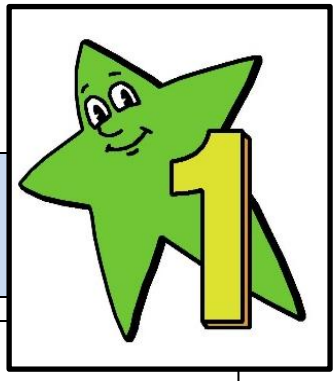
WASTE-REDUCTION ACTIVITIES

Eco-Wise School Supplies



Snapshot
This project provides an easy way for busy parents to support ecological principles in the rush of back-to-school buying.

Objective: Students, families, and staff will research, promote, and purchase recycled, reusable, non-toxic, and sustainable school supplies.

Age Groups: K-12th grade

Setting: Schools, homes, retail stores

Project Duration:
- Research and promotion: 5-10 hours in spring semester
- Activity: 1 week in subsequent fall semester

Materials:
- Internet access
- Phone access
- Printer access
- Box for collecting participation slips
- Prizes
- Chart paper
- Markers

Why This Project Matters:

Increasing the purchase and use of sustainable school supplies lessens the negative impact of resource extraction on the planet. It will also contribute to the success of the recycling industry and increase landfill diversion. When consumers buy recycled, reusable, non-toxic, and sustainable products, they send a message to manufacturers in support of sustainable industries.

Project Summary:

Students and staff will work together and learn about the impacts of waste on the environment and the importance of purchasing sustainable products. Parents will receive a list of stores and websites where sustainable school supplies are available. Student and classroom incentives will encourage the purchase and use of sustainable products.

Implementation:

The research and promotion for this activity is conducted during the spring semester of a school year in preparation for the prize drawing in the fall of the following school year.

Awareness activities to do with a student group:
- Discuss the difference between the terms *recyclable*, *recycled*, and *reusable*. (See glossary for definitions.)
- Review other relevant vocabulary like *non-toxic*, *sustainable*, *upcycled*, *eco-friendly*, etc.
- Discuss what the phrase "closing the loop" means. For the recycling industry to thrive, we must collect recyclables and purchase recycled products. If recycled products are not purchased, the companies that manufacture these products will not survive, our collected recyclables will be overabundant, and some will be discarded into landfills. Discuss how consumer demand affects other sustainable products. (If we don't purchase them, companies won't make them!)

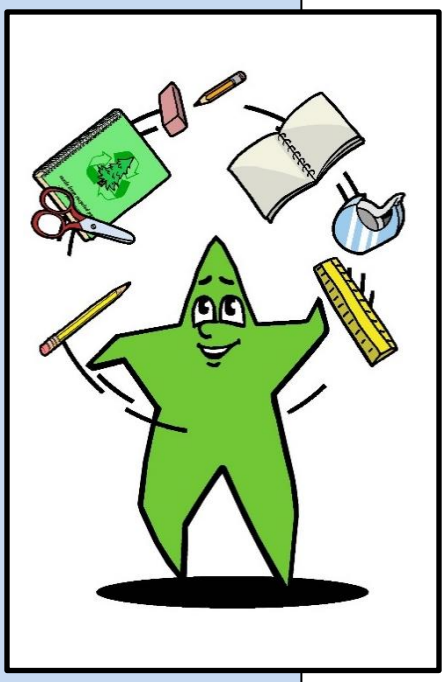
- Consult a globe or world map to track down where items in a classroom come from (look for *"Made in _____"* labels on common items). Talk about the environmental impacts of importing goods from other countries (such as the energy used to transport items to the U.S.).

Promote (spring) *and purchase or use* (summer and fall) *eco-wise school supplies:*

- In the spring, create a checklist of typical school supplies (see below for suggested list). By phone or site-visit, have students survey local stores to locate available recycled, reusable, non-toxic, or sustainable options (e.g., art supply stores, department stores, discount stores, office supply stores, grocery stores, hardware stores, etc.). When surveying, look for these key phrases: *Made in USA, Sustainably Harvested, ____% Post-Consumer Recycled Materials, Alternative fibers* (banana stalks, hemp, sugar cane stalks, mango, coffee), *Reusable, BPI Certified Compostable, Repurposed, Non-Toxic, Made from Recycled Materials,* etc.
- Conduct internet searches for companies that manufacture/sell eco-friendly school supplies and other products. In addition to using the phrase *school supplies* in the search engine, include the key phrases mentioned above, as well as these: *Recycled, Green, Sustainable, Eco-Friendly*.
- From this research, create a chart featuring retail stores and websites with the eco-friendly products they offer. Include the mention of other eco-friendly options, such as reusing school supplies from last school year and repurposing parents' unused office supplies from home.
- Incentivize local stores to stock more sustainable products by informing them that a list of retail stores providing eco-friendly school supplies will be posted on the school website and/or shared via school newsletter.
- Create the page on the school's website (and/or newsletter) that includes the chart of participating stores and websites and the items they carry, as well as some eco-facts about resource consumption and sustainability.
- On each classroom school supply list (that is shared with families at the end of spring semester for summer purchasing), include a link to the school's website page of eco-friendly school supplies and where to find them.

Extensions:

- Write letters to local businesses about why it is important to offer eco-friendly products.
- Find funding (grants, PTA, local businesses, local government, etc.) to provide a savings bond or gift certificate to one student randomly drawn from participating student entries.
- Expand the project beyond the school to include other schools in your district or community.



- During the first week of the fall semester, have teachers send home a form for students to fill out which includes their name, teacher's name, and three eco-friendly products they are using or have purchased for back-to-school. They can return their slip and receive a small prize (consider credits in school reward system or recycled pencils, which can be purchased in bulk).
- At the end of the first week of school, the classroom that is using the most eco-friendly school supplies (by tally of collected slips) gets a classroom reward (e.g., treat, party, extra recess, etc.). Announce the winning class to the school community.

Below is a list of typical school supplies. Check each teacher's supply list for unique requests and try to locate an eco-friendly alternative for each item:

- Loose-leaf lined paper
- Spiral notebooks
- Composition notebooks
- Binders
- Dividers
- Book covers
- Folders
- Post-it notes
- Bookmarks
- Pens
- Pencils
- Markers
- Highlighters
- Colored pencils
- Paint brushes
- Glue
- Tape
- Labels
- Tissues
- Pencil/art boxes
- Construction paper
- Locker accessories
- Journals
- Notepads
- Copy paper (reams)
- Calculator
- Protractor

- Compass
- Drawing paper
- Sketch books
- Backpacks/School bags
- Lunch boxes/bags
- Food/snack containers
- Batteries
- School Planner (customized and ordered by school)

Assessment:

- Tally the number of students who acquired at least three eco-friendly school supplies and calculate its percentage of the student population.
- Create a graph of the number of students per grade that are using eco-friendly school supplies and graph the types of supplies as well.
- Use these graphs to make announcements and create posters to educate and encourage students to continue their participation when new supplies are needed.
- Each school year, compare new graphs to the previous year's graphs and note any differences.

Related Activities:

Purchasing Policy 1: Classroom Policy – Chapter 17
Purchasing Policy 2: School/District Policy – Chapter 17

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Waste-Free Lunch 1: Classroom Challenge

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Snapshot
This classroom challenge can significantly cut the volume of lunchtime trash and will provide strategies that empower students to reduce food waste and disposable packaging.

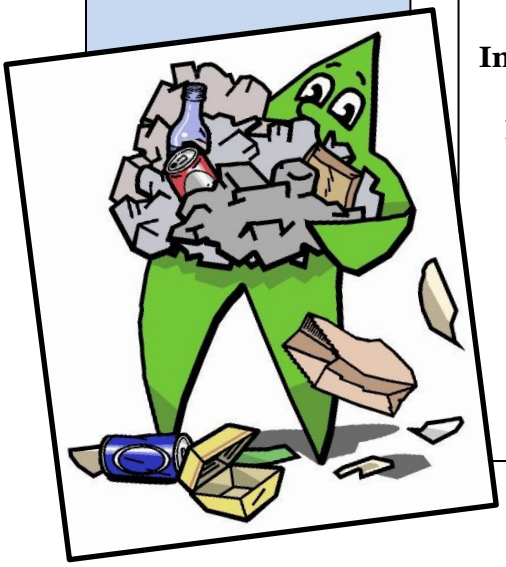
Objective: Students will learn new ways to reduce lunchtime waste.

Age Groups: 3rd-6th grade

Setting: Classroom and cafeteria

Project Duration: Two weeks

Materials:
- Bathroom scale
- Garbage bags
- Chart paper
- Examples of single-use, disposable packaging (chip bags, zip top baggies, juice pouches, etc.)



Why This Project Matters:

The average child produces a significant amount of lunchtime waste over the course of a school year in the form of uneaten food and disposable food packaging. The volume (and cost) adds up quickly for schools because they are responsible for disposing of lunchtime waste for hundreds of students daily. A typical student lunch might include single-use plastic bags, disposable utensils, non-recyclable drink pouches, or single-serving items that come in their own disposable package. Without a doubt, lunch is the main trash-making time of the school day.

Project Summary:

This classroom challenge is designed to bring attention to the amount of lunchtime trash produced by the class and the materials that make up that trash. Students will examine typical single-use packages, think about why they are popular, and brainstorm less wasteful replacements. They will be able to witness their progress by weighing their lunch trash before, during, and after the challenge.

Implementation:

1. Inform students that they will be starting a lunchtime trash challenge and will need to collect some data before beginning the project. For one full week prior to starting the challenge, assign one or two students to collect the class's trash at the end of lunchtime each day. This should include trash items from both home-packed and school-made lunches. (Students must finish their drinks or pour them out before putting containers into the trash bag.)

2. On each day of data collection, have the trash-collecting students bring the lunch trash back to the classroom to be weighed. One easy technique is to have a student hold the bag while standing on a bathroom scale and record the total weight. Then subtract the student's weight from the total recorded weight to get the trash weight. On graph paper, record and chart the weight of the class's lunch trash each day for five days and share with students. In addition, examine the types of items that are in the trash with the class. Save some of the items until you have a variety of examples to facilitate the discussion below.
3. After the final weight has been recorded, have a discussion with the class about the types of trash items that were collected. These might include uneaten food, plastic wrappers, plastic baggies, napkins, drink containers, straws, paper lunch bags, etc. Show examples of the single-use packages. Ask students to discuss the advantages and disadvantages of these items. For example:
    - Advantages: convenient, contains food so it can be stored and transported, keeps food clean and fresh
    - Disadvantages: creates more waste, uses natural resources to produce, costly
4. Ask students to think about lunch packaging alternatives that would keep food clean, fresh, and transportable without resulting in as much waste. For example: reusable containers, recyclable containers, reusable lunch bags/boxes, recyclable aluminum foil, reusable water bottles, etc. Ask students which natural resources they think are saved by using recyclable and reusable packaging instead of disposable packaging. Ask about other environmental benefits that might result from using these alternatives (fewer landfills, less litter, etc.).
5. Challenge students to reduce their lunchtime trash. If they bring a lunch from home, ask them how they might pack each food item so there is no trash left over (pack only reusable or recyclable containers). Other ways to reduce waste include taking uneaten food home, using cloth napkins, bringing drinks in reusable bottles, etc. If they buy school lunch, ask them how they might reduce the trash from their hot lunch (eat all their food, take only items they know they will eat, use only one napkin, recycle milk cartons, etc.).
6. On each day of the challenge week, weigh the lunch trash just as before. Record and chart the weights on graph paper, then share with students.

Extensions:

- Have students create a presentation about their Waste-Free Lunch Challenge to share with and inspire other classes to implement a challenge of their own. This may include samples from a typical school lunch (disposable packaging) and a waste-free lunch (reusable and recyclable packaging).
- Continue to weigh lunch trash once a week after the challenge to encourage the continuation of new waste-reduction behaviors.

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7. If the daily weights during the challenge are lower (or higher) than those prior, have the class discuss what they think is (or isn't) working. If the daily weights are similar/no change, ask the class what changes they have tried and brainstorm more waste-reducing ideas.
8. At the end of the challenge week, calculate the average of that week's weights and compare it to the average weight before the challenge. Ask students how many of them will continue trying to pack waste-free lunches. Encourage them to commit to the rest of the school year (or beyond)!
9. If funds or donations are available, reward a successful Waste-Free Lunch Challenge with a prize drawing for reusable lunch bags, water bottles, or sandwich wraps. Or, to acknowledge everyone's efforts, reward the class with extra recess time, a special game, or a waste-free treat for each student.

Assessment:

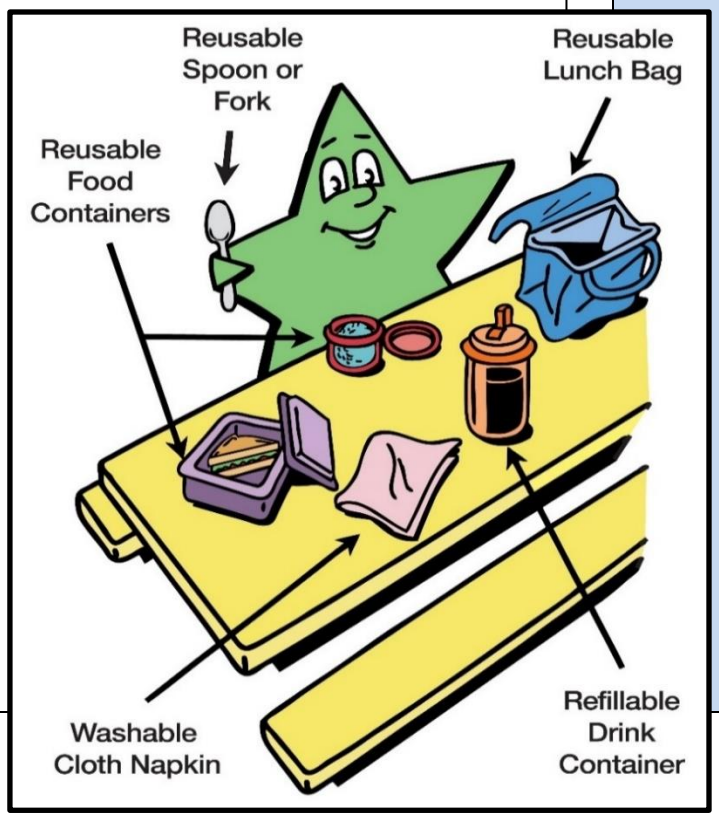
Use the lunch trash weights before, during, and after the challenge to assess the project's success.

Related Activities:

Waste-Free Lunch 2: School Contest – Chapter 2
Waste-Free Lunch 3: Durables in the Cafeteria – Chapter 2
Take a Bite Out of Food Waste – Chapter 4
Making Cloth Napkins – Chapter 13

Extensions:
(continued)

- This chapter assumes that the school has a recycling program. See Chapter 18 if your school does not recycle and would like to get started. Starting a school composting program is another way to significantly reduce lunch trash. See Chapters 23, 24, and 25 for three different ways to compost at school.



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Waste-Free Lunch 2: School Contest

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Snapshot
This contest can significantly cut down on lunchtime trash for the entire school and can empower students to actively reduce food waste and disposable packaging.

Objective: Students will learn strategies to reduce the volume of lunchtime waste.

Age Groups: K-12th grade

Setting: Cafeteria

Project Duration: 2 weeks

Materials:

- Bathroom scale
- School lunch menu
- Poster decorating supplies
- Premade posters (or posterboard)
- Prewritten audio announcements and family newsletter insert
- Internet access for researching environmental impacts of waste

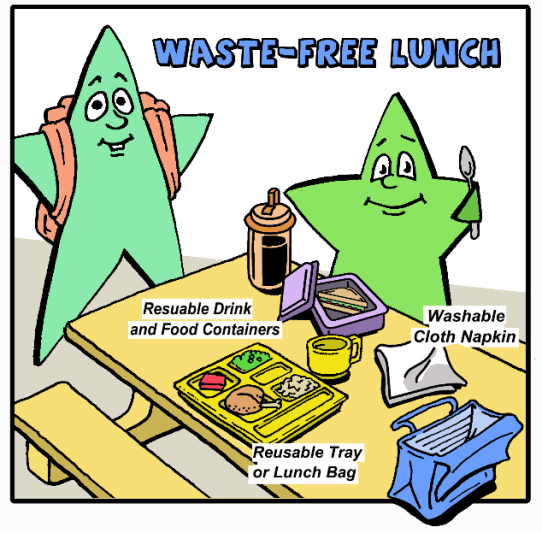
Why This Project Matters:

Convenience products are, well, convenient. It is easy to become dependent on them, and nowhere is this more evident than in the school lunchroom. A typical lunch might include single-use plastic bags, plastic wrap, drink pouches, plastic utensils, paper napkins, and single-serving items that are individually wrapped. What is the environmental cost when we rely so heavily on these disposables? Landfill space consumption, natural resource extraction, energy use, and pollution, for a start. Lunchtime at school is one of the biggest impacts a school has on the environment.

Project Summary:

A Waste-Free Lunch Contest is an easy project with a big impact. It makes a great Earth Day activity. All students can participate, whether they bring a packed lunch from home or buy their lunch at school. The contest is designed to be facilitated between several competing schools or to have grade-levels compete within the same school. Lunch trash is weighed before and during the contest to see how much students can reduce their waste. The school or grade-level with the greatest reduction wins!

Ways to involve a student group:
A student sponsor group can help promote the contest within the school whether the contest is between several schools or between grade-levels within a school. Find a student group that is interested, such as student council, eco-club, a science class, or a leadership group.



Implementation:

Recruit three to six schools (or grade-levels) for the contest. The five-day period that each school chooses to conduct their Waste-Free Lunch Contest may not be the same for all schools, but the whole contest should not span more than a month. (Competing grade-levels in one school should conduct the contest during the same week so that the lunch menu is the same for everyone.) Keep a record of each school or grade-level's success and report a winner after all have completed their contest week.

1. Identify the participating schools or grade-levels and the student sponsor group(s) that will be promoting the contest. Coordinate with each school's administration (or grade-level teaching teams) to determine the five-day time range for the contest.
2. Ask office staff responsible for the school newsletter to include contest information and waste-free lunch tips in the newsletter right before the contest (see sample below).
3. Schedule and facilitate 30-to-60-minute meetings with the student sponsor group(s).
    - Inform and motivate sponsor group members by sharing why this contest matters. Have students research facts and statistics about the environmental impacts of trash (natural resource consumption, litter, landfill space, air and water pollution, etc.).
    - Explain to the sponsor group(s) that they are responsible for advertising the contest to their school community. Supply them with premade posters and announcements (see samples below).
    - Allow students to decorate posters and practice reading announcements. Encourage them to add their own drawings and phrases to the posters ("Eat all of your food!" or "Recycle as much as you can!").
    - Have students create a 30-minute kick-off presentation that introduces the school community to the contest, identifies reasons why this project is important, and displays examples of school-made and home-packed wasteful and waste-free lunches.
    - Create a timeline for promotions. Plan to display the posters one week before the contest begins and share the announcements on the two school days prior to the kick-off event. Schedule an all-school kick-off assembly (or grade-level presentations) to be held on the school day before the contest officially begins.

Extensions:

- Have the student group act as "waste goalies" in the lunchroom during the contest, guiding fellow students to place their recyclable items in the recycling bin and encouraging them to eat their food or take uneaten food home for a snack.
- Implement "Waste-Free Wednesdays" as a challenge to keep the message of lunchtime waste reduction in students' minds throughout the school year.
- Take weights randomly throughout the school year and compare with the contest weights. Share results as audio or video announcements.

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4. Meet with the custodians at each school (and/or grade-level teams) to explain the project and determine the procedure for setting aside the lunch trash for weighing. Take two or more pre-contest-week weights to establish a baseline of normal daily lunchtime trash. Take two or more weights during the contest week (including the last day of that week) to determine if and by how much the trash weight has been reduced. Check the school lunch menu calendar before setting dates for weighing. Avoid days that have special hot lunches, like Thanksgiving feasts, for example.
5. To weigh the lunch trash, stand on a bathroom scale while holding each trash bag and record the total weight of each. Subtract your own weight from these numbers to get the total weight of the trash. Divide the trash weight by the number of students at lunch each day to establish a per-capita weight. Determine the percentage of overall trash reduction by subtracting the average contest-week per-capita weight from the average pre-contest-week per-capita weight. Then, divide this difference by the average pre-contest per-capita weight. For example:

    1.1 lbs. (average pre-contest-week per-capita weight)
    – 0.8 lbs. (average contest-week per-capita weight)
    0.3 lbs. (weight reduction per-capita during contest)

    0.3 divided by 1.1 = 0.27 ➡ 27% reduction in trash

    The school or grade-level with the greatest percentage of reduction is the winner! Prizes can range from cash awards for an entire school to pizza parties, extra recess, juice pops, or principal recognition for the winning grade-levels.
6. Summary of project tasks and timeline:
    - Recruit schools or grade-levels.
    - Choose contest dates for schools or grade-levels.
    - Identify a student sponsor group at each school.
    - Prepare contest info for family newsletter; meet with sponsor group(s) to prepare posters, announcements, and grade-level presentations or assemblies.
    - Take one or more pre-contest trash weights at each school or for each grade-level.
    - Schedule kick-off assemblies or grade-level presentations for the day before the contest begins.
    - Display posters a week before and start announcements two days before the contest begins.
    - Take two or more weights during each school's contest week (including the last day of the contest).
    - Determine winners and award prizes.

