The county works with community partners to promote environmental stewardship. Our mission is to protect the environment and conserve resources for future generations. Learn more about our programs at www.hennepin.us/environment.

Community POWER
Since 2001, hundreds of community groups in the Twin Cities metro area have actively engaged their audiences in environmental education and action through the Community POWER (Partners On Waste Education and Reduction) program, sponsored by the Solid Waste Management Coordinating Board. These community groups have educated more than 1 million people and have helped more than 30,000 people take positive actions for the environment. Many of the activities and resources in this toolkit were created, tested or improved through Community POWER projects. To learn more about Community POWER, visit www.rethinkrecycling.com/grants.

For additional copies:
This toolkit may be downloaded for free at www.hennepin.us/CommunityPower. Organizations in Hennepin County may order a printed version of the toolkit by contacting Hennepin County at 612-348-4188.

September 2010
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Introduction

Thank you for promoting environmental stewardship within your community. Hennepin County wants to help you encourage people to take simple actions to create a more sustainable future. The resources in this toolkit will help your group improve the environment, enjoy a healthier lifestyle, build community and save money.

This toolkit provides information, resources and activities that groups of any size, age or composition can use to take meaningful actions that are good for the environment. Whether you’re looking for ideas and resources to organize a group of volunteers, neighbors or friends for a one-time event, leading a class or small group meeting, or working with a team of people to educate and engage others in your organization, school, or neighborhood, this toolkit contains useful information for you.

The foundation of this publication is a successful, community-based environmental education program in the Twin Cities called Community POWER, which is supported by the Solid Waste Management Coordinating Board. Earlier versions of the toolkit were pilot-tested with more than 20 community groups in Hennepin County.
This toolkit is organized to help you follow two principles for fostering sustainable behavior change:

1. **Build community.**
   This toolkit assumes that you are encouraging others to learn about environmental issues and take actions that make a difference. It is easier and more fun for people to jump into something new when they see others getting involved and have an opportunity to share experiences and ideas.

2. **Make it easy.**
   Give people the tools they need to take action today.
   This toolkit will help you inspire, educate and actively engage others. We know people are more likely to stay committed to new practices if they have encouragement to try them for the first time. In addition to sharing lists of things to do, use the Activities in each chapter to help people take the first step.

Resources to learn more about motivating sustainable behavior change:

- **www.cbsm.com**
  The community-based social marketing website has strategies, articles and case studies to foster sustainable behavior.

- **The Psychology of Sustainable Behavior.**
  A handbook introducing research-based tips from psychology to help in efforts to empower sustainability—www.pca.state.mn.us, click on “Living Green,” then “Educators.”

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**How to use the toolkit**

**Familiarize yourself with the content**

The toolkit has five chapters organized by environmental topic:

- Reducing Waste
- Recycling
- Toxicity Reduction
- Energy Conservation and Climate Change
- Protecting Water Resources

Each chapter has essential background information, statistics and Hennepin County's free resources for that topic to help you get up-to-date on the issue. The Activities section of each chapter offers ideas for involving others in learning and taking action.

**Educate yourself**

In order to teach and organize others, you will need to be familiar with the important issues. Sources on the internet offer overwhelming amounts of information and misinformation on environmental topics. This toolkit limits the background information to the most relevant and accurate for our region. Most of the information is contained in the Introduction to each of the chapters or in handouts provided in the Appendix. Lists of Essential Background Reading, Additional Resources and Websites are also provided in each chapter.

**Build a team**

Work with others who are committed to helping the environment. Share the responsibility and the effort. Include the staff, board, and/or volunteers from your group in setting goals and doing the work.

**Don’t ignore your self-interests**

If you need to make a case for undertaking an environmental project, go beyond “it’s the right thing to do.” Consider how an environmental project could achieve other goals or aspects of your mission, such as attracting new people to your efforts, forming new partnerships, garnering media attention or helping you apply for environmental grants. Be careful not to drift too far from your organization’s mission or your environmental efforts will be difficult to sustain.
Gather resources
Order and/or download free materials and handouts that are available for the topic(s) of your program. See the website links identified in each chapter to order the handouts referenced throughout this toolkit.

Communicate effectively, positively and accurately
Build on existing structures, meetings, communication strategies, events and seasons to launch your program. Be consistent and persevere with your message. Create an accepting atmosphere around your efforts.

Behavior change can happen with small steps or large leaps, but all changes are important. Your program will be more successful if you focus on positive encouragement for anyone willing to join your efforts, no matter where they start or how quickly they move. Encourage people to choose one thing to change or do as a starting place. Use the Quick Facts & Statistics in each chapter of this toolkit to communicate accurate and inspiring messages.

Go beyond the usual suspects
As environmental issues gain attention, more people want to do something about it. Design your project to make doing something possible for everyone.

For those who are already committed, use the activities in this toolkit to inspire additional lifestyle changes. If people are not interested or involved, consider how to break down barriers to their involvement. Do they need to be inspired or educated about the issues? Do they need to hear how environmental changes also help save money? Do they need assurance from people they know and trust about the importance of the issues? Do language barriers or physical limitations stop some from getting involved? Work through existing networks and organizations that people already trust, get advice from opinion leaders, don’t make assumptions, and get creative in your outreach.

Build commitment
The research on behavior change tells us to do the following when encouraging people to make changes in long-held beliefs and actions:

- **Offer incentives or prizes.** Attract attention to your project by offering a relevant give-away or prize for participation (e.g., a reusable shopping bag, bottle of non-toxic cleaner, compost bin, rain barrel, window insulation kit).
- **Use pledges or commitments.** Invite people to fill out and return a simple commitment form for one or more actions they commit to take (see Appendix for a sample pledge).
- **Use prompts.** Ask people to take home a reminder of the commitment or pledge they made. For example, something they can post on their refrigerator as a reminder.
- **Create norms.** Use announcements, posters, buttons, lawn signs, etc. to let everyone know “this is how we do things.”
- **Publicly announce and celebrate how people are making changes.** Invite individuals who have taken one of the actions you are recommending to share their experience with others.

Track and celebrate your progress
Keep your goals in mind. See the Evaluation Questions for Behavior Change Section (pg.55). Collect commitment forms from participating families and individuals. Follow up and support others in their efforts. Celebrate! Let members of your group know the impact they are making together. Translate numbers into a tangible image. For example, show a before-and-after junk mail stack from a participant that has taken action to remove their names from junk mail lists or create a poster with the total pounds of junk mail per year your group could prevent.
Calendar

Take advantage of seasonal milestones and environmental holidays when planning your project.

- World Wetlands Day (February 22)
- World Water Day (March 22)
- National Environmental Education Week (April 11-17)
- Earth Day (April 22)
- Arbor Day (last Friday in April)
- Spring Cleaning / Eco Cleaning (April/May)
- Low-waste picnics (summer)
- National Night Out (August)
- Choose to Reuse (October and November)
- Halloween costume swap (October)
- America Recycles Day (November 15)
- Greening celebrations/ Low-waste birthday parties (anytime)

Free resources & recommended websites

Visit www.hennepin.us/environmental education to find out more about free handouts, literature, articles, toolkits, learning trunks, displays and tours available through Hennepin County. Each chapter in this toolkit lists additional resources available.

These organizations offer free information and resources:

- Hennepin County Environmental Services www.hennepin.us/environmentaleducation
- RethinkRecycling RethinkRecycling.com
- Community POWER RethinkRecycling.com/grants
- Minnesota Pollution Control Agency www.pca.state.mn.us
- Reduce.org www.reduce.org
- Sustainable Communities Network www.nextstep.state.mn.us
- Do It Green! Minnesota www.doitgreen.org
- WaterShed Partners www.cleanwatermn.org
- Minnesota Energy Challenge www.mnenergychallenge.org
Reducing Waste

Campaign goals

Participants will learn:
- About packaging waste and assess their typical purchasing practices.
- To reuse shopping bags or use cloth bags instead of new.
- About proper donation and disposal options for unwanted household items.
- How to give no-waste gifts and/or use alternatives to gift wrap.
- How to get their name off junk mail lists.

Resources

Essential background reading
If you plan to teach others about this issue, please become familiar with the information provided in the Background section (see pgs. 8-9).

Web resources
- www.hennepin.us/reducwaste
  Tips on how to reduce waste, including how to reduce junk mail.
- www.hennepin.us/choosetoreuse
  An online list of over 500 businesses and organizations that trade, repair, buy, resell or accept donations of unwanted household goods and clothing.
- RethinkRecycling.com
  Your go-to guide for waste and recycling in the Twin Cities.
- www.reduce.org
  Minnesota Pollution Control Agency’s website for waste reduction tips, including ideas on how to reduce junk mail.
- www.twincitiesfreemarket.org
  A free online exchange for household items.

Handout print resources
Samples can be found in the Appendix
From Hennepin County
- Donation Opportunities Guide
- Greening Your Celebrations
- Hold the Mail
- Too Much Packaging is a Waste
- How to Pack a No-Waste Lunch bookmark
- “Remember Your Bag” window cling
- Choose to Reuse Directory magnet
- To order:
  Order literature online for no charge at www.hennepin.us/literatureorderform or call 612-348-4168.

From the Minnesota Pollution Control Agency
- Reducing Waste at Home, Work or School (each are separate pieces)
- Reduce Trash When You Shop
- How to Compost Your Organic Waste
- To order:
  Request literature by e-mail: resourcecenter.pca@state.mn.us or call 651-757-2120. PDF versions can also be downloaded at www.reduce.org under “educational toolbox.”

Resources, cont’d on next page
Background

Households in Minnesota are creating and throwing away more waste than ever. From junk mail to excess paint to food scraps – it takes a lot of time and money to deal with all of the garbage. You probably do not go to the store saying, “I think I’ll buy some garbage today.” But depending on which products you choose, that might be what you’re doing. By purchasing items that are overly packaged, disposable or of poor quality, your cash can soon end up as trash.

Let’s consider ways we can reduce waste at home and when we shop. This is good for the environment and can save money!

Top ten easy things you can do to reduce waste

1. Get your name off junk mail lists. Go to www.hennepin.us/reducewaste to find ways to get off junk mail lists. Add privacy statements to anything asking for your contact information.

2. Pack a no-waste lunch. Use a reusable lunch box or bag and reusable containers instead of plastic bags or disposable containers. Don’t forget a cloth napkin.

3. Compost your kitchen scraps. You can compost your fruit and vegetable scraps, coffee grounds and egg shells in a backyard compost bin.

4. Bring a reusable mug with you. Have a latte every day? Bring a reusable mug with you to the coffee shop. Buy water every day? Use a refillable bottle.

Resources, cont’d from previous page

Video

– Introductory video – Waste: What’s the Problem
Use this five minute video as an introduction to waste issues. It is available online at www.hennepin.us/environmentaleducation or call 612-348-4168 to have a DVD copy mailed to you.

Learning trunks

– Packaging Waste Reduction Learning Trunk
This trunk is a waste education tool for food and beverage packaging. It demonstrates the differences in cost and packaging waste when purchasing single-serve items versus those packaged in bulk or concentrate. It also addresses packaging recyclability.

– Greening Your Celebrations Learning Trunk
This trunk helps illustrate ideas for giving more environmentally friendly gifts and hosting greener parties. This kit illustrates many ideas from the Greening Your Celebrations brochure. The kit includes examples of greener gift ideas, gift wrapping and party supplies.

Contact Hennepin County Environmental Services to check out a learning trunk at 612-348-4168 or visit www.hennepin.us/environmentaleducation.

Tours

Hennepin County Drop-Off Facility
Touring the drop-off facility in Brooklyn Park provides an opportunity for residents and school groups to learn about how waste is managed by the county, including waste reduction, recycling, and proper disposal of household hazardous waste. Age guidelines: The tour is recommended for 3rd grade and older. Children younger than 3rd grade may be asked to remain in the conference room with a chaperone during the second part of the tour.

Hennepin Energy Recovery Center: A Waste-to-Energy Facility
About 365,000 tons of waste is processed annually at HERC to generate enough electricity to power about 25,000 homes. This tour provides an overview of Hennepin County Environmental Services’ programs, an explanation of how we manage waste in our county, and a description of how the waste-to-energy facility works. In addition, visitors tour the HERC tipping floor, the control room and the exterior of the facility. Age guidelines: 6th grade and older.

Call 612-348-4930 to schedule a tour. For more information about tours and guidelines, visit www.hennepin.us, search: tours.
5. **Look for less packaging and avoid disposables.** At the grocery store, buy in bulk and bring bags or containers to fill. Choose products with the least packaging over individually wrapped items. You’ll save money, too.

6. **Borrow, rent and shop used first.** Before you run to the store to buy a new item, think about how much you will use it. Could you borrow one from a friend or neighbor, rent it at a local store or purchase it used?

7. **Buy well, buy once.** Well-designed and constructed products that are repairable will last longer and usually save you money, even if they cost more initially.

8. **Sell, give away or donate usable clothing and household goods.** Donate reusable items to a local thrift store. Check the Choose to Reuse Directory at [www.hennepin.us/choosetoreuse](http://www.hennepin.us/choosetoreuse) for options.

9. **Give green gifts.** Avoid over-packaged, resource consuming gifts that will need batteries or electricity. Consider making a gift, sharing an experience, providing a service or giving an environmentally friendly product.

10. **Educate yourself, friends and family about waste reduction and reuse.** For details on the ideas presented above, visit [RethinkRecycling.com](http://RethinkRecycling.com), [reduce.org](http://reduce.org) and [www.hennepin.us/reducwaste](http://www.hennepin.us/reducwaste), and spread the word!

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**Quick facts and statistics**

The tips below can be printed, posted on your website, sent in e-mail messages, or used in other ways to gently remind your community of the importance of reducing waste.

- On average, each person in the Twin Cities metro area generates almost 7 pounds of waste each day. Together, that’s enough to fill the Metrodome 11 times every year!
- Grocery shoppers use nearly 40 billion bags each year. Most are only used once and thrown away. Bring your own reusable bag instead.
- Use gift bags over and over, gift wrap is not recyclable.
- Save money by going online to the Twin Cities Free Market, [www.twincitiesfreemarket.org](http://www.twincitiesfreemarket.org), where you can give and get used items for free.

- Be a smart shopper–buy durables, not disposables. Buy reusable bottles instead of drink packs, then buy concentrated drinks and add water.

- Tired of all that expensive wrapping paper? Try these great ideas for gift wrapping alternatives: Scarves, handkerchiefs, bandannas, old posters and maps, or pages from a child’s coloring book.

- Packaging makes up 30 percent of our trash. Purchase items that have less packaging.

- Each household receives more than 50 pounds of unwanted, unsolicited mail every year. Visit [www.hennepin.us/reducwaste](http://www.hennepin.us/reducwaste) for information on how to get your name off mailing lists.

- Food waste accounts for about 11 percent of the garbage we throw away. Much of this waste can be avoided or put to better use by composting.

