Lesson Title: Recycling Through the Years

Tagline: Make a time line depicting the changes in recycling through the years

Grade Range: Grades: 2-5
Please make changes to lessons and appendices as desired to fit the needs of your classroom.

Supports Subject Area(s) of:
Science/environmental, Reading, Writing, Social Studies

Lesson duration 2 to 7 days

Standards: See complete list at end of lesson

Options for Assessment: Check student understanding through varied methods depending on subject.

Objectives:

- Students will investigate research materials
- Students will create a sequence of events based on recycling in time line form
- Students will be able to compare and contrast past to present
- Students will be able to answer questions about changes in recycling based on time line reports

Materials shown in this project:

- Elmer's Glue All or Glue stick
- Elmer's foam board
- Markers
- Appendix A- Research information (printed or visit referenced websites)
- Computer/Internet
- Smart Board (optional)

Directions for pictured project:

- Students use Elmer's Foam board to create a time line based on information researched about any topic related to recycling and how it has changed over the years

Lesson Steps:

<u>Introduction:</u>

- Using Smart board or individual computers or printed research information (Appendix A), students investigate and research recycling topics - specifically how things have improved or changed through the years

- Possible recycling topics: recycling of plastics, recycling of metals, recycling symbol, curb side pick up, tire recycling, evolution of the water bottle (and other consumer products), newspaper recycling etc...

Activity:

Students work together or individually to research recycling topics. Students take notes and sequence events in order. Students should try to have the most current fact at least within the last two years.

Students work together or individually to create a time line illustrating the sequence of events. Students should be creative with their illustrations of time lines- pictured project is just a sample of course.

Check Understanding: Use formative assessments such as checking student and group progress, answering and asking questions as students work through the process. Check student understanding as they apply knowledge learned from research and use it to teach others about their topic.

Play Discussion Round Card Game: In this activity students mix with the full class and sign up the names of three other participants on a teacher prepared "Discussion Round Card." When you indicate the designated time, students seek out their "discussion round partners" to conduct a short discussion based on given discussion questions based on recycling. These questions can be made by students after time lines are created. Each individual or group could be responsible for making up at least one discussion question.

Round One: Partner: _____ "Discussion question…?"
Round Two: Partner: _____ "Discussion question…?"
Round Three: Partner: _____ "Discussion question…?"

Wrap it Up

Students work with other groups to teach what they have learned about researching their topic and sharing their time lines. Students can vote on the most creative, most detailed, most informative time line etc.. Invite other classes to view time lines. Take pictures of time line and post them to school website.

Extension

Ask local environmental agencies to supply material that would help students create a time line about a recycling topic concerning their local area. Students could create a digital time line to post to local government website to share progress in recycling initiatives.

Standards

K-4 National Science Standards

NS.K-4.1 Science as Inquiry: Abilities necessary to do scientific inquiry , Understanding about scientific inquiry
NS.K-4.2 Properties of objects and materials
NS.K-4.5 Abilities to distinguish between natural objects and objects made by humans

5-8 National Science Standards

NS.5-8.2 Properties of objects and material

NS.5-8.6 Populations, resources, and environments

Reading and Language Arts Common Core Standards
K-5
CCR.RI.1
CCR.RI.2
CCR.RI.3
CCR.RI.5
CCR.RI.6

Writing
K-5
CCR.W.1 a-d
CCR.W.4
CCR.W.5
CCR.W.6
CCR.W.7
CCR.W.8
National Standards Language Arts K-12
NL-ENG.K-12.1 Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
NL-ENG.K-12.3 Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).
NL-ENG.K-12.4 Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
NL-ENG.K-12.5 Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
NL-ENG.K-12.6 Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language, and genre to create, critique, and discuss print and nonprint texts.
NL-ENG.K-12.7 Students conduct research on issues and interests by generating ideas and questions, and by posing problems. They gather, evaluate, and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience.
NL-ENG.K-12.8Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge.

Social Studies National Standards

K-4
NSS-C.K-4.1 What is Government (in relation to recycling and environmental issues)
What is Government and What Should It Do?
- What is government?
- Where do people in government get the authority to make, apply, and enforce rules and law and manage disputes about them?

- Why is government necessary?
- What are some of the most important things governments do?
- What are the purposes of rules and laws?
- How can you evaluate rules and laws?
- What are the differences between limited and unlimited governments?

Why is it important to limit the power of government?

NSS.C.K-4.5

What are the Roles of the Citizen in American Democracy?

- What are important responsibilities of Americans?
- What dispositions or traits of character are important to the preservation and improvement of American democracy?
- How can Americans participate in their government?
- What is the importance of political leadership and public service?

NSS-USH.K-4.1

Living a working Together in Families and Communities, Now and Long Ago

Understands family life now and in the past, and family life in various places long ago

Understands the history of the local community and how communities in North America varied long ago

NSS-USH.K-4.2

The History of the students' own state or region

Understands the people, events, problems, and ideas that were significant in creating the history of their state

Social Studies National Standards 5-8th Grade

NSS.C.5-8.1 (as related to recycling/environmental issues)

What is civic life? What is politics? What is government? Why are government and politics necessary? What purposes should government serve?

NSS.C.5-8.5 Role of Citizen

What are the Roles of the Citizen in American Democracy?

- What is citizenship?
- What are the rights of citizens?
- What are the responsibilities of citizens?

How can citizens take part in civic life?

Appendix A

Research information

International bottled water association

Earth Day 2009 Sees Measurable Improvements in Bottled Water Recycling and Reducing Plastic Use

April 16, 2009

Alexandria, VA -- This year, commemoration of Earth Day includes positive news for those concerned about recycling empty plastic water bottles. The PET plastic bottled water containers are now the *single most* recycled item in nationwide curbside programs, and they are being recycled at a record rate: 23.4%. That figure is a 16.4% increase from 2006's recycling rate of 20.1%. According to International Bottled Water Association (IBWA) Vice President of Communications Tom Lauria: "There's far more work to do to maintain and expand upon our recycling leadership position, but first let's take a moment to thank millions of thoughtful bottled water consumers for taking an extra second or two to put their empty plastic bottles in the recycle bin."

This good news on Earth Day 2009 comes from the National Association for PET Container Resources (NAPCOR), which completed a major bale study last year in 15 locations in 14 states. In a bale study, NAPCOR took actual bales of collected recycled PET plastic materials and sorted the materials into seven broad categories, such as food product containers, carbonated soft drinks and still water. A second sorting took place by hand and containers were differentiated by size and color. The bale study locations ranged from Jacksonville, Florida, to Boston, Massachusetts; from San Antonio, Texas to Dawson, Minnesota. Each site is representative of collection methods and geographic regions for the vast majority of PET bottles collected for recycling in the United States.

Data from an earlier 2006 bale content study for all beverages, including bottled water, carbonated soda, teas, etc. indicated that the overall number of PET bottles counted per pound was approximately 12. In 2008, the total number of PET bottles increased to 13.78, a reflection of the dramatic increase in water bottle collection, as well as the continued lightweighting of other plastic containers.

