School Engagement Activities

NO WASTE

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1 Weigh your waste

1.1 Objective

To help students realize the amount of waste they generate and help them recognize the difference between general waste, recycled products, and reusable materials.

1.2 Activity Description

Students will collect, weigh, record, and analyse the amount of waste they produce during one week.

1.3 Resources

- One waste bag per student
- One twist tie garbage bag fastener for each student
- One note card per student
- One plastic tarp
- One set of gloves per student
- One scale
- One copy of My Waste Journal for each student
- Clear tape

1.4 Skill used

Computation, Observation/classification and Problem solving.
Students become familiar with key vocabulary words: Per Capita, Waste, Recycling, Reusing.

1.5 Duration

2 hours.

1.6 Activities

Step 1: Print and distribute copies of the My Waste Journal worksheet to each student.

Step 2: Distribute one garbage bag, one twist tie, and one note card to each student. Tell students to take the waste bag to classes for 1 week (5 days), using it to collect all of the "dry" garbage they throw away at school.

Instruct students to include all of their used containers, paper waste, and packaging, but not to include food waste or any other type of "wet" waste that might decompose or be unsanitary. For safety reasons, instruct students not to collect glass items either.

Step 3: Have the students put their names on the note cards and tape them to the twist ties (or use a hole-punch). Then have students use the twist ties to close their garbage bags. Explain that at the end of each day, students will bring their garbage bags back to the classroom and store them overnight in a designated spot (show them the location). The name tags will allow them to pick out their waste bag the next morning.

Step 4: At the end of the week, ask the students to predict how much their individual piles weigh. Ask them to predict how much the total pile of garbage for the whole class would weigh.

Write some of these predictions on the board.

Step 5: Bring in a tarp and spread it on the floor. Have each student spread the contents of his or her personal waste bag on the tarp. Have the students put on gloves and sort their individual piles of garbage into as many categories as possible: plastics, aluminium, paper, steel, and mixed

materials (those that fit into more than one category). Have them record the contents of their garbage piles using the My Waste Journal worksheet.

Step 6: Have students weigh their individual piles of garbage on a scale and record the amounts on the chalkboard.

Step 7: Ask a student to total the weights of each individual pile of garbage and put this number on the chalkboard. Determine the average weight of waste generated per student per day. Compare these weights to the students' predictions.

Step 8: Write the national average of waste generation on the board: Australians produce 540kg of household waste per person, each year. That's more than 10kg for every single person, every single week.

1.7 Think again

Ask students to answer the followings:

- How much waste did the class generate per day on average? Is this higher or lower than the national average?
- Ask the students why they think they produce so much waste. Is it more or less than they anticipated?
- If each person in your school (population_____) throws away ___ kg (use the students' average calculated above) of garbage each day, how many total kg of garbage are thrown away each day in your school?
- Ask students to look at their waste generation charts and think of ways they could have reduced the amount of garbage generated this week. (Could any items have been recycled or reused? What about using less in the first place? For example, bringing a reusable cloth lunch bag instead of a plastic lunch bag each day.)

1.8 Garbage Town Trivia

Hello! I'm Ruby Rubbish, the mayor of Garbage Town, and I want to thank you for visiting our community. We need your help! The residents of our Town are spending lots of money to haul and dump their garbage in the local landfill.

Our landfill is filling up fast, and we worry about what all this trash is doing to our environment. Plus, we can't afford to keep paying so much for our garbage disposal. We've heard that other towns are helping to protect the environment by recycling and reusing items instead of throwing them away. We've also heard that some communities can make money by recycling. Unfortunately, our Town garbage specialist is on vacation, and we need someone to answer all of our questions about garbage disposal immediately. If I give you all of the information, can you help? If you can figure out the solutions to our questions on the next page, you'll be the hero of Garbage Town and will receive a prize!!

The Economics of Trash
• Landfill Tipping Fee—Communities that want to dispose of their waste in a landfill must pay the landfill owners a fee, based on the number of tons of waste they discard.

• Recyclables Market—Recycling can be profitable! Communities that collect recyclable items can sell those items to manufacturers for reuse. Communities can check the recyclables marketplace to find out the current, per-ton prices associated with different recyclable materials.

Garbage town Population: 100,000
Waste generated by each Town resident per day: 2 kg
Tipping fee for garbage dumped at local landfill: $40/ton
Money earned for collecting recyclables: $10/ton
Other important information 1 ton = 1,000 kg
1 year = 365 day

1. How many tons of garbage does the entire Town generate per day? Per year?
2. How much does it cost for the Town to throw all of its garbage into a landfill each year?
3. If the Town started a recycling program and recycled 30 percent of its garbage each year, how many tons of recyclables would be collected?
4. If Trash Town recycled 30 percent of its garbage per year, how many tons of trash would still be sent to the landfill?
5. How much money (in less tipping fees) would Garbage Town save from recycling 30 percent of its garbage per year?
6. How much money would Garbage Town earn from recycling 30 percent of its garbage per year?
7. How much could Trash Town earn if it started recycling 50 percent of its garbage per year?

1.9 My Waste Journal

What did I throw away?	What material category, does it belong to? (e.g. paper, Glass, Plastic, etc.)	My Ideas for Using Less, Reusing, or Recycling this Item
Example: 1 soda can	Aluminium	I could recycle this in bins outside my school.
Example: 1 plastic lunch bag	Plastic	I could use a cloth lunch bag each day instead of using paper.