



SCHOOL WASTE AUDIT

A VISUAL INVESTIGATION OF SCHOOL WASTE

Waste is defined as:

- the **garbage** we send to landfill and
- the **recycling** we re-process into useful materials

Steps to conducting an audit

This waste audit offers both elementary and secondary students an opportunity to investigate the waste generated in the school and create strategies to minimize waste:

1 STEP Conduct a Visual Garbage Audit of the contents of all the garbage cans

2 STEP Conduct a Visual Recycling Audit of the contents of all the recycling bins

Optional: If your school collects organic waste, you can also complete a visual audit of the contents of all the organic/green bins.

What's next?

Communicate the results of your audit to your school community through a blog post, a poster, a long term plan or on social media.

Safety First!

Health and Safety tips while conducting the visual waste audit

- Do not open bags of garbage or recycling!
This is a visual audit using clear bags and visual estimation.
- Have some extra bags on hand in case of a tear in collection bags.
- Do not eat or drink while conducting the waste audit.
- Have some hand sanitizer available.

Waste Audit Tips

Start off your school year with a waste audit

- Do both Step 1: Visual Garbage Audit and Step 2: Visual Recycling Audit on the same day. This will save set up time.
- Choose a 'typical' school day for your audit—not one that has any special events.
- Don't tell people about the audit. You'll get more accurate data.
- Complete a second audit in the spring and compare the results.

*Please note: in accordance with O.Reg 103/94, the Ministry of Environment requires that all schools with more than 350 students complete an annual waste audit and implement a waste minimization action plan. This School Waste Audit protocol does not comply with the O.Reg 103/94 at this time. Please contact your board's waste management staff for more information.



1 STEP Visual Garbage Audit

In order to assess your school's garbage, you will need to gather all the garbage for a 24 hour period, then:

- a. Weigh the garbage (do not empty liquids)
- b. Perform a visual audit of the contents of the bags of garbage

MATERIALS NEEDED

- **Clear plastic garbage bags** to hold the entire school's garbage for a day. Make sure you have enough bags so that the bags will be only half-full. This makes it easier to weigh and estimate the contents.
- **Garbage** - It may be easiest to schedule your audit the day after your school's garbage pickup so only one day's worth of garbage has accumulated. For example, if the garbage pickup takes place on Tuesday morning, designate Tuesday's garbage as your audit material and begin your audit Wednesday morning.
- **Hanging spring/digital scale** - Your board's waste coordinator, the custodian, or the science department may have one.
- **Reference sheet** of what is recyclable in your board or region. Ask your custodian or principal for the official list/poster.
- **Worksheet** - *Garbage Audit Worksheet(s)*
- **Clipboard**
- **School enrollment data** - Number of full time equivalent students in the school (ask the principal)
- **Pen**
- **Camera** to record your audit (optional)

INSTRUCTIONS

1. Gather your school's garbage for a 24 hour period. Make sure the garbage is put into clear plastic garbage bags. The bags should only be half-filled because this will make it easier to assess the contents of the bags.
2. Weigh each bag and record the mass on the worksheet.
3. Complete a visual audit by examining the contents of each bag. You are looking for five categories of waste (see *Estimating percentages* for instructions). Carefully roll the bag around, talk with your fellow auditors about the contents, and estimate the percentages of the contents!
4. For each bag, estimate the volume in percent of each of the different waste categories. Record your estimates and observations.
5. When you have assessed all of the bags, calculate the average volume for each of the five categories.
6. Calculate the amount of garbage per student per school year using the worksheet.
7. When you have completed the audit make sure the garbage gets put where it will be picked up.
8. Communicate your results and reduction strategies with the whole school community. Consider sharing your audit results at an assembly, through announcements, or with posters in the front foyer of the school.

MODIFIED SAMPLE AUDIT FOR SCHOOLS WITH 500+ STUDENTS

Collect a day's worth of garbage per above. Count the total number of bags collected, then select a minimum of seven bags to be audited. Try to select bags from different areas of the school (e.g., different departments, cafeteria, office, library, computer lab). Use the same selection process for both the garbage and recycling samples. Once you have conducted the Garbage and Recycling Audits on the sample, multiply the sample results by the % it represents to get the total waste results. Use the total garbage results to calculate kg/student/year. Ex: the sample = 20% of total garbage produced in a 24hr period; $20\% \times 5 = 100\%$; multiply sample garbage audit results by 5 to calculate total garbage results.



SCHOOL WASTE AUDIT

ESTIMATING PERCENTAGES

Instructions: Examine the contents of each clear garbage bag; estimate the percentages that make up recyclable containers, paper, food, and garbage.



2 STEP

Visual Recycling Audit

Repeat the Visual Garbage Audit instructions using all the recycling collected over a 24 hour period and the *Recycling Audit Worksheet(s)*.

What's next?