- Every year, Hennepin County residents throw away 32 million pounds of reusable goods. That’s enough stuff to fill shopping carts lined up from Minneapolis to Milwaukee. Find reuse opportunities at [www.hennepin.us/choosetoreuse](http://www.hennepin.us/choosetoreuse).

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Easy things to reduce waste: Compost your kitchen scraps.

Easy things you can do to reduce waste: Pack a no-waste lunch.
Activities

Waste: What’s the Problem? DVD

*Produced by Hennepin County.* Use the DVD with groups and at public events to quickly communicate waste reduction and what people can do to make a difference. The video is available at [www. hennepin.us/environmentaleducation](http://www.hennepin.us/environmentaleducation) under “Environmental Education Resources” or call 612-348-4168 to have a copy mailed to you.

**Discussion questions after watching the DVD:** What did you learn that you didn’t already know? Did anything surprise you? What actions suggested on the DVD will you consider taking?

“Wise up About Waste” Quiz

*Adults and teens*

Have your group take the “Wise-Up About Waste!” quiz, which is similar to a magazine quiz. It is designed to teach people about waste issues and inform people how much they already know about waste reduction. Ask people to commit to one or more ways to reduce waste in the next week or month and practice those activities.

**Suggested supplies:**

- Wise Up About Waste Quiz (see Appendix)

Compare product costs

*Adults and children 8 and older*

Compare waste and cost savings of overly packaged products. Set out food items that are individually packaged alongside the same items that could be purchased in larger quantities or bulk, e.g. goldfish crackers, raisins, chips, juice boxes/ pouches, sodas, water. Compare price differences and the amount of packaging between the two. Discuss local grocery stores that provide the option of purchasing items in larger quantities or bulk. Refer to Resource Page—Packaging Reduction (see Appendix) for detailed instructions for this activity.

**Discussion starters:** Was anyone already buying in bulk to save money or reduce waste? What were you already buying in bulk? Was anyone surprised by the difference in the prices? In addition to avoiding overly packaged products, what else can we do when shopping to reduce waste? (One answer: take reusable bags for carrying groceries home.) How could our group or organization reduce waste from packaging? Consider buying in bulk for your next event.

Suggested supplies:

- Examples of food and beverage items that are overly packaged and similar products with less packaging.
- List of prices.
- Calculators
- Handout: *Too Much Packaging is a Waste*
- Handout: *Reduce Trash When You Shop*
- Learning Trunk: *Packaging Waste Reduction Learning Trunk*
  This learning trunk is provided, on a loan basis, free of charge, as a waste education tool for food and beverage packaging. It demonstrates the differences in cost and packaging waste when purchasing single-serve items versus those packaged in bulk or concentrate. It also addresses packaging recyclability. Contact Hennepin County Environmental Services for more details at 612-348-4168 or visit [www.hennepin.us/environmentaleducation](http://www.hennepin.us/environmentaleducation).

**Discussion questions after watching the DVD:** What did you learn that you didn’t already know? Did anything surprise you? What actions suggested on the DVD will you consider taking?

**Suggested supplies:**

- *Wise Up About Waste Quiz* (see Appendix)
Create reusable shopping bags

*All ages*

Pass out plain reusable bags as well as baskets of reusable art scraps and fabric markers to decorate the bags. As the group decorates their reusable bags, discuss the major influences on how we decide what to buy, and how can we change our purchasing habits to reduce waste.

**Suggested supplies:**
- Reusable bags made from canvas, cotton, recycled plastic, etc.
- Fabric markers, glue, glitter, and art scraps such as yarn, ribbon, fabric.
- “Remember your bags” window clings (available from Hennepin County and can be ordered online at [www.hennepin.us/literatureorderform](http://www.hennepin.us/literatureorderform))

**Discussion starters:** Does anyone already bring reusable bags when shopping? What motivated you to start bringing reusable bags? Where did you get the bags? If you are not bringing a bag with you when shopping, what is holding you back? How can people overcome those barriers?

Distribute or create a prompt for remembering your bags when shopping, such as a note for the car’s dashboard that says “remember your bags!”

Make your own gift wrap or bags

*Adults and children over 6*

Instead of spending money on new wrapping paper or gift bags, make your own. Friends and family members will enjoy receiving something made by hand.

- Decorate plain newsprint, brown craft paper, boxes, grocery bags, or old cardstock using stencils, collage, crayons or markers (these papers can be recycled later).
- Use old gift wrap, newspapers, fabric or wallpaper scraps to make a gift bag. Search “make your own gift bag” on the internet for pattern ideas.
- Enlist the help of people who can sew and create reusable cloth gift bags. Encourage people to give gifts in the bags and reuse them each year. The bags could also be sold as a fundraiser. Find instructions at [www.wikihow.com/Sew-a-Cloth-Gift-Bag](http://www.wikihow.com/Sew-a-Cloth-Gift-Bag).

**Suggested supplies:**
- Supplies listed above, plus scissors, paint or glue if needed.

Recycled holiday cards

*All ages*

Collect old holiday cards and make new cards from the old ones. The cards could be used, sold as a fundraiser, or given to others.

**Suggested supplies:**
- Old holiday cards, scissors, glue, and new or created envelopes.

Cookie/brownie mix gift containers

*Adults, teens and children over 3*

Using small, plastic coffee containers, have the group mix dry ingredients for cookies and brownies. Put mix into the coffee can. To make a great gift, decorate with a strip of recycled paper around can, hang a cookie cutter with ribbon from the can, and include the recipe.

**Suggested supplies:**
- Dry ingredients for cookies or brownies, empty plastic jars or coffee cans, recycled paper, ribbon, cookie cutter for decoration, recipes printed on paper.
Buy used first
Adults and teens

Each year, 32 million pounds of usable clothing and household goods—enough to fill shopping carts from Minneapolis to Milwaukee—are thrown away by Hennepin County residents. Share the Choose to Reuse Today Donation Opportunities Guide. If internet access is available, demonstrate how to use Hennepin County’s Choose To Reuse Directory, available at www.hennepin.us/choosetoreuse and the Twin Cities Free Market, at www.twincitiesfreemarket.org. Discuss how people have donated items they don’t need and creative ways to buy or get used items.

Suggested supplies:
• Handout: Choose to Reuse Today Donation Opportunities Guide
• Computer with internet access (if possible)
• Each September, Choose to Reuse coupon books that have discounts at reuse stores in October and November are available free from Hennepin County. Call 612-348-4787 to request copies to distribute.

Discussion starters: In your experience, what are some of the best items to get secondhand? Why? In our community, what are some good sources for getting used items? Have you ever experimented and tried not to buy any new items (besides food, toiletries, etc.) for a week or month? What are some benefits of buying used items and donating old items? When your child outgrows or no longer plays with a toy/game/puzzle, what do you do with it? What is the difference between a “need” and a “want?”

Build a compost bin
Adults and children 8 and older

Food that could be eaten or composted makes up 11 percent of our waste. Composting is a natural process where food scraps such as vegetable peels, fruit rinds and coffee grounds, plus yard wastes, are put in a pile or bin to decompose. As gardeners and farmers know, finished compost is a resource that improves soil. Home composting is simple and doesn’t require special equipment or permits. Refer to the handout How to Compost.

Organize your group to build simple bins with reused materials, or to purchase compost bins in bulk. Experienced composters can visit the backyards of others to recommend where to place the bin and how to effectively use it. Consider composting food waste at your next festival or event. Ask a Master Gardener to give presentations about composting.

Suggested supplies:
• Handout: How To Compost
• Materials to build bins and tools

Parties for children and teens
Children, teens, adults

Discuss ways to make your next birthday party a low-waste event (see Party Planning Tips in the Greening Your Celebrations handout or visit RethinkRecycling.com/Events for ideas, and consider doing activities from this Toolkit at the party).

Books, toys, music, clothes or gift swap party
Adults, teens, children 6 and older

Everyone loves new things, even when they’re used items. Organize a party where no one spends money and everyone leaves with gifts! Have adults or children look through their things and collect gently used items they no longer want (consider a theme, such as books, music, toys, kitchen items, clothes, shoes, jewelry, etc.) Bring the items to a gathering and exchange them (casually by laying everything around your space, or formally by swapping items or making a game of it). Talk about other ways to donate or get rid of things you don’t use.

Suggested supplies:
• Handout: Choose to Reuse Today Donation Opportunities Guide (see Appendix)
Eco fashion show
Teens, children over 6, or adults
Organize an Eco Fashion Show by showing off reused clothes that have been purchased or created, and/or include clothes that are made from recycled materials (e.g. polar fleece). Award prizes. Create recycled fashions using the activities below.
• “Potato Chip Bracelet” activity in Appendix.
• “Jeans Bag” activity in Appendix.

Eco drama
Teens, children over 6, or adults
Organize and perform an Eco Drama (play or skit) for your group about reusing, reducing, recycling or other environmental themes. Some groups center the performance around a plot of a popular movie or book.

Reuse art projects
All ages
Have your group provide unwanted items that could be glued, cut, or sewn into a new project. Allow youth to use their creativity or create a sample of what they could create. Some ideas include: decorate an old picture frame, sew old jeans into a bag (see Appendix), sew old clothes into new clothes, create a mural from items that can’t be recycled. Remember not to glue or tape items that can be recycled in ways that make them impossible to recycle later.

Suggested supplies:
• Reusable art materials
• Markers
• Glue
• Glitter
• Art scraps such as yarn, ribbon
• Fabric
• Sewing machines (if needed)
Consider a visit to ArtStart’s ArtScraps Store (www.artstart.org).

Reduce junk mail
Adults
The average American household receives more than 500 pieces of advertising mail each year. Share the handout Hold the Mail and discuss what people have tried to do to reduce junk mail. Discuss how nearly all mail can be recycled (e.g., all paper can be recycled, and CDs that come in the mail can be recycled at drop-offs like Best Buy, etc.). Consider creating a challenge to see how much junk mail your group can reduce.

Suggested supplies:
• Handout: Hold the Mail (see Appendix)

Discussion starters: About how much unwanted mail do you get every day or every week? What have you already done to reduce the amount of unwanted mail you receive? Why do our names and even our children’s names end up on so many lists? (One answer: Direct marketing is cost effective for businesses).
Make a junk mail tree
Adults and children over 4
Create a two- or three-dimensional tree out of junk mail (directions in the Appendix). To educate others to reduce junk mail, display the tree in a prominent location with information on how to reduce junk mail.

Suggested supplies:
• Handout: *Hold the Mail* (see Appendix)
• Directions for building a junk mail tree (see Appendix)
• Junk mail from home (remove personal information)
• Display boards, markers, scissors, tape

Sensory/shaker bottle
Parents with infants/toddlers
Create "sensory bottles" (that make noise or have movement) out of pop and/or bottled water containers. Use clean, empty bottles with lids. Have a variety of objects set out in bowls such as pompoms, feathers, Q-tips, dried beans, etc. Parents and children can put items into the bottle. Hot glue or duct tape lid on so children are prevented from opening the bottle and choking on the contents.

Suggested supplies:
• Empty pop and/or bottled water containers
• Items to put in empty bottles (pompoms, feathers, Q-tips, dried beans)
• Hot glue or duct tape

Make new crayons from broken ones
Adults and children 3 and older
Instead of throwing away broken crayons, parents and children can make new ones together. An oven is needed for this activity.

To make crayons:
– Peel all paper off broken crayons
– Preheat oven to 275 degrees F.
– Spray large or small muffin tins with cooking spray
– Fill tins with unwrapped crayons (solid or mixed colors)
– Bake for 7 – 14 minutes
– While still warm, use a toothpick to swirl colors if desired
– Cool completely, then pop out of tins

Suggested supplies:
• Broken crayons
• Oven
• Muffin tins
• Spray oil
• Toothpicks
Environmental Education Toolkit for Community Groups/Recycling

Campaign goal

Participants will learn:

- Which items can be recycled and how to take action to recycle more items.
- How recycling saves natural resources and reduces climate change.
- Why purchasing items that are recyclable and made from recycled materials is beneficial.

Resources

Essential background reading

- If you plan to teach others about this issue, please become familiar with the information provided in the Background section (see pg. 16).
- Residential Curbside Recycling Guide (see Appendix).

Web resources

- [www.hennepin.us/recycling](http://www.hennepin.us/recycling)
  Links to city recycling contacts, recycling drop-off centers and tips for apartment and condominium recycling.
- [RethinkRecycling.com](http://RethinkRecycling.com)
  Your go-to guide for waste and recycling in the Twin Cities.
- [www.ci.minneapolis.mn.us/solid-waste](http://www.ci.minneapolis.mn.us/solid-waste)
  Information on the city's trash and recycling program, including how to sort recycling, how to get an extra bin and other recycling container options.
- [www.recyclemoreminnesota.org](http://www.recyclemoreminnesota.org)
  The Minnesota Pollution Control Agency's website for statewide recycling information.
- [www.recyclenewminnesota.org](http://www.recyclenewminnesota.org)
  The Recycling Association of Minnesota's website offers posters, educational DVDs and other resources for educators.
- [www.eurekarecycling.org/study_MultifamilyRecycling.cfm](http://www.eurekarecycling.org/study_MultifamilyRecycling.cfm)
  This guide developed by Eureka Recycling offers tips to encourage recycling in apartment buildings.

Handout print resources

Samples can be found in the Appendix

Contact your city for specific recycling information. Contact information for city recycling programs can be found at [www.hennepin.us/recycling](http://www.hennepin.us/recycling) or [RethinkRecycling.com](http://RethinkRecycling.com).

From Hennepin County

- Residential Curbside Recycling Guide (also available in Spanish)
- Recycling chart activity for kids
- To order:
  Order literature online at [www.hennepin.us/literatureorderform](http://www.hennepin.us/literatureorderform) or call 612-348-4168.

Resources, cont'd on the next page
Learning trunks

- **Reduce, Reuse, Recycle Learning Trunk**
  The learning trunk includes examples of items that can be recycled, samples showing the recycling process, activity ideas, books and DVDs for all ages.

- **Recycled Products Learning Trunk**
  This trunk demonstrates the importance of completing the loop by purchasing goods made from recycled materials. It includes example products, activity guides, books, posters, DVDs and videos.

- **Recycling Sorting Activity**
  The activity includes materials that can and cannot be recycled.

Contact Hennepin County Environmental Services to check out a learning trunk at 612-348-4168 or visit www.hennepin.us/environmentaleducation.

Background

Residents and businesses in the Twin Cities area recycle more than 1.3 million tons of waste each year. That’s about 43 percent of the garbage we generate. Curbside recycling is simple and convenient and is something the entire family can help with.

Your recycling duties are not over when you place your bin at the curb. To close the recycling loop, recyclables must be made into new products. To make recycling work, people must purchase items made from recycled materials, such as notebooks, copy paper, trash bags and door mats. Look on a product’s label for the words “this item is made from recycled materials,” “made from post-consumer content” or “made from reclaimed materials.”

Recycling in your community

Each city or town creates its own rules and processes for recycling. Materials collected, sorting requirements and other requirements can all vary. The information contained in this chapter is general and likely accurate in your community, but there are variations. To find links to the recycling rules in your community visit www.hennepin.us/recycling or go to RethinkRecycling.com.

