA 50703 (319) 235-0507 www.northeastiowafoodbank.org

FOOD INSECURITY IN IOWA BY THE NUMBERS

1 in 8
Iowans are food insecure

64%
of clients served by the Food Bank of Iowa have to decide between paying for food or paying medical bills

384,830
Iowans live at or below the poverty level

1 in 5
Iowa children do not have enough to eat

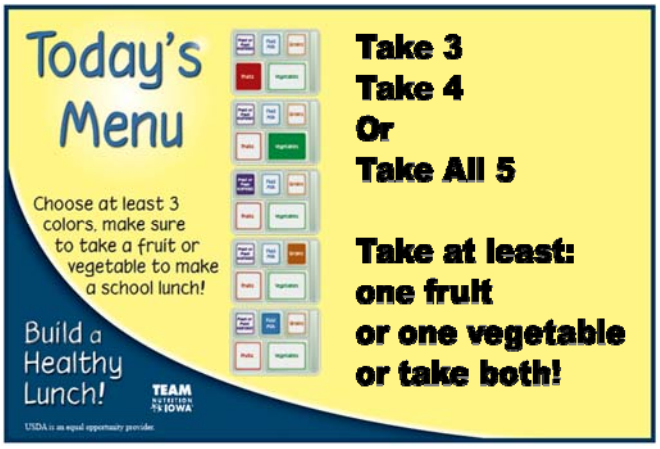
65%
of clients served by the Food Bank of Iowa have to decide between paying for food or paying their utilities

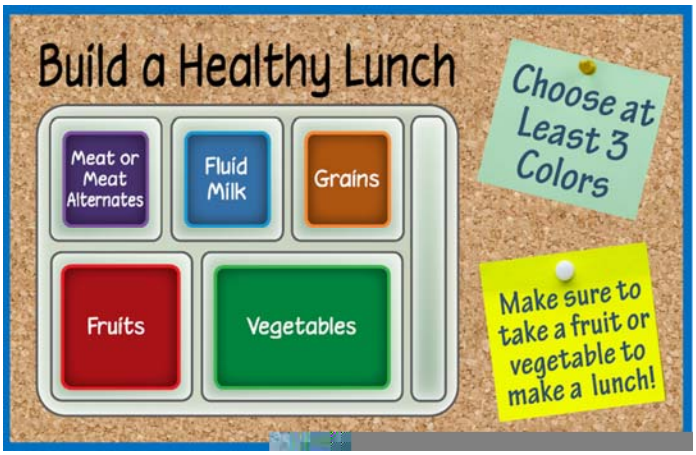
Source: Food Bank of Iowa (2014)

SCHOOL MEAL PATTERN

The Healthy, Hunger-Free Kids Act of 2010 (USDA, 2011) required the US Department of Agriculture to update federal nutrition standards for school meals. The new regulations went into effect on July 1, 2012. The act includes:

- Ensuring students are offered both fruits and vegetables every day;
- Increasing offerings of whole grain-rich foods;
- Limiting calories based on the age of children being served to ensure proper portion size;
- Increasing the focus on reducing the amounts of saturated fat, trans fats, added sugars, and sodium; and
- Providing potable water in the cafeteria during school meal service.





Schools must offer the minimum daily servings of all 5 food components every day

- Fluid milk, meat/meat alternate, bread/grains, fruit and vegetables;
- Students may decline two food components; however, a student **must take at least ½ cup fruit or vegetable**; and
- Students may decline fluid milk.

BUILDING A HEALTHY MEAL

Iowa Team Nutrition, a program of the Iowa Department of Education, has developed a reimbursable meal kit to assist students in selecting their meal choices and reduce the unintentional purchase of food items not included in the reimbursable meal. The kit was designed to help identify foods that are part of the reimbursable meal for the day at or near the beginning of the serving line(s) and allows schools to be in compliance with the USDA'S *Identification of Reimbursable Meals* regulation that is part of the Healthy, Hunger-Free Kids Act.

The kit includes; Building a Healthy Lunch posters, lesson plans, coloring sheets and more. This free resource may be accessed at:

https://www.educateiowa.gov/pk-12/nutrition-programs/supporting-school-meals#Build_a_Healthy_Lunch_Signage

Lovejoy Elementary, Des Moines Community School District

In order to assist students in selecting lunch items, reducing waste and as a result of the pilot, Lovejoy created food identification pictorial cards to aid students in better identifying their selections when ordering lunch. This initiative was implemented district wide.

EFFORT

For more information contact:
Amanda Miller, Director of Food and Nutrition Services
***Amanda.miller*@dmschools.org, (515) 242-7636**

WASTE AUDIT PLANNING

Involving students. Waste audit and waste reduction initiatives incorporate a number of cross curricular activities and educational opportunities for students. These curriculum areas include health and nutrition, project management, data collection and manipulation, earth and environmental sciences as well as social and civic engagement. Empowering students by offering opportunities for involvement such as food waste reduction advocacy and hands-on participation encourage students to take pride in the ownership of waste reduction initiatives.

Johnson STEAM Academy, Cedar Rapids Community School District

The waste audit provided an opportunity to teach students about food waste in Iowa specifically and in the United States. In addition, the school created a math lesson involving estimations and calculating averages.

For more information contact: Cassidy Reinken, Magnet Coordinator
creinken@cr.k12.ia.us, (319) 558-1612

FOOD WASTE LESSON PLANS AND ACTIVITIES

CHANGEFOOD.ORG - This lesson plan supplements the TEDxManhattan video ***Address the Excess - A Recipe for Cutting Food Waste*** and is designed to be integrated in a variety of learning settings, both educational and recreational.

Lesson Plan: **www.changefood.org/wp-content/uploads/2015/12/FoodWaste_Lesson1F.pdf**
TEDX Video: **www.youtube.com/watch?v=UwOHpWTRsbE**

FOODSPAN - ***Wasted Food*** - In the United States, as much as 40 percent of harvested food is never eaten. Students will learn why food waste is a problem and explore strategies to reduce it. Extension projects will further empower students to take action to reduce food waste in their homes, schools, and communities.

www.foodspanlearning.org/_pdf/lesson-plan/unit3/lesson13-wasted-food-lessonplan.pdf

MSNBC - *Food Waste an Educators' Guide* - This document is a guide to teaching students about food waste, with conversation starters, lessons and activities suitable for grades K-12.

www.msnbc.com/msnbc/teaching-kids-waste-less-food

NEVADA RESEARCH DATA CENTER - *Food Waste and Sustainable Investigation* - This lesson introduces students to food waste and sustainability by engaging them in a local site-based investigation.

http://sensor.nevada.edu/Static/Documents/Education/Washoe%20Activities/Middle%20School/8-Armbruster-5E%20Lesson-Food%20Waste.pdf

READ, WRITE, THINK - *Finding Solutions to Food Waste: Persuasion in a Digital World* - Students explore the problem of food waste using electronic and traditional modalities. They begin by tracking food waste in the school cafeteria. Then they examine the waste on a larger scale, using multimodal resources and applying metacognitive reading strategies.

www.readwritethink.org/classroom-resources/lesson-plans/finding-solutions-food-waste-30950.html

YOUTH DOWNLOADS - Download customizable PowerPoint versions of some of today's most popular games including Mad Gab, Wheel of Winning, Jeopardy, Family Feud and a host of others. Downloads are free although donations are accepted and appreciated.

www.youthdownloads.com

WASTE AUDIT PLANNING

DURATION

Establish the duration and date(s) for audit activities. In order to normalize data and duplicate waste audit activities (if warranted) the duration (number of days) auditing activities will take place needs to be established.

