

A School Waste Reduction, Reuse, Recycling, Composting & Buy Recycled Resource Book



Compost

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Bureau of Solid Waste Reduction & Recycling
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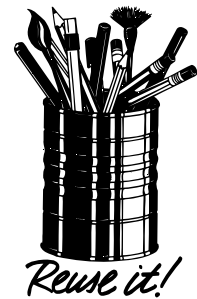
Check out our web page at:

www.dec.state.ny.us/website/dshm/redrecy/index.htm

printed on 30% post-consumer recycled paper

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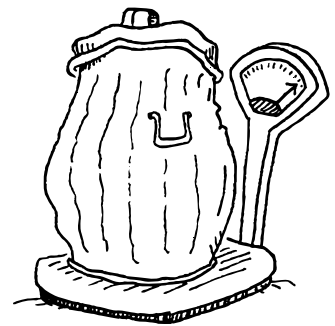
The purpose of this Resource Book is to provide you with some basic information on a waste reduction, reuse, recycling, composting and buying recycled products and packaging program for your school.

The school office that is responsible for the oversight and management of solid waste is the likely candidate to be responsible for the waste reduction, reuse, recycling and composting. Your procurement office should be responsible for the purchasing of recycled products and packaging.

All directives concerning this program need to come out of the Superintendent's Office. If everyone knows that upper management is behind this program you will have better participation. But everyone should be involved... students, teachers, custodial staff, office staff, principals, PTOs/PTA's... everyone!

BACKGROUND

According to our latest numbers, New Yorkers generates about 5.0 pounds of trash each day. There is a tremendous cost to both society and the environment to collect and dispose of this waste material. In addition, if we are landfilling or incinerating our wastes, the resources contained in those waste materials are no longer available to us in a useful form. The advent of widespread recycling has changed the way many of us view our trash. Instead of a useless "waste", we have come to realize that much of what we once threw away can be used again many times over.



New York State addressed our garbage problem in the March 1987 New York State Solid Waste Management Plan. The original plan established a way to address the State's solid waste problem. The plan is as follows:

- < first, to **reduce** the amount of solid waste generated;
- < second, to **reuse** material for the purpose for which it was originally intended or to **recycle** material that cannot be reused;
- < third, to **recover**, in an environmentally acceptable manner, energy from solid waste that cannot be economically and technically reused or recycled; and
- < fourth, to **dispose** of solid waste that is not being reused, recycled or from which energy is not being recovered, by land burial or other methods approved by the DEC.

The New York State Solid Waste Management Plan established a 50% waste reduction/reuse/recycling goal by 1997 (8-10% waste reduction, 40-42% reuse/recycling).

Each municipality was required by Chapter 70, Laws of 1988, to have a recycling law or ordinance requiring source separation of recyclables by September 1, 1992. The municipalities developed a recycling program that fit their needs and met the goals established by the State. Each municipality has their own penalties or fines for those people who do not recycle.

Recycling is required for everyone who generates garbage in New York State. Recycling is one part of a total solid waste management program, waste reduction and reuse take precedence in a comprehensive solid waste management program.

MOVING BEYOND THE MANDATE



In accordance with the Solid Waste Management Act of 1988, New York schools must recycle right along with other municipal agencies, residents and businesses. It is important not only that schools make certain that their program meets the requirements of the law, but that they do not send young people mixed messages by having them recycle one thing at home but not at school. Many municipalities have gone far beyond what is required and recycle many additional items for which they are able to find markets. As more and more industries start to use recyclables as a raw material to manufacture new products, it may be possible (and financially beneficial) to recycle many items that we may currently throw away. What follows are some suggestions as to how you might improve an existing school recycling program;

Evaluate Your Current Recycling Program. Review your current recycling program. Make certain that you are recycling all of the items required by your local law. If you are not, meet with your hauler and custodial staff to get your school in compliance.

Contact Your Municipal Recycling Coordinator. Your city/town probably collects many recyclable items. Your local coordinator may be able to provide you with information on what is mandated in your community and how to prepare these items. Check out this website for your coordinator - www.dec.state.ny.us/website/dshm/redrecy/coords.htm

Take a Long Look at Quality. Because collected recyclables are a raw material for industry, they must meet manufacturers' specifications just like any other raw material. This means that quality does count. Improperly prepared recyclables may lose value or become so contaminated that they cannot be recovered and must be disposed of as trash instead. For example, the addition of a broken ceramic cup or pyrex dish to a truck load of glass containers at a glass recycling plant may result in rejection of that entire load. Recyclables contaminated with food residue may cause odor or pest problems. Thus it is important that school staff and students are reminded on a regular basis of the proper items and the correct methods of preparation.

Make Waste Reduction a Priority. Reducing waste whenever possible results in even more environmental benefits than recycling. See "Tips on Waste Reduction" for some ideas on how you can reduce waste at your school and save money at the same time.



Evaluate Your Purchasing Habits. For recycling to be successful, we must all work to create markets for those products that are made from recycled materials. All sorts of paper products, office supplies and playground equipment are now made from recycled materials. The cost of these products is competitive with products made from new raw materials and quality is not only comparable, but is better in some cases. Schools, and any municipal agency, can buy these products from state contracts for further cost savings.

Publicize Program Success. It is important that everyone have an opportunity to see the results of their efforts. Utilize morning announcements and your school newsletter to let everyone at the school know how they are doing, i.e., how many tons of paper were recycled, revenue from returnable cans, natural resources saved, etc. (See Gee Whiz, page 40.)

Make Recycling an Integral Part of Your Curriculum. This booklet contains many suggestions for how you might integrate recycling into your regular classroom activities including: integrate composting into your science program, the poster contest into your art program, collecting reusables as a community service project, etc. We hope that you and your staff will view recycling as an opportunity to teach young people the importance of stewardship of natural resources.

TIPS ON WASTE REDUCTION

Although recycling is an important part of any waste management strategy, the greatest environmental benefits are achieved through source reduction and reuse. Consider a simple example; We can reduce trash disposal and save raw materials if we collect plastic grocery bags for recycling and incorporate them into a new product such as plastic lumber.

However, a better option would be to take no bag at all, as no natural resources or energy are used to first produce, then collect and reprocess disposable bags. Using a reusable canvas or string bag would have similar environmental benefits as the bag could replace thousands of disposable bags over its useful life. Any organization reviewing their waste management strategy should first consider ways to reduce waste and incorporate reusable products to achieve the maximum benefit to the environment.

We hope that you will consider some of the following suggestions to reduce the waste stream generated by your school. Your efforts may provide the additional benefit of saving money as well. Remember, even small changes can make a big difference!

1. Make double-sided copies whenever possible. This can dramatically reduce your paper usage.
2. Send mailings home with one student per family, instead of multiple copies of the same information.
3. Instead of making individual copies for everyone, use a routing slip when circulating information to staff, or post notices on a bulletin board.
4. Use reusable envelopes for interoffice mail.
5. If applicable, use electronic mail instead of making hard copies of all communications.
6. Request the removal of your name from junk mail lists by writing to the:
Direct Mail Marketing Association
P.O. Box 643
Carmel, N.Y. 10512
7. If possible, limit the number of subscriptions to periodicals and have classrooms share them. This will reduce both trash and subscription costs.
8. Arrange to have a vendor collect and recharge empty laser printer toner cartridges. Such cartridges can be recharged several times, saving money and reducing waste generation.
9. Encourage employees and students to reuse paper clips, rubber bands and brass fasteners. These should be removed before recycling white office paper anyway.

10. Use scrap paper for messages. If you have access to a wax binder, you can make your own scrap pads.
11. Require suppliers who deliver products on pallets or in metal drums to take them back.
12. Have your cafeteria switch to reusable utensils and crockery instead of throwaways whenever possible. Investigate the possibility of switching to refillable containers for milk and juice.



13. Encourage students who bring their lunch to use a reusable lunch box and thermos instead of brown paper bags and disposable drink containers.
14. Set up vermicomposting (worm composting) bins in individual classrooms as part of your science program.
15. Replace single-strike film typewriter ribbons with ink impregnated nylon multi strike ribbons. The multi strike ribbons last 6-10 times as long as the single strike variety. Do the same for printers that can utilize multi strike ribbons.
16. Replace ball-point or felt tip pens with ones that take refills.
17. Do not purchase envelopes with cellophane windows or self-adhering note pads. If the windows are necessary, purchase the ones which have no covering over the window.
18. Purchase reusable and washable cleaning cloths, aprons, tablecloths, etc., rather than single-use disposable products.
19. Buy institutional sizes of cleaning supplies, food products, beverages, etc. and repackage into smaller, reusable dispensers.
20. Buy recycled content paper products, like, copier paper, paper towels, napkins, toilet paper, etc.

