Indiana 4-H
Mercury Recycling Activity

BEWARE

Mercury is toxic in small amounts, so toxic that a very small amount can make you sick. It only takes 1/25 of a teaspoon of mercury to contaminate a 60 acre lake.

Get involved in the 4-H Mercury Recycling effort.
Please contact your Solid Waste Management District.

Indiana 4-H
Mercury Recycling Activity

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Indiana 4-H Mercury Recycling Activity: Introduction

What Is the Indiana 4-H Mercury Recycling Activity?

This mercury recycling awareness packet has been prepared to help you and the youth you work with learn more about mercury in your homes, schools, farms, and communities, and to provide you with ways to reduce the incidence of mercury poisoning in your environment.

The Indiana 4-H Mercury Recycling project has two major objectives:

- To help Indiana citizens understand the environmental and human health threats of mercury.
- To inventory, collect, and properly dispose of household items containing mercury.

The project is an opportunity for 4-H organizations to fulfill part of their commitment to community service that they made for the 4-H Centennial celebration.

Why Is Mercury Pollution a Problem?

Many people know that mercury is a liquid silver metal used in thermometers. What people don't realize is that mercury evaporates when a device breaks or is thrown away. The mercury vapor can be carried into our rivers and lakes and may end up in the fish we eat. Individuals can also inhale mercury vapor if large amounts are spilled or leaked.

Problems occur if individuals breathe in more vapor or eat more mercury in fish than their bodies can process. When this happens the mercury can get into vital organs and begin to cause brain damage. Children and unborn babies are more susceptible to mercury poisoning than adults because their bodies aren't fully formed.

Why Is This Activity Important?

Less than a third of the mercury in the environment occurs naturally. The majority is released through preventable human pollution. It enters the atmosphere, lakes, and streams when coal is burned for power generation, from industrial sources, and by improper disposal of household products that contain mercury. People often dispose of mercury by pouring it down drains, putting it in the trash, and burning it in barrels and incinerators.

To address the mercury poisoning issue in Indiana, the General Assembly passed a law that will take effect on July 1, 2003. This law regulates the sale of mercury thermometers, bans the sale of mercury novelties, and prohibits the use of mercury in any form in all primary and secondary schools, except in measuring devices and thermometers when there is not adequate substitute.

Young people have a real interest in children's health issues and the environment. They like to participate in projects that address these issues. It is important that we help get the word out about mercury in our homes and communities. Efforts such as these, where 4-H members can play an active role in helping to educate and protect their communities, allow these young people to feel they are making a real difference and contribution.

Who Is Involved?

The Indiana 4-H Mercury Recycling Project is a collaborative effort by a group of Indiana organizations interested in education and the

environment. The organizations involved in the project include:

- Purdue University Cooperative Extension Service: 4-H/Youth Development Department and Safe Water for the Future office
- Wildcat Creek Solid Waste District
- Indiana Solid Waste Districts
- Indiana Household Hazardous Waste Task Force
- Indiana Department of Environmental Management
- Improving Kids' Environment Coalition

What's Involved in the Activity?

4-H organizations across the state will learn about mercury, and then will help educate their families, their neighbors, and their communities about mercury hazards. Working with others in their community and with their local solid waste districts, they can conduct educational programs about mercury, culminating in a communitywide mercury recycling event to reduce the mercury in their community.

Activities that can be a part of your overall mercury-recycling project include:

- Conducting mercury searches in and around members' homes and yards, and those of other relatives and friends.
- Working with local schools to identify and eliminate mercury found there.
- Building mercury awareness information displays that can be used at local home shows or county fairs, or displayed in store windows.
- Producing news releases for local newspapers and newsletters.
- Making presentations to service clubs and community groups.
- Writing public service announcements for local radio and cable TV stations.
- Co-promoting a communitywide mercury recycling event with the local solid waste district.

How to Get Started

This kit will give you some concrete ways to create awareness about mercury and ideas for promoting the mercury-recycling message. We've included lots of ideas and resources that can help you customize the program in your community.

Step 1 – Get Familiar

Read through the "Background on Mercury" section at the back of this notebook. If it's information you already know, that's great – you're already ahead of the game. If not, become familiar with it.

Step 2 – Contact Your Local Solid Waste District

Make contact with your local solid waste district and see how you can work together on this effort. Your solid waste district may have lots of resources and materials that will help you get the word out. The staff there will take the lead for a mercury recycling effort if that is something your group would like to do. Mercury must be handled by trained personnel, and is not something you want to encourage your 4-H members to do, so it is important that you make this contact early in your mercury educational effort.

Step 3 – Review the Mercury Activities

Browse through the "10 Important Ways to Help Reduce Mercury in Your Community." See what appeals to you and the 4-H members you work with. Consider the ages of the members, their interests, the time you wish to devote to the program, and what might work best in your community.

Step 4 – Select the Activities You Would Like to Do

Discuss the ideas with your club members and with other 4-H youth leaders in your township, community, and county. Pick two or three (or even more) activities you would like to do in your club and your community.

We've tried to provide a variety of activities that will meet your group's needs. Your club and your community are unique. We are providing

you with the framework and tools that you can pick and choose from to tailor the project to work best for your club and your community.

Think of the mercury activities as a small collection of activities that you can "Cut and Paste" to customize in a way that best fits your organization's strengths and outreach capabilities.

Step 5 – Plan

Once you have determined what you are going to do, set a timetable for what you need to do to make the activity happen in a timely fashion. If you will culminate your effort with a communitywide mercury recycling event, you will want to contact your local solid waste district as soon as possible, as it will be responsible for the actual collection process. If part of your effort will include older 4-H members who will volunteer to present programs to local service clubs, you will want to make those contacts, and let the leadership know that these programs are available. If you will work with the schools to encourage them to participate in the mercury recycling pledge program, you will want to start by talking to school officials. Just be sure to plan enough lead time to ensure that your activities are successful.

Step 6 – Implement and Have Fun, but BE CAREFUL!

Use your ingenuity and creativity to make this a successful project for both youth and adults. However, remember that mercury is dangerous and must be handled with care!

Step 7 – Report Your Activities and Successes

At the completion of each of your activities be sure to send the information about what you did, and how it turned out to the State 4-H office. With local clubs all over the state participating in this project, the impact that 4-H can have on creating awareness of mercury poisoning and mercury recycling is immense. Don't let what you and your members have done go without the recognition you deserve!

People to Contact for Help

If you would like to talk with other people who may be able to provide suggestions on activities, or put you in touch with others in your area who are doing similar things, or provide you with more ideas and background on mercury, contact one of the following:

Local Solid Waste Management District – http://www.state.in.us/idem/oppta/recycling/swmd/contact.pdf

Local Extension Educator 4-H/Youth – Check with the Extension office in your county for further information and project updates.

Indiana Department of Environmental Management – (800) 988-7901

Regional Household Hazardous Waste Task Force – (812) 232-2791

Project Directors:

Cathy Burwell
4-H Extension Specialist
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Activity 1

Start by Learning More About Mercury: A Mercury Search

Objectives

- Members will learn what common household items may be sources of mercury.
- Members will learn that many household items that contain mercury do not become hazardous unless broken or disposed of improperly.
- Members will have an opportunity to test what they have learned about mercury by identifying sources of mercury.

Materials Required

- The "Background on Mercury" section of this notebook
- Copies of the "Mercury Search Picture" for each member

Procedure

- Introduce the topic of mercury to the club, using any or all of the materials in the "Background on Mercury" section of this notebook.
- Discuss with members how mercury becomes a health and environmental risk when it is released into the air.
- Hand out copies of the "Mercury Search Picture" and have members identify the household items that may contain mercury and need to be handled with care.
- Discuss the proper ways to handle and transport items that contain mercury.
- Discuss communitywide recycling events that have been held in your community and how mercury items can be a part of one of these, or how your club in conjunction with other 4-H clubs in the county and the solid waste district may plan and conduct a special mercury recycling event of your own.
- Give small prizes or recognition to those members who have identified all the mercury-containing items in the Mercury Search Pictures.
- If you have further questions about mercury or the Mercury Awareness Program, talk to your county's solid waste management district or the Regional Household Hazardous Waste Task Force at (812) 332-2791.

Mercury Search Picture (on page 8)

Children are especially susceptible to mercury poisoning and need to learn to stay away from mercury. These common household items may contain mercury and need to be handled with care and properly disposed of at the end of their useful lives. As shown, these products, (except the skin antiseptics) do not pose a threat to human health or the environment. It is only upon release of the mercury in these products that the threat becomes active.

The 12 Mercury-Containing Items in the Picture Are:

Items 1 and 2:

Paint cans. Latex paint that was manufactured before 1990 contains a small amount of mercury. The mercury was added as a fungicide and to protect the paint from mildew. Some marine paints still contain mercury. Check the ingredients on the label.

Items 3 and 4:

Batteries. Most major brand alkaline batteries no longer contain mercury. But batteries manufactured outside of the United States and Europe may still contain mercury. Almost all button cell batteries, used in watches and calculators, contain mercury.

Item 5:

Maze game. Old maze games and labyrinth games used mercury as the "ball" that had to go through the maze.

Item 6:

Clothes iron. Irons with safety features such as the auto tilt shutoff contain mercury. The mercury switch makes the electrical connection when upright and breaks the connection when the iron tips over.

Item 7:

Thermostat. One of the most common household items containing mercury is the thermostat, round or rectangular. New digital and programmable thermostats are energy savers and do not contain mercury.

Items 8 and 9:

Fluorescent bulbs. All fluorescent lamps contain mercury. These lamps are a great source of energy-efficient lighting, but they need to be handled carefully so as not to break them. When broken, mercury is released in to the air.

Item 10:

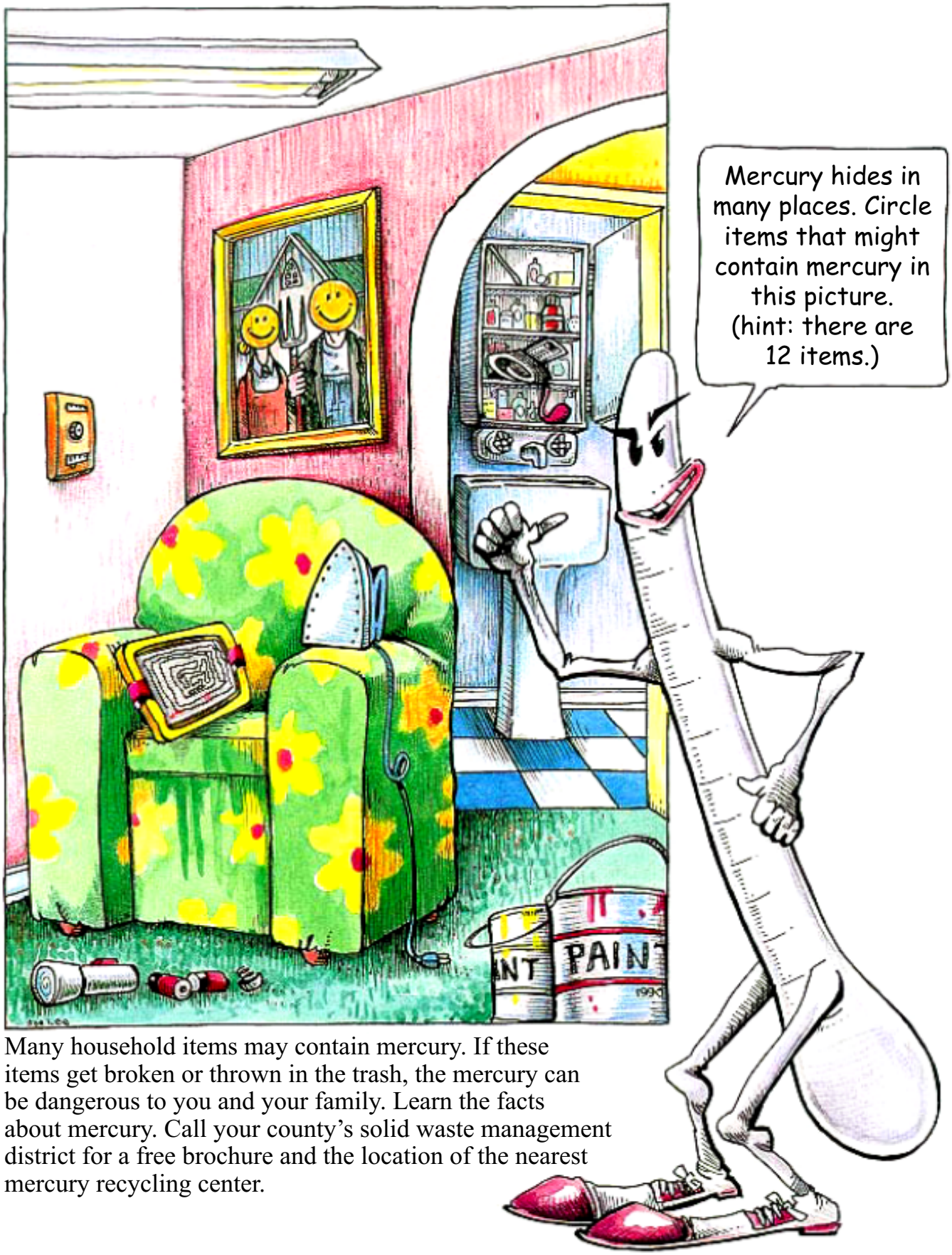
Thermometer. Thermometers are the most common mercury-containing household item. If you have one, replace it before it breaks. Even small spills from thermometers need to be properly cleaned up. Digital thermometers work just as well.

Item 11:

Merthiolate and/or Mercurochrome skin antiseptic®. Often found in the medicine cabinet for cuts and scrapes. Both contain mercury. Use substitute antibacterial ointments.

Item 12:

Blood pressure gauge. Some gauges contain mercury, although the digital types do not.



Many household items may contain mercury. If these items get broken or thrown in the trash, the mercury can be dangerous to you and your family. Learn the facts about mercury. Call your county's solid waste management district for a free brochure and the location of the nearest mercury recycling center.

Activity 1 Evaluation – A Mercury Search

Member Count

_____ Number of **members** who received education about mercury

_____ Number of **members** who completed the Mercury Search Picture

Adult Count

_____ Number of **adults** who received education about mercury

_____ Number of **adults** who completed the Mercury Search Picture

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

Cathy Burwell
Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 2

Make the Search Personal: Have Members Conduct a Mercury Search

Objectives

- Involve club members in a meaningful, real-life opportunity to do something about an environmental problem.
- Reduce or eliminate opportunities for 4-H'ers and their families to come in contact with mercury.
- Prevent the release of mercury into the environment from mercury or mercury-containing devices.

Materials Required

- "Search for Mercury"– A Guide for Conducting a Mercury Search

Procedure

- Introduce the topic of mercury to the club, using any or all of the materials included in the "Background on Mercury" section of this notebook.
- Locate the address and phone number of your local solid waste district.
- Hand out copies of "Mercury Guide" to members and go through some of the information with them and talk about other materials that can be recycled.
- Have each youth write the address and phone number of the local solid waste district at the bottom of their "Mercury Guide."
- Hand out copies of "Search for Mercury." Decide how long members will have to conduct their search. Should they return it at their next meeting, or will they have more time than that? Will you suggest that they also conduct mercury searches for other family members such as grandparents, aunts, uncles, etc.? If so, make sure they have extra forms.
- Make sure that 4-H members understand that they need to discuss this activity with their families before they do it and that it works best if they get help from family members.
- Remind members to not only conduct the search in their homes, but also to check basements, barns, storage sheds, and any other locations on their property where mercury might be hiding.
- At the next meeting, have 4-H members compare their results and discuss safe ways of addressing mercury.

Mercury Guide

This guide provides advice for what to do about each of the mercury-containing products that the youth may find around their homes. Make sure to consider common sense, recycling, and safety and pollution prevention before taking action.

Youth can also use this guide to help them and their family purchase products that do not contain mercury. In the future, they won't have to worry about mercury if they are careful about not buying mercury-containing thermometers, toys, sneakers, or thermostats, for example.

Buying smart is a great way to prevent pollution!

This guide provides a list of what to look for and what to do about mercury-containing products if you find them.

Before getting started, share information about mercury with your family and let them know why you are searching for it in your home. Other family members may be able to help you identify products that contain mercury and help you decide what to do about them.

Remember, the primary concern about many of these mercury-containing products is the disposal of them, and not necessarily contact

with them. You do not need to throw out all the mercury-containing products that you find.

A good example is thermostats. Many of you will find thermostats with mercury in your homes. Most nonelectronic thermostats contain a three-gram blob of mercury in a glass ampule. It poses no problem unless the ampule breaks. In this case, the best approach is to let your parents know that different types of thermostats are available and, if they replace the one they have now, they should install a mercury-free thermostat and properly recycle the old one.

Your Mercury Recovery Guide

The Problem With Mercury.

Most people know mercury is a liquid silver metal used in products like thermometers. What many people don't know is mercury evaporates into the air when a device breaks or is thrown away.

This is bad because the mercury vapor is carried into our rivers and lakes and ends up in the fish we like to eat. Vapor can also get inside people when liquid mercury is spilled indoors or leaks from jars of stored mercury.

Problems occur if people breathe in more vapor or eat more mercury in fish than their body can process. Then the mercury can begin to cause brain and vital organ damage. Kids and unborn babies absorb more mercury than adults because their blood-brain barrier isn't fully formed until age six. See www.in.gov/idem/mercury to find out more.

Getting Mercury Out of Your Life.

Discover which items in your home contain mercury by checking the back page of this fact sheet. When you are ready to bring mercury-containing items for proper disposal call your local Solid Waste District.

They will tell you when and where the next Hazardous Waste Collection event will be in your area. Some programs are by appointment, while others have an annual collection day.

Dial 800-988-7901 or see www.in.gov/idem/oppta/recycling to get the number of your local Solid Waste District and call to find out more.

How to Store & Transport Mercury Items.

You need to put jars of liquid mercury inside a sturdy plastic container with a tight fitting screw top lid to store and transport it safely. Put small items like thermometers and switches into zip lock bags or screw top jars. Large devices should be stored and brought upright in a plastic pail with a good lid.

What About Mercury In Fish?

Indiana DNR prints a free magazine every year called the Annual Fish Consumption Advisory. It tells which types and sizes of fish contain too much mercury or PCB's to eat from each river, stream and lake in Indiana. It has special guidelines for women and kids under 15. You can pick them up at stores that sell fishing licenses.

Visit www.cfs.purdue.edu/extension/foodsafety/anglingindiana for information on fish in your county. For information on ocean fish visit: www.cfsan.fda.gov/~lrd/tphgfish.

How To Handle Mercury Spills.

If mercury is spilled you have to work quickly and pick it up completely. Never use a vaccum. Open windows and get two pieces of rigid paper. Using one paper push the blob onto the other paper and put it into a container with a screw top lid. If the spill is large or near a source of heat you will need to leave the area and call for professional help. See www.in.gov/idem/ctap/mercury/spill.pdf for complete clean up directions.

Prevention is much easier, cheaper and healthier than mercury cleanup so bring items for proper disposal before they break.

What Else You Can Do to Help.

Seek out and buy items that don't contain mercury like electronic thermometers and thermostats. Bring the old mercury-containing models in for recovery.

Saving electricity helps too. 30% of the mercury in our air and rivers comes from burning coal for electricity. The mercury is naturally found in coal and is released when it's burned. A 100 watt lightbulb left on for four hours takes one pound of coal to run. Turning off unused lights and electronics, switching to fluorescent lamps and caulking windows are actions that work to reduce energy use and mercury pollution in your community.

Last Updated 7-11-02

Items That Contain Mercury

Product	What to Do	Product	What to Do
Liquid Mercury in Jars or Bottles 	Place entire jar immediately into a larger sturdy plastic container with a tight fitting screw top lid to prevent spills. Call your local Solid Waste District to find out when to bring it in. This much mercury is an immediate danger to health if it spills and the vapor is breathed in. Cleanups of this amount of mercury are very expensive.	Laboratory Sink Traps 	High school, college and commercial labs often have mercury and other metals in the U shaped traps under the sinks. Over the years metals and mercury get washed down the drain and accumulate there. Removal and stabilization by professional hazardous waste businesses is recommended prior to any plumbing or remodeling work.
Mercury Thermostats 	Most non-electronic thermostats contain a three gram blob of mercury in a glass ampule. It poses no problem unless the ampule breaks. When you switch to an energy saving electronic model bring the old one to your local Solid Waste District or participating heating and cooling vendor.	Merthiolate & Other Medications 	Older cut and burn medications can contain mercury. Ingredient listed may be thimerisol, merthilolate. Some spiritist religious goods and older homeopathic medications also contain mercury. Call your Solid Waste District to bring these items to their hazardous waste collection events.
Mercury Fever Candy, Oven Thermometers 	Glass with a silver bulb at one end. Replace before it breaks with a digital or red alcohol thermometer. Transport mercury thermometers in a zip lock bag. Call your local Solid Waste District to find out when and where to bring them for recovery.	Manometers Barometers Vacuum Gauges	Used to measure pressure at dairy farms, science classes and repair shops. Can contain large amounts of liquid mercury. Replace with non-mercury devices. Call your local Solid Waste District to find out how and where to bring them for recovery.
Mercury Switches 	Can be found in car hoods, trunks, freezers, silent light switches, sump pumps, gas space heaters, gas ovens, and gas clothes dryers. Wrap in bubble wrap or newspaper and place in a zip lock bag for transport to your Solid Waste District.	Antique Outdoor Thermometers Some Maze Toys Clock Weights Mercury Amulets Building Tools	Think twice about buying antiques and tools that contain mercury. Call your Solid Waste District to find out how to bring items to the next local hazardous waste collection day for recovery. Call the District for advice on packaging and transportation.
Mercury Blood Pressure Gauges 	Usually wall mounted with visible mercury column. Wrap and place so the device rides upright in a five gallon pail with a lid when transporting for recovery. Can contain a large amount of mercury.	Anti Fungal Paint Mercury Pesticides	Anti-fungal paint made before 1994 listing thimerisol or other mercury compound contains mercury. Pre-1995 turfgrass pesticides may also contain mercury. Call your local Solid Waste District for disposal advice.
Mercury Batteries 	Older batteries usually found in cameras or button batteries in watches. Call your District for dates and times of local hazardous waste drop off events. Alkaline batteries made after 1994 can be thrown out with the regular trash if no recycling is available in your area.	High Intensity Discharge Lamps 	HID lamps at schools and commercial sites have mercury vapor inside. Your Solid Waste District may have a recovery program - call for availability. View the site www.in.gov/idem/mercury for a list of commercial lamp vendors.
Fluorescent Bulbs 	Mercury is contained in the interior white powder. Many Solid Waste Districts accept bulbs for recycling - check for availability. Place in original box for transport. View the site www.in.gov/idem/mercury for a list of commercial lamp vendors. These lamps save on mercury emissions because they use 75% less electricity to operate.	Pre-1995 Athletic "Light Up Shoes" Blue Tinted Auto Headlights Amalgam Fillings	These items also contain mercury. Call your Solid Waste District to see if you can bring these materials in for recovery.