Extensions:
(continued)

- This chapter assumes that the school has a recycling program. See Chapter 18 if your school does not recycle and would like to get started. Starting a school composting program is another way to significantly reduce lunch trash. See Chapters 23, 24, and 25 for three different ways to compost at school.

Assessment:

Weighing the lunch trash before and during the contest can serve as the project's assessment. If possible, do occasional pop-interviews with kids in the lunchroom throughout the rest of the school year to see if they are still employing the waste-reduction ideas they learned from the Waste-Free Lunch Contest.

Related Activities:

Waste-Free Lunch 1: Classroom Challenge – Chapter 2
Waste-Free Lunch 3: Durables in the Cafeteria – Chapter 2
Take a Bite Out of Food Waste – Chapter 4
Making Cloth Napkins – Chapter 13

Sample Waste-Free Lunch Tips for Newsletter

Follow These Tips to Reduce Lunch Waste at School!

Home-Packed Lunches

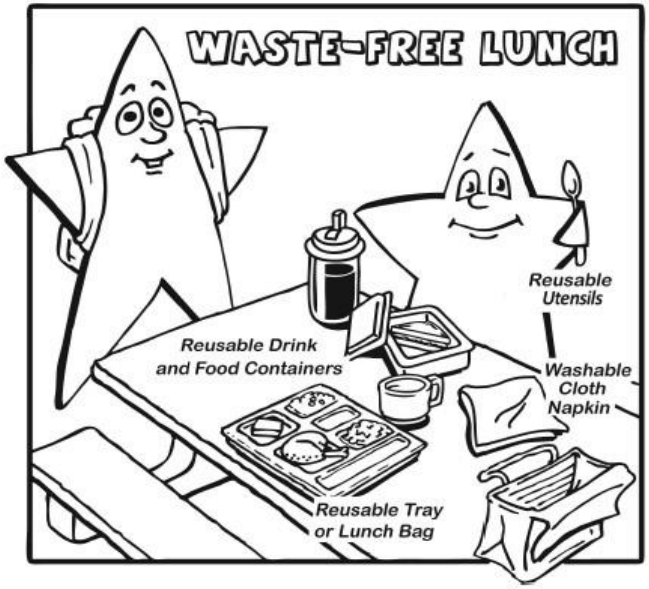
- Cut cloth napkins from old fabric.
- Fill reusable drink containers from bulk jugs.
- Choose recyclable drink containers like plastic bottles, metal cans, or paper cartons/juice boxes.
- Use washable containers in place of zip-top bags.
- Wrap food in recyclable foil instead of plastic wrap.
- Reuse metal or plastic eating utensils.
- Return school utensils to the cafeteria if they accidentally come home.
- Bring uneaten food back home for a snack.

School-Made Lunches

- Recycle empty drink cartons, bottles, and cans.
- Eat your lunch for good nutrition.
- Compost leftover food, napkins, and food boats.
- Return any reusable utensils, trays, plates, bowls, or cups to the kitchen for reuse.
- Place uneaten fruit and packaged food in the share bin, when available.

Waste-Free Lunch Week

REDUCE Lunch Trash **RETURN** Reusables



REDUCE
REUSE
RECYCLE
COMPOST

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Printable Waste-Free Lunch Week Poster

Sample Waste-Free Lunch School Contest Announcements

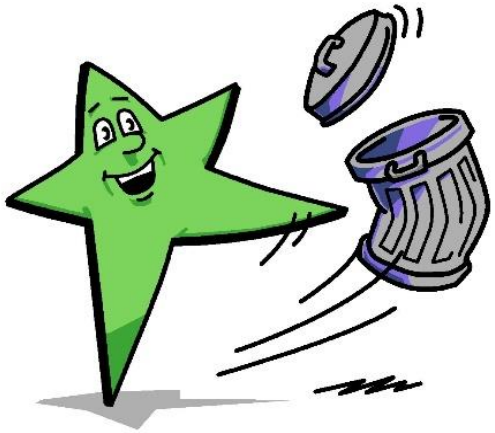
Two school days before the contest begins: Next week our school's Waste-free Lunch Contest begins. Most of a school's trash is made at lunch time. If you bring your lunch, try to pack it so that you make as little trash as possible. Here are some ideas: bring your lunch in a reusable lunch bag or lunch box, recycle or reuse your drink container, and bring your food in bags or containers that can be reused or recycled. Food waste is also a big part of our garbage. It is important to eat all your food instead of wasting it by throwing it away. Or save it for a snack that you can eat later. If you get a school lunch, it is also important to return all your reusables back to the kitchen. We need everyone to participate!

One school day before the contest begins: One third of garbage in America is packaging. Normally we throw a lot of packaging away at lunch time. If you bring your lunch from home, pack your food in reusable or recyclable containers. If you eat a school lunch, make sure to return all reusables back to the kitchen. You can help the earth every day by making less lunch trash. Don't forget! Help us to win the contest next week!

First day of the Waste-Free Lunch Contest Week: Today begins our school's Waste-Free Lunch Contest Week. Did you know that everything we have comes from nature? Every time we throw something away, part of nature is polluted or used up. You can help the earth by throwing away as little packaging as possible, and by returning all your reusables to the kitchen. You can help the earth and yourself by eating all your food for good nutrition. Look to see what things other students are doing to make less lunch trash. See if you can make your lunch even more waste-free.

Mid-way through the Waste-Free Lunch Contest Week: Americans fill 64,000 garbage trucks every day! We make twice as much trash each day as most other people in the world! No wonder we have a big garbage problem! Cutting our lunch trash really makes a big difference. Help us win the contest by making as little lunch trash as you can. Here are some reminders: bring your lunch in a reusable lunch bag or lunch box, recycle or reuse your drink container, and bring your food in bags or containers that can be reused or recycled. It is also important to eat the food in your lunch (or save it for later) instead of throwing it away.

Last day of the Waste-Free Lunch Contest Week: Today is the last day of the Waste-Free Lunch Contest. We hope you had fun thinking of ways to make less garbage. Remember, just because the contest is over doesn't mean you have to stop making less trash. We hope you will continue to keep our earth healthy by using less packaging and yourself healthy by eating the nutritious food in your lunch. Please also help the kitchen staff by always returning your reusables to the kitchen to be washed and used again! Waste-Free is the way to be!



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Waste-Free Lunch 3: Durables in the Cafeteria

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Snapshot
Celebrate the use of durable trays, utensils, and more in the cafeteria. Reusing these washable items reduces waste, protects natural resources, saves energy, and can even save money!

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Objective: Raise students' awareness of the environmental advantages of the durable, washable items used in their cafeteria and encourage their participation in keeping them out of the trash!

Age Group: K- 12th grade

Setting: Cafeteria

Project Duration:
- Preparation: 45-min meeting
- Implementation: 1-5 lunch periods

Materials:
- Poster board
- Markers
- Pencils
- Paper
- Examples of the durable food service items in the cafeteria

Why This Project Matters:

School nutrition programs provide billions of meals each year to students nationwide. These meals can be served using reusable food service items, disposable food service items, or a combination of the two. When a school serves meals using durable dishes, trays, cups, and utensils, trash volumes are drastically reduced. Using durables protects natural resources, saves energy, and may save money for the school or district!

Project Summary:

Some lucky schools already use durable, washable plates, forks, and cups in the cafeteria. Some are currently making the switch from items like disposable plastic utensils and polystyrene trays to reusable, washable options. And some have even replaced individual milk cartons with bulk milk dispensers and reusable cups! Whatever the case at your school, don't let these environmental wins go unnoticed by students and staff. Through announcements, posters, and lunchroom monitoring, this project uses the efforts of a student group to bring awareness to cafeteria washables.

Implementation:

1. Assess which food service items in the cafeteria are currently reusable. If items are newly being implemented, see #6 below.
2. Choose a student group to implement promotions (student council, individual class, grade level, eco-club, etc.).
3. Meet with the group in the cafeteria and explain the goal of their work: to help students and staff understand that by using durable, washable items in the cafeteria, the school is taking care of the environment. Show students examples of the school's washable food service items and brainstorm ideas for how the reusables help save natural resources, reduce waste, and potentially save money.

4. Have students mathematically determine the cost and waste savings. For example: If every student in the school used one disposable tray and one disposable utensil during lunch, how many of those items would be thrown away each day? What would this add up to in quantities thrown away for an entire school year?
    - Work with cafeteria or food services staff to find out the cost of durable trays and utensils versus disposable trays and utensils for an entire school year's use. Factor in the durables use over several years and that a percentage are lost each year when students accidentally throw them away.
    - If possible, determine the cost savings from both the use of durables and the reduction of lunch trash (which translates to cost savings on trash hauling)! Operations staff can help with this calculation.
    - Explain that even though energy and water are used to make and wash durables, studies have shown that a significant amount of energy is saved over time when compared to the daily disposal and manufacturing of single-use food service items.
5. Students can use the information gained from this discussion to create posters, announcements, skits, newsletter articles, and more, to educate their school community. Consider also creating a display in a central location to highlight the cafeteria washables.
6. Lunchroom monitoring: The annual loss of durables from students accidently throwing them away adds to the annual cost of using the durables. When washable items are being newly introduced in the cafeteria, students may accidentally throw away a higher quantity merely out of habit of dumping their entire tray. Have sponsor students take shifts monitoring the cafeteria trash cans during lunchtime to remind other students to return their durables to the washing station. Reminders from peers are an effective way to change behavior.

Assessment:

Visit students at their lunch tables with a pop-quiz. Ask them to share one or more ways the washable cafeteria items help the environment.

Related Activities:

Waste-Free Lunch 2: School Contest – Chapter 2
Refillable Water Bottle Project – Chapter 3
Making Cloth Napkins – Chapter 13

Extensions:

- Implement a similar project to celebrate the reusable containers, utensils, and napkins that students are bringing in homemade lunches.

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Refillable Water Bottle Project

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Snapshot
When a school building has easy access to stations for refilling durable water bottles, students and staff are more likely to use them.

Objective: Students and staff will understand that disposable water bottles contribute to trash, litter, and the depletion of natural resources. They will have increased access to locations that allow them to easily refill reusable water bottles in their school building.

Age Groups: K-12th and adults

Setting: School building

Project Duration: Two-day kick-off event plus ongoing usage

Materials:

- Supplies for new water bottle-filling stations
- Posterboard
- Copy paper
- Markers
- Tape

(Continued next page.)

Why This Project Matters:

Every year in the U.S., billions of plastic beverage containers are sold. Most of these bottles end up landfilled, incinerated, or littered. One of the most purchased beverages is bottled water. Disposable plastic water bottles are a huge and growing waste problem, as is plastic pollution in general.

Project Summary:

This project makes it easy for students and staff to refill reusable water bottles during the school day by outfitting the school building with bottle-friendly water-filling stations.

Implementation:

There are two phases to this project: the filler installations and the kick-off campaign.

Water jug

"Gooseneck" spout

Several options exist for the filler installation. The least expensive option is to purchase several large, insulated water jugs and place them in designated areas (cafeteria, gymnasium, etc.). These also work well for special events. The moderately expensive option is to purchase and retrofit "gooseneck" spouts on existing water fountains. The costliest, but most effective, option is to purchase and install sensor-activated bottle-filling fountains. Since this option can be expensive, identifying a funding source such as a local government agency or foundation would be helpful.

Bottle-filling fountain

The kick-off campaign is a prize drawing designed to be conducted during recess or lunch periods to minimize classroom intrusion. The goal is to motivate students and staff to routinely refill their personal reusable water bottles at the new stations.

Getting started:

1. Identify a school or schools with limited access to sinks or water fountains that accommodate the filling of reusable bottles. The cafeteria and gym are key locations for bottle-filling access.
2. Meet with the principal and custodian of each school to discuss which type of bottle-filling stations (insulated jugs, "gooseneck" spout retrofits, or sensor-activated bottle-filling fountains) would best fit each building.
3. Meet with school district maintenance or plumbing staff to determine the feasibility of desired installation locations within each building (for "gooseneck" spout retrofits or sensor-activated bottle-filling fountains).
4. Once the filler decision has been made, establish a timeline for purchasing and installing the equipment. Negotiate this timeline with each principal and custodian, and with district maintenance staff if needed. Secure funding for the equipment and for any installation labor costs. Order the equipment.
5. Coordinate with each principal to schedule dates for the kick-off (to be held after the installations are complete). Select two dates, one week apart. Tabling for a prize drawing (during recess periods at elementary schools and lunch periods at secondary schools) will be the focus, supplemented by posters and announcements.
6. Have a student group create posters to be displayed above or near the new water bottle-filling stations to draw attention to them. Include researched facts on bottled water and plastic waste.
7. Write announcements that encourage students to bring their reusable water bottles to school during the kick-off weeks (see sample below). Assign a student group or staff member to read them over the PA system on the day prior to and the day of the two selected dates.
8. Create a family letter announcing the project and new equipment and ask school office staff to distribute it to families before the campaign (see sample below).
9. Create grade-level appropriate materials in preparation for the prize drawing. (See more details on each grade-level drawing under *Kick-off Tabling Event, Days 1&2*.)
   Elementary drawing: Design and print stickers for students to adhere to their reusable water bottles. Stickers should have spaces for students to make a checkmark every time they refill their bottle.

Materials:
(continued)

- Reusable water bottles and other items for student prizes
- Pens/pencils
- Water bottle stickers
- Access to internet
- Access to printer
- 2 shades of copy paper for making prize entry slips
- 2 boxes for collecting prize entry slips

Extensions:

- A student group can survey their peers before and after the project, asking questions like: "Do you drink bottled water? If yes, why? Do you recycle your bottle? Reuse it? Do you bring a refillable water bottle to school?" Results can be reported to the school verbally or presented in graph form.

(Continued next page.)

Middle school drawing: Print half-sheet copies of the school map for students to mark where all the water bottle-filling stations are located. On the other side, include a line for students to write one thing they do/will start doing to conserve water and/or reduce waste, as well as lines to write their name, grade, and homeroom (see sample below). (These scavenger hunts will serve as their entry slips for the prize drawing.)
High school drawing: Create an activity instruction sheet (including example photos) to display at a table. The activity will be for students to take photos of themselves filling their water bottles at the new filling stations and then post these photos to the school's social media site. (The post will serve as their drawing entry.)

10. Purchase or request donations for prizes (movie tickets, recycled products, etc.) for students who complete the sticker, scavenger hunt, or selfie activity.
11. Purchase reusable water bottles for a giveaway drawing for students that do not already own one.
12. Make age-level appropriate entry slips for the prize drawings that have lines for students to write their name, grade, and homeroom. Use one color paper for the bottle prize drawing (for all grade-levels) and another color paper for the sticker prize drawing (elementary).
13. Make instructional signage for each prize drawing entry collection box.
14. Compile and organize supplies for the two kick-off tabling days: water bottle stickers, scavenger hunts or photo challenge signage, pens/pencils, entry slips, entry collection boxes, posters, tape, and prizes.

Kick-Off Tabling Event, Day 1:

Elementary school: Have students bring their reusable bottles to the designated table during recess to receive their sticker. Project sponsors (student and/or adult) may then introduce the activity, explaining how to make a checkmark on the lines on the sticker each time they refill their bottle. Instruct students to bring the same bottle (with attached sticker) back to the table the following week to show their checkmarks and be entered into the prize drawing. Alternatively, students who do not own a reusable water bottle may register to win one by filling out an entry slip and placing it in the designated collection box.

Extensions:
(continued)

- Students can create a display to showcase the waste of disposable water bottles. On one side of the case, set a single reusable water bottle. On the other side, stack several disposable water bottles (as many as you can collect and fit). Include facts about the environmental benefits of reusable bottles.

(Continued next page.)

Middle school: At the designated table in the cafeteria, give students the printed school map scavenger hunt and ask them to mark where the new bottle-filler fountains/stations are located. Make sure they also fill out the back (where they will make a pledge to take an action of conserving water or reducing waste) before putting their entry into the prize drawing box. Students who do not own a reusable water bottle can register to win one by filling out a separate entry slip and placing it in the appropriate collection box.

High school: Explain the activity to students who approach a designated table in the cafeteria, showing them the instruction sheet and reminding them about sharing their water bottle-filling selfie on school social media to qualify for the drawing. Their post is their drawing entry. Students who do not own a reusable water bottle can register to win one by filling out a separate entry slip and placing it in the designated collection box.

Kick-Off Tabling Event, Day 2 (one week later):

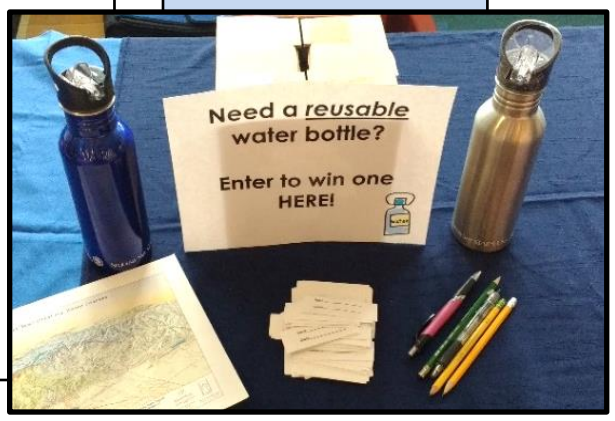
Elementary school: When students return to the table with their stickered water bottles and have made the correct number of checkmarks for refills (equivalent to the number of school days between tabling events), they may enter the prize drawing by filling out an entry slip and placing it in the designated collection box. Continue taking entries for the reusable water bottle drawing as well, placing these in their own box. At the end of the event, randomly choose winners from each collection box and leave prizes with the school office staff to be delivered to the winners (with attached entry slips for easy identification).

Middle school: Facilitate Day 2 the same as Day 1, making sure students who enter are doing so for the first time. At the end of the event, randomly choose winners from each collection box and leave prizes with the school office staff to be delivered to the winners (with attached entry slips for easy identification).

High school: Facilitate Day 2 the same as Day 1, making sure students who enter are doing so for the first time. At the end of the event, randomly choose winners from the water bottle collection box and from the school social media site. Leave prizes with the school office staff to be delivered to the winners.

Extensions:
(continued)

- Create and distribute age-appropriate water-themed coloring pages and activity sheets (word searches, mazes, etc.) to elementary students. These will reinforce the project's water conservation and waste-reduction messages. (See printable coloring pages at the end of this chapter.)



Assessment:

Check for student awareness of the new equipment by surveying students before and after the kick-off campaign about where someone can refill a reusable water bottle in the school. Quiz them as to why this is better for the environment than buying disposable water bottles.

If an automatic bottle-filler fountain with a counter was installed, watch the digital counter to see how many times the unit has been used. Otherwise, assess success by checking in with the custodian about one month after the installation. Ask: "Can you provide usage information for the new equipment? How well was this project received by students, parents, and staff? What feedback have you received?"

Related Activities:

Waste-Free Lunch 2: School Contest – Chapter 2
Waste-Free Lunch 3: Durables in the Cafeteria – Chapter 2
Take a Bite Out of Food Waste – Chapter 4
Making Cloth Napkins – Chapter 13

Key to highlights:

- *Update facts below from a reputable source before sharing with the school community.*
- *Enter specific information pertaining to your event.*

Reusables Rule at Our School!

