

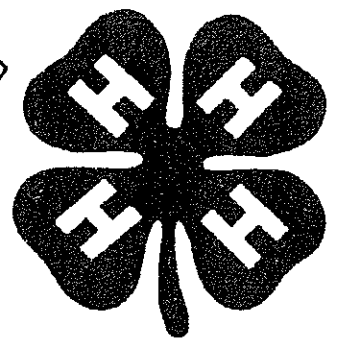
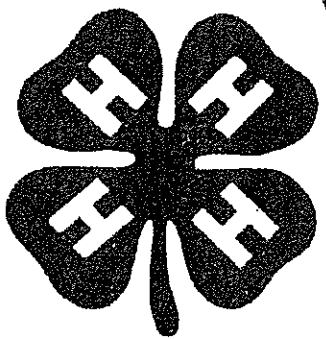
RECYCLING

Vermillion County 4-H



TWEETY SAYS

**WE DUCE
WE USE
WE CYCLE**



Level D

WHAT TO EXHIBIT:

Exhibit one of the following along with your Recycling Record Sheet:

1. Take an object and remake it into something useful or decorative. (Other than what it was originally used for.)

Attach to your exhibit:

- *name of project created
- *item(s) that were recycled

2. An exhibit, poster or display on one of the activities included in your manual. Be sure to include an explanation and results of experiments and activities.

3. Encourage your club to "Adopt A Highway" and each member 12 years old and older who participates in all scheduled trash clean-ups AND turns in a completed record sheet will receive credit for completing the Recycling project. Your leader will contact the Extension Office for this option.

Check around your house for items that are about to be discarded. They might include, but are not limited to:

newspapers	magazines
egg cartons	aluminum foil
cardboard	fabrics
old clothing	buttons
foam meat trays	plastic bottles
string	coffee cans
grocery sacks	tin cans
puzzle pieces	crayons

Ask yourself, "What can I make out of this?" Be creative and the world will be a better place. Americans today have a keen sense of environmental issues. This 4-H project is designed to make you more aware of how things we

might throw away daily could be turned into useful or decorative items for your personal use or home use.

In the 4-H Recycling project, you'll learn to redefine waste by finding alternative uses for items. Recycling projects can be thought of as either OLD RECYCLING or MODERN DAY RECYCLING. Examples might include:

- *quilts from old clothing
- *rag rugs
- *feed sack dish towels
- *clothing out of curtains
- *curtains out of old sheets
- *milk crate shelving
- *metal art
- *barn siding picture frames
- *2-liter bottle bird feeders
- *candleholders from jars, etc.
- *toilet paper holder from coffee can
- *give old jeans new life by making:
 - decoration
 - blanket -purse, etc.
- *shadow box from medicine cabinet
- *wind chimes from silverware, etc.

BE CREATIVE!!! Exhibits will be judged based on originality, creativity, and neatness.

Your parents and grandparents have probably heard the saying:

"USE IT UP, WEAR IT OUT, MAKE IT DO OR DO WITHOUT."

When items are thrown away, are they really used up and worn out? You can probably find a way to give it new life!

RECYCLING

Recycling. It's been in the news a lot. We've been told that it is the responsible thing to do, but why is it?

Recycling conserves natural resources, saves energy, and reduces the amount of trash going to landfills. Conserving our natural resources doesn't mean not using them, it means using them wisely and sparingly. Recycling involves collecting reusable materials that have been thrown away, processing, and distributing them for reuse. In most cases, it takes less energy to prepare materials for reuse than to produce new items. Natural resources, such as trees, water, metal ores, and oil, are conserved through recycling. Materials made from these natural resources are recycled and used again. Almost everything can be recycled in some way. Major groupings include paper, aluminum, glass, organic materials, and plastics.

This year Americans will throw away more than 1 million tons of aluminum cans and foil, more than 4.5 million tons of office paper, almost 10 million tons of newsprint and more than 11 million individual glass bottles and jars. Virtually all this material will wind up in our already overcrowded landfills or be sent to municipal incinerators.

Unfortunately, nearly all of these materials could be recycled. Not only does recycling dramatically reduce the amount of solid waste we dispose of annually, it cuts down on the environmental damage caused by the mining, logging and manufacturing operations necessary to make these items from virgin materials.

The United States lags behind other industrialized nations.

The United States lags behind many other countries in encouraging recycling. *TIME* magazine estimates that only 10% of American solid waste is recycled. This compares with 30% in Western Europe and more than 50% in Japan.

In the past 20 years, the U.S. population has increased 18%, yet solid waste increased 25%. Clearly, everyone--from industries to individuals--must take steps to reduce the growing amount of solid waste we produce.

Businesses produce half our waste stream.

Surprisingly, businesses are responsible for half the waste produced in most communities. In fact, the average office worker throws away about a pound of paper each day!

Most of this waste is recyclable. Businesses can recycle office and computer paper, corrugated boxes, brown paper bags, bottles, cans, and certain manufacturing byproducts.

Such simple steps as copying on both sides of office paper, using blank back sides for note paper, and circulating one memo at a time instead of making multiple copies can significantly reduce paper consumption.

Precycling: part of environmentally conscious shopping

A sound solid waste management program begins at the source, and the source is *each one of us!* Environmentally conscious shopping can greatly reduce the amount of solid waste that needs to be recycled.

Although the word, *precycling*, is new, the concept is not. The major premise behind *precycling* is to encourage consumers to purchase goods based on their reusable/recyclable value, their impact on the environment, the amount of recycled materials they contain and the negative effects they may have on society.

Precycling practices include purchasing cloth diapers instead of the disposable ones that currently make up 2% of today's solid waste. It encourages the use of cedar for outdoor applications instead of chemically treated lumber that could have a negative impact on the environment.

Another example of *precycling* that a consumer can practice today is buying beverages in glass bottles that can be readily recycled as opposed to choosing a container for which there is no recycling outlet. Similarly, china plates and cups, drinking glasses and metal kitchen utensils are wiser choices than paper and plastic products that are used once, then discarded. Many of these items, such as styrofoam cups, raise particular environmental concerns:

- ⊗ Ozone-depleting hydrofluorocarbons are sometimes used in their manufacture.
- ⊗ They are high-volume items in landfills.
- ⊗ Polystyrene (styrofoam) is not readily recyclable in most parts of the country.