Search for Mercury

Item Found	Action Taken	Completed

Name: _____

Activity 2 Evaluation – Conduct a Mercury Search

Who Participated?

_____ Number of **members** who conducted a mercury search

_____ Number of **adults** who conducted a mercury search

What Was Searched?

_____ Number of homes searched

_____ Number of garages and outbuildings searched

_____ Number of other locations searched

What Was Located?

_____ Amount of liquid or elemental mercury located

_____ Number of nonelectronic thermostats located

_____ Number of thermometers with silver bulbs

_____ Number of mercury switches from older car hoods, freezers, silent light switches, sump pumps, gas space heaters, gas ovens, or gas clothes dryers

_____ Number of batteries (older batteries in cameras or button watch batteries)

_____ Number of fluorescent bulbs

_____ Number of older cut and burn medications containing mercury

_____ Number of manometers, barometers, vacuum gauges

_____ Number of antique outdoor thermometers

_____ Number of old maze toys

_____ Number of other antique mercury-containing items

_____ Amount of pre-1991 anti-fungal paint

_____ Amount of pre-1995 turfgrass pesticides

_____ Number of pre-1995 athletic “Light-up” shoes

_____ Amount of mercury-containing nasal spray or contact lens solutions

_____ Number of other mercury-containing items

Name_____

Club Name_____

County_____

Please return to:

Cathy Burwell
Extension Specialist
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Purdue University
West Lafayette, IN 47907-1161

Activity 3

Like to Fish? Are Fish in Your Lakes and Streams Safe to Eat?

Objectives

- Members will learn how to determine if fish caught in certain bodies of water are listed in the 2001 Indiana Fish Consumption Advisory.
- Members will learn how to use the fish consumption advisory.
- Members will learn the health risks of consuming fish contaminated with mercury and how these risks compare to other risks.

Materials Required

- Sections of this activity will require access to the Internet.
- Leaders and members can search the online fish advisory for their county, or other areas in the state where members fish.
- You may wish to schedule this activity in a school or library, or you may want to discuss some of the information in "Background on Mercury" at your meeting, and then have members do their searches at home, and discuss the results at your next meeting.

Procedures

- Review the background materials included here, and if you wish, have copies made for members.
- You may wish to download your specific information from the online fish advisory, and make copies for your members.
- Discuss with members how mercury gets into fish and why it is such a concern.
- Explain how to use the fish advisory, and what information can be found there.
- Give members the Web site of the 2001 Indiana State Fish Advisory at: http://www.ai.org/isdh/dataandstats/fish/fish_adv_index.htm
- Ask members to look up the lakes and streams in your county, or other areas where they fish, to see the status of fish in those waterways.
- Discuss the possibility of creating an exhibit that could be displayed in local bait shops or sporting goods stores that would alert other fishermen to the advisories and explain the advisory groups.

How Mercury Contaminates Fish

Once in a lake, mercury is converted to methylmercury by bacteria and other processes. Fish absorb methylmercury from their food and from water as it passes over the gills. Mercury is tightly bound to proteins in all fish tissue, including muscle. There is no method of cooking or cleaning fish that will reduce the amount of mercury in a meal.

Health Risks

Who Is at Risk

People who regularly eat sport fish, women of childbearing age, and children are particularly susceptible to contaminants that build up in the body over time. If you fall into one of these categories, you should be especially careful to space out meals of fish according to the advisory table. The advisory indicates that children under the age of 15 should eat no more than 1 meal of fish per week.

Methylmercury builds up in your body over time. It may take months or years of regularly eating contaminated fish to accumulate levels that are a health concern. Larger amounts of methylmercury may harm the nervous system and lead to brain damage. A fetus is especially sensitive to mercury poisoning. The first symptoms of adult poisoning include

incoordination and a burning or tingling sensation in the fingers and toes. As mercury levels increase, your ability to walk, talk, see, and hear may all be affected in subtle ways.

Your body can get rid of some contaminants over time. Spacing fish meals out over time prevents the contaminants from building up to harmful levels in the body. For example, if the fish you eat is in Group 4 (one meal every two months), wait two months before eating another meal of fish from this group.

Please note that one meal is assumed to be one-half pound of fish (weight before cooking) for a 150-pound person. This meal advice is equally protective for larger people who eat larger meals and smaller people who eat smaller meals.

How to Reduce Your Health Risk

- Be selective. Be picky about the types and size of fish you eat. Fish taken from some waters are not recommended for consumption.
- Keep the small fish. Throw back the larger fish and keep the small ones for dinner. Small fish taste better and are less contaminated than older, larger fish. Many popular fish such as bass, trout, salmon, and catfish must exceed a specific minimum size to keep. Also, it is illegal to sort and release a fish taken previously in the day with another fish. Please consult the State Fishing Guide.
- Eat less contaminated fish. Check the fish advisory for those with Group 5 advisories. Replace fish taken from the Group 3 or higher categories with those from lower categories.
- Eat smaller meals. When you eat large fish, eat small servings. Freeze the rest and use it over time.
- Clean/cook fish properly. A substantial amount of fat is located near the skin of the fish, and because of this, a boneless, skinless fillet should be prepared for cooking. The boneless, skinless fillet with the fat layer along the belly flap and the midpoint of the back removed will limit the amount of fat consumed. Broiling, baking, or grilling fish so that the fat drips away reduces PCB and dioxin levels. Mercury is bound to the meat of the fish, and these precautions will not reduce the amount in a meal of fish.

This advisory is not intended to discourage individuals from fishing or eating fish. It serves as a guide to choosing fish that are low in contaminants.

Health Benefits

Fish provide a high-protein, low-fat diet, which is low in saturated fats. Many researchers suggest that two pounds of fish a week in the diet is beneficial in preventing heart disease. The health benefits of fatty fish rich in omega-3 fatty acids are not clear. What is clear is that fish of almost any species, lean or fat, may have a substantial health benefit when they replace a high-fat source of protein in the diet. Nutritionists recommend eating three to four ounces of fish in a meal. The meal guidelines are based on an eight-ounce serving (weight before cooking) for a 150-pound person. The meal per week or month, which is suggested in the advisory guidelines, can be eaten as two or three smaller meals over the same time period.

Remember

1. Choose safer areas to fish.
2. Eat smaller, younger fish.
3. East smaller sized fish meals.
4. Clean your fish properly.

Reminder

One meal is assumed to be eight ounces of pre-cooked fish for a 150-pound person and two ounces of fish for a 40-pound child. It is a good idea to eat smaller meals. For example, eat two three-ounce meals during the week instead of one eight-ounce meal.

Summary

Don’t stop eating fish. It is a good source of protein that is low in saturated fat. You can maximize the benefits and minimize the risk of

Advisory Groups

Group 1	Unrestricted consumption. One meal per week for women who are pregnant or breastfeeding, women who plan to have children, and children under the age of 15.
Group 2	One meal per week (52 meals per year) for adult males and females. One meal per month for women who are pregnant or breastfeeding, women who plan to have children, and children under the age of 15.
Group 3	One meal per month (12 meals per year) for adult males and females. Women who are pregnant or breastfeeding, women who plan to have children, and children under the age of 15 do not eat.
Group 4	One meal every 2 months (6 meals per year) for adult males and females. Women who are pregnant or breastfeeding, women who plan to have children, and children under the age of 15 do not eat.
Group 5	No consumption (DO NOT EAT).

eating contaminated fish by following the fish advisory to help you make informed choices about:

- What types of fish you eat.
- Where you fish.
- How you prepare fish for cooking.
- How to moderate the amount and frequency of fish you consume.

Fish are good for you and are good to eat. But some fish may take in contaminants from the water they live in and the food they eat. Some of these contaminants build up in fish and you over time. These contaminants could harm you, so it is important to keep your exposure to these contaminants to a minimum by following the fish advisory. The advisory helps you plan what fish to keep as well as how often and how much sport fish you should eat. This advisory is not intended to discourage you from eating fish, but it should be used as a guide to reduce your risk of eating contaminated fish.

Long-lasting contaminants such as polychlorinated biphenyls (PCBs), DDT, and mercury build up in your body over time. It may take months or years of regularly eating contaminated fish to build up amounts that are a health concern. Health problems that may result from the contaminants found in fish range from small changes in health that are hard to detect to birth defects and cancer. Mothers who eat highly contaminated fish for many years before becoming pregnant may have children who are slower to develop and learn. The meal advice in this advisory is intended to protect children from those potential developmental problems. Adults are less likely to have health problems at the low levels that affect children.

Carp Advisory for All Indiana Rivers and Streams

Carp generally are contaminated with both PCBs and mercury. Except as otherwise noted, carp in all Indiana rivers and streams fall under the following risk groups:

- Carp, 15-20 inches – Group 3
- Carp, 20-25 inches – Group 4
- Carp over 25 inches – Group 5 – included in the state Fish Advisory

For More Information

Indiana Department of Health Fish Advisory Site:
http://www.ai.org/isdh/dataandstats/fish/fish_adv_index.htm

Cooperative Extension Site for Anglers:
http://www.cfs.purdue.edu/extension/foodsafety/anglingindiana/

Activity 3 Evaluation – Like to Fish?

Member Count

_____ Number of **members** who received education about mercury

_____ Number of **members** who completed the Mercury Search Picture

Adult Count

_____ Number of **adults** who received education about mercury

_____ Number of **adults** who completed the Mercury Search Picture

Other Activities

_____ Number of exhibits created to alert fishermen to the advisories

_____ Length of time each was on display

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

Cathy Burwell
Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 4

Protect Your School From Mercury: Do a School Mercury Audit

Objectives

- Involve 4-H members in a meaningful, real-life opportunity to do something about an environmental problem at their school.
- Reduce or eliminate opportunities for students and staff to come in contact with mercury.
- Prevent the release of mercury into the environment from mercury or mercury-containing devices at school.

Materials

- "Mercury at School: Where to Look and What to Look For" – A guide for conducting a school mercury audit
- Mercury Reduction and Recycling for Schools Pledge Program

Procedures

- Review with 4-H members the "Background Materials on Mercury" section in this notebook, where mercury is found, and why mercury is a concern.
- Contact your local solid waste district to see if it has materials that can help you with your school audits, or if your schools are already members of the Indiana School Mercury program.
- Review with 4-H members the "Mercury at School: Where to Look and What to Look For" handouts.
- Have 4-H'ers talk with their school principal for approval to do the audit.
- Remind them to talk with the school janitorial staff, the teachers who may have mercury in their classrooms, and the school nurse before completing the school audit.
- Have the 4-H'ers develop an audit "plan." Where in the school will they go? Who will they talk to, what will they look for, and what questions will they ask?
- Have the 4-H'ers conduct the school audit.
- Encourage the 4-H'ers to take their results back to the school principal and provide copies of the Indiana Mercury and Recycling for Schools Pledge Program.

