

LESSON 2: Performing a Class Audit of Waste

LESSON'S CONCEPT

Analyzing the source and content of a waste stream is the first step in learning how to reduce, reuse, and recycle.

PURPOSE

Students will learn what types of garbage are generated in the classroom and develop strategies to lessen the amount of the classroom garbage they produce through reducing, reusing, and recycling.

OVERVIEW

In this lesson students will:

- Observe the amount of waste generated by the class.
- Categorize the waste from their classroom by type of material from which products were made, and analyze each category by weight, volume, and number of items.
- Calculate the percent of waste by type of material and determine how much waste is generated by the class in one day, one month, and one year.
- Attempt to reduce the amount of waste they dispose of in the class's garbage can over a one-week period and complete charts to show their progress.
- Design a plan to reduce in the classroom the amount of waste that would have been placed in a landfill.

CORRELATIONS TO CALIFORNIA'S CONTENT STANDARDS AND FRAMEWORKS

- Individually and in teams, students collect, sort, and record on a chart information about waste generated by the class. They classify the items of waste according to the material from which each item was made.
 - "Students will: classify objects . . . based on appropriate criteria." (*Science Content Standards, Grades K–12; Grade 5; Investigation and Experimentation, Standard 5a*)

- Students calculate the percent of waste by type of material and determine how much waste is generated by the class in one day, one month, and one year.
 - Students "calculate given percentages of quantities . . ." (*Mathematics Content Standards for California Public Schools, Kindergarten Through Grade Twelve, page 24*)
- Students participate in discussions about ways to lessen the amount of waste that the class generates and sends to a landfill. Students are challenged to support opinions, ask questions, and make other contributions to the group.
 - "Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation." (*English–Language Arts Content Standards for California Public Schools, Kindergarten Through Grade Twelve, page 26*)

SCIENTIFIC THINKING PROCESSES

observing, communicating, comparing, classifying, applying

TIME

30 minutes to prepare for the lesson; approximately 45–60 minutes per day for five days (Monday through Friday) to implement the lesson

VOCABULARY

reduce, reuse, recycle, solid waste, waste stream

PREPARATION

- ___ 1. Read the “Background Information for the Teacher” at the end of this lesson.
- ___ 2. Find out which materials are recycled in your community. (Contact the city or county recycling coordinator or the local garbage/recycling company. Ask if you can be sent a class set of brochures indicating which materials are recycled in your community. Students can take these home to their families. Also ask for a directory of recyclers in the community. This allows families without curbside recycling programs to find drop-off centers for their recyclables. Note that the materials that are recycled may vary from community to community.)
- ___ 3. On Monday ask the custodian not to empty your class’s waste basket. You can also place the waste in a large plastic bag, label it, and make sure that the custodian does not throw it away. Your class will analyze this waste on Tuesday.

Note: Before the class analyzes the trash in the classroom, make sure that the trash is clean. If needed, wash jars and cans and place food trash in a sealed transparent container. Also, remove any potentially hazardous substances or private notes (that students might not wish to be read by others).

- ___ 4. Make transparencies of the four charts of “Class Waste Analysis” (pages 329 and 330). Duplicate the “Class Waste Analysis, Wednesday’s Waste,” for each group of three to four students.

MATERIALS

- ___ The waste generated in your classroom on Monday for class on Tuesday; the waste generated on Tuesday for class on Wednesday; the waste generated on Wednesday for class on Thursday, and the waste generated on Thursday for class on Friday
- ___ A scale for weighing waste materials
- ___ Six to ten grocery-size paper bags in which the waste can be separated
- ___ Washable plastic or cloth tarp
- ___ Kitchen gloves for students (about six pairs)

PRE-ACTIVITY QUESTIONS

Monday Afternoon (Day 1)

- A. Do not tell students that you will be collecting and they will be analyzing the classroom waste that they generated today. But do ask students to use the classroom’s waste basket for everything they throw out today (including items from lunch).
- B. Record students’ estimates to the following questions. At the conclusion of the lesson, you will compare these figures with those of the actual audit of classroom waste.
 - How many times do you drop something in the garbage can at school each day?
 - How much waste do you think you generate in one school day? Record students’ estimates in number of pieces of waste (e.g., five pieces of paper, one soda can) and by weight (e.g., one pound or 454 grams).