Once the duration has been determined dates should be selected to perform the audits. In selecting dates, it is important to allow some lead time for additional pre-planning activities such as obtaining needed permissions, equipment, and volunteers.

For the Iowa DNR/DOE pilot project, food nutrition staff members selected three consecutive days to audit the entire lunch period.

DATA

Data obtained during a cafeteria waste sort can be used to:

- Initiate educational campaigns regarding what constitutes a reimbursable meal i.e. healthy lunch.
- Adjust/change menus.
- Determine materials that are recoverable.
- Determine if programs at your location can be implemented to facilitate food recovery.
- Determine materials that are recyclable.
- Determine if programs at your location can facilitate recycling of other materials including cardboard, metal and paper.
- Determine how current practices are working.

CORNELL ELEMENTARY SCHOOL, SAYDEL COMMUNITY SCHOOL DISTRICT

During the pilot waste audit, Cornell Elementary staff observed that yogurt portions served in an 8 ounce container were too much for students as almost half was going to waste and the same was true of milk. As a result, staff members changed the portion size of yogurt to 4 ounces and moved the milk cooler to the end of the lunch line. Both initiatives resulted in a reduction in costs and waste.

For more information contact: Jessy Sadler, Director of Food Services
sadlerjessy@saydel.net, (515) 264-0866

During the pilot project, the following categories were established for audit of the food preparation areas (preconsumer) and cafeteria area (postconsumer). It should be noted that audit of the food preparation area was performed as a separate audit and with the assistance of cafeteria staff members who sorted materials into predetermined containers to facilitate weighing of materials following the respective cafeteria audits.

Food Preparation Area (Preconsumer – prior to consumption)

- FOOD WASTE – Cuttings, salad bar contents, unconsumed prepared food
- RECYCLABLES – Paper, plastic, tin, cardboard
- TRASH – Packaging waste

Cafeteria Area (Post consumer – following consumption)

- FOOD WASTE - Post consumer
- OTHER COMPOSTABLES - Napkins, other solid paper
- BEVERAGE CONTAINERS - Milk Cartons
- WHITE MILK - Liquid
- FLAVORED MILK - Liquid
- TRASH - Disposable tableware, packaging
- COLD LUNCH WASTE

Because pilot data was utilized to measure performance and waste generated for school provided lunch programs, cold lunch waste (meals from home) was placed in a separate container and weighed as a separate category.

WASTE AUDIT PLANNING

OBTAIN NEEDED EQUIPMENT

Once categories are determined, equipment needs can be assessed and equipment obtained. Equipment needs may include:

- **Sorting containers** – Generally 35-55 gallon, one for each category with the exception of liquids
- **Pails –** Generally (2) three to five gallon pails for collection of liquids (white milk, flavored milk)
- **Tables (2) or Cart and Collection Bins (2) –** One will be used to place liquid collection pails and/or collecting silverware and/or trays (if necessary, other processes may already be in place for the collection of tableware). The other can be placed at the front of the line to collect, count and document recoverable items.
- **Bags** – 35-55 gallon size depending on containers used. While using bags slightly increases the amount of waste generated, it makes weighing much less difficult, assists in expediting the cleanup process and eliminates the need to rinse out every container following the event.
- **Signage** – Place one sign on each container indicating the commodity that specific container has been designated to accept. As an added educational component have students create signage.
- **Tape** – For hanging signs on containers.
- **Waste Audit Form/Clipboard/Pens** – Used in documenting weights and volumes of sorted materials. (Please see Appendix C – *Waste Sort Data Collection Form)*
- **Wet Wipes/Hand Sanitizer** – These items allow members of the sort team to clean up between serving periods if a handwashing sink it not readily available.
- **Scale** – For the purposes of a cafeteria sort, a small fishing scale or a bathroom scale may be used.
- **Nitrile Gloves** – Plan on at least two pair for each participant.
- **Eye Protection/Safety Glasses (Optional)** – You can also request that those assisting with the sort that wish to have eye protection bring their own safety glasses/goggles.
- **Tyvek Suits/Aprons –** Optional, You can request that those assisting that wish to have Tyvek or an apron bring their own. In addition, sorters should be made aware that they should wear garbage appropriate clothing and comfortable shoes.

As mentioned previously, there are several outside resources available that may be able to provide equipment and assistance. (Please see Appendix B – *Iowa Solid Waste Agencie*s and Page 7 of this toolkit to find your *Iowa Waste Exchange Area Resource Specialist.)*

IOWA FOOD CORPS

NEED ONSITE ASSISTANCE? The FoodCorps Iowa team may be able to help. FoodCorps partners include Iowa State University Extension and Outreach Local Foods Program Team, County Extension Offices, and school districts across the state. Program areas include but are not limited to the delivery of the *Pick a Better Snack Program* as well as after school nutrition programs, farm to school programs, school garden clubs, in school composting, school cooking clubs and in school sustainability initiatives. For additional information regarding hosting a FoodCorps member at your school contact Lynn Heuss, leheuss@iastate.edu, 515-201-9405

WASTE AUDIT PLANNING

SAFETY

The following safety procedures should be provided to participants and followed throughout the waste audit process:

- No eating or drinking during sorting activities.
- Consumable food and liquids should not be near the sorting area.
- If sorters need to eat during the duration of the sort, hands and faces should be washed before eating or drinking.
- At a minimum, nitrile gloves should be worn at all times while sorting.

Considering that this is a source separated, controlled waste stream, hazardous materials should not be present. In the event that something unusual is seen, sorters/volunteers should notify a member of the waste minimization team immediately. In addition and though it is rarely needed during a controlled audit, a first aid kit should be available and easily accessible during the onsite cafeteria audit.

WASTE AND TRAFFIC FLOW

Discuss audit activities with custodial staff and other cafeteria staff.

Custodians and cafeteria staff are tasked with the responsibility of keeping traffic flowing and internal operations running efficiently throughout day-to-day activities and special events, including a waste audit. Their input and expertise is needed in planning the initial waste audit and subsequent waste reduction initiatives. Custodial and other staff members are generally responsible for collecting and washing tablewares and collecting waste and delivering it to the dumpster.

Discussion should include:

- Explanation of a waste audit including goals and potential future waste reduction initiatives;
- Best management practices in performing the audit including location for setting up the audit station in the cafeteria area so as not to impede traffic flow;
- Handling of tablewares during the audit and waste following the audit. Custodial and cafeteria staff are valuable members of the waste minimization team, however if they are unable to serve on the team – for various reasons – effective communication, input and feedback throughout the audit and during any waste reduction initiatives following the audit are imperative to the overall success of minimization programs.