Precycling practices for businesses might include avoiding envelopes with plastic windows. Not only are these expensive but they are particularly difficult to recycle. Investing in coffee mugs for employees and visitors is a preferable option to disposable.



However, it takes more than personal recycling to make an impact on our mounting waste stream. Many retailers, particularly groceries, are replacing the traditional, recyclable brown-paper bags with plastic ones. Environmentally conscious consumers can respond to this growing trend in various ways.

At one level, shoppers can bring in a canvas bag, or return or reuse used bags. At another level, they can complain about the use of plastic bags to the manager, or demand that the grocer set up an in-house system to collect these bags for recycling. Of course, whenever possible, not accepting any bag is the wisest choice!

Recycling As A Cycle

Recycling involves more than just the collection and separation of recyclables from solid waste. The waste must be made into a usable product that can be sold. If the product cannot be sold and used, the cycle will break down and the market for the recyclable waste will disappear. If paper products are made from virgin paper instead of waste paper, the market value for used newspaper and office paper will be limited. The financial success of the paper recycler will be impaired.

Therefore, it is crucial that all consumers including citizens, government, and businesses, focus their efforts on the entire cycle--not simply the segregation and collection of recyclable.

To keep the cycle in motion, consumers need to buy products made from recyclable wastes. Large buyers such as government and businesses need to develop and encourage formal or informal procurement preferences that recognize the benefits of recycling.

Manufacturers who make products from recyclable wastes view them as a raw material. They need a steady supply of raw material that is stable in quality, price and availability. If the quality drops, their processing costs increase. Those who separate and collect recyclable waste must understand the needs and requirements of processors and manufacturers. This helps assure themselves a ready market for their materials and allows manufacturers to make and market their products more efficiently and effectively.

DID YOU KNOW? Americans throw out more than 250 million tires every year--about one tire for every person!

INDIANA WASTE MANAGEMENT REGULATIONS

Waste management, including recycling, involves many activities that have the potential for affecting public health and the environment. Waste may contain many dangerous materials that can injure workers and seriously affect neighbors. There is a possibility of fires and explosions or the release of toxic or infectious materials. The recycler must take care to recycle in an environmentally sound manner.

The Indiana Solid Waste Management Board has the responsibility for adopting regulations and overseeing their implementation to control these activities to limit any potential impact to public health and the environment.

Through its Office of Solid and Hazardous Waste, the Indiana Department of Environmental Management (IDEM) is responsible for implementing the regulations adopted by the Solid Waste Management Board.

Waste management regulations are found under Title 329 of the Indiana Administrative Code (IAC). There are two fundamentally different rules to manage solid waste. The first rule addresses all solid waste in Indiana except hazardous waste. This rule, referred to as the Indiana Solid Waste Rule, is unique to Indiana and does not have a federal counterpart. It is generally more protective of the environment than federal proposals.

The second rule addresses hazardous waste. This rule is based on the U.S. Environmental Protection Agency's (EPA) regulations.

Both rules affect recycling in Indiana. The first step in understanding this impact is to understand the hazardous waste rule.



DID YOU KNOW? The Mobro garbage barge from Islip, NY, was turned away from 11 states and 5 countries.

THE HAZARDOUS WASTE RULE

The hazardous waste rule establishes specific standards for a generator of hazardous waste based on the amount generated. Subject to limited exceptions, generators that generate less than 220 lbs. of waste per month that may meet the definition of hazardous waste are conditionally exempt from the rules. The solid waste they generate is by definition not hazardous waste. The waste may be legally disposed of as municipal solid waste, despite being hazardous. Residential hazardous waste generators are similarly exempt. This exempt waste is referred to as "household hazardous waste."

Recyclers must be careful not to accept any hazardous waste and must be aware of the definition of hazardous waste. They must get advice immediately when confronted with the prospects of generating hazardous waste or obtain a permit to manage it.

Hazardous waste is defined by an intricate two-step process. First, the material must be solid waste: solids, liquids, or contained gases. Second, the solid waste must be considered "hazardous."

Hazardous wastes are identified through specific listings in the regulations, or if they meet any of the following criteria:

- ✖Ignitability: Generally addresses liquids that can burn at temperatures of 140 degrees F. or less.
- ✖Corrosivity: Generally refers to aqueous acids with a pH of 12.5 or greater.
- ✖Reactivity: Addresses wastes that react violently with water, are unstable or explosive, or contain cyanide or sulfide under certain conditions.
- ✖Extractive procedure (EP) toxicity: A test that evaluates the potential of a waste to release specific contaminants into the leachate typically found in a municipal landfill.

DID YOU KNOW? Every day, American families produce an estimated 4 million pounds of household hazardous waste.



SOLID WASTE RULE

Solid Waste is a term used to represent all the garbage created by households, commercial sites (like restaurants, stores, offices, etc.) and institutions (like schools, museums, public parks, etc.). Solid waste also includes things like packaging and office paper waste from small to mid-sized factories which are known as "light industrial sites." The United States currently generates more solid waste per capita than any other nation in the world. Each day we produce more than 400,000 tons of residential solid waste--about 150 million tons per year.

If a solid waste is not a hazardous waste, then it is regulated under the Indiana Solid Waste Rule. Under this rule, anyone who disposes of solid waste in or on the land must receive a Solid Waste Disposal permit. Anyone who conducts a listed processing activity must obtain a Solid Waste Processing permit.

Recyclers should presume they need a processing permit unless the recycling falls into any of the following exemptions:

- ✘ Solid waste that consists of uncontaminated, untreated natural growth waste, such as leaves, brush, and grass trimmings.
- ✘ Solid waste that consists of uncontaminated rocks, bricks, concrete, road demolition waste, and dirt (but probably not asphalt)
- ✘ Solid waste, except for tires, that has been segregated from the general solid waste stream prior to arrival at the facility.
- ✘ Legitimate use of iron and slag, as well as certain foundry sands and other materials.

