REUSE

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Reuse

Have you ever watched a television once then thrown the set away? When your vehicle needs new tires do you get rid of the whole vehicle and buy a new one? If the roof of your home leaks is it time to move? Obviously, the answer to these questions is no. It would be ludicrous to suggest these items were useless just because they had been used once or were showing signs of aging. Yet, people discard items that have potential for further use. Reuse, the second step in the waste management hierarchy, attacks this problem. From a waste management aspect the term is defined as follows:

Reuse is the repeated use of an object, for its original or for a different purpose, without the need for remanufacturing.

The benefits of practising the second "R", reuse, are a decrease in the waste stream and the conservation of natural resources. Some people will argue that neither of these benefits are real. They feel reuse only delays the production of waste and the harvesting of resources. This is not entirely true.

Utilizing an object for purposes other than those the manufacturer had intended or using an item until it can no longer perform, decreases waste. Granted, once a product is truly useless it must be processed by another stage of the waste management hierarchy, however in employing the item over and over unnecessary waste is diminished. If a person reused a dozen food containers, the plastic tubs could be kept out of the waste stream for years! Instead of throw-

Secondary Uses

Before tossing any item into the garbage, stop and think for a moment. Consider why you are discarding the object. Is it truly useless or are you throwing it away because it no longer is serving the use the item's manufacturer had intended? A lot of the material entering the waste stream does so because people let other individuals dictate when a container, for example, is no longer useful. There is a method of counteracting these influences; it is a person's practicality and creativity.

Believe it or not, the human brain is the smartest machine on Earth. It has put men on the moon, cured diseases and even invented a television that allows the owner to watch four programmes at once. This same brain has the ability to come up with an almost unlimited number of practical and creative secondary uses for objects considered to be trash. The only restrictions are a person's imagination and safety considerations (hazardous material containers should not be used to store food). Reusing products does not simply save landfill space but, conserves resources by substituting the need to buy new goods.

The examples provided below are simply to start a person's brain thinking in both a practical and creative manner.

- Glass jars and plastic containers can be used to store preserves, bulk food or pre-cooked meals.
- Baby food containers can hold nuts and bolts, buttons or other small household or workshop articles.
- Shopping bags make excellent kitchen-sized garbage bags or can help keep stored items dry or dust-free.
- Cardboard boxes can hold large, rarely used or oddly shaped objects.
- Keep empty gift boxes to hold other presents; piling one inside another saves space and keeps the boxes from getting crushed.
- Buy motor oil in bulk so the container can be used to transport the dirty oil for recycling.
- Milk cartons, scrap paper, rags and almost any clean safe garbage (not broken glass or steel, etc.) can be used for crafts and hobbies, especially for children.
- Old tires can be adapted to make swings, ladders, hurdles, tunnels or other playground equipment.
- The ultimate in secondary use would be to construct a tree fort, dog house, shed or even an entire home out of reused material.

Secondary uses is really a form of exercise for the mind. A person's imagination is given a workout while helping the individual's conscience feel good too.

Repair

Once upon a time, long ago, in a land not far away, an entire race of people practiced a strange act. What act might that be? The people repaired goods and products that were worn or damaged. This may sound far fetched but we humans actually fixed things that were broken. Televisions, radios, shoes, clothes, bicycles, appliances and almost any other items imaginable were reused. Some evidence of this once common practice can still be seen today but this trend is on the decline. Why did we stop mending our possessions?

Modern manufacturing methods, technological innovations and a consumption driven society are to blame. Assembly lines are designed to produce whole units, such as washing machines, not segments or individual parts. Businesses want to sell a complete product; there is more profit to be made when the customer "buys new". Millions of dollars are spent to get the public to buy the companies' products. Spare parts mean an assembly line or other manufacturing process is operating below full capacity. This is not profitable for the company. Storing and maintaining a replacement part inventory is the highest expense encountered by a business. As a result, the number and availability of most pieces or modules are low, while the price of the parts are high; this ensures the selling of the parts to be profitable. In most cases, to buy a piece for repair is several times the cost of putting the same component on during initial assembly.

Ever increasing technological advances allow products to function more efficiently, be increasingly compact and provide a wider range of features. Microchips, circuitry, "*black boxes*" and other electronic components are largely responsible for the above mentioned changes . Unfortunately, when one of these pieces fails, repair becomes impossible. Some, like the black boxes, are sealed units designed specifically to perform at a constant rate without any problems. Once a component of this type is damaged, it must be replaced and this can be expensive. Circuitry, or circuit boards, contain hundreds of tiny pieces. Testing each piece requires so much time and labour costs, that replacing the entire circuit is cheaper.

In order to make an item more compact, the internals of the item must be small and densely packed. Cramming pieces on top of one another makes locating, extracting or fixing parts difficult. In general, small components are hard to mend or costly to replace. As the number of features a product has increases, so does the number of parts with the potential to fail; options also complicate repairs. The best illustration of how the aforementioned changes have affected individuals, are automobiles. People used to be able to maintain and repair their vehicles, themselves. Today, engines are mazes of wires run by computerized engine

Repair (cont.)

management systems, "shoe horned" into engine compartments. Something as simple as an oil change can require wheels to be removed. A spark plug change can involve moving the entire engine to gain access to cylinders.

What has happened is a generation of people, except those forced by necessity, are now afraid to attempt repairs. Some people are just too lazy to try. Others do not have the time. Still others have tried and failed. The cost of replacement parts and labour is sometimes only a few dollars less than purchasing an entire new item so people simply throw a whole product away when only one part needs replacing. Brand new goods are available almost immediately while a repair might take several weeks. We live in an age where time is equated to money and just about everyone wants whatever they need, yesterday.

The influences stated above have caused the majority of people to not repair even those goods that can be easily mended. It does not take a computer to tell you that the heel of your shoe needs replacing. There is nothing "high-tech" about a penny loafer or a high heeled shoe and the person doing the repair will not need a doctorate degree in engineering. A small sacrifice of leaving your footwear with a stranger for a few hours or maybe a couple of days will have to be made but the odds are good that you will have another pair of shoes to wear (going barefoot should not be necessary). Clothes are stitched, not cemented, together. It only takes a needle and thread to repair rips, lost buttons, broken flys or uneven hems.

Repairing a broken item does not have to be expensive. The first thing to do is decide whether or not you can fix whatever is broken; remember, a person built the item so another person can fix it. If you do not have the knowledge to do the job, go to your local library and look for a do-it-your-self book on the subject (re-upholstering a chair is not beyond the average person's capabilities). Once you have the information, check around your home to see if any of the materials needed are already there. For example, old clothes make patches for newer garments. The screen from a broken patio door is large enough to replace several damaged window screens. Doing your own repairs not only saves money but allows an individual to overcome "the fear of fixing" and changes the person's attitude towards buying instead of mending. Valuable confidence is gained enabling one to attempt other jobs.

Nonetheless, some jobs will always require professional assistance. While the price of this service might appear high there is another factor to consider. This is not measured in dollars and cents but in the strain placed upon the Earth. Any comparison between repairing or replacing should take this expense into account. From an environmental view repairing is less expensive. Fewer resources and less energy is needed in producing, packaging and shipping one part. Recycling is easier when a unit is broken down into pieces. Landfill space is also conserved.