EPA *GUIDE TO CONDUCTING STUDENT FOOD WASTE AUDITS*

As an additional waste audit resource including waste audit guidelines, instructions, data forms and an illustration on how to set up your waste audit area, download the Environmental Protection Agency's ***Guide to Conducting Student Food Waste Audits*** at **www.epa.gov/sustainable-management-food/guide-conducting-student-food-waste-audits-resource-schools**

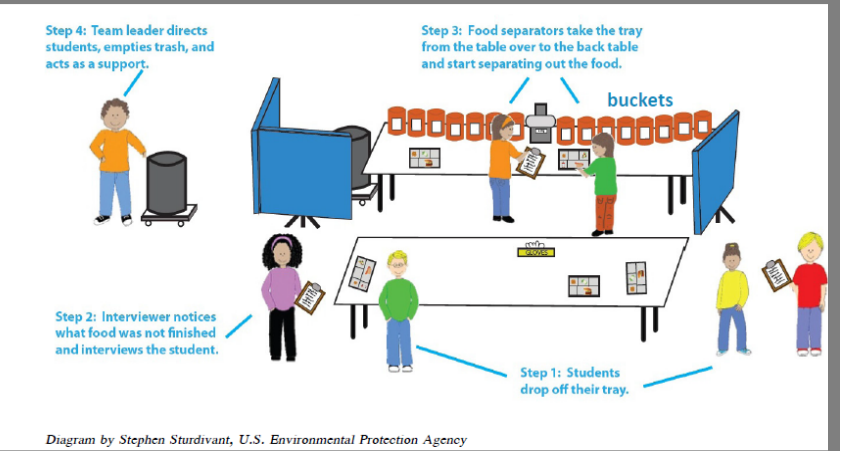


Diagram by Stephen Sturdivant, U.S. Environmental Protection Agency

RECRUIT AUDIT TEAM

Once approval has been received, you can establish who, in addition to the waste minimization team, will be responsible for assisting with the audit.

In determining how many volunteers are necessary, calculate the number of separate waste categories being sorted, then add three volunteers for oversight, directing traffic and weighing and documenting weights of materials as well as directing sorted materials to their final destination (including ensuring that reusable trays and tableware are taken to their respective areas). Various techniques have been used in recruiting additional waste audit team members. These include:

Soliciting individual students or student groups. As a requirement of membership to various organizations in and outside of the school, students must often obtain volunteer hours. A waste audit provides this opportunity.

Assigning individual students or student groups. During the pilot, various administrators, teachers and staff members assigned students or student organizations (i.e. student council members, TAG students, FFA, ROTC and sports teams) to serve on the waste audit team. In some instances, schools established a school Green Team to assist in performing the audit function.

Photo Credit: John Bruce

Soliciting like-minded parents and/or parent organizations including PTA/PTO, athletic boosters or others.

Soliciting like-minded members of community organizations and solid waste agencies including Master Gardeners, Park and Recreation Departments, County Conservation or others.

COMMUNICATE WITH FACULTY, STUDENTS AND STAFF

In an effort to make the audit process go as smoothly as possible, overall goals of the audit should be delivered to faculty, students and staff members one week prior to the audit. A combination of communication efforts can be used for dissemination of this information including;

- Classroom presentations by faculty, students or staff members.
- Online newsletters and daily announcements (please see Appendix D - *Sample Announcement Scripts*).
- In classroom curriculum extensions (please see *Food Waste Lesson Plans* on Page 7 of this document).
- Student Awareness Campaigns including Poster/Poem/Essay contests – (please see Appendix E – *Sample Poster Contest Rules*).
- School Assemblies – a topic of an assembly might include viewing the TedX video highlighted on page 7 of this document or other food waste minimization videos.

DAY OF AUDIT

WELCOME/THANK STUDENTS AND OTHER VOLUNTEERS

Enthusiasm is contagious. Ensure that students/volunteers have a positive experience by being enthusiastic about the audit and welcoming to incoming audit team members. Assist volunteers in understanding that they are vital members of the audit team by explaining how their role can potentially and effectively change their community (school). Thank audit team members throughout the audit and give positive reinforcement for a job well done.

SETUP AUDIT AREA

The audit team should be onsite/in the cafeteria approximately 45 minutes prior to the audit to assist with setup and for a short training session. Team members can assist in setting up the audit area in accordance with the logistical plan previously discussed with custodial and cafeteria staff. In addition to the other communication methods utilized to educate faculty, students and staff prior to audit, assisting in the setup process will allow the audit team to gain a better understanding of the process and provide another opportunity for training.

INSTRUCT SORTING TEAM

After the sorting area has been set up, provide sorting team members and/or volunteers with project background, objectives, instructions, safety information and answer any questions they may have. In addition, show team members and/or volunteers where safety equipment and other items, such as bags, restrooms, and hand washing supplies are located. Once all members have obtained the appropriate safety equipment, assign them to their task.

Assign one student/volunteer to manage each solid waste container. Because milk containers need to be emptied into buckets and the milk carton/bottle placed in a separate container, it is advisable to assign this task to two individuals. Assign two individuals to weigh and document weights. Because weighing is generally done in between lunch periods, persons responsible for directing traffic and ensuring flow may/can assume this role.

ASSIST STUDENTS/FACULTY/STAFF WITH SORTING MATERIALS

In general, most schools do not serve all students at the same time and there are designated lunch and subsequent dismissal periods throughout the lunch period. As students are dismissed, they will come through the audit line. Volunteers should assist students in placing their recoverables, waste materials and tableware in the appropriate designated container/area.

WEIGH AND DOCUMENT WEIGHTS OF MATERIALS

Because of the nature of school lunch delivery and staggered lunch periods, there should be times that students are not going through the audit line. During these times, bags should be checked and those that are reaching capacity should be weighed and documented. It should be noted that food waste is extremely compact and those bags should be pulled and weighed more often - when their corresponding bags are approximately one-quarter full. Full bags of food waste are difficult to lift and weigh and the bags are at risk of breaking if they become too full.

CLEAN UP AND DEBRIEFING

Once all lunch periods have concluded, all potential recoverables (prepackaged foods, apples, etc.) should be counted – the portion size and weight on the containers can serve to calculate the weight of the recoverables. All bags containing materials should be weighed and documented and all preconsumer materials collected in the kitchen area should be weighed and documented. Volunteers/students should assist with clean-up of the area in accordance with the predetermined logistical plan. In addition, feedback and observations from students/volunteers should be collected and documented at this time. Once again, remember to thank students/volunteers for their assistance and reinforce the importance of their role in initiating positive change within their school.