Dos and don’ts of recycling

- **Recycle the old recycling rules.** Curbside recycling programs have changed over the years. You can now recycle more items and your collection method may have changed. Take a few minutes to reacquaint yourself with your community’s recycling program. Visit www.hennepin.us/recycling or go to RethinkRecycling.com for links to your community’s recycling information.

- **Do recycle more paper:** for example mail, office and school papers, magazines, newspaper inserts, phone books, cereal boxes, and shoe boxes. Don’t forget your plastic bottles, glass bottles and jars, and metal cans.

- **Don’t recycle** yogurt containers, margarine tubs, styrofoam, food-soiled paper, wax paper, glassware and ceramics.

- **Think about where you generate recycling at home—**it’s not just in the kitchen. Place recycling containers where you read your mail, pay your bills and use the computer.

- **Recycle when you are on the go.** Look for recycling bins at work, school, shopping centers, gas stations and parks. If you don’t see recycling, let managers know that recycling is important to you.

- **Close the loop, buy recycled.** All the paper, plastic, metals and glass that you’ve been recycling are made into all sorts of everyday products and packages. Items labeled “post-consumer content” are made from the materials you recycle at home.
Items commonly made out of recycled materials (and what they are made from):

- Glass food jars, including baby food jars (glass)
- Pop cans (aluminum)
- Metal food cans (steel)
- Rubber welcome mats (tire rubber)
- Newspaper (mixed paper)
- Plastic lumber (plastic bottles, plastic bags)
- Checks (office paper)
- Copy paper (office paper)
- Greeting cards - Shoebox at Hallmark, Recycled Paper Greetings Inc. available at Target and other stores (office paper)
- Carpet (plastic bottles)
- Fleece (plastic bottles)
- Cardboard boxes (cardboard, boxboard)

Recycling frequently asked questions

• Which boxes are recyclable?
  If a box is kept in the cupboard, it is recyclable. If it goes in the fridge, freezer or microwave, it is not.
  The wax coating that makes refrigerator, freezer and microwavable boxes water-resistant is a problem in the recycling process. The glossy coating used on toothpaste, cereal, pasta and some cardboard boxes does not affect the recycling process.

• Which plastics are recyclable curbside?
  Remember, plastic bottles and jugs are recyclable.

![Recycling Symbols]

The symbol on the bottom of a plastic container does not mean it is recyclable – it only tells you what type of plastic the container is made of. In Hennepin County, plastic bottles and jugs are collected for recycling. However, plastic tubs and cups, such as yogurt cups, are not recyclable.

These plastics contain different additives than bottles, and there is little demand for recycling these materials in our area. In the future, these materials may be added to recycling programs.

• How should I prepare my recycling?
  Prepare recycling by:
  - Remove all caps, lids and pumps
  - Give containers a quick rinse
  - It’s OK to leave labels on
  - Do not place recyclables in a plastic bag

Quick facts and statistics

The information below can be printed, posted on your website, sent in e-mail messages, or used in other ways to remind your community of the importance of recycling.

• Recycling paper doesn’t just save trees! Production of recycled paper uses 80 percent less water, 65 percent less energy and produces 95 percent less air pollution than paper production using raw materials.

• A newspaper is recycled and back in circulation in less than four weeks.

• Nationally, only one out of every five plastic bottles is recycled.

• Recycling one aluminum can saves enough energy to power a TV or computer for three hours.

• Recycling one glass jar saves enough electricity to light a conventional 60-watt bulb for four hours or an 11-watt compact fluorescent bulb for 20 hours.

• It takes 95 percent less energy to make aluminum from recycled material than it does to make it from scratch. Making new products from recycled steel results in a 60 percent energy savings, using recycled plastic results in a 70 percent energy savings, and using recycled glass results in a 40 percent energy savings.

• Five plastic soda bottles yield enough fiber for one extra large T-shirt, one square foot of carpet or enough fiber fill for one ski jacket.

• Recycling reduces greenhouse gases. In one year, recycling in Minnesota reduces emissions equal to taking 1.2 million cars off the road.
Activities

America Recycles Day – November 15
All ages

Promote household recycling and goods made from recycled materials. Display samples of clothes and goods made from recycled materials (see the Recycling Guide in the Appendix for ideas). Hand out or display the list of items commonly made from recycled materials (see the list earlier in this chapter). Ask participants to shop for these items the next time they need them. Weigh or count the amount of recycling or number of bags (e.g., similarly sized paper bag or kitchen garbage bag) participants have recycled per week/month since the start of your campaign.

Resources:
- America Recycles Day Toolkit: www.recycleminnesota.org/htm/ProAmRec.htm for information on planning events on America Recycles Day
- Handout: Residential Curbside Recycling Guide
- Hennepin County Learning Trunks – Reduce, Reuse, Recycle Learning Trunk and the Recycled Products Learning Trunk
- Recycling images and articles are available to download and use. Visit www.swmcb.org/current-campaigns and click on Reinvigorating Residential Recycling Campaign

Sorting game
All ages

Each community determines how recyclables need to be sorted (or not sorted) to be put out at the curb. Check RethinkRecycling.com or call your city to learn how to sort materials for recycling in your community. Use this activity to help participants practice sorting. Set up five boxes—one for paper, one for cans, one for plastic bottles, one for glass bottles and jars, and one for items that cannot be recycled (note that you may want to exclude glass bottles if small children are participating). Sort cans, plastics, paper and trash (non-recyclables) into labeled bins. Offer prizes made from recycled materials.

Suggested supplies:
- Items that can be recycled, including office paper, newspaper, cardboard, plastic bottles, aluminum cans, glass bottles.
- Trash (items that cannot be recycled): plastic candy wrappers, broken toys, styrofoam cups, etc.
- Handout: Residential Curbside Recycling Guide (see Appendix)

Discussion starter: As your group is doing the sorting activity, ask “Why is it important to sort these things?” Let participants answer, but be sure to explain the recycling process—a truck takes recycling away to a facility where the materials are made into something new. You could have examples of items made with recycled content to show them (see list in the Introduction to this chapter).

Make a recycling chart
All ages

Parents and children cut out photos from magazines or draw pictures of the items that can be recycled in their community. Paste the pictures onto a blank piece of paper or the blank Recycling Chart in the Appendix. Post the recycling chart in the kitchen or near the garbage/recycling area.

Suggested supplies:
- Copies of blank Recycling Chart (see Appendix) or blank pieces of paper
- Magazines with kitchen/housewares photos
- Glue, crayons, scissors
- Handout: Residential Curbside Recycling Guide
Make a recycling “monster”

All ages

Using two paper grocery bags, parents and children can create a recycling “monster” (or other type of animal) that is hungry for everything you recycle – cans, paper, milk jugs and more! The monster can serve as a receptacle in the home for recycling.

To make:

1. Use two same-size brown grocery bags. Cut a large oval in the bottom of one of bags. Slide it upside-down over the other bag, so the oval is on top. The oval will be your monster’s mouth.
2. Decorate the bag with fabric scraps, crayons, or other materials to make the monster’s eyes, nose, hair, teeth, etc.
3. When the monster is full, pull off the decorated bag, put the recycling out for curbside collection, and replace the inside bag.
4. Adding a pipe cleaner handle will make removing the top bag easier.
5. You can make more than one monster if your community requires you to sort your recycling.

Suggested supplies:

• 2 paper bags (grocery bag or similar)
• Pipe cleaners (for handles)
• Fabric scraps, old greeting cards, bottle tops (or any other materials to decorate your monster)
• Glue
• Scissors

Recycling and global warming

Adults, teens, and children 10 and older

Share or present the one-page handout referenced below on how recycling helps mitigate global warming. Use the discussion starters below with the group.

Suggested supplies:

• Article 9: “Recycling Mitigates Global Warming” from the SWMCB Reinvigorating Residential Recycling Toolkit (see Appendix or www.swmcb.org/current-campaigns).

Discussion starters: Were you already aware of the different ways recycling can help prevent global warming? Did anything about the article surprise you? Using the examples from the article about the different ways recycling helps prevent global warming, what other things can be done, in addition to recycling, that will have similar outcomes for the natural world?
Research teams: closing the recycling loop

*Adults and teens*

Divide people into “research” teams for each type of recyclable item: paper, plastic, cans and glass. Each team researches what happens in the recycling process (from picking items up at the curb to making something new from recycled materials) and presents to the other teams. You could display examples of items made with recycled content. Hand out information about recycling in your community (information is available at [RethinkRecycling.com](http://RethinkRecycling.com)) and share a list of items made from recycled materials (see pg. 17).

**Suggested resources:**

- Paper Article #4 and Containers Article #3: Where Does it Go? from the Reinvigorating Residential Recycling Toolkit (see Appendix or download online at [www.swmcb.org/current-campaigns](http://www.swmcb.org/current-campaigns)).
- Recycling Association of Minnesota’s Educational Resources, [www.recycleminnesota.org/htm/ReEd.htm](http://www.recycleminnesota.org/htm/ReEd.htm)
- Hennepin County Learning Trunks – Reduce, Reuse, Recycle Learning Trunk and the Recycled Products Learning Trunk have examples of what products look like during the recycling process (see pg. 16 for a description).

Make a trash art mural

*All ages*

Using colorful, clean trash items that cannot be recycled, make a wall mural together as a group (or individual art projects). Consider a theme like a rainbow, a garden, undersea landscape, etc. Discuss the many small packaging items we use and discard every day. Ask participants for their creative ideas to avoid these items in the future.

**Suggested supplies:**

- Butcher paper or newsprint, glue or tape, scissors.
- Clean, colorful items that cannot be recycled, for example, food/snack wrappers, plastic straws, used wrapping paper. See the [Residential Curbside Recycling Guide](http://www.swmcb.org/current-campaigns) for a full list. Planning ahead, share the Guide in advance and ask participants to bring non-recyclable items from home.
Campaign goals

Participants will:
- Learn to identify household hazardous products and describe where they can be found in the home.
- Be able to read and analyze product labels for safe use.
- Identify ways to reduce toxic chemicals in the home, including how to clean their homes using less hazardous products.

Resources

Essential background reading
- The toxicity reduction Background section (see pgs. 22-25)
- Hennepin County handouts (see Appendix)
  - Household Hazardous Waste and Problem Materials Guide (also available in Spanish)
  - Drop-off Facilities brochure
  - Non-Toxic Cleaning Recipes

Additional background information (see Appendix)
- Minnesota Pollution Control Agency’s
  - Reduce the Need for Pesticides and Herbicides
  - How to Grow a Healthy, No-Waste Lawn and Garden

Web resources
- www.hennepin.us/dropoffs
  Hennepin County operates two drop-off facilities for residents to properly dispose of household hazardous wastes. The Brooklyn Park and Bloomington facilities are open year-round. For more information, call 612-348-3777.
- www.hennepin.us, search: a to z guide
  Hennepin County’s A to Z How-To-Get-Rid-of-It Guide is an online resource with information on how to dispose of more than 400 common household items.
- RethinkRecycling.com
  Your go-to guide for waste and recycling in the Twin Cities.
- reduce.org
  Tips on how to reduce toxicity at home.

Resources, cont’d on the next page
**Handout print resources**
Samples can be found in the Appendix
From Hennepin County
- How to Identify Hazardous Product—Read the label factsheet
- Ways to Reduce Harmful Chemicals in Your Home factsheet
- Household Hazardous Waste and Problem Materials Guide (also available in Spanish)
- Fluorescent Light Bulbs: Buy Them, Use Them, Recycle Them
- Mercury and Mercury-Containing Products
- Household Batteries: Recycling and Disposal Information
- Drop-Off Facilities brochure
- Earth-Friendly Home Landscaping Guide
- Non-Toxic Cleaning Recipes
- To order: Order literature online at www.hennepin.us/literatureorderform or call 612-348-4168.

From the Minnesota Pollution Control Agency
- Reduce the Need for Pesticides and Herbicides
- How to Grow a Healthy, No-Waste Lawn and Garden
- To order: Request literature by e-mail at resourcecenter.pca@state.mn.us or call 651-757-2120. PDF versions can also be downloaded at www.pca.state.mn.us, search: learning resource factsheets.

**Learning trunks**
- Household Hazardous Waste Learning Trunk
  The Household Hazardous Waste Learning Trunk helps educators explain the importance of proper use, storage, disposal, and safety information of household hazardous products.

The trunk includes sample products for label reading activity, photos of similar-looking hazardous and non-hazardous products to illustrate the importance of proper storage, and activities, lesson plans and project ideas.

Learn more about the learning trunk at www.hennepin.us/environmental education. To reserve a trunk, call 612-348-4168.

**Video**
- Are You Exposing your Children to a Toxic Brew?
  This video explores the toxicity of common household products. It is a good introduction to the topic of toxicity reduction and the importance of label reading.
  This video is available in VHS or DVD format. The DVD has subtitles in Spanish or French. This video can be checked out by calling Hennepin County at 612-348-4168.

**Tour**

**Hennepin County Drop-Off Facility**
Touring the drop-off facility in Brooklyn Park provides an opportunity for residents and school groups to learn about how waste is managed by the county, including waste reduction, recycling, and proper disposal of household hazardous waste. Age guidelines: The tour is recommended for 3rd grade and older. Children younger than 3rd grade may be asked to remain in the conference room with a chaperone during the second part of the tour. Call 612-348-4930 to schedule a tour. For more information about tours and guidelines, visit www.hennepin.us, search: tours

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**Background**
What are household hazardous products and where do you find them? How do chemicals enter your body? How do we identify hazardous products and what can we do to decrease toxic chemicals in our homes? Let's look at how to create safer home environments for our children and ourselves.

From the water we drink to the foods we eat to how we maintain our yards and clean our homes, we are exposed to chemicals in many ways. According to the U.S. Environmental Protection Agency, only a small fraction of the more than 75,000 registered chemicals have gone through complete testing for human health concerns. Some chemicals have immediate toxic effects. Others are toxic to our bodies only after repeated, long-term exposure.

Children are especially susceptible to the negative effects of chemicals. Pound for pound, children breathe more air, drink more water, and eat more food than adults. When they play, they crawl and put things in their mouths. Even beyond the infant and toddler years, children are exposed to chemicals through consumption (ingestion) absorption (through the skin) contact and inhalation. As a result, children have an increased chance of exposure to pollutants. Because children's bodies are still developing, they may process these pollutants differently from adults.
How to identify hazardous products

The information below is also found in the Appendix, in a format suitable for copying and handing out.

We use household hazardous products every day for cleaning and fixing our homes, maintaining our cars and taking care of our lawns. To distinguish hazardous products from other products used in and around the home, you can look at the labels.

A hazardous product has one or more of these words (often called signal words) on the label: Caution, Warning, Danger or Poison. These products can be found in the kitchen, laundry room, basement, garage or storage area.

When these products are not used up, and are no longer useable or needed, they must be disposed of as household hazardous waste. They must not be placed in the trash.

