



**WHAT'S IN YOUR WASTE?
CONDUCT A SCHOOL CAFETERIA WASTE AUDIT**

For Schools WITH the DGS Cafeteria Recycling Program



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BACKGROUND

Why Conduct a Cafeteria Waste Audit?

A waste audit is a method used to see what kind and how much waste an organization generates. Conducting waste audits is a common practice in the waste management industry. You cannot manage what you have not measured.

Students can conduct waste audits to quantify the waste generated in school buildings. This packet includes instructions and datasheets for schools to conduct a *cafeteria* waste audit.

According to the U.S. Environmental Protection Agency, food waste accounts for 21% of waste going into municipal landfills or incinerators. This takes up space and contributes to greenhouse gas emissions in the form of methane. It's also a waste of resources! Every pound of food wasted represents wasted water, animal feed and agricultural inputs, transportation, labor, electricity, and natural resources during the entire supply chain through which food goes from the farm to your plate. It is also a significant waste of money and student nutrition.

Objectives of the Cafeteria Waste Audit

The objectives of the cafeteria waste audit are to:

- 1) Quantify the amount of each type of waste generated by DCPS cafeterias as well as the potential diversion rate.
- 2) Determine the contamination rate of the organics (yellow) and mixed recyclables (blue) bins.
- 3) Motivate students, teachers and staff to improve their cafeteria recycling program.
- 4) Generate ideas and recommendations from students on how to reduce cafeteria waste.
- 5) Inform the services and support needs of the DGS recycling program at your school and across all DCPS schools

Community Service Hours: If students are interested in earning community service hours by conducting a school waste audit, please contact Beth Gingold, DGS Schools Conservation Coordinator, beth.gingold@dc.gov.

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INSTRUCTIONS

Time: Approximately one hour

Safety Precautions: Wear gloves and aprons (or old clothes). If you notice any hazardous waste or sharp materials during the audit, DO NOT touch it. Students should notify an adult immediately.

Materials Needed:

- DGS Cafeteria Waste Audit Data Sheet and pencil/pen (provided)
- Waste Category Signs (provided)
- Gloves
- Aprons or wear old clothes.
- Tarp
- One large collection bin with measurement marks for estimating volume. (Most large collection bins are 32-gallons, but ask your custodial staff to be sure.)
- A bucket for liquids
- Electronic fishing scale (available for loan from DGS)
- Extra clear plastic bags
- Bags of cafeteria waste

STEP 1: PREPARE

- Coordinate with your school custodial staff to determine the best time and place for the waste audit. Custodial staff must know about the audit so that they do not dump the waste in the dumpster or carts prior to your audit.
- Gather the materials you need for the audit (above).

STEP 2: SET UP

- Lay out the tarp.
- Place the waste category signs (provided on p. 6) to indicate where to put each type of waste on the tarp.
- Place the bucket next to the Recyclables sign since beverage containers, including milk cartons, will go in the recycle pile.
- Mark one collection bin for estimating volume. Mark with 25%, 50%, 75%, and 100% full.
- Measure and record the weight of your empty bucket on your data sheet.



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STEP 3: MEASURE WEIGHT AND ESTIMATED VOLUME OF EACH BAG

Record all data on the *DGS Cafeteria Waste Audit Data Sheet* (on p. 7)



Begin your data collection by recording the total number of bags you will be sorting. For each bag, note the type of waste in the “Type of Waste” column of the datasheet (i.e. organics, mixed recyclables, landfill).

Weight: Use the electronic fishing scale to find the weight in pounds. You will need to tie the bag tightly to hang it from the hook. Make sure the units on the fishing scale are set in pounds, and that you wait until the red light stops blinking before recording the weight.

Volume: Place each bag in the marked collection bin and use the markings on the bin to estimate how full it is in gallons. Most large collection bins are 32-gallons, but ask your custodial staff to be sure. This will be a rough estimate of volume of waste, so don’t worry about measuring exactly. Record the total weight and total estimated volume for all of the bags on the data sheet.

STEP 4: SORT INTO PILES

One bag at a time, untie and begin to sort. Important: You will need to re-tie the bag in a future step, so be sure to untie the bag CAREFULLY. Pull out all materials EXCEPT for compostables (food waste and soiled paper).

Remember, if you find any hazardous waste or unsafe objects to not touch them. Notify an adult immediately.

