

# Lead Awareness in Indian Country: Keeping Our Children Healthy!



## Understanding Lead

Collaboration between the:

- National Tribal Toxics Council;
- National-EPA Tribal Science Council; and
- U.S. Environmental Protection Agency



# Partners

- Over 200 tribal representatives contributed to the success of this Curriculum by developing content, reviewing information, evaluating messages and use



# The Curriculum

Lead Awareness in Indian Country:  
Keeping Our Children Healthy!



- Also known as:
  - Curriculum
  - Tribal Lead Curriculum
  - Lead Awareness Curriculum





# Outline

- Potential Sources of Lead Exposure
- Vulnerable Populations
- Impacts and Effects of Lead Exposure
- Taking Action



Photo provided by Zender Environmental and Health Group

# Introduction

1. How well informed are you about lead and the risk of lead exposure and lead poisoning?
2. What year was your house or apartment built; was it before or after 1978?

What questions do you  
have about lead and  
lead poisoning?

Flush your home's pipes by running your tap, taking a shower or doing a load of laundry or dishes before drinking or cooking.

Clean your home once a week using a clean, wet or damp cloth, sponge or mop to minimize dust, which may contain lead.

Eat a well-balanced diet with foods high in calcium, iron, and vitamin C to help reduce the absorption of lead.

Wash daily any items your child uses regularly, such as pacifiers and toys, to minimize exposure to dust, which may contain lead.



Use soap and water (warm or cold) to wash children's hands several times a day, especially after playing outside or with animals.

Change and wash clothes, remove shoes and shower to avoid tracking lead into the home from soil, work sites, or hobbies.

Hire a certified lead professional when renovation, repair or painting will disturb painted surfaces in a home built before 1978. Keep family out of the work area.

Play in grass and dirt not contaminated with lead, and use designated picnic, camping and hiking areas.



# What is Lead?



[http://mfritz8science.wikispaces.com/file/view/lead\\_1.jpg/262242078/lead\\_1.jpg](http://mfritz8science.wikispaces.com/file/view/lead_1.jpg/262242078/lead_1.jpg)

Where do you think lead  
can be found?



# Lead can be found in...

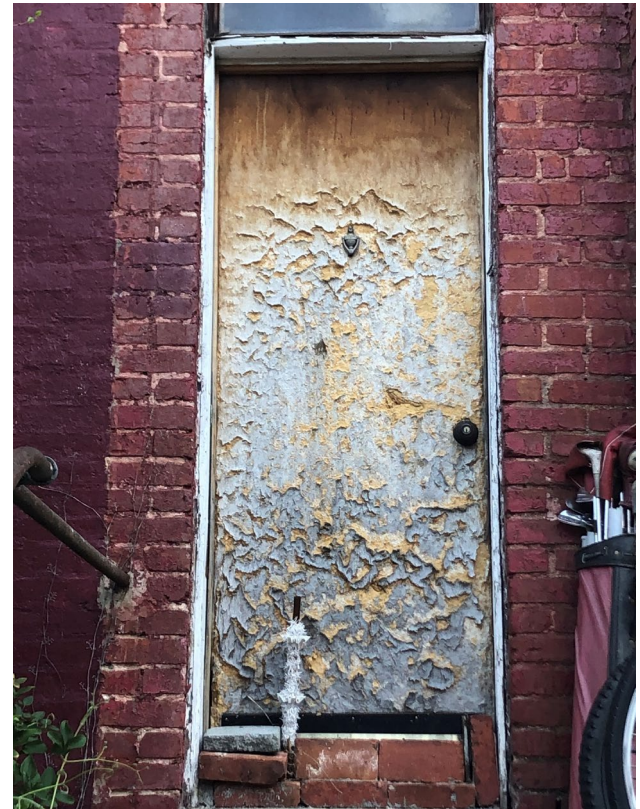
- All parts of our environment:
  - Air
  - Soil
  - Water
  - Inside our homes