Reusable Water Bottle Project

Name: _____

Grade: _____

Write your water-saving and/or waste reduction action(s) here:

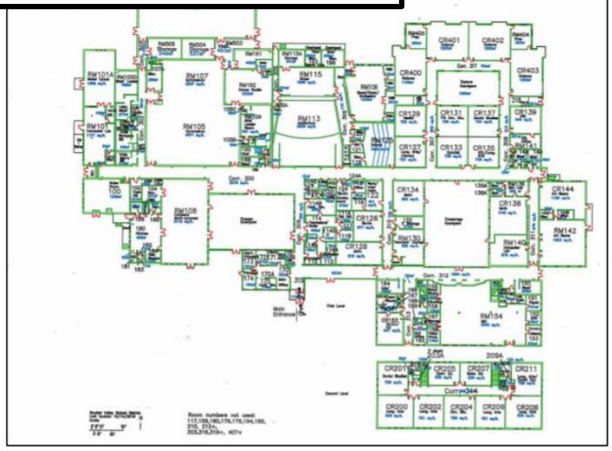
_____

_____

Turn in this sheet at the [facilitator name] table to enter the prize drawing for a FREE [prize]!

Don't forget to do the Water Bottle Filler Scavenger Hunt on the back!

Funded by: [Funder logo(s) here]



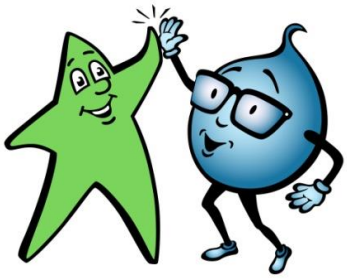
[School name]
Middle School
Scavenger Hunt

Place an 'X' on the map where the [number] new Water Bottle Filler stations are located.

Turn in this sheet at the [facilitator name] table to enter the prize drawing for a FREE [prize]!

Don't forget to include your water-saving action on the back!

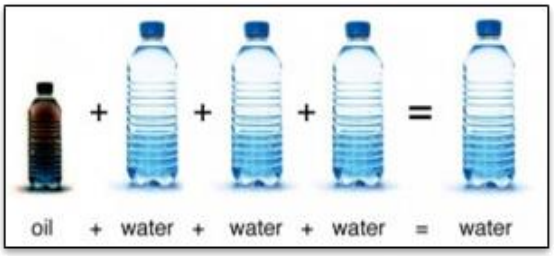
Sample Family Letter



Dear Families,

Americans buy approximately 500 million disposable bottles of water every week. ***Not only is tap water cheaper and held to a higher safety standard than bottled water, but 80% of plastic bottles end up in the landfill, wasting precious resources!*** How much does bottled water really cost us?

- It takes approximately 3 liters of water and ¼ liter of oil to package a 1-liter bottle of water.
- Bottled water consumes approximately 2,000 times more energy than tap water. In 2006, producing bottles for American consumption required the equivalent of more than 17 million barrels of oil, not including the energy for transportation.



- Nearly ¼ of all bottled water crosses national borders to reach consumers, travelling by boat, truck, and train, using fossil fuels for transportation.
- Bottled water costs 10,000 times more than tap water in the US, and more by volume than gasoline or soda. Over 90% of the cost of bottled water is in the bottle, lid, and label.

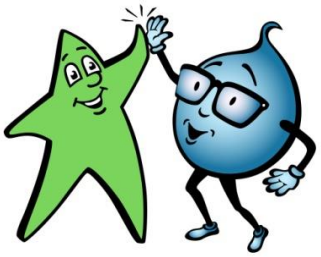
[Funders/participants] have teamed up to help students at [school or district] refill reusable water bottles with fresh, clean tap water instead of using disposables bottles.

[Number] [state-of-the-art bottle-filler fountains] are now installed throughout the school. This will make it easier for students to refill their own reusable bottles.

[Facilitators] will be at [school] on [date(s)] to celebrate this project. Students can visit our table to learn where their water comes from and how they can reduce waste by refilling at the tap. We will also have some great prizes to give away!

Be sure to check out the new bottle-filler stations next time you are visiting the school. This is the latest way that [funders/participants] and [school] are leading us to a Zero Waste future!

Funded by: [Funder Logo(s)]



Sample Announcements

Please read these announcements on the following dates:

[Date *before* Day 1 event]:

- Americans buy 500 million disposable bottles of water every week! That's enough bottles to circle the globe 5 times! Only 20% of these water bottles get recycled—the other 80% end up as litter or in a landfill!
- It's easy for anyone at our school to refill reusable water bottles with tap water instead. [Your region] gets its water from [natural water systems of your local watershed]. This water is cleaned and available to you at the tap (for free) right here at school! Have you seen the water bottle-filler stations? They make it easy to refill your own bottle instead of spending money on bottled water.
- Visit the [facilitators] table tomorrow, **[Date *of* Day 1 event]**, at [designated time period]. If you don't own a reusable water bottle, you can enter a drawing to win one! If you participate in the water bottle-filler activity, you can enter the drawing to win [designated prize]!

[Date *of* Day 1 event]:

- Buying plastic water bottles uses a lot more natural resources than refilling reusable bottles. Did you know that it takes 3 liters of water just to make a 1-liter plastic bottle?
- Help conserve water by refilling a reusable water bottle from our awesome water bottle-filler stations! Be sure to visit the [facilitators] table **today** at [designated time period] to enter the drawings for a chance to win prizes!

[Date *before* Day 2 event]:

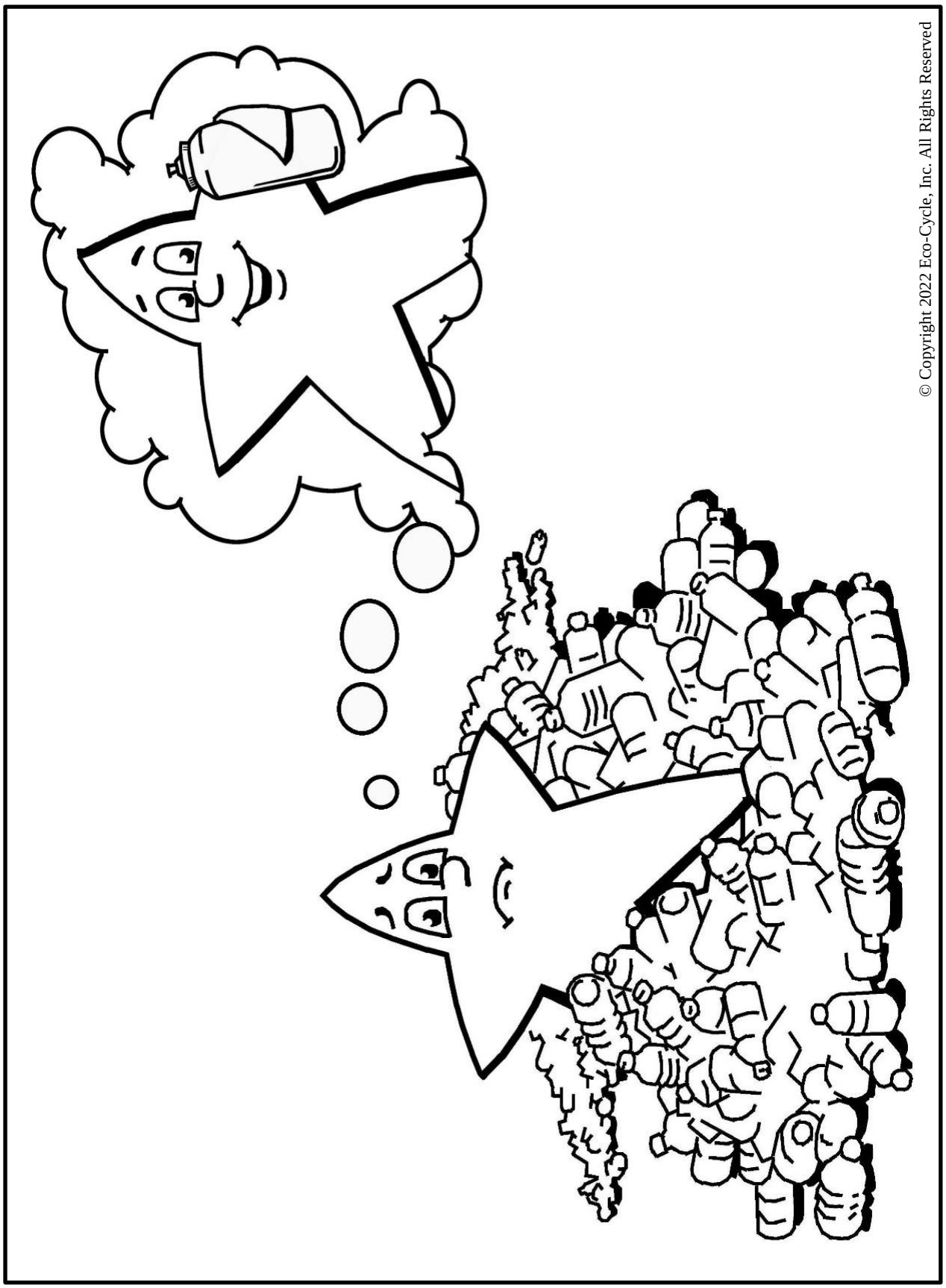
- Did you know that in one year it takes 17 million barrels of oil just to make plastic water bottles for Americans to use once and throw away? That doesn't even include the fossil fuels needed to transport them! Fossil fuels are nonrenewable—once we use them, they're gone! Why waste fossil fuels on packaging and transporting bottled water when we can get free, clean water from the tap?
- At our school, we can save energy, make less waste, and help the environment by refilling water bottles with tap water. We hope you have been using the water bottle-filler stations.
- [Facilitators] will be here again tomorrow, **[Date *of* Day 2 event]**, at [designated time period], so stop by to [show your completed water bottle activity sticker] [to complete your water bottle activity], and you can enter your name to win a [designated prize]! If you don't already have a reusable water bottle, you can also enter to win one!

[Date *of* Day 2 event]:

- Remember to get your water at the tap today! Tap water is tested more often and held to higher safety standards than bottled water. By reusing water bottles instead of buying disposable ones, we can make less garbage and protect our earth.
- Be sure to visit the [facilitators] table **today** at [designated time period] [with your water bottle sticker] to enter the drawings to win great prizes. If you don't already have a reusable water bottle, you might win one!

Funded by: [Funder Logo(s)]

Printable Coloring Pages



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Draw yourself and your reusable water bottle.

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Take a Bite Out of Food Waste

Snapshot
This student-led initiative will bring attention to the amount of food (and money) being wasted in school cafeterias.

Objective: Students will have a visual concept of the approximate amount of food being thrown away each day in their school's cafeteria. They will understand that wasting food is wasting natural resources.

Age Groups: K-12th grade

Setting: School cafeteria

Project Duration: One week

Materials:

- Waste bin labeled "Food Waste Only"
- Bathroom scale
- Pictures of food from magazines or internet
- Poster-making materials: posterboard, glue, markers, scissors

Why This Project Matters:

15-50% of school food is wasted daily. That's no surprise since U.S. food waste has been estimated to be up to 50% of the edible food supply. All of that uneaten food equals wasted water, land, and other resources. Buried in a landfill, it will result in the production of methane, a powerful greenhouse gas.

Project Summary:

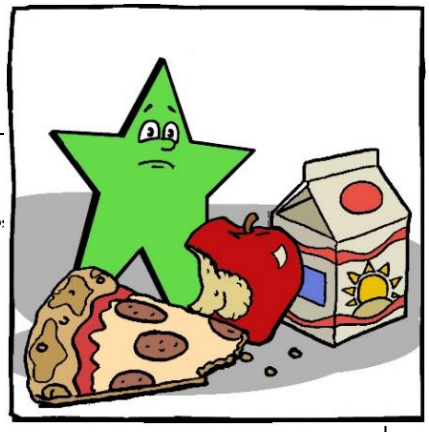
This educational campaign will bring students' attention to the food being wasted in their school cafeteria, regardless of whether the school has implemented a compost collection system. The "Take a Bite Out of Food Waste" campaign may lead to long-term changes that reduce the amount of food waste produced at school, decrease the cost of school waste disposal, and improve students' diets.

Implementation:

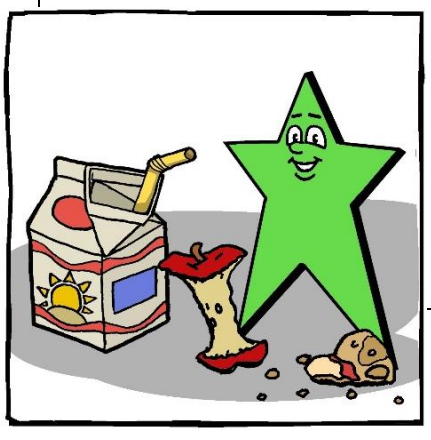
1. Coordinate with school administration and cafeteria staff to select a week for implementation. Ask for a group of student volunteers to help with the campaign.
2. On a day prior to starting the campaign, collect unwanted food in a waste bin labeled "Food Waste Only" during the entire lunch period (see printable example below). Have an adult (staff or parent volunteer) assist students with this task. Include student volunteers while weighing the food waste on a scale and record the amount.
3. Report the pre-project weight to the school community. Use an analogy so students can better grasp the amount (e.g., "Our food waste today weighed 100 pounds! That's like throwing away the weight of two first-graders every day!)

FOOD WASTE ONLY

(uneaten foods from your lunch)



4. With the help of students, write and share announcements for "Take a Bite Out of Food Waste" week. Have students include reminders about which natural resources are used to grow our food (e.g., "Remember, it takes water to grow fruits and veggies! Don't waste water by throwing away food!").
5. Develop messages (emails, newsletter notices, etc.) to send home to families reminding them about the "Take a Bite Out of Food Waste" week. Include tips for packing lunches that may help reduce food waste, such as: foods that you are confident your child will eat, fruit cut into kid-friendly sizes (whole fruit is more likely to be thrown away), smaller portions of each food type, etc. Remind parents that uneaten food equals wasted resources and money.
6. Invite parents to join their kids at lunch during the campaign week so they can experience how lunchtime works in the cafeteria, observe the types of foods being served, and witness how others are reducing food waste.
7. Have students decorate and display posters that include the dates of the campaign and the food waste messages featured in the announcements and family letters.
8. Encourage students to create a visual food waste display representing the typical amount of food discarded by one student vs. the amount made by the whole school. Place it near the cafeteria doors for students to see as they enter.
9. Have a few student volunteers stationed in the cafeteria during lunch time to help remind other students to eat what they take and take what they eat.
10. On the final day of the campaign week, collect and weigh the food waste again. Report the progress to the school community. (If time permits, weigh the food waste every day during the week and chart for students to view.)
11. Develop an age-appropriate questionnaire to find out why students throw away their food. Look at other food trends in the school. Is there a correlation between the meal being served and the amount of food waste being generated? Use the results from this research to help influence student behavior and possibly make changes in cafeteria practices.



Extensions:
Long-term food waste-reduction strategies:

- *Recess before lunch* – Studies show that scheduling recess before lunch can significantly reduce student food waste. Students are more ready to settle down to eat after having a chance to run, play, and exert energy. The school's existing schedule can still be used by reversing the lunch and recess blocks, eliminating the need for additional staffing.
- *Extend lunchtime* – Increasing lunch time by five minutes can make a huge difference in food waste. Throwing away food due to the lack of adequate eating time is one of the most student-cited reasons for why they toss food in the trash.

(Continued next page.)

Assessment:

Ask students questions about where their food comes from while they are enjoying lunch or as they drop their items at the waste station. Ask about the natural resources needed to grow crops for produce and raise animals for meat.

Related Activities:

Waste-Free Lunch – Chapter 2
Conducting a Waste Audit – Chapter 30

Extensions:
(continued)

- *Examine the lunch program*
  – School lunch programs have strict regulations, particularly about which types of foods are served and how many items students must take. Find ways to increase opportunities for students to choose their own items rather than being served pre-chosen foods (such as offering salad bars and self-serve milk stations).
  – Work with kitchen staff on ways they can increase the likelihood of students eating the food they take by identifying popular food choices and exploring ways of preparing similar menu items.
  – Adjusting the serving styles of food may reduce waste (such as providing sliced fruit instead of whole fruit since slices are easier for students to eat).

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"One or None" Paper Towel Campaign

Snapshot
Tackle one of the environment's worst enemies: disposable paper towels.

Objective: Student and staff usage of paper towels decreases over time.

Age Groups: K-12th grade

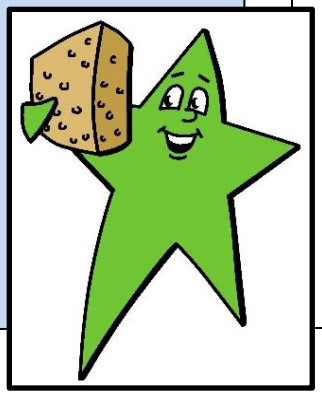
Setting: Classrooms and restrooms

Project Duration: One month or longer

Materials:

- Buckets or boxes for collecting used paper towels
- Rubber gloves for handling used paper towels
- Paper
- Markers
- Tape
- Cloth towels or rags (optional)
- Sponges (optional)

(Continued next page.)



Why This Project Matters:

Billions of pounds of paper towels are used in the U.S. every year. It is safe to say that most of these were made from virgin paper and end up in the trash. Forests around the globe are destroyed to provide us with paper towels. Using trees to produce disposable paper products destroys habitat, consumes fossil fuel energy, creates air and water pollution, and decreases the absorption of carbon dioxide (a greenhouse gas) by forests. Trashing paper towels increases waste and the production of methane (another greenhouse gas) when the discarded towels are entombed in landfills. Reducing paper towel consumption supports a healthier environment.

Project Summary:

It is common for kids to use more paper towels than needed during hand washing and cleaning up messes. This campaign is designed to make kids stop and think about their usage habits. Students will estimate their school's daily paper towel consumption as well as organize school-wide messaging about where paper towels come from and their effects on the environment. The messaging is intended to encourage students to choose only one paper towel (or none) when drying hands and cleaning up.

Implementation:

1. Before starting the campaign, have students survey classrooms and restrooms to see how many paper towels are used in a day.
2. Place an extra trash can, bucket, or cardboard box in each classroom and restroom with clearly marked signage: **FOR PAPER TOWELS & TISSUES ONLY.**
3. Have students monitor these receptacles and estimate how many paper towels are used each day. Wearing gloves, they may move any incorrectly placed paper towels from the trash to the collection container and count and record the total number of towels used.

4. Create (or print samples below) and display signage on every paper towel dispenser with messages such as:
    - "Please, for the trees, only take 1!"
    - "Remember, these are made from trees!"
    - "Please use only one, then compost when done!"
    - "These used to be homes for birds. Take only what you need."
    - "Please use wisely. Or use a sponge instead!"
    - "Save trees and forests! Use a sponge!"
    - "Use one, or none! Help save forests!"
    - "Use one or none! Save trees! Save forests!"
5. Make announcements about the campaign and the signs, including education about the non-recyclability of paper towels (towel fibers are too short to link together to make new sheets of paper). Have students research facts about the value of forests and trees to be included in the announcements and signage.
6. Have students read stories about trees and how animals depend on them. Share these stories with students in other classrooms. (See the Materials section for examples.)
7. Organize a rotation of cloth towels, donated by students or purchased at a thrift store, for use in the classroom. Parent volunteers may take them home for washing.
8. Purchase a supply of sponges for each classroom to use for cleaning off desks and countertops instead of paper towels or disposable wipes (which are non-recyclable and non-compostable).
9. Have students write letters requesting that the school district purchase single paper towel dispensers or air dryers.

Assessment:

Have the student group redistribute the receptacles labeled **FOR PAPER TOWELS & TISSUES ONLY** about a month after the start of the campaign. Determine if paper towel waste has decreased. Do this periodically throughout the school year.

Related Activities:

Paper Reduction Campaign – Chapter 6
Repurposing in the Classroom – Chapter 12
Making Cloth Napkins – Chapter 13

Materials:
(continued)

- Books about forests (for younger students):
    - *The Lorax*
      -Dr. Seuss
    - *The Great Kapok Tree*
      -Lynne Cherry
    - *The Giving Tree*
      -Shel Silverstein
    - *The Tree*
      -Dana Lyons
    - *The Great Paper Caper*
      -Oliver Jeffers
    - *A Tree Is Nice*
      -Janice May Udry
    - *Uno's Garden*
      -Graeme Base
    - *We Planted a Tree*
      -Diane Muldrow
    - *The Busy Tree*
      -Jennifer Ward
    - *The Tree*
      -Neal Layton

Sample Signage:

For

PAPER TOWELS

& TISSUES

ONLY

 **PLEASE,** 

for the trees,

only take 1!

Remember,

these are made

from

 TREES! 

