School Waste Inquiry

Engaging Students in Stewardship.

Territory Acknowledgment

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Why do a waste audit?

- Schools and students produce a lot of waste every single day.
- Waste ends up at the landfill where it produces methane, a greenhouse gas that contributes to global warming and accelerates climate change
- A waste audit is PLACE-BASED, INQUIRY-BASED learning activity with many curricular connections in math, science, social studies
- Also incorporates First Peoples concept of interconnectedness of the environment and stewardship

Welcome to the Landfill!

Where does it come from? Where does it go?

What can we do about waste?

- **Measure it:** How much waste do we produce? What kinds of waste are in our garbage cans?
- **Build Awareness:** waste is a challenging problem with no easy solutions. When we throw something in the garbage, it does not magically disappear!
- **Come up with an Action Plan:** what kind of steps can we take individually and collectively to minimize the waste we make?

Classroom Waste Audit

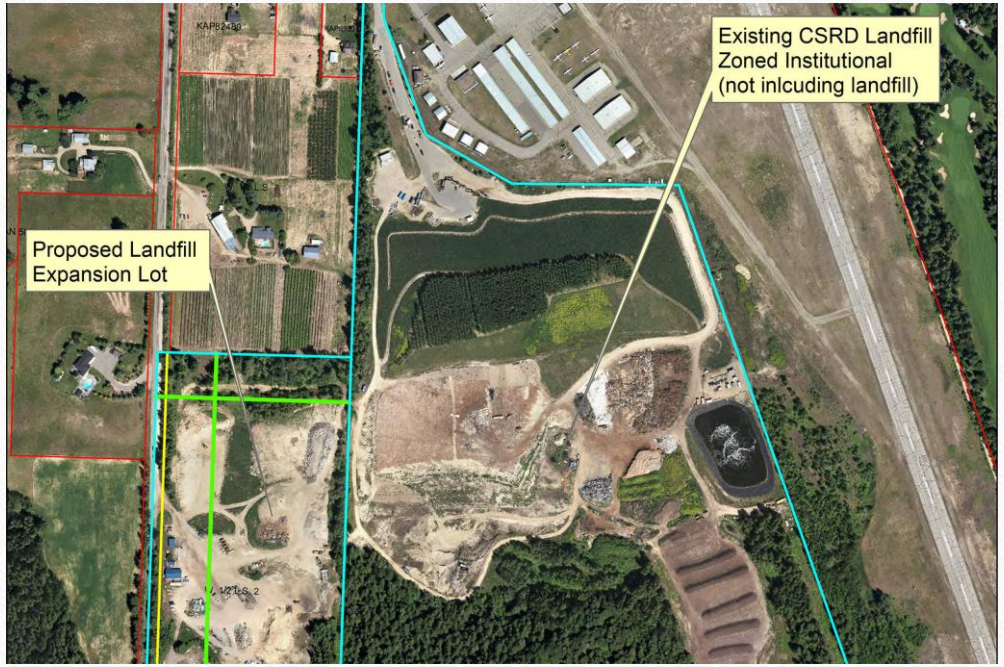
In 8 easy steps!

A few things before we start…

- Waste audits can be done at different scales (classroom vs. school, one day vs. one week). A simple audit can be done by weighing garbage (in bag), or a visual audit can be done by collecting garbage in a clear plastic bag, and estimating amount that could have been recycled, composted or garbage. The one described here, is a more comprehensive assessment.
- Feminine hygiene products are an inevitable part of garbage, especially in middle and secondary schools. You can consider asking custodian not to include female washroom garbage.

Step 1: Assemble your waste team, get permission and get pumped!

Local Context: What happens when we throw something in the garbage in Salmon Arm?



Local Context: What happens to compostables?

Step 2: Ask custodian to set aside garbage

Step 3: Measure total weight of garbage

Step 4: Set up Waste Audit Station

Step 5: Separate Waste into Recycling, Organics, Garbage.

A quick note on school vs. depot recycling

School/Commercial Recycling

- Accepts same products as curbside pick-up
- **CLEANED OUT** containers like yogurt, coffee cups, garden pots, plastic or paper take-out containers)
- Metal cans, aluminum foil
- **NO PAPER TOWELS**, glass, overwrap, plastic bags, granola bar/chip wrappers

Recycle BC Depot Centres Only

- Clean, rinsed out glass containers
- Plastic bags (grocery, produce) and overwrap
- Other flexible plastic packaging (crinkly wrappers, ziplock, woven plastic bags, plastic seal packaging)
- Foam containers, trays, cushion packaging

Step 6: Weigh Again

Sneak in some math: diversion rate

- Diversion rate is the percentage of compostable and recyclable material that has been diverted away from the landfill

- Diversion rate= $\frac{\text{total weight recycling + total weight organics}}{\text{total weight of everything collected}}$ X 100

- Can also measure contamination rate (%)

Sneak in some more math

- Calculate the amount of waste material (garbage, recycling, organics) per week/month/ year:

  Total weight of waste X 5 school days per week=

  Total weight of waste x 20 school days per month=

  Total weight of waste x 194 school days per year =

- Calculate amount of waste PER STUDENT PER SCHOOL YEAR

Step 7: Share Findings with your School

Step 8: Make a Waste Minimization Plan

- Student interviews about food waste: What kinds of foods go uneaten in their lunches? Why?
- What are the root causes of food waste?
- Why do recyclables end up in the trash can?
- What policies or actions could be created to decrease food waste in the school?
- What policies or actions could decrease food waste in your household?

Educate Admin, Staff & Students!

Reduce Contamination: One-Stop Waste Station

Recess Before Lunch

- When students are allowed to go outside and play before they eat, they are less worried about missing playtime with their friends and can focus more on eating. This is a researched best practice associated with a 40% reduction in food waste!