CALCULATING THE DATA

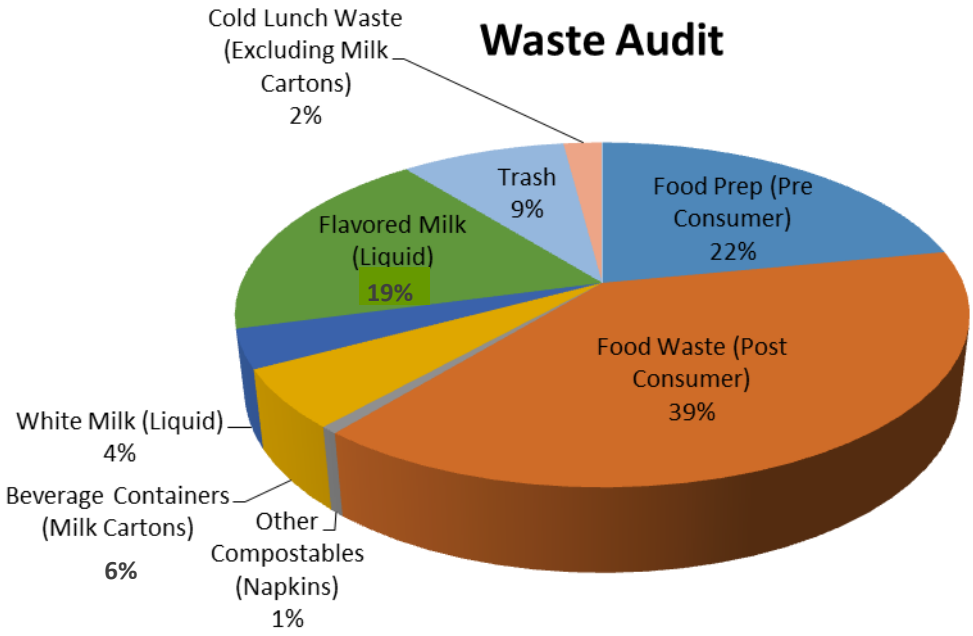
Following the audit, data collected on the *Waste Sort Data Collection Form* (please see Appendix C – *Waste Sort Data Collection Form)* will need to be formatted to assemble a visible "snapshot" of the preconsumer and postconsumer waste and potential recoverables collected throughout the audit.

The following spreadsheet taken from the pilot waste sort at Lovejoy Elementary in Des Moines, provides a detailed example of how to calculate data collected using the waste streams designated by the pilot schools.

	Day 1 Lbs	Day 2 Lbs	Day 3 Lbs	Total Lbs	Daily Average Lbs	Annual Total Lbs	% of Waste Stream
Food Prep (Pre Consumer)	49.5	72	29	150.5	50.17	9030	22%
Food Waste (Post Consumer)	96.5	102	69	267.5	89.17	16050	39%
Other Compostables (Napkins)	3.5	0.5	0.5	4.5	1.50	270	1%
Beverage Containers (Milk Cartons)	13	12	13	38	12.67	2280	6%
White Milk (Liquid)	6.5	7.5	11	25	8.33	1500	4%
Flavored Milk (Liquid)	33	50	44	127	42.33	7620	19%
Trash	30.5	12	17	59.5	19.83	3570	9%
Cold Lunch Waste (Excluding Milk Cartons)	5	4	5	14	4.67	840	2%
Overall Total	237.50	260.00	188.50	686.00	228.67	41160.00	100%

1. **Total** - Add the total pounds for the number of days waste auditing was performed.
2. **Daily Average** – Divide the total pounds by the number of days auditing was performed.
3. **Annual Total** – Multiply the daily average pounds by the number of days the school is occupied. In this example, we used 180 days to calculate the annual total.
4. **% of Waste Stream** – Divide the total pounds for each category by the overall annual total.

In addition to the table format and as an additional educational opportunity, it is advisable to create a pie chart graphic as it provides a comprehensive visible display regarding the overall waste stream, which can be helpful in determining next steps.



PREPARING A WASTE MINIMIZATION PLAN

GOALS/TARGETS

Information from the assessment, observation, and interviews should be reviewed by the waste minimization team and used to formulate potential waste minimization initiatives. Goals/Targets of any proposed initiatives should be clearly defined, attainable and measurable.

For example: If observations verified that there is confusion regarding what foods are required to build a reimbursable meal, the goal/target may be to reduce the amount of food waste produced by 10% by better educating faculty, staff and students regarding USDA guidelines and requirements of a reimbursable meal by a specific date.

Clearly defining the percentage and the end date assists the team in formatting action steps to facilitate the goal/target. The indicator/metric used to quantify the goal/target is the percent reduction and the method for measuring that method would include performing another waste sort after initiating the actions steps and prior to the end date for this goal/target.

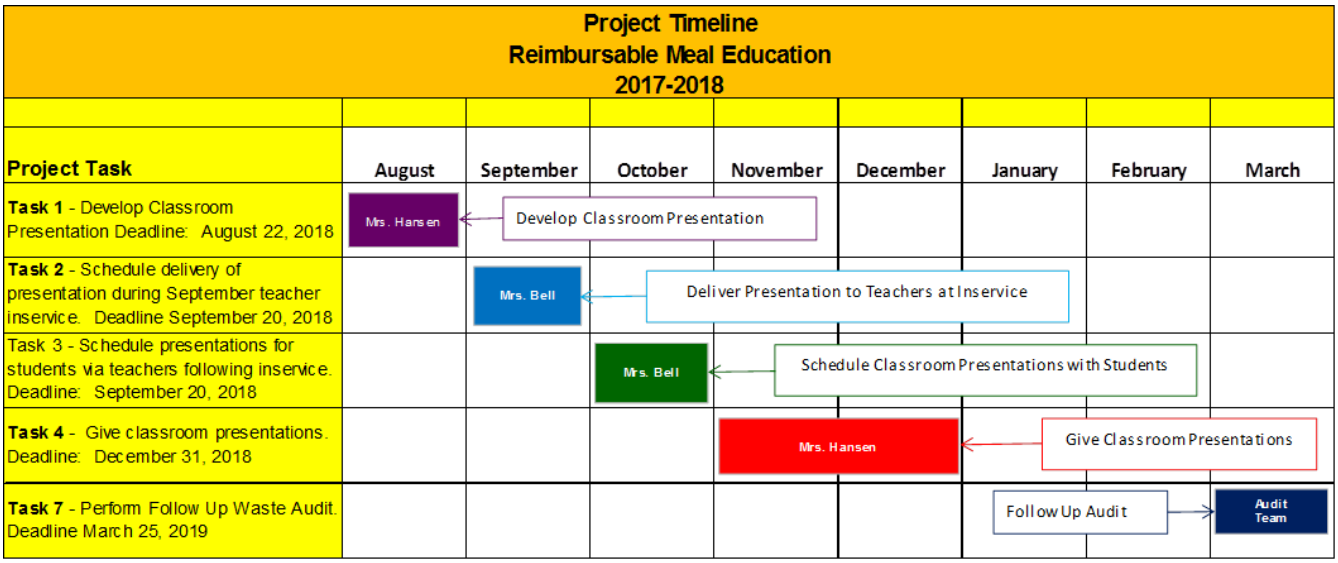
Comparing the original waste audit data collected with the new data will determine if the goal/target was met or if it needs to be evaluated and/or changed based on performance.

ACTION PLANS

In discussing and ultimately selecting waste minimization initiatives and their subsequent goals/targets, action steps, available resources (budget, labor, logistics), approvals needed, parties responsible for overseeing and implementing the various action steps, potential challenges and long term sustainability for any potential initiatives should be discussed to determine if the goal/target is feasible and attainable (please see Appendix F – *Food Waste Minimization Action Plan*).

TIMELINES

Once the waste minimization team has determined the initiatives they will focus on and once Action Plans have been completed, a timeline should be developed to manage and monitor Action Steps to ensure meeting the overall goal/target by the time designated by the waste minimization team.



Waste minimization initiatives, action steps and timelines should be reviewed on a regular basis by the waste minimization team to ensure goals are on target and performing as desired. If goals are not meeting or exceeding targets, then the initiatives may need to be updated and changed in accordance with performance.