Repair is not something to fear. It does not have to cost a lot of money and provides an opportunity to reuse a product. In some cases reusing one item can help fix another; cutting leftover wood to improve a broken composter reuses both the wood and the composter, instead of throwing them out. Not mending broken goods is another example of how Canadians became the biggest consumers of energy and producers of waste, per capita, in the world. Whether it is stripping and refinishing a piece of furniture or overhauling an engine, when we look beyond our wallets, what really is being repaired is the Earth itself.

Trade, Barter or Give Away

Stuffed under beds, into boxes, on the top shelves of closets and in other nooks and crannies are objects people no longer use. These items are everywhere, at home, at work, at school, even in the back of vehicles. Several different names have been given to this material: junk, stuff, trash. Yet, a dated or unwanted collection of goods has the potential to affect the environment, in a positive manner, and generate some income for the people wanting rid of the goods. How, you might ask? The answer is through reuse in the form of *trading*, *bartering* or giving away the "junk". Although an item may not be wanted by you it could be useful to others; one person's garbage is another person's treasure.

Trading involves exchanging an item or items for money. Garage, yard and tailgate sales are the most recognizable methods of trading. Thrift shops and second-hand stores function in much the same way, allowing individuals to purchase used items for a nominal fee. Buying and selling used goods, like cars or appliances, by private individuals is another method of trade. Normally, a person must pay to remove excess materials from a home. Garbage collection is financed through municipal taxes. Hauling your own waste means paying a tipping fee at the landfill site. By selling unwanted or unused products someone else is doing the removing and paying you for the privilege.

Bartering is an ancient tradition, involving the swapping of goods or service for other goods or services, without the exchange of money. Children dealing hockey or other collecting cards are excellent examples. Growing up does not mean the end of bartering. On the contrary, mature adults should deal with neighbours, friends, family and people with

Charities and Social Service Groups

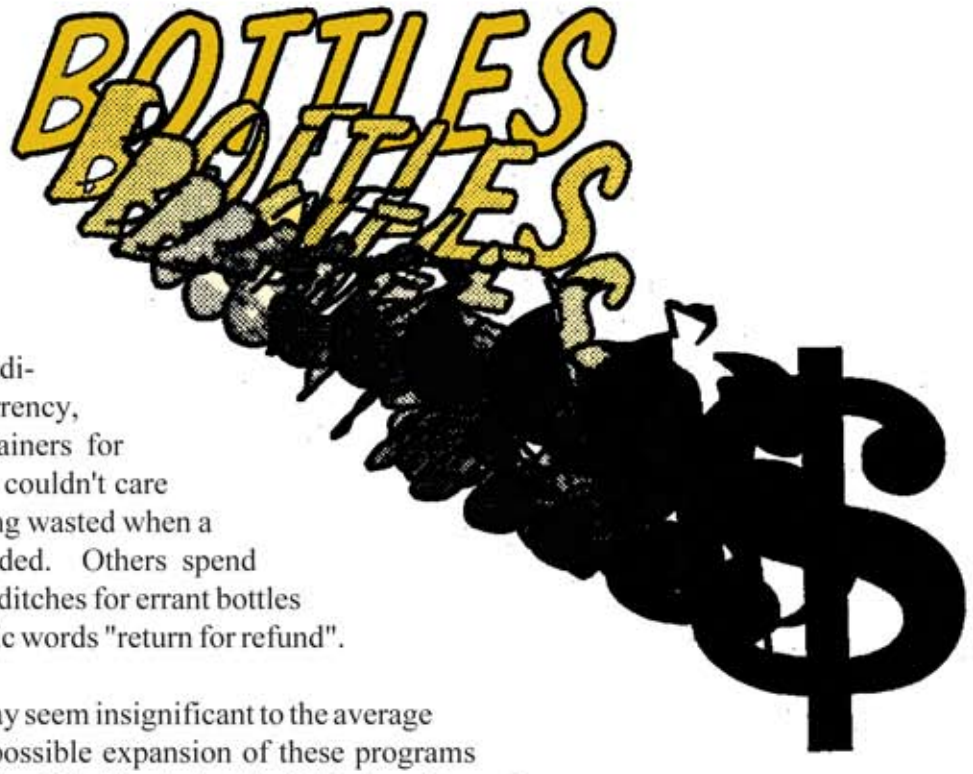
The list below is by no means complete. It merely provides some suggestions as to organizations that accept donated goods. Check with your municipal office or telephone directory to see which groups are in your area and what they do or do not accept.

- St. Vincent De Paul
- Goodwill Industries
- Salvation Army
- Imperial Order of Daughters of the Empire (I.O.D.E.)
- Other community thrift shops

- Kinsmen & Kinettes
- Rotary Club
- Odd Fellows
- Alhambra
- Kiwanis
- Optimist Clubs
- Shriners
- Lions and Lioness
- Other community service clubs

- Women's Shelters
- Family and Children's Services
- Hospitals
- Churches
- Boy's and Girl's Clubs
- Boy Scouts and Girl Guides
- Fire Departments
- Royal Canadian Legion

Deposit Systems



Right now there are people throwing their money away, all across Canada. It is being tossed out of automobiles, thrown into garbage bags and smashed to pieces. You might say a sane person would not do such a thing and more importantly a person cannot smash dollars and coins. Canadians are not discarding hard currency, but are failing to return containers for deposit refunds. Some people couldn't care less about the quarter or so being wasted when a returnable container is discarded. Others spend hours combing tall grasses and ditches for errant bottles and cans stamped with the magic words "return for refund".

The issue of deposit systems may seem insignificant to the average person but the existence and possible expansion of these programs raises many opposing views. An objective look at both the benefits and disadvantages of deposits is needed before discussing either point.

The first bonus: Refillable containers are taken away from the waste stream and kept out of landfills. Bottles, cans and plastic containers that cannot be reused are also diverted through recycling. This last point requires some clarification. By charging a fee on non-refillable items that can be recycled the chance of the items being disposed is reduced. The Becker Milk Company Limited charges a deposit on its plastic milk jugs. After empty jugs are returned and the deposits refunded the containers are ground to pellets. This material is turned into drainage pipes, watering cans and other articles, instead of lying in a landfill.

Number two in the list of benefits is closely tied to the advantage just mentioned. A *capture rate* is a ratio expressing the number of containers recovered in comparison to the total containers produced; the rate is normally given as a percentage. For example if 89 out of 100 bottles are returned 89% would be the capture rate. Whether it is for recycling or reuse, deposits help keep these rates high. This in turn leads to the third benefit, that being, the supply of either reusable or recyclable materials is kept fairly constant.

Less virgin natural resources are needed when glass bottles, aluminium cans and similar products are not simply thrown away. Income to offset the cost of running a deposit system, provide environmental education and possibly to start recycling or other programs, can be generated through partial return deposit systems and non-refunded deposits; some deposit systems create revenue.

Deposit Systems (cont.)

Most importantly, manufacturers are made responsible for their own waste. It is the contents of a container that the consumer is interested in buying, not the container itself. No longer does a person have to pay for a container, then pay again, through taxes, for the handling of the empty jug or similar item. Whether the goods are reused or disposed, the company that made the waste must pay. With the increase in tipping fees, there is a good possibility the waste might not end up buried in the ground, another bonus.