Examples of household hazardous wastes include acids, aerosol cans with product remaining, antifreeze, drain cleaner, driveway sealer, items that contain mercury (e.g., thermometers, thermostats and fluorescent bulbs), motor oil, oil filters, oven cleaner, paint and stains, paint thinner, paint stripper, pesticides, pool chemicals and wood preservatives.

Signal words

Signal words explain how toxic or hazardous a product is. Signal words are required by law on the labels of hazardous products.

- **Caution**—mildly to moderately hazardous (not fatal if swallowed but the product may irritate the skin or make a person sick)
- **Warning**—moderately hazardous
- **Danger**—extremely hazardous, i.e., extremely flammable, corrosive or highly toxic
- **Poison**—highly toxic (harmful or fatal if swallowed)

Characteristic words

Characteristic words indicate the type of hazard posed by a product and are usually found after the signal word on the label. The following terms are characteristic words:

- **Flammable/Combustible:** This means that the product can easily catch fire and support a flame.
- **Corrosive:** The words “corrosive,” “acid,” “caustic,” “lye,” “alkaline,” or “causes burns to the skin” mean that the product can burn the skin or eyes. This material can also eat away other materials with which it comes into contact.
- **Toxic:** The words “poison” or “harmful if swallowed” mean that the product is poisonous and can be harmful or fatal if swallowed, inhaled, or absorbed through the skin.
- **Reactive:** The words “do not mix with…” or “store separately from other products” mean that the product may react violently or produce toxic gas if combined with other substances. Examples include certain types of drain cleaners, oven cleaners or other products containing bleach, ammonia or lye.
Exposure pathways

Household hazardous products can be harmful not only to the environment but also to humans and animals. The ways that chemicals enter the body are called exposure pathways. The four exposure pathways are:

1. **Contact:** Many chemicals can cause harm by getting on your skin, in your eyes or in your nose or throat. They can irritate or burn the exposed areas. Many labels say “avoid skin contact,” “wear rubber gloves” or “wash hands after use” to warn people about possible injuries.

2. **Absorption:** This occurs when a substance enters your body through your skin or eyes.

3. **Ingestion:** When you eat or drink something, you ingest it. From the stomach or intestines, the poisons can enter the bloodstream and be carried to all parts of the body. Some harmful chemicals can stay in the body for a long time.

4. **Inhalation:** You can breathe in harmful vapors or fumes when liquids evaporate. You can also breathe in the harmful mist from aerosol sprays. From the nose or mouth, the vapors go into the lungs and then into the bloodstream. Labels may say “use only with adequate ventilation.”

How to safely store products

Storing products properly can help prevent accidents and extend a product’s life.

- Keep products out of reach of children and animals.
- Store all hazardous products on high shelves or in locked cabinets away from food items.
- Make sure the lids and caps are tightly sealed and childproofed.
- Store corrosive, flammable, reactive, and poisonous products on separate shelves and where they will keep dry.
- Store products that say “prevent freezing” (such as latex paint) indoors.
- Never mix chemicals together, such as bleach and ammonia.
- Keep products away from heat, sparks, flames, or other sources of ignition.
- Do not buy more than you need.
- Keep products in their original containers, and make sure the label is legible.
- For long-term storage, place waterproof transparent tape over product labels to prevent them from falling off.

How to properly dispose of household hazardous waste

Improper disposal of household hazardous waste, such as throwing it in the trash or pouring it down the drain, could harm your family or trash hauler. Improper disposal may also contaminate the air, water and soil.

To address the household hazardous waste disposal issue, counties operate household hazardous waste collection sites where residents can safely dispose of household hazardous waste, often free of charge.

Visit [RethinkRecycling.com](http://RethinkRecycling.com) to find disposal options and more information on county household hazardous waste drop-off sites. Hennepin County offers two drop-off facilities for residents to properly dispose of household hazardous wastes for no charge. These facilities, located in Brooklyn Park and Bloomington, are open year-round. For more information, visit [www.hennepin.us/dropoffs](http://www.hennepin.us/dropoffs) or call 612-348-3777.
Ways to reduce harmful chemicals in your home

You can make simple changes to reduce exposure to toxic chemicals at home by considering the following options.

• If you have household chemicals that you don’t want or need, dispose of them. Give usable products to a friend or neighbor who will use them up. If products are unusable or you don’t know someone who can use them, take them to your county’s household hazardous waste drop-off site to be disposed of properly. Visit RethinkRecycling.com for information on acceptable wastes and collection sites.

• If you have a mercury thermometer in your home, take it to your county’s household hazardous waste drop-off site. The drop-off sites accept fever and kitchen thermometers that contain mercury. If you need to use a thermometer, use a mercury-free alternative such as an alcohol or digital thermometer.

• Remove your shoes at the entrance to your home. Your shoes can track in pollutants from outside. Keep a floor mat at the entrance for visitors.

• Use a fabric shower curtain instead of a vinyl one. Vinyl shower curtains or liners release odors and chemical gases into the air. Use a shower curtain made of canvas, hemp or polyester instead.

• Avoid chemical air fresheners. To freshen the air, open the windows or simmer a mixture of cloves and cinnamon in water.

• Avoid laundry and dishwasher products that contain chloride or chlorine bleach (sodium hypochlorite). If whitening is needed, use a non-chlorine bleach with oxygen or hydrogen peroxide.

• Avoid the chemicals used in dry cleaning. Clothes that have been dry cleaned release perchlorethylene (perc) gas, a chemical that is suspected to cause cancer. Air out clothes that have been dry cleaned before bringing them into your home. Better yet, buy clothes that don’t need dry cleaning or have clothes cleaned by an alternative cleaning process (green cleaning) that does not result in the release of perc.

• Use pump spray products instead of aerosols. Aerosols put unnecessary chemicals in indoor air when you use them in the house, and the mist produced by a pressurized aerosol can is finer and more easily inhaled than the mist from a pump spray.

• Buy fewer household chemicals. Use multipurpose cleaners to avoid buying many specialty cleaners. Use single-ingredient products (baking soda, white vinegar, lemon juice, salt) that serve several functions. Make your own cleaners (see Non-toxic Cleaning Recipes). Sometimes muscle can replace chemicals. Try to dislodge a clog in a drain with a mechanical “snake.” Scrub sink stains with an abrasive sponge. Use a dandelion digger instead of weed killer.

Visit RethinkRecycling.com to find disposal options and more information on county household hazardous waste drop-off sites.

Quick facts & statistics

The information below can be printed, posted on your website, sent in e-mail messages, or used in other ways to gently remind your community of the importance of toxicity reduction.

• Learn the signal words that are used on labels explain how toxic or hazardous a product is. Look for products labeled Caution and avoid products labeled Danger or Poison.

• Mercury is a potent nervous system toxin which also affects reproduction and development. Because mercury does not degrade, it accumulates in the environment, reaching dangerous levels in fish which results in fish consumption advisories.

• One gallon of improperly disposed of motor oil can contaminated one million gallons of water.

• According to the U.S. Environmental Protection Agency, only a small fraction of the more than 75,000 registered chemicals have gone through complete testing for human health concerns.

• Always follow product label directions for use since using more is not always better, e.g. over fertilizing.

• Never mix different products together unless you are making a known non-toxic cleaning product. Mixing bleach and ammonia creates a toxic gas that can make you very sick.

• Q. What do I do with old televisions, computers, etc.? A. Sell them, fix them, or recycle them. See RethinkRecycling.com for options.
Activities

Label reading

Adults and teens

Have participants complete the *Chemicals in the Home* quiz (see Appendix). Ask participants to list household products they use in the kitchen, bathroom, on floors, woodwork and windows, or in the yard, garden, etc. If possible, ask for the list in advance and have examples from the list available. Write list on board. Share household hazardous waste facts from this chapter, then complete the *Label Reading Activity*.

- Have participants divide into pairs and give each pair two examples of household/yard/garden products.
- Give each person a copy of the *How to Identify Hazardous Products–Read the Label* factsheet and review it briefly.
- Give each pair a copy of the *Label Reading Activity* and have them look at the labels and fill in the sheet. Have pairs share the information they found on one product with large group.
- Pass out the *Ways to Reduce Harmful Chemicals in your Home* factsheet and discuss what people can do.
- Get the group back together to brainstorm ideas

Suggested supplies:

- Common household products that participants identify that they use, e.g., window cleaner, disinfectant wipes, all purpose cleaner, bleach, paint, lawn and garden items, etc.
- *Chemicals in the Home* quiz, *Label Reading Activity* and a *Home Hazardous Products Survey* (see Appendix)

Discussion Starters: Have you read labels on products in the past? If yes, what were you looking for? In the past, did you consider the products you use “harmful?” What are some easy first steps you’ll take to reduce harmful chemicals in your home? What did you learn about the product you are currently using?

Household hazardous waste disposal

Adults and teens

Help people locate Hennepin County Drop-off Facilities and distribute a list of what is accepted at the facilities. If you have elderly or immobile family members, help them identify and properly dispose of their household hazardous waste.

Handouts:
- *Hennepin County Drop-off Facilities* brochure
- For facilities outside Hennepin County, visit [RethinkRecycling.com](http://RethinkRecycling.com)
- See the Appendix for a PowerPoint presentation that gives additional background information on household hazardous waste and toxicity reduction.

Note: Many communities wish to organize hazardous waste collection events, however safety and regulations prevent this. Please encourage participants to use county drop-off facilities or collection events.
Environmental Education Toolkit for Community Groups/Toxicity Reduction

Make a non-toxic household cleaner

Adults and teens

Provide each participant with a plastic spray bottle and the recipe for the non-toxic, general household cleaner. Together, make the spray for each parent to take home. Discuss differences in price and safety issues of this kind of product compared to others. Hand out the Non-Toxic Cleaning Recipes for other products.

• Non-toxic cleaner recipe for 32 oz. bottle
  – 1/2 c. white vinegar
  – 3 1/2 c. hot water
  – 1 tbsp. liquid dish soap
  – Essential oil (A few drops are optional. Be advised some of these are flammable and hazardous and may be a problem for people with chemical sensitivities, allergies or asthma)

Directions: In 32 oz. spray bottle, add vinegar, fill with hot water. Add essential oil if desired. Add dish soap last.

Suggested supplies:
• Ingredients for non-toxic cleaner
  – 32 oz. spray bottles
  – Labels printed with the recipe and clear packing tape to secure label to the bottle and waterproof it.
  – Measuring cups and spoons
• Handout: Non-Toxic Cleaning Recipes

Discussion starter: Does anyone already make their own non-toxic cleaning products? Where did you get the recipe? How effective are the products? Have you saved money? Keep in mind that it is important to use recipes from a safe source, such as the Minnesota Pollution Control Agency, and to be careful when mixing any products.

Fluorescent bulb recycling awareness campaign

Adults and teens

If your group has been making the switch to compact fluorescent lighting (CFLs), close the loop by teaching people how to properly dispose of CFLs. CFLs contain mercury and must not be thrown in the trash. If you give away CFLs, attach information on proper disposal at county household hazardous waste drop-off facilities or recycling at a local retailer.

Suggested supplies:
• Handout: Drop-off Facilities brochure
• Website: Hennepin County’s A to Z How-To-Get-Rid-of-It Guide, www.hennepin.us, search: A to Z

Electronics recycling awareness campaign

Adults, teens, and children 10 and older

Electronics recycling has never been easier or more important. Most electronics contain toxic metals such as lead, mercury and cadmium. When any of these contaminants get into our rivers, streams or lakes, they harm our health and damage the environment. Help your group find easy and convenient recycling options. Hennepin County takes electronics free of charge, year-round, from residents at drop-off facilities in Brooklyn Park and Bloomington. Visit www.hennepin.us/dropoffs for more information. For additional recycling opportunities, visit RethinkRecycling.com.

Resources:
• E-waste educational tool kit: The Solid Waste Management Coordinating Board has sample articles, images and advertisements to promote e-waste recycling. www.swmb.org/current-campaigns/electronics-recycling-campaign.
• Handouts:
  – Drop-off Facilities brochure

Techno trash

Adults and teens

Electronic waste (or e-waste) such as old cell phones and TVs need to be recycled to make sure the heavy metals they contain do not get into our water, soil or air. Have parents take the E-Waste IQ Quiz. Using the Household Hazardous Waste and Problem Materials Guide, set examples of problem materials around the room and ask parents what they think should be done with them, then share answers from the guide. Visit the following link for the E-Waste IQ Quiz and additional information on how electronics from the United States affect other parts of the world: http://www.ngm.nationalgeographic.com/ngm/2008/01/high-tech-trash/trashquizinteractive.

Suggested supplies:
• E-Waste IQ Quiz
• Handouts:
  – Household Hazardous Waste and Problem Materials Guide
  – Fluorescent light bulbs: Buy them, use them, recycle them.
  – Mercury and Mercury-containing products
  – Household Batteries Recycling and Disposal Information
• Examples of problem materials from the guide, such as cell phones, batteries, compact fluorescent bulbs, etc.
Grow grass seeds

_**Adults and young children**_

Grow grass seeds together and talk about the chemicals that are often used on lawns and gardens.

To prepare seeds: Put potting soil in a container. Sprinkle grass seeds into the soil, cover loosely with more soil, water using a spray bottle, and put in a sunny location. A fun twist: using a stick or pencil, scratch the child’s name or first initial into the soil, drop seeds into the scratching, and the grass will grow in the shape of the name.

**Suggested supplies:**

- One large, shallow wooden or plastic box or planting tray for all participants to share or individual containers such as old yogurt containers or cut-off plastic bottles.
- Potting soil
- Grass seeds
- Sticks or pencils (optional)
- Handout: _Earth-Friendly Home Landscaping Guide_
- Handout: _Reduce the Need for Pesticides and Herbicides_

**Discussion starter:**

Ask participants what kinds of chemical products (e.g. pesticides, herbicides, fertilizers) they currently use to care for their lawn or garden. Share information about less toxic gardening and lawn care.

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**Video: Are you Exposing Your Children to a Toxic Brew In Your Home?**

_**Adults**_

This short video explores the toxicity of common household products. It is a good introduction to the topic of toxicity reduction and the importance of label reading.

This video is available in VHS or DVD format. The DVD has subtitles in Spanish or French. It may be borrowed from Hennepin County by calling 612-348-4168. Discuss the video’s information, how products are used and the hazards.

Note about the video: This video was produced in Canada. The narrator references laws about product labeling. Please note these apply to Canada only. In the U.S., the Environmental Protection Agency regulates pesticides, the Consumer Product Safety Commission regulates non-pesticide hazardous products, and the Food and Drug Administration regulates cosmetics and personal care products. For the most part, these agencies do not regulate what goes into the products but what information must appear on the labels.

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Children are especially susceptible to the negative effects of chemicals.
Energy Conservation & Climate Change

Campaign goals

Participants will learn:

• How their actions contribute to greenhouse gas emissions and climate change.
• How climate change could affect Minnesota.
• Actions they can take to conserve energy.

