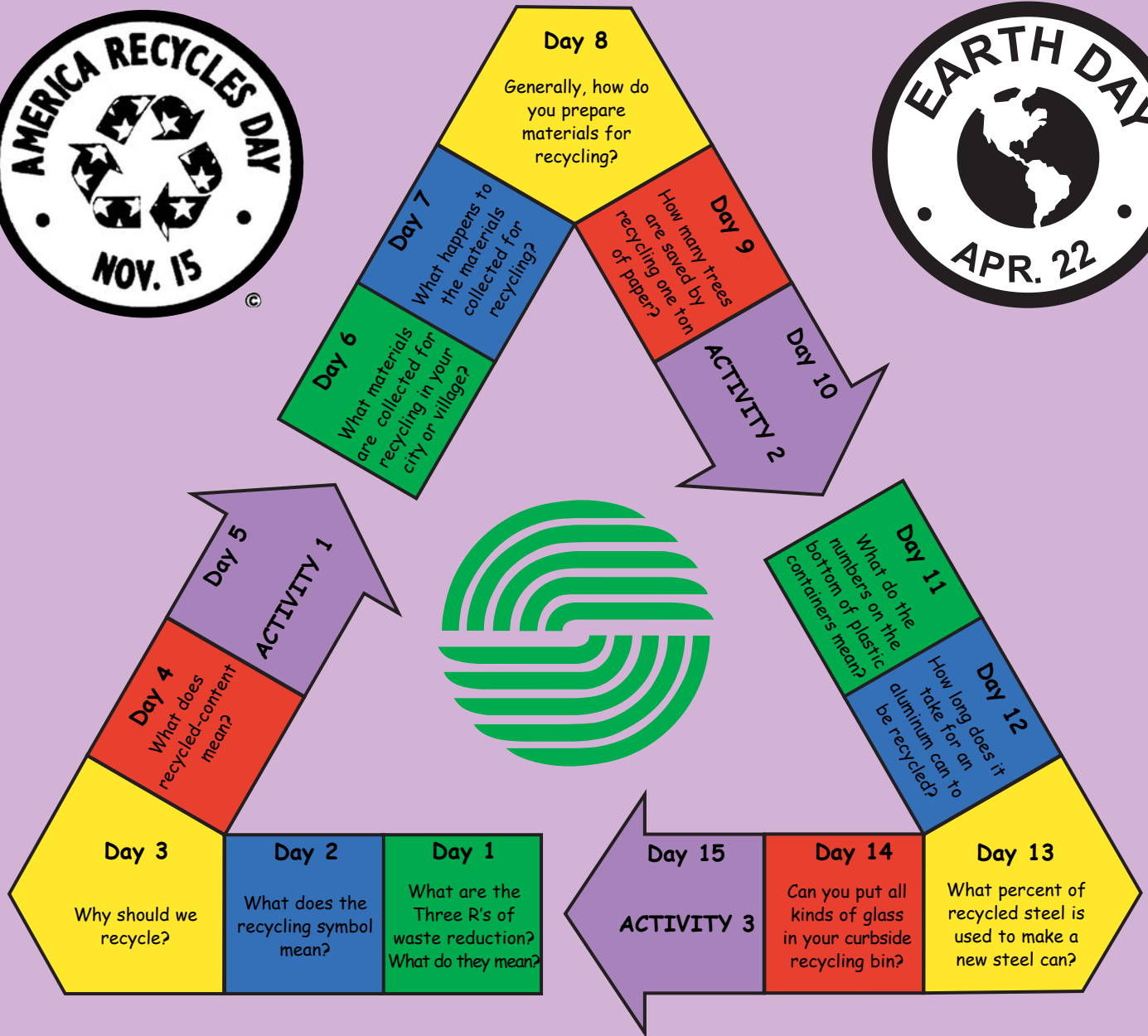


Recycling Facts Game



Printed on Recycled Paper



ACTIVITY 1

Look for products when you are out shopping at the grocery store/general store (or in the pantry at home) that have been made from recycled paper. List the product, its brand name and the name of the store where you saw or purchased it.

ACTIVITY 2

Look for school supplies, such as pencils, pens, book covers, folders and paper that have been made with recycled-content materials. List the items, their brand names and the name of the store where you saw or purchased the items.

ACTIVITY 3

Access the following web sites to learn about aluminum, glass, paper, plastic and steel. Record three facts for each material on the sheet provided.