REUSE HINTS

You may also want to incorporate reuse into special projects or activities at the school. A few examples of this type of project are listed.

1. Hold a "SWAP DAY". Have student bring in items from home to swap with other children. (Of course parental permission will be needed.) You may want to limit the types of items that can be brought in to items such as books or small toys to facilitate "even" trading. This can be part of a history lesson in the development of trade and monetary systems.
2. Collect other reusables such as clothing for local charities.
3. Maintain a free listing service of used musical instruments and sporting equipment in your school newsletter. Parents will appreciate this effort! It may encourage some children to try an activity that their family might not be able to otherwise afford.
4. Incorporate the use of reusables into your art program. Host a sculpture contest in which the children make their creations from items that would have been recycled or thrown away. This can be fun even without the added incentive of a contest.
5. Incorporate the use of reusables into your science program by hosting an inventors fair. Have the children design some machine or other contraption from found items. You will be amazed at what the children come up with!
6. Establish a bird feeding/observation area with feeders made from containers that have already been used once for another purpose such as milk jugs, paper milk cartons, soda bottles, etc. Establish a site where these feeders can stay for an extended period of time. Allow the children some observation time to record which birds frequent the different feeders.

RECYCLING

All schools should recycle what is mandated in their community. A basic recycling program would include paper, metal, glass, and plastic. But there is much more to consider. The following provides you with information on the basic recyclables and other recyclables to consider.

PAPER RECYCLING

Paper constitutes the largest single component of the municipal waste stream - over 1/3 by weight. Markets exist for many types of waste paper. When we recycle paper into new paper instead of using new raw materials, we reduce: waste disposal, the need to cut down trees, energy consumption, air and water pollution and greenhouse gas emissions. Ask for our *STOP RIGHT THERE - Paper Recycling Handbook*.

Remember, collecting paper for recycling is only half of the cycle. You need to have a proactive purchasing program to buy paper made from post-consumer recycled materials. Recycled paper is available in all types with quality and pricing comparable to paper made from "virgin" raw materials.

Waste paper is traded on a worldwide commodity basis through a network of brokers and exporters. The paper market has stringent quality requirements for its approximately 51 grades of paper stock and 33 additional specialty grades. The four categories of paper that are most relevant to general business or school recycling programs are:

High-grade white office paper includes white typing, writing, and copy paper, white scratch paper, index cards and computer paper. Prohibited materials include carbon paper, blueprint paper, tape and glue, post-it notes, newspaper, corrugated, tissues and paper cups.



Mixed office paper is recovered from offices and schools in an unsorted but clean form, and usually includes colored paper, junk mail and glossy paper.

Corrugated cardboard is used to ship merchandise. For maximum value, contaminants such as polystyrene, packing materials, plastic-coated cartons and other debris should be removed.

Old newspaper as delivered to a household. Newspaper must be clean, dry and stored out of direct sunlight.

Paper markets fluctuate with supply and demand. When the supply of paper is plentiful, markets retain suppliers of high-quality materials who can guarantee large tonnages of paper free of contaminants. Therefore, it is advisable to design your program to maximize both quality and quantity of the waste paper collected.

GLASS BOTTLES & METAL CANS

All schools should have a program in place to recycle all glass & metal food and beverage containers. This includes both the containers generated during food preparation as well as those generated by vending machines, lunches brought to school, etc. Since these items are also collected in much larger quantities from homes in every community, your school may want to use the same collection and processing system that serves local residents.

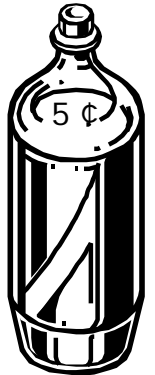
Why recycle glass & metal food containers?

● Throwing these items away is a waste of natural resources. Aluminum cans, steel cans and glass bottles can be readily made into new cans and bottles without any loss in quality.

Thus the same natural resources can be used many times over, instead of always mining for new natural resources.

- As a general rule, the manufacturing of new consumer goods from recycled materials uses less energy and creates less air and water pollution than using new natural resources. Aluminum is a very dramatic example of this, as it takes 95% more energy to make an aluminum can from bauxite than it does to make that same can from recycled aluminum.

- Some of these cans and bottles may be returnable. If your school has a soda machine, these cans and bottles can be redeemed.



How are glass & metal food and beverage containers made into new containers?



When aluminum cans are recycled they are simply "melted" and new aluminum is made. Steel cans are detinned, the tin is reclaimed and the rest of the can is recycled into new steel. Glass containers are separated by color, then crushed into "cullet", and then mixed with some new raw materials (sand, soda ash, limestone) and then made into new containers.

How do you prepare bottles and cans for recycling?

All bottles and cans should be rinsed out.

How do you design an efficient collection system?

It is essential that your collection system be as convenient as possible. In general, you should have recycling containers wherever you have trash containers. Good signage is also extremely important. Special recycling containers are available which have slots or small holes ideally designed to only accept a certain material. For example, some have a round hole for cans, others a narrow slot designed to take only newspapers. Outdoor collections bins or dumpsters should be locked to minimize contamination.

How do you work with your collection service?

Whether your collection service is provided by the town or you contract privately to have your trash and recyclables removed, it is important to work with your hauler to design a system that works well with your pick-up schedule. This becomes important when you are deciding on the size and number of containers needed to properly store all of the materials that you generate between pick ups. It is important to minimize glass breakage to the extent possible.

Remember that municipalities are required by state law to "provide for separation" of recyclables. It is illegal for your hauler to take trash commingled with recyclables and

separate them at a later time. Although some materials may be stored together (such as bottles & cans) without contaminating one another, common sense tells us that if certain materials are to be recycled then some pre-segregation is necessary to prevent contamination of the collected materials. For example, if cafeteria and other wet waste are mixed with any type of paper, the paper materials will become contaminated and unfit for recycling.

What else is important?

Educate your students, faculty and staff. As with all recycling efforts, the education process should be ongoing. Utilize your morning announcements and school newsletter to provide regular updates. Have a poster or logo contest to kick off your program.

PLASTICS RECYCLING

Although plastics make up only nine (9) percent of our waste stream, that amount continues to grow, as does the public's interest in recycling as much of this material as possible. What follows are answers to some of the most commonly asked questions about plastics recycling.

What is plastic?

The word "plastics" comes from the Greek word it "plastikos", which means "to form". Almost all plastics begin as fossil fuels - mainly petroleum, natural gas and coal. Plastic manufacturers refine, heat, pressurize or treat these fuels with catalysts to convert them into simple chemicals, called monomers, such as ethylene, propylene, etc. These monomers are then treated with heat, pressure and a wide range of chemicals in a process called polymerization. The process combines simple monomers into ever-increasing chains called polymers, or plastic resins. The wide variety of resins and additives account for the wide range of products made from plastics.



What type of information does the container code system provide?

In 1988, the Society of the Plastics Industry introduced a container coding system to help make separation of the different resins easier. The system identifies the six most common thermoplastic resins by a number either stamped or molded into the plastic (#1 -6). Mixed resins are identified by a #7. The number is enclosed by the chasing arrows symbol, with an abbreviation for the chemical name being listed under the symbol. The symbol is sometimes mistakenly thought to denote recyclability on a local level.



Are all plastics recyclable?

Which resins a community decides to recycle will be affected by a combination of factors including: the availability of markets, the cost of collection and sorting, and the price paid per ton for particular resins. **Most municipal programs in New York collect only resins #1 and #2.** These two resins are the most valuable and make up the largest percentage of plastic waste generated by a household. When in doubt as to whether or not a type of resin or container is accepted in your local program, it is always best to contact your local recycling coordinator. Adding the wrong kind of material to your bin can adversely affect the quality and value of the collected materials.

What happens to the plastics that I recycle now?

Bottles usually end up at a materials recycling facility or "MRF", where the different resins are separated from each other. The separated resins are then flattened and baled. These bales are then sent to a manufacturer who shreds them into flakes and washes them to remove metal caps, glue and paper. The material is then ready to be reprocessed into a new product. PET bottles may end up as carpeting, fleece outerwear, T-shirts, some types of food packaging and fiber fill. HDPE bottles (milk & water jugs) often find new life as new containers, envelopes or protective wear, while the pigmented HDPE bottles may return as plastic lumber or marine pilings.

The following is a summary of the different plastic codes and some common applications:

#1 PET (Polyethylene terephthalate)

PET is used in the production of soft drink bottles, peanut butter jars...

PET can be recycled into fiberfill for sleeping bags, carpet fibers, rope, pillows...



#2 HDPE (High density polyethylene)

HDPE is found in milk jugs, butter tubs, detergent bottles, motor oil bottles...

HDPE can be recycled into flower pots, trash cans, traffic barrier cones, detergent bottles...