To calculate the rate of recycling for bottled water, NAPCOR applied its latest aggregate bale study data to the 2007 retail sales numbers published by the Beverage Marketing Corporation (BMC) for all PET products. NAPCOR calculated that the national recycling rate for PET plastic bottled water containers (the popular, single-serve size containing .5 liter or 16.9 ounce size) has improved by 16.42%, over recycling data posted in their 2006 survey.

New NAPCOR research also presented the ecology-minded public with another benchmark: for the first time, PET water bottles now account for 50% of all the PET bottles and containers collected by curbside recycling. This trend was consistent in all curbside bales sampled nationally, with no major shifts observed in any other plastic container category. The biggest jump in water bottle collection for recycling was in California, where a state-funded consumer education campaign, which drove home to consumers the fact that water bottles are recyclable, seems to be have hit its mark.

IBWA also received word that the curbside recycling pilot program it helped to fund in Hartford, Connecticut, in 2008 has thus far resulted so far in a 50% improvement in that city's curbside recycling program collection. This is being accomplished through single stream collection in large plastic bins and with an incentive from The RecycleBank Rewards Program, which credits consumers after weighing their recycled material, earning participants cash credit on a credit card. Final data from Harford won't be available until late summer, 2009.

There is other good news concerning reductions in plastic use by the bottled water industry. IBWA recently tracked the average amount of plastic used in .5 liter (16.9 ounce) PET bottles, using sales data published by the Beverage Marketing Corporation to determine the lightweighting trend currently being seen in many brands of bottled water. In the year 2000, the average weight of a plastic water bottle was 18.90 grams. It has declined consistently on an annual basis and by 2007, the last year BMC has complete data (as this column goes to press), the average weight of a PET water bottle was 13.83 grams – a 26.7% decline. "Several IBWA members put plastic bottles on a very successful 'diet' and they, too, deserve commendation for proactively responding to public concerns about the U.S. waste stream," said Lauria.

The bottled water industry's momentum toward more recycling and container lightweighting "can be seen as quickly going in the right direction," says Tom Lauria. "These are sure signs of improvement but it's no time to rest our laurels. Far more needs to be done with all plastic products and containers," said Tom Lauria. "Empty water bottles comprise only 1/3 of 1% of the waste stream. So even if bottled water containers were to hit a 100% recycle rate, there would still be far too many plastic containers of all kinds in the landfills. Let's hope Earth Day inspired a more comprehensive approach product recycling then merely the current activist concerns about empty water bottles."

Campus community efforts help improve recycling in 2010 By Logan Leger

University sees 400 percent monthly increase from 2005

Thanks to community-wide efforts, the University got much greener in 2010.

The University averaged 122 tons of recycled material per month in 2010, a nearly 400-percent increase from 2005's monthly average of 26 tons.

Recycled material doesn't just include paper, aluminum cans and plastics placed in one of almost 4,000 recycling bins around campus. Composted organics, cooking oil and construction waste are among newer recycling programs the Office of Sustainability has started, said Denise Scribner, campus sustainability manager.

"We have a lot of different programs going on all over campus," Scribner said.

One of the newest initiatives requires all contractors to recycle construction material, Scribner said. Concrete is recycled at an off-campus facility and is used as base material in new projects like road construction, said Andres Harris, recycling and solid waste manager in the Office of Facility Services.

In 2010, 367.78 tons of concrete were recycled, according to University statistics. In 2010, 177.54 tons of scrap metal were recycled, an increase of more than 570 percent from 2009. The University gets paid for all recycled concrete and metal, Harris said.

Contractors also donate other materials back to the University. Trimmings, which are used as mulch in landscaping across campus, are given to the University after contractors clear-cut for construction, Harris said.

Another major part of recycling on campus is providing appropriate receptacles. The program is funded partly from proceeds of selling scrap metal and concrete, Student Government appropriations and other grants, Harris said.

The University placed an additional 899 bins across campus in 2010, according to the Office of Sustainability. The goal is to put one in every office and classroom across campus, Scribner said.

"It's important that recyclables are put into the recycling bins since trash isn't sorted, so we're always open to suggestions for bin placement," Harris said.

Harris encouraged students to write on the LSU Recycles Facebook page to suggest new locations for bins.

In addition to recycling bins, 99 green recycling dumpsters are available across campus for University and personal use, Harris said. The University encourages members of the campus community who don't have access to residential recycling programs to use the dumpsters to recycle cardboard, paper, plastic and aluminum.

Traditional recyclables aren't the only kind on which the University is focused, however.

Cooking oil, for example, is recycled from the dining halls across campus and is processed by the W.A. Callegari Environmental Center, a part of the LSU AgCenter, into biodiesel fuel, Harris said. Currently, some lawnmowers on campus are powered by biodiesel fuel, but the Callegari Center recently received a grant to purchase another processor, Harris said.

"Soon, the entire landscaping fleet will be powered by the biodiesel processed here at the University," Harris said.

University Landscaping also contributes to the recycling efforts. All tree trimmings and grass clippings are chipped into mulch or composted, Harris said.

Composting efforts at the University are increasing at the behest of LSU AgCenter faculty, who recently made a proposal to the Board of Regents, Scribner said. Compost at the University is a part of the proposal, Harris said.

Game day on campus is a long tradition, and in 2003 the University added recycling to the regular gameday activities.

Recycling takes place in the stadium, suites and on the ground on game days, Harris said. In 2003, 3.1 tons of recyclable material were collected during the regular season, and in 2010 that number jumped to 433.98 tons, with almost 20 percent of all gameday waste being recycled, according to the Office of Sustainability.

The highest recycling game on record — the 2009 Florida game, at 117.95 tons — was also the first time recycling occurred in the stadium.

More than 2,000 green bins are provided to tailgaters on game day, Harris said.

"It's such a big event, it's important we provide enough bins for recycling," Harris said.

The University also competes in national recycling competitions.

The EPA Game Day Challenge is a national competition among colleges and universities to promote recycling during football games. The University submitted statistics from the 2010 Tennessee game and took first place in the per capita recycling competition in the Southeastern Conference, recycling 0.344 pounds per person, according to the EPA.

Recyclemania is another competition in which the University participates. For 10 weeks, 800 colleges and universities across the nation submit recycling and trash weights. The University placed second in the SEC last year, behind the University of Kentucky, with 10.86 pounds recycled per person, according to the Office of Sustainability. The competition starts again Jan. 31.

Since the initial push for major recycling programs on campus through a 2003 student petition, students have played a huge part in the University's recycling initiatives.

The Environmental Conservation Organization at LSU in particular helps educate students on recycling. Members of ECO helped show students at the 2010 Fall Fest what is and isn't recyclable, said Jenny Byrd, natural resource ecology and management junior and president of ECO at LSU.

"ECO plays a big part, but we can't take all the credit," Byrd said. "LSU is making steps in the right direction, and we're happy about that."