The final issue under the Indiana Solid Waste Rule that may have a significant impact on a recycler is IDEM's special waste program. This program addresses wastes that may have the potential for causing problems during waste management but do not meet the legal definition of hazardous waste.

While the EPA's definition of solid waste focuses on the hazards of the waste, IDEM's special waste program focuses on the source of the waste. Generally, any waste from a pollution control operation, an incinerator, or an industrial process is a special waste. In addition, any asbestos-containing materials, and most contaminated or recalled products are special wastes. The recycler should seek advice when managing wastes that may be special wastes.

DID YOU KNOW? Ben and Jerry's ice cream recycles over 100,000 five-gallon #2 (HDPE) containers every year!

SPECIAL WASTES

When people think about recycling, they usually think about such conventional materials as aluminum, steel, glass, and paper. However, there are other materials, usually called "special wastes," that can be recycled as well. These include motor oil, tires, spent solvents and auto and household batteries.

Few recycling centers are equipped to handle such special wastes; most are collected by specialty firms who pick up these materials at auto and truck service centers and industrial sites.

MOTOR OIL

About 67 gallons of crude oil are needed to produce one gallon of refined oil. By comparison, two gallons of used motor oil can produce one gallon of re-refined oil.

Approximately 1.2 billion gallons of used oil are generated annually--the equivalent of 78,000 barrels a day. About 33% is dumped--usually by do-it-yourself oil changers.



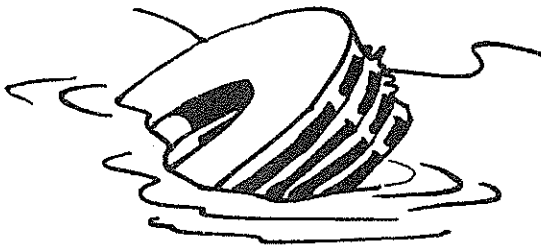
One quart of oil can contaminate 250,000 gallons of water--more water than 30 people can drink in their lifetimes. For this reason Indiana prohibits the use of used oil as a dust suppressant on roadways.

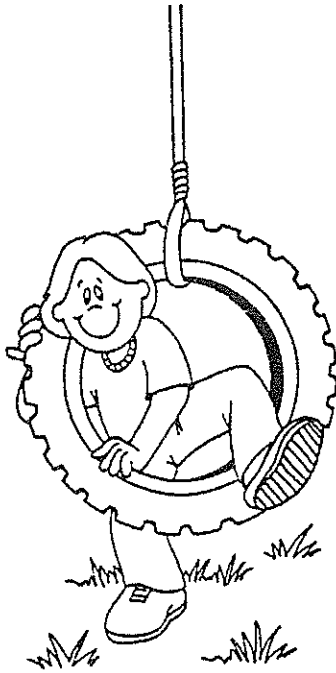
Oil is a non-renewable resource which never wears out--it just gets dirty. Yet only 5% of our annual consumption is refined. Most used oil is reprocessed with water, its particulates are removed, then it is burned as fuel.

Used oil is used to fuel asphalt plants and cement and lime kilns. Other uses for used oil are as a fuel for commercial space heaters and a lightener for the bunker fuel used on large ships. Without used oil, bunker fuel will not flow properly in cold weather.

SCRAP TIRES

Despite their recyclability, relatively few old tires are recycled. At present only 4% of American tires are recycled, and an estimated one billion are stockpiled across the country, according to Keep America Beautiful, Inc.





Abandoned tires are particularly difficult to dispose of. Some states ban them from landfills because they cannot be compacted and frequently rise to the surface.

Compounding the problem are the dangers abandoned tires pose to health and their potential for contaminating ground and surface water. Because they catch water and provide shade, old tires provide an ideal habitat for mosquitos. Should a stockpile of tires ignite, the fire is particularly difficult to extinguish, pollutes the air with thick, arid smoke, and the rubber changes into an oil-like liquid that can contaminate surface and ground water.

Both conventional and steel-belted tires can be recycled, although the latter requires special processing. Conventional tires can be recycled through the following means:

- ⊗ **Retreading:** This process bonds a new tread onto a worn tire. If the bead is straight and the sidewall is free of punctures or obvious physical damage, the tire can be retreaded. The process is frequently done on truck, off-road vehicle and farm tires, usually because the cost of the replacements is so high. About 600 million pounds of tread rubber is used by the retread tire industry annually.
- ⊗ **Reclaimed Rubber:** About 10 million tires are ground, shredded and pulverized each year, then formed into sheet rubber. This material is sold in bales to producers of molded materials and semi-pneumatic tires.
- ⊗ **Crumb Rubber:** Ground or shredded rubber can be added to other materials to manufacture new products. One particular result of this process--asphalt rubber--offers the greatest potential for using scrap tires in an economical, energy-efficient manner. Adding rubber to asphalt greatly enhances the material's cold-temperature characteristics. In road construction, this material serves as stress-absorbing membrane, surface treatment or inner layer. Non-highway applications include water retention liners for ponds and landfills, and as a cover for landfill areas containing semi-toxic materials. Crumb rubber is also used as a surface for playgrounds while asphalt rubber is also being tested as a roofing material.
- ⊗ **Artificial Reefs:** To reduce coastal erosion, scrap tires are being strung together with non-corrosive cable and sunk off ocean shorelines.

SPENT SOLVENTS

Such solvents as turpentine, paint thinner, perchloroethylene and methylene chloride pose a negative impact on the environment. Carelessly discarded flammable solvents have caused sewers to explode and garbage trucks to burn. Municipal wastewater treatment plants can be damaged by these materials.