#3 V (Polyvinyl chloride)

PVC is used in shampoo bottles, cooking oil bottles, fast food service items...

PVC can be recycled into drainage and irrigation pipes...

#4 LDPE (Low density polyethylene)

LDPE is found in grocery bags, bread bags, shrink wrap, margarine tub tops...

LDPE can be recycled into new grocery bags...

#5 PP (Polypropylene)

PP is used in most yogurt containers, straws, pancake syrup bottles, bottle caps...
PP can be recycled into plastic lumber, car battery cases, manhole steps...

#6 PS (Polystyrene)

PS is found in disposable hot cups, packaging materials (peanuts), and meat trays...
PS can be recycled into plastic lumber, cassette tape boxes, flower pots...

#7 OTHER

This is usually a mixture of various plastics, like squeeze ketchup bottles, "microwaveable" dishes...

Other (number 7) is usually not recycled because it is a mixture of different types of plastics.

How Plastics Are Made?

There are two methods for making plastic containers, **blow-molding** and **injection molding**. Blow-molding produces necked bottles (shampoo bottles) while injection molding produces tubs (margarine tubs).

What can I do to support plastics recycling?

Contact your local recycling coordinator to find out which types of plastic are recycled in your community. Purchase products that use less plastic to do the same job. Support manufacturers that use recycled plastic to make their product or package by choosing their products over those of manufacturers that do not use recycled plastic.

OTHER RECYCLABLES

The following are other types of wastes that can be recycled:

CD's, Disks (3.5)

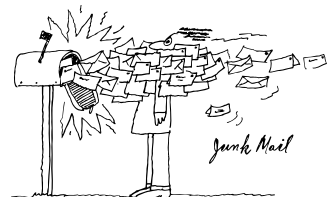
GreenDisk Services (fee)
2200 Burlington
Columbia, MO 65202
Phone 1-800-305-3475

USA City Link Project (no fee)
Attn: Floppies for Kids
4060 Highway 59
Mandeville, LA 70471

Internet address: www.greendisk.com.

Junk Mail

Internet address: www.obviously.com/junkmail/index.html



Ink Jet Cartridges

EnviroSMART

Internet address: www.enviro-smart.com

US Postal Service

(518) 452-4012

Tinta 2000, Inc.

P.O. Box 670384

Coral Springs, Florida, USA 33067

Phone: 1 (954) 755-7811

Internet address: www.Tinta2000.com

Laser Jet Recycling Services

2331 Se Minnesota Ave.

Topeka, Kansas 66605

Phone: 785-354-7914

Styrofoam Peanuts

Peanut Hotline: 800-828-2214

Internet address: www.loosefillpackaging.com

Fluorescent Lights and Ballasts

Internet address: www.aercmti.com/lamps/

Batteries (More on batteries in the appendices)

Nickel Cadmium Batteries

Internet address: www.rbrc.org/

Small Sealed Lead Acid Batteries

Internet address: www.batterycouncil.org/recycling.html

The Battery Council International: (312) 664-6610,

Lithium Batteries

Power Express Batteries,

ATTN: Battery Recycling

14388 Union Avenue,

San Jose, CA 95124

Note: For personal use Ni-Cad and small sealed lead-acid batteries, Home Depot has a drop-off box. Some Radio Shacks also collect Ni-Cads and button batteries.

Caveat

This vendor list is by no means complete or comprehensive. Vendors listed here are not endorsed by NYSDEC. Their environmental compliance has not been authenticated. You can find more listings by searching the web. Please contact the vendor to find out all pertinent information including costs.

Smoke Detectors

Testing your detector with actual smoke is the only way to be sure it will work when needed. The vast majority of smoke detectors are made by First Alert Corporation.

Send old First Alert detectors to:

First Alert, Radioactive Waste Disposal

780 McClure Rd

Aurora, IL 60504-2495

1-800-323-9005.

Others are made by a Canadian firm called American Sensors, dial 1-800-387-4219 for information.

Toner & Printer Cartridges

This one is easy, most manufactures provide a mail back label for these materials.

Transparencies

Call (800) 952-4059 for more information.

Address for Mailing:

3M Recycling Program

Care of GEMARK

99 Stevens Lane

Exeter, PA 18643

Internet address: www.mmm.com/presentation/trans/515_film.html

Tyvek Envelopes

Call (800) 44-TYVEK to receive a Tyvek Recycling Pouch.

Or mail to:

DuPont Tyvek Recycling

TRP 705

974 Centre Road

Wilmington DE 19805

Automobiles

Your Bus Fleet Management should also collect for recycling:

Auto Fluids

Oil

Antifreeze

Tires

Car batteries



Kids Page - I Think....

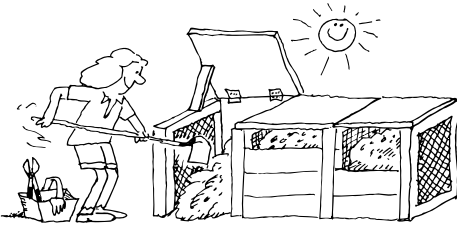
New York Recycles!
November 15

I think...

1. The best thing about recycling is _____
2. I recycle _____
3. I wish I could recycle _____
4. Throwing away recyclables is _____
5. Learning about recycling is _____
6. My favorite thing to recycle is _____
7. My school recycles _____
8. Sometimes recycling is hard because _____
9. I promise not to litter because _____
10. Other things I do to help my environment are _____



COMPOSTING ... A RECIPE FOR A HEALTHY EARTH!



Organic materials make up between 25-30% of the waste stream. Organics include items such as grass clippings, yard trimmings, leaves, food scraps, etc. Actually, most of these materials need not be considered waste at all. They can easily be transformed into a useful soil amendment through a process called composting. Check out our website - www.dec.state.ny.us/website/dshm/redrecy/compost.pdf

What is composting?

Composting is a biological process during which microorganisms, bacteria and insects break down organic materials such as leaves, grass clippings, and certain kitchen scraps into a soil-like product called compost. It is a form of recycling, a natural way of returning needed nutrients to the soil.

Why compost?

By composting kitchen scraps and yard trimmings, you can avoid the high costs of commercial collection and processing programs for these items. Composting is practical, convenient and is often easier and cheaper than bagging these materials for shipment to a transfer station. Composting has many additional benefits. When you compost, you return organic matter to the soil in a usable form. Organic matter improves plant growth by helping break heavy clay soils into a better texture, by adding water and nutrient-holding capacity to sandy soils and by adding essential nutrients to any soil. Improving your soil is the first step toward improving the health of your plants. If you have a garden, a lawn, shrubs or even planter boxes, you have a use for compost.

How do I compost?

Composting is easy. To compost successfully, you do not need any specialized equipment or a biology degree. You can compost in your own school yard by saving yard trimmings and certain food scraps, preparing them properly and then placing them in a compost pile. Just follow these simple guidelines:

Step 1. Choose the right materials. Anything that was once alive will compost, BUT not everything belongs in a compost pile. In general, do not compost any foods containing animal fats, or plants infected with disease.

DO COMPOST: Vegetable & fruit scraps, citrus rinds, egg, peanut & nut shells, stalks, stems, vines, wood ashes, horse & cow manure, leaves, apple cores, etc.

DON'T COMPOST: Meat, fish, fat, bones, poultry, vegetable oils, dog or cat manure, dairy products, plastic, synthetic fibers, etc.

Step 2. Select & prepare a site. First choose a place that receives about equal amounts of sunlight and shade during the day, then decide how you wish to compost. There are many different ways to prepare a compost pile.

*Use no enclosure at all. Simply pile the materials up, keeping them in a fairly dense heap.

*Assemble wooden stakes and chicken wire into a simple round enclosure for the pile.

*Construct a wooden bin with old lumber or pallets.

*Make hole in the sides and bottom of a garbage can and use it as a bin.

*Fashion a three-sided enclosure by placing cinder blocks on top of each other, leaving the front open.

*Purchase one of many commercial bins available at hardware and garden stores.

Step 3. Prepare the compost materials and build a pile. Begin by cutting or shredding the ingredients into small pieces, the compost process goes faster! Then, add materials. Water ingredients and mix often. The pile should be kept moist but not soggy, about the consistency of a wrung-out sponge.

*With any compost system, turning the pile periodically is essential to maintain the air supply to the organisms breaking down the material.

*As the compost materials decompose, heat is generated. Don't be surprised to see steam rising from the pile, especially when it is turned. This means that the conditions for bacterial action are at their best. If your compost pile is properly prepared, contains no animal fats and is turned periodically, it will not attract pests or create odors.

Step 4. Test whether the compost is ready. Decomposition will be complete anywhere from two weeks to two years, depending on the materials used, the size of the pile, and how often it is turned. Compost is ready when it has turned a dark brown color and no longer resembles the original materials.