Recycling has virtually always been a matter of environmental or economical concern. The increasing amount of recycling techniques has become more important the more the industrial age has grown. Scrap metals were regular recycled in Europe in the past for quite some time. Metals such as bronze and other precious metals have been long collected, melted down and made into other things, such as coins, busts, statues, etc. In Great Brittan, dust and ash from wood and coal fires were (and still are) actually key ingredients for brick making.

Much like now, recycling projects throughout history were driven by basic needs and supply and demand. These issues of re-using materials have provided a serious drive for the economical advantage of a given community. In addition, (especially more recently) environmental actions involving recycling, are addressing the issues of our own health concerns as well as the convenience of re-use of materials.

Creating new jobs is also an economical concern. Well, not every recycling collections company has to be maintained and paid for by the government. As a matter of fact, there are ways of creating more opportunities for small companies, a wonderful thing, in my opinion (though a completely different topic.) Any city officials can sub-contract with these smaller (or even larger) companies, or even better - they can assign the individual company a specific area of town - using contracts only to ensure the continuance of services. There are different ways to pay for these services, whether by the city or through additional costs (for example: in apartment buildings) which the city can discuss and upon which they can reach a consensus that helps to serve not only the community, but our planet earth.

Believe it or not, the recycling of paper began in 1921 in Great Brittan. The amount of and availability of specific resources were discovered to be severely diminished - and forethought encouraged change. Resource conservation programs were researched and developed to great potential. These were established during World Wars I and II and, in many countries, were continued after the second World War came to its end. This was only logical, especially for countries that depended on other countries for resources for trade. Nations without an abundance of certain

natural resources, such as Japan, continued their recycling practices full - blast. They had learned more than one thing from this great and terrible war.

In the 1970's rising energy costs drove the necessity of more recycling from the general population. Ever since recycling has been encouraged in this country . . . but has certainly not been generally observed by our citizens. Especially those citizens who do not live in zones where simple, accessible recycling options are available. As a matter of fact, one of the very first curbside collection programs was not established until 1973 in California. This included mostly the collection of newspapers and other kinds of paper - gradually, as a nation our curbside programs grew. They advanced not only in convenience for the general population, but in the types of recyclables that these programs are willing to collect. Nonetheless, we are far from perfect.

There are two benefits of recycling that are crucial and more essential to our survival than you may realize. Recycling reduces energy and raw materials to a specific production system. In addition, it reduces the amount of waste of which we must dispose. Although many people have been ignorant of this crucial method of preservation in the past, more and more people are realizing why recycling is so important. Especially now.

At last, by the brink of the 21st century, the USA alone had put to use one-thousand six-hundred and seventy seven companies for the recycling business. Nonetheless, this is hardly enough. We need to pursue the issue with more and more aggression until we have done all we can. We have, in these current times, a certain enemy in those who participate in international terrorism. However, we also have another enemy that is an international threat. This is the planet earth. When we hurt her she becomes ill, we have made her ill.

By all logic, when we injure mother earth her illness can kill us - because she is our only source of sustenance. Unarguably, this is a thing we all need to concern ourselves with. The use of certain chemicals has been limited in many places because of the dangers that specific kinds of chemical plants introduce to the overall environment all around them. People are right to be active against living in such circumstances that cause severe risks for your health.

Anne Clarke writes numerous articles for websites on gardening, parenting, fashion, and home decor. Her background includes teaching, gardening, and fashion. For more of her useful articles on solar power and the environment, please visit solarhome.org, supplier of high quality Solar Panels and Solar Bird Baths.

http://www.recycling-revolution.com/recycling-symbol-history.html

Recycling Symbol History
website the recycling revolution

When you hear the term recycling, what immediately comes to mind?

Is it, how important recycling is to reduce waste and increase environmental sustainability?

Or, a method to reduce the massive amounts of trash accumulating in landfills all over the world?

I live and breath recycling, it's what I do, and even though these are important points about recycling, the first thing that always pops in my head when I hear the word, recycling, is the three arrows of the recycling symbol. It got me wondering one day who was the genius behind the well-known symbol.

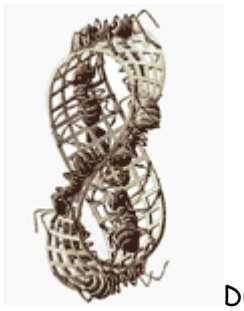
 The three arrows have been incorporated into everything pertaining to recycling, recyclable, and recycled products. It is as recognizable as the Golden arches or the "Apple" with the missing bite. So off to the Internet I went to begin my research on how the symbol that has so much impact on my life was created.

The origins of the three arrows of recycling are rooted in the very first Earth Day in April, 1970. At this time in American history, there was a growing awareness of environmental conservation that coincided with an already active counter-culture of activists and concerned citizens.

The Container Corporation of American, a paperboard company, was beginning to realize a growing environmental movement. With an existing recycling track record and Knowing that paper product recycling was an effective method of conserving natural resources, the CCA planned to spread the word and promote awareness. They sponsored a nationwide art contest for a design that would help identify the company's products that were manufactured using content that was recycled or recyclable. The winning symbol would represent the process of recycling paper.

More than 500 young students and activists entered designs into the contest held in the Spring of 1970 in Aspen, Colorado. After being evaluated by a panel of judges, a winner was declared. A 23 year old student from the University of Southern California at Los Angeles named Gary Dean Anderson took home the first place prize of a $2500 tuition scholarship.

Gary Dean Anderson grew up in North Las Vegas, Nevada in the 1950's. Like many families during this era, Gary's family lived a thrifty lifestyle having a very recent memory of the Great Depression. This translated into very little waste and reusing most of what we now consider trash for other purposes. It wasn't out of environmental concerns, but out of financial concern. This background was perhaps an influence on Anderson's continued and growing interest in conserving resources.

 During Gary Dean Anderson's design process of what eventually became the recycling symbol, he drew heavily on influences from the Mobius Strip made famous by artist, M.C. Escher. The Mobius strip can be described as a continuous loop having only one side and one edge. It is both finite and infinite simultaneously. Anderson created his design completely by hand before the prevalence of computer graphics programs.

During my research on the history of the recycling symbol, I found several articles stating that the Mobius Strip was "chosen" as the universal symbol of recycling. The fact is however, that while the Mobius Strip was indeed an inspiration, it was Gary Dean Anderson's brainchild and design that is now synonymous with recycling.

Recycling evolution

http://www.monroenews.com/apps/pbcs.dll/article?AID=/20071223/NEWS01/155088613

by Dean Cousino , last modified December 22. 2007 11:53PM
Bill Gasper, 84, has recycled cans, plastics and newspapers for as long as he can remember. He is grateful this Christmas to have a place in Monroe to take his recyclables.

"We live in the country along Stony Creek," the Exeter Township resident said as he emptied his car at the recycling center behind Food Town recently. "We started with cans and used to go to the wastewater plant when they had it there. We store them at home and then come in when the pile accumulates."

He is one of hundreds of customers who regularly drop off materials at one of the Allied Waste RecycleNow stations around Monroe County. The centers have become hot spots for residents who don't have curbside recycling or who want to do more for the environment.