Waste-Free Lunch Challenge

Note: Make it positive and voluntary: Students can volunteer to present their waste-free lunch to lunchroom monitors to be entered into a draw for a monthly prize rather than identify those who do not bring a waste-free lunch.

Pack-in, Pack-out

- Encourage/Remind students to take granola bar wrappers, chip bags, and ziplock bags home, where they can be recycled at a Depot. This also encourages them to take their reusable plastic containers home and not throw them in the garbage or lose them!

Cut-up Fruits and Vegetables

If your classroom participates in Fruit and Vegetable Nutrition program, consider cutting it up (Wash your hands first!) Some studies have shown that offering sliced fruits and veggies can increase consumption by 70%!

Classroom Vermicomposting

Recycle your food waste with worms (and it doesn't even smell up your classroom!)

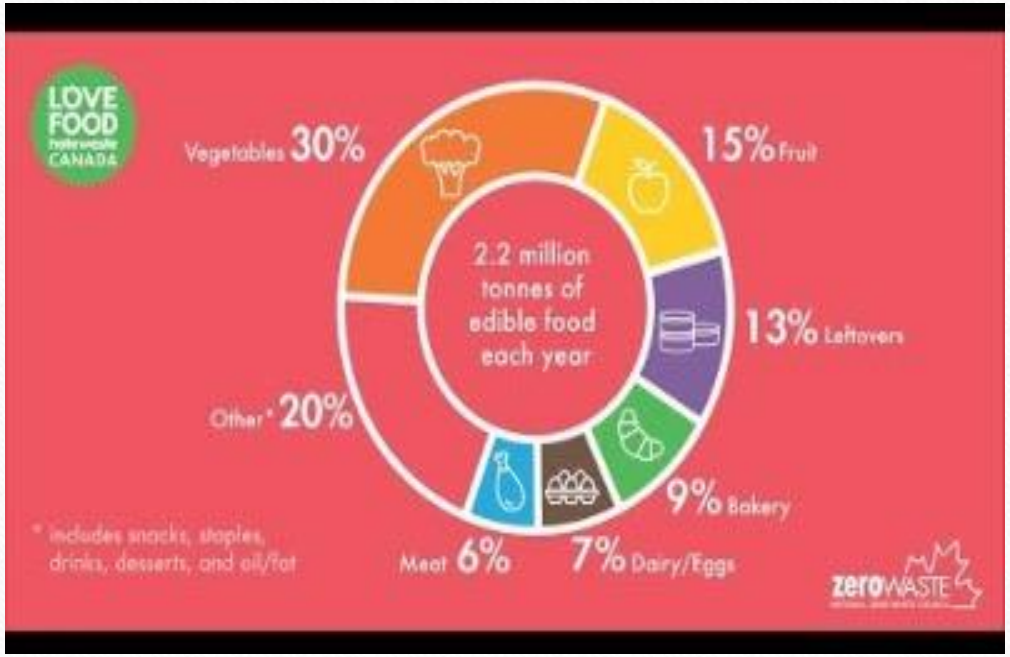
https://www.compost.bc.ca/wp-content/uploads/2015/03/Vermicomposting-2.pdf

GOOS Bin

Save paper, Save trees!

Place a GOOS bin (“good on one side”) in your classroom or office

City of Kamloops: Love Food, Hate Waste Campaign



Ecoschools Canada Certification

- A free, voluntary, environmental certification program for schools across Canada.
- Their mission is to, "nurture student leaders, reduce the environmental impact of schools, and build sustainable school communities"
- Undertake projects or campaigns, and record them online to earn certification points. Your school is then awarded bronze, silver, gold, platinum certification, based on points.
- Support schools with resources and helps schools curate an action plan and track shareable metrics
- https://ecoschools.ca/certify/publicly-funded-schools/ Deadline for registration is May 14, 2021. Chance to win prize if you register before April 30

Waste reduction is possible!

- A study of 49 Ontario schools across 11 school districts, found Platinum Ecoschools produced 57% less garbage than non-certified schools.
- One school of 467 students produced only 2.5 kg of total waste per day!
- In his home, Graham only creates one bag of garbage every 2-3 months!
- Plan a school-wide campaign: National Waste Reduction week is Oct.19-25
- Contact your regional Waste Reduction Specialist!

Resources

- Ministry of Education: Sustainable Schools: Best Practices Guide

https://www2.gov.bc.ca/assets/gov/education/kindergarten-to-grade-12/teach/teaching-tools/environmental-learning/sustbestpractices.pdf

- Recycling Council of BC: Waste-Free Lunch Challenge: https://www.rcbc.ca/files/u7/RCBC%20Waste%20Free%20Lunch%20Challenge%202019.pdf
- MetroVancouver K-12 Curricular Connections http://www.metrovancouver.org/events/school-programs/K-12-resources/solid-waste/Pages/default.aspx
- Green bricks https://greenbricks.ca/about/: provides free workshops to schools in BC

Resources con't

- Vancouver Aquarium: Shoreline Clean-up Lesson Plans https://education.ocean.org/shoreline/resources/18495
- Resources for Rethinking: Resources reviewed by teachers: https://resources4rethinking.ca
- Stewards of the Future Toolkit (Gr. 6-12, $200-800 funding available for class initiatives): https://ltgov.bc.ca/wp-content/uploads/2019/11/Stewards-of-the-Future-toolkit-2020.pdf
- Airport Elementary Waste Inquiry http://learn71.ca/wp-content/uploads/2019/09/Waste-Inquiry-Airport-El.pdf
- Secondary School waste audit: https://www.youtube.com/watch?v=WPEL3RVFL-U
- Comox Strathcona Waste Management Curriculum-linked resources: https://www.cswm.ca/node/263

Thank you!