Step 5. Use the compost. Compost is ready to apply after it has cooled. It is good practice to screen the compost through a screen and return the unfinished materials to the pile. Apply the compost in layers 1-3" thick and work it well into the ground. It is best not to add more than a pound per square foot of soil per year.



Composting is a great way to integrate real world situations and environmental issues into your science program. NYSDEC has literature, videos, classroom activities (ask for *RW Goes To School*), which can assist your teachers to educate their students about the science and practice of composting.



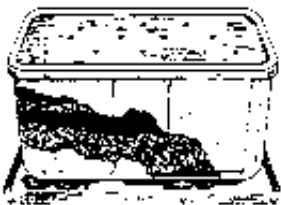
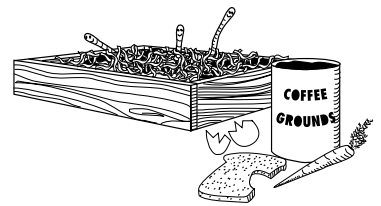
COMPOSTING IN THE CLASSROOM WITH "RED WIGGLER" WORMS

This serves as an introduction to vermicomposting (composting with "red wiggler" worms) for the classroom teacher. The serious vermicomposter will also want to consult the various reference materials listed in this handout. For more information about vermicomposting and other recycling related issues call the NYSDEC at (518) 402-8705.

A large part, up to 30 percent of what we throw away is "organic" material. This organic material includes yard trimmings, grass clippings, leaves, food scraps and other similar materials. This material need not be considered a waste at all, but instead is a resource that can be incorporated back into our gardens and lawns to improve soil tilth and moisture retention, and to add nutrients. These nutrients are returned back to natural systems when we follow practices such as grasscycling (see our website - www.dec.state.ny.us/website/dshm/redrecy/grass.htm) or composting. When these practices are adopted by individual residents in the community, they have enormous potential to reduce costs as they eliminate/reduce the need for expensive disposal programs. The potential benefit to the environment is also great as the potential adverse environmental impacts of commercial disposal (such air and water quality impacts from incineration or landfilling) are avoided.

Incorporating lessons on composting and vermicomposting into your science program is a great way to educate your students about data collection, scientific observation, decomposition, nutrient cycles, natural biological systems, food webs, etc. It also offers an opportunity for them to learn a practical way that they, as individuals, can make a positive impact on the environment.

Although setting up an outdoor composting demonstration site may be an option for some school systems, not everyone has sufficient space on school property to dedicate an area for this practice. Setting up a worm composting bin, a practice called vermicomposting, is an easy way to teach about the recycling of organic material. Using worms has several advantages over an outdoor system. Because it is indoors, weather and siting considerations are not an issue. Also, the small size of the bin makes measuring easy.



Also, vermicomposting can be practiced in any setting, so your students will learn that it is possible to compost without having a large yard or garden. Worms make ideal classroom pets because they are quiet and can go up to three weeks without being fed. Best of all, your worms will reproduce so you will be able to donate worms to other classrooms at your school. Everyone is going to want some because (and this probably won't surprise you)... KIDS LOVE WORMS!

Getting Started

All that you will need to begin are 2 lbs. of redworms (*Eisenia foetida*), most commonly referred to as "red wigglers", a plastic or wooden container approximately 2' x 2' wide and 1' deep, some shredded newspaper or white office paper and a handful of topsoil or compost and you're ready. You will need to moisten the bedding with water to create the proper environment for the worms. Specially designed containers are available for purchase or you can make your own. A number of sources for commercially produced bins are listed in this handout. Two pounds of redworms can consume up to 3-5 lbs. a week of coffee grounds, egg shells, tea bags, apple cores, stale crackers, banana peels, wilted lettuce and other vegetable scraps. Do not add any animal products, dairy items, fats or oils. These items will cause the bin to develop unpleasant odors.

There are a number of inexpensive reference materials available on this topic. We strongly suggest that you purchase or borrow some of these materials from your local library before you begin. The entire setup for a classroom, including reference materials, a commercial bin and worms can cost as little as \$100. If you make your own bin, it can cost considerably less. You may also want to see an active vermicomposting system before beginning your own. Local Cornell Cooperative Extension offices may know of local vermicomposting systems you can look at.

Most Commonly Asked Questions About Vermicomposting

Won't the bin smell bad?

A well-maintained vermicompost bin should not have an unpleasant or strong smell. An "earthy" odor is typical of a healthy system. If your bin does smell, it may need to be cleaned (harvest the vermicompost and give the worms new bedding), or you may be overloading the system with too much food. This is the most common mistake in classroom bins.

How often does the bin need to be cleaned?

We have found through maintaining our own bin that the bin usually needs to be cleaned every four months. This will vary depending on how much food you have added, how many worms you started with, etc. If most of the bedding is no longer recognizable, then it probably needs to be changed. Do not wait too long as a dirty bin could become toxic to your worms.

Won't the worms escape?

If you find large numbers of worms crawling out of the bedding and up the sides of the bin, the bedding is probably too wet and the worms need oxygen. You may want to clean your bin at this point or add some dry bedding. Worms will not normally leave a well maintained bin. They have everything that they need: food, warmth, darkness and the company of other worms.

What about fruit flies or other bugs?

A variety of organisms in addition to worms are a natural part of a vermicomposting system. Most never leave the bin. Fruit flies tend to present the biggest nuisance. A number of steps can be taken to prevent a fruit fly problem from arising. Make certain that you have deep enough bedding to bury the food completely. Do not overload the bin! If items are not beginning to decompose within a few days, stop feeding until the worms catch up. It is helpful if you cut up food items into small pieces, as they will decompose more quickly. Also, rinsing the skin of banana peels or microwaving them for 30 seconds before you put them in the bin should help prevent fly larvae from finding their way into the bin.

What will my students learn?

A vermicompost bin offers numerous opportunities to integrate math and science on a daily basis. Added food can be weighed and recorded. The time that it takes for individual food items to decompose can be observed, as can worm food preferences. You will also have an opportunity to see worms at different stages of their life cycle. Cocoons, the worm egg sac, are visible to the naked eye. You can study the worm life cycle and learn about the important role that this type of worm plays in natural systems. You can examine some of the compost under a microscope. When the bin is cleaned, the total weight of the harvested vermicompost can be compared to the weight of the food added and the weight of the water and bedding used at bin start-up.

Once you have finished vermicompost, you will have the opportunity to utilize this material in plant growth experiments. Your children will also learn the important lesson of how nature recycles nutrients so that they can be used over and over again. These are only a few of the ways that this activity can enrich your classroom. We know that you will think of many more!



What do I do with the worms at the end of the school year?

You can "liberate" the worms. That is, set them free in your garden or outdoor compost pile. Of course, then you will need to purchase worms again in the fall. If you do decide to maintain the bin over the summer, exercise some caution in your selection of storage site. The ideal temperature range for worms is between 50-70 degrees F.

NYSDEC has an extensive list of brochures, videos, fact sheets, classroom activities, etc. that can assist you to integrate composting into your classroom activities at any grade level. Please contact us for a complete listing.

Worm Composting Bin

Worm Composting is a suitable composting option for classrooms, apartment buildings or other homes with no yard space. The worms stay in the bin and eat household scraps, and the bin gives off little odor.

Find a good location for the bin. It can be placed anywhere, as long as the temperature is between 50 and 77 F (13 -25 C). In warm weather, it can go outdoors (not in direct sunlight). Make sure to place the bin where it is convenient for you to use. It is wise to place a plastic sheet under the bin.

Adding the worms

Moisten the bedding material. It should be like a sponge, squeeze it and a few drops should drip off. It is a good idea to put wet bedding material into the bin outdoors and wait until all the water has drained out before setting the bin up indoors. Add about eight inches of moistened bedding to the bottom of the bin. Place worms on top of the bedding, and leave the lid off for awhile. The worms will work down into the bedding to get away from the light.

Adding Your Wastes

Dig a small hole in the bedding and add your vegetable and fruit scraps. Then cover the hole with bedding. Do not add any inorganic or potentially hazardous materials, such as chemicals, glass, metal, or plastic.

Maintaining Your Composting Bin

Keep your compost pile moist, but not wet. If flies are a problem, place more bedding over material over the wastes, or place a sheet of plastic over the bedding. As an alternative, try placing some flypaper inside the lid. Every three to six months, move the compost to one side of the bin, and add new bedding to the empty half. At these times, add food wastes to the new bedding only. Within one month, the worms will crawl over to the new bedding and the finished compost on the "old" side can be harvested. New bedding can then be added to the "old" side.