# Lead-based Paint

- Found in older homes built before 1978
- Major source when:
  - Not maintained - Peeling, chipping, cracking
- Chips and dust can scatter and become a hazard
- These hazards can be breathed in or swallowed by children, residents and workers





# Children can be exposed...

- Through contact with lead-based paint chips and dust in buildings and homes when they put toys, fingers, and other objects in their mouths
- Lead-based paint has a "sweet" taste
- Children may also lick or bite chewable lead-based paint surfaces



Photo by [Jelleke Vanooteghem](#) on Unsplash

# Childhood lead exposure and lead poisoning is preventable

- When lead-based paint is in good condition and not on an impact or friction surface, like a window, the paint is usually not a hazard
- The key is to keep children from coming into contact with lead



# Potential Sources of Exposure

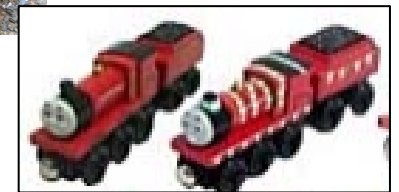
- Painted farm equipment and boats
- Imported pottery, candles, older mini blinds
- Toys
- Ceramicware
- Solder
- Batteries
- Ammunition
- Old cellphones in disrepair
- Cosmetics



Photo by Randy Fath on Unsplash



Imported pottery from Mexico



Toy Recall from <https://www.cpsc.gov/Recalls/2007/tc2-corp-recalls-various-thomas-friends-wooden-railway-toys-due-to-lead-poisoning>

# Potential Sources of Exposure

- Lead can enter drinking water when plumbing materials with lead corrode
  - Lead pipes
  - Faucets
  - Fixtures





# Potential Sources of Exposure

- Industrial sources and contaminated sites
- Improper disposal/recycling of lead-acid batteries
- Improper storage of metal parts
- Abandoned mines



Photo provided by Zender Environmental and Health Group

# Potential Sources of Exposure

- Imported pottery may contain lead in glaze and/or other decorations
- Lead glaze can leach into food and drinks that are prepared, stored or served in these dishes
- Many traditional potters have switched to non-lead glazes



# Potential Sources of Exposure

- Game meat harvested with lead ammunition
- Discharging firearms in poorly ventilated areas
- Cleaning firearms or handling lead ammunition
- Many subsistence hunters have switched to lead-free ammunition

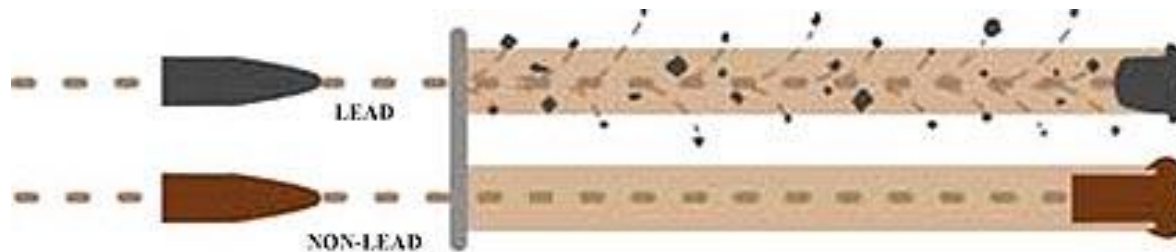


Image from <https://www.fws.gov/midwest/refuges/leadfree.html>

# Potential Sources of Exposure

- Lead in products used to hunt and fish
- Melting lead to make (cast) bullets, sinkers, decoys and other metal items
- Child exposed from making lead fishing sinkers
- Use lead-free options





# Potential Sources of Exposure

- Superfund Sites
  - Known to leach lead into soil and groundwater
  - Tar Creek Superfund Site



Chat pile

Photo provided by Rick Dubois, Director of Environmental Services at Seneca-Cayuga Nation

# Potential Sources of Exposure

- Lead can enter soil and water
- Lead in soil:
  - Can settle on or be absorbed by plants
  - Be inhaled if resuspended in the air
  - Tracked into the house on the bottom of shoes



Are there other sources  
of lead exposure in your  
community?

