

Appendix A: Conducting a Waste Assessment

Eight-Step Waste Assessment

Assessing your school or school district's waste is key to identifying the needs and desires for both implementing and expanding a waste reduction program. Below you will find instructions, sample methods, and corresponding forms for both schools and school districts for conducting a waste assessment.

1. Decide on the type of assessment that will be performed.

Your assessment might involve one of these activities or a combination of approaches. You should determine which assessment is best for your school based on factors such as size of the school, types of waste, resources (money, time, labor, equipment) available to implement the waste reduction program, and scope of your waste reduction program.

Records Examination

Examining records can provide insight into your school's waste generation and removal patterns. You might want to examine records such as purchasing invoices, sales logs, and waste hauling and recycling records.

Strengths	Limitations
<ul style="list-style-type: none">• Provides weights or volumes of waste generated• Tracks major potential waste from the point of origin• Identifies the most expensive or valuable components of an organization's waste• Documents financial benefits of reuse and recycling including total revenues and avoided disposal costs• Requires less time and effort than other approaches	<ul style="list-style-type: none">• Might not provide quantitative data about specific waste components• Does not provide qualitative data on how or why wastes are generated• Might require substantial effort to collect and analyze data

Facility Walk-Through

A facility walk-through is a relatively quick way to assess your school's waste generating practices. Tour the school and its grounds—including the cafeteria, stadium/arenas, sporting fields, and even the specialty classrooms, like carpentry and auto shop. Observe the activities of each department, and interview employees about waste producing activities and equipment.

Strengths	Limitations
<ul style="list-style-type: none"> • Requires less time and effort than waste sorts • Allows first-hand examination of facility operations • Provides qualitative information about major waste components and waste-generating processes • Reveals waste reduction opportunities 	<ul style="list-style-type: none"> • Might not identify all wastes generated • Might not be representative if only conducted once • Relies on estimates of waste generation

Waste Sort

Identify each component of your school's waste and calculate its percentage of your school's total waste generation. Waste sorts can focus on an entire school's waste stream or target specific areas, such as the cafeteria or the classrooms. Please refer to the Waste Sort Assessment Form to assist in completing your waste sort.

Strengths	Limitations
<ul style="list-style-type: none"> • Provides quantitative data on total waste generation and specific waste components 	<ul style="list-style-type: none"> • Requires more time and effort than other approaches • Might not be representative if only conducted once • Does not provide qualitative data on how or why wastes are generated

* Remember - an assessment is a tool to give an overview of your school's waste patterns. It is not necessary to survey every trash can to obtain useful results.

2. Map your assessment

Decide where you will perform the assessment. Will you evaluate the waste generation in every classroom or survey a few? Will you include the kitchen and cafeteria in your assessment?

3. Set a date

Once you have determined which type of assessment will be performed, it is time to start planning for it. Set a date for the assessment. Keep in mind your school will generate more waste at the beginning and end of the school year. These are not good times to conduct the waste assessment, as they are not accurate indicators of waste generation.

4. **Announce the assessment!**

Be sure to inform faculty, staff, and administrators of the date and time of the assessment. More notice may be necessary if you plan to involve students in the assessment process since you will need to obtain permission for each student to participate (See *Appendix H: Sample Letter to Parent or Guardian/Permission Slip*). If you plan to do a waste sort in the kitchen and cafeteria areas, be sure to ask kitchen staff to use separate “wet” and “dry” trash containers on the day of the assessment. Wet trash includes items that are moist and can omit odors, such as food waste, dirty food containers, and coffee cups. Dry trash includes all other trash.

** For a more accurate data, ask faculty, staff, and administrators to put aside a full day’s trash the day before the assessment and assess that trash.*

5. **Obtain parent’s or guardian’s permission**

Obtain parental consent if your students will be participating in the waste sort or a facility walk-through. Please refer to the sample Parent’s Letter in *Appendix H* for ideas.

6. **Gather necessary supplies**

These supplies will vary depending on the assessment you choose.

Facility Walk-Through

- Clip board and assessment form(s)
- Gloves
- Litter pick-up stick (used to move waste in containers)

Waste Sort

- Clip board(s) and assessment form(s)
- Gloves
- Appropriate clothing and shoes—things may get a little messy!
- Scales
- Plastic tarps – Use tarps to sort contents of trash cans by material (e.g., plastic, paper, aluminum). Use one tarp for wet waste, the other for dry waste.
- Plastic bags – Once the contents of the trash cans are sorted by material on the tarps, place each material in a plastic bag and weigh it.
- Five-gallon buckets – Once items are weighed, place them in the bucket to estimate volume. Use one bucket for wet waste, the other for dry waste.

7. **Perform the assessment and record gathered data.**

Now that you are prepared, it is time to begin!

Records Examination

- Collect relevant records such as purchasing invoices, sales logs, and waste hauling and recycling records.
- Compare purchasing information with waste and recycling removal information.

Facility Walk-Through

- Walking through the selected areas of your school, begin looking in waste receptacles.
- *Estimate* - You can estimate the volume and/or weight of the materials you collect. For assistance, refer to the volume-to-weight conversion chart found online at: www.recyclemaniacs.org/doc/measurement-tracking/conversions.pdf. Record estimated values on the assessment form.

