

TOOLS TO **REDUCE** WASTE IN SCHOOLS

REUSE

RECYCLE

BUY
RECYCLED



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Introduction

Schools accumulate tons of waste—from paper and computers to food and books. By learning how to properly handle this waste, school officials not only have an opportunity to greatly influence the future of their school, school district, and students, but they can also have a significant impact on the environment.

Every day, school officials struggle to find time to get everything done. To make **waste reduction** efforts and environmental protection feasible and practical for schools and school districts, the U.S. Environmental Protection Agency (EPA) developed this easy-to-use guide to help schools and school districts implement new, or expand upon existing, waste reduction programs.



How to Use This Guide

- This guide provides schools, school districts, and school business officials with audience-specific information for starting or expanding an existing waste reduction program.
- Schools and school districts interested in starting or expanding a waste reduction program will be interested in the *10 Steps for Becoming Waste-Free* (on page 13) and *Program Options* (on page 27) sections of this document for ideas on how to start or improve their programs.
- Highlighted waste reduction terms throughout this document are defined in the *Glossary* (on page 37).
- For more information on starting or expanding a waste reduction program, waste assessment and records tracking forms, and additional Appendices, please visit the School Waste Reduction Toolkit Web site at www.epa.gov/epaoswer/education/toolkit.htm.
- Additional Resources are also available on the Web site at www.epa.gov/epaoswer/education/toolkit.htm.

The Four Rules of Waste Reduction

- **Reduce**—Purchasing, consuming, and throwing away less. Source reduction actually prevents the generation of waste in the first place, making it the most preferred method of waste management.
- **Reuse**—Reusing items by repairing, donating, or selling them. Reuse is even better than recycling because items do not have to be reprocessed before they can be used again.
- **Recycle**—A series of activities that includes collecting recyclable materials that would otherwise be considered waste, sorting and processing recyclables into raw materials such as fibers, and manufacturing the raw materials into new products. Recycling prevents the need to harvest new raw materials from the Earth.
- **Buy Recycled**—Purchasing products made of recycled materials.

Benefits

There are many benefits to implementing a **waste reduction** program in a school or throughout a school district.

Protect the Environment

Preventing the use of excess materials, **reusing** materials, **recycling**, and **buying recycled** content products reduce a school's impact on the environment by:

- Saving energy (by using **recycled content**, which takes less energy to produce new products).
- Mitigating climate change by reducing **greenhouse gas** emissions (using less energy burns fewer **fossil fuels**, which in turn impact greenhouse gas emissions).
- Reducing the need for raw materials to make new products.
- Decreasing the amount of material put into landfills.

Decrease Cost and Make Money

Preventing waste and recycling can decrease disposal costs. Schools might be able to bring in additional revenue by selling **recyclables** that have financial value.

Get Educated

Environmental Education Opportunities

By implementing waste reduction programs in schools, teachers and administrators have an opportunity to teach their students about the importance of reducing their **environmental or ecological footprint** and how each of our decisions impacts the environment. Environmental education gives students an opportunity to learn about economics (the impact of supply and demand), current events, climate change, and environmental laws.

Service-Learning Opportunities

School waste reduction programs also allow for **service-learning** opportunities. Service-learning opportunities are hands-on experiences that go beyond what is learned in the classroom. For example, students might participate in community waste collection days or share waste reduction tips with neighbors. Students gain new skills and a sense of civic responsibility by working directly with the community. Additionally, service-learning enhances students' communications, team-building, critical thinking, and decision-making skills.

Become an Environmental Steward

Students involved in waste reduction activities can be environmental stewards for the entire community, bringing the idea of waste reduction home, building a stronger community through outreach.

Earn National Recognition

Schools or school districts implementing or expanding a waste reduction program can gain national recognition through initiatives such as EPA's WasteWise program. For more information, please see the WasteWise Web site at www.epa.gov/wastewise.

You Are Unique

In each of the following sections—schools, school districts, and school business officials—you will find audience-specific information and considerations. While each audience is unique and has its own set of concerns, communication among the parties involved in the waste reduction program—including teachers, custodial and kitchen staff, parents or other volunteers, students, recycling coordinators, school district officials, and school business officials—is crucial for a successful program.

Keep in mind that no two waste reduction programs are exactly alike, so do what works best for your school or school district (while still adhering to all applicable policies).

Good luck and remember: all your efforts are protecting the environment and making your school or school district one step closer to becoming waste-free.

For schools: Even if your school’s program is not associated with a districtwide program, it is essential that schools work with school district administration and/or school business officials to ensure that school and school district policies and regulations are followed. Additionally, schools might be able to save time and money by tapping into districtwide resources.

For school districts: A districtwide program might not be “one-size fits all,” so your district’s administration must work closely with each school to understand its individual needs. School district administration must also keep in close contact with school business officials to sort through purchasing and contract issues.

For school business officials: As a school business official, you must work closely with the school or school district to fully understand the schools’ needs.

For Schools

You and your school's staff—with help from students—can start a **waste reduction** program or help expand your current waste reduction activities.

In some schools, an enthusiastic individual or club often prompts the development of a school waste reduction program. Other schools might be part of a districtwide initiative, with control over their own program. School-level programs often start small and grow over time, adding materials or activities as participation increases. School-based programs might be more advantageous than district-mandated ones because school employees can design a program that will match the school's culture and better meet the school's particular needs.

Whether you are implementing a stand-alone program or are part of a districtwide initiative, the *10 Steps for Becoming Waste Free* (on page 13) and other information provided in this guide will help you plan and implement a waste reduction program or expand on an existing one.

Waste Reduction Programs

Waste reduction programs might include some or all of the activities listed below. See the *Program Options* (on page 27) section and the *Glossary* (on page 37) for more information and definitions of these activities:

- **Waste prevention**
- **Reduction/elimination (also known as source reduction)**
- **Reuse**
- **Donation**
- **Recycling collection**
- **Composting**
- **Buying recycled content products**

Considerations

As you consider various waste reduction options, think carefully about your overall capabilities to meet your goals. Conducting a **waste assessment** will show you the trends in the types and amount of waste your school generates. Also keep in mind that you might run into issues (e.g., staffing requirements, program support) specific to your school that need to be resolved before you can begin. Depending on the nature of your school, you will have different needs and considerations, such as:

- Deciding who will handle the day-to-day tasks of your program.
 - Are the teachers, school staff, and student volunteers able to commit enough time to implement an effective program?
 - Will you need volunteers to run the program or will these duties be included in a staff member's job description?
 - Can you tap into existing school volunteer networks, such as the Parent Teacher Association (PTA)?
- Considering how involved students will be in the waste reduction program.
- Determining if the waste reduction program will be incorporated into school curricula.
- Identifying and quantifying your school's waste by determining who will be responsible for conducting a waste assessment.
 - What materials do you generate in your school?
 - How much does your school generate these materials?