# Fill in the Blanks

1. Lead has been found in a variety of products found in our homes, including: imported scented CANDLES, toys, glassware, ceramicware and cosmetics.
2. LEAD-BASED paint, if present in older homes built before 1978, may be a major source of exposure to lead to those who live there.
3. The most common sources of lead in DRINKING water are from lead pipes, faucets and fixtures.



# Vulnerable Populations

- Certain groups are more vulnerable
  - Children
  - Adults through jobs, hobbies and/or cultural practices
  - Pregnant women



Photo by Chien Pham on Unsplash



Photo provided by Shaun West, Environmental Programs Manager, Cherokee Nation



Photo by Arteida Mjeshtri on Unsplash

# Impacts and Effects of Lead Exposure

- Harmful to human health
- Impacts the environment and wildlife



Photo by [Kevin Crosby](#) on Unsplash

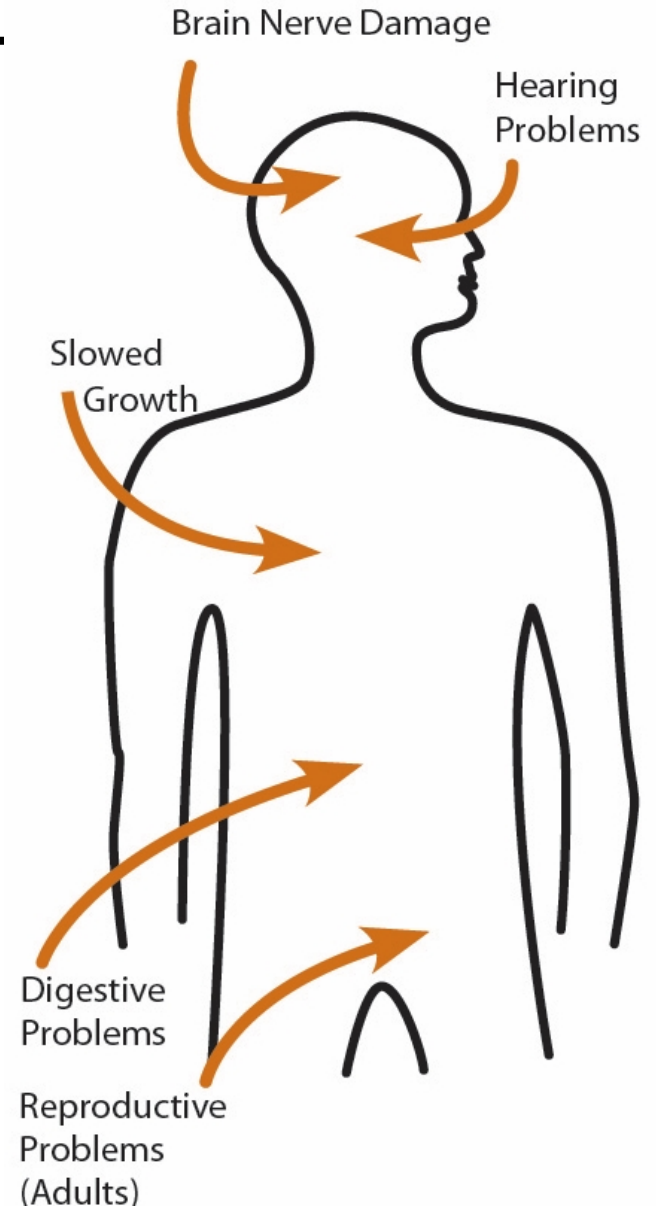
# Health Effects - Children

- Behavior and learning problems
- Lower IQ and hyperactivity
- Slowed growth
- Hearing problems
- Anemia



# Health Effects - Adult

- Increased blood pressure and incidence of hypertension
- Decreased kidney function
- Reproductive problems (in both men and women)





# Health Effects – Pregnant Women

- Lead is released from the mother's bones along with calcium and can pass from the mother exposing the fetus or breastfeeding infant
  - Baby born too early or too small
  - Hurt the baby's brain, kidneys and nervous system
  - Put the mother at risk for miscarriage



