Waste and Consumption
Whole School Audit

Resources developed by San Mateo County Office of Education's (SMCOE)
Environmental Literacy and Sustainability Initiative (ELSI) • Last updated January 2021

Purpose and Overview of Whole School Campus Audit

A Whole School Audit is a collection of data and observations for the 4C's pathways (Campus, Curriculum, Community, and Culture). In this type of audit, the purpose is to help school stakeholders investigate what is going on with an environmental topic in their local school district context.

- **What materials do I need for doing an audit?** A whole campus audit such as this one will require participation and permission by many school stakeholders. In addition you will need this document, and depending on the focus area, some materials such as a clipboard, or pencil/pen, paper or journal, gloves, etc. Audits might be completed in one day or be broken up into multiple days in order to collect enough data to reflect all of the 4C's pathways.

- **How do I use the results of this audit?** Audits inform the creation of a baseline assessment of a school districts sustainability efforts. Once completing this audit communicate the results to all school stakeholders, then make an action plan to address your schools identified goals. This Template Sustainable Campus and Operations Baseline Assessment Report can be used to summarize the findings from this audit.

Background information for this Field Research Task:

The average American creates 4.5 pounds of trash per day! This large volume of trash speaks to how much waste is generated just by going through our normal activities throughout the day.

- To gain a deeper understanding of the issues related to the waste system, visit the Waste Webquest: 9-12th Grade

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SCHOOL WASTE AND CONSUMPTION AUDIT OVERVIEW

<u>Permission and Focus Areas:</u> In order to conduct this audit, information will need to be gathered from site and or district level administrators such as, Facilities Manager, Nutrition Services Director, Principal/Head of School, District Wellness Coordinator, or School Cafeteria staff. It is encouraged that auditors provide an introduction to the purpose of this audit ahead of time when asking for information from a site or district administrator.

This audit will serve as a baseline assessment of decisions the school is making about some of the stages of the waste system shown in the diagram below. Specifically, the following sections will be included in this assessment:

Specific Instructions

- **Directions:** Complete the baseline assessments in each section to observe and collect data on different aspects of the waste and consumption at your school.
- **Materials:** Field research sections (can be printed)
- **Students (if supporting the completion of this audit) should:**
  - Take detailed notes
  - Get permission from school staff to conduct this audit
  - Conduct the waste diversion assessment portion after a meal break and before trash is taken to dumpsters if possible
- **Students (if supporting the completion of this audit) should not:**
  - Waste food at any time of completing this research
  - Go into any spaces designated for staff only without permission
  - Touch or collect any waste materials deemed hazardous
  - Touch waste without wearing gloves or thoroughly washing hands afterwards
  - Complete sections of this audit in which school administrators are required to answer alone

Glossary of Terms

- <u>Recycle</u>: Items that can be turned into new items in a commercial facility. Examples: glass, aluminum cans, clean paper
- <u>Compost</u>: Items that can be sent to a commercial composting facility. Examples: yard waste, food scraps, food-soiled paper
- <u>Trash</u>: Items that are sent directly to the landfill. Examples: soft plastic bags, wrappers, rubber bands
- <u>Diversion</u>: Using waste reduction or sorting methods to keep materials out of landfills.

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SCHOOL/DISTRICT OVERVIEW

School Name & District:	
What is the total student enrollment at your school/district?	
What “materials” are required in our school, and where do they come from?	Ex: material - where it comes from 1. 2. 3. 4. 5. 6. 7. 8.
What is the overall status of waste reduction efforts at your school/district?	☐ No effort yet ☐ Entry Level: Beginning stages of a cultural/operational/practices shift within the school community. ☐ Mid Level: Operational/Culture/Practices shift is underway and gaining traction within the school community. ☐ Full Integration Level: A complete culture/operations/practices shift has been established within the school community and beyond and is demonstrated with commitment across multiple categories
What examples of waste system education are integrated into the curriculum at your school? (ex: taught to students, possible career pathway, ongoing professional development for staff)	
Are there clubs or organizations within the school/community that support waste reduction efforts? If Yes describe them	

Briefly describe the highlights of your schools waste reduction efforts and the main concerns related to waste at your school previous to this audit. *Highlights:* *Concerns:* *Opportunities:*	
Who do you think works on waste management in your school? List the job titles, names, and contact information (if known) of stakeholders whose work relates to the school/districts waste management:	Example: Custodian, Students

WASTE GENERATION - PURCHASING

Directions: The best way to reduce waste is to generate less of it. Use the questions below to find out more information about what kinds of things your school buys, and how those items connect to overall waste that is generated by the school. *This section will need to be completed with school district and site level administrators.*

Who are the people who purchase materials for your school? *List any if known:*

Do you know of any ways your school tries to purchase environmentally preferable things? *Describe if known:*