Aluminum: www.cancentral.com
(Can Manufacturers Institute)

Glass: www.gpi.org
(Glass Packaging Institute)

Paper: www.afandpa.org
(American Forest & Paper Association)

Plastic: www.plastics.org
(American Plastics Council)

Steel: www.recycle-steel.org
(Steel Recycling Institute)

BONUS CHALLENGE

Write a letter to a manufacturer and encourage them to use less packaging in their products. Be specific about their current method of over-packaging.

Write a letter to a manufacturer that doesn't over-package their products or that uses recycled-content materials in their products and congratulate them for their environmental efforts.



Provided by the

Solid Waste Agency of Northern Cook County

www.swancc.org

A Note to Educators: The Solid Waste Agency of Northern Cook County (SWANCC) designed this educational game to be used as an activity for America Recycles Day, which is observed each year on November 15, but can be used for Earth Day, which is observed each year on April 22, **or any time during the school year.**

How to Play: Post the game card in an area of the classroom where students will be able to see it. Each morning, take a minute to read the daily recycling question. Have a brief discussion based on the students' answers. Then read the answer provided by SWANCC. At the end of each week there is a suggestion for an activity. A sheet is provided to record the students' research. Review the newly found information on the following Monday as an entire classroom or in smaller groups as time allows.

Bonus Challenge: This activity suggests that the entire class compose a letter and send it to a manufacturer encouraging them to cut down on the amount of packaging they use in their product, or write a letter complimenting a manufacturer for not over-packaging their product or for using recycled-content materials in their product. Some research is necessary for this activity.

Tips:

- Highlight each game day to mark progress.
- Rewrite the daily question on the chalkboard or white erase board and include the answer. Leave it up for the entire day.
- Make a book for the school's library with the questions and answers provided by SWANCC. Add colorful illustrations.
- Learn how to reuse and recycle items that can't be put in your curbside bin (such as hangers, packaging peanuts, motor oil, paint, batteries, etc.) by visiting SWANCC's website at swancc.org. Click on *Green Pages: Reuse and Recycling Directory*.

SWANCC hopes that every participant will learn something new about reducing waste and has fun learning at the same time!

Recycling Facts Game©

Provided by the Solid Waste Agency of Northern Cook County

WEEK ONE

Day 1: What are the Three R's associated with waste reduction?

Reduce – Reuse – Recycle

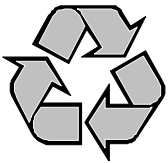
What do they mean?

Reduce means cutting down on the amount of garbage we throw away. Ways to practice reduce include using reusable dishes, cups and napkins rather than disposable ones, taking a cloth bag to the grocery store rather than using paper or plastic bags, and buying items with little or no packaging.

Reuse means to use an item again in the same way or in a different way instead of throwing it away. Gently used clothing, books, games and puzzles can be given to a family member or donated to a favorite charity and some items can be used for “Trash to Treasure” art projects.

Recycle means to collect and process materials, such as paper, glass, aluminum, steel/tin and plastics, into new and sometimes different products.

Day 2: What does the recycling symbol mean?



1. The meaning of the first arrow going up is to collect materials for recycling.
2. The meaning of the second arrow at the top is when the materials go to the recycling center to be sorted and then are reprocessed.
3. The meaning of the third arrow coming down is when new products have been made from the recycled materials.

In order to keep the cycle of recycling going, it is important to purchase items made from recycled materials. Some say that you're not truly recycling unless you buy recycled-content products.

Day 3: Why should we recycle?

Recycling saves natural resources (both renewable and nonrenewable), energy and water, creates jobs and keeps landfills from filling up too quickly.

Day 4: What does recycled-content mean?

Recycled-content means that a percentage of the materials used to make a new product come from materials that were recycled.

A consumer is a person who buys and uses things. **Post-consumer recycled-content** means that a new product is made, at least in part, from a material that was recycled by consumers. Whereas, **post-industrial recycled-content** means that a new product is made, at least in part,

from a material that was recycled by an industry. An example of post-industrial recycling is using blue jean trimmings to make pencils or writing paper.

- Day 5: Activity One** – Look for products when you are shopping at a grocery or general store, or that are in your pantry at home that have been made from recycled paper. List the product, brand name and the name of the store where you saw or purchased the product. Use the Recording Sheet provided in this packet for Activities 1, 2 and 3.