# Health Effects - Wildlife

- Ingestion of:
  - Lead fishing tackle
  - Spent lead ammunition
  - Wounded or dead prey with lead fragments or shot pellets
- Lead poisoning affects muscles, nerves, kidney function, reproductive systems and flight capacity

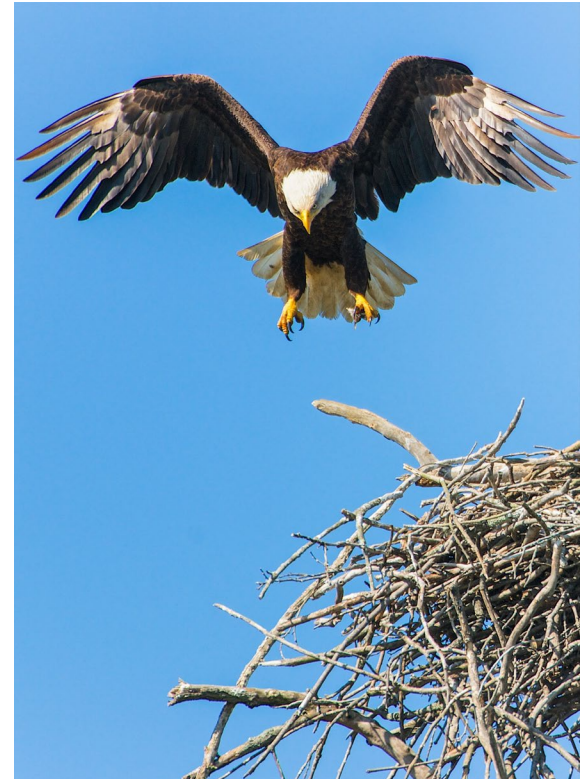


Photo by [Richard Lee](#) on Unsplash

# Health Effects - Birds

- Loons, ducks, geese and swans also commonly affected by lead ingestion
- Behavioral changes:
  - Unsteady legs
  - Droopy wings
  - Accidents when trying to land
- Other symptoms:
  - Listlessness, vomiting, diarrhea, digestive tract issues and impaired flight



Photo by [Kevin Crosby](#) on Unsplash

# Health Effects - Mammals

- Lead exposure can result in:
  - Vomiting
  - Loss of appetite
  - Diarrhea
  - Lethargy
  - Uncoordinated body movements
- Repeated exposure can result in:
  - Anemia, convulsions, blindness, coma or death

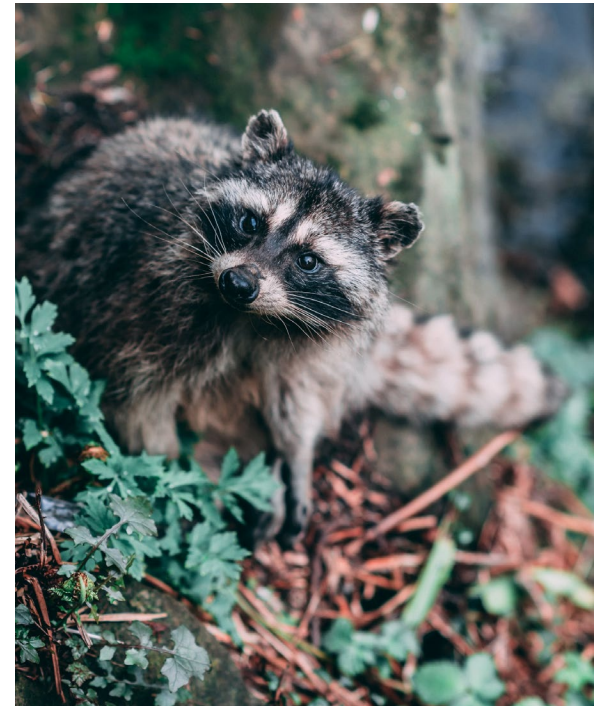


Photo by [Guillaume Bourdages](#) on Unsplash



# Non-Lead Alternatives for Fishing and Hunting Activities

- Tribes are taking action to increase use of non-lead alternatives for fishing and hunting activities within their territories
- Non-lead ammunition
- Non-lead lures or sinkers
- Non-lead ammunition in hunting guidelines
- Established lead-free subsistence hunting programs



Photo provided by Zender Environmental and Health Group

Are you aware of specific stories of how lead has already impacted your community?