- ❑ Identifying the scope of the waste reduction program.
 - Which materials will your school collect for **reuse** and **recycling**?
 - Will you initiate a program by recycling one or two materials and introducing more materials over time, or will you collect several materials immediately?
- ❑ Establishing how you will collect materials.
 - Will you hire a waste management company or **hauler** to pick up your **recyclables**?
 - Will you bring materials to a collection site on your own?
 - Is your school required to adhere to districtwide or county waste management policies?
- ❑ Identifying how much space is available to store recyclables inside your school.
 - Is additional storage space available outside of your school?
- ❑ Considering how you will pay for the costs associated with the program, such as hauling fees, collection containers, and dumpster rentals.
- ❑ Determining how you will encourage students, school staff, and volunteers to participate.
- ❑ Deciding how you will have the waste reduction program evaluated.
 - How often will it be assessed?
 - Who will perform the assessments?
 - How will the results be tracked?



For School Districts

Although districtwide **waste reduction** programs are similar to individual school programs, school districts face their own set of unique challenges.

To implement a successful districtwide program, consider hiring a full-time program coordinator. This staff member will help to coordinate efforts across schools, acting as the point person for each school's waste reduction team and providing training for team leaders. Although costs will be incurred, a program coordinator will help plan and bring about a more cohesive waste reduction program. Alternatively, you can find ways to incorporate waste reduction activities into the duties of an existing employee. For example, most school districts have an individual or office responsible for resources and management, which might be a good fit for waste reduction program coordination.

Whether your school district encompasses just a few schools or many, the *10 Steps for Becoming Waste-Free* (on page 13) and other information provided in this guide will help you plan and implement a program or expand on an existing one.

Considerations

In addition to the considerations that apply at individual schools—such as amount of storage space, time and commitment, types of materials collected, costs, and availability—a key challenge for those undertaking districtwide programs is the need to design and implement a single program for many facilities, while taking each facility's needs into account. To help manage this challenge, large school districts might want to consider starting the program at one school or a few schools and then expand the program over time. Other considerations for school districts include:

- Working with school business officials to determine the specifics of your waste management contracts.
 - Are the waste management contracts up for rebid or do they allow renegotiation to provide for **recycling services**?
- Considering where your schools will collect materials for **reuse** and **recycling**.
 - Will each school be responsible for storing its own collected materials or will a central location be used?
 - If space and logistics allow, collecting materials at one site will save on any pick-up fees incurred.



- ❑ Identifying the scope of the waste reduction program.
 - Which materials will your schools collect for reuse and recycling?
 - Will your schools initiate a program by recycling one or two materials and introducing more materials over time, or will they collect several materials immediately?
 - Will all schools collect the same materials or will each school be able to determine which materials to collect?
- ❑ Deciding how your individual schools' waste reduction programs will be evaluated.
 - How often will the programs be assessed?
 - Who will perform the assessments?
 - How will the results be tracked?
- ❑ Taking districtwide environmental policies into account.
 - Will the waste reduction program be on a voluntary basis or will it be mandated by a districtwide environmental policy?

Benefits

Districtwide waste reduction programs can provide benefits to the entire community and the environment in more ways than school-specific programs. Districtwide programs may be able to:

- Reduce waste transportation and storage costs
- Negotiate better contracts
- Create new **markets** for recyclables
- Utilize increased purchasing power
- Provide consistency throughout students' academic career
- Increase efficiency of a school's recycling program
- Encourage recycling through competition
- Provide opportunities for environmental education



For School Business Officials

While not involved in the day-to-day collection and disposal of **recyclables**, school business officials have a unique opportunity to develop and expand school **waste reduction** programs. A school business official's primary role is to research and secure contracts for accepting or picking up recyclables and to make purchasing decisions.

Data on waste and disposal patterns are helpful in conducting the business side of a waste reduction program. Knowing which materials a school wants to **recycle** and how much of these materials will be generated is essential information for selecting companies to accept or pick up recyclables. As a school business official, you can use the results of a school or districtwide **waste assessment** to assist in choosing the right contractor for a school's needs. In addition, you might opt to conduct a **records examination** to track waste disposal trends. Performing a records examination will provide information about a school's current cost of waste removal and will give baseline data for future cost comparisons. It is also a great tool for estimating the amount of money a school will save through its program.

Purchasing is one of the many jobs designated to school business officials. You might need to negotiate contracts for equipment and supplies, such as purchasing or leasing duplex copiers. School business officials are also instrumental in "**closing the loop**" by arranging for the purchase of **recycled content** materials (such as paper, plastic rulers, and plastic benches). Purchasing recycled content materials, or **buying recycled**, creates **markets** for these materials—an integral part of any waste

reduction program. Be sure to let students, faculty, and staff know they are using recycled content materials! Add "contains recycled content" footnotes to letters, envelopes, and newsletters. Refer to the *Resources* online at www.epa.gov/epaoswer/education/toolkit.htm for information on where to buy recycled content products.

Whether you are working with one school or an entire district, the *10 Steps for Becoming Waste Free* (on page 13) and other information provided in this guide will help you plan and implement a waste reduction program or expand on an existing one. Although you might not be involved in all of the steps, you will play a key role in the success of your program.

Considerations

Finding a **market** for recyclable materials is a key function of school business officials. While searching for a **hauler**, it is important to find a waste removal program that will best fit a school's recycling needs. Ask the school's current waste management company if it accepts the materials the school wants to recycle. If it does, consider renegotiating the current contract or including recycling in the school's next hauling bid. Other considerations for school business officials include:

- Investigating the services of the prospective waste management company or hauler.
 - Consider storage options, frequency of pick-up, dumpsters, and collection containers.
 - If the waste management company or hauler does not provide bins, research outlets for purchasing collection containers.
- Determining how each school will receive containers that will best suit their disposal needs based on data collected from the waste assessment.