Note: You might want to find an item that weighs approximately one pound and allow students to hold it to get a feel for the weight of one pound.

- How much waste do you think the whole class generates in one day? (Have students estimate by pieces of waste and by weight.)
- C. Ask students to record in their journals the kinds of things they threw away today at school and where they threw them.
 - D. Encourage students to share their journal entries with the class.
 - E. Ask students:
 - Can you think of any examples of how the class currently reduces or reuses classroom waste? *We use both sides of paper.*
 - Do you know whether our school has a recycling program? If yes, have students discuss the types of materials which are collected in the program. If they are not certain, ask student volunteers to find out and to report their findings to the class.

PROCEDURE

Tuesday Afternoon (Day 2)

- A. Share with students the following story:

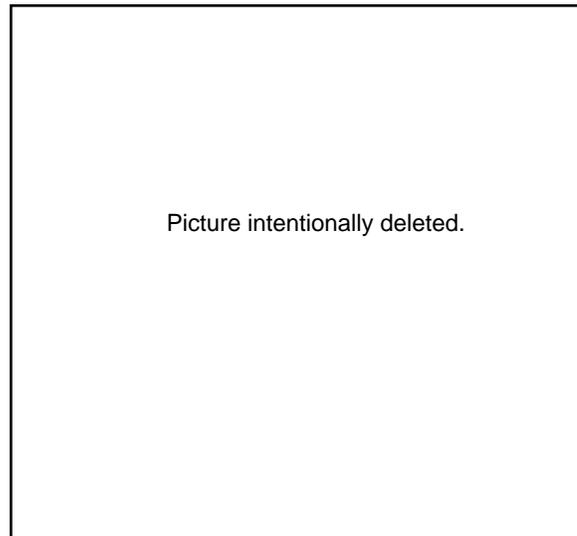
A private investigator has been hired by a class in another school to find out what we have been doing in the classroom. It seems

that we have been seen participating in activities that looked entertaining.

The private investigator decided that one way to find out about our class's activities was to check our garbage can at the end of the day. What could he find out by looking at our classroom's waste? For instance, could he find out what kind of lessons you have been working on? Whether you have been working on any arts and crafts projects? Can he find out whether food is allowed to be eaten in class and, if so, what kinds of food have been eaten? He is planning to look through our garbage can at the end of every day for one week, but he does not know that we know what he is going to do.

The private investigator went through all of our class's waste on Monday and recorded everything he found. He then returned the garbage and here it is.

- B. How much waste do you think our class generated yesterday (in numbers of items, and/or pounds, or number of bags)? Write students' guesses on the chalkboard.
- C. Spread a plastic or cloth tarp on the classroom floor and dump (clean) classroom waste on the tarp.
 1. Tell students that they will analyze the garbage that they generated yesterday.
 2. Ask students to identify several categories, by type of material from which the waste items were made (e.g., paper, glass, aluminum), and list the categories on the chalkboard.
 - Project the "Class Waste Analysis, Monday's Waste" and add categories that are listed on the chart but not listed on the chalkboard.
 - Put away the "Class Waste Analysis" chart until step #5.
 3. Select several students to be the waste separators and provide them with gloves to sift through the classroom waste. Students should place items in piles, by category.
 4. Have the rest of the students observe the separation of the waste and recommend which items should go into which pile.
 5. Have students count the pieces of trash from each category and record these on the chart, "Class Waste Analysis,



Students from Janet Cohen's sixth-grade class at Gold Trail Elementary School separate the classroom's waste into categories.