WASTE MINIMIZATION STRATEGIES

REDUCE

- Reduce the amount of food produced in the cafeteria.
- Implement offer versus serve to allow students a choice in the amount and type of food they take (within program guidelines).
- Offer two different fruits and vegetables to better suit individual tastes.
- Portion control.
- Move milk cases/coolers to the end of the serving line.
- Ensure students have ample time to eat.
- Serve lunch following recess.
- Educate students, faculty and staff on what is required when building a reimbursable lunch.

HORACE MANN ELEMENTARY – OTTUMWA COMMUNITY SCHOOL DISTRICT

As a result of the pilot, staff members implemented ***Offer Versus Serve*** resulting in a diversion of 6,000 pounds of food waste annually. According to the United States Environmental Protection Agency's (EPA) *Waste Reduction Model (WARM)* this is equivalent to removing annual emissions from 439 gallons of gasoline and conserving 4 barrels of oil. Access the EPA Warm Model at **www.epa.gov/warm.**

For more information contact: Yvonne Johnson, Food Service Director
yvonne.johnson@ottumwaschools.com, (641) 684-6979 x403

RECOVER

- If local policies permit, allow students to save lunch items for later consumption, such as apples and packaged food items.
- Provide a "sharing table" or a food recovery bin to allow for the recovery of food items. A Standard Operating Procedure for sharing tables and food recovery can be downloaded at the Iowa Department of Education's website at:
  www.educateiowa.gov/documents/school-meals/2016/07/food-donations-and-sharing-tables-sop
- If recovered items cannot be used within the district, reach out to your local Food Pantry to see if they can be delivered or used there. If you are unsure if a Food Pantry exists in your area, contact your regional Food Bank (please see Page 2 of this document – *Iowa Food Banks*).

FOOD SHARE TOOLKIT

EPA and a coalition of partner organizations in Washington State developed the *School Food Share Program* to recover and redirect usable food from schools to local food banks.

The kit can be downloaded at:
www.epa.gov/sustainable-management-food/washington-school-food-share-program-toolkit

GOOD SAMARITAN ACT

Passed into law in 1996, the Bill Emerson Good Samaritan Food Donation Act provides protection to good faith donors of food from liability. All packaged foods that are not temperature controlled can be recovered and/or donated.

Download a copy of the Act at: www.congress.gov/104/plaws/publ210/PLAW-104publ210.pdf

Lovejoy Elementary, Des Moines Community School District

Lovejoy is one of 24 schools in the Des Moines Community School District that has initiated a food recovery program. 2,000 pieces of prepackaged food is diverted annually at Lovejoy alone. Food is utilized in school by nursing and counseling staff or redirected to in school food pantries.

For more information contact:

Amanda Miller, Director of Food and Nutrition Services
***Amanda.miller*@dmschools.org, (515) 242-7636**

WASTE MINIMIZATION STRATEGIES

RECYCLE

Recyclable Materials

During the assessment and the audit, waste minimization team members may have noted and observed other recyclables going into the waste stream. If the school currently has a recycling program in place, establish a logistical plan to ensure these materials are directed into the onsite recycling container. If the school does not have a recycling plan in place, determine if one could be initiated.

Recycling Lesson Plans and Activities

CalRecycle offers multiple lesson plans for K-3
www.calrecycle.ca.gov/education/curriculum/ctl/k3module/unit2/unit2.pdf

Discovery Lesson Plan Library - Recycling
www.discoveryeducation.com/teachers/free-lesson-plans/recycling.cfm

Litter Detectives
www.dep.state.pa.us/dep/deputate/enved/Rec_Lessons/litter.htm

National Geographic - Recycle Roundup Online Interactive Game
http://kids.nationalgeographic.com/games/action/recycle-roundup-new/

PBS Parents - Recycling: Reduce, Reuse, Recycle
www.pbs.org/parents/eekoworld/lessonsk_1.html

PBS Parents - Trash, Trash and More Trash
www.pbs.org/parents/eekoworld/lessons1_3.html

Super Sorter - online interactive recycle sorting game
http://iwanttoberecycled.org/game

Rethink Recycling offers instructions for multiple upcycled classroom projects, lesson plans and educational resources
www.rethinkrecycling.com/learn-educate/resources-topic/games-and-activities

The Recycle Guys offers multiple lesson plans, activities and educational resources
www.recycleguys.org/lessonplans.html

Waste, Where does it come from? Where does it go?
www.dep.state.pa.us/dep/deputate/enved/Rec_Lessons/waste.htm

Clay Elementary, Southeast Polk Community School District

As a result of the pilot, Clay Elementary staff members began a tin can recycling program, diverting nearly 4,000 pounds annually. According to the United States Environmental Protection Agency's (EPA) *Waste Reduction Model (WARM)* this is equivalent to removing annual emissions from 412 gallons of gasoline and conserving 7 barrels of oil. Access the EPA Warm Model at **www.epa.gov/warm**

For more information contact: Amy A'Hearn, Food and Nutrition Services Director
amy.ahearn@southeastpolk.org, (515) 957-3431

WASTE MINIMIZATION STRATEGIES

Composting/Vermicomposting Food Waste

Composting or vermicomposing (composting with worms) provides a method for reducing food waste that is ultimately ending up in the landfill and converts that waste into a value added commodity that may be useful to school gardening programs, FFA chapters, onsite school landscaping or may be of interest to community members including County Conservation or Master Gardeners. There are multiple composting units available for purchase and there are several that can be constructed by utilizing materials and other resources that are readily available to schools.

Download instructions and plans for a host of buildable compost and vermicomposting systems at:
https://compostingcouncil.org/wp-content/uploads/2015/06/BuildingYourOwnCompostingBin.pdf

Composting Lesson Plans and Activities

Do the Rot Thing, A Teacher's Guide to Compost Activities
www.cvswmd.org/uploads/6/1/2/6/6126179/do_the_rot_thing_cvswmd1.pdf

The Green Team, Compost Lesson
www.thegreenteam.org/wp-content/uploads/2012/08/Compost-Lesson-Plan-2012.pdf

United States Composting Council offers multiple lesson plan, activities and educational resources
https://compostingcouncil.org/composting-for-teachers-and-students/

What is Compost, The Edible Schoolyard
https://edibleschoolyard.org/node/3258

Worms, Natures Recycler's
https://ceee.uni.edu/sites/default/files/Education/wormsnaturerecyclers.pdf

Sacred Heart Elementary, Spencer

As a result of the pilot, Sacred Heart staff utilized the assistance of Knights of Columbus to build composting units. The three units were placed outdoors in the garden area. Food waste from the cafeteria will be diverted to the compost bins. Finished compost will be utilized in the school's onsite garden.

For more information contact: Sheriffa Jones, Director of Stewardship and Development
sjones@spencersacredheart.com, (712) 262-6428

SMARTER LUNCHROOM

The Smarter Lunchroom Initiative offers 60 strategies to improve consumption that includes the following:

Focusing on the Fruit – Offer at least two types of sliced or cut fruit; display fruits in an attractive bowl as opposed to stainless steel bowls; offer fruit at two locations in the serving line; label and use descriptive names for fruit, i.e. monkey phones to describe bananas.

Varying the Vegetables – Offer hot and cold vegetables; incorporate vegetables into entrée items; label and use descriptive names for vegetables, i.e. X-Ray vision carrots.

Create a Fine Dining Atmosphere in the Lunchroom – Staff should be friendly and accommodating; colorful and welcoming posters should be displayed on the walls; a clear traffic pattern should be present; cleaning supplies and broken equipment should be kept out of sight. Trash cans should be emptied when full.