Naomi Durbin, 78, also appreciates having a recycling center close by. Besides RecycleNow, she also takes newspapers to the yellow-and-green Abitibi boxes scattered in the region.

"I used to go to Ann Arbor," the Monroe Township resident said. "I've always believed in recycling."

Doris Cutajar of Monroe said her 9-year-old grandson, Jonathan Brant, got her hooked on recycling. She takes glass and plastics to RecycleNow and also goes to the household hazardous waste and tire collections run by the county's solid waste disposal program.

Jamie Dean is coordinator for the newly named Healthy Monroe Solid Waste Program. She said it wasn't long ago when there were no recycling efforts in the region, just landfills.

"We hear things such as reduce, reuse, recycle, protect the environment and think green nearly every day," Mrs. Dean said. "There were 14 dumps in the county at one time. These dumps were inspected by the county, but weren't regulated. Anything and everything was buried in landfills without much concern over contamination of groundwater or pollution."

Here's a look at some of Monroe County's recycling efforts, where they came from and how far they've come:

Curbside recycling catches on

Thirty years ago, thoughts of viewing waste as a resource and recycling weren't even considered.

"In fact, 20 years ago there was only one curbside recycling program in the nation," Mrs. Dean said.

Monroe was the first county municipality to offer curbside recycling to its residents. Since then, solid waste and recycling opportunities have grown dramatically. Refuse firms soon offered picking up recyclables as an option. Currently, county residents are offered a number of disposal options for telephone books, Christmas trees, tires, electronics, batteries, yard waste, household hazardous wastes, mercury thermometers and light bulbs, and there's RecycleNow, a free dropoff program for aluminum, tin, clear and colored glass, plastics and newspapers.

Information about these and other activities is available by calling Mrs. Dean at 240-7909 or e-mailing her at jamie_dean@monroemi.org. The program[Apostrophe]s Web site is www.co.monroe.mi.us/recycling.

Landfills were common

In 1966, the first licensed Type II landfill in the county opened in Erie Township. The former Browning-Ferris Industries' site today is called the Vienna Junction Landfill. Type II landfills are designed to accept municipal solid

waste, or trash generated from homes.

In 1977, a Type III landfill opened in Berlin Township. This landfill, called Standard Disposal Services, was designed to accept construction and demolition debris. In 1980, a third Type III landfill - the Matlin Road landfill near Carleton - began operating.

The county has moved from dumps to waste disposal facilities designed with barriers to protect the environment from leaks and pollution and to accept regulated wastes. However, there were some officials who had a "vision to move Monroe County forward with programs that would protect the environment, contribute to the local economy and provide needed services to county residents," Mrs. Dean said.

Funding for recycling

In 1991, the Monroe County Board of Commissioners adopted a Solid Waste Disposal Facility Fee Ordinance. The law required landfills to pay a fee to the county for each cubic yard of waste disposed at the landfills. These fees provided funds for launching the solid waste program. Amy Gibson was the county's solid waste coordinator hired in 1994. Maureen Pfund succeeded her and started recycling of aluminum cans, glass, plastic containers and newspapers.

During this same time period, a successful grassroots recycling campaign had evolved in the city. A dropoff station for recyclables was established at the Monroe Wastewater Treatment Plant. Volunteers from different organizations and businesses, including The Evening News, worked at the monthly collections. One enthusiastic supporter reportedly would bombard the site with unrinsed, smelly cat food cans. Volunteers at the site dutifully accepted the odorous materials. They didn't have the heart to turn the visitor or the materials away, Mrs. Dean said.

Another important service provided by the program is education. In 2006, an Earth Day celebration was launched along with an annual Earth Fair. Each year, local businesses, organizations, community groups and individuals are invited to share environmental messages and displays on topics such as composting, energy use, groundwater conservation, pollution prevention, rain gardens, sustainability and other environmental issues. There are also activities for children and raffles prizes, including bicycles made from recycled aluminum.

Household hazardous waste

Household hazardous waste collections began in 1992. Since then, nearly 400,000 pounds of materials ranging from auto batteries and antifreeze to fuel oil and chlorine bleach have been collected. The wastes contain toxic materials that are no longer wanted or needed. "These are products that we use every day in our homes," Mrs. Dean said.

The Consumer Product Safety Commission reports that the average home has as many as 63 different types of chemicals in it and generates up to 15 pounds of hazardous waste every year. Improper use, storage or disposal of these products causes a threat to human health and the environment through contamination of ground or surface water, she said.

Children especially are at risk if these products are not handled properly. In fact, the National SAFE KIDS campaign reports that each year, 45 children younger than 4 die from unintentional exposure to medicines and household products.

The county provides four free household hazardous waste collections each year and also accepts materials by appointment.

"The increase in participation this year has been phenomenal," she said. "This is a service that residents greatly appreciate and rely on."

The final collection held at Kroger in Lambertville in late September was the biggest ever. A total of 402 participants took part, breaking the turnout of 275 who came to the Earth Day drive in April. One resident who lived near the county drain commissioner's office on S. Raisinville Rd. pushed over two wheelbarrow loads of material when a drive was held there in the summer.

Tire recycling

The county partners with Holcim (US) Inc.'s cement-making plant near Dundee to provide tire recycling for residents. Collections for passenger vehicle tires are held at the plant twice a year and once a year for semi and tractor tires. The county's jail alternative work service (JAWS) program provides workers to unload the tires from the vehicles and load them into the semi-trailers.

Collecting tires from residents reduces illegal dumping and removes the threat of possible breeding grounds for mosquitoes and the spread of the West Nile virus.

Electronic waste

The collection of electronic waste, begun in 2004, is one of the newest programs offered by the county.

Electronic waste contains hazardous materials that should not be landfilled and also has valuable components, including metals, that can be recovered through recycling.

Initially, materials were accepted at one-day collections. Through a partnership with Habitat for Humanity, the county accepts computers and all components plus televisions year round. Items can be dropped off from 9 a.m. to 5 p.m. Mondays through Saturdays at the Habitat ReStore shop, 840 LaPlaisance Rd.

This year has already set a record for the program, with about 111,124 pounds collected through November, Mrs. Dean said.

Businesses generate roughly 60 to 70 percent of all waste generated in the United States. Paper contributes to almost half of what Americans throw away each year and is also one of the easiest and most valuable recyclable materials. identifying current levels of service and what is being thrown away, the solid waste program can better plan for future solid waste and recycling needs within the county, she said.

Partnerships

In addition to partnering with public agencies, private partnerships also play a vital role in recycling efforts.

Mercy Memorial Hospital and the Medicine Shoppe's pharmacy collaborate on the mercury thermometer exchange program. Kroger on S. Monroe St. has a dropoff location for batteries and also began recycling plastic bags in 2007, the only outlet in the region. The Kroger store in Lambertville hosted one of the hazardous waste collections.

Allied Waste, Holcim and Habitat are other partners.

"There are many other businesses and organizations that work with and support us," she said. "Partnerships allow us to provide more efficient, cost effective services to our residents and help convey the message that protecting the environment is everyone's responsibility."