Extensions:

- Hold a contest between grade-levels or classrooms to see who can use the fewest paper towels in a day or in a week.
- Station student monitors by the restroom sinks to give out prize entries to kids who are "caught" using only "one or none" paper towels.
- Provide teachers with small prizes (pencils, etc.) to give students who choose to use cloth towels or sponges to clean up in the classroom.
- Start a campaign to get hand dryers installed in the school. Hold a fundraiser by selling student-made cloth napkins sets (See Chapter 13) to other students and/or families.

Please use only one, then compost when done!

These used to be homes for birds.

Take only what you need.

Please use wisely.

Or use a sponge instead!

Save trees and forests!

Use a sponge!

Use one, or none!

Help save FORESTS!

Use one or none!

Save Trees! Save Forests!

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Paper Reduction Campaign

eco-cycle®

https://bit.ly/eco-cycle-zero-waste-schools-guide

Snapshot
Most students are excited to help save forests and the plants and animals that live there. One of the best ways to do this is to simply use less paper.

Objective: Students and staff will significantly reduce their paper use at school. Students will be able to state at least one reason why reducing paper usage helps the environment.

Age Groups: K-12th grade

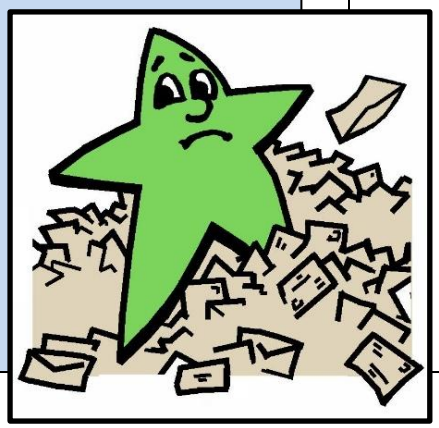
Setting: School building

Project Duration:

- Preparation: 1-3 hours
- Campaign: 1-4 weeks

Materials:

- 17 reams of printer paper for display (optional)
- Poster-making materials

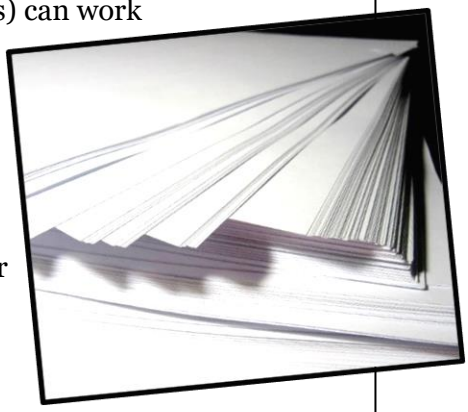


Why This Project Matters:

Trees are not the only casualty of using more paper than we need. The process of making paper also leads to water pollution, air pollution, and the loss of plant and animal habitat. To produce paper, healthy forested lands are often converted into tree farms, including old growth trees in the Pacific Northwest. Because schools use large quantities of paper for teaching and other communications, they can have a substantial positive environmental impact by reducing their paper consumption.

Project Summary:

This campaign may be tailored to a school's individual needs and goals. The school will choose three or more collaborative actions to reduce their paper use. The entire school community (students, teachers, staff, and parents) can work together in achieving these goals.

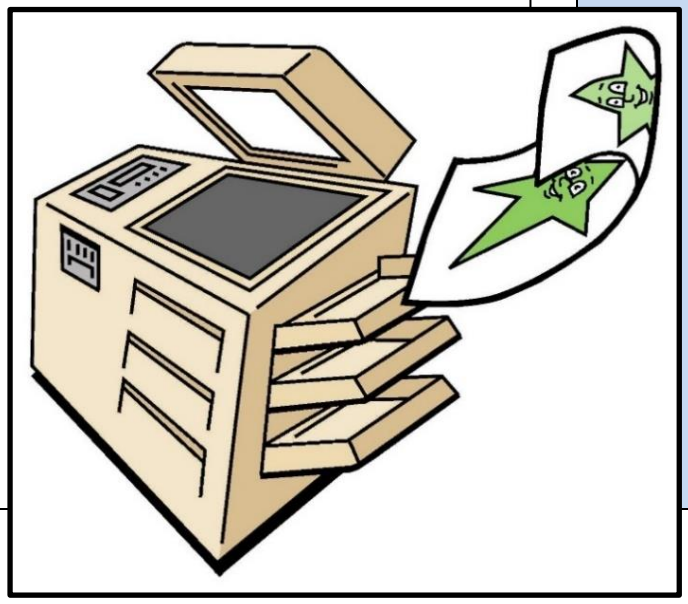


Implementation:

Preparing for the campaign:

- Meet with students, staff and/or parents to identify existing paper usage at school and brainstorm ways to reduce it. Here are some examples of paper reduction:
  - replace paper cups, plates, and napkins in the staff lounge with reusables
  - acquire (via donation or purchase) a set of reusable plates, cups, and utensils for each classroom to be used for parties and school events
  - print/copy on of both sides of the paper
  - use smaller margins on documents
  - collect used paper that still has one blank side for writing/drawing practice paper
  - save and reuse scraps of construction paper for art projects

    - use recycled paper only (100% post-consumer content, if possible)
    - purchase chlorine-free paper products
    - purchase tree-free papers (made from wheat straw, bamboo, or hemp) that grow quickly and are more sustainable
    - use digital media instead of print media for sharing information (teacher resources, school newsletters, etc.)
    - utilize small, portable white boards instead of paper during student seatwork
    - consider fundraisers for digital tablets if your school does not already have them
    - use digital projections of worksheets instead of paper copies for students
    - investigate paperless receipts if there is a school store
    - stock items made from recycled materials (pencils made from newspapers, recycled sticky notes, etc.) in the school store
    - determine the necessity of subscriptions to newspapers, magazines, and periodicals
    - use cloth towels or sponges instead of paper towels to clean classroom surfaces
    - install hand dryers in bathrooms to eliminate paper towels
    - reuse tissue paper and newspaper when shipping packages
    - take steps to reduce junk mail sent to the school
- Decide which three (or more) paper-reducing actions the school community will focus on for this effort. More can be added in a later campaign once this effort is successful.
- Choose the activities and appropriate length of time for the campaign (see ideas below).



Extensions:

- Make recycled paper with student groups. See Making Recycled Paper, Chapter 21.
- In the school store, sell reusable bags made from recycled materials featuring the school's logo.
- Facilitate a cloth napkin making activity. Napkins can be made for sale in the school store. See Making Cloth Napkins, Chapter 13.
- Encourage book reuse through using local libraries, holding a book swap, and/or donating books to charity.

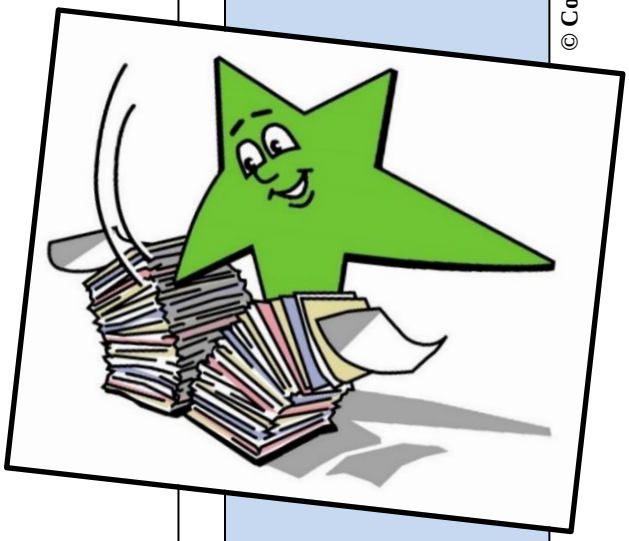
Campaign promotions and kick-off event:

- Have a student group research current data on the amount of paper use, how much ends up in landfills, and on the importance of forests (in relation to clean air, water, soil, and habitats).
- Create a visual by stacking 17 reams of printer paper (as a photo or as a tangible prop) to demonstrate how much paper is made from one 30-foot-tall tree.
- Inform the school community of the new paper-reduction goals through student-created posters, verbal or video announcements, family newsletters, and a kick-off presentation.
- Facilitate a 30-minute kick-off assembly to share information with the school community on the amount of paper being used, the amount that ends up in landfills, the environmental cost of making paper, and what the school will now be working on to conserve paper use. Students may create skits or other visuals for the assembly.
- Conduct an audit of school paper use prior to and periodically throughout the campaign. Report any progress made to the entire school community.

Assessment:

Assessments will vary depending on which goals the school chooses to work towards. If reducing the number of copies made at the copy machine, for example, speak with the school's office manager about checking the copy machine's counter before and after the campaign. If the goal is to use both sides of every piece of paper, audit the recycling bins to see what percentage of the paper has been used on both sides.

During non-curricular times, such as lunch or recess, survey students by asking what they are doing to reduce their own paper use and why it helps the earth to do so.



Related Activities:

"One or None" Paper Towel Campaign – Chapter 5
Making Cloth Napkins – Chapter 13
Reusing Children's Books – Chapter 14
Making Recycled Paper – Chapter 21

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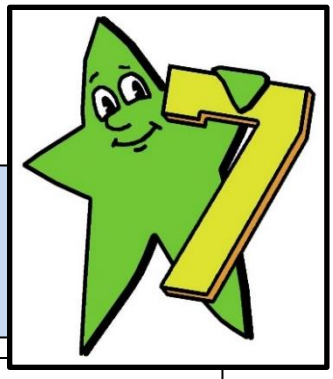
Trimming Holiday Waste



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Snapshot
Winter holiday activities produce more waste than during any other time of year. Creatively reducing holiday waste is both fun and helpful to the environment.

Objective: Students will be able to name one way that holiday-specific waste harms the environment and three ideas for reducing waste during the holiday season.

Age Groups: K-5th grade

Setting: Classroom

Project Duration:
- Preparation: 2 hours
- Classroom Activity: 90 minutes

Materials: See next page.

Why This Project Matters:

Americans generate millions of additional pounds of household waste between Thanksgiving and New Year's Day (25% more than the rest of the year). Holiday celebrations often feature many disposable food-ware items, such as plastic or paper plates, cups, napkins, and utensils. Other common holiday items, like wrapping paper, ribbons, plastic decorations, and brightly colored or foil-lined envelopes, are not recyclable. It all adds up to a lot of trash. Organic wastes, such as holiday trees, wreaths, food, and paper, generate methane gas as they decompose in the absence of oxygen while buried in landfills. Methane contributes to our warming climate.

Project Summary:

From wrapping presents in old calendar pages to choosing reusable decorations, trimming holiday waste is fun and easy. Student groups will first identify common contributors to holiday waste (disposables, wrapping paper, etc.) then brainstorm ideas for reducing these types of waste. They will conclude the project by making their own recyclable wrapping paper and/or creatively wrapping a gift by reusing old items.

Implementation:

Preparation:

1. Gather examples of disposable items and their reusable counterparts (paper/durable plates, paper/reusable lunch bags, paper towels/sponge etc.).
2. Gather examples of disposable holiday items (wrapping paper, cards, garland, etc.)
3. Gather examples of reusable boxes, gift bags, bows, and décor.
4. Create an example of a hand-decorated gift box/bag that reuses items that otherwise would have been trashed.
5. Create an example of a hand-made coupon (e.g., "Redeem for the household chore of your choice" or "Good for 1 picnic in the park").

6. Collect old maps, magazines, and calendars with kid-friendly pictures.
7. Contact local newspaper publishers to see if they have "end rolls". These are the remainders of newsprint rolls that are no longer usable by the printer.
8. Acquire rubber stamps and stamp pads (search thrift stores and garage sales before buying new) (optional).
9. Create fun, winter-themed, nondenominational-shaped stencils from paperboard boxes. These will be used for decorating the wrapping paper.

Lesson and activity:

1. Begin by asking students: "What are the three R's?" (Reduce, Reuse, Recycle)
2. Discuss what each word means.
3. "How do they help the environment?"
4. "What are natural resources?"
5. Explain that we use natural resources every day because every item we have is made from a natural resource (wood and paper from trees, glass from sand, plastic from petroleum, metal from ore/rock). Harvesting natural resources contributes to air, water, and soil pollution. It can also have negative impacts on animal habitat. All of our natural resources are limited.
6. Ask students where they think items go when they get thrown away. Show the landfill diagram. (See printable page below.)
7. Show examples of disposable items and their reusable counterparts (paper plate/durable plate, paper lunch bag/cloth lunch bag, etc.). Ask students which item from each pair would be the better choice to reduce trash and protect natural resources. Discuss why.
8. Discuss types of disposable items that are often used and thrown away during the holiday season. Show examples of wrapping paper, cards, ribbon, paper or plastic cups, plastic utensils, etc.
9. Introduce the term *pre-cycling*. To pre-cycle means to think before you buy to avoid creating waste, or to shop with the Earth in mind. Choosing items that can be reused or recycled instead of ones that are landfill-bound, choosing non-toxic items, and choosing items without excessive packaging are all effective ways to save natural resources.

Materials:

- Paper plate
- Paper cup
- Plastic utensil
- Paper napkin
- Paper lunch bag
- Durable plate
- Durable cup
- Metal utensil
- Cloth napkin
- Reusable lunch bag/box
- Wrapping paper
- Holiday garland
- Holiday card
- Toys with and without packaging
- Reusable boxes, bows, bags, décor
- Scarf/fabric
- Old maps
- Reused large blank paper (newspaper end-rolls, if possible)
- Paperboard boxes (cereal, crackers, etc.)
- Old calendars and magazines
- Scissors
- Glue
- Markers or crayons
- Stamps and stamp pads (optional)

10. Display and discuss the *Seven Principles of Pre-cycling* (see printable page below) and brainstorm examples of each. For younger groups, preview the list ahead of time and prepare tangible examples of each to display during the lesson.
11. Display and discuss the *Waste-Reducing Ideas for the Holidays* (see printable page below). Show examples from the list (reusable boxes, bows, decorations, etc.) as they are introduced.
12. Brainstorm creative ways to wrap gifts with reusable/recyclable materials (boxes decorated with magazine pictures, fabrics used as gift wrap, small gifts wrapped in calendar pictures, greeting cards made into gift tags, etc.). Show the prepared examples of these ideas.
13. Discuss ways to make gifts rather than buying something new and show examples (homemade coupons, artwork, crafts, etc.).
14. Have the students make their wrapping paper and/or wrap a gift with reused items:
    - Cut large rectangles from end rolls or from other unwanted paper or fabric.
    - Have students decorate the blank paper or fabric with crayons, markers, stencils made from old paperboard boxes, stamps, and pages from calendars and magazines.
    - Encourage students to use this wrapping paper or fabric to wrap a gift for someone. Remind them that the paper can be recycled after the gift is opened. Discuss ways the fabric can be reused.
15. Send a digital or hard copy of *Waste-Reducing Ideas for the Holidays* to family members at home.

Assessment:

Have students write a letter to a friend, family member, Frosty the Snowman or other winter or holiday character, telling them why holiday waste is a problem. Ask them to include three ways they learned to reduce waste around the holidays.

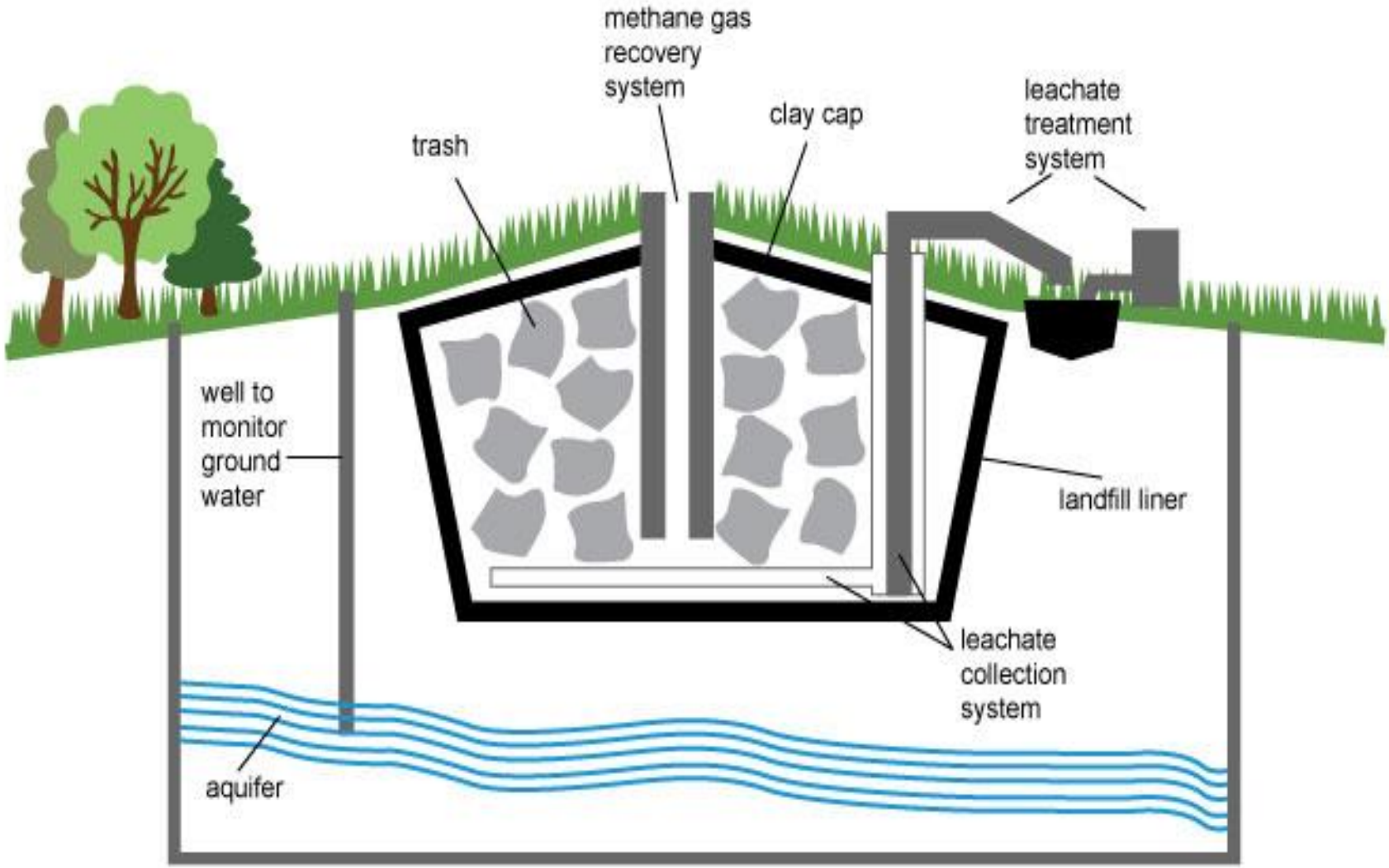
Related Activities:

Getting Artsy with Reuse – Chapter 8
Creative Crayon Recycling – Chapter 20

Extensions:

- Facilitate a coupon-making activity by having students make homemade coupons out of paperboard from empty cereal/cracker boxes to give as gifts to friends or family members.
- Have students share their favorite holiday waste-reducing ideas through announcements, hallway posters, or during the school's holiday program.

Modern landfill



Source: Adapted from National Energy Education Development Project (public domain)

Seven Principles of Pre-cycling:

(Shopping with the Earth in Mind)

1. Avoid buying disposables.
2. Reuse items instead of throwing them away.
3. Buy products and packages made from recycled materials.
4. Look for products in recyclable containers.
5. Avoid products with excessive packaging.
6. Buy in bulk (big containers).
7. Look for products that are less toxic.

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Waste-Reducing Ideas for the Holidays

- Choose durable tableware over disposables when hosting parties.
- Find and/or make reusable decorations.
- Take your own bags to the store when buying gifts and supplies.

- Wrap gifts in creative ways by reusing things you already have:
  - Saved wrapping paper and bows
  - Old greeting cards
  - Durable gift bags
  - Shoe boxes, packaging boxes, etc.
  - Comics, magazines, or book pages
  - Scarves, bandanas, other fabrics
  - Outdated calendars and maps

- Use wrapping paper and cards made from post-consumer recycled-content paper.
- Buy gifts that have minimal/no packaging.
- Give gift certificates to movies, restaurants, or help needed by the recipient.

- Give gifts that teach about the environment.
- Reuse an artificial tree, get a live tree that can be planted, or mulch/compost a cut tree after use.