WEEK TWO

- Day 6: What materials are collected for recycling in your city or village?**

Please refer to “SWANCC’s Recycling Guidelines” attachment for community-specific information.

- Day 7: What happens to the materials collected for recycling?**

Materials collected for recycling are taken to a materials recovery facility (MRF) where they are put in piles according to the material. Paper, aluminum, steel and plastics are baled. The sorted materials are sold to companies that will reprocess the materials and make them into new products.

- Day 8: Generally, how do you prepare materials for recycling?**

Remove the lid from each bottle and container, rinse out the bottle or container, flatten large plastic bottles and containers and flatten all cardboard boxes (to make more room in the recycling bin).

- Day 9: How many trees are saved each time you recycle one ton of paper?**

Approximately 17 trees are saved each time one ton of paper is recycled. It takes 20 to 25 years for a “paper” tree to mature.

- Day 10: Activity Two** – Look for school supplies, such as pencils, pens, book covers, folders and paper that have been made with recycled-content materials. List the item, brand name and the name of the store where you saw or purchased the item.

WEEK THREE

- Day 11: What do the numbers on the bottom of plastic bottles and containers mean? How many different numbers are there?**

The number on the bottom of plastic bottles or containers indicates the type of plastic polymer (resin) used to make it. There are seven different types of plastics used for packaging beverages and food products. Please refer to the attachment “Plastics by the Numbers” for more information.

- Day 12: How long does it take for aluminum cans to be recycled?**

Aluminum cans return to the store shelf in as little as 60 days. The can is collected for recycling, then melted, rolled into a sheet, made into a new can, filled with product and taken to a store. That means that a consumer could basically purchase the same recycled aluminum can from a store shelf every nine weeks, almost six times a year.

According to the Steel Recycling Institute, all steel cans made in the United States today contain about 28% recycled steel. Since the 1970's, major appliances like stoves and refrigerators contain as much as 80% recycled steel.

Day 14: Can you put all types of glass in your curbside recycling bin?

No. Only food and beverage jars and bottles (clear, green or brown) can be put in the recycling bin. Other glass like ceramic cups and plates, light bulbs, window glass, crystal, heat resistant ovenware or mirrors cannot be put in your recycling bin. Please try to reuse these items or dispose of them properly.

Day 15: Activity Three – Access the following websites to learn about aluminum, glass, paper, plastic and steel. Record three facts for each material.

Aluminum: cancentral.com

Glass: gpi.org

Paper: afandpa.org

Plastic: americanchemistry.com

Steel: recycle-steel.org

Can Manufacturers Institute

Glass Packaging Institute

American Forest & Paper Association

American Chemistry Council

Steel Recycling Institute

Bonus Challenge:

Write a letter to a manufacturer and encourage them to use less packaging in their product. Be specific about their current method of over-packaging.

Write a letter to a manufacturer that doesn't over-package their product or that uses recycled-content materials in their product and congratulate them for their environmental efforts.

SWANCC's Recycling Facts Game© Record Sheet

ACTIVITY ONE: List paper products

Product	Brand Name	Where Found
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ACTIVITY TWO: List school supplies

Product	Brand Name	Where Found
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ACTIVITY THREE: After visiting the industry websites, record three facts about each material listed:

ALUMINUM

- 1.
- 2.
- 3.

GLASS

- 1.
- 2.
- 3.

PAPER

- 1.
- 2.
- 3.



PLASTIC

- 1.
- 2.
- 3.




STEEL

- 1.
- 2.
- 3.