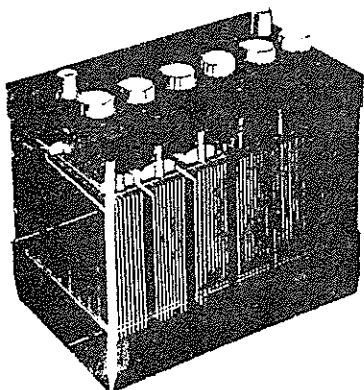
These materials are often incinerated, but whenever possible, they should be reused. Solvents can be recycled in much the same way as motor oils. To dispose of them properly, contact your local solvent distributor and arrange for a pick up or a drop-off.



LEAD-ACID BATTERIES

According to a report by the EPA, two-thirds of all lead in municipal solid waste comes from automobile batteries. This figure is relatively surprising, since lead-acid batteries have one of the highest recycling rates of all recyclable materials. An average battery available for recovery weighs 36 pounds, half of which is recoverable lead. It contains about one gallon of sulfuric acid, three pounds of polypropylene casing, about three pounds of polyvinyl chloride (PVC) separators, and another three pounds of sulfates and oxides that bind the lead.

The 1990 Indiana General Assembly adopted a law making it mandatory for a retailer to accept a used battery for every new one sold. These returned batteries must be sent to a reclamation center and disposed of in accordance to the law.



ROAD PAVEMENTS

Although beyond the scope of most recycling centers, old road pavements, such as concrete and asphalt, are commonly reprocessed into new aggregates. Common in Europe for decades, new processing technologies and equipment are making recycling a cost-efficient alternative to buying virgin materials and landfilling. Concrete is pulverized in jaw and cone crushers; asphalt is compacted to break the bond between the stones. The cost for a concrete crusher is high--nearly \$1 million for a complete system--but it can recycle up to 150 tons of concrete per hour!

APPLIANCES

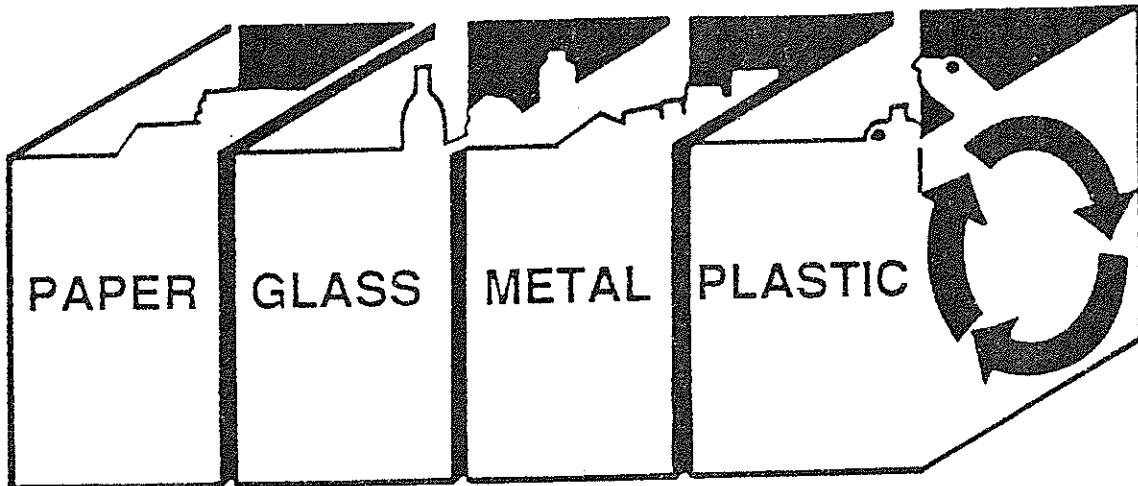
Many old appliances contain materials that are considered hazardous to the environment, including chlorofluorocarbons (CFC's), mercury, and PCB's. Some scrap dealers refuse to accept old appliances, primarily because of the liabilities in handling these materials.

BE A PART OF THE SOLUTION!

Hoosiers produce about 14 million tons of garbage a year and bury more than 90% of it in landfills. Even as we produce these massive amounts of waste, we are running out of places to bury it. Ten years ago, about 85 licensed landfills operated in Indiana. There are only approx. 45 left today. The remaining landfills are rapidly reaching capacity, and new facilities are difficult to establish due to widespread public opposition.

Many people feel that recycling is a "hassle" and not worth the time. Some believe that it is easier to simply throw the garbage away and let it be hauled to a landfill. But many of the things we throw away can be recycled, and recycling is one way to ease our dependency on landfills. If each of us recycled household generated newspaper, glass, aluminum, and plastics, we could reduce the amount of material going into landfills by up to 15%.

We can no longer afford to be a "throw-away" society. Each of us adds to the problem and each of us can contribute to the solution by setting up a recycling center conveniently located in your home. Do it today!



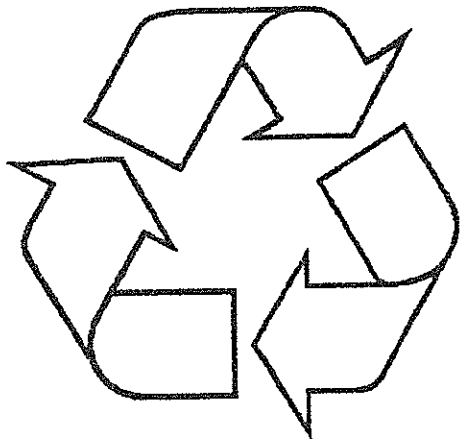
DID YOU KNOW? Virtually 100% of car batteries returned to gas stations and battery dealerships get recycled.

DID YOU KNOW? Three million cars are abandoned every year in the United States!

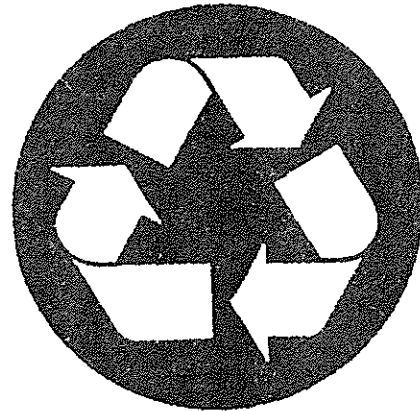
TRUE RECYCLING

To be a true recycler, you must buy recycled goods and products packaged in recycled material whenever possible.