Indiana's Mercury Reduction and Recycling for Schools Pledge Program

From elemental mercury in the science labs to mercury thermometers at the nurse's stations to the vapor mercury found in every fluorescent light bulb, the mercury should be properly disposed of when it is time to discard it. Proper disposal can be arranged through Indiana's recycling network sponsored by Indiana Department of Environmental Management and your local solid waste management district.

The Mercury Awareness Program (M.A.P.) offers free recycling of mercury-containing items such as thermometers, barometers, blood pressure gauges, and elemental mercury.

Participation Is Easy!

- Inventory all mercury-containing items in your school buildings.
- Take all unwanted mercury items to your solid waste management district to have them recycled free of charge. Contact IDEM if you need to know the proper contact at your solid waste management district.
- Plan to phase out mercury-containing devices and purchase mercury-free alternatives when the time comes.

Mercury at School: Where to Look and What to Look For

Nurse's Office

Check for:

- Thermometers
- Blood pressure measuring device (Sphygmomanometer)
- Nasal spray
- Contact lens solution

Why?

- Thermometers used to check for fever may contain mercury.
- Sphygmomanometers can contain up to several pounds of mercury.
- Nasal spray and contact lens solution may contain thimerosal, phenylmercuric, acetate or phenylmercuric nitrate, all of which include mercury.

Alternatives:

- Alcohol or electronic thermometers are readily available.
- Aneroid blood pressure devices are just as effective as the mercury versions.
- Many brands of nasal spray and contact lens solution do not contain mercury.

Who to Talk to: School Nurse

Questions to Ask:

1. How many mercury thermometers are in the nurse's office?
2. Have you ever experienced a broken thermometer?
3. Is a spill kit readily available, if a spill occurs?
4. Are you familiar with the proper spill control procedures for mercury?
5. Do you use a sphygmomanometer? If yes, have you considered replacing it with an aneroid blood pressure device that does not contain mercury?
6. Do you stock nasal spray or contact lens solution? If yes, have you checked the list of ingredients or contacted the manufacturer to make sure they do not contain mercury?

Possible Actions:

- Make sure mercury thermometers are in non-breakable containers. These should all be collected by school engineering or janitorial staff, held in a safe, secured area prior to recycling them.
- Do not wait for mercury thermometers to break before replacing them with alcohol or electronic alternatives.
- Replace sphygmomanometers with aneroid blood pressure devices.
- If mercury thermometers or sphygmomanometers will not be replaced at this time, obtain a spill kit for the nurse's office. Make sure that the nurse(s) are trained in proper spill control procedures.
- Use up existing stock of nasal spray or contact lens solution containing mercury and then purchase mercury-free alternatives.

Mercury at School: Where to Look and What to Look For

Science and Chemistry Classrooms

Check for:

- Elemental or liquid mercury
- Mercury compounds
- Thermometers
- Barometers

Why?

- Mercury and mercury compounds were used in various experiments. They may or may not be used now, but they may still be in the cabinet or closet.
- Mercury thermometers or barometers may be used in science, chemistry, biology, and physics classes.

Alternatives:

- Other chemicals can be used in class experiments to illustrate science or chemistry principles.
- Alcohol or electronic thermometers are readily available and sufficiently accurate.

Who to Talk to: Chemistry and Other Science Teachers

Questions to Ask:

1. Are mercury or mercury compounds currently used in class?
2. If they are being used, could other chemicals replace them?
3. Do you know if these have been used in the past in science classes in this school?
4. Are these being stored in a closet, cabinet, or elsewhere?
5. How many mercury thermometers are in the classroom? Have you ever experienced a spill of mercury or a broken thermometer in your classroom?
6. Is a spill kit readily available, if a spill occurs?
7. Are you familiar with the proper spill control procedures for mercury?

Possible Actions:

- Make sure any mercury, mercury compounds, or thermometers are in nonbreakable containers. School engineering and/or janitorial staff should collect all these and hold them in a safe, secured area prior to recycling them.
- Your school should not wait for mercury thermometers to break before replacing them with nonmercury alternatives. If mercury thermometers will not be replaced at this time, obtain spill kits for the science classrooms and storage rooms.
- Make sure that at least several staff people are trained in proper spill control procedures.

Mercury at School: Where to Look and What to Look For

Electrical and Heating Equipment

Check for:

- Thermostats
- "Silent" light switches
- Recycling of fluorescent light bulbs

Why?

- Thermostats are used to control the temperature in buildings.
- Approximately 80% of thermostats in use today contain mercury.
- Many "silent" light switches contain mercury.
- Each fluorescent tube in overhead lighting fixtures contains a minute amount of mercury. Your school probably uses a large number of these fluorescent bulbs throughout the building, so the total amount of mercury can be significant.

Alternatives:

- Electronic thermostats use no mercury.
- Nonmercury switches are widely available.
- Fluorescent bulbs should be recycled, rather than thrown out.

Who to Talk to: School Engineering or Janitorial Staff

Questions to Ask:

1. How many thermostats and "silent" light switches are there in your school building and where are they?
2. How many of these contain mercury?
3. How are used fluorescent bulbs managed? Are they recycled or thrown out in the trash?
4. If they are recycled, how and where are they stored before they are taken from the building for recycling?

Possible Actions:

- Place stickers on any mercury thermostats or silent switches that indicate:
  - This device contains mercury.
  - When this device is disposed of, the mercury should be recycled.
  - When purchasing a replacement, a mercury-free model should be chosen.
  - Notify the purchasing department to try to get mercury-free thermostats or light switches when purchasing replacements.
- Your school should recycle used fluorescent bulbs by replacing them in their original box in a safe, secure storage area until they are picked up by a recycling contractor.

Mercury at School: Where to Look and What to Look For

Fluorescent and High-Intensity Discharge (HID) Lamps

Check for:

- Fluorescent lamps
- Mercury vapor lamps
- Metal halide lamps
- High pressure sodium lamps
- Neon lamps

Why?

Fluorescent and HID lighting is an excellent business and environmental choice because it can use up to 50 percent less electricity than incandescent lighting. However, used fluorescent and HID lamps must be managed properly because they contain mercury.

Who to Talk To: School Engineering and Janitorial Staff

Questions to Ask:

1. Where do you keep good, replacement lamps?

Possible Actions:

- Store burned-out lamps in an area and in a way that will prevent them from breaking, such as in boxes the lamps came in or boxes supplied by lamp recyclers.
- Mark the lamp storage area with the words "Fluorescent lamps for recycling."
- Do not break or crush lamps because mercury may be released.
- If lamps are accidentally broken, store them in a sealed container. Pick up spilled powder and add it to the sealed container.
- Take used lamps to a consolidation site* or arrange with a lamp transporter* to pick them up. Contact your local solid waste office for services available in your area.
- To protect the school from future liability, encourage officials to save the invoices that track lamps and include the following information:
  - Date of shipment
  - Number of lamps
  - Location from where the lamps are being shipped
  - Destination of the shipment

*** These services may not be available in your area.**

Mercury at School

Audit Sheet

Date _____ **School** _____

Item	Location	Recommended Action	Who's Responsible

Mercury Reduction and Recycling for Schools Pledge Program

School Pledge

We pledge to continue working with our solid waste management district, Indiana Department of Environmental Management, and/or the Household Hazardous Waste Task Force to keep mercury out of our schools and environment in order to protect the quality of children's health and Indiana's air, land, and water. We understand that mercury performs a useful function in thermometers and other instruments; however, it can also harm the environment.

Our school is committed to protecting our students and the environment. Therefore, we, the undersigned Indiana school, have established these goals to minimize the impact of mercury on the environment and encourage our students and their parents to conduct sound environmental practices as well.

To achieve these goals, we pledge to participate in the Mercury Awareness Program. As a participant in this program we will:

- **Inventory our buildings for mercury-containing items.**
- **Purchase non mercury-containing substitutes where possible.***
- **Implement a phase-out plan for mercury-containing devices.***
- **Turn in our mercury and mercury-containing items for recycling.**

_____ _____

School Representative Solid Waste District Representative

_____ _____

School Name Date

Contact Name _____

School Name _____

Address _____ Phone _____Fax _____

_____

Internet Address _____ *Except fluorescent lamps

Dear Environmental Educator,

Thanks for your interest regarding your school's participation in the Mercury Reduction and Recycling for Schools Pledge Program. Indiana has recently seen a rash of mercury spills in schools across the state – all associated with costly cleanups, strong public concern, and obvious health hazards.

We want to help to avoid such a situation from happening at one of your schools. The Regional Household Hazardous Waste Task Force and the Indiana Department of Environmental Management would like to invite your school corporation to participate in the Mercury Awareness Program (M.A.P.). The offer includes **free** recycling of mercury-containing items such as thermometers, barometers, blood pressure gauges, and elemental mercury.

Participation is easy!

- **Inventory all mercury-containing items in your school buildings.**
- **Take all unwanted mercury items to your local solid waste management district to have them recycled free of charge. *Ask us if you need to know the proper contact at your Solid Waste management district.***
- **Plan to phase out mercury-containing devices and purchase mercury-free alternatives when the time comes.**
- **Confirm your school's participation by faxing the pledge sheet back to us at (317) 233-6647 and receive statewide recognition as an environmental steward.**

Mercury's threat to the environment and to our children cannot be overstated. Children are more vulnerable to mercury poisoning because they have not yet developed the natural barrier that protects the brain and central nervous system. We urge you to remove this danger from your students' environment. **Put your school on the M.A.P., as 53 Indiana schools have done to date!**

If you have further questions about the Mercury Awareness Program, please do not hesitate to call us. We would also be happy to put you in contact with those schools that already have taken the pledge and look forward to working with your school corporation in making Indiana a cleaner, healthier place to live.

Questions? Contact:

Chad Trinkle
Environmental Education Coordinator
Indiana Department of Environmental Management
(800) 451-6027, ext. 3-9479
ctrinkle@dem.state.in.us

Activity 4 Evaluation – School Audit

Member Count

_____ Number of **members** who learned where mercury can be found in schools
_____ Number of **members** who conducted school audits

Adult Count

_____ Number of **adults** who learned where mercury can be found in schools
_____ Number of **adults** who conducted school audits

School Count

_____ Number of schools audited for mercury-containing items
_____ Number of schools taking part in the Recycling for Schools Pledge Program

What Was Located?

_____ Number of thermometers identified
_____ Number of blood pressure devices containing mercury identified
_____ Amount of nasal spray and contact lens solution containing thermosal
_____ Amount of liquid or elemental mercury
_____ Number of barometers
_____ Number of thermostats containing mercury
_____ Number of "silent" light switches
_____ Number of fluorescent bulbs that are recycled
_____ Number of fluorescent bulbs that are not recycled
_____ Number of other mercury-containing lamps that are recycled
_____ Number of other mercury-containing lamps that are not recycled

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

Cathy Burwell
Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 5

Plan a Community Mercury Recycling Event

Objectives

- Members will participate in an effort to educate the community about the hazards of mercury.
- Members may have the opportunity to observe representatives of the local solid waste district handle mercury, thereby learning of safe methods of transporting.
- Members will participate in a "real-world" effort to reduce the impacts of mercury on their community.

Materials

- Action plan developed in conjunction with representatives of local solid waste district, including the selection of a location for collection center.
- Series of media efforts to publicize the event.
- Community Mercury Recycling Event Checklist.
- Tally sheets to total amount of mercury and types of mercury-containing items collected.