Student Involvement – Students are involved in meal planning; students are involved in coming up with creative names for menu items; students announce the menu over the daily announcements; students are involved in the creation of artwork and marketing materials to promote building a healthy meal.

For all 60 strategies, helpful tips, printables, a training module and additional information visit:
https://smarterlunchrooms.org

RESOURCES

Food Bank of Iowa, (2014). *Hunger in Iowa: The Facts.* Retrieved from http://star1025.com/combathunger/hunger-in-iowa-the-facts/.

Center for the Study of Social Policy. (2016). *Supporting the Well-Being of All Children and Their Families: CSSP Statement on Child Nutrition Reauthorization. Retrieved from* https://www.cssp.org/media-center/press-releases/supporting-the-well-being-of-all-children-and-their-families-cssp-statement-on-child-nutrition-reauthorization.

USDA. (2011). *Final Rule Final Rule: Cooperation in USDA Studies and Evaluations, and Full Use of Federal Funds in Nutrition Assistance Programs Nondiscretionary Provisions of the Healthy, Hunger-Free Kids Act of 2010, Public Law 111-296*. Retrieved from https://www.fns.usda.gov/school-meals/healthy-hunger-free-kids-act.

Iowa Department of Natural Resources (2017). *Iowa Waste Characterization Study, 2017*. Retrieved from www.iowadnr.gov/Environmental-Protection/Land-Quality/Waste-Planning-Recycling (*Studies and Reports*).

Scientific America. (n.d.). *Waste Land: Does the Large Amount of Food Discarded in the U.S. take a toll on the Environment?* Retrieved from https://www.scientificamerican.com/article/earth-talk-waste-land/.

Harvard School of Public Health. (2014). *New School Meal Standards Significantly Increase Fruit, Vegetable Consumption.* Retrieved from https://www.hsph.harvard.edu/news/press-releases/school-meal-standards-increase-fruit-and-vegetable-consumption/.

APPENDIX A - SAMPLE INTERVIEW QUESTIONS

SAMPLE INTERVIEW QUESTIONS

- Is food prepared onsite or brought in from another location?
- How is the school currently handling kitchen and cafeteria waste?
- Has the school had any education about food waste and/or recycling in general? Is this taught in the classroom? What grade?
- Does the school have existing programs for preventing food waste?
- Does the school currently have a recycling program in place?
- What drink choices do students have?
- Are there any vending machines in the school?
- Are there any drinking fountains with bottle re-fill stations?
- What are the students favorite and least favorite meal options?
- What is the cost of a school lunch?
- Are students allowed to refuse a lunch item?
- What USDA guidelines are applicable and how does that affect preparation and offerings?
- What types of foods get thrown away?
- How long is a lunch period, how many lunch periods are there, how many students per lunch period and how long are students in line during that period?
- Do lunch periods appear to be long enough to allow students to complete their meals?
- Do students who bring cold lunch eat most of their lunch? Have you noticed any waste resulting from cold lunch?
- If a student has allergies, does the school or student provide an alternative?
- In the past, has staff experimented with preparing food differently so it would appeal to students?
- Are there any self-serve options? Through general observation, does much of that end up in the garbage?
- What is your estimate of the percentage of food that gets thrown away rather than eaten?
- What is your estimate of the percentage of your total trash that comes from the lunchroom (vs from the classrooms or office)?
- What is your estimate of the percentage of drinks that get thrown away rather than consumed?
- Who monitors the lunchroom?
- Do students currently separate any of their lunch residuals – ex: silverware from napkins/ trays from dishes?
- Are there any challenges that you see with current lunchroom setup and practices?

Questions to ask students upon exit

- Why did you throw that away? i.e. didn't like it, too full to eat it, not enough time to eat it?
- Is it a good idea to recycle the lunchroom trash; would you be willing to recycle by separating your trash like this every day?

What does a reimbursable lunch look like

- Schools must offer the minimum daily servings of all 5 food components every day
- 5 food components include: fluid milk, meat/meat alternate, bread/grains, fruit and vegetables.
- Students *may decline two* food components; however, a student **must take a fruit or vegetable**. ½ cup of fruit, or ½ cup of vegetable, or ¼ cup of fruit and ¼ cup of vegetable.
- Students may decline fluid milk