Based on your data and observations from the Garbage Audit Worksheet and Recycling Audit Worksheet, consider sharing your results with your school community by:

- writing a blog post
- creating a poster
- writing a long-term plan
- sharing the data on your social media

What's Important?

Reduction! Doing a waste audit can help identify what your school can target to reduce its overall waste. Finding out what contaminates your recycling stream can also help to improve the efficiency and effectiveness of your recycling efforts.

GARBAGE AUDIT WORKSHEET

SCHOOL _____

BOARD _____ DATE _____



Weight of Garbage

STUDENT NAMES _____

	<i>Example</i>	BAG 1	BAG 2	BAG 3	BAG 4	BAG 5	BAG 6	BAG 7	BAG 8	BAG 9	TOTAL "A" KG
Weight of bag (do not empty any liquids)	7.3 kg										

Visual Audit

WASTE CATEGORY	<i>Example</i>	BAG 1 VOL. %	BAG 2 VOL. %	BAG 3 VOL. %	BAG 4 VOL. %	BAG 5 VOL. %	BAG 6 VOL. %	BAG 7 VOL. %	BAG 8 VOL. %	BAG 9 VOL. %	AVERAGE % FOR ALL BAGS
Recyclable Containers (plastic, metal, glass)	10%										
Recyclable Paper (paper, cardboard, newsprint)	25%										
Other recyclables (E-waste; printer/toner cartridges, batteries)	5%										
Food Waste/Organics	40%										
Garbage	20%										

Observations:

Calculate the amount of garbage per student per school year

Total weight of 1 day's garbage:

TOTAL KG "A"

X

194
school days
in a year

divided by _____ number of students in the school

= _____ kg/student/year

Example of Calculation

Total weight of 1 day's garbage:

TOTAL KG "A"
29.5

X

194
school days
in a year

divided by **481** number of students in the school

= **11.9** kg/student/year

RECYCLING AUDIT WORKSHEET

SCHOOL _____

BOARD _____ DATE _____



Weight of recycling

STUDENT NAMES _____

	<i>Example</i>	BAG 1	BAG 2	BAG 3	BAG 4	BAG 5	BAG 6	BAG 7	BAG 8	BAG 9	TOTAL "B"
Weight of bag (do not empty any liquids)	10 kg										

Visual Audit

WASTE CATEGORY	<i>Example</i>	BAG 1 VOL. %	BAG 2 VOL. %	BAG 3 VOL. %	BAG 4 VOL. %	BAG 5 VOL. %	BAG 6 VOL. %	BAG 7 VOL. %	BAG 8 VOL. %	BAG 9 VOL. %	AVERAGE VOLUME %
Recyclable Containers (plastic, metal, glass)	80%										
Recyclable Paper (paper, cardboard, newsprint)	10%										
Other recyclables (E-waste; printer/toner cartridges, batteries)	0%										
Food Waste/Organics	0%										
Garbage	10%										

Observations:

Calculate the amount of recycling per student per year

Total weight of 1 day's recycling: **TOTAL KG "B"** **X** **194** school days in a year

divided by _____ number of students in the school

= _____ kg/student/year

Example of Calculation

Total weight of 1 day's recycling: **TOTAL KG "B"** **X** **194** school days in a year

divided by **481** number of students in the school

= **5.7** kg/student/year



CALCULATE YOUR SCHOOL'S DIVERSION RATE

Waste diversion rate: The rate or percentage of recyclable material that has been diverted out of the waste disposal stream and therefore not put into landfills.

EXAMPLE OF CALCULATION

1
STEP

Total weight of 1 day's garbage:	TOTAL KG A 29.5	+	Total weight of 1 day's recycling:	TOTAL KG B 14	=	Total kg of waste:	TOTAL KG C 43.5
<small>(Total "A" from Garbage Audit Worksheet)</small>			<small>(Total "B" from Recycling Audit Worksheet)</small>				

2
STEP

Total weight of 1 day's recycling:	TOTAL KG B 14	÷	Total kg of waste:	TOTAL KG C 43.5	×	100%	=	32%	Diversion Rate
<small>(Total "B" from Recycling Audit Worksheet)</small>									

CALCULATE YOUR SCHOOL'S DIVERSION RATE

Use your data from the Garbage Audit Worksheet and Recycling Audit Worksheet to complete the calculation below:

1
STEP

Total weight of 1 day's garbage:	TOTAL KG A <input type="text"/>	+	Total weight of 1 day's recycling:	TOTAL KG B <input type="text"/>	=	Total kg of waste:	TOTAL KG C <input type="text"/>
<small>(Total "A" from Garbage Audit Worksheet)</small>			<small>(Total "B" from Recycling Audit Worksheet)</small>				

2
STEP

Total weight of 1 day's recycling:	TOTAL KG B <input type="text"/>	÷	Total kg of waste:	TOTAL KG C <input type="text"/>	×	100%	=	Our school's diversion rate is _____%
<small>(Total "B" from Recycling Audit Worksheet)</small>								