Procedure

- Start by contacting your local solid waste district to determine if it will work with you in a mercury recycling event. Handling of mercury requires special skills and should not be done by 4-H members or leaders who have not had specialized training. Your local solid waste district will be responsible for the safe handling of mercury, and ensuring that it is properly recycled.
- What kind of mercury recycling event will you hold?
  - Will your mercury recycling day be part of another household hazardous waste collection event, or will you only collect mercury that day?
  - Will it be held in conjunction with some other community effort, such as a local cleanup day or a community health fair?
- Pick a date.
  - Check your 4-H schedule first, but also expect that your solid waste district representatives will help to influence what date is set. They must work around statewide collection times for mercury, so let them help pick times that work well for them, too.
  - Check local and national calendars for health or environmental observances that you may wish to "piggy-back" on, such as Earth Day.
  - Avoid holidays, graduation weekends, and other significant dates when many people are likely to already have plans.
- Start well in advance.
  - Special events such as a community mercury recycling event require a lot of work and a lot of lead time. Make sure you plan your event carefully and create a realistic timeline for coordinating all the details.
- Will your community mercury recycling event require a budget?
  - Will you need additional funds for giveaways or buttons?
    - If so, who can be contacted to donate funds to help with this effort?
    - Can older members be recruited to contact potential sponsors?
- Prepare your press coverage.
  - Contact local media and inform them of

your event. Ask that they help in the promotion of the event, either by using press releases you supply, or with public service announcements and interviews that 4-H members design.

- Will local radio stations broadcast from the event the day of the show?
- Can the newspaper take pictures of the event, and follow up with coverage of the total mercury that you collected?
- Will a local sponsor underwrite a poster campaign where 4-H members design posters announcing the community mercury recycling event, with the top two or three being printed by a local printer and used in your promotion?
- Will your local utilities include information about the event in one of their monthly mailings?
- Can you have your club members each design their own unique poster announcing the event, and then take the posters to stores, doctors' offices, the post office, or other public place for display?

- Conduct the community mercury recycling event.
  - Have fun and tally the total mercury collected, and the kinds of mercury-containing items that were received.
- Follow up.
  - With any special event such as this, it is not over when it is over. Be sure to send information on the event to any local media that were not able to cover the event.
  - "Pictures are worth a thousand words," so take lots. Distribute some to the local media, but be sure that the local solid waste district also has some for their reports, and that you save some for your local club history.
  - Send thank-you notes to everyone who had a part. Thank volunteers, parents, sponsors, donors, and your local solid waste district.
- Evaluation.
  - Complete all the tally sheets required for your effort and send them to the State 4-H Office, AGAD, Purdue University, West Lafayette, IN 47907 Attention: Cathy Burwell.
  - One way to evaluate your event is to determine the actual volume of coverage you received. Establish a file of clips from newspapers, and numbers and lengths of radio announcements. Did the news coverage provide the information that people needed to know about your event? What would you do differently if you did another mercury recycling event?
  - Another way to evaluate your event is to review how many people participated. Was it actually a communitywide event, or did it fall short of your goal?
  - How much actual mercury were you able to collect for recycling? Did it meet your expectations? Did it meet the expectations of the solid waste district?
  - Internal evaluation – It's always a good idea to sit down with the people who were most involved in the community mercury recycling event to analyze what worked and what didn't. Find a time when you, your solid waste district people, and perhaps some of your 4-H members can sit down and talk. In addition to evaluating the actual outcome, examine the procedures that made it possible.
    - What materials did we use?
    - Review the logistics of the event and any problems that occurred.
    - Make recommendations for improving the event in the future.
    - Keep a file of the things you did, and suggestions for improvements.

Community Mercury Recycling Event Checklist

Facilities

Conduct a "walk-through" of your proposed collection site with these considerations in mind.

- ❑ Can site handle estimated audience?
- ❑ Accessibility for handicapped and older people?
- ❑ Availability of parking?
- ❑ Traffic pattern – will people come in one entrance and exit a different one?
- ❑ Space for collected mercury?
- ❑ Will other groups be using the same location? Are there conflicts?
- ❑ Bad weather considerations?
- ❑ Precautions made for spills?

Equipment / Resources

What equipment will you need to conduct the mercury recycling event? Where will you get it? Be sure to test any equipment such as cameras, microphones, or audiovisual equipment if you will have educational displays at your mercury recycling event.

- ❑ Tables, chairs – where will they come from, who will get them, and who will take them back?
- ❑ Is electricity needed?
- ❑ Will 4-H members distribute fact sheets and other educational materials?
- ❑ Are scales needed to measure mercury amounts?
- ❑ What kind of collection equipment is needed to hold recycled items?
- ❑ Will refreshments be provided for workers? What kinds? Where will they be located? (NOTE: Refreshments must be in an area away from the actual recycling area, and workers must be encouraged to wash hands before eating.)

Materials

What kinds of materials will you need to make your event run smoothly? Who is responsible for obtaining, setting up, and taking down?

- ❑ Posters
- ❑ Banners
- ❑ Direction signs
- ❑ Name tags
- ❑ Tally sheets

Staffing

Make sure there are enough volunteers and representatives from the solid waste district to oversee the different functions. Some areas to consider:

- ❑ Parking, traffic control
- ❑ AV operator
- ❑ Manning of educational displays
- ❑ Actual handling of mercury transfers
- ❑ Counting of mercury-containing items
- ❑ Setup and cleanup

Activity 5 Evaluation – Community Mercury Recycling Event

Who Participated?

_____Number of members who participated in a community mercury recycling event

_____Number of adults who participated in a community mercury recycling event

_____Total pounds of mercury recycled

What Was Recycled?

_____Amount of liquid or elemental mercury located

_____Number of nonelectronic thermostats located

_____Number of thermometers with silver bulbs

_____Number of mercury switches from older car hoods, freezers, silent light switches, sump pumps, gas space heaters, gas ovens, or gas clothes dryers

_____Number of batteries (older batteries in cameras or button watch batteries)

_____Number of fluorescent bulbs

_____Number of older cut and burn medications containing mercury

_____Number of manometers, barometers, vacuum gauges

_____Number of antique outdoor thermometers

_____Number of old maze toys

_____Number of other antique mercury-containing items

_____Amount of pre-1991 anti-fungal paint

_____Amount of pre-1995 turfgrass pesticides

_____Number of pre-1995 athletic “Light-up” shoes

_____Amount of mercury-containing nasal spray or contact lens solutions

_____Number of other mercury-containing items

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

Cathy Burwell
Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 6

Encourage Those Creative Interests! Have Members Design Mercury Posters or PSAs (Public Service Announcements)

Objectives

- Provide 4-H members with ways to participate in educating the community about mercury and its impact on our environment by creating posters and public service announcements (PSAs).
- Provide an activity where members can transfer the knowledge they have about an environmental topic into usable information for others.
- Provide an opportunity for members to see and learn more about radio broadcasting.
- Provide an experience where members will practice public speaking skills.
- Provide opportunities for members to learn the proper way to ask retailers for space in their establishment for educational or promotional posters.

Materials

- Background materials on mercury included in this packet
- Paper / pencils
- Audiotape recorder
- Video camera
- Posterboard
- Markers

Procedure

- Begin by reviewing the background materials with your 4-H members. Do you want to focus on one special area of mercury for this effort, or cover a variety of topics and let members choose their own topic for their poster or PSA? Focus your information on the kinds of things that are best suited for your community and the things you want to accomplish in your mercury education.
  - If you live in an area where there is lots of fishing, you may wish to concentrate on that aspect of mercury.
  - If you are going to tie your mercury venture into a community recycling event, you may find it helpful for the members to create posters and PSAs on where mercury is located in the home.
- Contact your local solid waste district. Staff there may have resources to help you, or may have contacts that will help in displaying your club's posters or in getting your PSAs aired on the radio.
- When you have finished the educational segment of your club meeting, allow members the option to work in groups or alone to create posters and PSAs that will help inform the public about the dangers of mercury.
- Talk to members about how a PSA for radio or TV can be only a certain length, 30 second, 60 second, etc. and how they need to time their script to ensure that it falls in the time limit.
- Leaders or parents will need to contact radio stations, or your local video station, to ask if they would use the PSAs your members are doing.
- Have on hand paper and pencils for members to write their PSA scripts, or to practice the design they will use on their posters. If you do not have time at your club meeting for this step, you may want to suggest that 4-H'ers develop a script for their PSA or design a poster at home, and bring it to your next meeting.
- When members have finished their PSAs, help them practice by recording with a cassette recorder. If you will be contacting

your local cable company to feature a video PSA on their station, you will want to work with the members to practice in front of a video camera. If video PSAs are something your club will be doing, this may be an opportunity for members to work together in pairs or small groups, and to use the posters they made.

- When members have finished their posters, hold a "show and tell" event at your meeting. Have each member show his/her poster to the club and explain what his/her goals were for the poster, i.e. what was he/she trying to get people to know about mercury. Or, instead use this as a game. Have member show their posters to the rest of the club, and have them tell what the main points of the poster are.
- Talk to the members about where they should take their posters in the community so that they will get the most visibility. Their options may include:
  - Retail stores
  - Post offices
  - Doctors' offices
  - Banks
  - Grocery stores
  - Restaurants
- Talk to members about the proper way to ask people to display their posters, and remind them to be prompt in going to get the poster at the end of the agreed-upon display time.
- There are other ways to use this activity to help inform the community about mercury. Some ideas are:
  - Develop this activity into a club contest, and ask local art teachers, or others, to judge the members' posters. Give prizes for the best.
  - Seek out a local donor who would be willing to underwrite the cost of putting some of the posters on placemats and providing them to local restaurants to help create mercury awareness.
  - Use a copy machine to reduce some posters to a size that can be duplicated and used as an insert in utility company mailers or included in the county Extension newsletters.

Activity 6 Evaluation – Posters and PSAs

Posters

_____ Number of posters created by members

_____ Number of posters displayed in public places

_____ Length of time posters were viewed by public

_____ Estimated audience viewing posters

PSAs

_____ Number of PSAs created by members

_____ Number of PSAs used by local media

_____ Number of times PSAs were used

_____ Estimated audience

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

Cathy Burwell
Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 7

Media Outreach: So Many Possibilities!

Objectives

- Members will learn what is involved in promoting an activity or providing education through standard media outlets.
- Members may have the opportunity to talk with reporters or news broadcasters about the mercury issue and why it is important.
- Members will understand the work that must be done beforehand to make a community event successful.