APPENDIX B - IOWA SOLID WASTE AGENCIES

Planning Area	Last	First	Email	Phone	Address	City	State	Zip
Adair County Sanitary Landfill Commission	Frisbie	Delmar	aclr@wildblue.net	(641) 743-8343	1645 Hwy 25	Menlo	IA	50164-8023
Allamakee County Solid Waste Agency	Mooney	Dave	aswd@acskyways.com	(563) 568-4806	PO Box 2	Waukon	IA	52172
Bi State Regional Commission	McCullough	Gena	gmccullough@bistateonline.org	(309) 793-6300	1504 Third Av	Rock Island	IL	61204-3368
Cedar	Crock	Gary	ccswc@netins.net	(563) 886-6437	1202 240th Street	Tipton	IA	52722
Clinton Co SWA	Seward	Brad	ccaswa@gmtel.net	(563) 243-4749	4292 220th. St.	Clinton	IA	52732
Waste Authority of Jackson County	Beck	Mark	markb@wasteauthority.org	(563) 652-5658	Jackson County Courthouse	Maquoketa	IA	52060
Muscatine LF/Transfer Station	Korpi	Kristi	kkorpi@muscatineiowa.gov	(563) 263-8933	1000 South Houser Street	Muscatine	IA	52761
Waste Commission of Scott County	Morris	Kathy	kmorris@wastecom.com	(563) 381-1300	P.O. Box 563	Buffalo	IA	52728
Buena Vista County Planning Area	Dicks	Lori	bvrecyclecenter@gmail.com	712-732-7171	1263 630th Street	Storm Lake	IA	50588
Cass County Environmental Control Agency	Brandi	Mericle	casscountylandfill@gmail.com	(712) 243-1991	65928 Jackson Road	Atlantic	IA	50022
Central Disposal Systems	Lorenson	Lou	llorenso@wm.com	(641) 592-9182	21265 430th St	Lake Mills	IA	50450-9511
Worth County Recycling Center				(641) 845-2200	4125 Pheasant Ave	Kensett	IA	50448
Cherokee/Ida Planning Area	Kach	Brent	bkach.ccswa@qwestoffice.net	712-225-3749	1805 Linden Street	Cherokee	IA	51012
Ida	George	Justin	jgeorg@netllc.net	712-369-1677	2202 Indian Avenue	Ida Grove	IA	51445
Central IA SWMA (& Boone County Landfill)	Powers	Lois	loisp@boonecounty.iowa.gov	515-433-0591	1268 224th Lane	Boone	IA	50036
Ames Resource & Recovery Plant	Bill	Schmidt	rrp@city.ames.ia.us	(515) 239-5238	110 Center Avenue	Ames	IA	50010
City of Sioux City Solid Waste Agency	Campbell	Melissa	melissacampbell@sioux-city.org	712-279-6349	PO Box 447	Sioux City	IA	51102
Des Moines County Regional Solid Waste Commission	Morton	Hal	hmorton@dmcwaste.org	(319) 753-8126	1818 W Burlington Ave	Burlington	IA	52601
Dickinson Landfill Inc	Leach	Dennis	dleach4@wm.com	(712) 336-2700	2575 190th Street	Spirit Lake	IA	51306
Dubuque Metropolitan Area Solid Waste Agency	Foster	John	jfoster@cityofdubuque.org	(563) 589-4250	925 Kerper Court	Dubuque	IA	52001-2405
East Central Iowa Council of Governments	Fencl	Jennifer	jennifer.fencl@ecicog.org	(319) 365-9941	700 16th Street NE	Cedar Rapids	IA	52402
Benton Co. Landfill	Eric	Werner	bentonlandfill@netins.net	(319) 454-6392	7904 20th Ave	Blairstown	IA	52209
Iowa County Landfill	Yoder	Diane	reicialandfill@southslope.net	(319) 828-4401	3369 Highway 6 Trail Homestead, IA 52236	Marengo	IA	52301
Iowa City Landfill	Jennifer	Jordan	Jennifer-Jordan@iowa-city.org	(319) 887-6160	3900 Hebl Avenue	Iowa City	IA	52240
Jones	Tank	Merle	mht@netins.net	(563) 826-2068	518 2nd Avenue North	Oxford Junction	IA	52323
Tama County Landfill	Linda	Snell	tamalandfill@aweiowa.com	(641) 484-5061	2872 K Avenue	Toledo	IA	52342
Cedar Rapids Linn County Solid Waste Agency	McShane	Karmin	kmcshane@solidwasteagency.org	(319) 377-5290	1954 County Home Road	Marion	IA	52302
Floyd Mitchell County Solid Waste Management Agency	Geerts	Jimmy	landfill@myomnitel.com	(641) 982-4288	3354 330th Street	Elma	IA	50628
Fremont County Planning Area	Moyer	Casey	fcsl@iowatelecom.net	(712) 527-4729	2879 250th Street	Sidney	IA	51652
Great River Regional Waste Authority	Hamm	Wade	whamm@grrwa.com	(319) 372-6140	2092 303 Ave	Fort Madison	IA	52627
Harrison County Landfill Commission	Barry	Dan	hclco@iowatelecom.net	800-672-3093	2812 Hwy 30	Logan	IA	51546
Audubon	Hanson	Janet	audcoswm@iowatelecom.net	(712) 563-3589	1881 215th Street	Audubon	IA	50025
Iowa Northland Regional Council of Governments	Kvigne	Ben	bkvigne@inrcog.org	(319) 235-0311	229 E. Park Avenue	Waterloo	IA	50703
Bremer County Solid Waste Agency	Bienemann	Bret	bbienemann@co.bremer.ia.us	(319) 352-4574	415 East Bremer Avenue	Waverly	IA	50677
Cedar Valley Recycling and Transfer Company	Lawson	Mark	markl@wattstrucking.com	(319) 232-4150	1920 Water Street	Waterloo	IA	50704-2008
City of Cedar Falls Transfer Station	Sorensen	Bruce	bruce.sorensen@ci.cedar-falls.ia.us	(319) 273-8600	215 E 15th	Cedar Falls	IA	50613
Black Hawk County Landfill	Vette	Brett	bvette@co.black-hawk.ia.us	(319) 231-3661	229 East Park	Waterloo	IA	50704
Fayette Recycling Center	Meyer	Kenny	gncfccb@alpinecom.net	(563) 425-3037	10275 Korn Hill Road	Fayette	IA	52142
Iowa Waste Services Association	Glebs	Bob	rglebs@gmail.com	(608) 273-0496	2702 Monroe St C Lower Level	Madison	WI	53711
Council Bluffs Recycling Center & RCC	Fiala	Tony	tfiala@councilbluffs-ia.gov	712-328-4985	4441 Gifford Road	Council Bluffs	IA	51501

Planning Area	Last	First	Email	Phone	Address	City	State	Zip
Kossuth Waste Management Association	Miller	Doug	engineer@co.kossuth.ia.us	515- 295-3320	114 W State Street	Algona	IA	50511
Landfill of North Iowa	Rowland	Bill	bill@landfillnorthiowa.org	(641) 357-5452	15942 Killdeer Ave	Clear Lake	IA	50428
Wright		Manager		(515) 532-2984	2251 O'Brien Avenue	Clarion	IA	50525
Louisa County Regional Solid Waste Agency	Purdy	Ken	locoe@louisacomm.net	(319) 728-2274	8313 K Avenue	Wapello	IA	52653
Mahaska County Solid Waste Management Commission	Thomas	Steve		(641) 673-9266	2979 Hwy 63	Oskaloosa	IA	52577
Marshall County Solid Waste Management Commission	Ballalatak	Don	dballalatak@marshallcountyia.gov	(641) 752-0646	2313 Marshalltown Blvd	Marshalltown	IA	50158
Metro Waste Authority	O'Connor	Rhonda	roc@mwatoday.com	(515) 244-0021 ext. 502	300 East Locust Street	Des Moines	IA	50309-1864
South Dallas	Mike	Fountas	MikeSDClandfill@gmail.com	(515) 993-3148	2000 Main St	Adel	IA	50003
Monona County Planning Area	Carlson	Dave	dave-carlson@hotmail.com	(712) 420-2102	31342 Highway 37	Turin	IA	51040
Newton Sanitary Landfill	Rhone	Jody	jodyr@newtongov.org	(641) 792-6622	1915 East 5th Street South	Newton	IA	50208-5354
North Central IA Regional Solid Waste Agency	Anderson	Rob	regionalrecyclingcenter@gmail.com	800-582-4379 or 515-955-2781	2150 S 22 St	Fort Dodge	IA	50501-6404
Hamilton County Transfer Station	Klaver	Terry	hamcosolidwaste@netins.net	(515) 539-4420	1540 Division	Webster City	IA	50595
Northern Plains Regional Landfill	Paulsen	Craig	cpoulsen@spenceriowacity.com	(712) 580-7200	City Hall 418 2nd Ave W	Spencer	IA	51301
Emmet County Transfer Station	Woodley	Steven	estherville@mchsi.com	(712) 362-7771	2 North 7th Street	Estherville	IA	51334
Palo Alto County Transfer Station	Neary	Joe	paczeh@mchsi.com	(712) 852-3058	1010 Broadway	Emmetsburg	IA	50537
Northwest Iowa Area Solid Waste Agency	Oldenkamp	Larry	NWLFLarry@netllc.net	(712) 324-4026	4540 360th St	Sheldon	IA	51201
OttumwaWapello County Solid Waste Commission	Gates	Jody	gatesj@ci.ottumwa.ia.us	(641) 683-0694	105 E Third St	Ottumwa	IA	52501
Page County Landfill Association	Magwitz	Myron	pageland@heartland.net	800-498-4777	2032 N Avenue	Clarinda	IA	51632
Plymouth	Kunkel	Mark	landfill@frontier.com	(712) 546-6071	34898 150th St	LeMars	IA	51031
Prairie Planning Area	Schultes	Amy	recycle@iowatelecom.net	(641) 347-5022, 866-282-8787	1774 Lark Avenue	Creston	IA	50801
Rathbun Area Solid Waste Management Commission	Kaster	Rodger	raswc@iowatelecom.net	(641) 437-7279	3020 McCarty St	Centerville	IA	52544
Rural Iowa Waste Management Association	Aastrup	Dan	Dan@riwma.net	(641) 858-5904	20488 M Ave	Eldora	IA	50627
Butler County Transfer Station	Cain	Tom	tc@werecycle.net	319-267-2070		Allison	IA	50602
Sac County Solid Waste Agency	Stock	Dean	rroland@saccounty.org	(712) 662-7401	100 NW State St	Sac City	IA	50583
South Central Iowa Landfill Agency	Beeler	Marcia	scilamab@aol.com	(515) 462-3083	2496 State Hwy 92	Winterset	IA	50273
South Central Iowa Solid Waste Agency	Hurt	Rick	rhurt@sciswa.org	(641) 828-8545 ext. 2	1736 Hwy T17	Tracy	IA	50256
Southeast Multi County Solid Waste Agency	Sloop	Bill	semcolandfill@gmail.com	888-419-6720	29997 Hwy 78	Richland	IA	52585
Wayne Ringgold Decatur Solid Waste Management Commission	Jenny	Nickell	wrdlandf@grm.net	(641) 773-5229	21377 125th Ave.	Grand River	IA	50108
West Central Iowa Solid Waste Management Association	Wittry	Mary	mwittry@carrollcountylandfill.com	(712) 792-5001	19111 Kittyhawk Ave	Carroll	IA	51401
Calhoun County Landfill Authority				(712) 297-8322	Courthouse	Rockwell City	IA	50579
Guthrie County Transfer Station			envhlth@netins.net	(641) 747-8320	Guthrie County Courthouse	Guthrie Center	IA	50115
Shelby County Solid Waste Agency	Ahart	Daniel	dahart@shco.org	(712) 755-5954	1411 Industrial Parkway	Harlan	IA	51537
Crawford County Transfer Station	Ettleman	Chuck	cettleman@crawfordcounty.org	(712) 263-2449	PO Box 458	Denison	IA	51442
Winneshiek County Solid Waste Agency	Buenzow	Terry	recycling@co.winneshiek.ia.us	563-382-2370	2510 172nd Avenue	Decorah	IA	52101
Woodbury County Area Solid Waste Agency Planning Area	Gill	James	gillwoodbury@wiatel.net	712-873-3837	2210 Ida Avenue	Moville	IA	51039

