

Lesson Summary

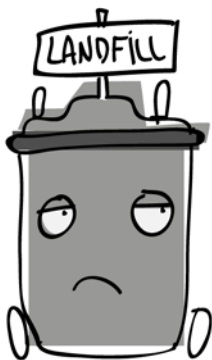
Waste Assessments help you determine how well your school is composting and recycling, and if your school can reduce its garbage service.

Preparing for Your Waste Assessment

1. **Research** your garbage, recycling, and compost service information. Find out:
 - The size of all dumpsters (also called yarders) in yards and/or of all bins in gallons.
 - How many dumpsters and/or bins there are.
 - The days of the week they are each serviced.
 - Where they are put for service. This is usually at a curbside or inside a locked gate. You can either ask your school administration, custodian, or call the garbage company for this information.
2. **Schedule** your waste assessment. Waste assessments are conducted over 1 week. Decide when you'll conduct your waste assessment.
 - ****This is very important****
Schedule time to check bins and/or dumpsters in the late afternoon before the morning of a scheduled pickup. Example: If your school has recycling pickups on Tuesday mornings, you should check the recycling bins on Monday afternoons.
 - Create a schedule of which days you'll need to check the dumpsters and/or bins. If many students will participate, decide who will be responsible for each day that observation is needed.
3. By the end of the assessment you will have collected data for each day of the week that your school has pickups because you're doing it over a 1-week period.
 - Try to complete your waste assessment over **one consecutive week** rather than breaking it up over a handful of weeks. This will allow you to collect more accurate data that truly reflects what is happening at your school.



Conducting Your Waste Assessment



1. On the late afternoon (4-5pm) on the day before each pick-up, go to where the bins and/or dumpsters are placed for pick-ups.
2. Record your data.
3. For each day you observe, note the number and size of dumpsters/bins you saw ready for pick-up. Don't include bins that are inside since this means they aren't ready for pick-up.
4. **Estimate and record** the percentage that each was full.
 - Bins: Imagine the contents are compressed and then determine percentage.
 - Dumpsters: The back wall of it is divided into horizontal sections.

For more classroom resources, visit:

Garbology.org/teachers



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Use these sections to help figure out the percentage full. Example: If container has 6 segments, but garbage is 4 segments high, then percentage full is $4/6$ or 66.6%.

5. Note any special observations (i.e. lots of plastic containers in the compost bin, lots of milk cartons in the garbage, broken down cardboard boxes piled next to bins, etc.).
6. If possible: Determine how many extra bags/bins of trash and recycling are added at night by the night custodian after you observe.
 - Add this amount to each afternoon of recycling or garbage that you observe. Example: The night custodian puts out about (2) 96-gallon garbage bags a night. Add 192-gallons to each of your days of garbage data. If the garbage is collected in a yarder, convert the night gallons to yards before adding to your data. [202 gallons=1 cubic yard]



Calculating Your Trash Average

Using the data collected, you will determine the average amounts (in percentages of how full your containers are) of garbage, recycling and composting generated by your school in one week.

1. Add up the **total percentage** for garbage put out over the week.
 - Example: School has a 6-yarder for garbage that is picked up twice a week. First day = 30% full and second day = 50% full, so the total percentage is $30\% + 50\% = 80\%$. Don't forget to add in the extra amount put out at night! [202 gallons=1 cubic yard]
2. What was the highest number of dumpsters and/or bins you ever saw being used on one day? Multiply this number by the number of days you observed.
 - Example: You observed garbage on 2 days. On each day there was only 1 yarder. 1 yarder x 2 days = 2.
3. Divide your total percentage by this number. This is your **garbage average**. This states what percent of your garbage containers your school fills in one week.
4. If this number is 80% or below, and your recycling and compost are not significantly contaminated with trash, you can consider reducing trash service. Trash service can be reduced by eliminating carts, down-sizing yarders, or eliminating service days.
5. Give feedback to your school administration if there are items that are being put in the wrong bin (i.e. paper towels in the recycling or trash instead of the compost).

National Science Standards Addressed

- Grades 9-12: Abilities necessary to do scientific inquiry (12ASI1)
 Understandings about scientific inquiry (12ASI2)
 Natural resources (12FSPSP3)
- Grades 5-8: Abilities necessary to do scientific inquiry (8ASI1)
 Understandings about scientific inquiry (8ASI2)
- Grades K-4: Types of resources (4FSPSP3)
 Abilities necessary to do scientific inquiry (4ASI1)
 Understandings about scientific inquiry (4ASI2)



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