Monday's Waste," projected on the overhead.

- Ask students to identify the largest waste category or categories.
- Have students total the number of pieces of waste and write this number in the last column on the chart.

Note: Younger students can skip the following calculations for percent.

- Help students to calculate the percent for each type of waste. This is done by dividing the number of a waste type by the total number for all types of waste. For example, if the class counted 40 pieces of paper and the total number of waste pieces was 80, then the percent of paper is calculated by dividing 40 by 80, which equals .50 or 50 percent. Therefore, 50 percent of the classroom waste was paper.
6. Place each category of waste into a separate grocery bag, label the bag, and weigh it. Weigh an empty bag and subtract the weight of the empty bag from the weight of the bag with the waste. Record the weight of the waste (without the bag) on the chart. Add up the total weight for all waste. Calculate the percent of each waste type, by weight.
 7. Have students calculate the volume of the waste. For younger students, have

them approximate what portion of the bag (or how many bags) the waste occupies; for older students, mold the bag over the waste so students can measure the width, length, and depth of the trash. **Note:** Because in a landfill the garbage is compacted, students might consider ways to compact the garbage before calculating its volume. Make certain that students do this in a safe manner. Write the results on the chart.

8. Discuss with students:
 - What does the chart tell us about our class's waste? Approximately what percent (or portion of all the waste) was paper? glass? aluminum? other metal? plastic? food items?
 - Did every piece of waste have to be thrown away? Is there anything that could have been used again? What waste could have been reduced? *Excess packaging, paper napkins, disposable eating utensils, paper that can be reused*
 - What could have been reused? (Accept all answers at this time.)
 - What could have been recycled? (Accept all answers at this time.)

Note: Students might not yet know what can and cannot be recycled in their community or school. They will find this out in "Procedure" section "G."

- Is the paper we collected in one of the grocery bags being used on both sides or is the paper being wasted? In what ways could we generate less paper that ends up in the trash can?
 - If the waste is in the trash can and it is not retrieved, where does it go? *To the landfill.*
 - Are we careful about conserving items in this class or careless about what we are throwing away?
 - What would you do if there was no trash can to throw these items into?
9. Write "landfill" in large letters on the classroom trash can (or on a piece of paper taped to the trash can).
 10. Have students suppose that they produce the same amount of waste daily as they did on Monday.

- Ask them to calculate how much waste, by weight, their class would generate each month (amount of trash generated on Monday times 20) and how much in one school year (times 180 or whatever the total is for your district).
- Students could also find out how many classrooms there are in their school and school district and calculate an approximate amount of waste their school and all other schools in their school district produce each day, each month, and each school year.
- Discuss how students can lower these figures.

Homework Assignment: Ask students to write up the report that the private investigator might have written. Students should describe the day's activities in the classroom, based on clues in the trash can. Ask them to copy what was found in the waste and to write the private investigator's report at home.

- C. Challenge students to generate less waste today (Tuesday). Tell students: "We don't want the private investigator to find out what we did today, but you cannot throw your trash in a trash can outside our classroom. The private investigator will see that waste and might get suspicious that we know that he is looking in our garbage."
- D. Discuss illegal dumping. Illegal dumping happens in all communities when people place garbage in someone else's garbage can or dumpster or throw the garbage in a nondesignated disposal site, such as on a roadside, in an empty lot, in a creek, or in a park.

Wednesday (Day 3)

- E. Analyze Tuesday's waste on Wednesday morning.
 - Select a new group of students to be the waste separators and provide them with gloves for this task.
 - Using an overhead projector, project the transparency "Class Waste Analysis, Tuesday's Waste" and have students complete it.
 - Challenge students to reduce the amount of waste they place in the garbage can that day and analyze the waste on Thursday.