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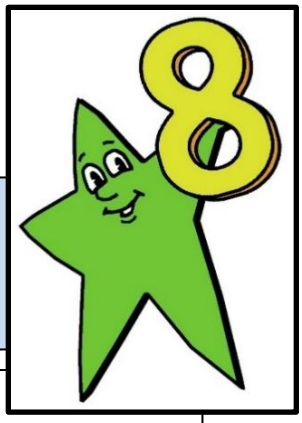
Getting Artsy with Reuse



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Snapshot
By repurposing unwanted items into art supplies, students can create meaningful artwork while reducing waste and conserving natural resources.

Objective: Students will understand that reusing materials to make a sculpture will prevent items from going to the landfill or incinerator, while also protecting natural places.

Age Groups: K-12th grade

Setting: Classroom

Project Duration:
- Collecting materials: 1-3 hours
- Creating sculpture: 1-2 hours

Materials:
- Internet access
- Smocks for clothing protection
- Found objects (non-recyclable, non-compostable)

Why This Project Matters:

More and more, world-renowned artists are discovering what teachers have known all along: discarded materials have endless creative potential, and they are often free! Reuse is an essential step toward achieving Zero Waste. Reusing existing items not only reduces waste, but it also saves natural resources and energy by making it unnecessary to produce new items.

Project Summary:

Most trash cans are full of items that are not recyclable or compostable in your community. Instead of sending them off to the landfill or incinerator, consider them art supplies and get creative! In this activity, students will create a variety of unique sculptures using commonly (or not-so-commonly) discarded items.

Implementation:

1. As a class project, have students research the website of the local recycling and/or compost program, locating the guidelines for accepted recyclables and compostables. Discuss these guidelines as a class.
2. Have students monitor their household and classroom trash bins and collect objects that cannot be recycled or composted. Have them look for items that have interesting shapes or colors that could become part of their sculpture. Allow 2-3 weeks to gather items.
3. If desired, have the sculpture tie into a theme that the students are studying (e.g., the environment, a historical event, current events, an upcoming holiday, a book they are reading, etc.).
4. Before beginning to create the sculptures, facilitate a discussion about the materials the students are reusing.

a. Ask where the materials would have ended up if they were not reusing them (landfill or incinerator).
b. Discuss which natural resources were used to make the materials (plastic from oil, paper from trees, metal from rock/ore, glass from sand).
c. Explain the environment benefits of reusing these materials instead of buying new art supplies:
    i. Fewer natural resources are consumed.
    ii. Plant and animal habitat is saved.
d. Remind students that the main goal is to reuse items that cannot be recycled or composted, giving them one more life before going to the landfill or incinerator.

5. To create the sculptures, provide the students with the following instructions:
    a. The only rule: the entire sculpture must be made from materials that cannot be recycled or composted. All materials must be things that would normally have ended up in the trash. Examples of items to include are plastic straws, frozen food boxes, candy and granola bar wrappers, juice and applesauce pouches, foil/plastic peel-back lids (e.g., single-serving yogurt and applesauce containers), netted fruit bags, disposable utensils, odd-shaped plastic, metal or wood items that can't be recycled, old CDs, colorful plastic bags (if they can't be recycled in your area), broken/irreparable toys, other broken/non-sharp household goods, fabric scraps, etc.
    b. The base of the sculpture is also included in the rule - it must also be made from non-recyclable and/or non-compostable items.
    c. The sculpture may be any size or shape.

Extensions:

- Interview the person in charge of your local recycling program about why certain items can or cannot be recycled.
- Hold an art exhibition at your school to showcase the finished sculptures.
- Have students write a one-page essay about how their sculpture expresses the assigned or chosen theme.

(Continued next page.)

Things to consider:

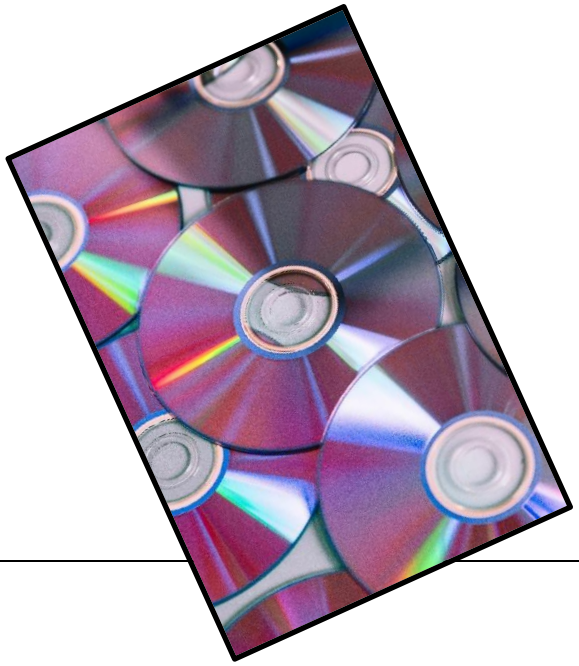
- If preferred, have students work together in small groups to consolidate their trash items and create larger sculptures.

Assessment:

- Ask students to name the discarded items they reused for their sculpture.
- Have them state how reusing these materials is helpful to the environment.

Related Activities:

Trimming Holiday Waste – Chapter 7
Repurposing in the Classroom – Chapter 12
Making Cloth Napkins – Chapter 13
Special Materials for Recycling – Chapter 19
Creative Crayon Recycling – Chapter 20



Extensions:
(continued)

- Ask students to take photos of their sculptures from different angles. Have them each compose a presentation slide featuring their photos and a synopsis of how their sculpture relates to the theme. Gather the slides to create a digital art show.
- Have students brainstorm more reuse ideas for these and other items that would otherwise be discarded.

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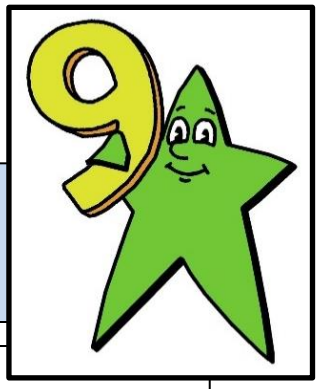
Locker Leftovers/Classroom Cleanout



Snapshot
At the end of the school year, capture unwanted school supplies and more for reuse and recycling.

Objective: Divert as much as possible from the landfill or incinerator during end-of-the-year classroom and locker cleanouts.

Age Groups: K-12th grade

Setting: School building

Project Duration:
- Preparation: 1-2 hours
- Implementation: varies based on school size and chosen project (1-3 days)

Materials:
- School trash, recycling, and/or composting bins
- Boxes or bins for collecting reusable items
- Signage for all bins
- Tables for stations
- Volume-tracking sheets

Why This Project Matters:

Humans are consuming the earth's natural resources at an alarming rate. One reason for this is the common habit of replacing perfectly usable items with new ones. Buying back-to-school supplies is a prime example. Students and their families often purchase new folders, pencils, crayons, notebooks, and other items even though last school year's supplies still have plenty of life in them. Classroom and locker cleanouts during the frenzy and excitement of the last days of school often lead to large quantities of usable school supplies and other personal items being tossed into the trash.

Project Summary:

These two projects have the same goal (an astounding reduction of waste), but slightly different formats based on age groups and school layout. *Locker Leftovers* is designed for secondary schools that utilize lockers for student belongings, and *Classroom Cleanout* is designed for elementary schools where classrooms typically contain student belongings, not lockers. Implementing an organized and structured collection system for reusing and recycling unwanted materials will drastically reduce waste during end-of-the-school-year cleanout sessions. The result is cleaner hallways, emptier trash dumpsters, happier custodians, and a healthier planet.

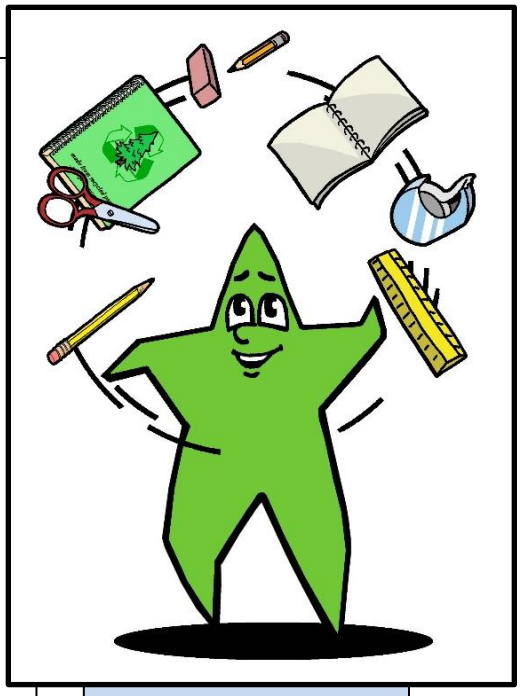
Implementation:

Locker Leftovers (secondary):

1. Coordinate with school administrators and custodians to select a date and time for locker cleanout.
2. Identify a student sponsor group and schedule a meeting for two weeks before the event. A student group will serve as the promotions crew. Student councils, eco-clubs and leadership groups are good options for this task.
3. Prepare the necessary information (when, where, and how) about the event and create an ad for publication in the school newsletter.
4. Do a walk-through of the hallways with the staff member who assigns student lockers. Determine where each grade level's lockers are located and use this when coordinating the classroom release schedule for locker cleanout.
5. After the walk-through, work with the head custodian to plan where the reuse and recycling station tables will be located. Determine how to staff each station (teachers, other staff, students, volunteers, etc.).
6. A few weeks before the event, meet for approximately 30 minutes with the student sponsor group. Take pre-made posters (students may add color/customize) and pre-written announcements for them to promote the event (see printable examples at the end of this chapter). Explain to the group that they are responsible for advertising the project to their school community. Allow students time to decorate the posters and practice reading the announcements during the meeting. Encourage them to customize the posters with phrases such as "Reuse if you can!" or "Recycle all of your used paper!" Students may also generate their own ideas for promoting the project, such as recording and distributing video announcements.
7. Have the group create a timeline for their promotions. Display the posters and start to share the announcements about one week before the cleanout date.
8. Decide how to categorize collected items during the cleanout. Create clear, bold signage for each collection bin (see printable samples at the end of this chapter).
9. Reach out to teachers and departments within the school to see which might be interested in receiving certain items for special projects or to distribute to their students. Create an official order form to track requests. Identify other groups in need that would like to receive the remaining used school supplies (charities, lower-income schools, etc.). Find out which items and quantities are desired by each group and coordinate delivery dates.

Extensions:

- If space is available, store the collected and sorted reusable items during summer break and hold a "Back to School Used School Supplies Sale" as a fundraiser in the fall.



10. On the day of the event, collect as many hallway trash cans and recycling bins as possible and relocate them to the project collection stations, leaving no other options for waste disposal near lockers. Add compost bins if compost is collected at your school. This keeps students from automatically dumping their materials in the trash and funnels them towards the stations for reuse and recycling. Each station should have a table, reuse collection bins, recycling bin(s), trash bin(s), compost bin(s), and signage. (See Station Layout for Locker Leftovers/Classroom Cleanout below.)
11. When the locker cleanout event has concluded, sort any misplaced materials into their correct receptacles and record the total volumes in each category. Deliver items to charities and recycling centers, then share the landfill-diversion volumes with the school community.

Classroom Cleanout (elementary):

1. Coordinate a time frame with school administrators when students will clean out their desks and classrooms. (It may span more than one day.)
2. This project can be successful with or without a student sponsor group. If a student group will be helping with the promotions, schedule a meeting for two weeks prior to the cleanout. If not utilizing a student group, a willing teacher, parent, or staff member can organize the promotions. Promotional tools may include posters and school-wide announcements. (See samples below.)
3. Prepare the necessary information (when, where, and how) about the event and create an ad for publication in the school newsletter.
4. Establish an exchange table for reusable materials in a central location. Decide how items should be separated and make signage (see printable samples at the end of this chapter). Invite all teachers and students to put unwanted school and classroom supplies on the table and to take what they need. Identify a group or groups to receive anything left over (charities, lower-income school, etc.). Find out which items and quantities are desired by each recipient and coordinate delivery dates.
5. Assign someone to occasionally monitor the bins during the event to make sure they do not overflow.
6. When the cleanout event has concluded, sort any misplaced materials into their correct receptacles and record the total volumes in each category. Deliver leftover items.

Assessment:

Total the volume of all materials diverted by the event. Discuss with the head custodian the ways in which they see the program positively benefitting the school and the community. When announcing the success of the project to the school, emphasize this information along with the environmental benefits of the project (less trash, less need for landfills, natural resources and energy saved).

Related Activities:

Repurposing in the Classroom – Chapter 12
Schoolwide Recycling Collection – Chapter 18
Creative Crayon Recycling – Chapter 20

Sample Poster:

Locker Leftovers

Your trash could be

someone else's TREASURE!

Remember to bring reusable & recyclable items to the donation stations during Locker Cleanout!

Sponsored by: [Funder Logo]

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Sample Announcements:

*Update similar facts from a reputable source before sharing with the school community. **Enter specific information pertaining to your event.

For several days prior to your Locker Leftovers or Classroom Cleanout event, use these P.A. announcements to motivate and inform the school community. This information can also be used to create banners, posters, and video announcements.

1. We make 292 million tons of waste each year in the United States. An astounding 62% of this waste ends up in landfills or incinerators and only 32% is recycled or composted! You can help the environment and your community by recycling and donating reusable items during Locker Leftovers [Classroom Cleanout]. Look for donation station(s) near your lockers [other location] on [date]. This project is being brought to you by [funder(s)/implementing group(s)].

2. Americans make an average of 4.9 pounds of trash per person per day and only 1.6 pounds of this is recycled or composted! Don't let your school supplies go to waste! Bring reusable and recyclable items (such as paper, pens, notebooks, clothes, and art supplies) to the cleanout station(s) during Locker Leftovers [Classroom Cleanout] on [date].

3. We all throw away millions of tons of recyclable and compostable material every year. About 1/4 of our waste is paper and paper products. Remember that you can donate clean paper and notebooks, along with other recyclable and reusable items at the cleanout station(s) during Locker Leftovers [Classroom Cleanout] on [date].

4. The more trash we have, the more landfills we'll need. Landfills take up space, can pollute groundwater and give off methane gas, which is a potent greenhouse gas. Don't let your school supplies end up in a landfill! Take reusable goods and recyclable items to cleanout station(s) during Locker Leftovers [Classroom Cleanout] on [date].

5. Remember, your trash could be someone else's treasure. Reusing and recycling reduces trash and helps save limited natural resources. Take paper, pens, pencils, books, clothing, art supplies and other reusable or recyclable items to the cleanout station(s) during Locker Leftovers [Classroom Cleanout] on [date]. This project is sponsored by [funder(s)/implementing group(s)].

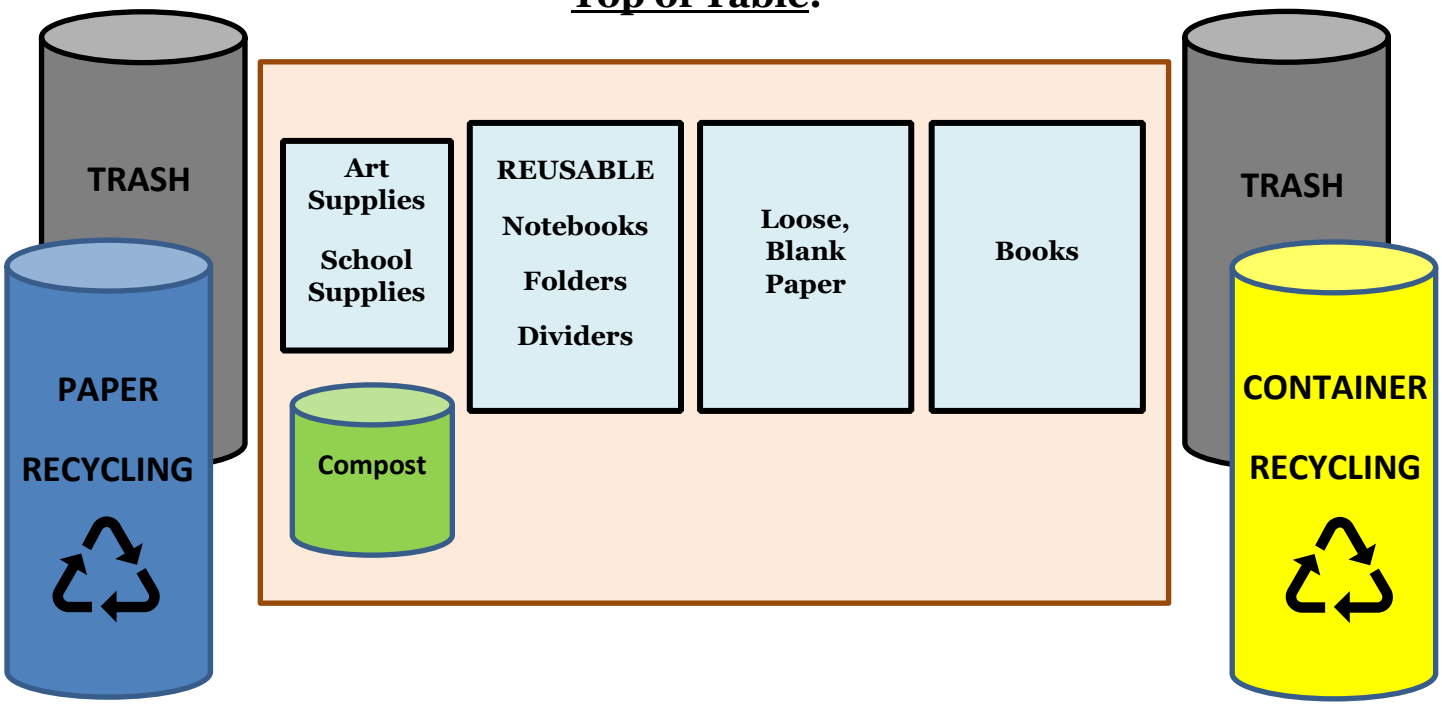
Station Layout for

Locker Leftovers/Classroom Cleanout:

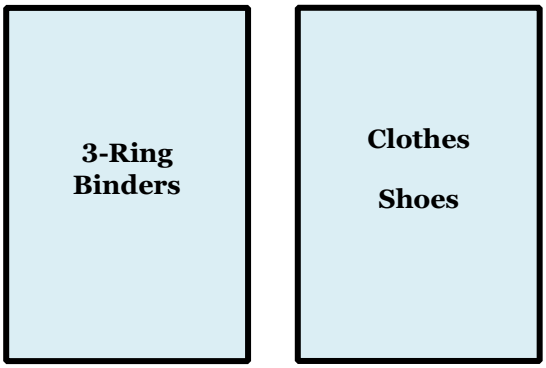
See below for a sample layout of collection bins for the Locker Leftovers or Classroom Cleanout station(s).

Side: **Side:**

Top of Table:



Under Table:



<u>Sample Bin Signage</u>:

Clothes & Shoes

Books

Loose, blank paper

3-ring binders

School Supplies & Art Supplies

REUSABLE Notebooks Folders Dividers

Sample Bilingual Bin Signage:

Clothes
& Shoes

Ropa y
Zapatos

Books

Libros

Loose, blank paper

Hojas de papel
sin escritura

3-ring binders

Carpetas de papel
de argolla

School Supplies,
Art Supplies

Utiles Escorlares,
Utiles para la
Clase de Arte

REUSABLE
Notebooks, folders, dividers

REUTILIZABLE
Cuadernos, carpetas,
separadores

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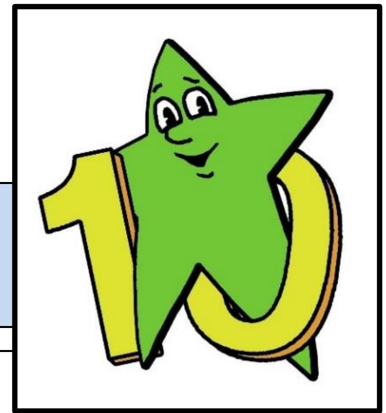

Reducing Junk Mail

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Snapshot
By stopping unwanted mail, schools and families can save resources, reduce waste, and support a healthier environment.

https://bit.ly/eco-cycle-zero-waste-schools-guide

Objective: Stop as much unwanted mail as possible.

