



Waste Audit

Compost

Determine how much organic material is in your school waste and calculate greenhouse gas emission reductions from a project to reduce compost going to the landfill.

Covid-19 Protocols: To ensure the safety of participants during the Covid-19 pandemic, waste will not be handled. Instead, at each food location* in the school, either a garbage bin (pre-audit) or both garbage and compost bins (education and post-audit periods) will be placed for waste disposal.

*E.G., cafeteria, commercial food labs, kitchen, etc.

Additional Materials:

- Waste Audit Chart
- Pencil
- Weigh scale
- 3 large garbage bins
- 3 compost bins

Pre-Audit (3 days):

1. Before you start collecting waste, weigh an empty garbage bin and record this weight. This will be your bin "tare" weight and will allow you to calculate the net weight of your waste, once collected.

Tare weight is the weight of the object in which the material of interest will be collected and is used to calculate net weight from gross weight. It is often used in shipping to calculate the weight of goods being transported.

2. At the end of each day on days 1-3, at each location, take a photo of the contents of each garbage bin. Then weigh the bins and mark the weights on your chart. Use the equation below to calculate your net weight of garbage.

$$(\text{garbage} + \text{garbage bin tare weight}) - \text{garbage bin tare weight} = \text{net weight of garbage}$$



Consider the contents of the garbage bin.

- Compostable items include fruits and vegetables, grains like bread and noodles, tea bags and coffee grounds and filters, food-soiled paper towel and damp paper, pencil shavings.
 - Does your school have a school or community garden with an outdoor composter? If so, could your food waste be placed there? Could you keep a vermi-composter (worms) in your classroom?
 - Liquids: The mess these make often turns paper and other recyclable materials into garbage. How can leftover liquids be kept separate?
 - Could paper towel be collected in compost bins in each classroom?
- Reusable items include pencils, containers or jars that could be washed and reused.
 - Edible food: **Before** it went into the garbage, what could be done with this food? Does your school allow food sharing? Could there be a tray with "Food for Sharing" on it? Or choose the amount and types of food you bring to school and take your leftover edible food home.
 - Useable items/lost and found: What can be done with items that are still useful like pencils, clothing, etc.?
- Recyclable items include some plastics, metals, glass, and dry paper and cardboard.
 - Do you see any return-for-refund recyclables in the garbage? Based on what you can see, estimate how many of these return-for-refund items are thrown in the garbage daily. Calculate the potential refunds from these items for one day. Calculate the refund for a year.
 - Plastic: If rinsed and free of food, where can it be recycled in your school? How could single use plastics be reduced? What are alternatives to these items?
 - Metal: If rinsed and free of food, can it be recycled in your school? How could this item be reduced? What are alternatives to these items?
 - Glass: If rinsed and free of food, can it be recycled in your school?
 - Paper and cardboard: Is any of the paper reusable as scrap? Where is paper and cardboard recycled in your school?
- Garbage items include meats and cheeses that cannot be composted; wrappers from snacks that are a combination of foil and plastic; and items like tissues.
 - Remaining garbage: This is the actual garbage that is left once all recoverable items have been removed. How will you make sure this amount of actual garbage stays small?

Note: use the [Waste Wizard](#) on the [City of Saskatoon website](#) for instruction on how to dispose of any waste items.



Compost collection and education

1. Place compost bins at each food location. Bins should be easily accessible, clearly marked, etc.
2. How will you communicate what should go into the compost bin? Consider what information people need to correctly place organic material into the compost bin in each location.
3. How will you monitor that the correct material is going into the compost bins?

Mid-Audit (optional)

Repeat the measurements of garbage weights and add the information to the Waste Audit Chart. Compare the weights with your measurements from the pre-audit to see how effective the compost bins are.

Post-Audit

1. Now you have both compost and garbage bins in each location. Before you start collecting waste, weigh the empty bins and record the weights. This will be your bin “tare” weight and will allow you to calculate the net weight of your waste, once collected.
2. At the end of each day on days 1-3, at each location, take a photo of the contents of each compost and garbage bin. Then weigh the bins and pails and mark the weights on your chart. Use the equations below to calculate your net weight of compost and garbage.

(garbage + garbage bin tare weight) – garbage bin tare weight = net weight of garbage

(compost + compost bin tare weight) – compost bin tare weight = net weight of compost

3. Compare the average weight of total garbage from your post-audit with your pre-audit.
 - Total the weights of all three locations to calculate your Total Garbage weight for each day and record these on the chart.
 - Calculate Average Total Garbage for the pre audit and the post audit periods.
 - Subtract the post audit Total Average with the pre audit Total Average.
 - The difference in pre and post audit weights should be the weight of the organics that were removed from the waste stream.



- Compare the post audit compost bin weights. Are they similar? What impact has your project had on reducing how many organics end up in the garbage stream? Use the kgCO₂ reductions calculations table below to calculate the projected emissions reductions.

kgCO₂ Reductions Calculation

kg of compost/day	kgCO ₂ /kg material	Number of school days per year	kg of CO ₂ reduced / school year
	x 0.95*		

* 0.95 kgCO₂ / kg compost is the **estimated kilograms of carbon dioxide reductions per kilograms of compost**. Any amount of compost that is diverted from the garbage stream will lead to that estimated reduction in GHG based on general compost assumptions.



Waste Audit

Name(s):

Audit Stage	Location							Total Compost weight (kg)	Total Garbage weight (kg)	Average Total Compost (kg)	Average Total Garbage (kg)
	Date	Compost weight (kg)	Garbage weight (kg)	Compost weight (kg)	Garbage weight (kg)	Compost weight (kg)	Garbage weight (kg)				
Pre Project Audit											
Post Project Audit											