Resources

Essential background reading

If you plan to teach others about this issue, please become familiar with the information provided in the background section.

Additional background information

You may want to understand these details to lead some of the activities described in this section.

“Low Carbon Diet: A 30 Day Program to Lose 5000 Pounds” by David Gershon – a fun workbook for the whole family with step-by-step activities to reduce household emissions.

“Save Energy, Save Money” by The Family Handyman – a great technical guide to home efficiency improvements, including tuning equipment, weatherstripping and air sealing, and insulation.

Web resources

• www.hennepin.us/coolcounty
  Hennepin County has information on what residents can do to reduce their impact on climate change.
• www.hennepin.us, search: solar
  Hennepin County has a solar array on the roof of the county Public Works Facility. View an online monitoring tool that has data about energy generated and avoided greenhouse gas emissions.
• www.ci.minneapolis.mn.us/Sustainability
  Information about the city of Minneapolis’ Sustainability Indicators and special initiative, including Climate Change Grants and Homegrown Minneapolis.
• www.mnenergychallenge.org
  This free, online resource helps individuals calculate their carbon footprint.
• www.epa.gov/cleanenergy/energy-resources/calculator.html
  Use the EPA's Greenhouse Gas Equivalencies Calculator to see the real-world impact of carbon dioxide emissions.

Resources, cont’d on the next page
Background

Anyone who takes an interest in observing nature over time can see signs that the climate is changing. Plants are blooming earlier in the spring, the ice out date on lakes is occurring earlier in the year, and animal ranges are shifting.

Climate change is not a new phenomenon. Many factors, including fluctuations in the Earth's orbit, varying energy from the sun, volcanic activity and changes in ocean circulation cause the climate to change gradually over time.

However, the rapid rate at which the climate has been changing for the past 50 years is unusual. Up until the 1960s, climate models that only account for natural forces could explain the observed variations in the Earth's climate. Since the 1960s, climate models that only take into account natural forces have increasingly diverged from the observed climate. The difference – an overall warming of the Earth – is explained by the increase in the concentration of greenhouse gases in the atmosphere, which is almost certainly the result of human activity.

We need to reduce the amount of greenhouse gases humans are putting into the atmosphere to provide more time for adaptive strategies to be adopted and to avoid significant disruptions to the environment and the economy.

How do increases in greenhouse gas emissions contribute to climate change?

Increasing levels of greenhouse gases, such as carbon dioxide, in the atmosphere are warming the planet. Like windows in a greenhouse, greenhouse gases trap the sun's heat and insulate the planet. In addition, deforestation and changing agricultural patterns are reducing the rate at which carbon dioxide can be removed from the atmosphere. Typically, carbon dioxide and other greenhouse gases are removed from the atmosphere by plants, whose leaves absorb the gases.

Carbon dioxide emissions from humans come primarily from the burning of fossil fuels, such as gasoline and diesel used to fuel vehicles and coal burned to generate electricity. Minnesota's carbon dioxide emissions have increased 37 percent over the past 20 years, according to the Minnesota Pollution Control Agency (MPCA).

How do my actions produce greenhouse gas emissions?

As we go about our daily routines, the fossil fuels we use directly and indirectly produce greenhouse gas emissions. The two largest contributors to our carbon dioxide emissions are the fuel burned in our personal vehicles and the energy used in our homes.

The average Minnesota family generates 51,900 pounds of carbon dioxide annually through the energy used in their home and transportation, according to the Minnesota Energy Challenge.
What does climate change mean for Minnesota?

Climate change is already noticeable. Animal and plant habitats are shifting, weather patterns are changing, and severe storms and droughts are becoming more common.

Minnesota has warmed an average of 1 degree Fahrenheit during the past century according to the MPCA. Precipitation has increased by 20 percent since 1990 in parts of Minnesota, especially southern Minnesota. If temperature readings and precipitation continue to increase within the next century, Minnesota might soon feel and look more like Missouri.

Other impacts of climate change in Minnesota include the following.

**Changes in ecosystems**

Changes in the climate alter the plant and animal species that can survive in a certain area. This has an impact on some of the unique ecosystems and wildlife species that are currently found in Minnesota.

- Areas of the state that are forested will decline by as much as 50 - 70 percent, replaced by grasslands and savannas. The unique northwoods of pine and aspen will be replaced by forests of oak and other trees.

- Reduction in the size and number of prairies due to possible drying. Minnesota prairies are the most important breeding ground for North American waterfowl as well as countless species of birds and insects. Prairies are also home to some endangered plant species.

- Temperature and moisture patterns will change faster than plant and animal communities can adapt. This will result in the extinction of numerous plant and animal species in the next 100 years. Loss of habitat for cold-loving creatures such as trout and moose would cause the decline of these species in Minnesota.

- Some pests, diseases, and invasive species may be able to extend their range into Minnesota.

**Global impacts of climate change**

Despite these changes, Minnesota will be less negatively impacted by climate change than many other areas of the country and the world. Minnesota may actually see some potential benefits, such as warmer nighttime temperatures in winter that would reduce heating costs and a longer growing season that would increase agricultural production (in years without drought). However, the effects of rapid climate change in other parts of the world will impact Minnesota.

- Areas of the state that are forested will decline by as much as 50 - 70 percent, replaced by grasslands and savannas. The unique northwoods of pine and aspen will be replaced by forests of oak and other trees.

- Increase in heat waves and extremely hot summer days will result in an increase in the incidence of heat-related illness and death. Hotter summers will increase demand for indoor cooling.

- Milder winters with less snow will decrease opportunities for winter recreation. Milder winters will also affect animal hibernation patterns, stressing food supplies and habitats.

**Water resources stressed**

- Increased lake evaporation in the summer and decreased length of ice cover in the winter will reduce lake levels and degrade water quality.

- Reduced groundwater resources, a large source of drinking water, may be reduced due to drop in stream flow and lake levels.

- The temperature of lakes is rising, which severely stresses the plants and animals in aquatic habitats.

- Reduced water levels in Great Lakes will reduce the carrying capacity of the large lake freighters, impacting commerce.

**More extreme weather**

- Weather patterns will become more extreme. The overall frequency of both flooding and droughts will increase.

- Infrastructure for runoff and water management, such as storm sewers, is likely undersized and will need updates to deal with increases in heavy rainfall and flash flooding.

For more information about the effects of climate change in Minnesota, visit the MPCA’s website at www.pca.state.mn.us/climatechange.
What’s the difference between weather and climate?

Weather describes whatever is happening outdoors in a given place at a given time. Weather includes daily changes in precipitation, barometric pressure, temperature, and wind conditions in a specific location.

Climate describes the total of all weather occurring over a long period of time in a given place. This includes average weather conditions, regular weather sequences (like winter, spring, summer and fall), and special weather events (such as tornadoes and floods).

How do I reduce my impact on climate change?

The first step to reducing your impact is to understand how you contribute greenhouse gas emissions. The largest sources of carbon dioxide emissions from the daily routine of most people are the cars they drive and the energy used to heat and cool their homes.

The best way to reduce greenhouse gas emissions is to reduce the amount of energy you use. You can do this by driving less, using energy more efficiently in your home and recycling. By reducing the energy you consume in your daily routine, you can reduce your personal greenhouse gas emissions and possibly save money.

Visit www.hennepin.us/coolcounty for more information on saving energy and reducing your personal greenhouse gas emissions.

Calculate your carbon footprint

A carbon footprint is the amount of carbon dioxide that an individual or household puts into the atmosphere every year. There are many resources available to help you calculate your personal carbon footprint. These resources will also help you identify actions to take to reduce your impact. Join the Minnesota Energy Challenge at www.mnenergychallenge.org or use the EPA’s Personal Emissions Calculator at www.epa.gov/climatechange/emissions/ind_calculator.html.

Drive less

- Walk, ride a bike, carpool or take public transit instead of driving. When you need a car, consider using a car sharing program such as HourCar (www.hourcar.org) or Zipcar (www.zipcar.com).
- For your commute, start with leaving your car at home just one day a week. When you run errands, consider biking or walking for shorter trips.
- When you do drive, make the most of your fuel economy. Drive the speed limit and idle less. Except when in traffic, turn your engine off if you must wait for more than 30 seconds.
- Plan your errands so you can take care of them in one trip to reduce the overall miles you drive.
- Keep up on your car’s maintenance. Keep the tires adequately inflated, the engine tuned and the oil and air filters changed regularly. A well-maintained car is more fuel efficient than one with dirty filters or poorly working parts.
- Visit www.hennepin.us/coolcounty for links to bike maps, Metro Transit (bus and light rail), and other green transportation ideas.

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Visit www.hennepin.us/coolcounty for more information on saving energy and reducing your personal greenhouse gas emissions.
Reduce energy used in home heating and cooling

Improving the efficiency of how we heat and cool our homes saves money and reduces our personal greenhouse gas emissions. Home heating and cooling accounts for almost a quarter of the average Minnesotan’s carbon dioxide emissions.

- **Audit your home’s energy use.** Conducting a home energy audit can identify places where your home is using energy inefficiently and prescribe ways to improve heat retention. Contact your utility to hire a professional energy auditor, or conduct your own informal energy audit. Visit [www.energystar.gov](http://www.energystar.gov), search: “home energy yardstick,” for information on conducting your own energy audit.

- **Turn your thermostat a degree or two down in the winter and up in the summer, and install a programmable thermostat.** A programmable thermostat can control your furnace, air conditioner, air exchanger and humidifier, and it will pay for itself in no time.

- **Seal air leaks.** An enormous amount of energy is wasted when indoor air escapes through leaks in attics, walls, windows and doors. Use the caulking and weatherstripping guide from the Minnesota Department of Commerce to help you properly seal air leaks, available at [www.energy.state.mn.us](http://www.energy.state.mn.us), search: “air leaks.”

- **Keep up on maintenance.** Water heaters, air conditioners, furnaces, gas fireplaces and ventilation systems should be inspected and tuned to keep them operating efficiently and safely. Mechanical system inspections should be done annually, and furnace filters should be changed every month.

- **Add insulation.** The easiest and most cost-effective way to insulate is by adding insulation to an attic. If you have less than six or seven inches of insulation, you could probably benefit by adding more.

**Install compact fluorescent light bulbs**

Install compact fluorescent light bulbs (CFLs), especially in your most-used lighting fixtures. CFLs are up to 66 percent more efficient and last up to 10 times longer than standard incandescent bulbs. Make sure you purchase ENERGY STAR-rated CFLs. CFLs contain a small amount of mercury and must be disposed of properly at a county drop-off facility or hardware store with a drop-off program.

**Turn off and unplug appliances and electronics**

Turning off and unplugging electronics and appliances when they are not in use will save a surprising amount of energy. As much as 40 percent of the energy used to power appliances is consumed while they are turned off. Many appliances enter “passive standby” mode when they are turned off, which allows the appliances to start up quickly when switched on. Other appliances continuously use energy to power clock devices.

- **Unplugging appliances and electronics will ensure that they are not consuming energy when switched off.** Use power strips to conveniently shut off multiple appliances or electronics.

- **You can figure how much energy your appliances use by checking out an energy meter from a Hennepin County Library.**

- **Purchase energy efficient appliances and electronics by looking for the ENERGY STAR label.**

**Use your refrigerator efficiently**

- **Don’t keep your refrigerator or freezer too cold.** Recommended temperatures are 37 - 40 degrees Fahrenheit for the fresh food compartment of the refrigerator and 5 degrees Fahrenheit for the freezer section. If you have a separate freezer for long-term storage, it should be kept at zero degrees Fahrenheit.

- **Make sure your refrigerator door seals are airtight.** Test them by closing the door over a piece of paper or a dollar bill so it’s half in and half out of the refrigerator. If you can pull the paper or bill out easily, the latch may need adjustment, or the seal may need replacing.

- **Cover liquids and wrap foods stored in the refrigerator.** Uncovered foods release moisture and make the compressor work harder.

- **Regularly defrost manual-defrost refrigerators and freezers.** Frost buildup decreases the unit’s energy efficiency. Don’t allow frost to build up more than one-quarter of an inch.

- **Look for the ENERGY STAR label when buying a new refrigerator.** Select a new refrigerator that is the right size for your household. Top freezer models are more energy efficient than side-by-side models. Features like icemakers and water dispensers, though convenient, increase energy use.
**Turn down your water heater**
- Turn your water heater’s thermostat to the lowest setting that is comfortable for you and your family. For most people, 120 degrees Fahrenheit is sufficient and safe.
- Switch to a low-flow showerhead. It will use about six gallons less water per minute. Taking shorter showers saves even more energy.
- Wash clothes in cold water. Clothes will last longer and colors will stay brighter. Line-drying clothes saves even more energy.
- Insulate your water heater tank. Adding insulation can reduce the heat lost while your water heater is in standby mode by 25-45 percent. Check your warranty first.

**Reduce, reuse and recycle**
- Using less, reusing and recycling can reduce greenhouse gases. When we use less, we reduce the amount of energy needed to extract, transport and process raw materials to manufacture products. Recycling also saves energy because making goods from recycled materials requires less energy than making goods from raw materials. See the Reducing Waste and Recycling chapters of this toolkit for ideas.

**Eat local**
- On average, an American meal travels 1,500 miles to reach the dinner table. Purchasing foods grown locally can reduce the distance your food travels and the amount of fossil fuels used.
- Support local, sustainable and organic farmers by purchasing their products directly or through farmer’s markets, community supported agriculture farms (CSAs), food co-ops, natural food stores and local grocers.
- Eat foods that are in season for our region.
- Patronize restaurants that buy from local farmers.
- Bring your own container for leftovers.

**Purchase renewable energy**
- Many utility providers offer customers an option to purchase renewable energy, usually for an additional charge.
- Learn about home installations of renewable energy at [www.energy.state.mn.us](http://www.energy.state.mn.us).

**Quick facts & statistics**

The tips below can be printed, posted on your website, sent in e-mail messages, or used in other ways to gently remind your community of the importance of conserving energy.

- U.S. carbon dioxide emissions increased more than 20 percent from 1990 to 2007. (Environmental Protection Agency 2009 U.S. Greenhouse Gas Inventory Report)
- Only 20 percent of homes built before 1980 are considered well-insulated by the U.S. Department of Energy.
- Adequate insulation can cut home energy bills by up to 30 percent while increasing indoor comfort. (U.S. Department of Energy)
- Video game consoles like the Xbox, PlayStation and Wii are consuming more than $1 billion of electricity annually. (Natural Resources Defense Council)
- If all office computers and monitors in the U.S. were set to sleep when not being used, the country could save more than 44 billion kilowatt-hours and avoid GHG emissions equivalent to those from 5 million cars each year. (Source: U.S. EPA’s new Low Carbon IT Campaign)
• It takes 3,000 to 6,300 gallons of water to power one 60-watt incandescent light bulb for 12 hours per day over the course of a year. (Source: Virginia Tech study, www.vwrrc.vt.edu/watercooler/watercooler_apr08.html)

• As much as 40 percent of the energy used to power appliances is consumed while they are turned off.