Here are the common RECYCLING symbols to watch for:



This indicates that the product is recyclable.



This indicates that product/package is made from recycled material.

DID YOU KNOW? Half of the paper America consumes is used to wrap and decorate consumer products.

DID YOU KNOW? Putting old tires around tomato plants can help them grow faster.

LOCAL OPPORTUNITIES TO TURN IN RECYCLABLES

Who recycles what and where.....

	Goodwill Industries, Terre Haute	Indiana Recycling Center, Terre Haute	Dana: 1 st Saturday 9 - 4 PM Treatment Plant	Clinton: 2 nd Saturday 9-4 PM City Hall Pkg. Lot	Cayuga: 3 rd Saturday 9-4 PM @ Old Red Caboose	Perrysville: 4 th Saturday 9-4 PM Across from Handi-Mart
Aluminum	X	X	<i>FOR THE VERMILLION COUNTY LOCATIONS ABOVE, PLEASE CALL 765-832-6798 OR 765-832-8800 FOR CURRENT ITEMS BEING ACCEPTED BY THE VERMILLION COUNTY SOLID WASTE DISTRICT</i>			
Office Paper	X	X	<p>GOODWILL INDUSTRIES 2702 S. 3RD ST., TERRE HAUTE, IN 812-235-8511 HOURS: Sun- Noon-6 P.M., Mon-Fri- 7:30 A.M.-6 P.M., Sat- 9 A.M.-7 P.M.</p> <p>INDIANA RECYCLING CENTER--I.S.U. 447 N. 9TH ST., TERRE HAUTE, IN 812-237-8197 HOURS: 6 A.M. - 5 P.M. MONDAY-FRIDAY</p>			
Newspaper	X	X				
Glass: clear, brown, & green	X	X				
Corrugated Cardboard	X	X				
Food Cans		X				
Plastic #1	X	X				
Plastic #2	X	X				
Mixed Paper	X					
Magazines & catalogs	X					
Junk Mail	X					
Paperboard	X					
Brown grocery bags	X	X				

PREPARING YOUR RECYCLABLES.....

To make it easier on recycling centers, they appreciate your separating your recyclables before arrival. This is easily done in bags or boxes.

ALUMINUM CANS: Most common aluminum cans are Pop cans or similar containers. Be sure all of the liquid is out. Can be crushed or not.

OFFICE PAPER: This generally refers to plain white paper, not colored paper.

NEWSPAPER: Newsprint only. Slick, glossy ads should not be included in newspaper.

PLASTICS: Look for the recycling symbol and separate by the number indicated in the center.



GLASS: It is helpful to have glass separated into the 3 color categories. Glass containers should be rinsed and free from lids & neckrings. It is not necessary to remove the labels. Broken glass is not preferred.

CORRUGATED CARDBOARD: Boxes should be flattened and should not have a plastic coating.

FOOD CANS: These should be rinsed. It is helpful but not necessary to remove the labels.

SCRAP METAL: Loose or in box

PAPERBOARD: Cereal boxes are an example. Food boxes that have a clear plastic window (such as macaroni) should not be included because there are two different materials. Boxes should be flattened and bundled.

MAGAZINES/CATALOGS: Should be bundled together.

MIXED PAPER: Refers to household paper not fitting other mentioned categories.

JUNK MAIL: Have boxed/bagged together.

BROWN GROCERY BAGS: Use these to help keep your recyclables separated and then recycle them!

LEARN THE 5 R'S!

REDUCE the amount of waste we produce.

- ...buy only what you need
- ...buy "economy size" or bulk packaging
- ...avoid disposable products
- ...bring your own paper, plastic, or cloth bags to the grocery store
- ...choose boxes with gray interior (recycled paperboard)
- ...look for recycle symbol or the words "made from recycled materials" when shopping
- ...choose products packaged in recyclable materials
- ...when possible, choose product packaging that is easiest to recycle (such as glass instead of plastic)

REUSE as much as possible.

- ...use products that are made to be used many times, such as cloth diapers, cloth napkins, sponges, towels and rags, dishes, rechargeable batteries
- ...use the blank back sides of paper for scratch paper
- ...purchase used goods at second hand stores, garage sales, and flea markets to eliminate unnecessary production

REJECT over packaging and environmentally hazardous products.

- ...avoid over-packaged goods
- ...avoid non-recyclable packaging and containers
- ...choose non-aerosol spray containers
- ...avoid disposable products

REPAIR broken items instead of replacing them.

- ...mend clothes
- ...repair broken appliances
- ...make repairs promptly, before damage progresses
- ...service vehicles regularly to keep in good condition



RECYCLE the products that are recyclable.

- ...identify the recycling centers in your community
- ...identify the garages and service stations in your area that will accept and recycle used motor oil
- ...identify local businesses (doctors, dentists, nursing homes, day cares) which accept used magazines
- ...donate used clothing, furniture, etc. to thrift shops
- ...have a neighborhood/family garage sale annually to recycle unwanted items
- ...trade in old appliances and vehicles when possible

SOURCE REDUCTION ALTERNATIVES AROUND THE HOME

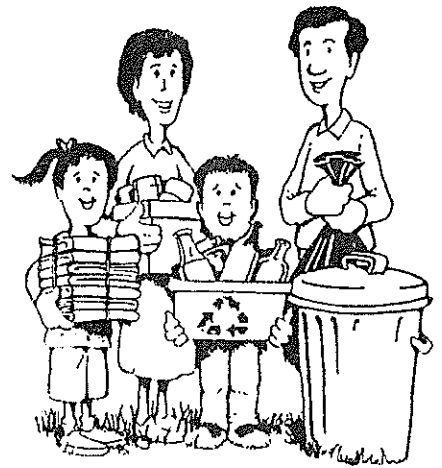
Many people look for ways to reduce the amount and toxicity of waste around the house. This can be done, in some cases, by using alternative methods or products without hazardous constituents to accomplish a certain task. Here are a few ideas to get you started.....