THE HISTORY OF THE RECYCLING SYMBOL

How Gary Anderson Designed the Recycling Symbol

by J. C. Dyer, MLS

As you celebrate America Recycles Day each year in November, and Earth Day in April, look around and notice how many times you see the recycling symbol displayed. With its twisting arrows design, this symbol is recognized worldwide as the designation for recycled and recyclable materials. It easily has the recognition factor of Coca-Cola, Nike, and McDonald's, but do you have any idea where it came from, or who actually designed` it?

THE STORY BEHIND THE RECYCLING SYMBOL

Because the recycling symbol is so familiar and ubiquitous, we tend to take it for granted, not realizing that it was designed by a real live, honest-to-goodness person who, even today, is still concerned with the environment.

Here's the little-known story behind the recycling symbol:

In April 1970, the very first Earth Day was held, coinciding with an emerging environmental consciousness as the environmental movement began to gain momentum.

One person who participated in this first Earth Day was a student at the University of Southern California named Gary Dean Anderson, who designed the recycling symbol later that same year. Like thousands of other college students across the country, Anderson attended an Earth Day rally and environmental teach-in at his university, which was held outdoors on a beautiful day with lots of rock music and a mellow atmosphere.

Still, Anderson says there was "definitely something in the air, in the academic community and elsewhere, that was beginning to color everyone's image of the earth and its resources. Neither, people were beginning to realize, was infinite." This awareness of the earth's finite resources and the need to conserve and renew them for future generations continues each year as we celebrate Earth Day.

Also that spring in 1970, Container Corporation of America, a paperboard company, sponsored a nationwide contest for environmentally-concerned art and design students to create a design that would symbolize the paper recycling process.

The new recycling symbol was to be used to identify packages made from recycled and recyclable fibers, and to call attention to paper recycling as an effective method of conservation of our natural resources. CCA sought to promote greater awareness of the recyclable nature of paper fibers, and to emphasize the contribution of recycling to improving environmental quality.

At that time, CCA (now Smurfit-Stone Container Corporation) was the largest user of recycled fiber in the U.S., and easily could have had its own corporate designers come up with the symbol, but decided that the younger generation of students, as inheritors of the earth, would be the best source for the new design.

More than 500 talented students submitted their entries, which were judged by a distinguished panel of judges at the International Design Conference in Aspen, Colorado. The theme of the conference was "Environment by Design". The first place winner was Gary Dean Anderson, a graduate student at the University of Southern California in Los Angeles. The second prize

winner was Mike Norcia of New York, and third prize went to Janet McElmurry of the University of Georgia. There were also twenty Awards of Excellence presented.

Gary Anderson had just graduated from USC's 5-year architecture program, and was completing one additional year for a master's of urban design. His prize for the winning entry was a $2,500 tuition grant for further study at any college or university in the world. After receiving his master's degree in urban design from USC, Anderson chose the University of Stockholm's graduate program in social science for English-speaking students, where he studied the relationship between social interaction and physical space, and earned a *diplom* in social science (roughly equivalent to a master's degree) there in 1972. He also had the opportunity to learn the Swedish language through the university's intensive instruction program for languages.

HOW GARY ANDERSON DESIGNED THE RECYCLING SYMBOL

Gary Anderson grew up in North Las Vegas, Nevada, in the 1950s. In keeping with the times following the Great Depression and World War II, his family practiced a general frugality that involved re-using and recycling as much as possible, long before the recycling movement as we know it today had begun. His family reused newspapers, paper and plastic bags from the grocery store, and his father either made or refinished and reupholstered much of the furniture in their home.

As a child, this future architect built everything from cottages to skyscrapers with his sets of plastic American Bricks and wooden Lincoln Logs. Every Christmas, it was his job to construct a stable out of his Lincoln Logs for the Nativity Scene under his family's Christmas tree. He also liked making all kinds of things out of paper - pinwheels, paper airplanes, paper chains, you name it. An avid reader and library user, he discovered origami in a book from his school library, and did not stop until he had made every origami design in it at least once.

He excelled at both math and English in elementary school, but liked history and geography best. According to Anderson, spelling was his worst subject in those early school years. However, he especially enjoyed penmanship, which was taught by the Palmer method, and his handwriting today still retains the Palmer style. He liked the idea that even a complicated chain of letters was really made up of just a few basic lines and curves, each of which could be made with a simple stroke.

Later in his schooling, Gary Anderson began to study foreign languages, art, graphic layout, and typography. He did well in art all through school, but he noticed that there were other students who were better at drawing realistically and spontaneously. Some of them seemed to have "a bionic connection between their eye and their hand that enabled them to reproduce exactly what they saw." He adds that when drawing by hand, "I've always had to develop my image with many tentative lines drawn one on top of the other, until I get something to look more-or-less as I want it. By the time I'm finished, it kind of looks soft and furry or hairy, even when the object isn't that way at all."

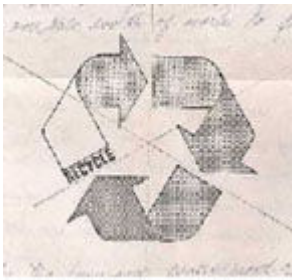
From a young age, Gary Anderson was intrigued by the idea of the Möbius strip, the single-sided construction formed by gluing together the ends of a strip of paper that have been given a twist. The Möbius loop was discovered in 1858 by August Ferdinand Möbius, a German mathematician and astronomer. Anderson also enjoyed the art of the Dutch artist M. C. Escher, who produced a series of drawings based on the Möbius strip, one of which (above left) portrays ants crawling over the folded and twisted strip of paper.

When Anderson began designing his three entries for the contest, he drew upon the concept of the Möbius strip as a combination of the finite and the infinite, "a finite object, but its one surface is infinite in a way." He also tried to incorporate the concept of ambiguity, since the symbol is "kind of round, but also kind of angular. It's flat, but it seems to enclose a space ... kind of hexagonal and kind of triangular, and kind of circular ... sort of static and sort of dynamic."

In his original design, which CCA modified slightly to make it appear more stable, the symbol rested on one of its short sides, implying a much more dynamic motion and instability than the versions we see today.

Anderson drew the symbol entirely by hand with pen and ink, without the benefit of the computer-aided design software available to designers these days. In those days, computer graphics was a very new field, largely experimental, and computer-aided drafting and design (CADD) was only in the developmental stages. And of course, no one had personal computers either, and the computer classes offered in college were all taught using mainframe computers and punch cards.

Graphic design at this point was essentially limited to arrangements of different combinations of alphanumeric characters distributed across a tractor-fed page. Anderson says that, "If we were writing a program - and you *had* to write a program to create a computer generated image - you had to leave a stack of punched cards off at the computer center at night, and pick up the output the following day. Every time you did this, you hoped you had finally gotten all the bugs out of your program, and that what you got back from the computer center was what you actually wanted."



The design process for the recycling symbol went quickly for Anderson, especially since he had been mulling over this type of image for some time, and had experimented with several different configurations for class projects in architecture school. He worked out his clean and simple series of designs over a period of only two to three days. Looking back, he feels that his designs were influenced not only by M. C. Escher's art and the Möbius strip, but also by the wool symbol, reminiscent of spinning fibers, and the concept of the mandala as a symbol of the universe in the Buddhist and Hindu traditions.