# Cultural Impacts

- Hunting deer, moose, elk and other game
  - Use lead-free ammunition
- Gathering traditional and cultural foods
  - Wash gathered foods before cooking and eating



Photo provided by Zender Environmental and Health Group

# Taking Action

- Lead exposure and lead poisoning is preventable





# Keep Homes Clean & Dust Free

- Wet mop floors and hard surfaces
- Wipe down hard surfaces with a wet cloth
- Inspect and maintain painted surfaces
- Wet wipe peeling, chipping, chalking or cracking paint



# Eat a Diet High in Iron, Calcium & Vitamin C



- Eat a well-balanced diet.
- Wash food thoroughly with clean water sources prior to eating
- Do not eat food or drink water cooked or stored in chipped or cracked lead-crystal, lead-glazed pottery or lead-porcelain cookware

# Eat a Diet High in Iron, Calcium & Vitamin C



- Use only cold water for drinking, cooking and preparing baby formula
- Know the source of natural resources, ingredients, herbs, etc.

# Eat a Diet High in Iron, Calcium & Vitamin C



- Check local, tribal and regional fish advisories for recommendations on limiting fish consumption
- Switch to non-lead ammunition and fishing tackle when harvesting wild game and fish for food

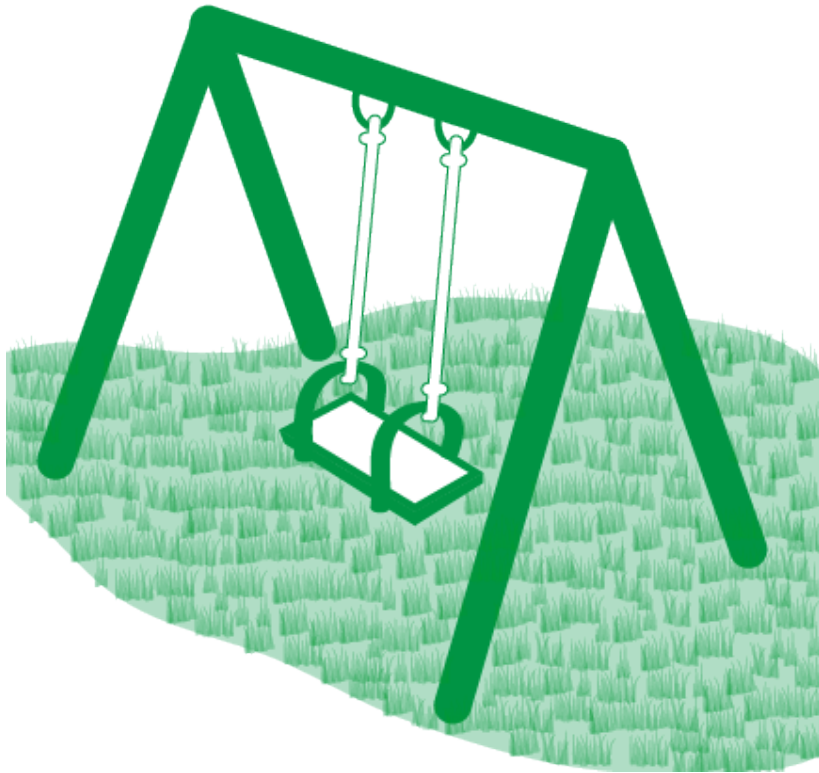


# Wash Hands

- Use soap and water (warm or cold) to wash children's hands several times a day
- Adults should wash hands after participating in activities where they may have come in contact with lead



# Play in Grass



- Guide children to play in grassy or non-contaminated bare soil areas
- Use designated picnic, camping and hiking areas
- Teach children to wipe and remove their shoes and to wash their hands after playing outdoors
- Wipe off pet's paws
- Place dust mats inside and outside your home