Commercial Product	Substitution
Drain Cleaner	Use a plunger or plumber's snake
Glass Cleaner	Mix 1 tablespoon of vinegar or lemon juice in 1 quart of water. Spray on and use newspaper to wipe dry.
Toilet Bowl Cleaner	Use a toilet brush and baking soda or vinegar. (This will clean but not disinfect.)
Furniture Polish	Mix 1 teaspoon of lemon juice in 1 pint of mineral or vegetable oil and wipe furniture.
Rug Deodorizer	Deodorize dry carpet by sprinkling liberally with baking soda. Wait at least 15 minutes and vacuum. Repeat if necessary.
Silver Polish	Boil 2-3 inches of water in a shallow pan with 1 tsp. of salt, 1 tsp. of baking soda, and a sheet of aluminum foil. Totally submerge silver and boil for 2-3 more minutes. Wipe away tarnish. Repeat if necessary. (Do not use this method on antique silver knives. The blade will separate from the handle. Another alternative is to use nonabrasive toothpaste.
Plant Sprays	Wipe leaves with mild soap and water; rinse.
Mothballs	Use cedar chips, lavender flowers, rosemary, mint, or white peppercorns.
Flea and tick products	Put brewer's yeast or garlic in your pet's food; sprinkle fennel, rue, rosemary, or eucalyptus seeds or leaves around animal sleeping areas.

Although the suggested mixtures have less hazardous ingredients than many commercial cleaners and pesticides, they should be used and stored with similar caution. Please follow these guidelines for any household cleaner or pesticide:

- *DO NOT mix anything with a commercial cleaning agent.
- *If you do store a homemade mixture, make sure it is properly labelled and do not store it in a container that could be mistaken for a food or beverage.
- *When preparing alternatives, mix only what is needed for the job at hand and mix them in clean, reusable containers. This avoids waste and the need to store any cleaning mixture.

GET INVOLVED!!!!



Over 3000 recycling centers were started after the first Earth Day in 1970, but few of them really took off. The public became indifferent and cities were reluctant to invest in additional equipment for sorting.

Today, it's a different story. People are starting to understand the need to do something positive to help solve the garbage and resource crisis. We're ready to recycle, but often find there's no place in the community to take our bottles, cans, etc. If your town/community isn't recycling, this should help get you started.

IS IT REALLY POSSIBLE?

Definitely, and no town is too small!

*A case in point is Elloree, South Carolina, population 903. Volunteers of "Recycle Elloree" collect materials within a 20-mile radius. They have so much support that the town voted to start curbside recycling. This has saved the community \$30,000 annually (almost half of their annual garbage cost.)

*Wellesley, Massachusetts has the ultimate drop-off recycling center at the town dump. It has picnic tables, manicured lawns and people go there to spend the afternoon. About 90% of the picnickers recycle, contributing mainly newspaper, glass, cardboard, and aluminum.

HOW TO GET STARTED.....

*First, check to see what is already happening in your community. If recycling is happening on a small level, can it be expanded?

*Contact the Indiana Recycling Coalition at (317) 283-6226. They can offer helpful advice (i.e. finding large bins, haulers, etc.)

*Team up with the Vermillion County Solid Waste District (765) 492-5014.

Together, a comprehensive Recycling program can become more effective.

WHERE TO PUT THE CENTER?

You'll need to find a place to collect and store the recyclables.

*An important factor: A convenient location that is easily accessible to cars and trucks. Ask a centrally-located civic organization, church, school, or store if you can set up in their parking lot. Or find a vacant lot on public property and ask city hall if you can use it temporarily.

WHO IS GOING TO RUN THE COLLECTION CENTER?

*Volunteers are ideal. The community will see that people care and others will want to get involved. When you first start, open the center part time. Weekends are the best time for most people to drop stuff off.

HOW DO WE RUN A RECYCLING CENTER?

*Volunteers check the bins to make sure the right materials are in the right bins. Ideally, one person should do this consistently; he or she can also prevent people from dumping non-recyclables.

*Post easy-to-read instructions for people to follow. Make sure the bins are clearly marked. This will make the job easier.

HOW DO WE LET EVERYONE KNOW ABOUT IT?

Give yourselves some time to publicize the center and it's necessity. Educating people is a key factor in the success of the drop-off site.

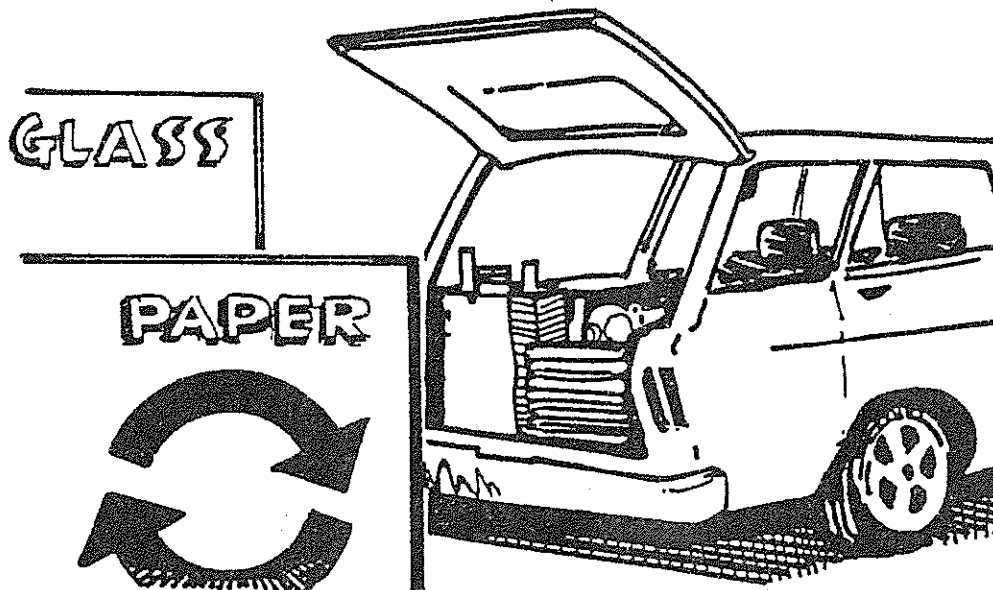
*Recycling is news...especially in a rural community. Ask local newspapers and radio stations to mention the campaign. Have flyers printed listing days and hours the center will be open. Distribute and post them around town.