The one (and only) sketch of his recycling symbol that survives (shown above) is the most complicated of the three designs Anderson submitted for the contest. This working sketch of the recycling symbol design appears in a letter home from college to his mother. Note that this design is resting on one of the arrows, in contrast to the version modified by CCA. The design picked by the judges as the winner was the simplest and plainest of the three, with no words or shading on it, and his third entry was something in between. Container Corporation of America did not trademark the symbol, thus leaving it in the public domain. For this reason, many permutations of the original design have been developed over the years for a wide range of purposes.

Interestingly, it took a number of years for the recycling symbol to catch on and become widely used in the United States and elsewhere. In fact, Gary Anderson had seen it only rarely before seeing it prominently displayed on recycling bins in Amsterdam while travelling in Europe some ten years after he had won the contest.

GARY ANDERSON'S LIFE TODAY

More than thirty years later, Anderson is still involved with environmental issues. As the winner of the recycling symbol contest, he could easily have pursued a career in graphics design, but his career goal remained urban planning and design. Over the years, he has been employed in various capacities as an architect and planner, and has won numerous academic and professional awards for his projects. He has authored many professional reports, technical reports, and conference papers.

After receiving his doctorate in geography and environmental engineering from The Johns Hopkins University in 1985, he joined the firm of STV Inc. in Baltimore, Maryland, where he served as Vice President and Technical Manager of the twelve-member Planning Department.

In March 2004, after 18 years at STV Inc., Gary Anderson took a position as vice president at TEC Inc. (The Environmental Company) in Annapolis, Maryland. TEC Inc. provides architect/engineering environmental consulting to public and private sector clients.

A self-described "dreamer, doodler, and putterer," Gary Anderson is also goal-oriented, enabling him to move ahead and complete real projects. He enjoys his frequent travels abroad for his work, having had planning projects in England, Belgium, Germany, Italy, and Turkey, where he often teams up with local companies to work on joint projects. Over the years, he has been a guest lecturer at workshops and seminars in Turkey and Italy, and has authored numerous professional technical reports and conference papers.


AND HERE HE IS TODAY!

In addition, he has taught architecture and planning courses in Saudi Arabia, and currently teaches a course at The Johns Hopkins University. He is active in his local civic and neighborhood improvement associations, and is a member of several Baltimore museums. He sits on the board of directors of *1,000 Friends of Maryland*, a managed-growth advocacy group.

[All photos courtesy of Gary D. Anderson, and used by permission.]

http://www.epa.gov/history/topics/epa/25b.htm

A Look at EPA Accomplishments: 25 Years of Protecting Public Health and the Environment

[EPA press release - December 1, 1995]

1970

- On December 2, the United States Environmental Protection Agency is established to protect the nation's public health and environment. Its national role includes finding ways to cleanup and prevent pollution, ensuring compliance and enforcement of environmental laws, assisting states in environmental protection efforts, and scientific research and education to advance the nation's understanding of environmental issues.

- Under amendments to the Clean Air Act, EPA moves to protect public health by setting national health-based standards for air pollutants, setting standards for auto emissions, and requiring states to submit new air quality plans.

1971

- EPA and the Department of Housing and Urban Development are charged with protecting children's health through lead-based paint prevention activities, including detection and treatment of lead-based paint poisoning, limiting lead use in certain consumer items, and banning the use of lead-based interior paints in residences built or renovated by the federal government.

1972

- EPA bans use of DDT because the widely-used pesticide is found to be cancer-causing and accumulating in the food chain, posing a risk to public health and the environment.

- To limit raw sewage flowing into the nation's rivers, lakes and streams, EPA embarks on a major national commitment to build an advanced network of sewage treatment facilities. By 1988, virtually all U.S. cities will have built or committed to build such facilities, resulting in rivers and lakes that are safe for swimming, tourism and commercial and recreational fishing.

- The United States and Canada sign the International Great Lakes Water Quality Agreement to begin cleanup of the Great Lakes, which contain 95 percent of the nation's fresh water and supply drinking water for 23 million Americans.

1973

- EPA begins the ban that will phase out all use of lead in gasoline, resulting in a 98% reduction in lead levels in the air. The phase-out protects millions of children from serious, permanent learning disabilities by helping to reduce blood lead levels by 75%.

- EPA issues its first permit limiting a factory's discharges of pollution into waterways, starting a program that now holds more than 45,000 industrial facilities accountable for water pollution.

1974

- Under the new Safe Drinking Water Act, EPA begins work to protect public health by setting health-based standards governing the quality of the public water supply, including requirements for physical and chemical treatment of drinking water.

- EPA sets the first national standards limiting industrial water pollution, launching a program that today prevents one billion pounds of toxics from reaching our rivers, lakes, and streams each year.

1975

- EPA assumes responsibility for annually monitoring how cars and light trucks perform under new fuel economy standards--a move that, for the first time, allows consumers to choose cars based on their energy efficiency--under the new Energy Policy and Conservation Act.

- Car makers begin installing catalytic converters in new motor vehicles to meet EPA emission standards designed to protect public health from harmful air pollution.

1976

- Responding to public concern over "midnight dumping" of toxic wastes, EPA starts to establish controls over hazardous waste from the time it is generated, through transportation, treatment, storage and disposal, under the new Resource Conservation and Recovery Act.

- EPA begins efforts to protect public health through controls on toxic chemicals that pose an unreasonable risk of injury. The new Toxic Substances Control Act sets the stage for EPA's ban that will phase out production and use of cancer-causing PCBs (polychlorinated biphenyls), a widely-used material often discharged into the environment.

1977

- Air quality and visibility in national parks and wilderness is further protected with new amendments to the Clean Air Act, with provisions that preserve clean air in these important natural areas.

1978

- EPA and other federal agencies ban the use of chlorofluorocarbons (CFCs) as a propellant in most aerosol cans. CFCs destroy the earth's ozone layer, which protects life on earth from the harmful ultraviolet rays of the sun.

1979

- Because of their potential for causing cancer and other adverse health effects, EPA bans two herbicides containing dioxins, chemical compounds that are byproducts of certain industrial activities that cause cancer and other adverse health effects. One of the herbicides was an ingredient in the defoliant Agent Orange.

1980

- Building on earlier efforts to clean up toxic waste sites, EPA develops a nationwide program for toxic waste site cleanups under the new Superfund law, as well as establishing a list of the most hazardous toxic sites in the U.S. The new law is in part prompted by Love Canal--an industrial dumping ground since the 1970s--which New York State declared a "grave and imminent peril" to nearby residents two years earlier.

1984

- Concerns about gasoline and hazardous chemicals seeping from storage tanks and landfills into underground drinking water supplies prompt new amendments to the Resource Conservation and Recovery Act, under which EPA institutes efforts to prevent such contamination and require treatment of hazardous wastes prior to land disposal.