- ❑ Deciding who will handle the day-to-day tasks of the waste reduction program.
 - If you provide services to the entire school district, will it be feasible to hire a full-time recycling coordinator for the district?
 - Is it necessary to add recycling responsibilities to appropriate job contracts/descriptions?
 - Will you need to renegotiate the janitorial contract to include emptying recycle bins when emptying trash bins?
- ❑ Finding out if your waste management company or hauler will provide data on the weight or volume of materials recycled.
 - If not, make sure a method is in place for the school to gather this information. This could range from weighing your own trash to counting the number of bags in the dumpster or estimating and recording how full the dumpster is before your waste hauler picks it up.
- ❑ Getting feedback from schools on how the waste reduction program is running.
 - Are the storage containers large enough?
 - Are the materials picked up frequently enough?
 - Are there enough collection containers?
- ❑ While investigating markets for the schools' recyclables, explore recycling programs that will be profitable for the school and/or school district.
 - These programs can include credit programs and **reuse** programs.
 - Please refer to the *Program Options* (on page 27) for further information.
- ❑ If you are purchasing new computers for the school (or school district), consider having a **“take-back program”** agreement written into the supplier's contract.
 - The supplier will take back purchased computers and recycle them when the school has no further use for them.



10 Steps for Becoming Waste-Free

1. Organize a Team

Identifying Team Members

For any successful project, it is important to **organize a team that can help plan, design, and implement activities, and maintain your waste reduction program.** Your team should meet regularly to keep the program moving forward.

Your team could include individuals from the school and community including:

- Administrators
- Teachers
- Custodians
- Parents
- Students
- Other volunteers

By forming a team, numerous employees from various departments, students, and volunteers can share in your waste reduction efforts. Your team should include at least one person who is familiar with the school and/or school district's overall operations, such as a custodian or an administrator. One team member should be able to act as a liaison with the local environmental committee or state agency to ensure compliance with all local and state ordinances. The size of your team will depend on the size of your school or school district and its individual departments/operations.

Members might be responsible for activities such as:

- Gaining support from school or district officials to initiate a waste reduction program.
- Working with school or district officials to set the preliminary and long-term goals of the waste reduction program.
- Gathering and analyzing information relevant to the design and implementation of the program.

- Promoting the program to other employees and students and educating them on ways to participate.
- Monitoring program progress.
- Reporting to school or district officials about the status of the program.

Schools or school districts can either ask for volunteers or appoint members, and give members special recognition.

Selecting a Team Leader

A strong team leader is essential for generating support and enthusiasm for the waste reduction program. School officials or the team should choose a knowledgeable and motivated team leader capable of:

- Directing team efforts.
- Administering program planning, implementation, and operation.
- Acting as a liaison between school officials and the team.

Follow these steps for a successful **waste reduction** program:

1. Organize a Team
2. Identify Your Waste
3. Evaluate Your Options
4. Develop a Budget and Raise Money for Your Program
5. Identify Markets and Transportation for Collected Items
6. Educate Participants
7. Implement the Program
8. Monitor, Track, and Measure Progress
9. Share Results and Promote Success
10. Assess Results and Re-evaluate Program

A good team leader could be a department director, teacher, club sponsor, or student leader whose program benefits from the waste reduction effort.

At the school district level, waste reduction activities might be incorporated into a current employee's job description or you might want to consider hiring or selecting a dedicated program coordinator to lead the waste reduction team. Such a coordinator will be available to oversee the planning and implementation of the entire program.

2. Identify Your Waste

Conduct a **waste assessment** to identify the types and amount of waste your school or school district is producing. This activity can be as simple as asking your maintenance staff (janitorial and cafeteria) to calculate or estimate the amount of waste your school disposes. A step-by-step waste assessment guide can be found in *Appendix A: Conducting a Waste Assessment* online at www.epa.gov/epaoswer/education/toolkit.htm.

Waste Assessment Approaches

See *Appendix A: Conducting a Waste Assessment* online at www.epa.gov/epaoswer/education/toolkit.htm and the **Glossary** (on page 37) for more information and definitions of these activities

Records Examination

Examining records can tell you about your school's waste generation and removal patterns. You might want to examine records such as purchasing invoices, sales logs, and waste-hauling and recycling records.

Facility Walk-Through

A facility walk-through is a relatively quick way to assess your school's waste generation practices. Tour the school and its grounds—including the cafeteria, stadium/arenas, sporting fields, and even the specialty classrooms, like carpentry and auto shop. Observe the activities of each department, and interview employees about waste-producing activities and equipment.

Waste Sort

Identify each component of your school's waste and calculate the percentage of your school's total waste generation. Waste sorts can focus on an entire school's **waste stream** or target specific areas, such as the cafeteria or the classrooms.

Involve Students

Encourage students to participate in waste reduction programs through classroom lessons and/or extra curricular activities. By actively contributing to the waste reduction program, students will gain a sense of program ownership. Additionally, students will bring this sense of ownership with them as they advance grades, helping to instill the waste reduction message throughout the entire district. To involve students, use some of the following activities or design your own tasks for your students.

Student Activities

- Start or encourage students to join an environmental club.
- Distribute recycling collection containers.

- Collect and sort materials by type.
- Monitor recycling bins to reduce **contamination**.
- Participate in schoolwide assemblies to increase enthusiasm for the waste reduction program.
- Enter schoolwide or districtwide contests to name the program or design a poster or other educational materials.
- Write articles for the school, school district, or community newspaper about the program or the importance of waste reduction.
- Manage parts of the school's waste reduction program.

Don't forget to ask for volunteers and reward students for their participation if not already part of a classroom lesson. See Step 9 on page 24 for reward ideas.

During a waste assessment, schools and school districts typically find:

- Paper (a large quantity of white paper, mixed paper, and newspaper)
- Corrugated cardboard
- Plastics (HDPE and PET)
- Aluminum and steel cans
- Food scraps

See *Appendix B: Common Recyclable Materials* online at www.epa.gov/epaoswer/education/toolkit.htm for a list of additional materials schools or school districts might find in their **waste streams**.

Specifically, a **waste assessment** will:

- Identify waste generated at the school, as well as current purchasing and management practices.
- Examine current waste reduction practices and assess their effectiveness.
- Identify the areas and materials in which waste reduction efforts will be most effective.
- Establish a baseline for measuring progress of waste reduction efforts.

The results of your waste assessment will show you which materials are disposed of most often and where your school or school district can reduce waste, **reuse** products, and **recycle** materials.

3. Evaluate Your Options

Before moving forward with your schoolwide or districtwide waste reduction program, define the scope of your program and set goals. See *Appendix B: Common Recyclable Materials*, *Appendix C: Screening Criteria*, and *Appendix D: Operational Feasibility* online at www.epa.gov/epaoswer/education/toolkit.htm for more information on evaluating your options.