APPENDIX C - WASTE SORT DATA COLLECTION FORM

Waste Sort Data Collection Form

School: _____

Date: _____ Date: _____

Auditors: _____

Material						
Food Waste Pre Consumer (Preparation Waste)						
					Total	
Food Waste Post Consumer (Cafeteria Waste)						
					Total	
Other Compostables						
					Total	
Other Recyclables						
					Total	
Beverage Containers						
					Total	

Liquid Waste	White Milk		Flavored Milk		
	Total		Total		Total

Trash						
					Total	
Cold Lunch Waste						
					Total	

APPENDIX D - SAMPLE ANNOUNCEMENT SCRIPTS

Week 1: Good morning! This is _____ from the Green Team. Just a reminder to build a better lunch today! Choose at least three items from today's menu including a meat or meat alternative (insert that day's options), a grain (insert that day's options), milk, a fruit (insert that day's options) or a vegetable (insert that day's options). Make sure to take at least one fruit or one vegetable to make your meal complete. Take both if you like.

Remember, Feed your body, not the trash – take what you want but eat what you take!

Week 2: Good morning! This is _____ from the Green Team. Did you know that wasting food wastes the energy, water and other natural resources used to produce that food? Those resources could be used to feed those that are hungry. 3,000 pounds of food is wasted every second in America. 3,000 pounds of food is enough food to feed 650 Americans for one entire day.

Remember, feed your body, not the trash – take what you want but eat what you take!

Week 3: Good morning! This is _____ from the Green Team. We have the results from our Green Team poster contest and the winners are:
K-_____
1ST_ _____
2ND – _____
3RD – _____
4th – _____
5th – _____
6th – _____

Please see _____ to collect your awards.

The overall winner is:
Overall winner:_____

Please see _____ for details on your award.

On behalf of the Green Team, I would like to thank everyone that participated in raising awareness about building a healthy lunch, food insecurity and waste reduction.

Remember, feed your body, not the trash – take what you want but eat what you take!

Week 4: Good morning! This is _____ from the Green Team. As we prepare for break, we want to encourage you to continue to build healthy meals and reduce food waste throughout the summer. You may have noticed that we have conducted another waste sort this week. We will be comparing those results to the results from our last waste sort that was performed back in November to see if we have reduced the amount of food waste. Perhaps this is something that you could do in your own home throughout the summer. Ask your parents if you can track your family's food waste and discuss and implement options to reduce it.

Remember, feed your body, not the trash – take what you want but eat what you take!

APPENDIX E - SAMPLE POSTER CONTEST RULES

Green Team Poster Contest

Showcase your artistic talent and commitment to eating healthy, reducing waste and reducing food insecurity by participating in the Green Team's first annual poster contest.

Poster contest deadline is **May 8, 2017**. All posters should be turned in to _____ before the end of the school day on this date. Entries become the property of the Green Team and may be reproduced.

Entries may be posted, if space allows. Please read the poster contest rules carefully, as only posters that meet the contest rules will be considered.

Themes: Posters should have one of the following themes:
- Building a Healthy Lunch
- Reducing Food Waste
- Reducing Food Insecurity.

Students are encouraged to share their views on these themes. Contact a Green Team member if you need more information on any of these themes.

Poster Requirements: Posters created by students must be their own original artwork. Copyrighted characters and copyrighted clip art will not be accepted.

Materials: Students may use a variety of media, such as watercolor, pen and ink, crayon, chalk, markers, etc. Students are encouraged to incorporate recycled or recyclable materials into their creations.

Posters should be easy to see or read.

Size & Layout: All posters should be created using the recovered manila paper (8 ½" x 14") provided by the Iowa Waste Exchange. You can obtain this paper from _____.

Judging Procedure: The Poster Contest will be judged by a third-party judging team selected by members of the Green Team.

Each poster must include the following information on the back: Student's first and last name, grade level and teacher.

Judging Criteria:
1. Clear message conveyed by the text and artwork.
2. Clear use of one or more of the poster themes listed above.
3. Creativity, originality and artistic quality.
4. Visual clarity - easily to read.
5. Bright and colorful.

Awards: one participant from each class will be selected. Those entries will receive:
- A *Certificate of Recognition* to acknowledge their effort.
- A new set of colored pencils made from recycled newspapers
- A recycling container to take home
- In addition, these students will be allowed to dine outside with a guest of their choice at a date determined by cafeteria staff.

Overall Winner
An overall winner will be selected from this group. The overall winner will be allowed to select their favorite lunch, which will be prepared and served to the student body at a date determined by cafeteria staff.

APPENDIX F - FOOD WASTE MINIMIZATION ACTION PLAN

FOOD WASTE MINIMIZATION ACTION PLAN TEMPLATE

School Name: _____ Date: _____

Target

List one target that your school would like to achieve to minimize waste.

Actions

What steps will your school and Green Team take to achieve your target?

Indicators

How will your Green Team know that it was successful in achieving this target?

Resources / Responsibility

What resources does your Green Team need to achieve the target? Who will be responsible for different phases of the action plan?

Timeline

Results

Did you achieve your target this year? Why or Why Not? How will these results impact your future efforts?