1985

- After British scientists report a giant hole in the Earth's protective atmospheric ozone layer, EPA joins an international convention in Vienna calling for worldwide cooperative efforts to eliminate use of substances that deplete the ozone layer.

1986

- Public concern about explosions and leaks of toxic chemicals, such as occurred in Bhopal, India, helps lead to passage of the first community right-to-know law directing manufacturers, users and storers of certain chemicals to keep records about the location, quantity, use, and any release of those materials, and for EPA to make such information available to the public. EPA also begins to work with states and localities to prevent accidents and develop emergency plans in the case of dangerous releases of chemicals.

1987

- The United States is one of 24 nations that sign the Montreal Protocol, pledging to phase out production of CFCs (chlorofluorocarbons), which are widely used as refrigerants and aerosols but are linked to destruction of the protective atmospheric ozone layer.

1989

- EPA makes publicly available the first annual community right-to-know information on the location and nature of toxic chemical releases in communities around the country, through the new Toxics Release Inventory. A major chemical corporation pledges to reduce such releases by 90% (and later meets that goal).

1990

- EPA assesses a penalty of $15 million--the largest single civil penalty in the Agency's history--against Texas Eastern Gas Pipeline Company, for extensive PCB contamination at 89 sites. In addition to the fine, the company is required to pay for PCB cleanups estimated to exceed $750 million.

- EPA develops and implements new Clean Air Act Amendments under which states must, for the first time, demonstrate continuing progress toward meeting national health-based air quality standards for harmful pollutants such as smog and carbon monoxide.

- In keeping with the new Pollution Prevention Act that encourages industry to control toxic emissions by using cost-effective changes in production, EPA inaugurates the first major public-private partnership to significantly reduce polluting industrial emissions.

- *Reducing Risk*, a landmark report from EPA's Science Advisory Board, calls for the setting of national environmental priorities and greater use of science in decision-making on environmental regulation.

1991

- In the largest environmental criminal damage settlement in history, Exxon Corporation and Exxon Shipping agree to pay $25 million in fines, $100 million in immediate payment to the U.S. and Alaska governments for restoration work, and establish a $900 million remediation fund arising from the 1989 *Exxon Valdez* oil spill.

- Under EPA's coordination, all Federal agencies begin using recycled and recyclable products whenever possible, under a new government-wide policy, a move that will vastly increase the market for such products. Separately, EPA finds that recycling of hazardous wastes has increased 127% in just the two-year period since 1989.

- EPA joins other federal agencies in assessing the danger to human health and environmental damage from the intentional oil spills and 700 oil well fires set by Iraqi troops in Kuwait during the Arabian Gulf War.

1992

- To protect seashore recreation, ocean life, and the fishing industry, EPA's ban ends dumping of sewage sludge into oceans and coastal waters.

1993

- EPA consolidates and toughens its environmental enforcement program to ensure compliance with environmental laws and to penalize polluters who break those laws.

- EPA announces the Common Sense Initiative, a sweeping effort to fundamentally shift environmental regulation--moving away from the pollutant-by-pollutant, crisis-by-crisis approach of the past to an industry-by-industry approach for the future. This new approach is designed to achieve results that are cleaner, cheaper and smarter--cleaner for the environment, cheaper for business and taxpayers, and smarter for America's future.

- To protect public health and increase food safety, EPA begins a major initiative to encourage manufacturers to develop new, safer pesticides.

- EPA's comprehensive scientific evaluation of independent research finds that secondhand cigarette smoke can cause cancer and impair the respiratory health of children and others.

- EPA reports that curbside recycling programs and related efforts have tripled the recycling rate for the nation's trash--from 7% of all non-hazardous waste collected in 1970 to nearly 22% in 1993.

1994

- EPA announces a new set of pollution-control standards to reduce by 90% the toxic air pollutants from chemical plants by 1997. This action will result in the biggest reduction in air toxics in U.S. history.

- After decades of conflict, the Clinton Administration negotiates a consensus plan to protect the most valuable economic and environmental resource of the state of California--water. The San Francisco Bay Delta supplies drinking water to two-thirds of the State's people and provides irrigation for 45% of America's fruits and vegetables.

- Superfund cleanups are greatly accelerated, resulting in as many cleanups completed in 12 months as were completed in the program's first decade--an accomplishment that will be repeated in 1995 as well.

- New grants are launched by EPA to help 50 U.S. communities revitalize inner-city brownfields--abandoned, contaminated sites that were formerly industrial or commercial properties--and return them to productive use for the community, resulting in both economic and environmental gains.

- The Clinton Administration nearly doubles the list of toxic chemicals that must be publicly reported under the community right-to-know laws, giving Americans a dramatic increase in the information they need about toxic pollution from manufacturing facilities in communities nationwide.

1995

- Two-thirds of the U.S. metropolitan areas with unhealthy air in 1990 have now met air quality standards, making the air safer to breathe for 50 million Americans in major cities such as San Francisco and Detroit.

- EPA issues new requirements for municipal incinerators to reduce toxic emissions by 90%.

- To achieve better environmental results, provide regulatory flexibility, and maintain accountability, President Clinton announces Project XL--for excellence and leadership. Under the new initiative, 50 companies, facilities, states and localities will develop innovative ways to achieve results that go beyond those required by environmental regulations--and do so in more common-sense and cost-effective ways.

Recycling: Facts and Resources About How to Recycle and Why It's Important

Resource by Amy
http://www.thefreeresource.com/recycling-facts-and-resources-about-how-to-recycle-and-why-its-important

Recycling Facts

Recycling has come to the forefront of consumers' minds in recent years. Why is recycling important? Many environmental groups are promoting awareness of the damages of throwing garbage into the landfill. Recycling programs are responding by expanding their capacities and allowable items. Consumers are more careful about what they throw in the trash. The following 10 categories are a range that include the most popularly recycled item, to items that some people don't know are recyclable at all. Test your knowledge with the category facts below:

1. How to Recycle Styrofoam or Polystyrene

Styrofoam was originally trademarked by the Dow company. It is actually made from a plastic product called Polystyrene. This plastic substance is used for disposable plates, bowls and cups, packing peanuts and food trays, to name a few. In addition to being non-recyclable, Polystyrene is primarily made from petroleum, which makes it both flammable and toxic to animals, including humans.

Fun Recycling Fact:Most curbside recycling programs do not accept Styrofoam, leaving consumers with little choice but to discard the material. Some choose to burn it rather than throw it in the trash, however this is extremely dangerous because of the styrene gas that is emitted.

Great ways to use Styrofoam if you can't recycle it:
1. Break down larger pieces (for example those that are found in boxes of new appliances or computers) to use as packing at a later date
2. Donate the material to craft shops that host classes. Often they will use Styrofoam to hold their crafted pieces in place
3. Visit Earth911.org to find out where to donate Polystyrene locally

2. How to Recycle Appliances

There are a handful of resources available at which to donate used appliances. This saves the large pieces from entering the landfill, and sometimes provides a new home for an old unwanted appliance. Many of these programs will even provide pick-up services for no charge.
The following organizations are great places to contact for appliance recycling:
1. Salvation Army
2. GE Appliance Donation Center

3. Habitat for Humanity ReStores
4. Big Brothers and Sisters Donation Center

Fun Recycling Fact:In addition to these non-profit organizations, some city programs offer appliance recycling at the local landfill/recycling center. Some of these will even provide rebates to the donators if the appliances are still working.