Identify Materials to Target

Using the results of your waste assessment, determine which **materials** your program will focus on. Also, remember to take into consideration any reuse and recycling programs that are already underway in your area. This will make it easier for you to find someone to pick up your **reusables** and **recyclables**. See Step 5 on page 19 for more information on identifying markets for collected materials.

Research Local Ordinances

Before starting your program, contact local or state environmental agencies to find out what **local ordinances** might apply. If you're considering any type of in-school program, check with the fire marshal, school administrators, and building superintendents regarding **storage containers and collection dos and don'ts**. Storing paper for recycling, for example, might have specific requirements to prevent fire hazards. If you plan to **compost** on a large scale, please work with local solid waste and health officials.

Consider Options for Collecting and Storing Materials

You will need **appropriately marked containers** to collect materials.

- Determine what type of container will be used to collect materials in classrooms, offices, halls, the library, and the cafeteria.
 - Do you need different containers for different materials?
 - Where will containers be placed? Typically, you will want to place containers close to where the material is generated.

Depending on the type of program, you might need to collect materials from containers throughout the school and move them to an onsite storage facility. To make sure this type of collection is possible:

- Determine if **ample storage space** is available for your collected materials.
 - Does the school have indoor space to use as a collection and storage center?
 - Alternatively, is there room for a large container outside with truck access?
- Decide how reusable and recyclable materials will be **moved** from the collection containers to the onsite storage space.
 - If your program is districtwide, will you collect and store materials at each school or have a central collection and storage site?
- Identify who will be responsible for each step of the collection process.
 - Will students be responsible for moving materials or will this be school personnel's job?
- Decide whether the materials will be picked up from the storage site or if a designated person will deliver the materials to a recycling center.
 - If you use a central site, will schools be responsible for bringing their own materials to the site or will the materials be picked up from each school?

See Step 5 on page 19 for more information on hiring a company to collect your recyclables.

Track Your Progress

There are many options for **tracking** your progress. You could use a simple spreadsheet detailing your collection efforts, or you could use a prepared form for tracking purposes. You could also consider joining a program such as EPA's WasteWise program, which provides forms, instructions, and technical assistance.

To sign up to become a WasteWise partner, please visit the Web site at www.epa.gov/wastewise. See Step 8 on page 23 and *Appendix E: Tracking* online at www.epa.gov/epaoswer/education/toolkit.htm for more information on tracking.

Set Goals

Setting specific goals will help you **prioritize activities** for reducing waste and expanding your program. To set goals, you can use both the results of your waste assessment and other resources below. Your goals can be numerical (e.g., collecting x tons of paper annually), activity-based (e.g., collecting a new material or undertaking a new effort), or monetary (e.g., saving a certain amount of money on disposal costs). You might want to focus your entire program on one material generated in large quantities, such as paper or plastic bottles, or you might decide to address a once-a-year issue, such as old text books. Whatever your goals might be, make sure to set goals that can be tracked and measured. See the *Setting Goals* sidebar (on next page), *Program Options* (on page 27) and *Appendix F: Waste Reduction Ideas & Goals* online at www.epa.gov/epaoswer/education/toolkit.htm for sample goals and efforts.

Districtwide Considerations

If your waste reduction program is districtwide, you will need to make a few additional decisions. Will participation in the program be mandated at all schools or voluntary? Will the schools be able to select the activities that work best for their location (recommended) or told to implement certain activities? See the *Resources* online at www.epa.gov/epaoswer/education/toolkit.htm for more information on districtwide environmental policies.

Setting Goals

Check out these waste reduction ideas!

Waste Prevention Goals

- Duplex print and copy
- Use the Internet for research assignments
- Make memo pads out of scrap paper
- View information electronically instead of printing hard copies
- Reduce handouts distributed
- Have a **waste-free lunch** day

Reuse/Donation Goals

- Reuse school supplies, such as folders and binders
- **Donate** furniture or electronics to a local charity
- Collect unclaimed items from lockers at the end of the year to donate or reuse
- Use old magazines for art projects

- Use compostable trays, utensils, and dishware in the cafeteria

Recycling Collection Goals

- Hold a recycling competition among classes
- Recycle a new material
- Place recycling bins in convenient locations

Other Goals

- Start an environmental club
- Educate students about waste reduction
- Reduce the amount of waste disposed to reduce tipping fees
- Join WasteWise, other EPA programs, or Keep America Beautiful for recognition of your efforts

Additional ideas can be found in the *Program Options* (on page 27).

The Schools Chemical Cleanout Campaign (SC3)

strives to remove potentially harmful chemicals from K-12 schools, encourage prevention of future chemical management problems through policies and practices such as chemical management training for instructors, and raise national awareness of hazardous chemicals in schools. For more information, please see the SC3 Web site at www.epa.gov/sc3.

WasteWise is a partnership program sponsored by EPA through which organizations reduce municipal solid waste and select industrial wastes, benefiting their bottom line and the environment. WasteWise is flexible, allowing partners to design waste reduction programs tailored to meet their needs. Any organization, including schools and school districts, can join. For more information, please see the WasteWise Web site at www.epa.gov/wastewise.

4. Develop a Budget and Raise Money for Your Program

When you are developing a budget for your program you might encounter some costs both from within the school system and outside. Some of these costs might include:

- Supplies and equipment
- Transportation of materials
- Facility construction, maintenance, and/or rental
- Storage space rental
- Insurance
- Utilities
- Advertising
- Labor wages/salary

There are many **ways to pay for your program and keep it running for years to come**. Schools might be able to make money from their reuse and recycling programs that can offset some, if not all, costs. If the revenue from your program is not making ends meet, consider talking with school officials to find out if there is money in the budget to fund your program. If no money is available to cover operating costs, consider an alternative funding mechanism, such as:

- Launching the program by collecting electronics, furniture, and books to sell at a community yard sale.
- Working with a third-party organization that pays your school for collecting items such as used toner cartridges.
- Asking community leaders or civic groups if they can contribute money or donate advertising for the program.
- Asking local businesses if their haulers will pick up recyclables at schools to show support for the community.

Budget Considerations

As you develop the budget, evaluate the availability of material resources and services at the school or school district, such as:

- Identifying recycling bins.
 - Does the school or school district already have recycling bins or will you need to purchase new ones?
- Determining how the school will collect materials for recycling.
 - Can you adjust your current waste management contract to provide for collecting materials?
 - Do you need to hire a hauler or can you drop the materials off at the local recycling center?