Age Group: 5th-12th grade, adults (school staff and families)

Setting: School office, staff lounge, homes

Project Duration: Ongoing

Materials:

- unwanted pieces of mail
- internet access
- empty box for collecting mail

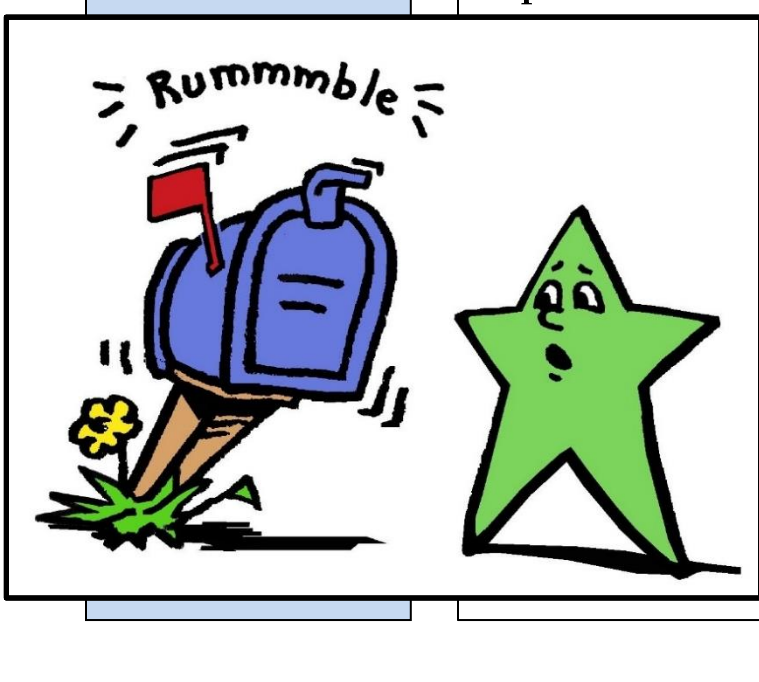
Why This Project Matters:

Junk mail is not only excessive and overwhelming at times, but it also comes at a huge cost to the environment. Hundreds of billions of pieces of physical mail are distributed annually in the U.S. Hundreds of millions of trees are cut and processed to create this mail, much of which will end up in the trash and not recycled. This waste affects our climate as well - the production and disposal of junk mail consumes an enormous amount of energy (and produces air and water pollution!).

Project Summary:

With a small time commitment, it is possible to reduce the amount of unwanted mail that a school and/or family receives. Working with a mail-reduction company or contacting senders directly will drastically reduce the amount of unwanted mail in the delivery system, while conserving natural resources and energy.

Implementation:



1. Begin by collecting unwanted mail in a central location. Place a box labeled *JUNK MAIL* in a common area of the school building, such as a staff lounge, where staff members may deposit any unwanted mail.
2. Choose a method for eliminating the junk mail that staff are receiving. Work with a mail-reduction company (such as Catalog Choice) or call the companies sending the junk mail directly and ask for removal from their mailing lists. Both methods may be employed by an environmental club or parent volunteers.

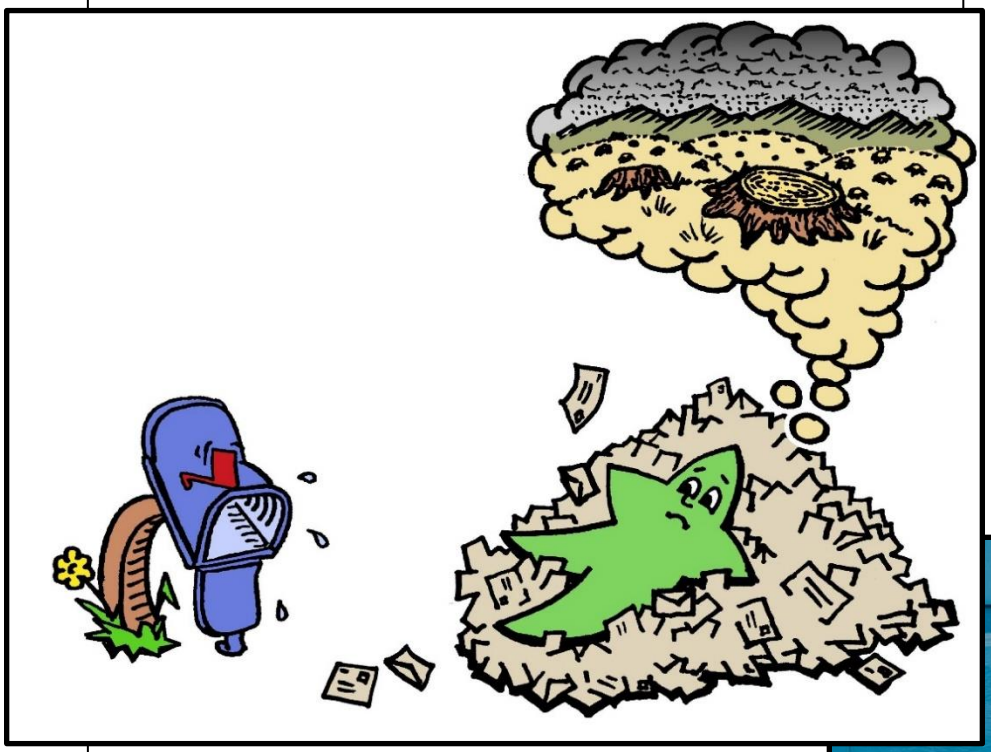
3. If choosing to work with a mail-reduction company, research the options and choose one based on your school's needs and means. Register for service with the company and supply junk mail sender names and addresses from the pieces collected.
4. If choosing to call junk mail senders directly, call each sender and ask to be removed from their mailing list. It may be a few weeks before all mail from a sender stops.
5. As new pieces arrive from new senders not yet submitted to the mail-reduction company, access the account and add their names. Keep a list of senders called directly, so that you do not need to repeat those calls. Different names for the same person may have to be submitted separately.

Assessment:

Unwanted mail will be noticeably reduced after this project.

Related Activities:

Paper Reduction Campaign – Chapter 6



Extensions:

- Consider involving families by hosting a contest between classes or grade levels. Ask families to sign up for an account with the chosen mail-reduction company or to call junk mail senders directly. Ask them to opt out of at least one or more unwanted mailings. The class or grade with the highest percentage of family participation wins the contest.
- Create a mail-stopping service as a fundraiser. For a small donation, families could send their collected junk mail to a student group and let them register the addresses with a mail-reduction company on behalf of the families.

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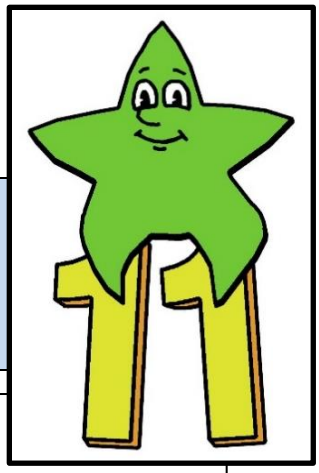
Zero Waste School Parties and Events



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Snapshot
With a little advanced planning, large (schoolwide) and small (classroom) celebrations at school can incorporate Zero Waste methods, leading to fewer waste items and a healthier environment.

Objective: Little or no trash will be produced during school parties and events.

Age Groups: K-12th grade and adults

Setting: Classroom or larger space(s) on school property

Project Duration:
- Planning meeting: 30 minutes
- Organizing materials and volunteers: 1-2 hours
- Party or event: varies

Materials:
- Waste-reduction tip sheet
- Internet access (for researching party suppliers)
- Reusable or compostable partyware
- Zero Waste Event signage or banner (for all-school events)

Why This Project Matters:

Like the winter holidays, year-round parties and events can produce large volumes of trash. Common party-planning trends often encourage the use of disposable cups, plates, utensils, decorations, and sometimes trinkets or favors, all of which are destined for the landfill. When the party fun is over, bags of waste are discarded, posing further harm to the environment.

Project Summary:

Parents and school staff who plan school parties and events will learn about recyclable, compostable, and reusable options for common party accessories, and will make other party-planning choices with Zero Waste in mind.

Implementation:

Classroom parties:

1. Coordinate a meeting with parents or staff members who are organizing the parties. Allow enough time for questions, brainstorming, and discussion.
2. Provide party planners and teachers with tips on reducing party waste (see Zero Waste Event & Party Tips below).
3. If choosing to use reusables (the least-wasteful option), give organizers a list of discount/thrift stores that stock reusable cups, plates, and utensils (see Checklist for Zero Waste Event & Party Kits below). If choosing to use compostables, give organizers a list of stores/internet sites that stock BPI-certified compostable partyware. Plastic-coated paper plates, bowls, and cups must be kept out of the compost. Plain paper napkins are compostable. Aluminum foil, metal cans, drink cartons and plastic bottles can be recycled. (Juice pouches are not recyclable.)
4. Consider creating or buying reusable party decorations for each class.

5. Coordinate the placement of extra compost collection bins, if needed, and the emptying of those bins into the school compost dumpster (or the transport of the compostables to a compost facility if compost collection is not established at the school).

All-school events:

1. Coordinate a meeting with parents or staff members who are organizing the event(s). Allow enough time for questions, brainstorming, and discussion.
2. Provide party planners with tips on reducing party waste (see printable Zero Waste Event & Party Tips below).
3. Provide organizers with a list of stores/internet sites that stock BPI-certified compostable partyware. Planners may also consider using durable cups, plates and/or utensils if seeking the least-wasteful option (see Zero Waste Event & Party Tips below). Ask for parent volunteers to take and wash reusables at home or utilize the school's kitchen dishwasher if possible. Another option is to have families bring their own reusable cups, plates, utensils, and napkins that they can use and take back home.
4. Plastic-coated paper plates, bowls, and cups must be kept out of the compost. Plain paper napkins are compostable. Aluminum foil, metal cans, drink cartons and plastic bottles can be recycled. (Juice pouches are not recyclable.)
5. Consider creating or buying reusable decorations that could be used at multiple events.
6. Recruit parent, student, and/or staff volunteers to monitor waste stations during the event and assist guests with their waste sorting.
7. Display signage that the event is a Zero Waste event to educate the school community.

Assessment:

Monitor the school's classroom trash and/or trash and compost dumpsters to gauge the success of the project in reducing waste. Let the school community know how successful the effort has been. Success will grow with repeated events and the change in school community culture.

Related Activities:

Trimming Holiday Waste – Chapter 7
Conducting a Waste Audit – Chapter 30

Extensions:

- Save the trash bag(s), if any, from the party or event and conduct a trash audit (see Conducting a Waste Audit, Chapter 30). Discuss with students and staff what was found in the trash and brainstorm ideas for how to avoid those items at future parties or events.
- Have a class or student group monitor the trash, compost, and recycling to prepare a report on the success of the project. Share the report with the party or event planners for future improvement.

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Building Zero Waste Communities

ZERO WASTE EVENT & PARTY TIPS

Use these suggestions to help reduce waste at events:

Reducing and reusing help the Earth the most! Recycle and compost everything you can.

PLATES

- Durable plates can be washed and reused.
- Plain, uncoated paper plates are compostable and generally less expensive.
- Avoid colorfully-decorated plates, which are plastic coated (must be landfilled).

NAPKINS

- Cloth napkins can be washed and reused.
  Students can create their own napkins from bandanas, old-t-shirts or fabric.
- Paper napkins and paper towels are compostable.

TABLECLOTHS

- Wash and reuse cloth or plastic tablecloths.
- Avoid single-use disposable plastic tablecloths (must be landfilled).

UTENSILS

- Durable utensils can be washed and reused.
  Provide finger foods which require no utensils.
- Compostable utensils must be BPI certified.
- Avoid single-use, plastic utensils (must be landfilled).

DRINKS

- Durable cups can be washed and reused.
- Bottles, cans and cartons are recyclable.
  Empty liquids before recycling!
- Compostable cups are available for hot and cold beverages!
- Avoid juice pouches and single-use straws (must be landfilled).

*Look for **BPI certified compostable** cups, utensils, and products.*

COMPOSTABLE IN INDUSTRIAL FACILITIES
Check locally, as these do not exist in many communities. **Not suitable for backyard composting.** CERT # SAMPLE
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Encourage event attendees to bring their own reusables.

Create Your Own Reusable Kit!

Reusable plates, cups, utensils, napkins and serving ware.

Ask volunteers to wash and return reusable kit materials.

MORE ZERO WASTE TIPS

- *Choose or make reusable decorations.*
- *Prevent food waste. Bring containers to send leftovers home.*
- *Recycle clean, balled-up aluminum foil and aluminum trays.*
- *Compost non-metallic cupcake wrappers.*
- *Avoid plastic wrap and plastic bags.*
- *Reduce packaging waste. Buy in bulk!*

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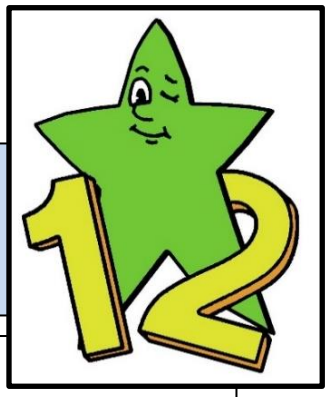
Repurposing in the Classroom



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Snapshot
There are many ways to repurpose discarded items into teaching tools and classroom supplies. Doing so encourages students to develop a conservation mindset.

Objective: Students will be able to discuss and show examples of reusing and repurposing items in the classroom and how those actions benefit the environment.

Age Groups: K-12th grade

Setting: Classroom

Project Duration: Ongoing

Materials:
- Varies by reuse idea
- Chart paper
- Markers

Why This Project Matters:

There is a reason that REUSE comes *before* RECYCLE in the order of the 3 R's (Reduce, Reuse, Recycle): because it is an even *better* way to help the environment!

Reusing items:
- reduces waste. Waste is generated throughout the life cycle of a new product including the extraction of raw materials, the manufacturing process, packaging, distribution, consumption, and disposal.
- saves natural resources (trees, metal ores, minerals, oil, coal).
- keeps materials out of the waste stream, reducing the need for landfills and incinerators and reducing the amount of litter in the environment.
- eliminates the air and water pollution created when making brand-new items or when recycling old items into new.
- results in less hazardous waste.
- helps safeguard wildlife habitats.
- reduces costs.
- preserves the "embodied energy" that was originally used to manufacture an item.

Project Summary:

Teachers may choose from the ideas listed below to set up a classroom where reuse is a priority. Reusing items in the classroom is easy, economical, and provides a good model of Zero Waste practices in action.

Implementation:

1. Have students brainstorm ways that items are currently being reused or repurposed in the classroom. Make a list, post it on a bulletin board, and highlight any reused items that cannot otherwise be composted or recycled.

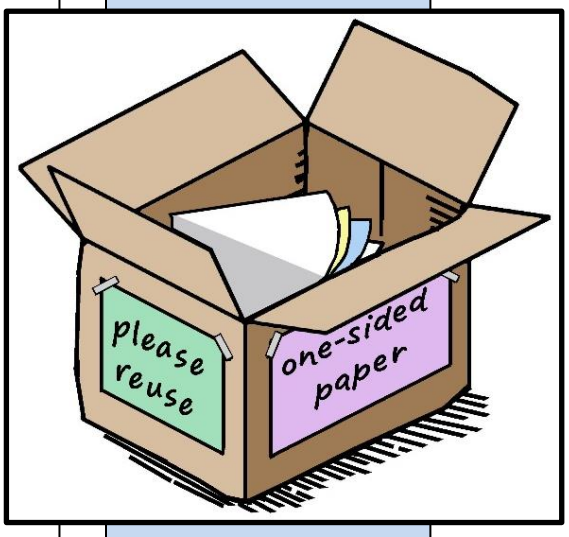
2. Continue brainstorming ways that items *could be* reused in the classroom. Use the list below for ideas if needed.
3. Decide which reuse ideas you would like to implement. Make a list of natural resources saved by reusing each of these items (e.g., reusing the backside of paper saves trees) and post the list somewhere in the classroom. Discuss other environmental benefits (reduces waste, uses less energy than making new products, etc.).

Ideas for reusing and repurposing in the classroom:

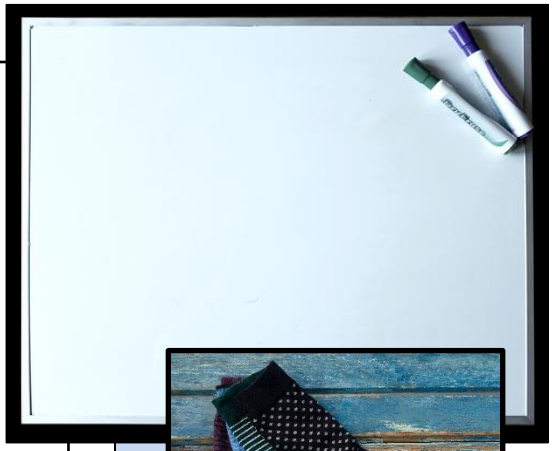
- Establish a tray for collecting one-sided paper (paper with one side printed and the other blank) to be reused as writing/drawing paper for students or as printer paper for teachers.
- Collect scrap paper (including half-sheets) for notes, sketching, practicing math problems, spelling tests, etc.
- Create a bin for collection of colored paper and construction paper scraps to reuse during art projects.
- Collect used plastic zip-top baggies to contain teaching materials for students (baggies should not have contained food prior to reuse).
- Save plastic shopping bags for sending delicate projects home with students, or for litter clean-ups around the school campus.
- Collect small plastic yogurt/applesauce tubs to plant seeds, organize manipulatives, contain paper clips, hold coins during currency units, collect reward tickets, etc.
- Cut chip bags open, wipe clean, then cut into strips and tape into rings to make 'paper' chains for counting days of school or classroom décor (instead of using new construction paper).
- Have students save and decorate tissue boxes for Valentine's Day card collection, or for organizing small desk items, such as erasers and pencils. (Recycle after use.)
- Separate decorative front covers of greeting cards and turn them into gift tags, table tents, name cards, or post cards to pen-pals. (Recycle after use.)
- Use unwanted mugs, tennis ball cans, and paperboard cans (from nuts, hot cocoa, etc.) to contain pencils, markers, scissors, and rulers. These could also be used to collect teaching tools that have small pieces, such as puzzles, building blocks, and manipulatives. If desired, paint or decoupage the outside of the container.

Extensions:

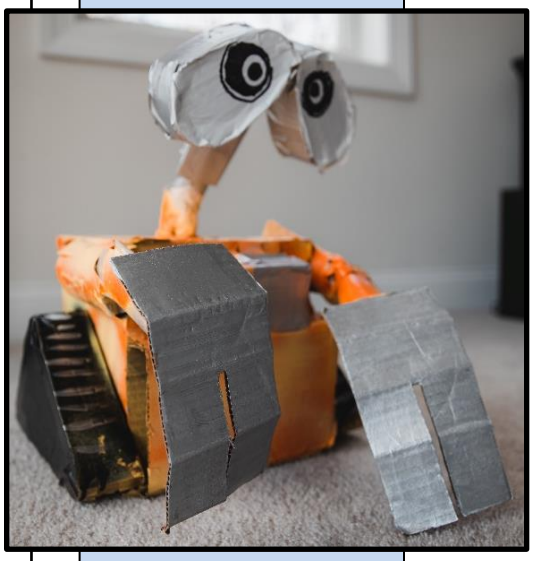
- Have students showcase their class's reuse ideas at an all-school event, such as a back-to-school night, school-wide festival, or assembly.
- Create a display for a prominent hallway or display case exhibiting reuse ideas that also includes facts about reuse and the environment.



- Use orphaned socks (ones that lost their match) for white board erasers.
- Use an old sheet, tablecloth, or fabric remnant as bulletin board backgrounds (they are more fade-resistant than butcher paper).
- Use newspaper to line classroom compost buckets (this keeps the inside of the bucket cleaner for longer and can be composted along with food scraps, tissues, and paper towels).
- Use newspaper instead of butcher paper to cover tabletops when doing messy art projects. (Recycle or compost when finished.)
- Use brown paper grocery bags, calendar pages, magazines, and maps as gift wrap. (Recycle after use.)
- Use chip bags for collecting small trash items in desks. Or cut them open, wipe them clean and use as gift wrap.
- Save plastic or metal gum and mint containers to send baby teeth home when lost at school.
- Use pages from old textbooks, damaged library books, and magazines for collage projects.
- Save large cereal boxes and laundry detergent boxes. Cut off the top and diagonally along the sides to make a library book/folder holder for student desktops. (Recycle after use.)
- Make notebooks/journals from one-sided scrap paper, paperboard boxes (for covers), and pieces of yarn or metal rings (for binding) using a paper cutter and a hole-punching tool.
- Ask a local carpet store for unwanted carpet tiles for use when students sit on classroom floors and auditorium floors during assemblies. Cut up old yoga or exercise mats for the same purpose.
- Instead of purchasing popsicle sticks to make name sticks, collect and wash straws from juice boxes and pouches. Attach photos or drawings of students to each straw. Bottle caps and jar lids can also be used with a photo or drawing of the student placed inside (these can also be turned into magnets).
- Instead of purchasing marbles, use bottle caps in a jar for measuring and rewarding positive classroom behavior.
- Use a milk jug as a watering can for classroom plants and animals' water dishes.
- Invest in a set of party reusables– cups, plates, flatware, and cloth napkins. Students may be able to bring in donations, preferably extras from home or purchased at thrift stores.