Thursday (Day 4)

- F. Separate the class into groups of three to five students and provide each group with the chart, “Class Waste Analysis, Wednesday’s Waste.”
- Ask groups to complete their charts.
 - Compare the results among all the groups and record the results on the chart on the overhead transparency.
 - Ask students to reduce the amount of waste they place in the garbage can today for tomorrow’s analysis.

Friday (Day 5)

- G. On Friday determine how much waste was generated on Thursday. Use the transparency “Class Waste Analysis, Thursday’s Waste” and complete the chart with your class. How did the amounts compare to Tuesday’s analysis?
- H. Consider designing a graph or a series of graphs to summarize the data on the charts.
- I. If available, provide students with brochures indicating which materials are recycled in your community. This information can usually be acquired from a local solid waste company or from the city or county’s solid waste department.
- If brochures are not available, one student could call the local solid waste company or the city’s or county’s solid waste department to obtain the information.
 - Discuss with your class the types of recycling your community offers. (You may find that in smaller communities, the availability of many different kinds of recycling is limited.)

Note: In the 4–6 Module, Unit 2, Lesson 3, students will learn about the difference between reusing and recycling.

Homework Assignment: Ask students to prepare a written list of the kinds of items in their homes and class which can be recycled.

- J. Have students share and compare their lists.

DISCUSSION/QUESTIONS

- A. Ask students:
- What would the private investigator have learned about us, based on the

garbage we generated on Monday? What did he learn about us, based on Thursday’s garbage?

- How does our garbage provide clues about our habits?
 - What was the difference in the waste we collected on Monday compared to the waste we collected on Thursday?
 - Did we reduce the amount of waste that went into the trash can? By how much? Was it easy to do? Why or why not?
- B. Compare the actual waste figures to the students’ estimates at the beginning of the lesson. Ask for students’ comments and insights.
- C. Based on our observations of Tuesday’s waste, what materials that were thrown away could have been reused? List these. What are some easy ways to get reusable items back into use? *Wash them; fix them; give them to someone who wants them.*
- D. Based on our observations of Tuesday’s waste, what materials that were thrown away could have been recycled? List these. *Paper, aluminum*
- E. Discuss with students:
- What did the private investigator hired by another class probably tell that class about this lesson? What types of garbage might he find at the end of this lesson?
 - What did we reuse? What did we recycle?
 - What type of garbage do you usually throw away at home?
 - What would a *garbologist* (person who studies garbage) learn about your household? What did we reduce?
 - What is one way that scientists can find out about people who lived in the past? *They can look through their garbage.*
 - Archaeologists who study garbage left by people in the past can often determine how the people lived, what they ate, and what they valued. What types of garbage would you expect people who lived in this area 100 years ago to have? What types of garbage would you expect people who lived in this area 500 years ago to have?

- How would the garbage from past civilizations be different from our garbage?

APPLICATION

- A. Ask students what is solid waste and what they have learned that might help us to manage solid waste in our classroom.
- Discuss the ways that students could generate less waste in their classroom.
 - Brainstorm with the class a list of solid waste reduction actions or tips. For example, what are good ways to save paper? Some ideas are listed below:
 - Always use a sheet of paper on both sides before putting it in the recycling bin.
 - Cut up paper used on one side and use it for memos and notes.
 - Make double-sided copies whenever possible.
 - Photocopy or print draft documents on the back of paper that has already been used on one side.
 - Save scraps of colored paper for cut-and-paste activities or other art projects.
 - Do not waste paper towels or paper cups.
- B. Introduce to or review with students the waste management hierarchy listed below. Explain to students that because of the energy savings and the amount of natural resources conserved, this hierarchy serves as a way of setting up priorities for dealing with our waste.
- Waste prevention (also called source reduction) (reducing and reusing)
 - Recycling and composting (including buying products made from recycled materials)
 - Environmentally safe (nonpolluting) incineration (burning waste-to-energy) and environmentally safe land disposal (landfilling) practices (that conserve and protect the quality of the environment).
- C. Ask students to look at the journal entry that they completed in the “Pre-Activity

Questions” section “C.”