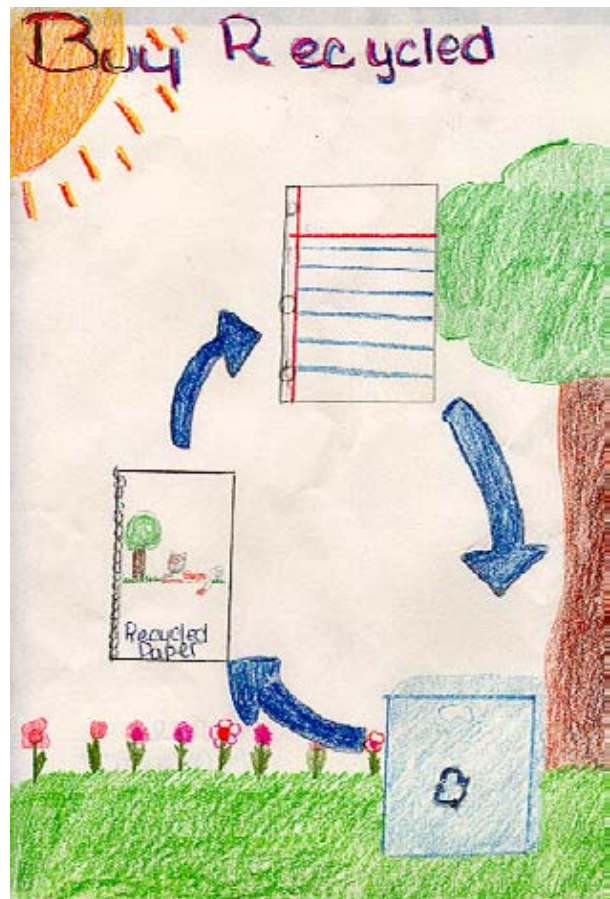
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CLOSE THE LOOP!

For recycling to be successful, it is essential that each one of us not only separate materials for recycling, but also purchase products and packaging made from recycled material. Concerns about quality and price have caused many people to avoid buying products made with recycled materials. However, as the use of recycled materials as feedstock has become more common, the quality of recycled products has increased and the price has decreased.

When choosing to support recycling through your purchasing procedures, it is best to have a policy to request that products have the highest percentage of **post-consumer** content possible.

Post-consumer materials are products or packages used by a consumer and then recycled. Purchasing these products will help create markets for the recyclables collected in your town.



Products with **pre-consumer** recycled content usually contain industrial scrap that has been recycled within the factory where the product is made. This practice has been common for some time.

Look For Sure Bets!

45% Of An Aluminum Can Is Made From Recycled Aluminum!

40% Of Newspapers Are Made From Recycled Paper!

37% of Corrugated Boxes Are Made From Recycled Paper and Cardboard!

35% Of Most Cereal Boxes Are Made From Recycled Paper!

(look for gray on the inside of the box)

25% Of A Glass Bottle Is Made From Recycled Glass!

25% Of A Metal Can Is Made From Recycled Metal!

What follows is a listing of some of the more common products made from post-consumer recycled materials that might be used in a school setting. Remember, your school can take advantage of existing state contracts that have very favorable prices for many recycled products.

Item Recycled	Examples of New Products
#1 PET plastic bottles	Carpeting, T-shirts, fleece jackets & hats, fiberfill for gloves, jackets & sleeping bags
#2 HDPE milk & water bottles	Envelopes, protective wear, new containers
#4 LDPE grocery bags	Composite lumber used for decks, fencing, outdoor furniture
White office paper	Recycled office paper (ask for 30% post-consumer content)
Magazines, junk mail & catalogues	Tissue paper, toilet paper, paper towels and paper napkins
Steel cans	Any steel product - cars, cans, refrigerators, etc.
Aluminum cans	Any aluminum product - door/window frames, cans, etc.
Corrugated cardboard	Linerboard for new boxes
Newspaper	Newspaper, egg cartons
Mixed Paper	Cereal & cookie boxes
Glass bottles	More glass bottles, fiberglass insulation, glassphalt
Clothing	Carpet backing, rags, recycled content clothing
Motor oil	Re-refined motor oil



SUMMARY

We hope you found this Resource Book helpful. Waste reduction, reuse, recycling, composting and buying recycled are important concepts to teach our young people (older people too!).

There are Gee Whiz facts at the end of this book, but here are some other interesting facts...

Average Garbage Can



Paper Waste	41%
Food Waste	12%
Yard Waste	9%
Plastic	9%
Metal	6%
Glass	5%
Other	18%



Litter - How Long Will It Last?

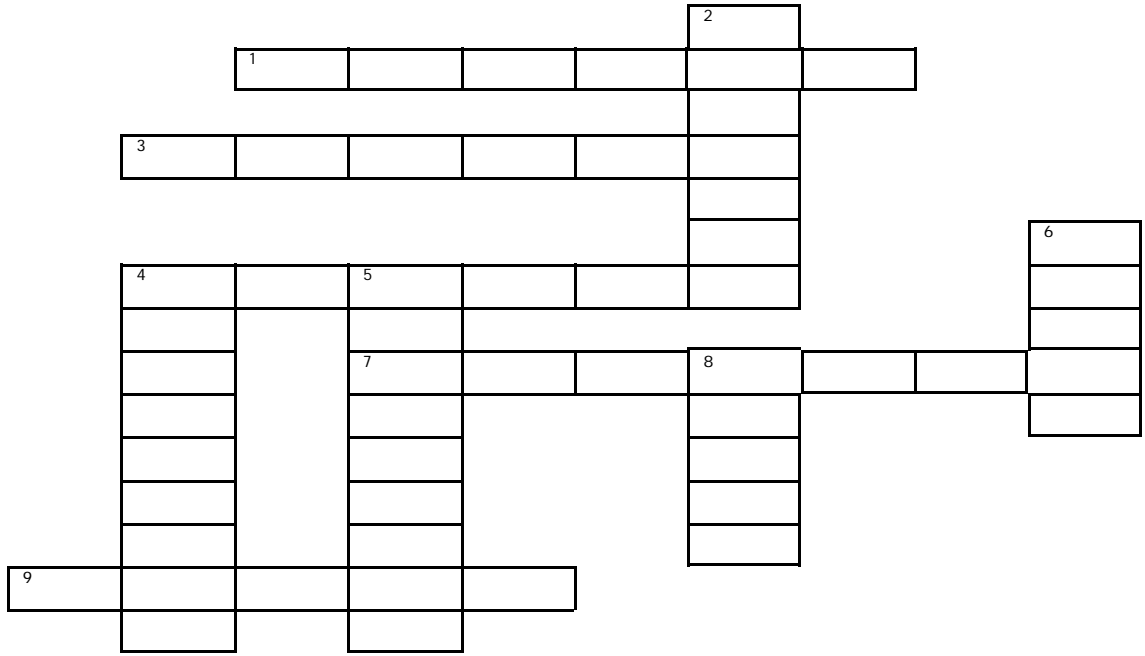
- Banana Peel - 10 - 12 weeks
- Paper Bag - 1 - 3 months
- Newspaper - 12 - 15 months
- Cigarette Butts - 2 - 5 years
- Disposable Diapers - 10 - 20 years
- Tin Cans - 80 - 100 years
- Aluminum Can - 200 - 400 years
- 6 Pack Holder - over 500 years
- Glass Bottle - over 1000 years
- Plastic Bottle - over 1000 years

Check out our website - www.dec.state.ny.us/website/dshm/redrecy/litter.pdf



KIDS PAGE - CROSSWORD PUZZLE

New York Recycles!
November 15



Across

- 1. Trash discarded along roads, shorelines and other places.
- 3. When we recycle, we save _____.
- 4. To not make garbage to begin with.
- 7. Leaves, grass clippings and fruit and vegetable wastes.
- 9. To use something over and over again.

Down

- 2. Take materials that would otherwise be waste and turning it into something new.
- 4. When we recycled we save our natural _____.
- 5. When materials compost, they _____.
- 6. Things we throw in a garbage can _____.
- 8. We throw away a lot of this everyday _____.

Word List	
Compost	Reduce
Decompose	Reuse
Energy	Recycle
Litter	Resources
Paper	Waste

Answers:

Across

- 1. Litter
- 3. Energy
- 4. Reduce
- 7. Compost
- 9. Reuse

Down

- 2. Recycle
- 4. Resources
- 5. Decompose
- 6. Waste
- 8. Paper

Household Batteries, commonly known as dry cell batteries, are comprised of an anode, a cathode, and an electrolyte. The anode is the positive terminal, the cathode is the negative terminal, and the electrolyte is the chemical solution through which the electrons flow from anode to cathode, creating an electric charge. Various metals are used in the cathodes and anodes. The following summary provides general information on the chemistry and disposal options for household batteries.