HELPFUL HINTS:

Get your 4-H Club involved! This would be a great community service project that will make an impact and difference on the future!

Sell your club members on the idea and start at the program in an organized effort. Gain the support of key leaders and the Vermillion County Solid Waste District.

Recycling is happening on a limited basis in Vermillion County, but with the help and energy of you and your club, this service can expand and grow!



BUILDING A LANDFILL

In this activity you will learn the important parts and functions of a modern landfill while making an edible product! (This would be a great club demonstration!) To make this model for exhibit, see the substitution suggestions listed at the end for several of the perishable ingredients.

Ingredients:	Represents:
1 chocolate pie crust	Clay Liner
1 c. graham cracker crumbs	Sand and Gravel Liners
1 c. prepared instant chocolate pudding	Soil
1 c. prepared instant vanilla pudding	Garbage
1/2 c. chocolate chips	Garbage
1/2 c. peanuts	Garbage
1/2 c. raisins	Garbage
2 ozs. red licorice whips or laces	Leachate Collection Tubes
Coconut dyed with green food coloring	Grass

Assemble all of the ingredients on a table. You are now ready to build a model landfill using ingredients from the kitchen. A model is a representation of a real thing usually made with different materials on a smaller scale. These ingredients represent the different parts of a landfill.

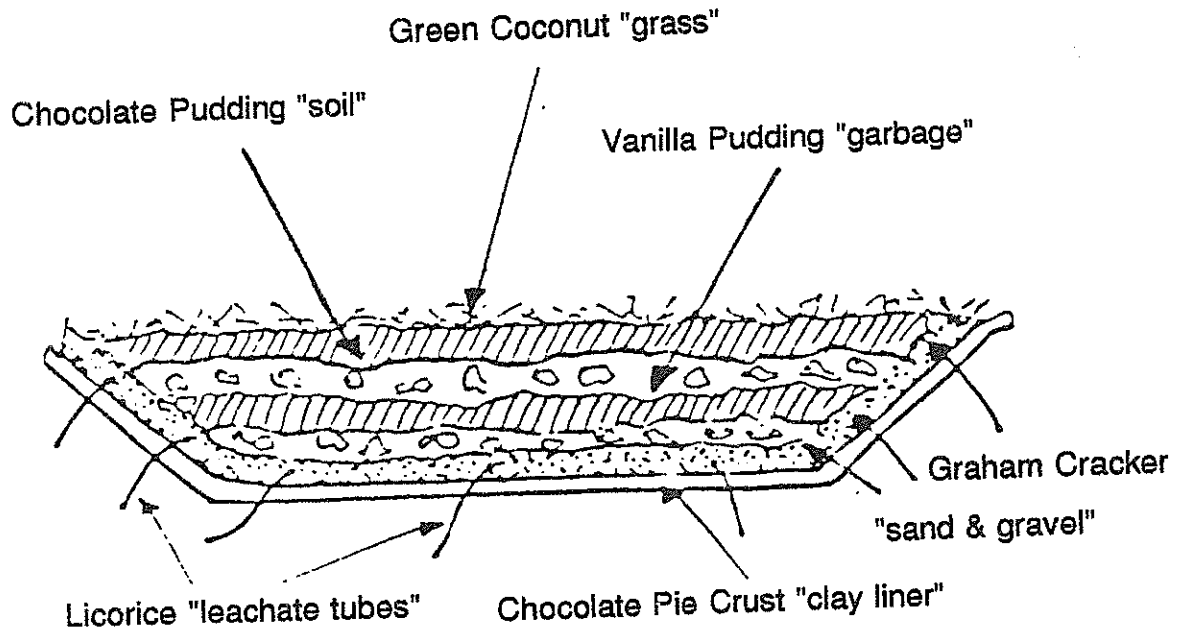
Questions to consider:

1. List some examples of trash in the following categories :
 - A. Household Garbage
 - B. Yard Waste
 - C. Construction Waste
 - D. Industrial Waste
2. Why is solid waste disposal a problem in Indiana as well as other states?
3. What are some solutions to the solid waste problem?
4. What happens to the trash that can't be reduced, reused, recycled, or composted?

Directions for building a Safe and Tasty Landfill:

1. Start with the chocolate pie crust. It represents the clay liner at the bottom of landfills. The clay is used to keep leaching liquids from percolating down rapidly into the water.
2. Lay the red licorice whips across the bottom and sides of the pie crust. The licorice represents the lines or tubes that collect the leachate and carry it to a water treatment plant.
3. Press graham cracker crumbs around and over the licorice "pipes." This represents the sand and gravel layer that lets the leachate flow into the licorice "pipes."
4. Stir the raisins, chocolate chips, and peanuts into the vanilla pudding in a bowl. This white mixture represents the garbage that goes into landfills. Spread a thin layer of the "garbage" mixture in the bottom of the pie.
5. Every day, landfill operators cover the garbage with a layer of soil. Spread a thin layer of chocolate pudding "soil" over the vanilla garbage layer.
6. Spread another layer of vanilla topped with chocolate "soil". Finish layering with the chocolate layer.
7. Top the whole pie with coconut "grass" to represent a landfill that has been revegetated.
8. Now the safe and tasty landfill is ready to eat!

CUT-AWAY VIEW OF A SAFE AND TASTY LANDFILL:



MAKING A MINI LANDFILL

Products that end up as waste are made from a variety of natural resources. Because of differences in composition and biodegradability, much of what we now throw away could be composted or recycled.

In doing this activity, ask yourself the following questions:

- What does biodegradable mean?
- What is the difference between a dump and a sanitary landfill?
- Which natural resources are renewable? Which are not? Why?
- What are four items you use every day that could be recycled?