- Have them check items that they threw away today or yesterday that did not have to be thrown away.
 - Discuss what could be done with these items, based on the waste management hierarchy.
 - Ask students to circle the items they threw away that could be reused, underline those that can be reused, and place a star next to those that can be recycled in their school (if applicable) or in their community.
- D. Do one or more of the following:
1. Have students design a plan to reduce the waste in the classroom that needs to be thrown away. They can design containers for those items that can be reused or recycled. These containers can simply be cardboard boxes lined with plastic. These boxes can be decorated by students and clearly labeled.
- Note:* The feasibility of recycling will depend on whether the school has a recycling program. If the school does not have a recycling program, an adult volunteer could recycle the materials at a recycling center.
2. Challenge students to keep the waste in the classroom’s wastebasket to a minimum. Ask for volunteers to monitor the wastebasket and conduct a class meeting once or twice a month to analyze whether students are continuing to limit the amount of waste that goes into the landfill.
 3. Have students pledge to take one or two waste-reduction actions and record their pledge on a chart. Save this chart and check back with students in a month to see whether they are fulfilling their pledge.

Project Idea: Have students develop a classroom reducing, reusing, and recycling program.

VARIATIONS

Two variations to this lesson are described below:

- A. Instead of conducting the lesson as written, save the waste from the classroom for one week without letting the students know that it is being done, and then have them analyze the waste. You may want to enlist

the maintenance person's help, so that he or she knows that you are not going to need to have your trash picked up for a week (or the maintenance person could save the classroom's waste for a week or a month and store it away from the classroom until you are ready to use it). At the end of the week, ask students to predict how much waste was generated by the class.

- Have students count, analyze, and compile a chart of their findings.
- Discuss with students:
 - How did the actual amount of waste compare with the students' predictions?
 - Why might the predicted figures be lower or higher than the actual count? For example, if the predictions are lower than the actual count, it could mean that students were not aware of all the trash being generated each week and have not implemented the reducing, reusing, and recycling regimen. If the figures are higher than the actual count, then perhaps students were more aware of the solid waste problem and were already reducing, reusing, and recycling waste.

- B.** Have each student bring a plastic garbage bag to school on Monday. Inform students that they must carry in their bags any garbage that they generate during the week.

Note: For this activity, you will need to set ground rules. For example, will students add the materials they generate at home as well (making it necessary for them to take their garbage bags to and from school daily or store the garbage in two bags)? Is food waste to be included and, if so, be certain that students do not store the bags in lockers or other areas where vermin, cats, dogs, or other animals might be attracted to the contents. Suggest that students use two or three bags to prevent tearing and spilling.

1. At the end of the week, have students weigh their bags of garbage to see how much garbage they generated. Ask them to classify how much was paper, how much was food waste, and how much was other types of materials. They do not have to weigh these individual components—just estimate the amount or percent.
2. Discuss with students who had the

most and who had the least garbage and who had reusable, recyclable, or compostable materials.

3. Discuss what effect carrying their garbage around for a week had on students. Ask students:
 - Were you surprised by the weight and volume of the garbage you collected? Did it lead you to think more actively of ways to reduce waste?
 - If everyone had to carry his or her garbage all the time, would that person generate less garbage, encourage manufacturers to change the design of products (e.g., less packaging), or modify his or her purchasing habits?
4. Have students determine what they want to do with their garbage (i.e., what materials should be reused, recycled, or placed in a garbage can).

EXTENSIONS

1. Have students do research on the local penalties for illegal dumping and have them report their findings to the class.
2. Encourage students to take a sequence of photographs over a week's or month's time of an area where people are dumping their trash illegally.

RESOURCES

Videos

Garbage. Bill Nye the Science Guy series. Elk Grove Village, Ill.: Disney Educational Productions, 1995 (26 minutes).

