

## Solid Waste Sorting (Garbology)

In this activity you will examine the contents of a trash can from the school cafeteria. By investigating the amount of trash in various categories, you will learn the composition of the municipal solid waste generated at our school and hopefully discover some ways in which the volume of trash could be reduced. You will also examine your own habits to learn whether you could reduce the amount of MSW that you produce.

1. Obtain a trash bag and sort the trash into the categories shown in Table 1.
2. Determine the mass of the trash in each category and record at the bottom of the table. Also, calculate the overall total mass.
3. List the major items in each category.
4. Calculate the percent of the total trash represented by each of the categories. To do this, divide the mass of the category by the total mass.

**Table 1 Itemized MSW Items**

	Organic	Paper & cardboard	Plastic	Returnable	Other
mass (g)					
examples of items					
% of mass					
Total Mass:					

5. For each category discuss which items and how much trash could be
  - a) reduced by not having it in the first place
  - b) reused for some other purpose
  - c) recycled using existing recycling programs
6. Based on your data, estimate the fraction of the MSW comprised of packaging.
7. Based on your data, estimate the fraction of the MSW which could have been recycled from our cafeteria waste stream.
8. Collect data from the whole class and find the total mass and the percentage mass in each category. Compare these results to those of your own group.
9. Based on the whole class data, which component of the MSW was the greatest by mass? Which was the greatest by volume? Discuss the implications of this.
10. Each day for a week, save all the garbage from your lunch and determine the mass. Include everything that you are throwing out or recycling. Do not include reusable containers. Record this in Table 2. Also,

obtain the class data and calculate the average daily production per person.

**Table 2 Daily MSW Production**

	Monday	Tuesday	Wednesday	Thursday	Friday
Individual waste					
Class waste					
Class average (per person)					

11. Did you create more or less waste than the class average?

12. Did you create more or less waste as the week went on? What about the class? If less, how much less? (subtract the last day from the first to discover the amount avoided)

13. Imagine that everyone agreed to reduce their individual MSW production by only ten percent. Find out how much MSW would be avoided on an individual, class, and school (~1050 students) basis by completing Table 3. Do this for daily, monthly, and yearly production

**Table 3 MSW Reduction**

	Individual	Class	School
In one day?			
In one month? (~20 days)			
The school year? (~190 days)			

14. Discuss any impact you think this activity has had on your awareness of MSW. What about your behaviour?