# Hire Certified Lead Professionals

- Hire a certified lead professional for renovation and repair work for pre-1978 homes
- Make sure your contractor is Lead-Safe Certified



# Shower & Change



- Clean or remove work clothes and shoes before entering your home
- Wash work clothes separately
- Shower after activities where you may have been exposed to lead

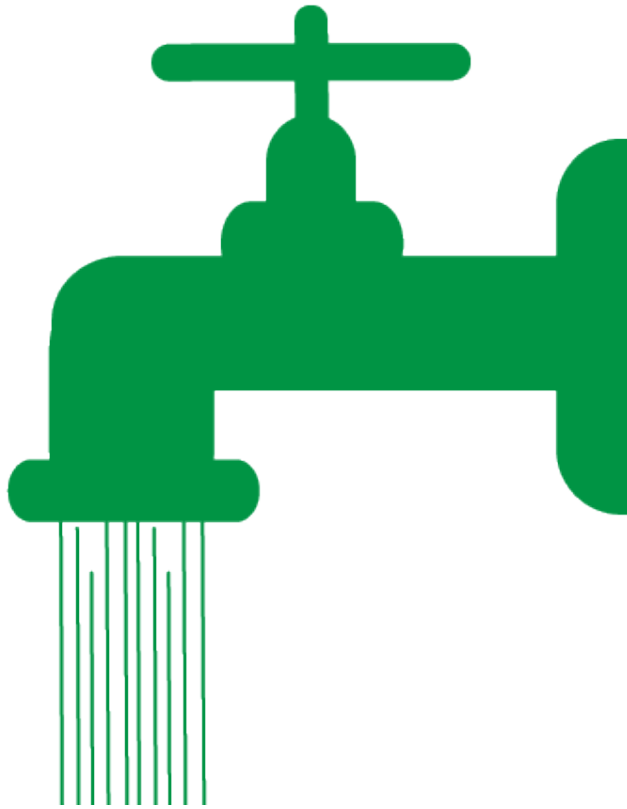


# Wash Toys, Pacifiers & Bottles

- Wash children's bottles, pacifiers and toys, like stuffed animals, often.
- Do not let children chew on painted toys, window sills or other painted surfaces.