Nickel Cadmium Batteries (Ni-cads)

Hazardous - should be recycled in a household hazardous waste collection program or at a number of participating retail collection points including most Radio Shack, Home Depot and Walmart stores. Ni-cads consist of a nickel cathode, a cadmium anode, and an alkaline solution for an electrolyte. These batteries are rechargeable and are found in traditional cylindrical battery sizes as well as in a wide variety of battery packs. The batteries are used in items such as cordless telephones, video cameras and cordless power tools. Cadmium is toxic and can pose a threat to human health and the environment.

The Rechargeable Battery Recycling Corporation (RBRC) (www.rbrc.org) is an organization of battery manufacturers which has established a collection and recycling program for their Ni-cads. The program is financed by the RBRC. The battery manufacturers buy back the cadmium after it is processed to use in the next generation of batteries. For information on where to recycle nickel cadmium batteries in your area, call 1-800 BATTERY.

Alkaline and Zinc Carbon Batteries

Non-hazardous, can be disposed of in the garbage. These batteries typically contain a manganese dioxide cathode and a zinc anode. The electrolyte in an alkaline battery is usually potassium hydroxide or sodium hydroxide, while in a zinc carbon battery the electrolyte is ammonium chloride or zinc chloride. These two types of batteries represent about 70% of the battery market. In the past, mercury was added to prevent corrosion and the creation of hydrogen gas. Recent laws have restricted & levels of mercury allowed in alkaline and zinc-carbon batteries. Today, alkaline batteries on the market are required to have zero-added mercury.

There are limited opportunities for recycling alkaline batteries. Since batteries manufactured today are required to have zero-added mercury, alkaline batteries can be disposed of in the garbage if no recycling option is available. But first, check and see if your community has a battery collection program and what types of batteries they accept.

Mercuric Oxide Batteries

Hazardous - should be recycled in a household hazardous waste collection program.

They are button cells used for hearing aids, cameras, and pagers. They have a zinc anode, a mercuric oxide cathode, and an alkaline solution for the electrolyte. They contain approximately 33% mercury by weight. In 1996, the "Federal Battery Management Act" banned mercuric oxide button cells.

Silver Oxide Batteries

Hazardous - should be recycled in a household hazardous waste collection program.

They are button cells commonly used for watches, calculators and hearing aids. They contain a zinc anode, silver oxide cathode and an alkaline solution for the electrolyte. They also contain mercury to prevent the formation of gas. These batteries are recyclable because of the value of the silver. **Most jewelry stores will recycle the silver oxide battery when you bring your watch in to have the battery replaced.** Otherwise, it can be disposed of at a household hazardous waste collection. The difficulty in recycling silver oxide batteries is that they are similar in appearance to other button cells. Sorting batteries is labor intensive, potentially dangerous and requires familiarity with the various types of batteries. Silver oxide button cells are good candidates for mercury reduction. Several states have placed limits on the amount of mercury allowed in button cells.

Lithium Batteries

Hazardous, but if a lithium battery is fully discharged, it is safe to dispose in the regular trash. They are primarily used in cameras and computers and contain a lithium anode and various types of cathodes and electrolytes. Lithium batteries are currently not being recycled. Lithium is a highly reactive metal and, when collected with other button cells, may present a hazard if not fully discharged. A fully discharged lithium battery converts the lithium into various lithium compounds that are inert and non-toxic. Unlike other button cells, lithium batteries do not contain mercury.

Zinc-Air Batteries

Hazardous - should be recycled in a household hazardous waste collection program.

They are button cells used primarily for hearing aids. They have a zinc anode, oxygen from the atmospheric air that acts as the cathode and an alkaline solution as the electrolyte. They contain about 1% mercury by weight that serves as a gas suppressant. There is currently no recycling option for zinc-air batteries. The best option is to bring them to a household hazardous collection day.

HOUSEHOLD HAZARDOUS WASTE

What is household hazardous waste? Federal and state hazardous waste regulations have focused strictly on commercial and industrial generators. Because they generate the vast majority of hazardous wastes, commercial and industrial generators must comply with regulations concerning the identification, storage, transportation and disposal of hazardous wastes. Households generate wastes that can be harmful to sanitation workers when disposed in the trash, effect the functioning of septic systems and waste water treatment plants when poured down the drain, or contaminate ground and surface waters if dumped on the ground.

Hazardous wastes are generally defined as having one or more of the following characteristics:

Ignitable - can catch fire - example, gasoline

Reactive - cause violent chemical reaction - example; drain cleaners

Toxic - harmful to human health -example, paint strippers

Corrosive - eaten away by a chemical reaction - example, muriatic acid

Other common household products that exhibit one of the above characteristics include: oven cleaners, mothballs, metal polishes, paint thinners, pool chemicals, pesticides and adhesives. **Used motor oil** is a mandatory recyclable in New York. Instead of dumping it, used oil can be brought to a service station or a retail dealer for recycling. Environmental Conservation Law requires service stations that annually sell 500 gallons of oil or retailers that sell 1000 gallons of oil to accept up to five gallons of used oil at no charge. **Lead-acid batteries** are also a mandatory recyclable and should be returned to the store when you purchase a replacement battery.

Toxic Reduction/Waste minimization Although proper disposal is important, household hazardous waste collection days represent a substantial expense for your municipality. It is better for your municipal budget, and the environment, if you reduce your use of potentially hazardous products whenever possible. We suggest that you consider the following:

Substitute non-toxic products when possible. Examples include using latex paint instead of oil-based paint; use baking soda and vinegar to keep your drains clog free; or natural cleaners such as Borax instead of chemicals.

Buy Only What You Need. Carefully look at the amount of product you need to complete your particular job and buy only that much. Don't get more just because the larger size is on sale - it isn't a bargain if you really don't need the product.

Donate Usable Product. If you have large amounts of usable product, such as cans of oil-based paint in a color that you no longer need, try to donate it to a neighbor who can use it or a local non-profit group such as a theater group.

Use According to Product Directions. The threat to the environment is often caused when these products are not used properly or are mixed inappropriately with other products in your home or in the trash. Follow package directions carefully and keep the product in its original container.

Bring unusable product to a household hazardous waste collection day. Many communities in New York offer at least one day a year when they will sponsor a collection for their residents for household hazardous wastes. Increasingly, towns are joining permanent household hazardous waste collection facilities. Permanent facilities offer more opportunities for collection, frequently at a reduced cost. They can also provide an opportunity for product exchanges and ongoing public education. Contact your town hall to learn how often these materials are collected in your community.

When participating in a town-sponsored collection day, try to keep products in their original containers so that the operator can identify them. The container should be tightly closed and not cracked or leaking. Businesses are currently prohibited from using household hazardous waste collections to dispose of their wastes.

Unfortunately, options for schools are limited, you will need to call ahead to see if your local community will allow you to participate in a household hazardous waste collection day. If not, there are contractors that will take your hazardous wastes for a fee.

Most hazardous wastes from schools are generated in science laboratories, shops, art rooms, photography studios and maintenance operations.

Hazardous wastes found in schools could include solvents, alcohols, paint thinners, solvent-based paints and stains, acids, bases, photographic chemicals, toxic metals and automotive fluids.



INTEGRATED PEST MANAGEMENT

Integrated Pest Management (IPM) on school property is a long term approach to maintaining healthy landscapes and facilities that minimize risks to people and the environment.

IPM uses site assessment, monitoring and pest prevention in combination with a variety of pest management tactics to keep pests within acceptable limits.

Instead of routine chemical application, IPM employs cultural, physical and biological controls with selective use of pesticides when needed.

Your school may already be practicing IPM to varying degrees in and around school buildings and on school grounds.

NYSDEC actively supports IPM in schools. An important resource, the *IPM Workbook for NYS Schools*, has been developed by us and Cornell University. It provides information on school IPM, from administration of a program, to pest identification and specific IPM practices for school buildings and athletic grounds. For further information on the Workbook, call (518) 402-8781. NYSDEC also produces the *Pest Management Information Series*, these brochures, are available online at www.dec.state.ny.us/website/dshm/pesticide/brochure.htm

The United States Environmental Protection Agency (EPA) also supports IPM through activities such as distribution of IPM publications, awarding grants for IPM activities, offering training, guidance and information on IPM programs at universities and national associations. You can find this information on EPA's website - www.epa.gov/pesticides/ipm/



MERCURY IN SCHOOLS

Mercury is a toxic metal that has historically been used in high school chemistry labs because of its unique chemical and physical properties. However, due to an increased awareness of the health and environmental impacts, as well as some recent costly spill incidents, there has been a concentrated effort to eliminate mercury from school curriculums and safely manage existing supplies. Check out this website for more information on mercury - www.newmoa.org/prevention/mercury/schools/ and you can check out our website - www.dec.state.ny.us/website/dshm/redrecy/mercury.htm

Health Impacts

Mercury exposure can occur through inhaling mercury vapors, or drinking water and eating fish contaminated with mercury and mercury compounds. Mercury is toxic to the central nervous system and internal organs. Mercury can cause harm even at low exposures. At high exposure levels, mercury may damage the brain and kidneys. Symptoms of mercury poisoning include tremors, changes in vision or hearing, headaches, irritability, and behavioral changes. The EPA has determined that methyl mercury and mercuric chloride are possible human carcinogens. Mercury passes easily across the placenta and exposure to developing fetuses can cause brain damage, mental retardation, seizures, blindness and an inability to speak.