Waste Sort

- Place the tarps in the area you have chosen to perform the waste sort. Good places to perform waste sorts are outside or in the school gymnasium. Empty the contents of the dry trash on one tarp, the wet on the other.
- Sort the contents according to the materials list on the Waste Assessment Form.
- Weigh the dry and wet trash. To get the actual weight of the materials from the waste sort, place one material, such as aluminum cans, in a plastic bag and weigh it. Record the value. Repeat this process with all materials.
- If you are unable to weigh the materials or want to gain an understanding of how much space the trash occupies, place one material in a five-gallon bucket. Determine the volume and record it. Repeat this process with all materials.

8. Tally and Share Results

Once the assessment has been completed, tally the results. The data will provide you with an overview of:

- How much waste your school generates
- The composition of the waste
- Where specific materials accumulate in high volume

Don't forget to share the results of the assessment with faculty, staff, administrators, and students:

- Create posters or graphs showcasing the results.
- Take pictures during the assessment and use them to create a bulletin board with the assessment data. Use the results of the waste assessment to help you decide how to create less waste, reuse more materials, and recycle more. The Waste Assessment form can guide you through this process.
- Announce the results over the loudspeaker during morning announcements.

WASTE ASSESSMENT FORM

INFORMATION FOR SCHOOL DISTRICTS

School: _____

Custodian: _____

Address: _____

Maintenance Super: _____

City, Zip: _____

Phone: _____

Principal: _____

Contact: _____

School: Elementary Middle High

Title: _____

Phone: _____

Number of:

E-mail: _____

Students: _____ Faculty/Staff: _____ Classrooms: _____

WASTE DISPOSAL INFORMATION:

School Managed

District Managed

Garbage hauler: _____ Paid by: School District Other _____

Container size: _____

Number of containers: _____

Collection frequency: _____

Weight per month/year: _____

Cost per month/year: _____

RECYCLING COLLECTION INFORMATION:

Does the school currently have a recycling program in place? NO YES

If NO: What prevents your school from recycling?

Cost Lack of Space No Hauler Other _____

If YES:

Recycling hauler: _____

Length of school recycling program? _____

Length of time using current recycling hauler? _____

Cost per month/year: _____

Where are recycling bins located? :

Classroom Office Cafeteria Kitchen Vending Playground Gym Faculty Room Library Computer Lab Other:

What materials are recycled?

Mixed Paper Cardboard Plastic Bottles (#1 & #2) Glass Aluminum Cans Newspaper Food Waste

Polystyrene (#6) Other Plastics (#3, #4, #5, #7) Yard Waste Electronics Textiles Toner Cartridges

Other _____

Who collects the recyclables from the classroom?

Custodian Environmental/Recycling Club Students Other _____

Who collects the recyclables from other areas?

Custodian Environmental/Recycling Club Students Other _____

What materials would you like to add to your existing program?

What problems, if any, does your school encounter with its recycling program?

WASTE ASSESSMENT FORM

INFORMATION FOR SCHOOL DISTRICTS

School: _____

Date: _____

Location of Assessment: Classroom Office Cafeteria Kitchen Vending Playground Gym
 Faculty Room Library Computer Lab Other: _____

Materials	Weight (lbs.)	% of Weight	Volume (Gallons)	% of Volume	Number of Items*	Can it be recycled?		Currently Recycled?	
						Yes	No	Yes	No
<i>Mixed Paper</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Cardboard</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Plastic Bottles (#1 & #2)</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Glass Bottles & Jars</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Aluminum Cans</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Newspaper</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Food Waste</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Polystyrene Plastic (#6)</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Other Plastics (#3, #4, #5, #7)</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Yard Waste</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Electronics</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Textiles</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
<i>Other</i>	<i>lbs</i>	%	<i>gal</i>	%		Yes	No	Yes	No
Total	<i>lbs</i>	100%	<i>gal</i>	100 %					

* List items separately if found in small quantities

Guide to plastic identification:

#1 – HDPE #2 – PET #3 – PVC #4 – LDPE #5 – Polypropylene #6 – Polystyrene #7 – Other

Waste Assessment Form School Districts

District: _____

Assessor: _____

School	Mixed Paper			Cardboard			Plastic Bottles			Glass			Aluminum Cans		
	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%	Recycle
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
Average															

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Waste Assessment Form

School Districts

District: _____

Assessor: _____

School	Newspaper			Food Waste			Polystyrene (#6)			Other Plastics (#3, #4, #5, #7)			Yard Waste		
	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%	Recycle
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
			Y/N			Y/N			Y/N			Y/N			Y/N
Average															

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Waste Assessment Form

School Districts

District: _____

Assessor: _____

School	Electronics			Textiles			Misc.			Other			TOTAL	
	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%	Recycle	Lbs.	%
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
			Y/N			Y/N			Y/N			Y/N		
Average														

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WASTE ASSESSMENT FORM

SCHOOLS

School: _____

Date/Time: _____

Assessor(s): _____

Location: Classroom Office Cafeteria Kitchen

Vending Playground Gym Faculty Room

Library Shop Computer Lab Other: _____

Materials	Weight (lbs.)	% of Weight	Volume (Gallons)	% of Volume	Number of Items*	Can it be recycled?	Currently Recycled?
<i>Mixed Paper</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Cardboard</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Plastic Bottles (#1 & #2)</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Glass Bottles & Jars</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Aluminum Cans</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Newspaper</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Food Waste</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Polystyrene Plastic (#6)</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Other Plastics (#3, #4, #5, #7)</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Yard Waste</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Electronics</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Textiles</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Misc.</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
<i>Other</i>	<i>lbs.</i>	<i>%</i>	<i>gal.</i>	<i>%</i>		Yes No	Yes No
Total	<i>lbs.</i>	100%	<i>gal.</i>	100 %			

* List items separately if found in small quantities

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