Plastic Packaging Resins

Resin Codes	Descriptions	Properties	Product Applications	Products Made with Recycled Content*
 <p>PET</p>	<p>Polyethylene Terephthalate (PET, PETE). PET is clear, tough, and has good gas and moisture barrier properties. This resin is commonly used in beverage bottles and many injection-molded consumer product containers. Cleaned, recycled PET flakes and pellets are in great demand for spinning fiber for carpet yarns, producing fiberfill and geotextiles. Nickname: Polyester.</p>	<ul style="list-style-type: none"> • Clear and optically smooth surfaces for oriented films and bottles • Excellent barrier to oxygen, water, and carbon dioxide • High impact capability and shatter resistance • Excellent resistance to most solvents • Capability for hot-filling 	<p>Plastic bottles for soft drinks, water, juice, sports drinks, beer, mouthwash, catsup and salad dressing.</p> <p>Food jars for peanut butter, jelly, jam and pickles.</p> <p>Ovenable film and microwavable food trays.</p> <p>In addition to packaging, PET's major uses are textiles, monofilament, carpet, strapping, films, and engineering moldings.</p>	<p>Fiber for carpet, fleece jackets, comforter fill, and tote bags.</p> <p>Containers for food, beverages (bottles), and non-food items.</p> <p>Film and sheet.</p> <p>Strapping.</p>
 <p>HDPE</p>	<p>High Density Polyethylene (HDPE). HDPE is used to make many types of bottles. Unpigmented bottles are translucent, have good barrier properties and stiffness, and are well suited to packaging products with a short shelf life such as milk. Because HDPE has good chemical resistance, it is used for packaging many household and industrial chemicals such as detergents and bleach. Pigmented HDPE bottles have better stress crack resistance than unpigmented HDPE.</p>	<ul style="list-style-type: none"> • Excellent resistance to most solvents • Higher tensile strength compared to other forms of polyethylene • Relatively stiff material with useful temperature capabilities 	<p>Bottles for milk, water, juice, cosmetics, shampoo, dish and laundry detergents, and household cleaners.</p> <p>Bags for groceries and retail purchases.</p> <p>Cereal box liners.</p> <p>Reusable shipping containers.</p> <p>In addition to packaging, HDPE's major uses are in injection molding applications, extruded pipe and conduit, plastic wood composites, and wire and cable covering.</p>	<p>Bottles for non-food items, such as shampoo, conditioner, liquid laundry detergent, household cleaners, motor oil and antifreeze.</p> <p>Plastic lumber for outdoor decking, fencing and picnic tables.</p> <p>Pipe, floor tiles, buckets, crates, flower pots, garden edging, film and sheet, and recycling bins.</p>



Resin Codes	Descriptions	Properties	Product Applications	Products Made with Recycled Content*
	<p>Polyvinyl Chloride (PVC, Vinyl). In addition to its stable physical properties, PVC has good chemical resistance, weatherability, flow characteristics and stable electrical properties. The diverse slate of vinyl products can be broadly divided into rigid and flexible materials.</p>	<ul style="list-style-type: none"> • High impact strength, brilliant clarity, excellent processing performance • Resistance to grease, oil and chemicals 	<p>Rigid packaging applications include blister packs and clamshells.</p> <p>Flexible packaging uses include bags for bedding and medical, shrink wrap, deli and meat wrap and tamper resistance.</p> <p>In addition to packaging, PVC's major uses are rigid applications such as pipe, siding, window frames, fencing, decking and railing. Flexible applications include medical products such as blood bags and medical tubing, wire and cable insulation, carpet backing, and flooring.</p>	<p>Pipe, decking, fencing, paneling, gutters, carpet backing, floor tiles and mats, resilient flooring, mud flaps, cassette trays, electrical boxes, cables, traffic cones, garden hose, and mobile home skirting.</p> <p>Packaging, film and sheet, and loose-leaf binders.</p>
	<p>Low Density Polyethylene (LDPE). LDPE is used predominately in film applications due to its toughness, flexibility and relative transparency, making it popular for use in applications where heat sealing is necessary. LDPE also is used to manufacture some flexible lids and bottles as well as in wire and cable applications.</p> <p>Includes Linear Low Density Polyethylene (LLDPE).</p>	<ul style="list-style-type: none"> • Excellent resistance to acids, bases and vegetable oils • Toughness, flexibility and relative transparency (good combination of properties for packaging applications requiring heat-sealing) 	<p>Bags for dry cleaning, newspapers, bread, frozen foods, fresh produce, and household garbage.</p> <p>Shrink wrap and stretch film.</p> <p>Coatings for paper milk cartons and hot and cold beverage cups.</p> <p>Container lids.</p> <p>Toys.</p> <p>Squeezable bottles (e.g., honey and mustard).</p> <p>In addition to packaging, LDPE's major uses are in injection molding applications, adhesives and sealants, and wire and cable coverings.</p>	<p>Shipping envelopes, garbage can liners, floor tile, paneling, furniture, film and sheet, compost bins, trash cans, landscape timber, and outdoor lumber.</p>
	<p>Polypropylene (PP). PP has good chemical resistance, is strong, and has a high melting point making it good for hot-fill liquids. This resin is found in flexible and rigid packaging, fibers, and large molded parts for automotive and consumer products.</p>	<ul style="list-style-type: none"> • Excellent optical clarity in biaxially oriented films and stretch blow molded containers • Low moisture vapor transmission • Inertness toward 	<p>Containers for yogurt, margarine, takeout meals, and deli foods.</p> <p>Medicine bottles.</p> <p>Bottle caps and closures.</p> <p>Bottles for catsup and syrup.</p> <p>In addition to packaging, PP's major uses are in fibers, appliances and</p>	<p>Automobile applications, such as battery cases, signal lights, battery cables, brooms and brushes, ice scrapers, oil funnels, and bicycle racks.</p> <p>Garden rakes, storage bins, shipping pallets, sheeting, trays.</p>