Negative aspects associated with charging deposits are as follows. Reusable containers must be cleaned and disinfected before refilling. These processes use water, as well as soap, other detergents and chemicals. The potential for polluting water does exist. Not all containers can be treated equally under deposit legislation. Containers from foreign sources, imported beer or wine for example, cannot realistically be returned to the place of origin. This is unfair for domestic companies.

Businesses producing new containers may experience a drop in sales when their products are reused. Due to the relatively low volume of these products made and used in Canada, the container manufacturers would likely go out of business. Cans, bottles and other containers would then have to be imported. Recycling companies would also suffer under increased deposit legislation. The supply of metal, glass and plastic headed for recycling would drop substantially. If, however, the government made all containers standardized then there is a chance an all encompassing deposit system might work.

Government, industry and private individuals have been at odds over the advantages of deposit systems and the extent of said systems' coverage. What underlines both pro and anti deposit arguments is money.

The problem in Ontario originated in 1976. In an attempt to reduce litter, the Waste Management Advisory Board and the Ontario government passed Regulation 687/76[1]. Part of this legislation called for deposits on soft drink containers and a ban on the non-refillable type. Ten years later the pop bottlers wanted to introduce new containers so the ban was lifted, but mandatory recycling of these containers was to take place. The percentage of refillable containers on the market dropped to the 9% low we have today. The non-refillable bottles and cans were said to be part of a goal to increase product safety and minimize waste. In reality, the soft drink companies stood to make more money.

The use of refillable containers could cost the soft drink companies up to 60 million dollars per year. In comparison, support of recycling programs has only been a 4 million dollar expense. Businesses want to make the most profit possible, so naturally, the soft drink manufacturers and their container suppliers are opposed to reuse through deposits. By participating in organizations like Ontario Multi-Material Recycling Incorporated, otherwise known as OMMRI, the manufacturers pay only a portion of waste collection and disposal costs; the buying public pays the rest! Local and provincial governments have been caught between needing OMMRI's support money, to subsidize Blue Box and other programs, and pushing for more extensive deposit legislation. Ironically, placing a deposit on all containers could lessen the need for weekly garbage or recyclable collection. In turn, the need for support money would also decrease.

Not all businesses fail to take responsibility for their waste. In Ontario, beer containers require a deposit at the time of purchase. Beer companies through The Brewers Retail Association of Ontario have put deposits

Deposit Systems (cont.)

in place voluntarily. Brewers Retail outlets collect and distribute the money from the bottles and cans. The Becker Milk Company Limited, as we have mentioned, place deposits on their milk jugs, sold in Becker's convenience stores.

Supporters of deposits see a chance to take the financial burden of collecting waste off the public and put it where it belongs, on the waste producers. Garbage and Blue Box pick-up are paid with tax money. In areas where curbside trash collection does not exist, the *tipping fee* for hauling waste to a landfill, comes directly out of a person's wallet. Some waste is the result of personal habits, yet much of the garbage produced was designed by the manufacturers. If companies producing the waste were made to be financially responsible, they might quickly become more environmentally conscious.

The final factor in deciding whether deposits should be used is economic feasibility. Large markets located in a relatively small and well serviced area would justify the use of deposits; Southwestern Ontario is a good example. The number of people and amount of containers bought in this region would make a deposit program work. Conversely, the number and density of individuals living in this country's two territories would not allow the same system to work. The extent of deposits in each of Canada's provinces and territories is illustrated on C15.

The final factor to decide whether to use deposits or not will ultimately be environmental friendliness. Both sides of the argument claim their point of view reflects the Earth's best interest. The winner will the one who can prove this to be true.

Personal Notes

Deposit Systems (cont.)

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Brewster Facts

1. Reuse is the second "R".

2. Reuse means to use something over and over again, instead of throwing it out.

3. When we reuse we make less garbage. This helps the Earth get better.

Sock & Mitten Revue

OBJECTIVE: To demonstrate the concept of reuse through visual and theatre arts.

MATERIALS: old socks or mittens, paper, cardboard box (stage), crayons, glue, scissors, pieces of material to decorate puppets and props, HANDOUTS: **Drew & The Silver Birch** (C21), **Puppet Ideas** (C25)

VOCABULARY: reuse, remanufacturing, secondary use

BACKGROUND:

Reuse is the repeated use of an item or product for its original or for a different purpose. There is no re-manufacturing involved in reuse; materials are simply used over and over again. Using an item for a purpose other than originally intended is called secondary use. Storing flour in an empty plastic margarine container illustrates secondary use. Not only is the form of reuse the most obvious method but it is also a very creative endeavour. People divert materials from their waste stream by thinking. The more creative a person is, the more items they can reuse.

PROCEDURE:

1. Explain the concept of reuse to the class. Ask the class if they can think of things that can be reused.

2. Tell the class they are about to hear a story. Read the story from the HANDOUT: **Drew and the Silver Birch** (C21) to the students.

3. After the story, inform the children they are going to reuse old socks, mittens, buttons and other items to make puppets. Divide the class into groups then assign each child, in each of the groups, a character from the story. The child's puppet is to reflect how he or she visualizes the character. Photocopies of the HANDOUT: **Puppet Ideas** (C25) could be distributed.

4. When all the puppets are complete each group is to re-enact the story using the puppets. You may wish to read the story again to the entire class before the groups perform. Also you might have the class make a puppet stage and props for the performances. For example have the students do backdrops of each of the towns with houses and people.

5. Use the story to narrate each group's performance.

Sock & Mitten Revue (cont.)

EXTENSION:

1. Have the children think of a new name for the new, cleaner, Dirtyville.

2. Make a bulletin board or showcase display for the puppets. Include other examples of items that can be or have been reused (i.e. tin cans into pencil holders, tulips made from egg cartons, etc.).

3. Invite another class to watch the groups perform **Drew and the Silver Birch.**

EVALUATION:

1. Ask the class what reuse means.

2. Ask the students what other examples for reuse Drew could have given the people of Dirtyville.

3. What are the children going to do in order to reuse at school? (i.e. write on both sides of the paper)

Drew & The Silver Birch

Drew looked at the lake of Threeare. The sun was dancing off the ripples of the lake where Drew's pebble had hit the water where she had thrown it seconds before. Drew loved her beautiful Village of Threeare but she thought, "I am bored, nothing ever happens here." Her eyes followed the sandy shore of the lake, past the huge cluster of silver birch to the horizon. She knew she wasn't supposed to go past the silver birch. Her mother had told her that she couldn't go past there because the path led to The Land of Waste and along the beach lived the scariest, ugliest monsters anyone had ever seen. The only person that Drew knew who had ever actually set eyes on the Waste Monsters was her Great-Great Grandpa TreeHugger. The story was told around the village bonfires. When Eagle Treehugger was 15 years old, he had gone down the beach, past the silver birch, into the Land of Waste to retrieve his boat that had drifted during the worst storm ever. When he returned, his once jet black hair had turned completely white and he couldn't talk for almost an hour. He told of the Waste Monsters chasing him and how he narrowly escaped being trashed.

Drew wasn't sure she really believed the story any more. That story was to scare little kids and she was almost 9. She wasn't afraid of monsters any more, well maybe just a bit, but not scared enough to stop her from walking past the silver birch. Just to see something new, and different, just to do something exciting for once.