• Recycling one aluminum can saves enough energy to power a TV or computer for three hours.

• Recycling an aluminum can is equivalent to saving six ounces of gasoline.

• An ENERGY STAR-qualified compact fluorescent light bulb will save about $30 over its lifetime and pay for itself in about six months. It uses 75 percent less energy and lasts about 10 times longer than an incandescent bulb. (www.energystar.gov)

• If you adjust your thermostat one degree (down in winter, up in summer) for 16 hours a day, you can save two percent on your fuel bill. (Minnesota Office of Energy Security)

Activities

Take the Minnesota Energy Challenge

Adults, teens and children with their families

This free, online resource helps households calculate their carbon footprint and identify actions you can take to reduce it. When you commit to simple changes, the online system tells you how much carbon dioxide and money you will save. Organize individuals or teams to take the Challenge and compete with other families, neighborhoods and groups.

The website also has free, online toolkits for communities, educators, or congregations to involve your group (neighborhood, block, school, etc.) in taking the Challenge together and tracking your changes.

Suggested supplies:
• Laptop computers with internet connection. If you do not have internet access, pledge cards are available from the Minnesota Energy Challenge by calling 612-335-5852.

Discussion starter: What did you learn about yourself and your family's habits after taking the challenge? What surprised you?

Conduct a home energy audit

Adults and teens

A home energy audit can help you understand how you use energy in your home and identify ways your can save energy. Have group participants audit their home energy use and set goals for the changes they plan to make. Participants can help each other with projects like weatherizing windows or sealing air leaks. There are many resources available to help with home energy audits and identifying energy-saving actions.

Your utility provider may have online tools to help you conduct your own energy audit. Your utility provider would also have professional energy auditors that can conduct energy audits.


Suggested supplies:
• Any of the resources listed above.
• Examples of weatherizing materials such as caulk, weatherstripping, plastic for windows, etc.

Discussion starter: Do you winterize your home when the seasons change? Why or why not? What barriers stand in your way? How can winterizing your home help your children?
Map your route
Adults and teens
Request free copies of the Hennepin County Road & Bike Map (see Appendix) by calling 612-596-0352, or find it online at www.hennepin.us, search: bike map. Visit Metro Transit at www.metrotransit.org or call 612-373-3333 for bus and light rail maps. Bring these materials to the next meeting of your group and help people who are unfamiliar with bike trails and public transportation find options for getting to and from work, school, or other places they frequently drive. Visit www.bikewalktwincities.org for other resources and ideas.

Suggested supplies:
• Hardcopies of the Hennepin County Road & Bike Map (see Appendix) and Metro Transit Bus and Light Rail Maps, or access to the internet.

Discussion starter: How familiar are you to nearby bike trails and public transportation routes? What trips could you walk, bike or take public transportation? Are there any barriers that are stopping you? How could you overcome those barriers?

Learn about your utility bill
Adults
Paying bills may not be any fun, but you can learn a lot of your home energy consumption from your utility bill. Have participants bring in their utility bill and analyze the information on it. Compare the energy consumption among participants. Analyze how energy consumption changes over time. Discuss what factors affect energy use and encourage participants to share steps they’ve taken to reduce energy consumption.

Suggested supplies:
• Utility bills

Discussion starter: Did you learn anything new from this exercise? Many people don’t even look at their bills (other than the amount due!) – what did this exercise change for you?

Learn about electricity consumption
Adults
Learn about appliance and electronic electricity consumption by using an energy meter.

Energy meters can help you identify high energy use appliances and electronics in your home, determine how much it costs to use appliances and identify “energy vampires” – appliances that use energy when switched off. Borrow or buy energy meters and allow group members to take them home for a week and then share their findings. Have members of your group assess the electricity use of appliances and discuss ways to reduce energy consumption.

Suggested supplies:
• Energy meters

Discussion starter: Energy meters are available for check-out at Hennepin County libraries.

Discussion starter: Did you learn anything new from this exercise? Many people don’t even look at their bills (other than the amount due!) – what did this exercise change for you?
Back in my day…

Children 8 and up, adults, and older adults (intergenerational activity)

Match up children and young adults with older adults to discuss differences in how energy is used and conserved today compared to several decades ago. Refer to the Carbon Dioxide Emissions diagram (pg. 32) and discuss the categories on it. Write up energy-saving ideas remembered by the older adults. Children can add drawings of what they heard.

Suggested supplies:
- Notepaper, audio recording device if desired.
- Art materials for children’s drawings.

Discussion starters:
- How did you get to school? How did your family get around town, or out of town? Did you have your own car?
- If you didn’t have air conditioning, how did you keep cool in the summer?
- Instead of using the computer, what did you do with family or friends for entertainment?
- What could kids today learn from older people about how to save energy?
- Are you concerned about global warming? What should we be doing about it?

Book/movie club

Adults and teens

Read books or essays that deal with energy efficiency and environmental issues, such as the movie Inconvenient Truth or the books Animal, Vegetable, Miracle or Omnivore’s Dilemma. Read books from different points of view. Discuss reactions to the information. Commit to make one or more energy-saving change based on what you learned (decided as a group or individually). Write down your commitments and share them with the group.

Suggested supplies:
- Books or essays for group

Discussion starter: What did you like or dislike about this book? How did it change your perspective on the topic? In what ways might youth, parents or older people have different perspectives on these issues?

Try a clothesline

Adults and children who can help with laundry

Clothes dryers are typically one of the top three energy-using appliances in the home. By air drying your clothes on the line or on drying racks, you can save energy and money. An average family spends $80 to $120 per year drying clothes. Inexpensive and durable clotheslines may be made from heavy duty rope or found at secondhand stores. Encourage participants to air dry clothes. A calculator to determine how much energy could be saved by air drying clothes for each family is available at www.laundrylist.org.

Discuss other ways to save energy when doing laundry. For example, washing clothes in cold water or using the dryer automatic dryness sensors.

Suggested supplies:
- Clotheslines for group members and hardware to install/mount them

Discussion starter: Do you use the clothesline? Why or why not? How do you feel about using a clothesline (some people will really like the idea, others will be averse)? Studies show that when people see others acting in certain ways, they are more likely to change their own behavior. Do you think you might influence others by simply using a clothesline? What message does it send?
**Local foods potluck**  
*Adults and children who can help cook*

Host a meal or a potluck focused on local foods – foods grown within 100, 200, or 300 miles of the Twin Cities. Award prizes for the “most local” dishes or most creative uses of local ingredients. Encourage your group members to bring their own dishware to this event. Try hosting a similar event during three or four different times of year, when the local (seasonal) foods vary. Provide your group with information on farmer’s markets or CSA (Community Supported Agriculture) programs. For more information, visit the Minnesota Grown Directory at [www.minnesotagrown.com](http://www.minnesotagrown.com).

**Suggested supplies:**
- Minnesota Grown Directory
- Reusable dishware

**Discussion starters:** Growing seasons vary widely. In countries such as Mexico, the growing season is much longer than it is here in Minnesota. In parts of Asia or India, it may be shorter. How does this affect a culture’s food choices? Did you ever think about how far food travels from farm to plate? Do you like the idea of eating locally? How might it benefit your family to join a CSA or try to eat locally?

**Bike tune-up party**  
*Adults and children with bikes*

If you or someone you know is familiar with basic bicycle maintenance, offer to help others get their bikes out of the garage or basement and onto the road! Host a gathering of friends or neighbors in your backyard, alley, or driveway. Teach kids what they can do. Visit a local bike shop for more ideas and resources on basic bike tune ups.

**Commuter captain**  
*Adults, older teens*

If you or someone in your organization is a bike commuter, enlist them to bike with those new to commuting by bike. This can help people be more comfortable with the idea when they have encouragement and support from an experienced cyclist.
Campaign goals

Participants will learn:

- What a watershed is and what watershed they are in.
- How their actions affect water quality in nearby streams, rivers and lakes.
- Actions they can take to protect water resources

Resources

Web resources

- [www.hennepin.us/naturalresources](http://www.hennepin.us/naturalresources)
  Information on water quality topics, watersheds in Hennepin County, volunteer monitoring programs and actions you can take to protect water resources.

- [www.dnr.state.mn.us/waters](http://www.dnr.state.mn.us/waters)
  The Minnesota Department of Natural Resources offers background information on a variety of water topics and data and maps of water resources.

- [www.dnr.state.mn.us/projectwet/index.html](http://www.dnr.state.mn.us/projectwet/index.html)
  Project WET (Water Education for Teachers) is an international, interdisciplinary water science and education program for formal and non-formal educators of K-12 students.

- [www.cleanwatermn.org](http://www.cleanwatermn.org)
  Offers information and educational resources on stormwater pollution prevention.

- [www.ci.minneapolis.mn.us/residents/environment.asp](http://www.ci.minneapolis.mn.us/residents/environment.asp)
  Information for residents on stormwater, rain barrels, rain gardens and drinking water.

- [www.BlueThumb.org](http://www.BlueThumb.org)
  Information for Twin Cities residents on water friendly yard and garden practices, such as planting native plants, installing a rain garden, and using a rain barrel.

- [www.worldwatermonitoringday.org](http://www.worldwatermonitoringday.org)
  You and your group can use the resources from World Water Monitoring Day to conduct water tests and learn about water quality issues like temperature, turbidity, pH, and dissolved oxygen content.

- [www.epa.gov/owow/weatherchannel/whatyoucando.html](http://www.epa.gov/owow/weatherchannel/whatyoucando.html)
  Information from the U.S. Environmental Protection Agency on what you can do to protect water quality.
Resources, cont’d from the previous page

• [www.epa.gov/OW](http://www.epa.gov/OW)
The U.S. Environmental Protection Agency Office of Water has background information on water topics and educational resources.

• [www.pca.state.mn.us/water](http://www.pca.state.mn.us/water)
The Minnesota Pollution Control Agency has information on water pollution and protecting water quality.

**Handout print resources**

*Samples can be found in the Appendix*

From Hennepin County
Order free literature online at [www.hennepin.us/literatureorderform](http://www.hennepin.us/literatureorderform) or call 612-348-4168.

– Earth-Friendly Home Landscaping Guide

– Ten Things You Can Do to Improve Minnesota’s Lakes, Rivers and Streams.

– Hennepin County Landowner Guide—A guide to help residents that own at least a few acres of property care for the natural resources on their land.

Water Quality Newsletter Articles—Use the articles, available at [www.hennepin.us/environmentaleducation](http://www.hennepin.us/environmentaleducation) in your newsletter or on your website. The topics include: Five easy things you can do to protect water quality, Adopt a storm drain, Earth-friendly lawn care tips, and Rain gardens.

**Educational displays**

*“Your Street Connects To Lakes and Rivers” Display*

Reserve Hennepin County’s interactive display that demonstrates residential (“non-point”) sources of water pollution in a simple and effective manner. Individuals place “pollution balls” down the storm drain and follow as they enter the nearby lake or stream. It is great to use at local neighborhood events, watershed festivals, or in individual classrooms. To reserve this interactive display please call Hennepin County Environmental Services at 612-348-4168.

**Stormwater education exhibits**

WaterShed Partners’ stormwater education exhibit items are available to be checked out. For a description of the items, visit [www.hamline.edu/education/environmental/cgee/Watershed/Exhibit/index.html](http://www.hamline.edu/education/environmental/cgee/Watershed/Exhibit/index.html)

**Tours**

Visit an eco-yard. Hennepin County maintains two eco-yards where residents can learn about environmentally friendly, sustainable landscaping. Visit [www.hennepin.us](http://www.hennepin.us), search: eco-yards, to learn more.

**Speakers and workshops**

• Hennepin County Environmental Services staff and Master Naturalist volunteers are available to give presentations on water quality topics. Contact Mary Karius at mary.karius@co.hennepin.mn.us or 612-596-9129 or Stacey Lijewski at stacey.lijewski@co.hennepin.mn.us or 612-348-9938.

• Hennepin County Master Gardeners are available to give presentations, host workshops or teach classes on a variety of landscaping topics. Visit [www.hcmg.umn.edu](http://www.hcmg.umn.edu) for more information.

**Background**

Minnesota is known for its abundance of water resources. Hennepin County has about 200 lakes, three major rivers – the Mississippi, Minnesota and Crow – and numerous streams, ponds and wetlands. Protecting the health of streams, rivers, lakes and wetlands is important for water quality, recreation, wildlife and tourism.

The quality of water resources in Minnesota is threatened by increasing development and pollution. When it rains, the stormwater that runs off driveways, lawns, houses and parking lots can carry pollutants such as oil, paint and chemicals down storm sewers and into nearby lakes, streams and rivers.

There are a variety of steps that individuals can take to reduce runoff and protect water resources. In this Toolkit, you’ll have access to activities, ideas and resources to help the people you work with protect our water resources.
Determine your watershed

A watershed is an area of land that catches any form of water, including rain, snow or other precipitation, and drains to a common lake, river or stream. Water resources are all connected, and actions taken to protect or pollute water will impact the quality of lakes, rivers or wetlands downstream.

Water resources are managed by either a watershed district or watershed management organization, which are special units of local government that work together to solve and prevent water-related problems. Watershed organizations regulate land-disturbing activities, perform capital improvement projects and provide environmental education related to water issues.

The watershed organization where your neighborhood, school or organization is located can provide you with information and environmental education projects related to local water resources. Use the watershed map to determine your watershed and its website. Contact Hennepin County at 612-596-9129 if you need assistance determining your watershed.

### Watersheds in Hennepin County

1. Bassett Creek Watershed Management Commission, [www.bassettcreekwmo.org](http://www.bassettcreekwmo.org)
2. Elm Creek Watershed Management Commission, [www.elmcreekwatershed.org](http://www.elmcreekwatershed.org)
3. Lower Minnesota River Watershed District, [www.watersheddistrict.org](http://www.watersheddistrict.org)
4. Middle Mississippi River Watershed Management Organization, [www.mwmo.org](http://www.mwmo.org)
5. Minnehaha Creek Watershed District, [www.minnehahacreek.org](http://www.minnehahacreek.org)
10. Shingle Creek Watershed Management Commission, [www.shinglecreek.org](http://www.shinglecreek.org)
Steps you can take to improve Minnesota’s lakes, rivers and streams

1. **Use your runoff.** You can keep water in your yard and reduce runoff by directing downspouts onto your lawn or garden or into a rain barrel. Rainwater is free and naturally soft, and can be used to water your lawn or garden.

2. **Don’t rake grass clippings and leaves into the street.** Leave them on your lawn, use them for compost, or bag them up. Grass clippings and leaves contain phosphorus and other nutrients that feed algae and other aquatic plants. This can cause excess algae growth that can negatively impact other plants and wildlife and can be unsafe for pets.

3. **Scoop the poop.** Grab a bag when you grab the leash and pick up after your pets. Pet waste left on the ground can be washed into lakes and rivers with rainwater and runoff. Pet waste contains bacteria that can cause illness in humans and animals.