- Instead of disposable wipes or paper towels, have rags and sponges on hand for classroom cleaning.
- Hold a "Radical Reuse" session:
    1. Have students collect clean, non-recyclable packaging and supplies from home or school such as: wrappers, zip-top plastic bags, foam trays, straws, juice pouches, chips bags, freezer boxes, plastic 6-pack rings, frozen juice containers, to-go containers, yogurt peel-off lids, empty sticker/label/stamp sheets, dried up markers, abandoned marker caps, etc.
    2. Store these in a special container in the classroom.
    3. Explain to students that these are not recyclable or compostable and would be considered trash, but they are going to be kept out of the landfill by reusing them.
    4. Use these materials to have students create a themed project based on the curriculum being studied. For example:
        - Create an animal (real or fictional) that can live in the rainforest. What adaptations would it need?
        - Design an alpine landscape. What geological features would it have?
        - Construct a new insect. How many legs and body segments must it have?
        - Assemble geometric shapes from items.
        - Represent mathematical concepts like parallel lines.
        - Use straws or marker caps to teach addition and subtraction.
        - Paste images on the undersides of yogurt lids to create the game of *Memory*.
        - Use straws to make a set of *Pick-Up Sticks*.
        - Create mosaics or collages for book report covers from words and photos cut from packaging containers (chip bags and wrappers).
        - Design a machine or robot with moving parts.
        - Use small items to create dioramas or art sculptures.
        - Find ways to make musical instruments from these objects.



Assessment:

Have students write letters to pen-pals or administrators within the school explaining how their class reuses items in the classroom. Each letter should include three or more examples of reuse and explain at least one way that reuse helps the environment.

Related Activities:

Trimming Holiday Waste – Chapter 7
Getting Artsy with Reuse – Chapter 8
Creative Crayon Recycling – Chapter 20

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Making Cloth Napkins

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Snapshot
Turning tattered textiles into reusable napkins saves trees and keeps reusable fabric from going to waste.

Objective: Students will understand how the making and disposal of paper napkins increases waste, negatively affecting habitats and depleting natural resources.

Age Groups: K-6th grade

Setting: Classroom or activity space

Project Duration: 30-60 minutes, plus time for background learning and collecting fabric

Materials:

- Unwanted textiles
- Collection bin
- 12”x12” wood or cardboard frames (one per four students)
- Scissors or pinking sheers
- Permanent or fabric markers
- Stamps/pads
- Smocks for clothing protection (optional)

Why This Project Matters:

Every year, millions of trees are cut down to make disposable napkins. Some of these trees are from old-growth forests in North America and around the globe, our last original forests! It does not have to be this way!

Using cloth napkins instead of paper napkins saves trees, reduces waste in landfills, protects animal and plant habitat, saves energy, and reduces air and water pollution.

When cloth napkins are made from unwanted textiles (towels, t-shirts, bedsheets, etc.), the environmental benefits increase because the material gets reused and is not discarded. The consumption of energy and the resources required to manufacture new cloth napkins is also avoided.

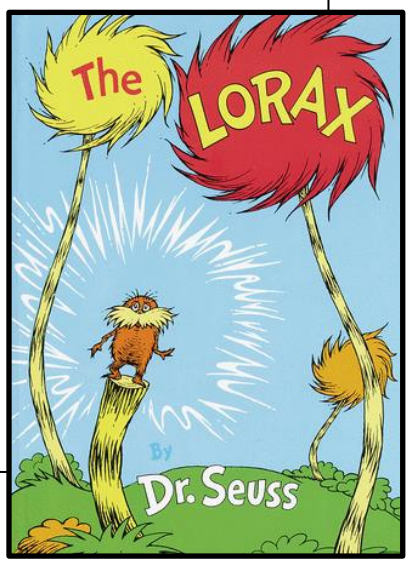
Project Summary:

In this activity, students will make simple cloth napkins using unwanted fabric. They will decorate their napkins with markers and stamps to make their own unique, eco-friendly treasures.

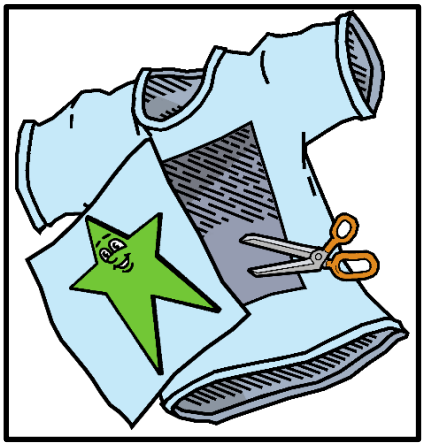
Implementation:

Background learning:

1. Read *The Lorax* by Dr. Seuss and have a discussion comparing ‘thneeds’ with paper napkins.
2. Have students estimate how many paper napkins they use in a week at school and at home. You may also choose to include tissues and/or all disposable paper products that get discarded in the trash.



3. For upper elementary students: Calculate the number of paper napkins used by the school cafeteria in a school year. Ask the school kitchen for an unopened package of paper napkins and find out how many napkins it contains. Then ask how many packages are used in the average school week. To get your estimated total number of napkins used in a school year, multiply: **number of napkins/package x number of packages/week x number of weeks/school year.**
4. Calculate the number of trees used each year to supply your school with paper napkins. Weigh the unopened package of paper napkins in ounces. There are 16 ounces in a pound, and 117 pounds of paper can be made from a 35-foot-tall pulpwood tree. To get your estimated total number of trees used for paper napkins in a school year, multiply: **weight of package in ounces x number of packages/week x number of weeks/school** and divide that number by **16** (ounces/pound). Take this new number in pounds and divide it by **117** (pounds/tree) to get the number of trees used for paper napkins over the course of a school year.



Making napkins:

1. Organize an "Unwanted Textiles Drive" at school or in the classroom. Advertise with announcements, newsletter information, posters, and/or emails to families. Place collection bins in the school lobby or classroom. Ask for used/unwanted (not brand-new) t-shirts, sweatshirts, sweatpants, pajamas, sheets, and towels. (Fleece is not absorbent enough. Cottons work best.) *Specify that fabrics must be clean!* (Another option is to contact a textile or clothing manufacturer, or fabric store, to see if they might donate scrap fabric.)

Extensions:

- Create incentives for student to use their napkins during school lunches throughout the school year.
- Facilitate a "napkin party" to celebrate reuse. Challenge students to bring in all the reusables they will need to eat a snack (container, cup, utensils and of course, napkin). Brainstorm ahead of time which types of snack foods produce minimal trash. Have kids sign up to bring waste-free treats.
- Have students find out how much money their school spends on paper napkins each year. What could that money be used for instead?
- Help students make a set of cloth napkins to give as a holiday gift.

2. Make 12”x12” frames or templates out of wood or used cardboard boxes for students to trace on fabric. Plan to have at least one frame per group of four students.
3. For very young students, cut the fabric into strips 12” wide prior to the activity (so students will only have to make one cut).
4. Before making the napkins, assemble work surfaces (long tables protected with newspaper) and line up extra adult supervision.
5. Help younger students line up the frames with the end of the fabric and trace the line with a marker. Older students can hold and trace the template themselves.
6. After cutting out their napkins, students can decorate them using stamps and markers.
7. Encourage students to take their napkins to lunch daily and to make napkins for their friends and family.
8. Donate leftover, still usable textiles to a thrift store.

Assessment:

Quiz students in the cafeteria or classroom after their napkin-making session. Ask them how using a cloth napkin instead of a paper one helps the environment.

Related Activities:

Waste-Free Lunch 1: Classroom Challenge – Chapter 2
Waste-Free Lunch 2: School Contest – Chapter 2
“One or None” Paper Towel Campaign – Chapter 5
Getting Artsy with Reuse – Chapter 8
Creative Crayon Recycling – Chapter 20

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Reusing Children's Books

Snapshot
This project keeps already-loved books out of the landfill and gets them back into the hands of children.

Objective: Used books will be collected and redistributed in a way that benefits the school and/or its students.

Age Groups: PK-12th grade

Setting: School library, classroom, or other locations in the building

Project Duration:
- Planning: 1+ hours, depending on collection type
- Collection time: varies
- Implementation: varies depending on book distribution

Materials:
- Poster-making materials
- Empty cardboard boxes/storage bins

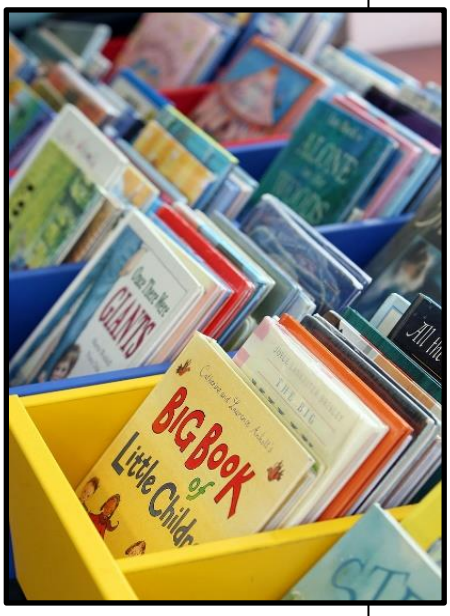
Why This Project Matters:

As kids grow up, parents are often left with shelves of unwanted books. Libraries and school districts often discard perfectly good books to make room for new ones. Many of these unwanted books, especially hard-covered ones, end up in landfills.

Project Summary:

This project begins by focusing on ways to collect used children's books from various sources. Next, it explores ideas about how to use them creatively within the school as an alternative to candy and trinket rewards. The collected books may even be sold as part of a fundraiser, replacing the traditional fundraisers that feature waste-making wrapping paper and candy bars. Most importantly, this project gets these books back into the hands of children.

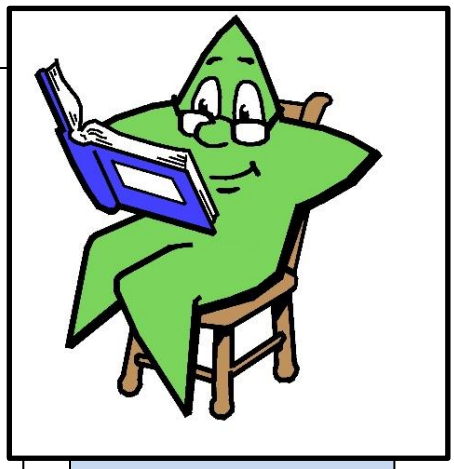
Implementation:



Collecting the books:
The goal is to gather a large quantity of gently-used children's books that are age-appropriate for the school. Inquire with local libraries, reuse/recycling/thrift centers, and the school district warehouse about unwanted books destined for the landfill. If these sources aren't available, run a book drive at the school using the following steps:

1. Ask school office staff to include information about the book drive in the school's newsletter, inviting families to donate.
2. Work with a student group to promote the book drive (create and display posters, make announcements, etc.) using eco-facts and other motivational messages.

3. Set up collection bins in a central location and ask teachers to donate unwanted books from their classrooms.
4. As the books are collected, sort them into boxes by age categories (preschool, primary, upper elementary, etc.) or type categories (picture books, beginning readers, chapter books, etc.).



Redistribution of books:
Now comes the fun part—giving the books to kids! Here are some ideas:

- Host a book sale (to encourage summer reading, raise funds to support the library, etc.).
- Facilitate a book swap.
- Lead a game of Book Bingo.
- Coordinate a Read-A-Thon.
- Place boxes of books in the staff lounge for teachers to restock their classroom libraries.
- Create a Birthday Book Box for kids to choose a book on their birthdays.
- Use books as student rewards or door prizes at school events.

Assessment:

This will vary by chosen project. Request feedback from teachers and administrators when the project is complete. Ask if the books were age-appropriate and if the quality and quantity was acceptable.

Related Activities:

Special Materials for Recycling – Chapter 19

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Green Cleaning: Non-Toxic Schools

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Snapshot
Many school buildings, school districts, and even states have begun replacing the hazardous cleaning products used in their facilities with products that are safer for human health and the environment.

Objective: The school building(s) will be cleaned using products and procedures that are safer for the environment and human health.

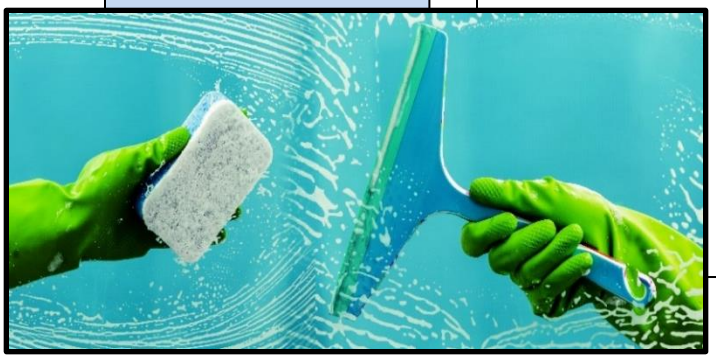
Age Group: Adults (staff, administrators, and parents)

Setting: School building

Project Duration: Ongoing

Materials:

- School district or school building cleaning policies
- Examples of current cleaning products used in the school or district
- Examples of non-toxic alternatives available for school cleaning



Why This Project Matters:

Many conventional cleaning products contain toxic chemicals that cause harm to the environment and human health. The use of these products may contribute to poor indoor air quality and can lead to health consequences including respiratory irritation, headaches, dizziness, asthma, and skin irritation. These chemicals should be used with proper safety equipment, good ventilation, and other necessary precautions to reduce exposure. Most of these products must be disposed of as hazardous waste. The aerosols and residues left behind when these products are applied to school building infrastructure can affect the health of students and staff.

Project Summary:

Schools and school districts can develop purchasing and usage policies to encourage the use of "'green" cleaners. Many vendors now offer non-toxic, effective cleaning products for school buildings. With the help of the administrative and custodial staff, a school or district can make the switch to non-toxic or less toxic products and procedures for specific applications.

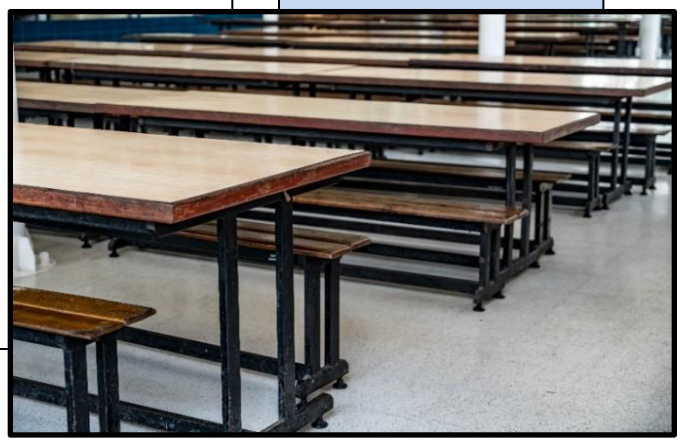
Implementation:

1. Examine current cleaning products that are being used in the school or school district. (Custodial and operations staff interviews can help gather this and other information.)
    - Which products contain toxic ingredients? Which green products are currently in use?
    - Do the products vary by school, or is there a district-wide policy that influences purchasing practices?
    - What sanitation considerations and requirements influence product choice and use?
    - What procedures are in place for the disposal of unused products?

2. Investigate if the school, district and/or state have any non-toxic cleaning regulations or policies for schools. The Environmental Law Institute (www.eli.org) includes an up-to-date and interactive database of laws on a variety of topics, including green cleaning. The State of New York hosts a website devoted to green cleaning, including best practices, purchasing ideas, and training for staff: http://greencleaning.ny.gov.
3. Develop a green-cleaning working group that includes custodial staff, building/grounds maintenance supervisors, school administrators, and parents. The diverse membership of the group will help ensure that multiple perspectives are heard when developing policies and best practices.
4. Have the working group draft proposed usage and purchasing policies for cleaning products. Draft policy examples are available on New York State's website: http://greencleaning.ny.gov.
5. Working with custodial staff, identify a list of products needed for general operations and cleaning (window cleaner, carpet cleaner, floor cleaner, cafeteria dishwasher detergents, etc.). Determine if there are any duplications among products to reduce the total number. For example, if a general cleaner can be used for many different applications, then separate cleaners may be eliminated.
6. Inquire with approved school district vendors about any green alternatives they may have to replace each product used by the school or district. A very comprehensive list of safer cleaning products is available from New York State: https://greencleaning.ny.gov/Product/Default.aspx.
7. Obtain samples of products from vendors and be sure custodial staff receive training on how to use them. Coordinate a pilot project where custodial staff in one or more schools conduct a trial to compare the new green-cleaning products with the existing conventional cleaning products.
8. Request feedback from custodial staff on ease of use and effectiveness. Address potential challenges that may prevent proper cleaning and disposal procedures, such as language barriers, lack of proper cleaning equipment and tools, and/or differences between daytime and evening custodial procedures.

Extensions:

- Report on the school or district's success through presentations at state education conferences and nearby school district custodial meetings.



9. After processing feedback from custodial staff and the working group, launch the broader green-cleaning program. From an environmental standpoint, it is often better to safely use up existing cleaning products before replacing them with the new, less toxic products. However, beginning the summer or school year with the new green-cleaning products before the existing, conventional ones have been used up may be beneficial when considering staff training efficiency.
10. If disposing of unused, conventional cleaning products, inquire with the school district about their protocol for discarding hazardous waste. If no policy exists, identify local hazardous waste disposal/recycling options.
11. Have the green-cleaning working group finalize the purchasing and usage policies for cleaning products along with a list of school district-approved cleaners. Make sure these products are readily available from school district-approved vendors.
12. Notify staff, students, and parents of this positive change by announcing the use of greener cleaners and cleaning procedures in the school or district's newsletter, through posters, P.A. announcements, etc.

Assessment:

Six months after implementation, inquire with custodial staff about their experience with the greener cleaners. Ask if they are still using any conventional, toxic cleaners and if they are utilizing the proper techniques for storage, use, and disposal.

Related Activities:

Purchasing Policy 2: School/District Policy – Chapter 17

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Lessening Litter

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Snapshot
While learning about the impacts of litter on our environment through exploration and expression, students can actively educate themselves, their peers, and the greater community.

Objective: Students will understand the threats that litter causes to the natural world and learn ways to reduce and prevent it.

Age Groups: K-12th grade

Setting: Classroom, school environment, greater community

Project Duration: Varies by activity

Materials: Varies by activity

Why This Project Matters:

The presence of litter in both natural and developed areas continues to increase harm to wildlife and people, as well as decreasing the aesthetics of those areas. It has also been found that litter begets litter. Educating youth about the effects that litter has on the environment, and instilling habits of proper disposal, will allow them to connect more to their immediate surroundings and will motivate them to lead in their community by setting an example.

Project Summary:

Discussions, community service projects, and interactive games can be woven together to create a meaningful, lasting experience for students and staff about the behaviors and attitudes surrounding litter and its impacts on our environment.

Implementation:

1. Begin by leading a discussion about litter:
   - What do we already know about litter?
   - Where have you seen it (school grounds, neighborhood, campgrounds, hiking trails, city streets, highways, etc.)?
   - Who has ever witnessed someone littering? How did you respond?
   - How do you feel when you see litter?
   - Who has ever picked up litter?
   - Has anyone ever littered themselves?
   - Is there anything that is OK to litter?
   - Is all litter created on purpose, or is some accidental?
   - What behaviors and values about litter have we learned from our friends and family members?
2. Research and share a few facts about litter by having students research, read facts aloud and/or write facts on the board. Make time for discussion around the reactions to these facts.

3. Choose age-appropriate photos of animals harmed by litter to share with students (do an internet image search for 'animals harmed by litter'). Discuss reactions to the photos.
4. Discuss with students what natural resources are used to make the items that are often found as litter (plastic from oil, metal from rocks or ore, paper from trees, glass from sand). Talk about the benefits to the environment when these items are reused or recycled instead of being scattered throughout the environment.
5. The following activities engage and teach students about the importance of reducing litter. Choose (or have students choose) one or more activities, or create an outline of activities to do throughout the school year.