Managing Mercury in Schools

Schools do not need elemental mercury. The human health and environmental risks associated with handling mercury do not justify its use in a school classroom. Schools should hire a licensed hazardous waste handler to clean out any mercury, mercury compounds, mercury barometers and other hazardous chemicals not being used. Mercury fever thermometers can be replaced with digital equivalents.

Managing Mercury Spills

If a mercury spill occurs at your school, regardless of the amount, contact your local Health Department.

You may want to contact your Regional New York State Department of Environmental Conservation for more information. Remember to dispose of mercury through a licensed hazardous waste vendor.

Mercury can be found in: fever and laboratory thermometers; thermostats; switches; relays; gauges: manometers, barometers, vacuum; thermostat probes; fluorescent lamps; mercury vapor lamps; metal halide & high pressure sodium lamps.



NEW YORK RECYCLES!

It is our way of promoting recycling and buying recycled in New York State. Various educational waste reduction, reuse, recycling, composting and buy recycled events will take place in August, September, October and November. This will lead to a celebration of **New York Recycles!** on November 15.

New York Recycles! is part of a national event - America Recycles. In 2003 there were thousands of events in 48 states and two U.S. territories!!

How Do I Participate?

Recycle the materials in your local public and private recycling program, as well as school or work. To find out what your community recycles, call your local recycling coordinator or call us at (518) 402-8705. Call us if you need information on starting a recycling program at school or work.

Buy products and packaging made from recycled materials. Examples are: Recycled paper products like paper towels, napkins, tissues, toilet paper, office paper (adding machine rolls, business cards, file folders, dividers, spiral notebooks, printing paper, message pads), greeting cards, wrapping paper, etc.

You can also buy recycled plastics like clothing (yes, clothing... t-shirts, sleeping bags, sweaters, etc.), plastic bags, patio furniture, carpeting, playground equipment, and the list goes on.



What Else Can I Do?

Sponsor an event... it's easy and you can contact us at (518) 402-8705 for more information!! We will provide you with Petition Cards and Posters!!!

What Are The Petition Cards For?



By filling out the petition card, you promise to try to recycle more, buy products and packaging made from recycled materials and are entered into a State and National drawing. (All petition cards are recycled after the drawing... you will not have your name sold to a mailing list!!)

What Is The State Drawing?

In 2004, over 48,000 New Yorkers signed a petition card and promised to recycle more and buy recycled products! New York State conducted a random drawing from individuals who voluntarily pledged to recycle more and buy recycled and award the state prizes.

What Were the State Prizes in 2004?

A Trip to Orlando, Florida donated by **Institute of Scrap Recycling Industries**
Cameras donated by **Eastman Kodak Company**
\$500 Gift Certificate donated by **NYSARRR**
And More!!

What Were The National Prizes in 2004?

A 2005 Hybrid Ford Escape donated by **Ford Motor Company**
Trek Bikes donated by **Alcan Corporation**

What Should I Do Next?

- ☪ Hold an event in your business, school or organization;
- ☪ Learn how to join a local steering committee;
- ☪ Sign a petition card; or
- ☪ Just find out more about *New York Recycles!*



Get Involved By...

1 Visiting our web site at:

www.dec.state.ny.us/website/dshm/redrecy/recylday.htm.

1 Calling us at (518) 402-8705 or

1 Writing to us at:

NYSDEC

New York Recycles!

P.O. Box 10279

Albany, NY 12201-5279

1 You can also check the National America Recycles web page at:

www.americarecyclesday.org.



2004 State Steering Committee Members

ABC, Inc

Consolidated Edison Company

Eastman Kodak Company

Federation of NY Solid Waste Associations

Institute of Scrap Recycling Industries

Lockheed Martin

NYS Association of Environmental

Management Councils

NYS Department of Environmental Conservation

Onondaga County Resource Recovery Agency

Verizon



AMERICA
RECYCLES

It All Comes Back To You.

NEW YORK RECYCLES! PETITION CARD



Show Your Support For Recycling & Buying Recycled Products and Packaging!

Photocopy as many copies as you need!


Sign the Petition Card and You Could Win A Trip to Orlando, Florida or other Great Prizes!!

Support *New York Recycles!*

Did you know that the average person in New York State throws away more than five pounds of garbage every day? Recycling saves energy, resources and landfill space, it also reduces pollution. But to keep recycling working, we need to buy more products and packaging made from materials that we already recycle.

Remember to recycle and to shop for recycled products and packaging.

- - - - - cut here - - - - -

<p style="text-align: center;">Remember - Show Your Support and Sign the Petition Card!</p> <p style="text-align: center;">Dear Governor Pataki I (we) support recycling and recycled product procurement! Thanks for supporting it too! Please enter me (us) for the opportunity to win NY Recycles State prizes. No purchase necessary. Your name will be kept confidential.</p> <p>Name _____</p> <p>Student's School Name _____</p> <p>Daytime Phone (_____) _____</p> <p style="text-align: center;">Area Code</p> <p>[] Check here if you are under the age of 18.</p> <p style="text-align: center;">printed on 30% post-consumer paper</p>	<p>Return your petition card to your teacher or to: <i>New York Recycles!</i> P.O. Box 10279 Albany, NY 12201-5279</p> <p>Anyone can sign and win a prize!</p> 
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TEN GREAT WAYS TO CELEBRATE

1. Commit to "Buy Recycled" at home and encourage the use of recycled-content products at your agency.
2. Organize a display of recycled content products and packaging at your local church, office, school, grocery store or retail shopping center.
3. Ask local retailers to stock more products made from recycled materials.
4. Look for "safe bets" that always have recycled content: steel, aluminum, glass, molded pulp containers.
5. Purchase remanufactured products and equipment such as toner cartridges, office furniture, auto parts, re-refined oil or retreaded tires.
6. Teach children why "If you are buying recycled, then you really are recycling!" Organize a tour of a local facility that manufactures recycled-content products or packaging.
7. Purchase products you know can be recycled in your community.
8. Call or write the manufacture if one of your favorite products does not have recycled content, and ask them to change it.
9. Read product labels and look for recycled content, especially post-consumer content.
10. Remember, waste reduction is important too. Look for ways to not make garbage. Composting is a great way to start.

For more information visit:
the National Website at www.americarecyclesday.org
or the State Website at www.dec.state.ny.us/website/dshm/redrecy/recylday.htm
or call (518) 402-8705

New York Recycles! is sponsored by:

- | | |
|---|--|
| (ABC, Inc | (NYS Association of Environmental Management Councils |
| (Consolidated Edison Company | (NYS Association of Reduction, Reuse & Recycling |
| (Eastman Kodak Company | (NYS Department of Environmental Conservation |
| (Federation of NY Solid Waste Associations | (Onondaga County Resource Recovery Agency |
| (Institute of Scrap Recycling Industries | (Verizon |
| (Lockheed Martin | |

2004 *NEW YORK RECYCLES!* DAY PRIZES

A Trip for Four to Orlando, Florida donated by Institute of Scrap Recycling Industries
Cameras donated by Eastman Kodak Company
Gift Certificate donated by NYSARRR

RECYCLING EVENTS

Your school should conduct recycling education events.
These would be a good activities to schedule for:

Earth Day (April 22),
Arbor Day (last Friday in April)
New York Recycles! (November 15).
Use Less Stuff Day (November 18)
Buy No Stuff Day (November 23)

REUSE CRAFT IDEAS

Here are some fun things you can do with materials that are found around the home and can be reused ~

Old Film Canisters ~

Holiday Decorations - The film canisters are great for Holiday Ornaments. Poke a hole in the lid and thread a piece of ribbon through it, putting a knot inside the lid and forming a loop at the other end. Snap the lid back on. Glue small beads that sparkle on the entire surface using a glue gun or white glue- cover the lid, bottom, etc. It will hang on the tree and look great!

Tiny first aid kits - Print out small labels to wrap around the cannister, put a cotton ball, a band-aid and an antiseptic wipe on the inside!

Film Cannister Rockets

You will need:

- The center tube from a roll of toilet paper
- A paper plate
- White film cannister (can only use white)
- Some water
- One Alka-seltzer tablet

First you need to make your rocket launcher. Tape the tube to the paper plate in an upright position. Decorate as desired. Put a small amount of water in the film cannister, then take it, the launcher, and an Alka-seltzer tab outside.