Does your school use any third-party certification standards (i.e. Biodegradable Products Institute, Fairtrade, Organic, etc.) to support their sustainable purchasing?	☐ Yes ☐ No → If Yes, link to it here:
Does your school purchase paper with recycled content?	☐ Yes ☐ No → if Yes, what percent of paper purchased has recycled content? ___%

Does your school purchase <u>other</u> paper products with recycled content? (i.e. toilet paper, paper towels, napkins, tissues, etc.)	☐ Yes ☐ No → if Yes, what percent of paper purchased has recycled content? ___%
Does your school have any programs that focus on reuse? (i.e. reusable food ware, reusable water bottle filling stations, art supplies reuse, etc.)  	☐ Yes ☐ No → if Yes describe these programs:
Does your school have any programs focused on donation of unused food or materials? (i.e. food share tables, clothing at the end of school year, etc.) 	☐ Yes ☐ No → if Yes describe these programs:

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WASTE SORTING - CAMPUS WALK THROUGH

Perimeter Directions: Walk the perimeter of your campus to make observations. *If your school has athletic fields make sure you visit those as well.*

Where are the bins located? Are they grouped together?	How many bins are there total for each type? ___ Landfill ____ Recycling ___ Organics
Are the bins correctly labeled? *Describe:*	
Peak inside each bin, what are your basic observations about the contents? Are they properly sorted?	

Litter: What Types of Litter can you see, and how much is there?

Overview: Litter is trash left lying in an open or public space. Litter pollutes storm drains and harms local ecosystems. Schools can reduce litter on their campus by educating students about the harms of littering, and providing enough waste stations where they are needed.

Instructions: Walk around your school building and campus, and complete the checklist below.

What time of day are you looking at Litter:		**_____ AM/PM**
Type of Litter	**# Found on our School Campus**	**Location(s) of this Type of Litter**
Aluminum (Cans, etc.) 		
Cardboard (Boxes, juice cartons) 		
Food 		

Paper 		
Plastic (Bags, Bottles, Wrappers, Utensils, Lids, etc.) 		
Other (List what you found):		

CLASSROOM WASTE BINS

Overview and Focus Question: Schools use materials that can be classified into three waste streams: 1) Landfill/Garbage/Trash 2) Recycling and 3) Organics/Compost. By sorting recyclable and organic waste into those waste streams schools can reduce waste sent to the landfill that can be recycled or composted. Schools can be efficient by teaching students how to sort recyclable and organic waste materials into the correct waste stream. The main question to answer in this section is: ***How efficient is the waste sorting at my school?***

Instructions: Visit classrooms and complete the checklist below. Talk with your teacher about the number of classrooms to visit, and receive permission to enter classrooms before completing the classroom waste bin checklist. Try and select different types of classrooms (i.e. different grades, different buildings, etc.).

Type of bin:	 **TRASH**	 **RECYCLING**	 **ORGANICS**
Total Number of bins in all classrooms:			
Where are the bins?	☐ By Front Door ☐ By Teacher Desk ☐ By Sink ☐ Other:_____	☐ By Front Door ☐ By Teacher Desk ☐ By Sink ☐ Other:_____	☐ By Front Door ☐ By Teacher Desk ☐ By Sink ☐ Other:_____
Are bins placed all together or separate?	☐ Together ☐ Separate ☐ Other:_____	☐ Together ☐ Separate ☐ Other:_____	☐ Together ☐ Separate ☐ Other:_____
Are the bins labeled?	☐ Yes ☐ No ☐ Unclear	☐ Yes ☐ No ☐ Unclear	☐ Yes ☐ No ☐ Unclear
What is inside the bin (*look only - do not touch contents*):	☐ Plastic Packaging ☐ Paper ☐ Food ☐ Other:_____	☐ Plastic Packaging ☐ Paper ☐ Food ☐ Other:_____	☐ Plastic Packaging ☐ Paper ☐ Food ☐ Other:_____

What was the most common item found in that bin:	Most common item:	Most common item:	Most common item:
Are there any special conditions that might have affected the results of your walk-through? (examples: holidays, special events, students activities)			

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Lunch Area Directions: Meal break areas are typically where the most waste is produced at school. Choose the area on campus where most folks eat (cafeteria, main courtyard, popular lunch areas, etc), and complete the following questions. 	
Think of the most popular lunch areas in your school. How many bins are there total for each type? Are they all equally accessible? ___ Landfill ____ Recycling ___ Organics	Are there other areas where students eat? Do they have at least one of each type of bin?
Are the bins correctly and/or clearly labeled? *Describe:*	
Is there a school lunch provided?	☐ Yes ☐ No
If school lunch is provided: What packaging/utensils are created through this system?	
Where is the packaging ending up?	☐ Landfill ☐ Recycling ☐ Organics ☐ On the floor ☐ Other___
Is there left over food from school lunches? If so, where does it go after?	
Look around and into the bins: Where is student food waste being disposed of?	☐ Landfill ☐ Recycling ☐ Organics ☐ On the floor ☐ Other___
Peak inside each bin, what are your basic observations about the contents? Are the contents, specifically the food waste, in the correct bin?	