4. **Use chemicals wisely.** Read and follow the label instructions when using herbicides and pesticides. Use the minimum amount needed to control the problem. If you can, consider using alternative or natural remedies to control weeds and pests, or remove the problem by hand.

5. **Fertilize smart.** Sweep up any fertilizer that spills onto hard surfaces. Excess fertilizer washes away into nearby lakes or streams where it can feed algae, causing rapid growth known as algae blooms. Algae blooms stress fish and wildlife and make swimming and fishing unpleasant or impossible.

6. **Keep a healthy lawn.** A healthy, vigorous lawn needs less watering, fewer chemicals and less maintenance. Aerate your lawn periodically to loosen the soil. Seed bare patches to prevent erosion and soil loss. Mow at a higher setting. Grass mowed to a height of 2 ½ to 3 inches develops deeper, healthier roots and has a competitive advantage over weeds.

7. **Plant a rain garden.** Rain gardens are depressions planted with a diverse mix of native wildflowers and grasses designed to collect rainwater and allow it to soak into the soil. This will reduce the water running off your property into storm sewers.

8. **Replace turf with native plants.** Swap some of your high-maintenance lawn for low-maintenance native ground cover, plants or grasses. Many native plants develop deeper root structures than turf grass, which reduces runoff by allowing for better water infiltration.

9. **Reduce your footprint.** Replace some pavement - such as a walk, patio or driveway - with pavers or pervious pavement. The porous surface will allow water to seep through.

10. **Adopt a storm drain.** Keep neighborhood storm drains free of leaves, seeds and grass clippings. Storm drains are directly connected to the nearest body of water. Water running into storm drains can carry with it anything dumped nearby including leaves, grass clippings, soil, oil, paint and chemicals.

For more information on these steps, visit [www.hennepin.us/environment](http://www.hennepin.us/environment).
Quick facts & statistics

The tips below can be printed, posted on your website, sent in e-mail messages, or used in other ways to gently remind your community of the importance of conserving water.

- Minnesota has 90,000 miles of shoreline. That’s more than California, Florida and Hawaii combined.
- Minnesota had 18.6 million acres of wetlands in 1850. In 2003, Minnesota had 9.3 million acres of wetlands. (Minnesota DNR, www.dnr.state.mn.us/faq/mnfacts/water.html)
- Water acts as a natural insulator to regulate the earth’s temperature
- Only one percent of the Earth’s water is available for drinking. The oceans hold 97 percent of the Earth’s water; only three percent is fresh water. Of the three percent that is fresh water, two percent is currently frozen, leaving one percent as available drinking water.
- It is possible to drink water that was on Earth during the dinosaur era.
- Because of impervious surfaces like pavement and rooftops, a typical city block generates more than five times more runoff than a woodland area of the same size. (U.S. EPA, www.epa.gov/npdes/pubs/nps_urban-facts_final.pdf)
- On average, a person uses about 80 - 100 gallons of water a day. The largest uses of household water is to flush the toilet and for showers and baths. (U.S. Geological Survey, ga.water.usgs.gov/edu/qahome.html)
- A five minute shower takes 10 to 25 gallons of water. A full bath requires about 70 gallons. (EPA WaterSense, www.epa.gov/watersense)
- A toilet from 1992 or earlier uses at least 3.5 gallons of water per flush. Newer toilets with the EPA WaterSense label use less than 1.3 gallons per flush. (EPA WaterSense, www.epa.gov/watersense)

Activities

Note that many of the activities in the Toxicity Reduction chapter also help improve water quality. By reducing our use of toxic household products and learning to properly dispose of them, we help keep chemicals out of our water, too.

Where in the Watershed?

All Ages

Learn about the watershed where you live. Use the watershed map in the Appendix to identify the lakes, streams and rivers in your watershed. Analyze how the water resources are connected. Have participants use highlighter pens to trace how the water that falls on the property of your home, school, or organization travels to nearby lakes, streams and rivers. Younger members of the group could create pictures or murals.

Read about what people can do to conserve water and reduce pollution in the Background section of this chapter. Encourage people to choose changes they want to make and write these on their watershed picture. Display the picture on the refrigerator or another “public” place. Plan for a fun celebration of clean water once goals/changes are met, such as a day at the beach, at the sledding hill, or on the water in a canoe, kayak or paddleboat.

Suggested supplies:
- Construction or butcher paper
- Markers, paint or crayons
- Images of water cut from magazines
- Watershed map from the Appendix

Discussion starter: What watershed do you live in? Did you know this prior to this activity? Why is it important for participants to know what watershed they live in? How can the behavior of people living in one watershed affect the people in another watershed?
Volunteer to monitor water quality
Adults and high school students

Volunteers obtain data on water quality and biological communities to assess the overall health of streams and wetlands.

- River Watch provides hands-on environmental education opportunities for high school classes and student groups.
- In the Wetland Health Evaluation Program, volunteers obtain water quality data in wetlands. Work includes collecting and identifying insects and plants and completing data sheets.

The program runs from April to August. For more information, call Mary Karius at 612-596-9129, e-mail mary.karius@co.hennepin.mn.us or visit www.hennepin.us, search: volunteer monitoring.

Maintain your drain—keep your block litter-free
Adults, teens, children 6 and over with adult supervision

Runoff from driveways, lawns, houses and parking lots can carry pollutants such as oil, paint and chemicals down storm sewers and into nearby lakes, streams and rivers. Monitoring storm drains can help keep leaves, grass, litter and other items from getting washed into lakes and streams.

Collect everything from the gutter in front of your house, school, or organization during a specific time period. Children should be closely supervised, wear gloves, and should only pick up what they recognize and know is safe to touch. Analyze what you found, and ask where it might have come from. Organize volunteers to adopt a block/area to keep free of litter on a regular basis. Share what you are doing and why with neighbors in the area.

Suggested supplies:
- Clear plastic bags
- Protective gloves

Discussion starter: Were you surprised by the amount you collected? What was the strangest item you found? The largest? How do you think this stuff winds up in the gutters? Do you think this activity has an impact?

Build or buy a rain barrel
Adults and children over 8

Rain barrels can be placed under a roof downspout to collect stormwater runoff that can be used for watering your lawn and gardens. This reduces runoff that can carry pollutants into streams and rivers. Rain barrels can be purchased at local hardware stores or through special sales organized by government agencies or non-profit organizations.

You can also build your own rain barrel. Community groups can purchase the supplies and offer free or low-cost workshops for residents who want to build a rain barrel. For instructions on constructing a rain barrel or for more information on rain barrel sales, visit www.hennepin.us, search: rain barrels.

Suggested supplies:
- Depends on the style of barrel to be built; see the link referenced above.

Discussion starter: Would you use a rain barrel? Why or why not? How has using a rain barrel affected your family’s water use?
**Lawn care contest**

*Adults*

Is a beautiful lawn possible without the use of chemicals, fertilizers, and lots of watering? The actions you take to maintain your lawn and garden can have a tremendous impact on the environment. Traditionally, yard care includes large quantities of water, fertilizers, pesticides, weed control and money. Hold a contest or demonstration project with your neighbors to show what can be done using earth-friendly methods. Invite Master Gardeners from the University of Minnesota Extension to serve as judges.

**Suggested supplies:**

Hennepin County’s *Earth-Friendly Home Landscaping Guide*. View online or order a free copy at [www.hennepin.us/sustainablelandscaping](http://www.hennepin.us/sustainablelandscaping).

**“This Drains To River!” Mark the storm drains**

*Adults and children over 10*

When volunteers mark or stencil a message next to the storm drains in the street, it reminds everyone that whatever goes down the storm drain ends up in the nearest body of water. A free Storm Drain Stenciling Guide (see Appendix or online at [www.cleanwatermn.org](http://www.cleanwatermn.org), under About You.) Storm drain stenciling must be coordinated with city government.

**Organize a river clean up**

*Adults and children over 5*

Hold a clean-up day on a section of stream, river or lake. Keep track of the type and amount of garbage found. Discuss with your group where the waste could have come from and how garbage could be kept out of rivers and streams. Consider offering prizes for the biggest or strangest item found. Resources are available to help you identify a stream to clean up and to ensure the safety of your group:

- The Adopt a River program through the Minnesota DNR helps group select a site, provides a How-To kit for organizing a clean up, and supplies free bags and gloves. Volunteers are required to commit to conducting an annual clean up for two consecutive years. For more information, visit [www.dnr.state.mn.us/adoptriver/index.html](http://www.dnr.state.mn.us/adoptriver/index.html).
- Your watershed district may provide assistance in selecting a site or offer other opportunities to get involved.

**Suggested supplies:**

- Bio bingo card (see Appendix)
- Magnifying glass, binoculars and net

**Bio bingo**

*All ages*

Encourage your group to explore nearby aquatic ecosystems. Use the bio bingo card from the appendix and search for the organisms listed on the card. Observe the environment using your eyes, a magnifying glass or binoculars, or sample the water with a net. Have players take pictures of the organisms or draw pictures of what they observe. Discuss relationships between the organisms and how changes in the environment may affect them.

**Suggested supplies:**

- Bio bingo card (see Appendix)
- Magnifying glass, binoculars and net

**Measure the pH of water**

*All ages*

The pH of water indicates how acidic or basic the water is. Most fish can tolerate pH values of about 5.0 to 9.0, but the optimum range is between pH 6.5 to 8.2. Collect water samples from a nearby lake, river or stream and use pH strips to determine the acidity or alkalinity of the water. To use the test strips, dip a strip into the water, wait until color develops and compare the color to the pH chart. Test water during different seasons or after precipitation to observe how the pH changes.

**Suggested supplies:**

- pH strips ( Kits can be ordered online, try [www.hach.com](http://www.hach.com))
- pH chart

**Rain gauge monitoring**

*All ages*

Install a rain gauge on your property to monitor daily precipitation totals. Compare results from different locations in the community. Data can be shared directly with the State Office of Climatology ([www.climate.umn.edu](http://www.climate.umn.edu)) and is used to develop maps and reports of precipitation trends. Supplies, including a rain gauge and worksheets, are available from Hennepin County. Contact Mary Karius at mary.karius@co.hennepin.mn.us or 612-596-9129 for more information.
Special events

Ideas

Greening your events

The following are some simple ways to make all of your events, gatherings and meetings as green as possible. For more information, see the Greening Your Celebrations handout in the Appendix.

• Plan ahead! Communicate your waste reduction goals to all involved.

• Try to limit paper use and handouts. Send electronic invites. Use a laptop and projector for meeting materials and make materials available electronically. Print handouts double-sided.

• Provide information on public transit and biking to your event. Encourage carpooling.

• Provide reusable dishware when offering food. Provide reusable mugs and cups, or encourage attendees to bring their own. If you must use disposable items, look for items that are recyclable.

• Make recycling easy by ensuring that recycling containers are clearly marked and readily available. Consider composting food scraps and food-soiled paper. Monitoring recycling containers and trash cans at events helps ensure that all waste ends up in the right place and can be an opportunity to educate attendees.

– Hennepin County has portable recycling containers available to rent for free for events. Visit www.hennepin.us/recycleontheago for more information.

– The City of Minneapolis offers container rental for events held in Minneapolis. The city has containers available for the collection of garbage, recycling and organics that they will deliver and pick up for a fee.

For more information on planning greener events and meetings, see the ZeroWaste Event Planning Checklist from Do It Green! Minnesota, available at www.doitgreen.org/article/goods/event-checklist, and check out the information available on www.mngreengatherings.org.

Host a special event during April (Earth Month)
Plan an event or information table for Earth Day, April 22.

Un-scary halloween party
If your program has a Halloween or fall party, invite your city recycling coordinator to come and share information (to find them, visit RethinkRecycling.com). You can also request free pencils made from recycled materials.
**Green fair**
Organize a resource fair of area community resources and services such as city recycling coordinators, Minnesota Extension Service Master Gardeners to demonstrate and discuss composting, non-profit thrift stores, vendors of eco-products, etc. Have activities that involve children, such as making toys and playing games with “trash.”

**Thrift store style show/toy exchange**
Working with local thrift stores, have group members dress up in thrift store outfits. Have audience members guess the cost of the items. Consider including a toy, book or clothing exchange as part of the event.

**Fundraiser**
### Speakers, presenters and workshops

Use these resources when planning events for your group. Availability and details may change, so be sure to confirm the details directly with the person or location listed.

#### Hennepin County Environmental Services Staff
Hennepin County staff is available to provide presentations or staff booths on a variety of environmental topics including waste reduction, recycling, toxicity reduction, water conservation and energy efficiency. For more information, call 612-348-6848 or e-mail DESmail@co.hennepin.mn.us.

#### City Recycling Coordinators
Invite your city recycling coordinator to share information at your event. Visit [www.hennepin.us/recycling](http://www.hennepin.us/recycling) or [RethinkRecycling.com](http://RethinkRecycling.com) to find contact information.

#### Artstart and Artscraps
Bring your class or group to ArtScraps for 60 minutes of art making with reused scrap materials. Programs are suitable for ages 5 and up and fees vary. Visit [www.artstart.org](http://www.artstart.org) or call 651-698-ARTS for more information.

#### Master Gardeners, University of Minnesota Extension
Hennepin County Master Gardeners do workshops and demonstrations, teach classes, answer questions and more. Fees are based on your group’s ability to pay. Call the Gardening Hotline at 612-596-2118 for questions on lawn care, composting, and other earth-friendly landscaping issues. For information on scheduling speakers, contact Terry Straub at 612-596-2130, e-mail Strau097@umn.edu, or visit [www.mg.umn.edu](http://www.mg.umn.edu).

#### Minnesota Pollution Control Agency’s Learning Resource Center & Library
The MPCA provides information and assistance on a variety of environmental topics including waste reduction, hazardous waste, composting, junk mail, water and energy. The library has more than 400 video titles on a wide variety of environmental topics. Videos can be borrowed for a two-week loan at no charge. The library offers learning trunks on recycling, waste reduction, and more. Resources are provided at no charge. For more information, visit [www.pca.state.mn.us](http://www.pca.state.mn.us), search: resource center, or call 651-757-2120.

#### Prairie Ecology Bus Center
This state-of-the-art school, mobile scientific laboratory and classroom is designed to educate school children and adults about the environment and natural sciences. Suitable for 3rd to 5th grade. Some fees may be required. For more information, call Chrystal Dunker at 507-662-5064, e-mail ecologybus@ecologybus.org, or visit [www.ecologybus.org](http://www.ecologybus.org).

#### Science Museum of Minnesota
The Science Museum will come to your location to present information on a variety of science topics. Call to find out about specific programs available. Programs are suitable for ages 4 and up. For more information, call Jen Powers at 651-221-4748, e-mail jpower@smm.org, or visit [www.smm.org](http://www.smm.org).

#### Climb Theatre
Climb Theatre performs original plays and leads classes on environmental topics for K-12th grade youth. Fee varies depending on programs. Contact: 651-453-9275, [www.climb.org](http://www.climb.org).
Kidpower with Rachael

Tricia and the Toonies
Tricia & The Toonies perform in schools and communities with themes focusing on reducing, reusing, recycling, pollution prevention, natural resource conservation and more. Offering music, puppets and skits. Appropriate for all ages. Fee vary, scholarship information is available on their website. Contact: Tricia Haynes, 952-933-3438, thetoonies.com.