Resin Codes	Descriptions	Properties	Product Applications	Products Made with Recycled Content*
		acids, alkalis and most solvents	consumer products, including durable applications such as automotive and carpeting.	
	<p>Polystyrene (PS). PS is a versatile plastic that can be rigid or foamed. General purpose polystyrene is clear, hard and brittle. It has a relatively low melting point. Typical applications include protective packaging, foodservice packaging, bottles, and food containers.</p> <p>PS is often combined with rubber to make high impact polystyrene (HIPS) which is used for packaging and durable applications requiring toughness, but not clarity.</p>	<ul style="list-style-type: none"> • Excellent moisture barrier for short shelf life products • Excellent optical clarity in general purpose form • Significant stiffness in both foamed and rigid forms. • Low density and high stiffness in foamed applications • Low thermal conductivity and excellent insulation properties in foamed form 	<p>Food service items, such as cups, plates, bowls, cutlery, hinged takeout containers (clamshells), meat and poultry trays, and rigid food containers (e.g., yogurt). These items may be made with foamed or non-foamed PS.</p> <p>Protective foam packaging for furniture, electronics and other delicate items.</p> <p>Packing peanuts, known as “loose fill.”</p> <p>Compact disc cases and aspirin bottles.</p> <p>In addition to packaging, PS’s major uses are in agricultural trays, electronic housings, cable spools, building insulation, video cassette cartridges, coat hangers, and medical products and toys.</p>	<p>Thermal insulation, thermometers, light switch plates, vents, desk trays, rulers, and license plate frames.</p> <p>Cameras or video cassette casings.</p> <p>Foamed foodservice applications, such as egg shell cartons.</p> <p>Plastic mouldings (i.e., wood replacement products).</p> <p>Expandable polystyrene (EPS) foam protective packaging.</p>
	<p>Other. Use of this code indicates that a package is made with a resin other than the six listed above, or is made of more than one resin and used in a multi-layer combination.</p>	Dependent on resin or combination of resins	<p>Three- and five-gallon reusable water bottles, some citrus juice and catsup bottles.</p> <p>Oven-baking bags, barrier layers, and custom packaging.</p>	Bottles and plastic lumber applications.

*Recycling may not be available in all areas. Check to see if plastics recycling is available in your community.

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American Chemistry Council, Plastics Division
Last Updated: March 2007



SWANCC Recycling Guidelines

Arlington Heights | Barrington | Buffalo Grove | Elk Grove Village | Evanston | Glencoe | Glenview | Hoffman Estates | Inverness | Kenilworth | Lincolnwood
Morton Grove | Mount Prospect | Niles | Palatine | Park Ridge | Prospect Heights | Rolling Meadows | Skokie | South Barrington | Wheeling | Wilmette | Winnetka

PLACE IN RECYCLING CONTAINER	 ACCEPTABLE	 NOT ACCEPTABLE
<p>PAPER</p> 	<p>Includes ads, inserts, postcards, hard cover, soft cover, miscellaneous paper, mail, envelopes, copy paper, office paper, greeting cards, paper egg cartons, milk, juice and other beverage cartons, paper tubes, wrapping paper and cereal/food boxes. Place shredded paper into paper bags. Flatten all boxes.</p>	<p>Materials should be free of plastic bags and wrappers. DO NOT include bath tissue, paper towels, photos, laminated paper, or paper coated with food, wax or foil. Remove plastic bags and plastic wrappers. DO NOT include cardboard that contains food residue or wax-coating.</p>
<p>PLASTIC</p> 	<p>Plastic containers numbered 1-5 and 7 including caps, rings, lids and labels. Take caps off of containers before placing in recycling bin.</p>	<p>Containers should be empty and free of excess liquids and food residue. DO NOT include utensils, plates, toys, plant pots, garden hoses or pools.</p>
<p>METAL</p> 	<p>Includes aluminum, tin, and steel food and spray cans, aluminum foil and foil trays. Caps, lids, pull tabs and labels may remain on the containers. Place metal lids inside cans.</p>	<p>Containers should be empty and free of excess liquids and food residue. DO NOT include fire extinguishers, propane and helium gas tanks, utensils, hangers, small appliances, batteries or auto parts.</p>
<p>GLASS</p> 	<p>Includes rinsed glass bottles and jars. Can put colors together. Please remove caps and lids. Labels do not need to be removed.</p>	<p>DO NOT include light bulbs, mirrors, bakeware, ceramics, drinking glasses, window or auto glass.</p>