3. How to Recycle Paint

Paint has long been a toxic substance, and only recently has it been brought to the attention of the public. Paint manufacturers are responding to this new awareness by developing new formulas that contain less Volatile Organic Compounds (VOCs), the primary toxic ingredient in paint. These new paints are produced using new ingredients such as limestone, clay and milk. These paints are much easier to recycle than current latex paints. Whenever possible, buy low VOC paints in order to recycle the leftover product when finished painting.

4. How to Recycle Ink Cartridges

Recently, ink cartridge recycling outlets have been appearing at office supply retail stores across the country. It has come to the attention of the public, through campaigns driving consumer awareness of the 300 million plastic cartridges are thrown out annually. Ink cartridges, like most plastic, will take over 1,000 years to decompose in the landfill. Additionally, recycled ink cartridges are the same quality as those that are manufactured from raw materials. The manufacture of recycled goods saved three pounds of manufacturing resources on each cartridge.

Fun Recycling Fact: One additional benefit of recycling ink cartridges is that most office supply retail stores provide rebates of up to $3 per cartridge towards the purchase of a new cartridge. This results in a smaller landfill and savings to the consumers!

5. How to Recycle Tires

The Environmental Protection Agency reported that annually, 300 million new tires are produced, while in the same amount of time, 290 tires are scrapped each year. This is a huge waste of rubber. To combat this waste, and to keep these enormous bulky items from the landfill, it is possible to recycle tires in a variety of ways. First, be aware of what your mechanic does with scrapped tires. You can specifically request that your tires be recycled for a small fee. Recycled tires are used for paving new roads, retreading old tires and creating fuel through burning. They can also be ground to produce rubber mulch.

6. How to Recycle Aluminum

Aluminum cans are one of the most recycled items in present day residential households. The most common aluminum containers are used for 12 oz soft drink cans. Manufacturers of these cans currently use 50% recycled material when producing new cans. Aluminum can be recycled again and again. Each time it is recycled, it has the same characteristics and properties as a brand new piece of aluminum.

Fun Recycling Fact: However, even though these are the most commonly recycled object, approximately 36 billion cans are thrown in the landfill in the United States annually. The scrap metal value of those wasted could have added up to $600 million!

7. How to Recycle Paper

According to the Environmental Protection Agency, each person uses enough paper and wood products to equal one 100-foot-tall fir free each year. However, in 2007, United States consumers recycled 56% of all the paper purchased that year. That's an enormous growth from previous years, and an excellent sign that recycling is moving in the right direction.

There are dozens of benefits to recycling paper. For example, each ton (2000 pounds) of paper that is recycled saves 17 large trees, 7,000 gallons or water, 3 cubic yards of landfill space, 2 barrels of oil, and 4,000 kilowatt hours of electricity. Additionally, the production of recycled paper requires only 60% of the energy that it takes to produce paper from trees.

8. How to Recycle Glass

Each month, Americans fail to recycle millions of glass bottles that are recyclable. If just one glass bottle was saved, that would be enough to power an incandescent light bulb for 4 hours, or a compact fluorescent light bulb for 20 hours. Recycling glass into new bottles also requires 50% less water and causes 20% less air pollution than standard manufacturing of glass bottles.

Fun Recycling Fact: For each ton of glass produced, almost 400 pounds of waste (other materials) are created. When glass is recycled, the 400 pounds of waste is reduced by 80%.

9. How to Recycle Plastic

Unfortunately, the majority of plastic is not recycled, or in some areas, is unable to be recycled. Because of this, nearly 2,500,000 plastic bottles are thrown in the garbage each hour. That's 60,000,000 bottles each day! These bottles could and should be easily recycled, which would reduce an enormous amount of trash from reaching the landfill each week. Plastic also has a detrimental effect on wildlife. Plastic bags and other plastic trash are thrown into the ocean each year, and 1,000,000 sea animals and fish are killed from this neglectful behavior. Read more about Recycling Plastics.

Fun Recycling Fact: Plastic does not decompose. The only way to keep it from taking up valuable space in nature is to make sure it is recycled.

10. How to Recycle Water

Water is not often thought of as a resource that can be recycled. This is not true. The most important method of reducing water waste should be to not use as much water. First, water can be conserved through a variety of methods. People can take shorter showers, refrain from running the faucet while brushing teeth and fix any leaky faucets. Baths should be taken only when necessary. A bath can use up to 70 gallons of water, while a shower only uses 10 to 25 gallons. Appliances (toilets, bath fixtures) should be replaced with water-efficient appliances such as a high-efficiency toilet, a low flow faucet, a low flow showerhead and a high-efficiency washing machine. Using a drip irrigation system instead of a standard one on outdoor landscaping can save 20% to 50% of the water that is typically used by installed irrigation systems.

Resources about Recycling and Why Its Important

Earth 911 – Latest News on Green Living and Recycling
Website

Environmental Protection Agency – Recycling Market Development
Website

National Recycling Coalition – Providing Leadership on Recycling Issues

Kentucky Now Collects Styrofoam for Recycling; National Park Really Excited

by Kristin Underwood, Sacramento, CA on 10.12.09
Design & Architecture (recycled)

Turns out, those foam (aka styrofoam) take-away containers (#6) that really make your green heart cringe can actually be recycled into baseboards and moldings for your home. The only problem - who is going to take them back and recycle them? Solution: There are now has 8 bins across the United States that collect the stuff for Dart Corporation, with the latest in Kentucky.

The latest drop-off spot is located near Horse Cave, KY, which happens to be just up the road from Mammoth Cave National Park. The recycling locations are provided by Dart Container Corporation, maker of many of these #6 products. Mammoth Cave admits that they plan to get a lot of use out of the new location, as these containers are often left throughout the park. Now, park rangers and officials will just truck the container out of the park - in fact, they've been collecting foam for the last 6 months waiting for the container to be installed.

In Kentucky, G&R Recycling will come by and collect all of the foam for recycling. Other styrofoam recycling locations can be found in California, Florida, Georgia, Michigan, and Pennsylvania; 7 in total. Dart says they plan to install more styrofoam recycling dropoff locations in the future and if you go to their website you can see an interesting graphic on just how styrofoam is broken down, cleaned, dried, sorted, peletized and all of the other steps before it starts over.

What Can You Recycle?

Foam containers with a #6 on them, including foam cups, plates, take-out containers, egg cartons and even some of the stuffing that you find around electronics can all be recycled. To make it easier on the recyclers, please remove and rinse cups and containers, throw away straws and lids, and don't put packing peanuts in the recycling bins (try shipping stores to see if they will take them back).

The next time you're at Mammoth Cave, don't forget to bring your #6 and leave it in the bin instead of the park.