Drew looked back toward her sparkling village. Everyone outside was busy doing their chores; sorting the waste into the appropriate places and fixing broken things. She had finished her chores really quickly, if she left now she could be back before anyone would notice she had gone. Drew decided, she was going to walk to see the horizon, after all it didn't look very far away and she began to walk toward the silver birch, reminding herself that there really weren't any monsters on the other side. At the silver birch she hesitated for a second and then continued on toward the horizon. Drew was thrilled, she was walking somewhere new. As she walked she noticed the beach was starting to look different. The farther she went the worse it got. She kept walking and wondering what made it look different, what was wrong. She spotted something glittering in the sand ahead. She ran and stooped to pick up what she thought was a "way-cool" rock. When she looked at it in her hand and turned it over she realized it wasn't a rock but a piece of junk. "Who would throw garbage on the beach," she wondered. In Threeare it was one of the Ancient Natural Codes that no

Drew & the Silver Birch (cont.)

one would litter anywhere. As she looked ahead she noticed the littering was worse the farther along she went. She couldn't stand it, it was her duty to start picking up the litter. The litter went on forever. Drew had been picking up litter and sorting it into appropriate piles for a long time. Behind her she heard a dragging and scrapping sound. She turned quickly and her jaw dropped.

Coming up to her was the scariest, ugliest monster she had ever seen. It was a creature made of dirty rotten, stinking garbage. It was a Waste Monster. Drew started to run. The Waste Monster ran after her. Drew ran further and further down the beach. She tripped over a piece of garbage and fell. She was scared stiff. Much to her surprise, the monster caught up and it asked, "Are you all right? I'm sorry, I didn't mean to scare you, I just wanted to ask you what you were doing." The monster started to help Drew to her feet. He noticed that Drew had a cut on her leg and asked her to come to the nearby village. The Dirtyville people could put a bandage on the cut for her. Drew agreed to go because she knew that she should get a bandage before trying to walk home. The Waste Monster told Drew that his name was Debris, and off they went.

Drew & the Silver Birch (cont.)

On their way to Dirtyville, which wasn't far at all beyond the beach, Drew noticed that there was garbage everywhere and the air stank. Nothing looked pretty like Threeare did. Debris took Drew into the first house they came to. Inside was a boy about the same age as her. Debris explained what had happened and the boy told Drew his name was Greig. Drew showed him her cut and Greig asked her to sit down. He walked over with a bowl of water and a cloth to clean her cut before bandaging it. Drew looked in horror at the water in the bowl, it was so brown you couldn't see through it and it smelled bad. Drew wasn't about to let him put that water on her cut so she asked for the cloth and wiped off her cut without the water, then Greig put the bandage on for her.

Drew asked Greig why was their water and land covered in garbage and smelled so bad? Greig wasn't sure, he knew that his village hadn't always looked and smelled like this because his father had told him about the beautiful village Dirtyville had once been in his Great-Great-Great Grandmother's time. Today nobody wanted to be bothered with doing anything to change Dirtyville. "I guess they forgot how to keep the village beautiful and clean," he said. Drew told Greig she could help the village. Greig ran to get the villagers to come to a meeting. Everyone was curious. "What could be happening?" they asked, "There hasn't been a village meeting for as long as we can remember." Greig introduced Drew to the crowd of curious people. Drew began to tell of her beautiful village of Threeare and how Dirtyville could become the same. She told of the Three R's, reduce, reuse and recycle. The people easily understood the idea of reduce and recycle but had trouble with reuse. "Why would you want to use something after it has already been used once? When it is garbage we throw it away!" "See that empty glass jar over there;" said Drew "You can clean it and use it to catch fireflies or keep your marbles in. Use your old clothes for cleaning rags. In Threeare, we call this secondary use. That broken bike over there could be fixed and then somebody could use it. Repairing broken things makes them useful again."

"Another way to reuse is to trade, barter or give away something that you no longer need to someone who could use it. There is enough junk in your front yards to have a huge garage sale. By doing these things you can help clean up Dirtyville." She told them about the beach where she had started to sort the garbage and asked someone

Drew & the Silver Birch (cont.)

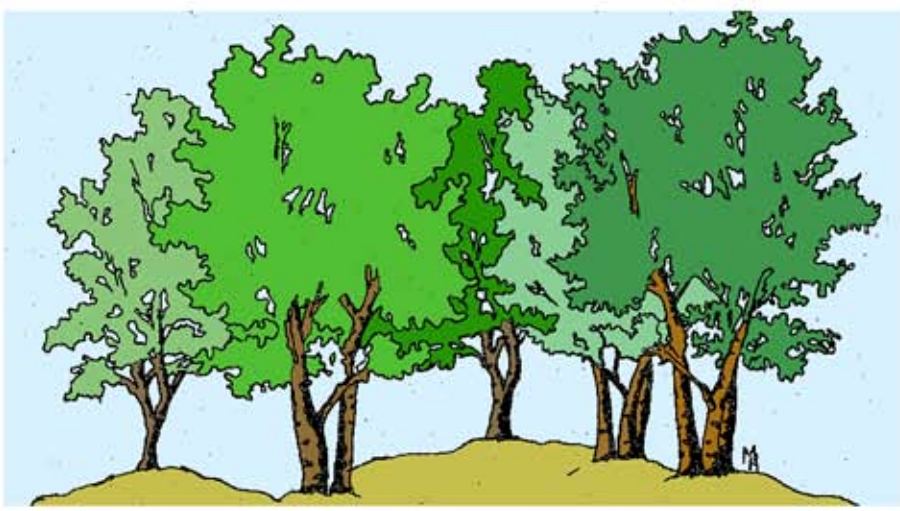
to please clean up the rest of the beach and pick up the piles she had already made. She continued to give ideas to the people until they understood reuse.

Some people in the crowd cheered and agreed to start doing these things right away. But a few people grumbled and said they thought things were fine just as they were and couldn't be bothered changing their habits.

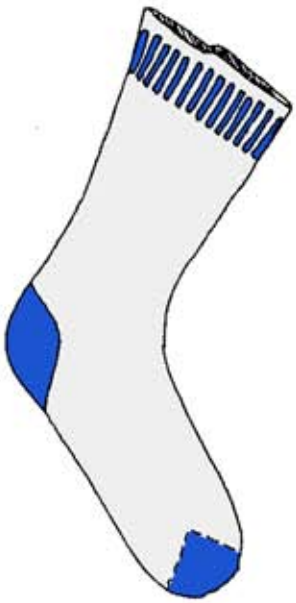
Drew knew that unless everyone started to do these things the village wouldn't be saved. The leader of town council announced there would be a meeting to discuss new laws that will be put in place that everyone would have to follow. Drew was ecstatic she knew then that she had done her best and asked Debris to please walk her home. As they came to the edge of Threeare, Debris' garbage started to fall off and underneath Debris looked cute as a teddy bear. Drew picked up the fallen garbage and put it in the proper containers at the Recycling Depot.

She was very late getting back, her mother was furious but frightened when she saw the Waste Monster. Drew introduced Debris and told her mother the whole story. Debris left after having a drink of juice. Drew's mom said she was proud of what Drew had done for Dirtyville, but told her to ask an adult to go with her next time she wanted to go past the cluster of silver birch. Drew knew that even though she hadn't made it to the horizon that day, Threeare was a wonderful place to be and that she wouldn't need to go on another adventure for a very, very, very long time.