The proper disposal method for each component of garbage should be determined by its natural resource content. There are four basic categories of solid waste:

1. Organic (food and yard waste)
2. Renewable Resource/Recyclable (Newspaper)
3. Nonrenewable Resource/Recyclable (aluminum can)
4. Nonrenewable Resource/Hard to Recycle (styrofoam cup)

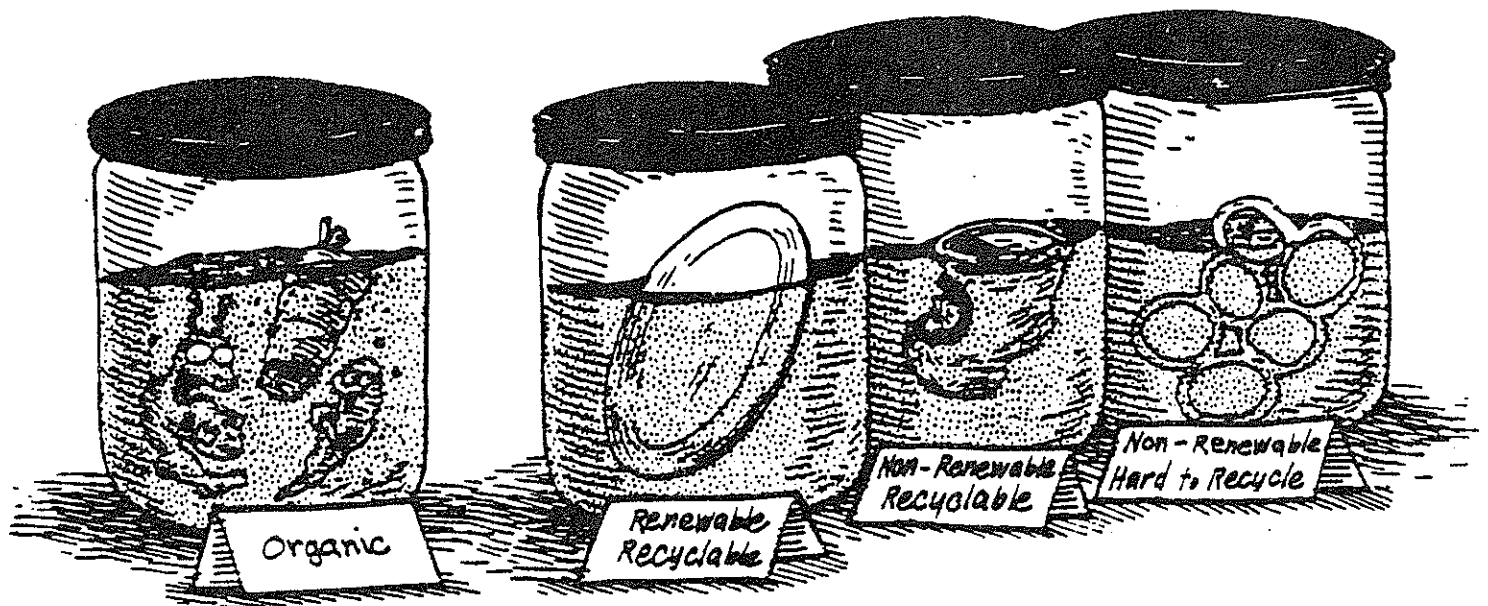
To save natural resources and to reduce solid waste, from which of these four categories would you try to buy products? Which category of products would you avoid? Taking each of the examples listed above, think of ways to avoid disposing of them in a landfill.

MATERIALS NEEDED:

- Four large, clear glass jars
- Soil (not potting soil)
- Wooden spoon
- Four sample garbage pieces (one from each of the categories listed above and below)
- Labels

DIRECTIONS:

1. Fill four glass jars with the same amount of soil.
2. Label each jar with one of the four category headings:
 - *Organic
 - *Renewable/Recyclable
 - *Nonrenewable/Recyclable
 - *Nonrenewable/Hard to recycle
3. Put a garbage sample in the corresponding jar. Cover with soil and dampen with water. Leave the lids off.
4. Observe what happens over the next 2-3 weeks. Which examples are biodegradable? Compare the mini landfill to real landfills. From your observations, what are the potential environmental problems associated with waste in landfills? (Ex.: leachate contamination of water, odor, methane gas, garbage truck traffic, litter, loss of natural resources, and energy, etc.)



As the hazards of open dumping have become better known, landfill designs and rules have changed to better protect public health and our environment.

There are several operating rules which characterize a sanitary landfill. Open burning is not allowed. Wastes are spread out, compacted and covered frequently with several inches of soil to reduce odor, control litter, insects, and rodents, and protect public health. Liners and leachate collection systems are installed to protect ground and surface water from contamination. Fencing helps to control litter and prevent illegal dumping. When the site is finally full, it must be covered with a thicker layer of soil, landscaped and provisions made for the safe escape of methane gas and continued collection of leachate and monitoring of groundwater.

If you visit a landfill, ask yourself the following questions: Can you tell it is a landfill from the road? Can you see what is happening from the road? Are there many houses nearby? What noises do you hear? What kinds of trash do you see? What is being done to the refuse? How many vehicles do you see--working there? coming and going? Where does the leachate go? Is it collected? Can you see or smell methane gas coming from the landfill?

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Solid Waste Activity Packet for Teachers. Illinois Department of Energy and Natural Resources and University of Illinois Cooperative Extension Service. 1991.

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RECYCLING INTERNET SITES TO CHECK OUT:

Internet Consumer Recycling Guide
<http://www.obviously.com/recycle/>

Global Recycling Network
http://grn.com/grn/grn_news.htm

HandiLinks to Recycling Equipment and Services
<http://ahandyguide.com/cat/l/r/r31.htm>

Recycling and Hazardous Waste Information
<http://www.houston.tx.us/recycling/index.html>

EcoWeb
<http://ecosys.drdr.virginia.edu/EcoWeb.html>

Environmental Organization Web Directory
<http://www.webdirectory.com/Recycling/>

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