

NAME: _____ Course: _____ Date: _____

VALUE INNOVATION

WASTE WATCHERS TOOLKIT**TOOL: WASTE AUDIT**

Goal: To measure the amount and type of waste generated at your school, evaluate the effectiveness of waste diversion, and inform changes that can reduce waste.

**ACTION PLAN**

1. INTRODUCTION
2. PROJECT PLANNING
3. HOW TO DO AN AUDIT
4. STRATEGIES FOR SUCCESS
5. EVALUATION

Leadership Team and Contact Info:

WASTE WATCHERS Goals**Assess**

A Assess the waste reduction systems in place at your school and make changes so they can be as effective as possible.

Create

C Create student awareness about why these systems are important, what current waste reduction practices are and how to properly use existing systems.

Inspire

I Empower and inspire a school culture that sends less waste (especially organic waste) to the landfill.

Share

S Provide information to people in charge at the district and municipal levels about how to create better waste reduction systems in your school.

1. INTRODUCTION

Food waste makes up over 40% of the waste that ends up in the landfill. The aim of the resources in the WASTE WATCHERS Toolkit is to give students what they need to learn, and educate others about the importance of waste reduction and organic waste diversion as global sustainability issues.

Be The Change Earth Alliance (BTCEA) has created the WASTE WATCHERS Toolkit to support student action to improve the waste diversion programs in their schools and empower youth led policy change at the district level.

As WASTE WATCHERS students will, using their school as a case study, look at the waste systems are already in place, evaluate their effectiveness, build a team, plan a project and implement improvements to waste systems.

Conducting a **Waste Audit** is a great way to learn about the waste produced at your school and to raise awareness for your WASTE WATCHERS projects.

This activity will involve sorting through your school's waste separating recyclable, returnable and organic waste that should be diverted from the landfill.

2. PROJECT PLANNING

Brainstorm

In order to have the maximum impact to influence behavioral change, it's crucial that you draw attention to your **Waste Audit** while you are conducting it, as well as after you have finished conducting it.

It is best not to advertise the **Waste Audit** beforehand as it may impact results, you want to be sure to get an accurate picture of how waste is disposed of at your school. Your event promotion should take people by surprise and draw them in spontaneously.

Here are some examples of ways you can turn your waste audit into an event at your school:

- Choose a time when the most number of people are available to watch
- Invite the school band to play behind you
- Blast loud music and invite cheerleaders and the school mascot
- Host a flash-mob around the site
- Include visual aspects: Whiteboards to write out data in bold numbers, posters and chalk art, art projects made out of trash, an 'I commit' photo booth, etc.
- Record the audit on video and post it to YouTube
- Conduct interviews of students passing by to ask about their thoughts on what they are seeing.

2.1 Use this page to brainstorm how you will draw attention to your **Waste Audit**:

Resources and Information Gathering

2.2 Complete the Resource and Information Chat below to help you identify the information and human and material resources that are needed to implement your **Waste Audit**.

	Resources & Information	Who? How?
People Who can help make this happen?	(ex. Teachers/Staff, Custodian, student volunteers, school clubs etc.)	
Supplies	<ul style="list-style-type: none"> • Proper space –the gym or multi-purpose room, or outside on a nice day would work well. • Masking tape and permanent marker • Tarp • Scales –can use a bathroom scale and a simple electronic food scale for smaller amounts. • Clip board, worksheets, pencils, calculator • Recycling and composting information sheets • Set of re-useable plastic gloves (eg: dishwashing gloves or non-latex disposable gloves) • Effective signage • Optional: garbage pickers • Bag labels 	
Money List any of the resources listed above that will require money to obtain.		

Collaborate and Clarify

Meet with the *Manager of Custodial Services (Custodian)* and administrators at your school. Let them know about your initiative and ask for permission and support for your **Waste Audit**. This will involve setting aside or not collecting your school's waste for 1-3 days.

Custodians are important stakeholders so make sure you understand and respect their role in school waste management. Feel free to invite them to attend the audit and make sure you follow up with the custodians after the audit and inform them of your results.

TIP FOR SUCCESS

It is very important to confirm with the Custodians that they will not collect bag until after you have taken you sample on the day of the audit.