Place the materials in their appropriate piles (Unopened/whole items, Recyclables, Trays, Landfill) using guidance from the signs provided. Empty any liquids that are in containers into the bucket before placing these items in the appropriate piles.



At the end of sorting you should have a bag full of compostables only (food scraps & soiled paper), a pile of whole/unopened items, a pile of recyclables, a pile of stacked trays, a pile of landfill waste, and a bucket with the liquids.

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STEP 5: COUNT, MEASURE AND RECORD DATA FOR WHOLE/UNOPENED ITEMS

Using the *Whole/Unopened Items Tracking Table* in the *DGS Cafeteria Waste Audit Data Sheet*, count and record how many of each item are in your pile of whole/unopened items. It may be helpful to organize the pile by item, such as in the picture below.

Put the whole/unopened items into one of your extra clear plastic bags. Weigh the bag using the electronic fish scale. Estimate the volume of the bag using your marked collection bin. Record the weight and estimated volume in the *DGS Cafeteria Waste Audit Data Sheet*.

Pause for a Photo Op & Discussion!
Take a photo of your sorted piles and take note of their contents. Pause for a discussion: **Which items could have avoided becoming “waste”?**



STEP 6: RE-SORT THE WHOLE/UNOPENED ITEMS

After you have counted and recorded each item, re-sort the materials in the whole/unopened items pile into their appropriate categories. For instance, put the fruit in the bag with the rest of the compostables; open the milk cartons, empty the milk into the liquid bucket, and add the carton to the Recyclables pile; put the condiment packets in the landfill pile, etc.

STEP 7: MEASURE AND RECORD WEIGHT AND ESTIMATED VOLUME FOR EACH PILE

Place each pile into one or more clear plastic bags. Each plastic bag will contain one of each of the following solid waste types: Recyclables, Trays, Landfill. The Compostables should all be in the original bag.

One bag at a time, weigh the bag using the electronic fish scale and estimate the volume of the bag using your marked collection bin. Record the weight and estimated volume of each bag in the *DGS Cafeteria Waste Audit Data Sheet*.

Weigh and record the volume of the full bucket of liquid. Subtract the weight of the empty bucket from the weight of the full bucket (recorded at the beginning) to find the weight of the liquids.



Finally, add up and record the totals in the Summary Table.

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STEP 8: CLEAN UP: Once you have collected all your data, make sure you clean up. Wash the tarp and buckets. Sweep and mop the floor. Clean and return your materials. Ask the custodial team to dump the bags into their appropriate dumpster or toter.

STEP 9: DISCUSS RESULTS AND RECOMMENDATIONS: Discuss your results and recommendations with your students. What ideas do they have for reducing food waste? Share your data with DGS. Your answers will help improve the program for your school and all of DCPS.

STEP 10: TAKE ACTION: Take action to reduce the waste generated in your school cafeteria. One idea is to conduct the DC Reduce First Challenge, designed to reduce the number of whole uneaten and unopened food items from students' meals. Find out more here:
<http://dgs.dc.gov/node/1177100>.

Questions? Contact the DCPS Recycles! team at beth.gingold@dc.gov.



WASTE CATEGORY SIGNS

**Unopened/Untouched
Food, Drink, & Containers**



Recyclables

(Must be empty)

- Cans
- Plastic bottles
- Milk Cartons
- Plastic containers
- Glass bottles
- Aluminum foil



*Empty
opened
liquids into
bucket

Landfill



- Plastic utensils
- Plastic wrappers
- Plastic straws
- Plastic bags
- Chip/snack bags

Stack Trays Neatly



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DATASHEETS

Record the weights and estimated volumes of each bag.

Bag #	Type of Waste (Organics, Mixed Recycling, Landfill)	Weight (lbs)	Volume (gallons)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
TOTALS			

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Sort the whole uneaten/unopened items into their appropriate waste categories. Measure and record the weight and volume of each type of waste. Add up the weights of volumes of each waste type to get the totals.

Type of Waste	Weights of each bag (lbs)	Volumes of each bag (gallons)
Compostables		
Mixed Recyclables		
Trays		
Landfill		
Total		

Liquid Bucket #	Weight of Bucket WITH Liquids (lbs)	Subtract Weight of Bucket (lbs)	Equals Weight of Liquids (lbs)	Volume of liquids (qt)
1				
2				
3				
Total				

Summary Table: Record all totals here.

	Whole/Unopened	Compostables	Recyclables	Trays	Liquids	Landfill	Total
Weight (lbs)							
Volume (gallons)							