



Objectives:

- For students to understand how much and what kind of waste is produced in an average day, even just over lunch time.
- For students to take a real-life situation and apply their math skills.

Activity Time: 30 minutes on two different days

Setting: Indoors

Materials: Bins for compost, paper, glass, plastic, tetrapak, aluminum cans and regular garbage; plastic bags (the ones you get when buying groceries), weigh scale, one or two pairs of rubber gloves, crayons, pastels, paints, a thin marker

Grade Levels: 1 to 4

Subject Areas: Math, English, Science

Reducing Classroom Waste

Activity Summary:

Students analyze, sort and reduce classroom waste (paper, compost, plastic, etc.). This is a two-day activity: the first part occurs on a “typical” day and the second part on a day when students make an effort to reduce their waste.

Students measure the volume and weight of the waste — a useful math activity. Students create labels and posters for their classroom recycling, compost and garbage bins.

Introduction:

1. Teachers discuss “The Story of Waste.” Teachers select a few items such as a banana peel, plastic bottle, tetrapak, and paper. Brainstorm (possibly mindmap) where each piece of “waste” has come from, how quickly it will be used, and where it goes once used. Discuss with students: What is it made of? How was it made? How much energy is used to create the item? How did it get to the supermarket? What happens to the item once you have used it? How long does it take for the item to break down? Does it go to landfill or recycling?

DAY ONE: “Typical Waste Day”

2. Choose a day (or an entire week) to analyse and measure the waste your class typically produces. Students should bring their usual lunch, which produces the typical amount of waste. It might be helpful to do this activity on a day when your class produces paper waste — this way there will be more to measure. *Note: It's important that students are not trying to reduce waste on this day; otherwise, it will be difficult to show a reduction on the Waste Reduction Day.*

3. Teachers (and students) put out and label the following bins: compost, regular garbage, glass, plastics, paper, tetrapaks, and cans.

4. Throughout the day, students put their waste into the appropriate bins. The bins should be empty at the beginning of the day so students can see how much waste they produce in one day.

5. Near the end of the day, students measure the waste. List the measurements on the worksheet chart (provided). Students use a weigh scale to measure the weight of the garbage. If your classroom does not have a weigh scale, students measure the volume of the waste. To measure volume, use same-size grocery bags and count the number of partial or full bags.



Extension Activities:

- Students can expand this activity to their home or to the rest of the school.
- Students create posters for their recycling and garbage bins at home,
- Students bury various waste (apple, paper, tetrapak, and plastic) in the ground. Students mark and label where they've buried the waste. A few months later, students dig up and analyse their buried waste. Alternatively, students can compare organic materials and how they each break down.
- Students write "The Story of Waste" by choosing a piece of waste (eg.: a bottle, a plastic bag) and tell where it came from, how it was used and where it will end up.

DAY TWO: "Waste Reduction Day"

6. Choose another day to analyse and measure the waste your class produces. This day could be Earth Day or a day during Earth Day week.
7. Plan the Waste Reduction Day with your students. Brainstorm ways to reduce waste (i.e.: reduce the throw-away packaging in your lunch; bring foods that are compostable and have no packaging; bring re-usable utensils.) Talk about how waste can be reduced: buy less stuff, buy in bulk, and buy items with less packaging. Discuss the benefits of recycling and composting as opposed to sending the waste to the landfill.
8. Students create posters, labels or lids for the bins to remind them to reduce their waste and recycle. For instance, on garbage can lids, students write "Are you sure this goes in here?" or "Is there anything in here that can be composted or recycled?" Posters include pictures with inspirational pictures and messages such as "I recycle. I am protecting the environment."
9. Measure the class waste as you did on Day One: "Typical Waste Day. Use the Waste Reduction Day worksheet chart (provided) to record your measurements. Compare the two days to see if your class was able to reduce waste. Consider assigning students to help look after bins in order to make sure the waste is properly sorted.

Reducing Classroom Waste

Name: _____

Typical Waste Day

date: _____

Waste Reduction Day

date: _____

Measure using:

VOLUME
Number of
full or partial
bags or
WEIGHT
in kilograms

Compost	
Regular Garbage	
Glass	
Plastics	
Paper	
Tetrapaks	
Cans	

Total: _____

Measure using:

VOLUME
Number of
full or partial
bags or
WEIGHT
in kilograms

Compost	
Regular Garbage	
Glass	
Plastics	
Paper	
Tetrapaks	
Cans	

Total: _____

Dare to Compare!