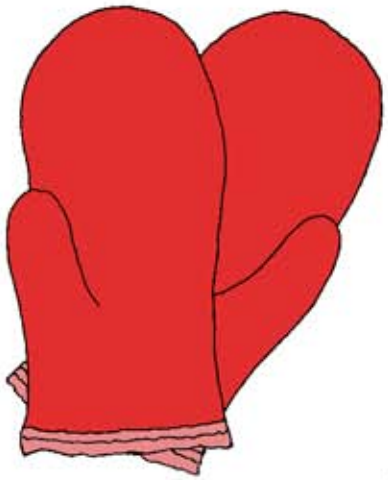
THE END



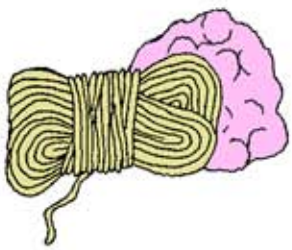
Puppet Ideas



Push the toe area of a sock in and grab it with your hand to form a mouth.



When using mitts, the thumb can be used as an arm or the bottom of an animals mouth.



Yarn and cotton balls are ideal for hair.

Buttons make great eyes.

For the finishing touches you can use markers, paints, pipe cleaners, and old material ripped and glued on.

You can use anything your imagination can think of. The more creative you get the more original your puppet will be.

Braid Away!

OBJECTIVE: To show that reuse was once a necessity of life. Students will improve basic motor skills through creative arts.

MATERIALS: old materials and fabrics (i.e. from old clothes), scissors, glue and cardboard, HANDOUT: **Mat Braiding Tips** (C29)

VOCABULARY: pioneer, reuse, unrepairable

BACKGROUND:

In pioneer times, reusing everyday items was a common practice. Clothing had to be mended and over time handed down to other family members; people could not go to the mall to buy something new. Even after an item could not be repaired it was used to make something else. Wash rags, quilts, or braided rugs were made from old clothing.

This activity will teach the children how to make a mat based on the concept of a braided rug.

PROCEDURE:

1. Explain to the class they are going to make a special craft. The reason it will be special is the craft will be made in a pioneer fashion. Also, the craft will be made from reused materials which is a good way to help the Earth.

2. Have the children bring old clothes, drapery, bed sheets and other fabrics to school. Photocopies of the HANDOUT: **Mat Braiding Tips** (C29) could be distributed.

3. Students start the craft by tearing their fabric into strips. Although the dimensions of the strips is not important, they should be uniform, this will result in a neat finished product.

4. After all the fabric has been torn, the class begins to braid. Each child should start with three equal length strips; one end should be stapled or knotted together and anchored to a desk, chair or held by another student. The child then crosses the strips over the centre strip following a "left-right-left-right" pattern.

5. When a child has made nearly the entire length of the first three strips into a braid they tie three more strips to the loose ends of the original braid and continue braiding. Each student repeats this process until all of their fabric has been braided.

6. Take the finished braid and coil it around itself. Depending upon the size of the braid a small coaster, doily or place mat can be made. The coiled braids can be stitched in place or glued to pieces of cardboard.

Braid Away! (cont.)

EXTENSION:

1. Have the children make enough braids to produce a braided rug. The class could sit on the rug during story time.

2. Collect enough facial tissues boxes to construct a "clubhouse" in the classroom. Old paper could be used to make shingles, and egg cartons could be turned into tulips.

3. Discuss items from the past, besides clothing, that were reused. (wooden crate to furniture, barrels to bathtubs, etc.)

EVALUATION:

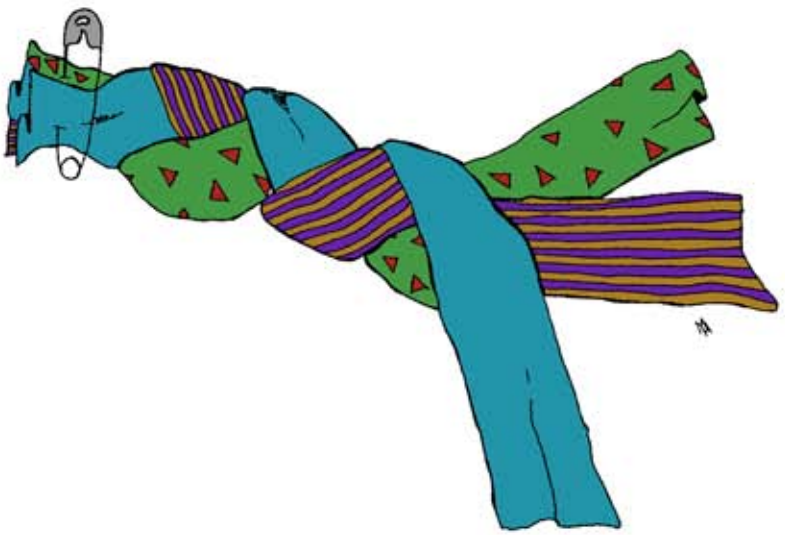
1. List three items, ask the children how they could be reused.

2. Pioneers reused out of necessity. Ask the children why we should reuse today. (Answer; It helps the Earth, etc.)

3. Would the students like to wear clothes that had originally been made for adults?

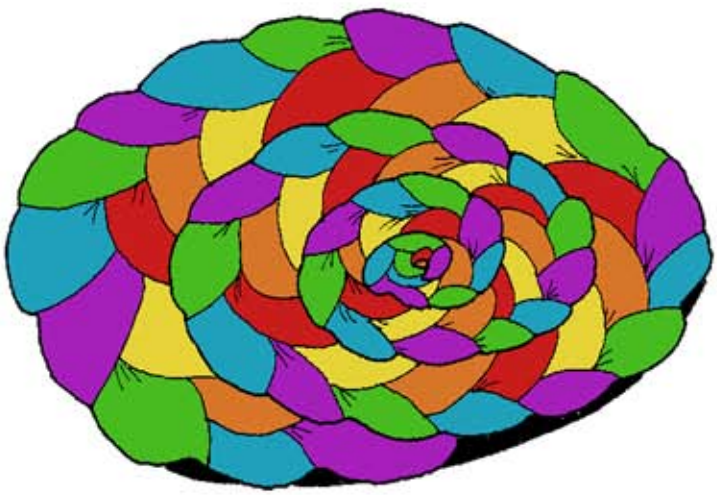
Mat Braiding Tips

Sort through the clothing brought in by the children and have them rip or cut the cloth into strips as long as possible. The strips can be made longer by cutting (from the left first then the right) leaving about a half inch intact at the ends. When you pick up the end the rest should trail behind in a solid piece.



The children can choose the cloth they like and with help from the teacher, secure it with a safety pin, or have it knotted. When it is secured you may want to have it held by another student or anchored to a desk. Then they can proceed to braid their strips until all their material is used. The longer the braid the larger the finished mat will be.

When the braid has been completed they can cut a piece of cardboard to the size they need. They can than cover this in glue and starting in the middle, spiral their braid towards the outside. When the glue is dry it is secure enough to use as a pot holder, placemat or whatever else they can think of.



Brewster Facts

1. If people cannot reduce their waste then they should try to reuse it.

2. The definition of reuse is to use something several times instead of recycling it or throwing it away.

3. Reuse decreases waste by extending the amount of time an item is useful. This slows the use of natural resources.

4. There are four ways to reuse. Secondary use is using something over again. Repairing a broken item is also reuse. Trading, bartering or giving away things you do not use is another way to reuse. Finally, returning pop bottles and other containers for money is called a deposit system. This is reuse, too.