We suggest you ask them to not pick anything up until after 4pm on the day of the audit.

Determining Your Sample Size

For your **Waste Audit** you will need a sample of the school's waste (assessing the contents of some, not all of the garbage bags). The sample data will allow you to:

1. Determine the total amount of waste at your school
2. Determine current contamination rates for each waste stream at your school
3. Track improvements to these rates over the course of this initiative

Fill out the information below following your school's **Waste Assessment** and *prior to conducting your audit in order to determine your sample size*. Use these same figures for your **Secondary Waste Audit** in order to determine diversion rates.

Step 1: Map out Your Audit

Ask school staff for a map of your school. During the **Waste Audit** you can use this map to mark down **all** of the schools waste bins. Select a sample of these bins to audit.

Step 2: Identify and Label

Once you have selected the bags you would like to include in the audit, write down their location and the name of the waste stream for each bag to be collected on a sticker. You can give these stickers to the volunteers on the day of the event. They will collect the bag indicated on the sticker and put the sticker on the bag.

Step 3: Keep Good Notes

Use the **Sample Size Recording Form** on the next page to keep a record of your sample size. Keep this information on hand as you will need it to control your sample size of your **Secondary Waste Audit**. This will provide you will comparable data to determine changes in contamination over time.

Sample Size Recording Form

- We are collecting _____ amount of **garbage bags** out of the _____ total amount of available garbage bins
- We are collecting _____ amount of **food scrap bags** out of the _____ total amount of available food scrap bins
- We are collecting _____ amount of **mixed recycling bags** out of the _____ total of mixed recycling bins
- We are collecting _____ amount of _____ (other) recycling bags out of the _____ total of _____ amount of _____ (other) recycling bins
- We have confirmed that the custodian have left the waste streams uncollected for _____ days.

Auditing Irregular bins

Refer to your **Waste Assessment** to identify if there are enough irregular bins (stand alone food scraps and/or garbage bins). These bins will need to be audited separately if:

- They represent between 25% - 50% of the bins available for that stream
- They appear to be highly contaminated during the **Waste Assessment**

When auditing irregular bins use table F in the Waste Audit Worksheet.

3. CONDUCT YOUR WASTE AUDIT

Team Roles

- 3.1 Complete the chart filling in the names of the students who will be taking on each role. Ensure that everyone knows what they will be doing and what they are responsible for managing during the audit.

Roles	Responsibilities
1. Audit Leader(s):	Meet with the Manager of Custodial Services (Custodian) and administration departments, event supervisor, ensure all necessary information is collected for evaluation purposes
2. Volunteer Coordinator(s):	Recruit students and teachers to take part in audit, delegate roles and responsibilities.
3. Awareness Coordinator(s):	Coordinate activities to draw awareness to the waste audit while it is in progress. (Ex. liaison with the school board)
4. Material collection Coordinator(s):	Collect needed materials in advance, prepare materials on day of audit, make sure all materials are accounted for and returned.
5. Data Coordinator(s):	Record all audit information on the Waste Audit Worksheet is properly recorder, submit audit results and evaluation information to BTCEA and schools/district.
6. Fact Checker (s):	Assist sorter identify what items belong in each stream by checking with local resources for your municipality and school district. Ask your school administration, teachers or custodians for help finding these resources.
7. Observer(s):	Record your observations of the relevant facts that emerge from the audit such as the most common items in the garbage that can be recycled/composted (paper cups, banana peels) on the Waste Audit Observation Sheet

Waste Audit Instructions

- 3.2 Prior to starting the **Waste Audit** make sure you have ALL your required materials gathered and a large space to conduct the audit. To avoid possible health concerns make sure all audit volunteers are prepped on the proper health and safety protocols.