Consider ways that waste reduction costs can be decreased, such as:

- Teaming up with other schools in the district to share transportation and storage costs, if it is not a districtwide program.
- Collecting multiple commodities for additional economic opportunities.

See the *Resources* online at www.epa.gov/epaoswer/education/toolkit.htm for additional funding information.

5. Identify Markets and Transportation for Collected Items

Identifying Markets

Before you begin collecting recyclables or products for reuse, **identify a market for the materials you collect**. Remember, even though you may no longer need a product, chances are someone else does.

Call your local recycling center, recycling charities, scrap dealers, or **haulers** to verify who will accept the materials you want to reuse or recycle (your school, school district, city, or county might already have a collector under contract). Also look for local waste exchange options to see if you can set up a permanent arrangement for your materials to be picked up. If you can't find a company that will accept the materials you want to market, your local or state government recycling offices, the local Chamber of Commerce, or a local or regional recycling organization might be able to help you find or develop new markets for materials you intend to collect. They might also be willing to help or advise you with your program.

Materials Pickup

You will need to determine how you will transport your collected materials. Options include:

- Having school personnel or volunteers drop off materials at a vendor or municipal recycling center.
- Working with your current waste **hauler** to include recycling in your contract.
- Hiring a company to pick up your materials.
- Coordinating with local businesses or other organizations.

The best option for your school or school district will depend on your program type, budget, and school or school district policies.

Hiring a Company to Pick Up Materials

You might need to hire a company to pick up **recyclables** from your school. To find this information, start by asking your current waste hauler if they offer **recycling services**. If they don't, ask neighboring businesses if they have a waste hauler that does. If they do, you may be able to decrease pick-up costs since the company is already servicing your area. If no one in your area has recycling services, check your local telephone directory under "waste management" or "recycling" to find companies that do.

When contacting a new company, here are a few questions you should ask:

- What services do you offer?
- Do you collect items, and if so, how often?
- Do you transport the materials?
- How and when do you pay?

Even if a company will pay for your recyclables, the highest price per pound might not always be the only thing to consider. After speaking with the vendor, be sure to check references! Obtain and thoroughly check the buyer's references with existing contract holders, asking these organizations specifically whether their buyer is fulfilling all contract specifications. See *Appendix G: Questions to Ask Potential Buyers of Recyclables* online at www.epa.gov/epaoswer/education/toolkit.htm for more information on selecting a recycler.



6. Educate Participants

Notify the entire school or school district and the surrounding community about your waste reduction program. **Explain how it will run, why you have a waste reduction program at your school, and how members of the community can get involved.**

Faculty and staff might be interested in helping design the educational component of the waste reduction program. Adding creative waste reduction activities to classroom work may interest both teachers and students, helping to keep faculty, staff, and students excited about the waste reduction program. Suggestions to educate participants include:

- At the start of your program, send e-mails, flyers or letters home with students or group members to inform parents and others of program specifics.
- Display posters and written messages (on chalkboards or in chalk on sidewalks) around the school.
- Make announcements during school, at staff meetings, and at PTA meetings.
- Consider having a special assembly or presentation to kick off the program.
- Send press releases to local newspapers and radio and TV stations to encourage the community to participate.
- Run announcements in weekly shopping circulars, local bulletins, and club and religious organizations' newsletters.
- Check with state, local, and tribal officials about special publications or presentations they might have developed about reuse and recycling, as they might be able to help promote the program.
- Create a waste reduction Web site and/or e-newsletter or listserv.
- Print articles about the waste reduction program in a school newspaper or newsletter.

Some of these same educational ideas can be used to help you promote the success of your program. See *Appendix H: Sample Letter to Parent or Guardian/Permission Slip*, *Appendix I: Loudspeaker Announcements*, *Appendix J: Sample Press Release* online at www.epa.gov/epaoswer/education/toolkit.htm, and Step 9 on page 24 for more information.



Recycling Facts & Figures

When This Material Is Recycled...	It Can Be Turned Into...	Energy Savings from Recycling	Greenhouse Gas Emission Reductions from Recycling
Aluminum	New aluminum cans, pie pans, house siding, small appliances, lawn furniture—in fact, almost everything aluminum	Recycling one aluminum beverage can could save enough energy to run a 100-watt bulb for 20 hours, a computer for three hours, or a TV for two hours.	Recycling 10 tons of aluminum saves as much greenhouse gas emissions as preserving more than 1.1 acres of forest from deforestation.
Glass	Glass jars and bottles, fiberglass insulation, tiles, countertops, glass pavers, sand for ashtrays and sand traps, pavement (pulverized glass)	The energy saved from recycling one glass bottle will operate a 100-watt light bulb for four hours.	Recycling 10 tons of glass saves as much greenhouse gas emissions as preventing the use of more than eight barrels of crude oil.
Paper	Newspaper, tissue products, paper towels, notebook paper, envelopes, copy paper and other paper products, insulation, hydro-mulch, molded packaging, gypsum wallboard, and kitty litter	By recycling one ton of paper, we save enough energy to heat an average home for six months.	The greenhouse gas emission reductions from recycling 10 tons of mixed paper are comparable to preventing the use of 94 barrels of crude oil.
Plastic	Fiberfill (for ski jackets, cushions, sleeping bags, etc.), plastic containers and bottles, recycling bins, fleece, carpet, car parts, tennis ball felt, pallets, benches, fences, building materials, twine, and thermoformed parts	The energy saved by recycling one plastic bottle will power a computer for 25 minutes.	Recycling 10 tons of PET plastic saves as much greenhouse gas emissions as removing more than three cars from the road for one year.
Steel	Steel cans, building materials, tools—in fact, almost everything steel	By recycling steel, the steel industry saves enough energy in one year to electrically power 18 million homes for one year.	Recycling 10 tons of steel saves as much greenhouse gas emissions as growing 470 tree seedlings for 10 years.

7. Implement the Program

It's time to **launch your waste reduction program**. A great way to get the whole school involved and excited about your program is to hold a **schoolwide kick-off event**. These events provide an opportunity to encourage participation and explain what your program seeks to accomplish.

Depending on the type of program you are implementing, you may or may not be able to roll out the entire program at once. If you can't start everything immediately, start with as many activities as you can and add more when possible.