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WASTE SORTING AUDIT (OPTIONAL)

School Waste Audit

Materials: Printed waste audit worksheet and pencil, gloves, tarp, plastic liners, waste bins after a lunch break, optional: scale for weighing waste.

Directions: Complete the School Waste Audit Worksheet. By analyzing the waste created during a lunch break you can get a sense of how well your school is doing at sorting.

1) Weigh each container of waste: Landfill, Recycling and Organics. Before starting, consider how many containers you are going to weigh, this will vary depending on how many people you have doing the audit, and how big your school is. Record in the space below.

→ Depending on what method you are using to weigh the waste, you might need to weigh an empty container, and subtract the containers weight from your calculations.

2) Lay down a large tarp (big enough for all the waste from a lunch break) on a flat surface
3) Put on gloves if you are using them.
4) Complete the Observations Portion of the audit to record what you found in each bin (do not resort materials yet)
5) Complete the waste audit calculations portion. Correctly sort/resort all of the waste items and calculate what your diversion rate with correct sorting and organics would be

➔ Do not touch unsanitary items without gloves. Wash hands thoroughly after the audit.
➔ You should not attempt this on your own - complete audit with your school staff team.

SCHOOL WASTE AUDIT WORKSHEET

Step 1: Observe the contents and record what was found in each bin (before sorting)		
Landfill Observations:	**Recycling Observations:**	**Organics Observations:**
How full, by volume, is each waste bin?		
Landfill: ____ % Full	Recycling: ____ % Full	Organics: ____ % Full

Step 2: Weigh the waste bins as you found them (before sorting)		
A) Landfill Weight:_____ lbs	B) Recycling Weight:_____ lbs	C) Organics Weight:_____ lbs
Total Weight BEFORE SORTING(Landfill+Recycling+Organics) =		(A+B+C) = _____ lbs

SCHOOL WASTE AUDIT WORKSHEET

WASTE AUDIT - Calculations	
Total Waste Calculation - 1. SORT THE MATERIALS: Using gloves, sort your waste into three categories: Landfill, Recycling, and Compost. 2. *If you have a scale*, separate your waste into those three categories and weigh them individually. Then add them together to get the total weight of all your waste. 3. *If you don't have a scale*, visually estimate what percentage of the waste from your bin belongs in those three categories.	Landfill: _____ **lbs** or **%** Recycling:_____ **lbs** or **%** Organics: _____ **lbs** or **%**
Waste Diversion Calculation 1. Calculate your potential waste diversion from landfill. 2. *If you don't have a scale*, use the percentage estimates from above to approximate the diversion rate.	1) ___ (Compost) **lbs** or **%** **+** ___ (Recycling) **lbs** or **%** **=** ___ (DIVERSION) **lbs** or **%** 2) ___ (DIVERSION) **lbs** or **%** **÷** (Total Waste) **lbs** or **%** **X** 100 **=** ____ **% Potential Waste Diversion**

Optional Calculations: Discuss with your team other calculations you can do using waste diversion. Some examples include:

- Weigh specific types of materials, and find the percentage of the total waste (plastics, food, bottles/cans)
- Divide the total waste by number of people or students at your school, or in specific areas of campus. This will tell you the pounds of waste generated per person.

CAMPUS WASTE HAULING & PROCESSING

Waste Hauling and Processing

Overview and Focus Question: When waste leaves a school classroom or cafeteria it goes to a dumpster, or collection cart. From there the waste in the collection carts are picked up by waste haulers and taken to be processed, either at an organics facility, a recycling facility, or a landfill. Schools need to have waste taken to these facilities because these facilities know how to properly handle these materials. The main question to answer in this section is: ***What is our school's waste collection system, and is it efficient?***

Instructions: Go outside and find the area of your school campus where the waste collection carts are, and answer the following questions. Sometimes collection carts are in multiple spots on campus, as a school staff member for help if needed. Complete the checklist and questions below. Do not enter any fenced off areas.