- **Scavenger Hunt**—Divide the group into teams of 3-4 students. Use the list below (or create your own) of commonly littered items and make a copy for each team. Distribute pencils, clipboards, disposable gloves, and reused plastic grocery bags for collecting the items. Once all teams are fully equipped for the scavenger hunt, set a time limit, establish geographical boundaries, and describe items that are not safe for them to collect (broken glass, syringes, etc.). If desired, provide a treat or classroom reward as a prize to the winning team, or everyone for participating. (Extra points may be given for additional items not on the list.)

  Litter to collect:
  - juice pouches/boxes
  - paper cups with plastic lids
  - plastic straws
  - plastic cups
  - plastic bags
  - candy wrappers
  - lollipop sticks
  - aluminum cans
  - metal bottle caps
  - plastic bottle caps
  - something broken
  - something flat
  - something red
  - something made from paper
  - something made from plastic
  - something made from metal
  - something made from glass (only unbroken!)

Extensions:

- Lead a discussion on specific ways litter is created (intentionally and accidentally) and actions that can be taken to prevent litter (zipping backpacks, buttoning pockets, closing trash can lids, etc.).
- Create a pledge for students to sign that lists litter-preventing habits that they can incorporate into their everyday actions.
- Have students brainstorm other ways to increase litter education and decrease littering behavior in their community.
- Repeat the litter sweep, sort, and graph 6 months after original sweep. Compare results.

- **Litter Sweep, Sort, and Graph**—Supply students with gloves and reused plastic grocery bags for collecting littered items. Set geographical boundaries and a time limit, as well as instruction on what is too dangerous to pick up (broken glass, syringes, etc.). Once the litter sweep has finished, bring items to a table covered in newspaper. Sort items by material type (paper, plastic, metal, glass, other) and record numbers under each category. Then sort items by recyclable, compostable, or trash and record those numbers. Discuss results, make bar graphs or pie charts of the data, and display throughout the school.

- **Sculpture Contest**—Take collected items from Scavenger Hunt or Litter Sweep and have students create sculptures out of the materials. These can be put on display throughout the school as visual reminders of their school community's contribution to the litter problem and to increase awareness about preventing further littering.

- **Map It**—Have students mark on a school map where all outdoor trash and recycling receptacles are located, then document where most of the litter is found. Meet with the principal and head custodian to discuss the relocation or addition of trash and recycling receptacles. (This can be extended to the greater community, such as a park or other public gathering place where litter is often found, meeting with city officials in charge of those places to discuss options.)

- **Write Stories**—Encourage students to write a story about the journey a piece of litter takes from the store (as a new item) to where it ends up in the environment. This could be an actual item they found during the litter sweep or an imaginary one. Students may write individual stories or collaborate to write a story together. A fun way to write a collaborative story is to have one student write the first line and pass it to the next student. The receiving student writes the second line and folds the paper back to hide the first line. When the third student receives it, they can now only see the second line, so they add a third line, fold back the second line, pass it to the next student, and so on.

- **Read Stories**—Read aloud short stories or picture books about litter. Students can play characters in the books by wearing costumes from teachers' closets or thrift stores. Some examples are: *The Wartville Wizard* by Don Madden, *Our Park* by Mercer Mayer, *Lady Lulu Liked to Litter* by Nancy Loewen, *Trash Trouble* by Larry Dane Brimner, and *How Spider Stopped the Litterbugs* by Robert Kraus.

- **How Long Does Litter Last?**—Using the board, list the time intervals found in the right column of the chart below. In a separate list, mix the order of the litter items found in the left column. Have students match up litter items with the time range they think each would remain in the environment before decomposing. After all guesses have been made, rearrange items to their correct positions and discuss why each item might take that amount of time to decompose, as well as other influencing factors (made from organic material such as wool or cotton, thickness, fragility, weight, exposure to wind or water, etc.).

Orange/Banana peel	**up to 2 years**
Wool socks	**1-5 years**
Cigarette butts	**1-5 years**
Paper	**1-5 years**
Plastic bags	**10-20 years**
Leather	**up to 50 years**
Steel cans	**50 years**
Aluminum cans	**80-100 years**
Plastic multi-pack rings	**100 years**
Glass bottle	**1 million years**
Plastic bottles	**forever**
Styrofoam	**forever**

- **Great Pacific Garbage Patch**—With older students, facilitate an internet research session on the gigantic pile of floating plastic litter in the middle of the Pacific Ocean. Collect data and other information and decide how to distribute it (P.A. or video announcements, posters in the hallways, etc.).

- **Poster-Making**—Have students add to the anti-litter campaign by creating posters with statistics, drawings, photos, and messages about picking up and preventing litter.

Assessment:

Have students write letters to another class, an adult in their life, or city/county official explaining what they have learned about litter. Letters should include what they recently found out about the litter issue in their community, one reason why litter is a problem for the environment, and suggestions for preventing litter in the future.

Related Activities:

Refillable Water Bottle Project – Chapter 3
Conducting a Waste Audit – Chapter 30

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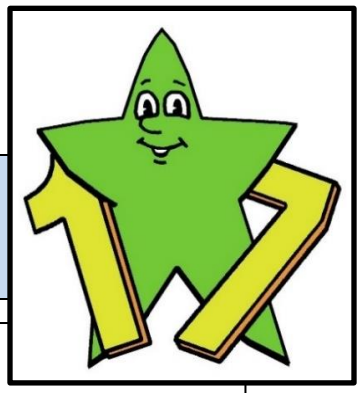
Purchasing Policy 1: Classroom Policy



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Snapshot
With a teacher's guidance, students will draft an Environmental Purchasing Policy for their classroom.

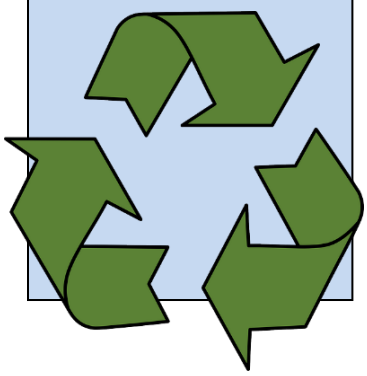
Objective: Students will be able to identify three ways in which the class's Environmental Purchasing Policy helps the environment.

Age Groups: 3rd-5th grade (can be applied to secondary classes as well)

Setting: Classroom

Project Duration:
- Ongoing
- In-class time: 1 hour

Materials:
- Examples of recycled classroom supplies (tissues, notebooks, etc.)
- Chart paper and markers for data tracking
- Paper and pencils for writing letters



Why This Project Matters:

Real recycling involves three steps: collecting the recyclable material, manufacturing it into something new, *and* purchasing those new, recycled products. Without consumer demand for recycled products, the collected recyclables have no use, and the process cannot be sustained. The same is true for non-toxic and sustainably-made products. The availability of these products will only grow if consumers create a demand for them.

Project Summary:

When a teacher or student is purchasing supplies to be used in the classroom, some products will be more environmentally-friendly than others. Explaining the differences between them makes for authentic teaching moments. To make it official, have students write an Environmental Purchasing Policy for the green purchasing of shared classroom supplies such as writing paper, tissues, and pencils.

Implementation:

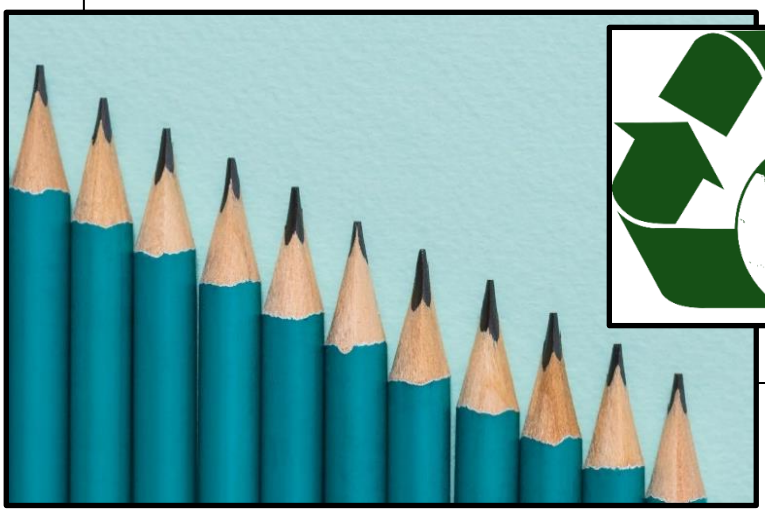
1. Have students track the use of several classroom supplies over a 2–4-week period (such as making a note when a new tissue box or package of pencils is opened, or otherwise noting the quantities used). Then, project the use of these supplies throughout the school year. Discuss which natural resources are used to make the supplies and where the supplies will end up when discarded.
2. Show students what the recycling symbol looks like and how to identify a product that is made from recycled materials (it will usually be written on the package: "made from recycled materials" or something similar). Discuss the difference between "recycled" and "recyclable". Have students create a list of classroom materials that could be purchased as recycled products.

3. Discuss other green purchasing ideas for the classroom. For instance: purchasing large boxes of tissues (recycled, if possible) instead of small packets, buying snacks in bulk containers, using dry-erase boards instead of paper, and choosing sponges instead of paper towels for cleaning. For each shared idea, discuss how this action would benefit the environment (e.g., buying snacks in bulk reduces packaging so fewer natural resources are needed and less trash is created).
4. With students' help, draft a classroom Environmental Purchasing Policy. This policy can apply to supplies for classroom parties, replenishing shared supplies, and even buying individual supplies. (Note: recycled products often cost slightly more than non-recycled. Allow students to choose from several different purchases to fulfill the policy and include purchases that are cost-neutral [such as buying in bulk] so that students from lower-income families are not expected to purchase beyond their means.)
5. Have students draft letters to their families explaining the Environmental Purchasing Policy. The teacher may supplement these letters with a short note explaining the goal of the policy and that it is optional.
6. Revisit the policy throughout the school year to add new ideas, especially those generated by students.

Assessment:
The student letters to their families can serve as the assessment. Instruct students to include at least three examples of how the class's Environmental Purchasing Policy helps the environment.

Related Activities:

"One or None" Paper Towel Campaign – Chapter 5
Paper Reduction Campaign – Chapter 6
Zero Waste School Parties and Events – Chapter 11
Repurposing in the Classroom – Chapter 12
Purchasing Policy 2: School/District Policy – Chapter 17



Extensions:

- Establish other environmental classroom policies, such as requiring reusable water bottles in the classroom, limiting paper towel use to one per hand-drying, and/or creating a sponge use system for cleaning classroom spills (instead of paper towels).
- Hold a "Surplus Supply Exchange Day" (see Purchasing Policy 2, Chapter 17) and solicit/ include donations from families.
- To minimize the purchase of paper:
  - 3-hole punch used paper with 1 blank side for use in binders.
  - Have teaching teams coordinate assignments before making copies to reduce duplication.
  - Ask students to use scrap paper for first drafts of writing assignments.

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Purchasing Policy 2: School/District Policy

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Snapshot
School buildings and school districts can implement an Environmental Purchasing Policy to model and achieve a commitment to sustainability.

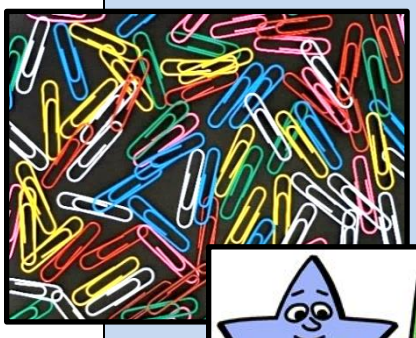
Objective:
Purchasing decisions will be made based on predetermined environmental priorities.

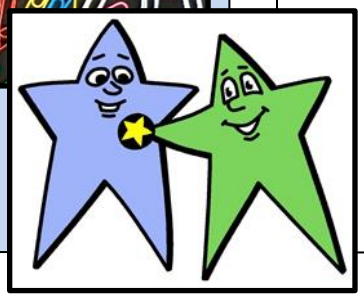
Age Group: Adults

Setting:
Administrative offices

Project Duration:
- Drafting policy: 1-2 hours
- Follow-up: ongoing

Materials:
- Example of an Environmental Purchasing Policy (see sample)
- Records of purchases made within the last 6-12 months





Why This Project Matters:

A sustainable recycling process involves three steps: collecting the recyclable material, remanufacturing that material to form new products, and purchasing the new, recycled products. Without consumer demand for recycled products, the collected recyclables have no use, and the process can't be sustained. The same is true for non-toxic and other sustainably-made products. The availability of these items will only stabilize, and their prices decrease, if consumers create a demand for them.

Project Summary:

In a school or district, many supplies are purchased regularly, from paper and staples to computers and furniture. Creating official green purchasing practices is a great way to model and achieve a commitment to preserving the environment. Many governments, businesses, and school districts have adopted Environmental Purchasing Policies to ensure that money is spent on items and services that support sustainability. Administrators can draft an Environmental Purchasing Policy for the school or district to follow.

Implementation:

1. Meet with administrators to identify purchasing categories and school or district policies related to purchasing (cost limits, bid procedures, etc.). Examples of categories:
   - Office supplies/paper
   - Meetings & conferences
   - Building & construction
   - Landscaping
   - Vehicle fleets
   - Carpets
   - Cleaning
   - Electronics
   - Food services

2. Use purchasing records from the previous 6-12 months to identify frequently purchased items and establish priority products and services. Eco-minded purchasing can include requiring paper to have a certain percentage of post-consumer recycled content, buying in bulk, and giving preference to products with less packaging.
3. Consider improving indoor air quality and its effect on student and staff health by prioritizing non-toxic flooring, building materials, cleaners, and art supplies.
4. Consider changes in food service purchases. Examples include transitioning from individual milk cartons or water bottles to bulk milk or water in reusable cups, sourcing recycled paper napkins, and purchasing washable trays, plates, bowls, and utensils.
5. Investigate cooperative purchasing options. Small offices and districts can reduce costs by coordinating their purchasing with other districts, local governments, or institutions.
6. Consider a 10% rule. Many schools and districts have adopted the rule stating that if an environmentally preferable product is within 10% (or other designated percentage) of the lowest-priced conventional product, the environmentally-safer product is purchased.
7. Finalize an Environmental Purchasing Policy. (See sample policy below.) The Environmental Protection Agency maintains a website dedicated to Environmentally Preferable Purchasing. While intended for the federal government, the site has lots of tools to help implement green purchasing. https://www.epa.gov/greenerproducts

Assessment:

Four to six months after implementation, meet with those who conduct the purchasing and review the policy. Discuss which parts are going well and which need refining. Determine if more products or services can be added.

Related Activities:

Waste-Free Lunch 3: Durables in the Cafeteria – Chapter 2
Purchasing Policy 1: Classroom Policy – Chapter 17

Extensions:

- Coordinate a "Surplus Supply Exchange Day." Before an upcoming office supply order, ask classrooms or offices to bring all unused supplies to a central area (from extra pens and paper to unused furniture) and give all staff access to the free supplies.
- Have office staff work with a student group to gain recognition for their green purchasing. For example, students could interview staff to find out which green purchasing practices they follow and write announcements or school newspaper articles to celebrate the staff accomplishments.

(Sample Policy)

XXXX District

BOARD POLICY

TITLE	PAGE	POLICY NUMBER
	1 of 4	**4-6**
Environmentally Preferable Procurement Policy	EFFECTIVE DATE	REVISED DATE
	9/25/21	
APPROVED BY: Board Action: 09/25/21, Item 4.2		

BACKGROUND

The mission statement of XXXX District reflects a commitment to provide environmental leadership through policy development and program design.
By incorporating environmental considerations into public purchasing, XXXX District can serve this commitment by reducing its burden on the local and global environment, removing unnecessary hazards from its operations, protecting public, student, and staff health, reducing costs and liabilities, and potentially improving the environmental quality of the region. This policy is an effective way to direct the District's effort in procuring environmentally preferable products and services.

PURPOSE

The primary purpose of this policy is to minimize negative environmental impacts of the District's activities by ensuring the procurement of services and products that:

- reduce toxicity;
- conserve natural resources, materials, and energy;
- maximize recyclability and recycled content.

A collateral purpose is to support markets for recycled goods and other environmentally preferable products and services.

DEFINITIONS

The following terms shall have the assigned definitions for all purposes under this policy:

A. **XXXX District** means XXXX District elected officials, staff, and all schools and departments.

B. **Environmentally Preferable Products and Services** means products and services that have a lesser or reduced effect on human health and the environment when compared with competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal of the product.

C. **Life-Cycle Cost** means the amortized annual cost of a product, including capital costs, installation costs, operating costs, maintenance costs, and disposal costs discounted over the lifetime of the product.

D. **Practicable** means sufficient in performance and available at a reasonable price.

E. **Recyclable Product** means a product which, after its intended end use, can demonstrably be diverted from the District's solid waste stream for use as a raw material in the manufacture of another product.

F. **Recycled Material** means material and byproducts that have been recovered or diverted from solid waste and have been utilized in place of raw or virgin material in manufacturing a product. It is derived from post-consumer recycled material, manufacturing waste, industrial scrap, agricultural waste, and other waste material, but does not include material or byproducts generated from, and commonly reused within, an original manufacturing process.

G. **Virgin Material** means any material occurring in its natural form. Virgin Material is used in the form of raw material in the manufacture of new products.

POLICY

The XXXX District commits to:

1. Procuring environmentally preferable products and services where criteria have been established by governmental or other widely recognized authorities (e.g.: Energy Star, EPA Eco-Purchasing Guidelines).
2. Integrating environmental factors into the District's buying decisions where external authorities have not established criteria. Examples:
    - replacing disposables with reusables or recyclables;
    - supporting eco-labelling practices by buying products bearing such labels in preference to others (where they are available and provide value for money);
    - taking into account life cycle costs and benefits;
    - evaluating, as appropriate, the environmental performance of vendors in providing products and services;
3. Raising staff awareness on the environmental issues affecting procurement by providing relevant information and training;
4. Encouraging suppliers and contractors to offer environmentally preferable products and services at competitive prices;
5. Encouraging providers of services to consider environmental impacts of service delivery;
6. Complying with all environmental legislative and regulatory requirements in the procurement of products and services.

Nothing in this policy shall be construed as requiring a department, office, school, or contractor to procure products that do not perform adequately for their intended use or are not available at a reasonable price in a reasonable period of time.
Procedures and guidelines may be established as necessary to ensure the continuation of a strong Environmental Procurement Program.

RESPONSIBILITY

All District departments, schools, offices, and contractors shall identify and purchase the most environmentally responsible products and services that are available for the intended purpose and that meet the performance requirements. Factors that should be considered when determining the environmentally preferable good or service include, but are not limited to:

- Minimization of virgin material use in product or service life cycle
- Maximization of recycled products used in product or service life cycle
- Environmental cost of entire product or service life cycle

- Reuse of existing products or materials in product or service life cycle
- Recyclability of product
- Minimization of packaging
- Reduction of energy/water consumption
- Toxicity reduction or elimination
- Elimination of uncertified hardwoods in product or service life cycle
- Durability and maintenance requirements
- Ultimate disposal of the product

Purchasing Division Responsibilities:

1. Develop and maintain information about environmentally preferable products and recycled products containing the maximum practicable amount of recycled materials, to be purchased by departments, schools, offices, and contractors whenever possible.
2. Inform departments, schools, offices, and contractors of their responsibilities under this policy and provide implementation assistance.
3. Institute product testing and trial service to evaluate environmentally responsible alternatives pursuant to established testing guidelines.
4. Require the use of recycled materials and recycled products by incorporating them in bid specifications where practicable;
5. Disseminate information on recycled and environmentally preferable product procurement requirements, specifications, and performance to assist vendors with procurement opportunities with the District.
6. Establish guidelines governing the review and approval of specifications for the procurement of selected materials based on considerations of recycling, energy, and water conservation, life-cycle costing and other environmental considerations.
7. Submit reports of policy impacts on an annual basis.

Environmental Services Department Responsibilities:

1. Support Purchasing in its implementation of this policy by providing training, information when requested, and assistance in the evaluation of the EPP status of a product or service.
2. Support departments and schools in evaluation and analysis of products and services for EPP criteria.
3. Help establish and promote needed environmental procurement legislation.

Department, School, and Office Responsibilities:

1. Evaluate each requested product and service to determine the extent to which the specifications could include an environmentally preferable option.
2. Ensure that contracts issued by the departments, offices and schools include environmentally preferable products and recycled products wherever practicable.
3. Understand standard at which products are considered environmentally preferable and use in selective criteria.
4. Expand the awareness and use of environmentally preferable products.

Document Review

This policy must be reviewed every three years.

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