Troubleshooting

Sometimes, unforeseeable problems can arise once a school's recycling program is in place. Remember: no problem is too big to stop recycling! Common program problems include:

- Contamination
- Liquid (from bottles and cans)
- Pests
- Program sustainability

Consider establishing a "helpline" for your school or school district that provides an individual who can assist with contamination problems.

Handling Contamination

Contamination is a common problem for recycling programs. The two most common forms are:

- Recyclable materials thrown in the trash rather than the collection bins.
- Incorrect items thrown into collection containers (e.g., trash in the recycling bins or aluminum cans in the paper recycling bins).

A school's strongest weapon against contamination is education. Make sure all containers are clearly labeled. Hang signs describing your recycling program and listing which materials are accepted in your program. Regular evaluations can also help remedy this problem. Be sure to tell students and staff if you find contamination problems or if you find recyclables thrown away in trash cans. Use the sample contamination coupon in *Appendix L: Contamination Coupon* online at www.epa.gov/epaoswer/education/toolkit.htm to notify people of these problems. (Also see the following Appendices online at www.epa.gov/epaoswer/education/toolkit.htm: *Appendix I: Loudspeaker Announcements*, *Appendix J: Sample Press Release*, *Appendix N: Troubleshooting*, and *Appendix K: Sample Container Signs*).

Hold a "Make a Difference Day"

A "Make a Difference Day" involves hands-on activities that engage students in learning about reducing waste, reusing materials, recycling, composting, and conserving natural resources and energy. Whether it involves conducting a "waste-free lunch" or swapping school supplies, clothing, and toys to reuse, a Make a Difference Day engages students in a variety of environmental activities. These activities help students and staff get excited about your waste reduction program and the environment. See the *Resources* online at www.epa.gov/epaoswer/education/toolkit.htm for more information.

8. Monitor, Track, and Measure Progress

Program monitoring and evaluation is a crucial element of any waste reduction program. By making regular evaluations, you can respond quickly and appropriately to problems that might arise, like contamination. Monitoring the program consistently will also put you in a good position to track your results and measure progress.

Quantifying waste prevention results is one of the most challenging aspects of any waste reduction program, but tracking results helps to evaluate the program's value. Gather information on the **amount recycled, expenses, and cost savings** to quantify the environmental and economic benefits of your program. By comparing results annually, you will be able to measure the program's progress.

You can estimate the volume and/or weight of the materials you collect. For assistance, refer to the volume-to-weight conversion chart found on RecycleMania's Web site at www.recyclemaniacs.org/doc/measurement-tracking/conversions.pdf.

Using a **tracking sheet** will help you monitor the type and amount of the materials you are collecting, by week or month. See *Appendix E: Tracking* online at www.epa.gov/epaoswer/education/toolkit.htm for tracking sheet examples.

Tracking Results

Your tracking mechanism should help you determine environmental and economic benefits of your waste reduction program, such as:

- Decreased waste generation
- Avoided waste removal costs
- Avoided purchasing costs
- Increased waste prevention and recycling revenues
- Decreased energy consumption
- Reduced greenhouse gas emission

Keep in mind that cost savings, revenues, and greenhouse gas emissions are not the only indicators of your program's success. Be sure to consider the intangible benefits of waste reduction, such as improved image and staff/student morale, when ascertaining the success of your program.

See *Appendix E: Tracking* online at www.epa.gov/epaoswer/education/toolkit.htm for more information on the benefits of tracking.

Determine Environmental Benefits

Using the values and calculations on your school's tracking sheet, compare your waste reduction numbers to the facts in *Appendix M: Factoids* online at www.epa.gov/epaoswer/education/toolkit.htm. You can also refer to EPA's Waste Reduction Model (WARM) Calculator at www.epa.gov/globalwarming/actions/waste/w-online.htm to convert waste reduction values into greenhouse gas emission reductions and energy savings.

9. Share Results and Promote Success

Publicize Your Results to Help Motivate Participants

Within the school or school district, you might consider setting up a competition among schools, classrooms, or grades and offer the winner a reward.

A reward system can provide **stronger incentives** to make your waste reduction program successful. Take into account school or group size and available resources when establishing rewards, so that everyone has an equal chance of winning something.

The rewards you offer will depend on your budget, but they should always be environmentally friendly. Rewards might be donated by local businesses or bought with the proceeds of the waste reduction program. Ideas include:

- Pizza parties
- Trips to the zoo or other local establishments
- Computers or other new school equipment
- Certificates of appreciation
- Scout badges
- Gift certificates (best for individuals)

Share Your Successes with the Community

Letting the community know about your waste reduction efforts demonstrates environmental stewardship. Provide regular updates to parents and the community about your waste reduction program through general communications, newspaper articles, and community and school events.

Use Environmental Factoids

Use environmental factoids in *Appendix M: Factoids* online at www.epa.gov/epaoswer/education/toolkit.htm to help you measure the impacts of your school's waste prevention and

recycling program. Refer to the WASTE Reduction Model (WARM) Calculator in the *Resources* online at www.epa.gov/epaoswer/education/toolkit.htm to convert waste reduction values into **greenhouse gas** emission reductions and energy savings.

Spread the Waste Reduction Message

Purchase **recycled content** or environmentally preferable products, such as memo pads or pencils, and imprint with environmental messages to let users know about your waste reduction program. See the *Resources* online at www.epa.gov/epaoswer/education/toolkit.htm to learn more about purchasing recycled content and environmentally preferable products.

Gain National Recognition

You might also be interested in bringing national recognition to your school or school district. Consider joining WasteWise—a free EPA partnership program, working to reduce municipal solid waste and select industrial wastes. Through WasteWise, your school will receive additional technical assistance and recognition. For more information, please see the WasteWise Web site at www.epa.gov/wastewise.

Hold a Recycling Competition

Form student teams—by class, grade, cafeteria period, lunch table, or other logical grouping—and compete over a 10-week period to collect the largest amount of recyclables and/or to decrease the amount of waste generated. This activity increases student awareness of school recycling and waste prevention.

10. Assess Results and Re-evaluate Program

Ask for **feedback** from students, faculty, and staff to determine which activities work, and expand upon the successful ones. Refer to *Appendix N: Troubleshooting Guide* online at www.epa.gov/epaoswer/education/toolkit.htm for assistance with any problems that might become obvious during this step. Be willing to **make changes** as the program grows or circumstances change.