Materials

- News releases included in this packet
- News releases and scripts that members write to address the mercury endeavor in your community
- Other media pieces useful in your community

Procedure

- One of the most effective and inexpensive ways to reach large numbers of people with the mercury awareness message is through the news media in your town or county.
- The key to success in achieving local media coverage is to do more than just sending a release or mailing out a public service announcement (PSA). Be sure to find the right people, get on the phone, and get them as interested and enthusiastic about spreading the mercury message as you are.
- Contact the Extension office in your county and any other organizations that you are involved with that have newsletters. Ask them if they will include an article about mercury awareness in all the newsletters they send to their audiences.
- For newsletters, have 4-H'ers create "bullets" about mercury awareness from the background materials included in this packet or develop a news release about general mercury awareness or about your upcoming mercury recycling event.
- Encourage 4-H members to write articles for their school newspapers.
- Send a news release to your local newspaper. If you are holding a community recycling event, you may want to first submit an article about the health issues surrounding mercury, and then follow up with another article about the date, times, and place for your recycling event.
- Wherever you send your news articles, follow up with a call a few days later to make sure the article was received, and to see if there are any questions about the information you included.
- Another way to get information in the newspaper is to write a letter to the editor. Contact the paper and find its guidelines for accepting a letter to the editor, and then follow that procedure. Be timely and concise, and include contact information for yourself. If a 4-H member will be writing the letter, have them sign their name, the club name, and include the leader contact information.
- You also may want to ask a newspaper reporter to attend one of your meetings where 4-H members will be working on the mercury awareness issue. Suggest that they take pictures and write a story about what your club is doing. Be sure to give them plenty of background material from this packet to help them with the facts about mercury.
- Review the news releases included here to get ideas for preparing your own mercury awareness news.

Sample News Release No. 1

(_____) County 4-H'ers Taking Part in Statewide Mercury Awareness Project

Four-H members in **(County or Club)** are taking part in a statewide effort to educate Hoosiers about the dangers of mercury. "Nearly **(Number)** young people are learning about the hazards of mercury, where it is located in their homes and communities, and how to dispose of it properly," said **(youth educator or 4-H club leader).**

Mercury is a chemical that can exist as a gas, a liquid, or even as a solid. Many people are familiar with the shiny silver globs of mercury they may have played with as children, and are surprised to learn that mercury is a dangerous toxin that can attack the central nervous system. Children, in particular, are susceptible to mercury poisoning because their bodies are not yet fully developed.

A new law takes effect in Indiana in July 2003 that will severely limit the availability and sale of mercury-containing items in the state. **(County or Club)** 4-H'ers are helping to create an awareness of the hazards of mercury by first learning themselves about the problems, and then passing the information on to their families, friends and relatives.

The stability and versatility of mercury have allowed for its widespread use in many common household products. Household items that often contain mercury include:

- Nonelectronic thermostats.
- Fluorescent, vapor, and neon halide and high-pressure sodium lamps.
- Latex paint manufactured before 1990 and some oil-based paint.
- Alkaline batteries not labeled as 99 percent mercury-free.
- Thermometers with silver bulbs.
- Shoes made before 1977 with flashing lights in the soles.
- Clothing irons and curling irons with automatic shutoff switches.

These products are safe to use, but must be disposed of properly to ensure that there is no danger of contamination from exposure to mercury**. (County or Club)** 4-H members are trying to make the community aware of these dangers and that tossing thermometers and thermostats in the trash can be dangerous to everyone's health. Mercury spilled in our homes can slowly contaminate the air and cause long-term problems.

For more information about the Indiana 4-H Mercury Recycling Activity, contact **(youth educator or 4-H club leader)** at **(phone number).**

Sample News Release No. 2

Going Fishing?

Many families go fishing for dinner. Before you go, be aware that mercury and polychlorinated biphenyl contamination is widespread in Indiana. These chemicals can cause serious health problems, especially to the nervous system.

Check out the Indiana Fish Consumption Advisory at: http://www.ai.org/isdh/dataandstats/fish/fish_adv_index.htm or ask your local bait shop. They should have a copy. If they don't, ask why.

If children under the age of 15 are going to eat the meal, only eat fish designated as Group 1 or 2 and no carp over 15 inches in length. The same rules apply for women who are breastfeeding or pregnant or who plan to have children.

Sample News Release No. 3

Indiana Legislation Restricts Intentional Mercury Use

The Indiana General Assembly adopted House Enrolled Act 1901 (Public Law 225) in its 2001 session. Rep. Dennis Avery authored the law. Reps. Charlie Brown, Dennis Young and Jonathan Weinzapfel were co-authors. Sens. Beverly J. Gard and Vi Simpson served as co-sponsors in the Senate. The law passed the House by a 75-5 vote and the Senate by a 46-0 vote.

HEA-1901 takes effect on July 1, 2003. The two-year delay in the effective date gives Hoosiers time to make the necessary changes.

The law will require the following:

Mercury Fever Thermometers

Only a pharmacist or a pharmacist's assistant may sell mercury fever thermometers. The thermometers must be stored in a manner that requires the buyer to ask for one. Also, a medical doctor may sell or supply a mercury fever thermometer to an individual. This provision does not apply to antique thermometers (made before 1980) or to thermometers with a mercury-added button cell battery.

Mercury in Public and Nonpublic Schools

A primary or secondary school may not use or purchase for use mercury in virtually any form except for measuring devices and thermometers for which no adequate substitute exists.

Mercury-Added Novelties

A mercury-added novelty may not be offered for final sale or distributed for promotional purposes in Indiana if the offerer or distributor knows or has reason to know that a novelty contains mercury. This section does not apply to antiques (made before 1980) and novelties where the only mercury is in a mercury-added button cell battery.

A mercury-added novelty is a product such as a plastic maze containing a rolling mercury ball:

- That contains mercury that was intentionally added by the manufacturer in order to provide a specific characteristic, appearance, or quality to the product or to perform a specific beneficial function for the product; and
- That is intended mainly for personal or household enjoyment or adornment.

Mercury Commodity

A mercury commodity is a product that consists of only mercury and its container where the mercury is not performing a specific beneficial function for the product. If the product is mercury itself, such as a bottle of mercury, it is a mercury commodity.

A person may sell or provide a mercury commodity to another person in Indiana (other than for collection for recycling) only if the person:

- Provides a material safety data sheet with the mercury commodity; and
- Requires the purchaser or recipient to sign a statement with respect to the mercury in the mercury commodity. This statement strictly defines how the mercury commodity must be used and handled.

Finally, IDEM and the solid waste management districts are required to implement education programs to provide information to the public regarding reuse and recycling of mercury and the availability of collection programs.

Sample News Release No. 4 by Purdue Ag Communication

April 3, 2002

4-H mercury recycling activity under way

West Lafayette, IN. – A new community service effort, mercury recycling, is under way in several areas in Indiana. The project is coordinated by the Purdue University Cooperative Extension Service 4-H Department, the Indiana Department of Environmental Management and solid waste management districts throughout the state.

This effort involves 4-H clubs engaging in community education about mercury in the environment, in homes, on farms and how to properly recycle mercury to reduce the risk of human and environmental poisoning.

“There are several items that contain mercury that are especially of concern to farmers,” says Brent Ladd, water quality specialist. Among those are:

- Mercury was traditionally used in agricultural chemicals such as fungicide, mildewcide and pesticide. Any unused containers of chemicals containing mercury should be taken to local solid waste management districts for recycling.
- Manometers containing mercury were, and still are, used in dairy operations. If worn out or no longer used, these manometers should be recycled at solid waste management districts.
- In the past, unused mercury may have been stored in glass jars in attics, basements, garages or barns, and it needs to be removed carefully and recycled.
- Switches on sump and bilge pumps, pilot light sensors, mercury vapor light bulbs and old thermostats also contain mercury. When these appliances wear out, the switch, bulb, sensor, etc. containing mercury should be removed and taken to a solid waste management district for recycling.

This mercury recycling effort comes shortly before the inception of a new Indiana law (effective July 1, 2003) restricting the use, transport and sale of mercury products, such as mercury thermometers.

In order to participate in the mercury recycling effort, contact your local solid waste management district for directions on transport and packaging procedures for mercury recycling. Or contact Brent Ladd, water quality specialist in agricultural and biological engineering, at (765) 496-6331, laddb@ecn.purdue.edu.

Ag Communication: (765) 494-2722

Beth Forbes, bforbes@aes.purdue.edu

http://www.agriculture.purdue.edu/AgComm/public/agnews/

Sample News Release No. 5

Make Your Environment Safer: Dispose of Mercury-Containing Items Properly

Most people are familiar with mercury and many Baby Boomers may have played with the liquid silver as children. What they don't know is that mercury is toxic and can impair the way we see, hear, and function.

Mercury is a metal that conducts electricity, combines easily with other metals, and expands and contracts evenly with temperature changes. These properties have made it a useful component in many household, medical, and industrial products.

Mercury is safe as long as it is enclosed in the products designed for its use. Problems occur when mercury-containing items are broken or disposed of improperly, because mercury evaporates slowly and can cause continuous contamination of the air.

Mercury poisoning attacks the central nervous system in all humans. Children, especially those under the age of 6, are most susceptible to mercury poisoning. In 2000, Indiana had 524 reported cases of children exposed to mercury from broken thermometers alone.

Household items that contain mercury are no threat when used properly. They can be hazardous when misused or disposed of improperly. Use special care with these mercury-containing household products:

- Fever thermometers and antiseptic products that contain thermosal or merbromin.
- Fluorescent light bulbs.
- Nonelectronic thermostats.
- Clothes irons with automatic and tilt shutoffs.
- Vintage "maze" toys and chemistry sets.
- Batteries – mercuric oxide and some alkaline.

When you no longer need mercury-containing products, make sure to follow proper disposal practices to ensure no mercury contamination can occur.

- Never break open any items containing mercury.
- Never put mercury in the trash.
- Never pour mercury down the drain.
- Never burn mercury.

If you have questions about proper disposal recommendations for mercury products, or need information on mercury spills, contact your local solid waste district or the Indiana Department of Environmental Management at (800) 988-7901.

Activity 7 Evaluation – Media Outreach

News Releases

_____ Number of news releases used in local newspapers

_____ Estimated reading audience

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

Cathy Burwell
Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 8

Let's Go Visual! Spread the Message with Informational Displays

Objectives

- 4-H members will practice their skills in visual design by producing information displays about mercury or community recycling.
- 4-H members will participate in an activity to help educate the public about mercury or community recycling.
- 4-H members will contact local retailers, and other possible display sites and will set up and take down displays.

Materials

- Poster board, foam core, or other materials needed to construct a visual information display
- Examples of household items that contain mercury
- Copies of fact sheets or informational brochures that can be distributed
- Bright colored markers, inks, lettering equipment, etc.

Procedure

- Upon completion of an informational lesson on mercury awareness, have 4-H members brainstorm ideas for constructing an informational display. Here are some things to think about:
  - What kinds of information should be included?
    - Household items that contain mercury
    - The Indiana Fish Advisory and how to use it
    - Your local mercury community recycling event, and promotional information on it
  - Where will the display be located?
    - Who do we need to ask?
    - Local bait store
    - Local home show
    - Health fair
    - Store window
    - Doctor's office
    - Bank
    - Other
  - How long should the display be left up?
  - Is the display at an event that can be staffed? If so, who will do it?
- Will the display include fact sheets or informational materials for people to pick up?
  - If so, what copies will you use?
  - How many do you need?
  - How will they be printed?
- How many displays do the members feel they need to get the word out?
  - Should members work in groups to develop three or four displays?
  - Will all the displays be the same, or should they address a variety of mercury issues?
- Does your local solid waste district already have a good display that your club could borrow for viewing in different locations?
- Should the designing of mercury informational displays be a contest?
  - Who will judge the displays? Local art teachers, science teachers, the Solid Waste District educator?
  - What prizes or other recognition will you give to the group or individual with the winning display?