Jamming With Junk

OBJECTIVE: To demonstrate the concept of secondary use through music.

MATERIALS: clean household waste, assorted craft materials (glue, string etc.), HANDOUTS: **Makeshift Music** (C35), **Reuse Rap** (C36)

VOCABULARY: reuse, natural resources, consumption, waste, musical instruments, symphony

BACKGROUND:

Because reuse is a creative activity it lends itself well to the Fine Arts. Most people would associate reuse with visual art; for years educators have been using egg cartons and other waste materials for arts and crafts. However, reusable items can be turned into simple instruments which incorporates both visual and musical talents.

The main idea the children should understand after completing this activity is reuse extends the useful life of a product. This in turn decreases the consumption of natural resources and the production of waste.

PROCEDURE:

1. Tell the class one week before this activity is to take place, they are going to make their own instruments. Each child is to construct their instrument from waste materials around the home. Broken instruments that have been repaired by a student are acceptable but ideally the instrument is to be made from scratch using empty containers, old pipes, etc. On a set date, the children are to bring their materials to school. Examples of instruments are provided on HANDOUT: **Makeshift Music** (C35).

2. After the children have made their instruments have the class compose a song to play. A sample "rap song" has been provided on the HANDOUT: **Reuse Rap** (C36) but you may wish to "reuse" another song by changing the lyrics.

3. Now divide the class into sections: string instruments, percussion, woodwind, and so on. Give each section a beat to play.

4. Have each section sing the song while playing their instruments to the beat.

5. After each section has performed have all the sections play together as a "symphony".

Jamming With Junk (cont.)

EXTENSION:

1. Hold a contest to judge the instruments. Categories could include: best looking, best sounding, most reusable materials and most original.

2. Have each student write a small essay on why they chose their particular instrument and how it was constructed.

3. Have the students perform at an assembly.

EVALUATION:

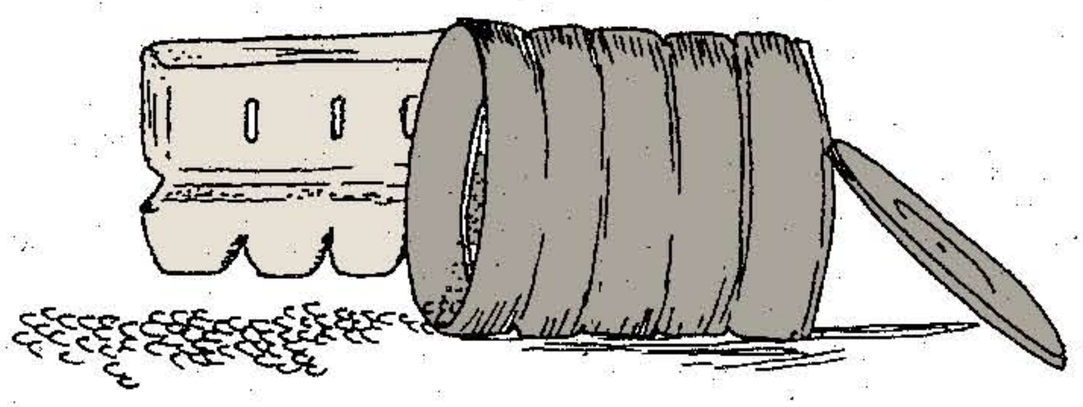
1. Ask the students how difficult they think it would be to build a real instrument.

2. Have the students think of other class projects centred around reuse.

3. Have the children organize a "Reuse Abuse" team. The team will promote reuse in the classroom.

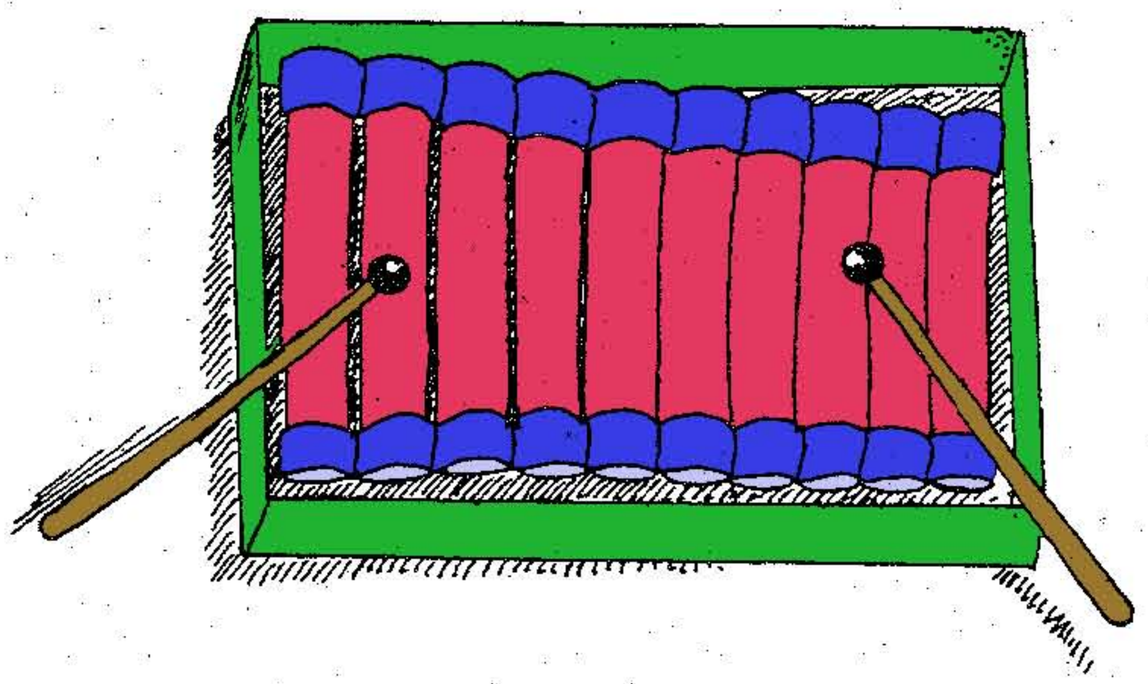
Makeshift Music

To make a "hillbilly cello" turn a bucket upside down. By tying strings to the bucket handle and attaching the other ends to a stick that will be placed in the centre of the bucket, sound can be obtained by plucking the strings. For a different pitch the strings can be dampened.



Here's something you can make from almost anything. All you need is some sort of container (preferably with a lid), something small, in a fairly large quantity to fill it with (use your imagination) and you are ready to shake, rattle and roll with your homemade maracas.

With a simple collection of paper towel tubes or if possible, pipes, you can make a version of a xylophone. With the tubes cut in different sizes and secured into a frame such as a shallow box, you are then able to strike them with a mallet or stick to get different notes.



Reuse Rap

HUGHDIR T. Hey Brewster
What do you say

BREWSTER We are going to
Reuse today

HUGHDIR T. What, me Reuse
Forget it, no way

(MUSICAL BREAK)

BREWSTER You have to, Rat
We must save our Earth

HUGHDIR T. What are you talking about
Used stuff has no worth

(MUSICAL BREAK)

BREWSTER Yes they do
I'll tell you how

HUGHDIR T. Here's a toy
It's broken now

BREWSTER Well fix it, and if you aren't able
Go next door and ask Aunt Mabel
You can sell it, trade it, or give it away
Use an old can for crayons, OK?