Put the launcher on the ground in a clear area, drop the Alka-seltzer into the cannister, then quickly put the lid on the cannister, drop it in the launcher upside down and stand back!

This is a great experiment. We found that you can even use half a tab and get good results. See whose can "fly" the highest. I've been told this also works with baking soda and vinegar, but haven't tried it. Have fun!

Old Cardboard Tubes ~

Binoculars - Take two rolls and staple them together side by side. Punch holes in the top sides of the rolls and put yarn through to hang around the child's neck. They can let their imaginations go wild decorating them, whether it's simply coloring them or glueing odds and ends on. When they're done, they have a pair of binoculars. You can also use an elastic to put on some colored cellophane on the end of them.

Use to paint circles - Dip one end of a toilet paper tube into some paint. Press gently down on paper to paint a perfect circle. Make a whole picture with just circles, and fill in the spaces between the circles with different colors for an abstract work of art.

Old Egg Cartons ~

Plant containers or seed starters. Poke a few holes in the bottom for drainage. Fill about 3/4 with potting soil. Plant seeds and set in a sunny window.

Make Tulips with Old Egg Cartons -

This is an easy project kids can do by themselves or with very little help, and these flowers make a great Mother's Day present.

You will need:

- Clean cardboard egg cartons
- Scissors
- Green chenille (pipe cleaners)
- Elmer's glue
- Paint

Cut the egg carton into separate cups, leaving some of the middle "pop-up" sections. Cut the main cups into the pointed shape of the tulip petals. With the point of the scissors or a sharp pencil, poke a hole in the bottom of each cup. Paint and decorate each cup however you like.

Cut the little center "pop-up" sections between the egg cups into small pointed shapes that will go beneath the tulip cups. Poke a hole in the center of each and paint green. When the pieces are dry, poke a piece of green chenille through the holes. Tie a loop on the end in the cup so it can't pull back out, and add a dab of glue between the two sections. Shape the chenille into leaf shapes and leave a few inches at the bottom for the stem.

You can stick the stems of several flowers into some clay or floral foam in the bottom of a pot. Or just tie together and wrap with pretty paper and a ribbon to give to mom!

Old Brown Paper Bag ~

Easy (and Cheap) Valentine Pin - (may be appropriate for older children)

You will need:

- Brown paper bag
- Hershey's kiss wrappers
- White glue
- Pin backing

1. Cut two identical hearts out of the brown paper bag. Glue them together - just use a thin strip of glue around the edges, and leave an opening at the top.

2. When the glue is dry, stuff a little bit of cotton or kleenex into the inside, just enough to give the heart a little roundness.

3. Unwrap 2-3 red Hershey's kisses. Flatten the wrappers. Using a flat brush, spread glue on the back of the wrappers and press them onto the heart shape. Wrap the edges around the heart. The back of your pin won't be very pretty, but nobody will see the back when you're wearing it!

4. Unwrap 2-4 silver Hershey's kisses. Flatten the wrappers and then fold/coil them tightly. Glue around the edges of the heart, end to end.

5. Decorate the middle of the pin any way you want. I crumpled up two red wrappers and glued them offset, they sort of look like flowers. You could glue on little candy hearts or dried flowers, or a picture of a heart...just about anything.

6. Glue a pin to back

This Is a Fun Holiday Project For Kids ~

You will need:

Brown paper bags, or brown construction paper
Red, white and black paint
White glue

Trace around the child's shoe on the brown paper. Cut out the foot shape. This is the head of your reindeer, the heel part will be the nose.

Trace around the child's hand and cut out the shape. Fingers should be spread apart. These are the reindeer's antlers. Glue them to the top of your reindeer's head.

Paint two black dots for eyes on the reindeer's face. Paint a big red nose on the bottom of the reindeer face (on the heel).

If desired, paint a tiny white dot on each of the eyes.

Things You Can Do with Berry Baskets ~

Make Snowflake decorations - Cut out the bottom of the basket. It will look like the shape of a snowflake. Dip it in white glue, dip it in glitter, add a hanger, allow to dry and proudly hang it on the Holiday tree!

Bubble blower - This is great fun. Fill a bucket with water and liquid soap. Dip the baskets into the water and wave gently in the air to make tiny bubbles.

Easter baskets - Decorate with ribbon (weave the ribbon in and out through the slats). Attach pipe cleaners or wire to make a handle. Cover the bottom with shredded ribbon, paper, or "grass", and fill with Easter candy.

Things You Can Do with Wire Hangers ~

Dream Catcher - Just bend hanger in circle, wrap with ribbon, make web by overlapping ribbon with yarn, add beads or feathers if wanted. Add fringe by tying on longer pieces of yarn at bottom and adding feathers and/or beads.

Holiday Candy Wreaths - Use old hangers to make candy wreaths for the holidays. Take the hanger and stretch it into an appropriate shape (circle for x-mas, heart for valentines, 4 leaf clover for St. Pat's) and tie wrapped candy pieces on with ribbon or string. I use recycled ribbon from gifts.

If possible, attach a small pair of children's scissors to cut off candy. If your recipient just unwraps each piece, they will have a decorative wreath even after the candy is gone.

Make a Snowman out of an Old Bleach Bottle! (May be appropriate for older children)

You will need:

1 bleach bottle (make sure it is well rinsed)
white yarn
12" by 12" tan colored felt
glue
2 eyes (black felt, buttons, or googly eyes)
Tool to make small holes in plastic bottle

Wire
1/4 yard of red material
14 inches of curly chenille
Any material for a ladies collar

Step 1: Cut the bottle in half. First make the man Santa. You decide the size of face you want and make a circle with a pencil.

Step 2: Make plenty of holes all around the circle.

Step 3: Cut the flesh felt in a circle and glue to the bottle.

Step 4: Now start inserting the white yarn, leaving 2 inches on the lower holes and 1 inch of yarn on the upper holes. String the yarn in and out of each hole, (this makes the beard) and the hair line.

Step 5: Add on the eyes and mouth if you have one. Make sure you have yarn going across for the mustache. You may have to cut the mustache to your liking. Take the red material and make a triangle hat. At the tip of the hat add on a bell.

Step 6: Take the red felt and cover the back side of the bottle. Stretch a piece of wire across the back so you can hang it up. Attach the wire to each side real tight.

Step 7: Now you glue on the red hat and glue on the white chenille for the RIM of the hat.

DO THE SAME STEPS FOR THE MRS. SANTA LEAVING OUT THE FOLLOWING: No beard, no mustache. And the last thing for Mrs. Santa is to add on the collar.

Santa and Mrs. Santa can stand by them selves or they can hang on the wall or door.

Plastic Soda Bottles ~

Soda Bottle Bird Feeder -

Sand and paint the bottle. Poke 4 holes in the top of the bottle, just below the lid. Insert two long pieces of wire - the wires will form a X. Attach the ends of the wire to a plastic lid by poking holes in the rim and twisting the wire through. Poke two more holes in the bottom of the bottle, on opposite sides. String another piece of wire or string through these holes to hang the feeder. Fill the bottle with the seed and hang it from a tree. (NOTE: You might be able to find a kit at K-Mart, Target, or your garden center that contains the adapter to convert bottle to bird feeders. Usually quite cheap!)

Make a Bird House - Turn the bottle on its side. Cut little windows/doors high up on the sides. Paint or cover the bottle with fabric. Hang from tree branches for birds to nest in.





Recycling Paper... Environmental Savings

For every ton of paper recycled, we...
Save 463 gallons of oil.
Save 7,000 gallons of water.
Make 60 pounds less of air pollution.
Save 3 cubic yards of landfill space.
Save 4,100 kilowatt hours of energy.
Save 17 trees.
Reduce carbon dioxide emissions by 850 pounds per year!



Recycling Steel... Environmental Savings

For every ton of steel (metal) recycled, we...
Use 40 percent less water than used to make virgin steel.
Reduce air pollution by 86 percent.
Reduce water pollution by 76 percent.
Save enough energy to run a 60 watt light bulb for 26 hours.
Save 2,500 pounds of iron ore, 1,000 pounds of coal and 40 pounds of limestone.



Recycling Aluminum... Environmental Savings

For every ton of aluminum recycled, we...
Reduce energy use by 90 percent.
Save enough energy recycling just one can to run a TV for 3 hours.
Reduce air pollution by 95 percent.
Reduce carbon dioxide emissions by 13 tons!

Recycling Glass... Environmental Savings

For every ton of glass recycled, we...
Save enough energy to light a 100 watt light bulb for 4 hours.
Save 9 gallons of fuel oil.
Save 25 percent of the energy necessary to make glass with virgin materials.

NOTES

December 21, 2004