Step 1: Set Up

1. Make sure you have collected all necessary materials including audit worksheets, scale, and tarp (see resources section).
2. All participants should be wearing gloves (if possible). It might be helpful to have garbage pickers available to avoid physical contact with hazardous waste.
3. On the day of the audit, organize a group of students to help the custodian collect waste and bring it to the audit area. You will be collecting bags from all available waste streams: Garbage, Recycling and Food Scraps. You will also be tracking the areas that the bags come from.
4. Using masking tape, label each bag with its waste type and the location it came from (ie: Recycling, 1st floor hallway).
5. In the audit area, pile the bags into separate waste streams (landfill, food scraps, recyclable containers, mixed paper, soft plastic)
6. Refer to your **Waste Audit Worksheet** and answer the questions on the back.

Step 2: Weigh In

1. Weigh each garbage bag on the scale and record your findings in the provided **Table A** of the **Waste Audit Worksheet**. Add up the total weight of all the garbage you collect.
2. If you have a big enough team you can move to the sorting step once a stream has been weighed
3. Do the same for recycling and compost bags.
4. In the **Waste Audit Worksheet**, record the total weight of compost, recycling, and compost bags (if applicable).

Step 3: Sort

1. Sort all bags into the different source areas (cafeteria, hallways, classrooms, mixed use areas) and arrange them in groups around the tarp. Keep them separate!
2. Empty the bags containing garbage on to the tarp from each source area. Separate waste into three piles: Compost, recycling (glass, metal, plastic, paper), and garbage.
3. Place the recycling you find in the garbage in bags and weigh them. Do the same with any food waste you find.
4. Once you have recorded all the data follow the same procedure for recycling bags and the compost bags from each area.

Step 4: Dispose

1. Dispose of your waste in the proper bins. You have just gone through all the effort of sorting your schools waste, so make sure that you put the recyclables in the right bins.
2. Wash the tarp and hang it to dry. Clean up your audit area and sanitize your hands.
3. Discuss your findings!

Step 5: Share

1. Look at your **Waste Assessment** and **Waste Audit** findings to come up with valuable information that can be shared with your school administration or custodians to make improvements to your schools waste collection system.
2. Share your **Waste Audit** findings with students at your school through an **Awareness Project**

Step 6: Analyze

1. Record all your **Waste Audit** data to establish the baseline data for waste diversion at your school.
2. This baseline data will be used to compare with data collected during your Post Audit which will be conducted after both **Systems Projects** and **Awareness Projects** have been implemented.
3. Contact BTCEA Staff to access the **Waste Audit Data Analysis Excel** to make comparing your results easier.
4. Comparing the data from your initial **Waste Audit** and your **Secondary Waste Audit** will help you determine how well your school is doing at diverting waste from the landfill as a result of your WASTE WATCHERS project!

4. STRATEGIES FOR SUCCESS

Barriers are things that could impede the planning and implementation of your project.

Barriers can present themselves in the form of rules and regulations, or a lack of resources. Each project will have barriers specific to it. Identifying barriers upfront helps create strategies to overcome or avoid them.

4.1 Identify three of the greatest barriers that a group implementing this campaign may have to overcome. Provide one or more strategies to overcome each of the barriers.

Barriers	Strategies for Success
ex. Not enough volunteers to execute properly	<ul style="list-style-type: none"> • Advertise more widely for help and support • Talk to your teacher about doing the project as part of a class • Collaborate with an existing group or club

5. EVALUATION

Prior to beginning each project, reference the **Project Evaluation** and make sure you are able to answer all the questions by the end of the project. It is important to keep detailed notes throughout the planning and implementation stages of each project so that you have information to draw upon when providing feedback.

This feedback will be used in the **Waste Reduction Evaluation** of your school or district based on the overall success of your projects. Leadership Teams who are interested in making recommendations about how to shift or improve waste reduction and diversion practices are encouraged to participate in this stage.

Evaluation is best completed when an individual team member is responsible for ensuring that necessary information is collected at the right time throughout the planning and implementation stages of each project. This individual will then take a leadership role in the **Waste Reduction Evaluation** stage of this initiative.

Your projects will be evaluated on the following criteria:

- **Awareness:** Did your project(s) effectively engage the general population of your school?
- **Participation:** Did your project(s) encourage the involvement of a wide demographic, including students, teachers, managers of custodial services or custodian, and administrators?
- **System Change:** Did your project(s) contribute to change in your schools waste systems?
- **Culture Change:** Did your project(s) shift the perception and actions of students at your school?