Activity 8 Evaluation – Informational Displays

Informational Displays

_____Number of informational displays created by members

_____Length of time each display was used in public

_____Estimated reading audience

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

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Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 9

Let's Help Others Understand Our Concerns! Spread the Message with Presentations

Objectives

- 4-H members will practice their public speaking skills by presenting mercury information to other organizations and groups.
- 4-H members will select pertinent information and arrange it succinctly into a short informational presentation.
- 4-H members will have the opportunity to show the community firsthand their concern for this environmental issue.
- 4-H members will gather visuals that will enhance their presentation and keep their audience interested.

Materials

- Background materials on mercury awareness included in this packet
- Visuals consisting of household items containing mercury, or other examples, or pictures that address the mercury topic

Procedure

- This is probably an activity that will be reserved for some of the older 4-H members in the club, but it is a wonderful opportunity for 4-H'ers to show others how much they believe in this environmental topic.
- After you have presented the information included in the background section of this packet, ask if any of your members are interested in developing a presentation that can be taken to local service and civic groups.
- Work with them as they put together their presentation.
- You may even wish to volunteer to contact some of the local groups you know that are looking for programs, and suggest they consider your 4-H members and their mercury awareness presentation.
- Some groups you and your members may wish to consider going to talk to are:
  - Service groups such as Rotary, Tri-Kappa, Lions, etc.
  - Church groups
  - Senior groups
  - Homeowners' associations
  - After-school groups
  - Extension Homemaker groups
  - Other 4-H clubs
- Decide how the 4-H members will get to and from these presentations. Will you drive them, or will their parents drive, or can they arrange their own transportation?
- In advance, contact someone in the organization and offer to provide a program on mercury awareness.
  - Provide information on who to call, and when they would be available to come.
- When you have programs scheduled, be sure that you have enough fact sheets or informational brochures to leave with the group.
- Be sure the speakers tell the audience that they are involved in the 4-H program. The speakers should tell the audience what club they are in and who their leaders are, and let the audience know why mercury is an important topic for them.
- Be sure to provide the group with information on who they can contact if they want more information on mercury. It would probably be a good idea to leave them the address and phone number of your local solid waste district.
- Keep track of the number of presentations given to local organizations, and the number of people that were at each.

Activity 9 Evaluation – Presentations

_____ Number of presentations delivered by members
_____ Estimated number of people in attendance

_____ Number of presentations delivered by adults
_____ Estimated number of people in attendance

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

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Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 10

Let's Learn More about Mercury in Our Environment! Have a Guest Speaker

Objectives

- 4-H members will learn more about the mercury issue.
- 4-H members will have the opportunity to see and hear from others who work with the mercury issue.
- 4-H members will have the opportunity to get answers to their questions from someone working with the issue.

Materials

- Location to hold presentation
- Audiovisual equipment (optional)
- Invitations, fliers (optional)
- Refreshments (optional)

Procedure

- There are a couple ways you may wish to address this activity:
  - Invite a guest speaker to visit your club and talk to your members about mercury awareness and recycling.
  - Host a neighborhood or community event where a guest speaker talks to your members, their parents, and anyone interested in attending.
- Here are some ideas for people you may want to contact to give a presentation to your club or for your local community:
  - Indiana Department of Environmental Management Mercury Awareness Program personnel, Chad Trinkle or Dave Wintz. Contact them at (800) 451-6027.
  - Local solid waste district educator.
  - High school science teachers.
  - Conservation officers.
  - Doctors.
  - Pharmacists.
- Contact the guest speaker and set a time for the presentation.
  - Be sure to ask if they need any equipment, and how it can best be provided.
    - Will they bring their own?
    - Can you meet in a location where equipment is available?
  - Tell them approximately how many people to expect, and if they will be 4-H members, parents, or the general public.
  - Tell them how long you would like them to speak, and what topics they should address.
  - Ask them if they will take questions from the audience.
- Prepare your 4-H members for the presentation by telling them what topics the speaker will cover.
  - Encourage them to think about the topics and think of questions that they would ask.
- Have the room set up prior to the arrival of your speaker. Do not expect the speaker to help set up chairs.
  - Be flexible in making adjustments that the speaker may request to better present the information. If he would like the group to sit in a circle, and if space is adequate, try to accommodate the speaker's request.
- Make arrangements for refreshments if that will be part of your session.
  - What will be provided, and who will be responsible?

- Do you want to have this presentation covered by a news reporter?
  - Contact local media to be there to cover the presentation, and perhaps take pictures.
- Ask the speaker for some biographical information that can be used for an introduction.
  - Decide who will do the introduction.
  - Is this something a 4-H member can do?
- Make arrangements for tearing down chairs and tables after the presentation.
- Don't forget thank-you notes to speakers after the presentation.
  - Will you write the thank-you note?
  - Will each club member write a thank-you note?
  - Will the club secretary be responsible for writing the thank-you note?

Activity 10 Evaluation – Guest Speakers

_____ Number of guest speakers

_____ Estimated number of people in attendance

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

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Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Indiana 4-H
Mercury Recycling Activity
List of Background Materials

1. Indiana Solid Waste Management District Contacts
   http://www.state.in.us/idem/oppta/recycling/swmd/contact.pdf

2. Indiana Legislation on Mercury

3. Mercury Recycling Guide

4. Spill Information & Clean-Up Guidance
   http://www.in.gov/idem/ctap/mercury/spill.pdf

5. Mercury on the Internet

6. Mercury Fact Sheet from Indiana Department of Environmental Management
   http://www.in.gov/idem/mercury/prevention/mercfact.pdf

7. Example Press Release for Community Education

8. EPA Mercury in the Environment (paper on specific products)
   http://www.epa.gov/glnpo/p2/mercpam.html

Indiana Legislation Restricts Intentional Mercury Use

The new law takes effect on July 1, 2003.

What Does The Law Mean for You?

Mercury Fever Thermometers

Only a pharmacist or a pharmacist's assistant may sell mercury fever thermometers. The thermometers must be stored in a manner that requires the buyer to ask for one. Also, a medical doctor may sell or supply a mercury fever thermometer to an individual. This provision does not apply to antique thermometers (made before 1980) or to thermometers with a mercury-added button cell battery.

Mercury in Public and Nonpublic Schools

A primary or secondary school may not use or purchase for use mercury in virtually any form except for measuring devices and thermometers for which no adequate substitute exists.

Mercury-Added Novelties

A mercury-added novelty may not be offered for final sale or distributed for promotional purposes in Indiana if the offerer or distributor knows or has reason to know that a novelty contains mercury. This section does not apply to antiques (made before 1980) and novelties where the only mercury is in a mercury-added button cell battery.

A mercury-added novelty is a product such as a plastic maze containing a rolling mercury ball:

- That contains mercury that was intentionally added by the manufacturer in order to provide a specific characteristic, appearance, or quality to the product or to perform a specific beneficial function for the product; and
- That is intended mainly for personal or household enjoyment or adornment.

Mercury Commodity

A mercury commodity is a product that consists of only mercury and its container where the mercury is not performing a specific beneficial function for the product. If the product is mercury itself, *such as a bottle of mercury, it is a mercury commodity.*

A person may sell or provide a mercury commodity to another person in Indiana **(exempt if taking for collection or recycling)** only if the person:

- Provides a material safety data sheet with the mercury commodity; and
- Requires the purchaser or recipient to sign a statement with respect to the mercury in the mercury commodity. This statement strictly defines how the mercury commodity must be used and handled.

Recycling Assistance

Indiana Department of Environmental Management and local Solid Waste Management Districts are required to implement education programs to provide information to the public regarding reuse and recycling of mercury and the availability of collection programs.

This article is adapted from Improving Kids' Environment Newsletter, August 2001 (www.ikecoalition.org), by Tom Neltner.

Your Mercury Recovery Guide

The Problem With Mercury.

Most people know mercury is a liquid silver metal used in products like thermometers. What many people don't know is mercury evaporates into the air when a device breaks or is thrown away.

This is bad because the mercury vapor is carried into our rivers and lakes and ends up in the fish we like to eat. Vapor can also get inside people when liquid mercury is spilled indoors or leaks from jars of stored mercury.

Problems come if people breathe in more vapor or eat more mercury in fish than their body can process. Then the mercury can begin to cause brain and vital organ damage. Kids and unborn babies absorb more mercury than adults because their blood-brain barrier isn't fully formed until age six. See www.in.gov/idem/mercury to find out more.

Getting Mercury Out of Your Life.

Discover which items in your home contain mercury by checking the back page of this fact sheet. When you are ready to bring mercury containing items for proper disposal call your local Solid Waste District.

They will tell you when and where the next Hazardous Waste Collection event will be in your area. Some programs are by appointment, while others have an annual collection day.

Dial 800-988-7901 or see www.in.gov/idem/oppta/recycling to get the number of your local Solid Waste District and call to find out more.

How to Store & Transport Mercury Items.

You need to put jars of liquid mercury inside a sturdy plastic container with a tight fitting screw top lid to store and transport it safely. Put small items like thermometers and switches into zip lock bags or screw top jars. Large devices should be stored and brought upright in a plastic pail with a good lid.

What About Mercury In Fish?

Indiana DNR prints a free magazine every year called the Annual Fish Consumption Advisory. It tells which types and sizes of fish contain too much mercury or PCB's to eat from each river, stream and lake in Indiana. It has special guidelines for women and kids under 15. You can pick them up at stores that sell fishing licenses.

Visit www.cfs.purdue.edu/extension/foodsafety/anglingindiana for information on fish in your county. For information on ocean fish visit: www.cfsan.fda.gov/~lrd/tphgfish.

How To Handle Mercury Spills.

If mercury is spilled you have to work quickly and pick it up completely. Never use a vaccum. Open windows and get two pieces of rigid paper. Using one paper push the blob onto the other paper and put it into a container with a screw top lid. If the spill is large or near a source of heat you will need to leave the area and call for professional help. See www.in.gov/idem/ctap/mercury/spill.pdf for complete clean up directions.

Prevention is much easier, cheaper and healthier than mercury cleanup so bring items for proper disposal before they break.

What Else You Can Do to Help.

Seek out and buy items that don't contain mercury like electronic thermometers and thermostats. Bring the old mercury-containing models in for recovery.

Saving electricity helps too. 30% of the mercury in our air and rivers comes from burning coal for electricity. The mercury is naturally found in coal and is released when it's burned. A 100 watt lightbulb left on for four hours takes one pound of coal to run. Turning off unused lights and electronics, switching to fluorescent lamps and caulking windows are actions that work to reduce energy use and mercury pollution in your community.

Last Updated 7-11-02

Items That Contain Mercury

Product	What to Do
Liquid Mercury in Jars or Bottles 	Place entire jar immediately into a larger sturdy plastic container with a tight fitting screw top lid to prevent spills. Call your local Solid Waste District to find out when to bring it in. This much mercury is an immediate danger to health if it spills and the vapor is breathed in. Cleanups of this amount of mercury are very expensive.
Mercury Thermostats 	Most non-electronic thermostats contain a three gram blob of mercury in a glass ampule. It poses no problem unless the ampule breaks. When you switch to an energy saving electronic model bring the old one to your local Solid Waste District or participating heating and cooling vendor.
Mercury Fever Candy, Oven Thermometers 	Glass with a silver bulb at one end. Replace before it breaks with a digital or red alcohol thermometer. Transport mercury thermometers in a zip lock bag. Call your local Solid Waste District to find out when and where to bring them for recovery.
Mercury Switches 	Can be found in car hoods, trunks, freezers, silent light switches, sump pumps, gas space heaters, gas ovens, and gas clothes dryers. Wrap in bubble wrap or newspaper and place in a zip lock bag for transport to your Solid Waste District.
Mercury Blood Pressure Gauges 	Usually wall mounted with visible mercury column. Wrap and place so the device rides upright in a five gallon pail with a lid when transporting for recovery. Can contain a large amount of mercury.
Mercury Batteries 	Older batteries usually found in cameras or button batteries in watches. Call your District for dates and times of local hazardous waste drop off events. Alkaline batteries made after 1994 can be thrown out with the regular trash if no recycling is available in your area.
Fluorescent Bulbs 	Mercury is contained in the interior white powder. Many Solid Waste Districts accept bulbs for recycling - check for availability. Place in original box for transport. View the site www.in.gov/idem/mercury for a list of commercial lamp vendors. These lamps save on mercury emissions because they use 75% less electricity to operate.