Evaluating the Program

Asking students, faculty, and staff some of these questions will help you determine the success of the waste reduction program:

- What is successful about the program?
- What doesn't work with the program?
- Is there an adequate number of recycling bins? Are they easily accessible? Are they clearly labeled and identifiable?
- Did you notice any contamination problems? If so, what kind of contamination?
- Is the educational aspect of the program helpful?
- Do the incentives help motivate participants?
- Do you have any suggestions for improving the program?
- What questions or concerns do you have about the program?

See *Appendix O: Program Assessment and Re-evaluation* online at www.epa.gov/epaoswer/education/toolkit.htm for more questions to help you evaluate the success of your waste reduction program.



Program Options

The program options below are designed to give you ideas on the types of **waste reduction** programs you can implement at your school or throughout your school district. The options focus on different materials and require various levels of commitment and support. There are many options to choose from, and hopefully one will be right for you and your school. After evaluating your needs, capabilities, and goals, choose the option that works best for you.

Reducing or Eliminating Waste

Your school or school district might want to consider undertaking **waste prevention** activities by reducing or eliminating materials from entering the **waste stream** (also known as **source reduction**). **Source reduction** actually prevents the generation of waste in the first place, so it is the most preferred method of waste management and goes a long way toward protecting the environment.

A program emphasizing reduction or elimination of waste calls for a comprehensive outreach program so that participants understand the goals of the program and methods to reduce or eliminate waste.

One-time or Periodic Reuse or Recycling Drives

Your school or school district can establish one-time or periodic drives to collect reusable and recyclable items. Reusable items—for internal **reuse** or **donation**—such as clothing, books, toys, computers, and other electronic equipment, or recyclable materials, such as paper, aluminum, glass, and plastic, can be brought to a drop-off location on an appointed day(s).

Sample Waste Prevention Efforts

Potential Products/Materials	Activity
Paper	Reduce paper use by copying and printing on both sides of the paper and giving assignments that do not need to be written.
Packaging	Purchase items in bulk to reduce the amount of packaging used.
Magazines	Eliminate duplicate magazine subscriptions.
Newspapers	Read news online instead of in hard copy.
Food	Use an “offer versus serve program” in the cafeteria to reduce the amount of food distributed.

Sample Reuse/Donation Efforts	
Potential Products/Materials	Activity
Office supplies Electronic equipment Containers Furniture	Swap products/materials with one another on site.
Furniture Books Computers	Sell collected materials at a community yard sale and use the proceeds for school activities. These drives are also sometimes part of a national, state, or local government campaign.
Furniture Books Computers Office supplies Surplus food Containers Bicycles	Donate the collected materials to a specific beneficiary, such as a library, shelter, or charitable organization.

Sample Reuse/Donation Efforts	
Potential Products/Materials	Activity
Paper Plastic Glass Cardboard	Host a collection event during which your local recycling center collects the materials and transports them back to the center for processing.
	Collect recyclables and arrange for adult volunteers to take the collected materials to the recycling center.
	Collect recyclables and hire a hauler to transport the materials you collected during your event.

If you have a community waste reduction or recycling coordinator, be sure to coordinate efforts with this contact. This option does not require long-term storage space, but might require extra space at school or in people's homes for collecting materials before they are brought to the collection location or hauled away.

Continually Operating School-Based Reuse and Recycling Programs

A number of permanent reuse and recycling programs exist, with different options for funding, supplies, and services. Student-run clubs, local or state government programs, or nonprofit institutions are all possible sources of support for your program. For this kind of program, your school needs collection bins and storage space for the reusable or recyclable materials, which also should be picked up regularly by a designated **hauler** or brought to a recycling center.

You may also want to bring such a program to the community—since schools often serve as focal points for local residents, they are ideal for stationary reuse and recycling drop-off points. A storage facility, where people can drop off their reusable and recyclable products, should be put in an easily accessible holding area, such as a parking lot.



Sample Reuse/Donation Efforts	
Potential Products/Materials	Activity
Office supplies	Store extra/reusable supplies in a central location.
Computers	Design a continuous donation program with a local organization.
Food	Donate excess edible food to a local shelter.
	Compost food scraps to use as a soil amendment on school grounds.
Electronics	Purchase electronic equipment from companies that take back old computers when new ones are purchased. Donate computers or other electronics to local organizations, other schools in the district, the community, etc.

Sample Recycling Efforts	
Potential Products/Materials	Activity
Paper	Establish a classroom recycling program. Collection bins could be placed in each room and collected by custodial staff or students.
Aluminum Glass Paper Plastic	Organize a cafeteria recycling program. Place bins throughout the cafeteria near garbage cans, as well as in other locations where students snack. Don't forget to clearly mark the bins for recycling.

Even though a long-term reuse or recycling program requires careful planning and continuous outreach, it can also offer great rewards. Such a program allows participants to see the results of their collection efforts on a daily or weekly basis. An in-school program also greatly encourages people to make waste reduction part of their daily routine.

Sponsored Waste Reduction Programs

Corporate or government organizations sometimes sponsor reuse or recycling drives or donate money or supplies to start a waste reduction program. Corporate sponsors can be good sources for funding and advertising, but you might have to follow their guidelines and have the sponsor's name associated with your school or school district's activities.

Composting at Schools

See the *Resources* online at www.epa.gov/epaoswer/education/toolkit.htm and the **Glossary** for more information and definitions of the following activities.

Composting is the controlled biological decomposition of organic matter, such as food and yard wastes, into humus, a soil-like material. Food and yard wastes make up a large part of a school's waste stream. Composting options for schools and school districts include:

- **On-site composting** - Composting appropriate food wastes and yard trimmings in a compost pile outside or a compost bin indoors can significantly reduce the amount of waste that needs disposal. The resulting compost can be spread in garden beds and under shrubs, or it can be used as potting soil for outdoor plants.
- **Grasscycling** - Leaving grass clippings on the lawn to decompose and return nutrients back to the soil, rather than bagging and disposing of them.
- **Vermicomposting** - Through vermicomposting, red worms are placed in bins with organic matter in order to break it down into valuable compost called castings.

Before you start a composting program, be sure to check with local health codes to ensure large-scale composting does not violate any local regulations.

Sample Sponsored Waste Reduction Efforts

Potential Products/Materials	Activity
Electronics	Work with a local electronics store to host a recycling drive.

Plug-In To eCycling

Through EPA's Plug-In To eCycling program, companies that manufacture and sell consumer electronics are teaming up with government agencies to increase the number of electronic devices collected and safely recycled in the United States. Your school or school district could spread the word about these opportunities, or could potentially serve as welcome volunteers at some electronics recycling events. For more information, please see the Plug-In Web site at www.epa.gov/plugin.