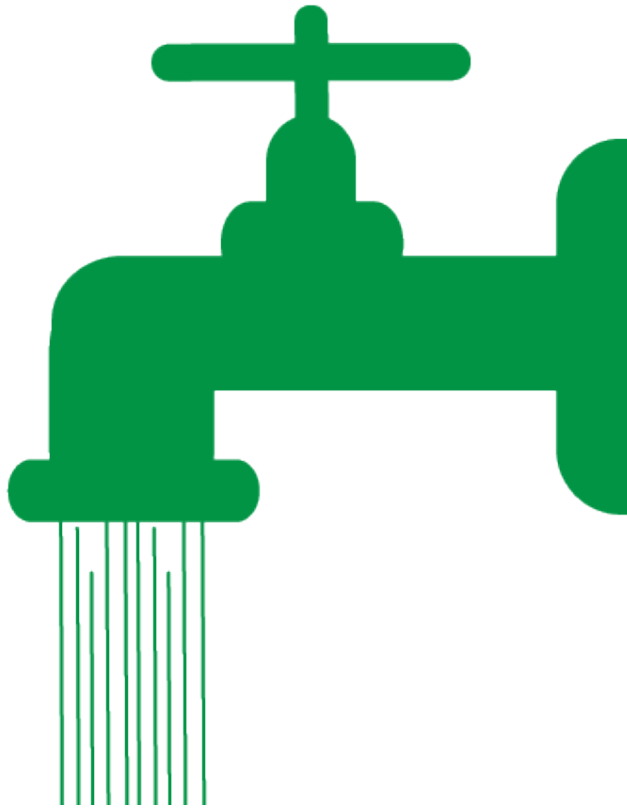


# Run Your Water



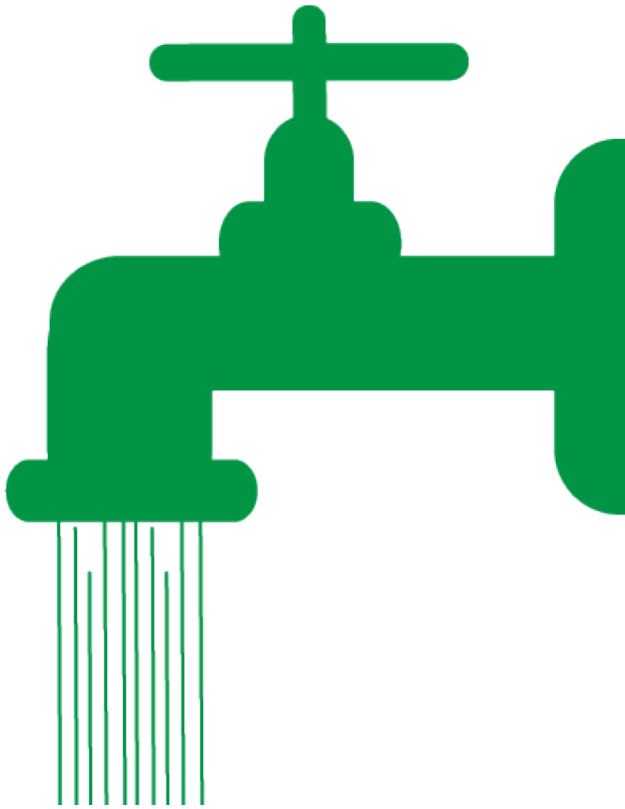
- Before drinking, flush your home's pipes by running the tap, taking a shower, doing laundry or load of dishes
- Use filter certified to remove lead
- Clean faucet screen's regularly

# Run Your Water



- Contact your water utility or a licensed plumber to determine if the pipe that connects your home to the water main (service line) is made from lead
- Contact your water utility to have your water tested and learn about lead levels in your drinking water

# Flush Pipes



- Check with your health department or nearby water utilities that use ground water for information on the water in your area, if your drinking water comes from a private well (or cistern)
- Be aware of any construction or maintenance work that could disturb your lead service line



# Getting Your Child Tested

- The only way to know if a child has lead in their blood is to have a blood test
- Lead exposure often occurs with no obvious symptoms
- Generally recommended children be tested at ages 1 and 2
- Contact your healthcare provider, local health department, clinic or hospital for more information



# Fill in the Blanks

1. Keep residents out of the work area during renovation or repair work which disturbs painted surfaces in older, pre-1978, homes and buildings until the work area is CLEANED.
2. Use only COLD water for drinking, cooking and preparing baby formula.
3. The only way to know if a child has lead in their blood is to have a BLOOD test.

# Conclusion

- We discussed:
  - Potential sources of lead exposure
  - How lead harms children and adults
  - Lead's impacts on the environment and wildlife
  - Actions that can be take to prevent potential exposure

# Review

1. What are the potential health effects of children exposed to lead?
  - Behavior and learning problems;
  - Lower IQ and hyperactivity;
  - Slowed growth;
  - Hearing problems; and
  - Anemia.
2. Are wildlife species also vulnerable to lead exposure and lead poisoning effects?





Does anyone have any questions about the information covered today?



# National Lead Information Center

1 (800) 424-LEAD [5323]

- Provides the public and professionals with information about lead, lead hazards and prevention
- Ask an Information Specialist questions about lead
- Monday to Friday, 8:00 am to 6:00 pm ET (except federal holidays)
- Hearing- or speech-challenged individuals may access this number through TTY by calling the Federal Relay Service at 1-800-877-8339

# Thank You!

For more information contact:

- *Shayna Sellars*, [sellars.shayna@epa.gov](mailto:sellars.shayna@epa.gov)
- *Amanda Hauff*, [hauff.amanda@epa.gov](mailto:hauff.amanda@epa.gov)

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