Resources in other languages
Hennepin County offers several print resources in other languages, including Spanish, Hmong, and Somali. To learn more about the multicultural resources the county offers, contact Anita Urvina Davis, multicultural education coordinator, at anita.urvina@co.hennepin.mn.us or 612-348-6848.

Environmental education book list

**Toddlers and Young Preschoolers (Board Books)**
- Choose to Reuse by Miriam Latimer, Preschool
- Big Earth, Little Me by Thom Wiley, Preschool
- Don’t Throw That Away! by Laura Bergen, Preschool

**Preschool to 2nd Grade**
- It’s Earth Day! By Mercer Mayer - ages 4-8
- Charlie and Lola: We are Extremely Very Good Recyclers by Lauren Child - ages 4-8
- Curious George Plants a Tree by Margret & H.A. Rey - ages 4-8
- Easy to Be Green: Simple Activities You Can Do to Save the Earth by Ellie O’Ryan - ages 4-8
- Ecoart!: Earth-Friendly Art and Craft Experiences for 3-To 9-Year-Olds by Laurie Carlson
- Grover’s 10 Terrific Ways to Help Our Wonderful World by Anna Ross - ages 4-8
- I Can Save the Earth!: One Little Monster Learns to Reduce, Reuse, and Recycle by Alison Inches - ages 4-8

**3rd to 6th grades**
- What’s It Like Living Green?: Kids Teaching Kids, by the Way They Live by Jill Ammon Vanderwood
- 50 Simple Things Kids Can Do to Recycle by Earthworks Group
- Recycle This Book by Dan Gutman
- Eileen Green The Recycling Queen by Penelope Dyan
- Just Grace Goes Green (Fiction) by Charise Mericle Harper

Resources for adults:
- Affluenza: The All-Consuming Epidemic by John de Graaf
- Animal, Vegetable, Miracle by Barbara Kingsolver
- An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It by Al Gore
- Beyond Ecophobia by David Sobel
- Cradle to Cradle: Remaking the Way We Make Things by William McDonough
- Last Child in the Woods by Richard Louv
- Natural Capitalism: Creating the Next Industrial Revolution by Paul Hawken
- Stuff: The Secret Lives of Everyday Things by Alan Thern Durning and John C. Ryan
- The Consumer’s Guide to Effective Environmental Choices: Practical Advice from the Union of Concerned Scientists by Michael Brower
- The Naturally Clean Home by Karyn Siegel-Mayer
- The Story of Stuff by Annie Leonard

Middle and High School
- A Kids' Guide to Climate Change & Global Warming: How to Take Action! by Cathryn Berger Kate
- Second-Time Cool: The Art of Chopping Up a Sweater by Anna-Stina Linden Ivarsson, Katarina Briedits, Katarina Evans
- Heroes of the Environment: True Stories of People Who Are Helping to Protect Our Planet by Harriet Rohmer
- Making Good Choices About Recycling and Reuse by Stephanie Watson
- The Green Teen: The Eco-Friendly Teen's Guide to Saving the Planet by Jenn Savedge
- Generation Green: The Ultimate Teen Guide to Living an Eco-Friendly Life by Linda Sivertsen
- Teens Go Green!: Tips, Techniques, Tools, and Themes for YA Programming (Libraries Unlimited Professional Guides for Young Adult Librarians Series) by Valerie Colston
- Green Careers: Environment and Natural Resources by Viqi Wagner

Resources in other languages
Hennepin County offers several print resources in other languages, including Spanish, Hmong, and Somali. To learn more about the multicultural resources the county offers, contact Anita Urvina Davis, multicultural education coordinator, at anita.urvina@co.hennepin.mn.us or 612-348-6848.
When organizations begin to educate others about environmental issues, they may also want to look at internal operations and makes changes to improve their environmental performance. The following tips and resources can help you implement these changes.

This information can also be found in the Environmental Stewardship for Business factsheet (see Appendix).

### Reduce
- Preventing waste from being generated in the first place is an easy and effective way to lower disposal costs. Look for creative ways in your day-to-day operations to reduce waste.
- Avoid unnecessary printing and make double-sided printouts and copies. Start a paper reduction campaign in your office.
- Use e-mail for communications and consider using e-newsletters to reduce paper use.
- Check documents carefully before printing and edit drafts on the computer.
- Reuse scrap paper for notepads.
- Use a small fax transmission sticker instead of using a large cover sheet.
- Use reusable cups and dishware for meetings. Encourage attendees to bring their own reusable coffee mug.
- Encourage employees to pack lunches in reusable containers. Provide a microwave, refrigerator, area for dishwashing and dishware to make this easier.
- Use non-hazardous or less-hazardous cleaning supplies.

### Reuse
- Set up a system in your office for reusing office supplies and equipment, such as a central storage area or online database.
- Consider donating office equipment and materials that your business no longer needs. Go to RethinkRecycling.com/business and look under donating opportunities for options.
- When shipping items, reuse packaging materials or use shredded paper.
- Use reusable nametags at meetings.

### Recycle
- Make sure your organization is recycling as much as possible — office paper, newspapers and magazines, cardboard, plastic bottles, metal cans and glass are all recyclable.
- Make sure recycling containers are clearly labeled and readily available. Posters and labels are available from Hennepin County for recycling programs. Go to www.hennepin.us, search: recycling resources.

Recycle, cont’d on next page
Environmental Education Toolkit for Community Groups/Resources

Energy efficiency and renewable energy
Electricity production results in significant greenhouse gas emissions and air pollution. Conserving energy and improving energy efficiency can reduce your organization’s impact on the environment and save money.

• Turn off lights in unoccupied offices and restrooms. Install motion sensors for lights.
• Convert to energy efficient lighting and purchase energy efficient office equipment.
• Turn off copiers, lights and computers at night.
• Carpool, take public transit or bike to events and meetings. Offer incentives for employees that do this.
• Have your heating and cooling system audited for energy efficiency.
• Utility providers offer a variety of tools and incentives to help organizations conserve energy and improve energy efficiency.

Develop a green purchasing program
• Purchase environmentally preferable office supplies and equipment. Environmentally preferable products contain recycled content, are sustainably harvested, are made with less toxic materials, or conserve energy or water. Visit [www.epa.gov/epp](http://www.epa.gov/epp) for more information.
• Purchase printers with double-sided printing capabilities. Purchase refillable toner cartridges.
• Buy office supplies in bulk.
• Purchase recycled-content office paper. Set a standard for recycled-content paper used in your organization.
• Encourage suppliers to ship materials in returnable or reusable containers.

Keep hazardous materials out of the trash
Certain supplies and products that may be used in your business, such as electronics, cleaners, fluorescent light bulbs, appliances, cleaning supplies and paint, contain hazardous or toxic materials and must not be placed in the trash. Go to [www.hennepin.us/businesshazardouswaste](http://www.hennepin.us/businesshazardouswaste) for information on proper disposal.

Recycle, cont’d from previous page
• To encourage recycling, eliminate trash bins in individual offices; put them in the break room and common areas instead.
• Start an organics recycling program. Organic waste – food waste and food-soiled paper – can be recycled into compost, a valuable resource used in landscaping and road construction projects. Visit [www.hennepin.us](http://www.hennepin.us), search: organics, for more information.

Carpool, take public transit or bike to events and meetings. Offer incentives for employees that do this.
• Have your heating and cooling system audited for energy efficiency.
• Utility providers offer a variety of tools and incentives to help organizations conserve energy and improve energy efficiency.

Utilities offer a variety of tools and incentives to help organizations conserve energy and improve energy efficiency.

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To encourage recycling, eliminate trash bins in individual offices; put them in the break room and common areas instead.

Start an organics recycling program. Organic waste – food waste and food-soiled paper – can be recycled into compost, a valuable resource used in landscaping and road construction projects. Visit [www.hennepin.us](http://www.hennepin.us), search: organics, for more information.

Carpool, take public transit or bike to events and meetings. Offer incentives for employees that do this.
• Have your heating and cooling system audited for energy efficiency.
• Utility providers offer a variety of tools and incentives to help organizations conserve energy and improve energy efficiency.

Utilities offer a variety of tools and incentives to help organizations conserve energy and improve energy efficiency.
Resources for Businesses, Schools and Organizations

Waste reduction and recycling

**Hennepin County Business Waste Reduction Program**
www.hennepin.us/businesswaste
612-348-3777
Hennepin County offers free web information, phone assistance, and links to other resources to help businesses save money by reducing waste.

**Resourceful Waste Management Guide**
rethinkrecycling.com/businesses
This resource provides information on how to reduce, reuse, recycle or properly dispose of just about anything your company uses. The website also has a step-by-step guide to help your business develop and maintain a waste management program.

**Hennepin County drop-off facilities – recycling only**
www.hennepin.us/dropoffs
612-348-3777
Small business may self-haul recyclables to drop-off facilities in Brooklyn Park and Bloomington free of charge. Larger quantities of recyclables should be delivered directly to a recycling company. Hazardous waste is not accepted from businesses at these facilities.

**Minnesota Materials Exchange**
www.mnexchange.org
612-624-1300
This free service connects businesses and organizations that have quality reusable goods they no longer need to those that can use them. Find low-cost or free materials, save money on disposal, and find new markets for surplus materials.

**Minnesota’s Sustainable Healthy Schools Program**
www.pca.state.mn.us, search: Sustainable Healthy Schools Guide
Resources for parents and educators including a “Guide for Change,” “Assessment Tool for Change,” and success stories.

**Minnesota Technical Assistance Program—MnTAP**
mntap.umn.edu
612-624-1300
A free, non-regulatory program that provides businesses and organizations with company-specific, cost-saving solutions to manage waste and improve energy efficiency.

**Minnesota Retired Engineer Technical Assistance Program (ReTAP)**
www.pca.state.mn.us, search: retap
612-624-1300
ReTAP provides free, confidential, non-regulatory pollution prevention, waste reduction and energy conservation assistance to Minnesota businesses, industries and institutions.
Energy efficiency and renewable energy

**Hennepin County Cool County Initiative**
www.hennepin.us/coolcounty
612-348-3777
Hennepin County has committed to reducing greenhouse gas emissions from county operations. Find out what the county is doing and what residents and businesses can do to reduce emissions.

**Minnesota Office of Energy Security**
www.energy.state.mn.us
651-296-5175
Information about energy efficiency and renewable energy.

**Center for Energy and the Environment – Commercial Lighting Program**
www.mncee.org/programs_bldgs_facilities/commercial_lighting
612-335-3487
Offers energy audits and rebate for small businesses that retrofit their existing lighting system with more energy efficient lighting.

**CenterPoint Energy**
www.centerpointenergy.com/services/naturalgas/business
Offer free Custom Energy Analysis in which an auditor inspects a business’ natural gas use to help manage energy costs.

**Database of State Incentives for Renewables and Efficiencies**
www.dsireusa.org
A comprehensive source of information on state, local, federal and utility incentives that promote renewable energy and energy efficiency.

**ENERGY STAR**
www.energystar.gov
Offers information on energy efficient products and practices.

**U.S. Department of Energy**
www.energysavers.gov/your_workplace
Information for businesses about implementing energy efficiency programs and utilizing renewable energy.

**Xcel Energy**
www.xcelenergy.com/minnesota/business
1-800-481-4700
Offers a variety of resources and programs on energy efficiency and utilizing renewable energy.

**Minnesota Waste Wise**
www.mnwastewise.org
651-292-4681
A private, non-profit, member-supported organization affiliated with the Minnesota Chamber of Commerce that helps businesses and organizations reduce waste and save money.

**Eureka Recycling**
www.eurekarecycling.org/bg_coop.cfm
651-222-7678
Eureka Recycling offers a cooperative purchasing program for recycled paper and compostable products.
Evaluation questions for behavior change

Please see the following questions. You will choose questions from this list to ask of the people who participated in your project. The “respondents” are the people who learned about environmental issues because of your efforts.

About the questions

The first part of each question (asking the respondent to consider how frequently they make waste reducing choices), reminds the respondent what they learned through your project. The second part of the question (asking if they changed their behavior because of your program), is what we are keeping track of to determine if your efforts had an impact on their behavior.

Choosing the right questions to ask

Only those questions that relate to the content of what people learned through your Community POWER project should be used. If some of the questions do not relate to your project, remove those from your survey or questionnaire.

When to administer the questions

These questions should be administered only after a person participates in your program or goes through an educational experience that you organized, and enough time has passed so that they could implement what they learned in their daily life. We estimate the questions should be asked two to six months after the person learns about the issues.
How to administer the questions

In the past, grantees have used the questions in written surveys, online surveys, or in an interview format (over the phone or in person). If the people who participated in your project attend a follow-up meeting or event, that is a great time to administer the questions. You could also mail surveys with a stamped return envelope.

Customizing the questions/survey

This word document can be downloaded from www.RethinkRecycling.com/ECFEToolkit. The name of your program, project or workshop can be inserted throughout the questions. Other language of the questions should not be altered. These questions can be inserted into an existing survey or accompany other questions you design. It can be useful to ask the respondent's level of experience with the program (days or hours or participation, for example) as well as other background information.

Questions?

If you need more information (i.e., about surveys or how to overcome challenges in using questions), please contact CommunityPOWER@co.hennepin.mn.us
Activity supplies:

- Sample Pledge
- Potato Chip Bracelet activity
- Recycling Chart
- Label Reading Activity
- “Household Hazardous Waste” PowerPoint presentation
- Storm Drain Stenciling Guide
- Wise-Up About Waste quiz
- Blue Jean Bag activity
- Trash Checklist
- Home Hazardous Product Survey
- Packaging Reduction
- Build a Junk Mail Tree guide
- Rethink Recycling articles
- Chemicals in the Home quiz
- Watershed Map

These resources are also available online at www.hennepin.us/environmentaleducation

Handouts from Hennepin County:

- Hold the Mail
- Too Much Packaging is a Waste
- Donation Opportunities
- Greasing Your Celebrations
- How to Pack a No-waste Lunch bookmark
- Remember Your Bags window clings
- Choose to Reuse Directory magnet
- Residential Curbside Recycling Guide (also available in Spanish)
- Household Hazardous Waste and Problem Materials Guide (also available in Spanish)
- Making Hennepin a Cool County
- Ten Things You Can Do to Improve Minnesota’s Lakes, Rivers and Streams
- Landowner Guide

Order literature online at www.hennepin.us/literatureorderform or call 612-348-4168

Handouts from the Minnesota Pollution Control Agency:

- How to Dispose of Chemicals
- How to Compost Your Organic Waste
- Reduce the Need for Pesticides and Herbicides
- How to Grow a Healthy, No-waste Lawn and Garden

Order literature by e-mail at resourcecenter.pca@state.mn.us or call 651-757-2120. PDF versions can also be downloaded at reduce.org