Product	What to Do
Laboratory Sink Traps 	High school, college and commercial labs often have mercury and other metals in the U shaped traps under the sinks. Over the years metals and mercury get washed down the drain and accumulate there. Removal and stabilization by professional hazardous waste businesses is recommended prior to any plumbing or remodeling work.
Merthiolate & Other Medications 	Older cut and burn medications can contain mercury. Ingredient listed may be thimerisol, merthilolate. Some spiritist religious goods and older homeopathic medications also contain mercury. Call your Solid Waste District to bring these items to their hazardous waste collection events.
Manometers Barometers Vacuum Gauges	Used to measure pressure at dairy farms, science classes and repair shops. Can contain large amounts of liquid mercury. Replace with non-mercury devices. Call your local Solid Waste District to find out how and where to bring them for recovery.
Antique Outdoor Thermometers Some Maze Toys Clock Weights Mercury Amulets Building Tools	Think twice about buying antiques and tools that contain mercury. Call your Solid Waste District to find out how to bring items to the next local hazardous waste collection day for recovery. Call the District for advice on packaging and transportation.
Anti Fungal Paint Mercury Pesticides	Anti-fungal paint made before 1994 listing thimerisol or other mercury compound contains mercury. Pre-1995 turfgrass pesticides may also contain mercury. Call your local Solid Waste District for disposal advice.
High Intensity Discharge Lamps 	HID lamps at schools and commercial sites have mercury vapor inside. Your Solid Waste District may have a recovery program - call for availability. View the site www.in.gov/idem/mercury for a list of commercial lamp vendors.
Pre-1995 Athletic "Light Up Shoes" Blue Tinted Auto Headlights Amalgam Fillings	These items also contain mercury. Call your Solid Waste District to see if you can bring these materials in for recovery.

Mercury on the Internet

Indiana Department of Environmental Management (IDEM) Mercury Site
http://www.IN.gov/idem/mercury/index.html

Improving Kids Environment Coalition Web site
http://www.ikecoalition.org

Indiana Department of Natural Resources Fish Advisory Web Site
http://www.IN.gov/isdh/dataandstats/fish/fish_adv_index.htm

Purdue Cooperative Extension Service Web site for Anglers
http://www.cfs.purdue.edu/extension/foodsafety/anglingindiana/

Indiana State Department of Health - Health Effects of Mercury
http://www.state.in.us/isdh/programs/environmental/factsheets/mercury.htm

U.S. Environmental Protection Agency (EPA) Mercury Site
http://www.epa.gov/mercury/index.html

Region V EPA Mercury Site
http://www.epa.gov/grtlakes/seahome/mercury/src/mercenv.htm

Minnesota Pollution Control Board -Environmental and Health Effects of Mercury
http://www.pca.state.mn.us/air/mercury-effects.html

Mercury in Schools Web site
http://www.mercury-k12.org/

Canada - Mercury Activities for Middle School
http://www.on.ec.gc.ca/glimr/classroom/millennium/mercury/intro-e.html

American Academy of Pediatrics Press Release on Mercury Thermometers
http://www.aap.org/advocacy/archives/julymerc.htm

Newspaper Article about Clancy, the First Mercury-Sniffing Dog in the United States
http://www.enn.com/news/enn-tories/2001/10/10242001/s_45348.asp

Press Release Example

http://www.ai.org/idem

For Immediate Release
Oct. 13, 1998

Contact: Cortney Stover
(317) 232-8596 or cstover@dem.state.in.us

Kernan Urges Hoosiers to Make Their Homes Safer by Removing Mercury

Urging Hoosiers to make their homes safer and healthier, Lieutenant Governor Joe Kernan today asked citizens to turn in mercury products to collection centers located in every county.

At a city of Indianapolis mercury collection center in Perry Township, Kernan reminded Indiana citizens that mercury found in the home threatens children by attacking the central nervous system and causing developmental delays. Mercury's long-term effects can be permanent.

"Mercury is dangerous if it's handled improperly. That's why it is so important for Hoosiers to be aware that it is often present in their own homes," Kernan said. "This collection program offers a safe way to get rid of mercury without hurting the environment."

Together with the Indiana Department of Environmental Management, the Regional Household Hazardous Waste Task Force, solid waste management districts and local governments have set up mercury collection centers in every county across Indiana. Cinergy operates the centers in a few counties.

"This important part of Gov. O'Bannon's Building Bright Beginnings campaign is the first free statewide mercury collection in the United States," Kernan said.

Statewide collections in October have gathered 2100 pounds of mercury. IDEM collected another 250 pounds from Lake, Huntington and Hamilton counties before October.

Mercury is found in thermometers, thermostats, blood pressure checkers, irons with tilt shut-offs, latex paint manufactured before 1990, fluorescent light bulbs and some batteries. Many older homes have jars and bottles of mercury.

"We want citizens to be aware that simply tossing thermometers and thermostats in the trash can be dangerous to everyone's health," said IDEM Commissioner John M. Hamilton. "Mercury spilled in our homes can slowly contaminate the air and cause long-term problems."

For more about mercury's dangers and collection times in your county, call IDEM at (800) 451-6027, dial "0" and ask for ext. 2-8172.

Evaluations

Indiana 4-H Mercury Recycling Activity

The evaluation for each activity appears at the end of the chapter that deals with that activity. For your convenience, all the evaluations for all the activities are repeated here. Please provide the information requested for the activities that your group participated in. Thank you.

Activity 1 Evaluation – A Mercury Search

Member Count

_____ Number of **members** who received education about mercury

_____ Number of **members** who completed the Mercury Search Picture

Adult Count

_____ Number of **adults** who received education about mercury

_____ Number of **adults** who completed the Mercury Search Picture

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

Please return to:

Cathy Burwell
Extension Specialist
State 4-H Office – 1161 AGAD
Purdue University
West Lafayette, IN 47907-1161

Activity 2 Evaluation – Conduct a Mercury Search

Who Participated?

_____ Number of **members** who conducted a mercury search

_____ Number of **adults** who conducted a mercury search

What Was Searched?

_____ Number of homes searched

_____ Number of garages and outbuildings searched

_____ Number of other locations searched

What Was Located?

_____ Amount of liquid or elemental mercury located

_____ Number of nonelectronic thermostats located

_____ Number of thermometers with silver bulbs

_____ Number of mercury switches from older car hoods, freezers, silent light switches, sump pumps, gas space heaters, gas ovens, or gas clothes dryers

_____ Number of batteries (older batteries in cameras or button watch batteries)

_____ Number of fluorescent bulbs

_____ Number of older cut and burn medications containing mercury

_____ Number of manometers, barometers, vacuum gauges

_____ Number of antique outdoor thermometers

_____ Number of old maze toys

_____ Number of other antique mercury-containing items

_____ Amount of pre-1991 anti-fungal paint

_____ Amount of pre-1995 turfgrass pesticides

_____ Number of pre-1995 athletic “Light-up” shoes

_____ Amount of mercury-containing nasal spray or contact lens solutions

_____ Number of other mercury-containing items

Name_____

Club Name_____

County_____

Please return to:

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Activity 3 Evaluation – Like to Fish?

Member Count

_____ Number of **members** who received education about mercury

_____ Number of **members** who completed the Mercury Search Picture

Adult Count

_____ Number of **adults** who received education about mercury

_____ Number of **adults** completed the Mercury Search Picture

Other Activities

_____ Number of exhibits created to alert fishermen to the advisories

_____ Length of time each was on display

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

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Activity 4 Evaluation – School Audit

Member Count

_____ Number of **members** who learned where mercury can be found in schools
_____ Number of **members** who conducted school audits

Adult Count

_____ Number of **adults** who learned where mercury can be found in schools
_____ Number of **adults** who conducted school audits

School Count

_____ Number of schools audited for mercury-containing items
_____ Number of schools taking part in the Recycling for Schools Pledge Program

What Was Located?

_____ Number of thermometers identified
_____ Number of blood pressure devices containing mercury identified
_____ Amount of nasal spray and contact lens solution containing thermosal
_____ Amount of liquid or elemental mercury
_____ Number of barometers
_____ Number of thermostats containing mercury
_____ Number of "silent" light switches
_____ Number of fluorescent bulbs that are recycled
_____ Number of fluorescent bulbs that are not recycled
_____ Number of other mercury-containing lamps that are recycled
_____ Number of other mercury-containing lamps that are not recycled

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

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Activity 5 Evaluation – Community Mercury Recycling Event

Who Participated?

_____Number of **members** who participated in a community mercury recycling event

_____Number of **adults** who participated in a community mercury recycling event

_____Total pounds of mercury recycled

What was Recycled?

_____Amount of liquid or elemental mercury located

_____Number of nonelectronic thermostats located

_____Number of thermometers with silver bulbs

_____Number of mercury switches from older car hoods, freezers, silent light switches, sump pumps, gas space heaters, gas ovens, or gas clothes dryers

_____Number of batteries (older batteries in cameras or button watch batteries)

_____Number of fluorescent bulbs

_____Number of older cut and burn medications containing mercury

_____Number of manometers, barometers, vacuum gauges

_____Number of antique outdoor thermometers

_____Number of old maze toys

_____Number of other antique mercury-containing items

_____Amount of pre-1991 anti-fungal paint

_____Amount of pre-1995 turfgrass pesticides

_____Number of pre-1995 athletic “Light-up” shoes

_____Amount of mercury-containing nasal spray or contact lens solutions

_____Number of other mercury-containing items

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

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Activity 6 Evaluation – Posters and PSAs

Posters

_____ Number of posters created by members

_____ Number of posters displayed in public places

_____ Length of time posters were viewed by public

_____ Estimated audience viewing posters

PSAs

_____ Number of PSAs created by members

_____ Number of PSAs used by local media

_____ Number of times PSAs were used

_____ Estimated audience

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

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Activity 7 Evaluation – Media Outreach

News Releases

_____ Number of news releases used in local newspapers

_____ Estimated reading audience

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

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Activity 8 Evaluation – Informational Displays

Informational Displays

_____Number of informational displays created by members

_____Length of time each display was used in public

_____Estimated reading audience

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

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Activity 9 Evaluation – Presentations

_____ Number of presentations delivered by **members**
_____ Estimated number of people in attendance

_____ Number of presentations delivered by **adults**
_____ Estimated number of people in attendance

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

Club Name_____

County_____

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Activity 10 Evaluation – Guest Speakers

_____ Number of guest speakers

_____ Estimated number of people in attendance

Other Activities

List other kinds of other activities and/or efforts. Be sure to include number of participants for each activity.

Name_____

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