(MUSICAL BREAK)

HUGHDIR T. I heard this stuff all before
I refuse to Reuse and
I'll hear it no more

BREWSTER Soon you will learn the Reuse rap
But for now you're still a Dirty Rat

Swap Shop

OBJECTIVE: To demonstrate the concept of repair, trade, barter, and give away.

MATERIALS: toys, cleaning materials, craft materials to repair toys, poker chips

VOCABULARY: consumer, disposal, economy, environment, throw-away attitude

BACKGROUND:

We live in a consumer society. People are taught that buying more and more products is good for a nation's economy. However, by adhering to a "throw-away" attitude where goods are used, thrown away, and replaced we are damaging our environment.

People must learn to re-evaluate used products. An item is not trash just because one individual feels it is useless. Broken items can be repaired. Things you no longer need can be traded for something you can use. Instead of sending unwanted items for disposal give them away to someone who can use them.

Reuse teaches people to stop and think about what they buy, what they dispose of, and how this affects the environment. Perhaps a better name for reuse would be rethink.

PROCEDURE:

1. The children begin the activity at home. Tell the class they are to look for toys they no longer use. Give the children a weekend or several weekdays to search. The teacher should bring in extra toys.

2 On the day the activity is to take place ask the students to bring their toys to school. Each student is to clean, touch-up or repair their toys in class. You may wish to provide paints, glue, cleaning supplies and other materials for the class or have them bring them from home.

3. Give an equal number of poker chips to each child. Explain the chips will be the currency used to buy the toys the students have brought from home.

4. Place all the toys on a table. Have the class, as a whole, decide on the number of poker chips each toy is worth.

5. After all the toys have been valued, each child trades the chips in for whatever toy they want. This can be done by an auction, sale or other manner you consider appropriate.

Swap Shop (cont.)

PROCEDURE (cont.)

6. When all transactions are finished ask the children if they enjoyed themselves. Explain to the class they have just turned unwanted items destined to be discarded into a needed commodity. They have successfully practised reuse. Any left over toys could be donated to the kindergarten class or a charity.

EXTENSION:

1. Instead of bartering the toys, the children could donate them to a children's hospital, women's shelter or charitable organization.

2. Set up a program to promote reuse in the classroom. Award points to students when they reuse. With enough points a child could be rewarded with a homework-free evening, being captain during physical education class, etc.

3. Have a community exchange day at the school.

EVALUATION:

1. Ask the children to think of other items they could trade, barter or give away (sports equipment, old books, etc.).

2. Reuse is better than disposal. Why? Have the children answer this question.

3. Tell the children to write their definition of reuse.

Brewster Facts

1. Reuse is the second "R". If waste cannot first be reduced then a person should try to reuse it.

2. By definition, reuse is "the repeated use of an object for its original or for a different purpose without the need for remanufacturing." Put simply, reuse is using something more than once.

3. Using an item more than once is beneficial because it extends the item's life span, slows the consumption of natural resources, reduces the amount of materials being recycled and decreases the amount of waste placed in landfills.

4. There are four basic methods of reuse: 1) secondary use, 2) repair, 3) trade, barter or give away, and 4) deposits systems.

5. Secondary use is the easiest form of reuse. All a person has to do is use an object more than once. For example, using an empty ice cream container to store nuts and bolts instead of discarding the container is a secondary use.

6. Repair is self explanatory. Broken items are mended then used again.

7. Trading, bartering or giving away material you no longer need is the third method of reuse. Trading involves exchanging items for money. Garage and yard sales are trading. Bartering is the swapping of goods or services for other goods or services. Exchanging hockey cards is bartering. Donating things that you no longer need or use to charity is an example of give away.

8. Deposit systems use money to promote reuse. A small fee is placed on a reusable container or other item. When a person brings the empty container back, he or she is given the deposit. Deposit systems work because people are throwing money away if they do not return their containers.

New Out Of Old

OBJECTIVE: Children will learn how repair is a beneficial form of reuse.

MATERIALS: repairable items from home, tools, paint, etc. and materials to construct posters

VOCABULARY: reuse, technology

BACKGROUND:

Repair is probably the most difficult method of reuse to initiate. In the face of increasing complex technology, fewer and fewer people are willing to attempt their own repairs. Hi-tech equipment has also increased the cost of professional repair work. Business and industry are geared to selling whole units not replacement parts. All of these factors contribute to a "throw-away attitude"; broken items are replaced instead of being repaired.

Even though a person no longer has a use for a broken item it does not mean the item could not be repaired and traded to someone else. This activity will demonstrate both repair and trade.

PROCEDURE:

1. Ask the class to name the last thing they or their parents/guardians repaired. Discuss what options, other than repair were available (i.e. replace old item with a brand new item). Now ask them to think of the last garage sale they had seen, heard or read about.

2. Inform the class they are going to repair unwanted goods they have in their homes then turn the items into money. The money will come from a garage sale (proceeds from the sale could be used to offset the cost of a class trip, rent movies once a week for the class to watch, etc.).

3. Repair of the broken items can be carried out at home or during school. You may wish to conduct "in-school" repairs during a series of periods, spread over a week or more.

4. Make posters advertising the impending garage sale. Distribute them to area shops, offices, etc. for display. Call the local radio or television station to have the sale included in the community events bulletins.

New Out Of Old (cont.)

EXTENSION:

1. Have the students help in organizing a similar event for a younger class or even the entire school.

2. Look for things around the school that need fixing (fences, sandboxes, playground equipment). If possible assist maintenance personnel in these repairs.

3. Hold a contest in which each student writes a short essay on the method of fixing a particular item. Award prizes for the best essay, most original idea, most outlandish idea and so on.

EVALUATION:

1. Ask the student to describe how they repaired their item.

2. Ask each child to list the skills they learned in repairing their item (painting, operating a handsaw, working a vise, etc.).

3. How many students will attempt to repair broken goods instead of discarding them.

Rags To Stitches

OBJECTIVE: To demonstrate novel methods of reuse through design. To teach basic sewing techniques, judging grain lines, ripping seams, and replacing darts.

MATERIALS: old clothing, sheets etc., sewing supplies, paper, plastic or anything else sewable, HANDOUT: **Fashion Finds** (C45)

VOCABULARY: dart, fashion, garment, straight of grain

BACKGROUND:

The fashion industry is probably one of the best and worst examples of reuse. Fashion trends tend to move in cycles. Styles are often repeated. The looks of the early 1990's can be traced back to the 1960's. This is good because if a person keeps a garment long enough it will become "in fashion" once again.

However, because what is "in fashion" this season will be "out of style" the next season; people who follow fashion are constantly buying more and more clothes. One season hem lines are long, the next season knee length, and then short skirts are the rage. Instead of choosing classic styles, these people buy the "hottest styles" wear them for a while then throw them out when the next trend comes along.

PROCEDURE:

1. Discuss with the students the latest fashion trends. Write these on the board. Ask the class to think of what was "cool" when they were in Grade 5. Tell them what was the "in thing" when you were younger.

2. Instruct the class to design "tomorrow's hottest looks" from "yesterday's dated duds". Mention that these clothes will also be environmentally sound because they will be made from reused materials. You could distribute HANDOUT: **Fashion Find** (C45) to stimulate thinking.