WASTE COLLECTION CARTS

1. What is the name of the waste hauling company your school uses to collect waste? *The collection bins may have the name of the company printed on them.*
   _____

Type of cart:	 **TRASH**	 **RECYCLING**	 **ORGANICS**
Number of carts:			
What size is the cart?	☐ 64 or 96 gallon  ☐ 1 yard - 6 yard  ☐ Bigger than 6 yard	☐ 64 or 96 gallon  ☐ 1 yard - 6 yard  ☐ Bigger than 6 yard	☐ 64 or 96 gallon  ☐ 1 yard - 6 yard  ☐ Bigger than 6 yard
Are the carts labeled?	❑ Yes ❑ No ❑ Unclear	❑ Yes ❑ No ❑ Unclear	❑ Yes ❑ No ❑ Unclear

Optional: Do a rough calculation of the total amount of each waste stream your school produces in a week. Assume that the collection bins are full each time they are picked up. Example: Landfill is 64 gallons, twice a week. That makes your schools total landfill weekly 128 gallons.
→ Alternatively, you can ask your schools custodial staff, principal, or waste hauling company representative for the number of weekly pick-ups.

Landfill			Recycling			Organics		
Size (Gallons/ Yards)	# of Weekly Pick ups	Total Gallons/ Weekly	Size (Gallons)	# of Weekly Pick ups	Total Gallons/ Weekly	Size (Gallons)	# of Weekly Pick ups	Total Gallons/ Weekly

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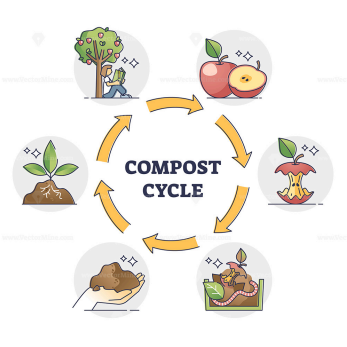
On-site Composting:

In addition to the waste hauling that your school does, where waste gets picked up and transported to other places for processing, many schools compost some yard waste on-site. This is most commonly done in a school garden, using organic materials (like leaves and woody materials) and a small compost bin. Composting waste on-site is part of what is called a "closed-loop system", shown in the diagram as a compost cycle. This is efficient because materials that are used on-site can be recycled and reused on-site, creating a "closed loop".



What types of composting systems do you have on-site? (EX: school garden)	
Who takes care of the compost bins?	
Where does the material for the compost bin come from? *Examples: Garden yard waste, food scraps from kitchen, etc.*	
Estimate how much organic matter is composted in your school compost bins *(you can compare this to the amount of organic materials that are picked up by your schools waste hauler and transported off-site for processing)*:	

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HAZARDOUS WASTE (Optional)

Hazardous Waste

Directions: This section would need to be done with permission and information from a school administrator. Students can interview a school administrator to find out more about that school's hazardous waste plan.
This section evaluates how your school handles hazardous or dangerous waste items. Hazardous waste is anything that has the potential to do harm to people or the environment if it is not properly disposed of.
→ Resource for Hazardous Waste Disposal in San Mateo County

Does your school have a written policy or procedure for handling hazardous waste items?	☐ Yes ☐ No → *if Yes include a link to it here:*
Has your school tried to reduce hazardous waste? Describe those efforts if they have.	☐ Yes ☐ No → *if Yes include a link to it here:*

The first step towards understanding your schools hazardous waste is to record what types are used at your school.
Directions: Use the checklist to track what types and how your school disposes of hazardous waste.

School Campus Hazardous Waste Checklist		
Item	**Generated at school? Y/N**	**Where are these items stored for disposal?**
Flammable Liquids	☐ Yes ☐ No	
Corrosive Liquids	☐ Yes ☐ No	
Toxic Chemicals	☐ Yes ☐ No	
Mercury	☐ Yes ☐ No	
E-Waste (including light bulbs, electronics, and batteries)	☐ Yes ☐ No	
Ink/Toner	☐ Yes ☐ No	
Construction/ Building Materials	☐ Yes ☐ No	

Describe the process of how hazardous waste materials are stored for disposal at your school? Do you and the school administrators think this is done in an environmentally healthy way?

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Reflection

Reflection on the School Waste Audit

Directions: Use these questions to help summarize your findings and make a strategic plan to address waste and consumption at your school.

A) List the most common waste items found in your school during your waste audit.

- Examples: Paper, Cardboard, Food waste, Plastic Bottles, Plastic Wrappers, etc.

B) On a scale of 1-10, how well was your waste sorted before your school waste audit?

- 1 = Waste was not sorted correctly at all.
- 5 = About half of the waste was sorted correctly.
- 10 = Waste was sorted perfectly in the correct bins

1	2	3	4	5	6	7	8	9	10

C) Now that you have completed this audit, where is there most room for improvement for your school?

D) Who can you communicate your findings to to make change at your school? *Example: Spread the word by writing an article for the school newspaper*

E) Now that you have completed this audit, you identified possible areas of improvement, and stakeholders that can help, what actions can you take to reduce waste at your school?