What About Plastic #6?

Many recycling programs on a national level no longer include #6 PS plastic, known as polystyrene (check with your local hauler). It comes in expanded (fluffy) and rigid (clear) forms.

According to industry experts, #6 PS plastic is not easily recycled because it is mostly air, often coated with food contaminates, and can cost up to 300% more than other commodities to recycle due to its lightweight nature, lack

of competitive markets and high transportation costs. However, Abt, 1200 N Milwaukee Ave., and Dart Container Corp., 315 Evergreen Dr., in Aurora take polystyrene from homeowners. Both

companies have drop-off programs for plastic foam packaging and washed out food service items. Visit Abt at abt.com/green/ and Dart Container Corp., Inc. at dartcontainer.com for details.



Plastic bags and wrappers should be stuffed into one bag and tied closed. Recycle them at your nearest participating grocery or retail store.

RECYCLE PLASTIC BAGS

Items on the NOT ACCEPTABLE list may contaminate an entire load of recyclables and SHOULD NOT be placed in your recycling cart or bin.

- | | | | |
|--------------------|-----------------|---------------------|-------------|
| NO auto parts | NO combustibles | NO holiday lights | NO toys |
| NO batteries | NO foam | NO needles/syringes | NO utensils |
| NO clothes hangers | NO food/garbage | NO paint cans | NO wires |

NO Household Chemical Waste. Visit swancc.org for information on proper disposal.

Writing a letter is a good way to communicate your concerns about the environment to other people, as well as to encourage leaders in government or business to stay on the right path and recognize their positive efforts.

Tips:

1. Make your letter simple and direct.
2. Focus on one problem.
3. Organize what you want to say. First, explain why you are writing and what your concern is. Then, express your opinion and offer some suggestions about how the problem might be solved.
4. Type or use your best handwriting so your letter will be neat and easy to read.
5. Before mailing your letter, check it for spelling, punctuation or other errors, and correct any you find.
6. Sign your name and include your address so that the person to whom you are writing can respond.

Write a letter to the officers of a company congratulating them on practical, sensible packaging. Let them know that you appreciate what they are doing to help conserve resources.

Write a letter to official of your local, state or national government explaining your concerns about the environment. In your letter, ask them what they are currently doing about a specific problem. Find out what legislation is pending on this issue. Share any information you receive with others.

Write a letter to the editor of your local newspaper expressing your feeling and opinions about air pollution, deforestation, endangered animals, oil spills, water pollution or some other environmental problem. In your letter, describe what steps community leaders might take toward solving this problem.

Write a letter to the officers of a company that are not doing its share to help conserve resources. Let them know how you feel. Challenge them to make their manufacturing or packaging processes more earth-friendly.

President (name)
The White House
1600 Pennsylvania Avenue
Washington, DC 20500

The Honorable (senator's name)
U.S. Senate
Washington, DC 20510
durbin.senate.gov
burris.senate.gov

The Honorable (name)
U.S. House of Representatives
Washington, DC 20515
house.gov

This information is taken from *Earth Book for Kids*.

Setting up a letter:

Month, Date, Year	_____ , 2010
Name, Title	_____ , _____
Organization or Company if applicable	_____
Address	_____
City, State, Zip Code	_____ , _____ _____
Greeting:	Dear _____:
Body of letter	_____ _____ _____ _____
Closing,	Sincerely,
Signature	_____

Setting up an envelope:

Your Name	stamp
Address	
City, State, Zip Code	
	Name (person you are writing), Title
	Organization or Company
	Address
	City, State, Zip Code