Part of the video shows how to determine the amount of garbage that is produced after a meal. The waste is separated by types of material and weighed; the results are graphed.

Recycling: It's Everybody's Job. Washington, D.C.: National Geographic Society, 1992 (20 minutes).

For a class project, students sort through and separate family garbage to learn why recycling can be part of a solution to our solid waste problem.

Computer Program

Too Much Trash? Computer program and National Geographic Kids Network. (For grades 4–6.) Washington, D.C.: National Geographic Ed-Tech, 1993.

Students design and implement an in-class trash collection system and calculate the average weight of the trash thrown away by each student. The class graphs its findings, shares data with research teammates at another school, and analyzes results with the help of the unit scientist. Students devise, implement, and evaluate a plan to reduce, reuse, and recycle their classroom's trash. To participate in this program, the class has to sign up for an eight-week tuition and telecommunication session offered three times a year.

Book

Fifty Simple Things Kids Can Do to Recycle. Prepared by The EarthWorks Group and the California Department of Conservation's Division of Recycling. Illustrated by Michele Montez. Berkeley: EarthWorks Press, 1994.

Describes why students should recycle and how they can recycle.

Websites

See "Appendix F–V, Recycling websites."

CLASS WASTE ANALYSIS MONDAY'S WASTE (WASTE FROM DAY ONE)

| Type of data | Paper | Glass | Aluminum (cans) | Other metal (cans) | Plastic | Food items | Total |
|---|-------|-------|-----------------|--------------------|---------|------------|-------|
| Number of pieces of waste | | | | | | | |
| Percent of all pieces | | | | | | | |
| Weight | | | | | | | |
| Percent of total weight | | | | | | | |
| Number of bags or portion of bag (volume) | | | | | | | |
| Percent of all bags | | | | | | | |

CLASS WASTE ANALYSIS TUESDAY'S WASTE (WASTE FROM DAY TWO)

| Type of data | Paper | Glass | Aluminum (cans) | Other metal (cans) | Plastic | Food items | Total |
|---|-------|-------|-----------------|--------------------|---------|------------|-------|
| Number of pieces of waste | | | | | | | |
| Percent of all pieces | | | | | | | |
| Weight | | | | | | | |
| Percent of total weight | | | | | | | |
| Number of bags or portion of bag (volume) | | | | | | | |
| Percent of all bags | | | | | | | |

4-6 Module
Unit 2

CLASS WASTE ANALYSIS WEDNESDAY'S WASTE (WASTE FROM DAY THREE)

| Type of data | Paper | Glass | Aluminum (cans) | Other metal (cans) | Plastic | Food items | Total |
|---|-------|-------|-----------------|--------------------|---------|------------|-------|
| Number of pieces of waste | | | | | | | |
| Percent of all pieces | | | | | | | |
| Weight | | | | | | | |
| Percent of total weight | | | | | | | |
| Number of bags or portion of bag (volume) | | | | | | | |
| Percent of all bags | | | | | | | |

CLASS WASTE ANALYSIS THURSDAY'S WASTE (WASTE FROM DAY FOUR)

| Type of data | Paper | Glass | Aluminum (cans) | Other metal (cans) | Plastic | Food items | Total |
|---|-------|-------|-----------------|--------------------|---------|------------|-------|
| Number of pieces of waste | | | | | | | |
| Percent of all pieces | | | | | | | |
| Weight | | | | | | | |
| Percent of total weight | | | | | | | |
| Number of bags or portion of bag (volume) | | | | | | | |
| Percent of all bags | | | | | | | |

BACKGROUND INFORMATION FOR THE TEACHER

Note: It is recommended that students complete the 4–6 Module, Unit 1 on natural resources to provide them with background on the importance and purpose of reducing, reusing, and recycling waste.