3. Have each student sketch a garment they would like to make. The item does not have to be clothes for adults. It could be a child's coat or blanket, a baseball hat or even a gymbag. The only stipulation is the garment must be made from 100% reused materials. The class could bring in old patterns they have at home to exchange with other students.

4. Discuss the proper methods of removing stitching, replacing darts, or recutting fabric with the grain. After the discussion have the students begin making their garments.

5. When all the garments are finished each student is to present his or her item to the class explaining where the reused materials came from and how the garment was made.

Rags To Stitches (cont.)

EXTENSION:

1. Put on a fashion show in class to model "the latest in environment wear".
2. Make a quilt out of reusable materials then raffle it off.
3. Judge the fashion in different categories (i.e. weirdest, most practical etc.).

EVALUATION:

1. Ask the class to list other things that can be done with used clothing (cleaning rags, charities, etc.).
2. Will the class make better use of the clothing in their closets?
3. How do you judge the straight of grain in fabric?

Fashion Finds

Be as creative as you can. Don't stop at old clothes, use paper, plastic, tin and other odds and ends to come up with your ideas for future Haute Couture.

REUSE

ECOTALK

CONSUMPTION: is how much of something you have used. To help the Earth we must reduce our consumption of natural resources.

FASHION: is a style or type of clothes. People try to copy fashion so they can be cool or radical.

GARMENT: is a piece of clothing.

MUSICAL INSTRUMENTS: are the objects people play to make music.

NATURAL RESOURCES: are things that occur naturally. They include water, soil, rocks, plants and many other items. Some natural resources can not be used more than once. These are non-renewable resources. Resources are important because we cannot live without them.

PIONEER: a person who was an early settler. Before Canada was a country pioneers came from the old world by boat.

REMANUFACTURING: happens when old materials like steel cans or paper are made into new steel cans or paper. The things people put in their Blue Boxes are remanufactured into new recycled products.

REUSE: is the second "R". Reuse means to use an item more than once instead of throwing it away. For example plastic ice cream containers can be reused to hold plants.

SECONDARY USE: is one way to reuse waste. Secondary use means using something in a different way. Using a jar to catch bugs is a secondary use.

SYMPHONY: is a large group of people who play music.

TECHNOLOGY: science used by industry to make better things. For example, technology is used to make video games better or cars safer.

UNREPAIRABLE: is a word used to describe something that is broken but cannot be fixed.

WASTE: is the things left over from people's activity. Food scraps, old newspapers, grass clippings and many other things are waste. Most waste can be reduced, reused or recycled. Only a very small portion of waste is truly useless, this is called garbage.

Glossary

BARTER: to exchange without using money.

BLACK BOXES: an electronic device of unknown workings controlling an operation or making a recording.

CAPTURE RATE: a ratio expressing the number of containers produced in comparison to the total containers produced. The rate is normally given as a percentage.

DART: a dart is a sewing method used to make a flat piece of fabric fit more closely to a curve of the body (i.e. back of pants to fit better from waist to hips).

GIGA JOULE: a measurement of energy equal to 1000 mega watt hours.

STRAIGHT OF GRAIN: the lengthwise or crosswise threads of a piece of fabric. The lengthwise threads are stronger and therefore better for cutting the pattern along.

TIPPING FEE: the cost an individual or group must pay to dispose of waste at a landfill. Usually the fee is based upon the weight of the waste (i.e. $60 per tonne).

TRADE: the business of selling and exchange.

Resources

1. Bluewater Recycling Association
   P.O. Box 1330
   Grand Bend, Ontario
   N0M 1T0
   Phone: (519) 238-8661
   Fax: (519) 238-2330

2. Canadian Soft Drink Association
   55 York Street, Suite 330
   Toronto, Ontario
   M5J 1R7
   Phone: (416) 362-2424
   Fax: (416) 362-3229

3. The Becker Milk Company Limited
   671 Warden Avenue
   Scarborough, Ontario
   M1L 3Z7
   Phone: (416) 698-2591
   Fax: (416) 698-2907

4. Ministry of Environment and Energy
   135 St. Clair Avenue West
   Toronto, Ontario
   M4V 1P5
   Phone: (416) 323-4321
   Fax: (416) 323-4643

5 Ministry of Government Services
   Publications Ontario
   88 Bay Street
   Toronto, Ontario
   N7A 1N8
   Phone: (800) 668-9938
   (416) 326-5300

6. Pollution Probe Foundation
   12 Madison Avenue
   Toronto, Ontario
   M5R 2S1
   Phone: (416) 926-1907
   Fax: (416) 926-1601

7. Recycling Council of Ontario
   Ontario Recycling Information Service
   489 College Street, Suite 504
   Toronto, Ontario
   M6G 1A5
   Phone: (416) 960-1025
   (800) 263-2849
   Fax: (416) 960-8053

Videos

Unless specified all videos are available for use through the Bluewater Recycling Association.

Refuse Industry Productions, Garbage in America Volume I: The Choice is Ours.

Resources (cont.)

Videos (cont)

Sashasrabuda, Orr, Miller Associated Ltd, Your Green Home (with accompanying book), Soma film and Video, 345 Carlaw Avenue, Suite 200, Toronto, Ontario M4M 2T1, (416) 466-0822.

Speakers

1. The Bluewater Recycling Association
   P.O. Box 1330
   Grand Bend, Ontario
   N0M 1T0
   Phone: (519) 238-8661
   (800) 265-9799
   Fax: (519) 238-2330

2. The Recycling Council of Ontario
   489 College Street, Suite 504
   Toronto, Ontario
   M6G 1A5
   Phone: (416) 960-1025
   (800) 263-2849
   Fax: (416) 960-8053

3. Global Action Plan (G.A.P.)
   R.R.#4, 6080 Durham Road 23
   Uxbridge, Ontario
   L4P 1K4
   Phone: (416) 852-4786
   Fax: (416) 852-4786

4. Ontario Hydro
   Speakers Bureau
   700 University Avenue
   Toronto, Ontario
   M5G 1X6
   Phone: (416) 592-2322
   (800) 668-8500

5. Loblaws Inc.
   22 St. Clair Ave. East, Suite 900
   Toronto, Ontario
   M4T 2S8
   Phone: (416) 922-8500
   Fax: (416) 960-6998

6. Pollution Probe
   12 Madison Avenue
   Toronto, Ontario
   M5R 2S1
   Phone: (416) 465-7478
   Fax: (416) 926-1601

7. Ministry of Environment and Energy
   135 St. Clair Avenue West
   Toronto, Ontario
   M4V 1P5
   Phone: (416) 323-4321
   Fax: (416) 323-4643

Resources (cont.)

Speakers (cont.)

8. Greenpeace
   185 Spadina Avenue, 6th Floor
   Toronto, Ontario
   M5T 2C5

   Phone: (416) 345-8408
   Fax : (416) 345-8422

End Notes

[1]The Canadian Environmental Protection Act, Waste Management Advisory Board, Ministry of Government Services, Publications Ontario, Bay Street, Toronto, Ontario, N2A 1N8, 1-800-668-9938.

To order copies of discussion papers published by the Ministry of the Environment and Energy, call the automated phone line at 1-800-268-3747, and ask for area code 416 and phone number 323-4643.

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