Credit Accounts

If your school or school district establishes a “credit account” with a local recycling center, materials collection center, or other third-party organization, the monetary value of any recyclables deposited there will be added to your account. Students and others can deposit recyclables and have the proceeds of those items posted to that account.

Promoting your school or school district as the beneficiary of your recycling effort is an important motivator for participation. Classroom activities and publicity reinforce recycling lessons and increase participation. If storage space is a problem for your school or school district, you might want to consider this type of program.

Buying Recycled Content Products

When making purchasing decisions, schools and school districts should consider buying **recycled content products** to complete the recycling process or “close the loop” by creating a strong **market** for recycled products.

There are more than 4,500 recycled content products available, and this number continues to grow. In fact, many of the products regularly used in schools contain recycled material. The following list is just a sample of products used in schools that can be made with recycled content.

To learn more about buying recycled, see the *Resources* online at www.epa.gov/epaoswer/education/toolkit.htm.

- Paper
- Notebooks
- Binders
- Pencils
- Toner cartridges
- Aluminum cans
- Plastic bottles
- Glass containers
- Newspapers
- Packaging
- Paper towels
- Trash bags
- Carpeting
- Playground surfaces
- Picnic benches
- Furniture

Sample Sponsored Waste Reduction Efforts

Potential Products/Materials	Activity
<ul style="list-style-type: none"> Paper Glass Plastic Cardboard Aluminum Toner cartridges Cell phones 	<p>Establish a credit account with your local recycling center to allow the school to get credit for material drop-offs from community members.</p>

Conclusion

Congratulations on starting your new or expanding your existing waste reduction program! You have taken a key step toward protecting the environment and reducing waste in your school or school district.

Hopefully, this guide has provided you with feasible and practical ideas to implement new, or expand upon existing, waste reduction programs. Please visit the School Waste Reduction Toolkit Web site at www.epa.gov/epaoswer/education/toolkit.htm for more ideas and additional information, including:

- Links to useful programmatic and topical resources
- Step-by-step directions for conducting a waste assessment and tracking results
- Information about common recyclable materials
- Screening criteria and operational feasibility for potential waste reduction activities
- Sample waste reduction goals
- Questions to ask potential buyers of recyclables
- Sample letter to parent or guardian/permission slip
- Sample loudspeaker announcements
- Sample press release
- Sample container signs
- Sample contamination coupon
- Environmental factoids
- Troubleshooting guide
- Program assessment and re-evaluation information

Good luck with your waste reduction program and keep up the good work!



Glossary

- **Buy recycled** – Purchasing products made of recycled materials.
- **Climate change** – Refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer).
- **Closing the loop** – Purchasing products made with recycled content. Purchasing recycled products promotes the continued manufacture of these products, thus completing the recycling loop.
- **Compost** – The controlled microbial decomposition of organic matter (such as food scraps and yard trimmings) in the presence of oxygen into a humus- or soil-like material.
- **Contamination** – Foreign material that makes a recyclable or compostable material impure; for instance, food scraps on paper products.
- **Donation** – Instead of throwing out unwanted or old items, products or materials are given to other organizations in need.
- **Environmental or ecological footprint** – Your impact on the environment.
- **Facility walk-through** – A method to assess your school’s waste generation practices through interviewing, observation, and estimation.
- **Fossil Fuel** – Fuel derived from ancient organic remains; e.g. peat, coal, crude oil, and natural gas.
- **Grasscycling** – Leaving grass clippings on the lawn to decompose and return nutrients back to the soil rather than bagging and disposing of them.
- **Greenhouse gases (GHGs)** – Gases in the Earth’s atmosphere, such as water vapor (H₂O), carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄) and ozone (O₃), that collectively act as a greenhouse gas by preventing too much heat from escaping from the atmosphere.
- **Hauler** – A garbage collection company that offers complete refuse removal service; many also collect recyclables.
- **Markets** – A recycling business (i.e., a buyer) or municipal recycling facility that accepts recyclable materials for processing and final sale to an end user, either for its own use or for resale.
- **Offer versus serve program** – In a cafeteria, employees offer food rather than serving it automatically. By taking only the food that it desired, individuals can help decrease food waste.
- **On-site composting** – Composting appropriate food wastes and yard trimmings in a compost pile outside or compost bin indoors.
- **Records examination** – An examination of records such as purchasing invoices, sales logs, and waste hauling and recycling records to provide insight into your school’s waste generation and removal patterns.
- **Recyclables** – Products or materials that can be collected, separated, and processed to be used as raw materials in the manufacture of new products.
- **Recycle** – A series of activities that includes collecting recyclable materials, sorting and processing recyclables into raw materials such as fibers, and manufacturing the raw materials into new products.

- **Recycled content products** – Products manufactured with recovered materials.
- **Recycling services** – Services provided by companies that recycle collected materials.
- **Reuse** – Using items again by repairing, donating, or selling them. Reuse is even better than recycling because the item does not have to be reprocessed before it can be used again.
- **Service-learning** – A method of encouraging student learning and development through active participation in a thoughtfully organized service that is conducted in, and meets the needs of, a community.
- **Source reduction** – Reducing or eliminating waste at the source before it is generated. Source reduction actually prevents the generation of waste in the first place, so it is the most preferred method of waste management and goes a long way toward protecting the environment. Also known as “waste prevention.”
- **Take-back program** – A program in which products are returned to the manufacturer at the end of the product’s life. The manufacturer is responsible for remanufacturing, recycling, or properly disposing of the products once they are returned.
- **Tracking** – Tools used for monitoring and evaluating waste reduction data.
- **Vermicomposting** – Using worms to break down organic waste.
- **Waste assessment** – A tool to help identify and quantify the amount of waste generated.
- **Waste-free lunch** – A lunch with no waste! Only reusable or recyclable items are used and leftover food is composted.
- **Waste prevention** – Reducing or eliminating waste at the source before it is generated. Also known as “source reduction.”
- **Waste reduction** – Using source reduction, recycling, or composting to prevent or reduce waste generation.
- **Waste sort** – Identifying each component of a school’s waste and calculating its percentage of the school’s total waste generation.
- **Waste stream** – The total flow of solid waste from homes, businesses, institutions, and manufacturing plants that is recycled, burned, or disposed of in landfills, or segments thereof such as the “residential waste stream” or the “recyclable waste stream.”



United States
Environmental Protection Agency
Office of Solid Waste (5305P)
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