The California Integrated Waste Management Board (CIWMB) is the state agency responsible for protecting the public’s health and safety and environment through the effective management of California’s solid waste. The CIWMB encourages the conservation tenets of “reduce, reuse, and recycle” needed to reach the state’s goal of diverting 50 percent of its solid waste from landfills.

Mandates applying to the management of solid waste in California are described in the Public Resources Code (PRC).

- PRC Section (§) 40051 states: In implementing this division (the California Integrated Waste Management Act of 1989), the Board and local agencies shall do both of the following:
 - (a) Promote the following waste management practices in order of priority:
 - (1) Waste prevention (source reduction).
 - (2) Recycling and composting.
 - (3) Environmentally safe transformation and environmentally safe land disposal, at the discretion of the city or county.
 - (b) Maximize the use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste that must be disposed of by transformation and land disposal. For wastes that cannot feasibly be reduced at their source, recycled, or composted, the local agency may use environmentally safe transformation or environmentally safe land disposal, or both of these practices.
- PRC §40052 states: The purpose of this division is to reduce, recycle, and reuse solid waste generated in the state to the maximum extent feasible in an efficient and cost-effective manner to conserve water, energy, and other natural resources, to protect the environment, to improve regulation of existing

solid waste landfills, to ensure that new solid waste landfills are environmentally sound, to improve permitting procedures for solid waste management facilities, and to specify the responsibilities of local governments to develop and implement integrated waste management programs.

Over the long term it is most important to reduce the waste generated in the first place by purchasing materials with less packaging, not buying unnecessary items, and reusing materials as many times as possible. Reducing waste is something that everyone can do—children and adults—in institutions, homes, and large and small companies. The emphasis in schools should be on reduction and reuse as much as possible. Students will learn that money and time are saved by not generating the waste in the first place. In addition to reducing and reusing, recycling can be an effective method for schools to manage the waste they now generate and to save money and earn revenue from materials recycled. Staff from the CIWMB are available to assist schools in developing programs for reducing waste and reusing and recycling (including composting) materials.

Placing waste and other materials in landfills, once considered the primary method for waste disposal, is now seen as an option for managing waste after all the reducing, reusing, and recycling efforts have been explored. However, there will probably always be a need for landfills for those materials which cannot be reduced, reused, recycled, or incinerated (e.g., incinerator ash). Also, new technologies make landfills safer and less likely to leach toxics into the environment; and it is now common practice to capture the methane gas produced by landfills and use it as fuel.

Studies have been done to analyze the contents of the waste streams of schools. Paper makes up the largest component of schools’ waste streams (see page 270). Therefore, reducing, reusing, and recycling paper in the classroom is one step that can be taken to lessen the amount of waste that is sent to a landfill.

One of the first steps in identifying opportunities to reduce, reuse, and recycle waste is learning how and where waste is being created. This

can be as simple as evaluating daily activities which generate waste to weighing and identifying types of materials which are discarded. The process of analyzing the waste stream of a classroom, school, home, or other place in the community is called a waste audit. The audit consists of evaluating qualitatively and quantitatively the types of waste which are created and the activities involved in producing the waste. The survey generally consists of interviewing employees and students, conducting a walk-through of the area being targeted (e.g., the classroom's trash can), conducting "dumpster peeks," and documenting the survey through charts and photos.

The survey may also provide insight to modifying the reduce, reuse, and recycle programs in the classroom, school, or community. As the survey is conducted, a record can be kept of

ideas which arise regarding reducing waste and reusing and recycling materials, which can be incorporated later.

An assessment of the waste produced in the class, school, or district is an enlightening educational and program-targeting tool. For example, one school district realized cost savings by not purchasing notepads. After conducting interviews, the district staff discovered that teachers and other staff members were very willing to use pads made from paper used on one side. The assessment can also provide a baseline for starting a reduce, reuse, and recycle program in the classroom and at school, so data will be available for future comparisons. As reduce, reuse, and recycle is practiced, everyone will be able to see the success of his or her efforts.