

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

## Train-the-Trainer Session



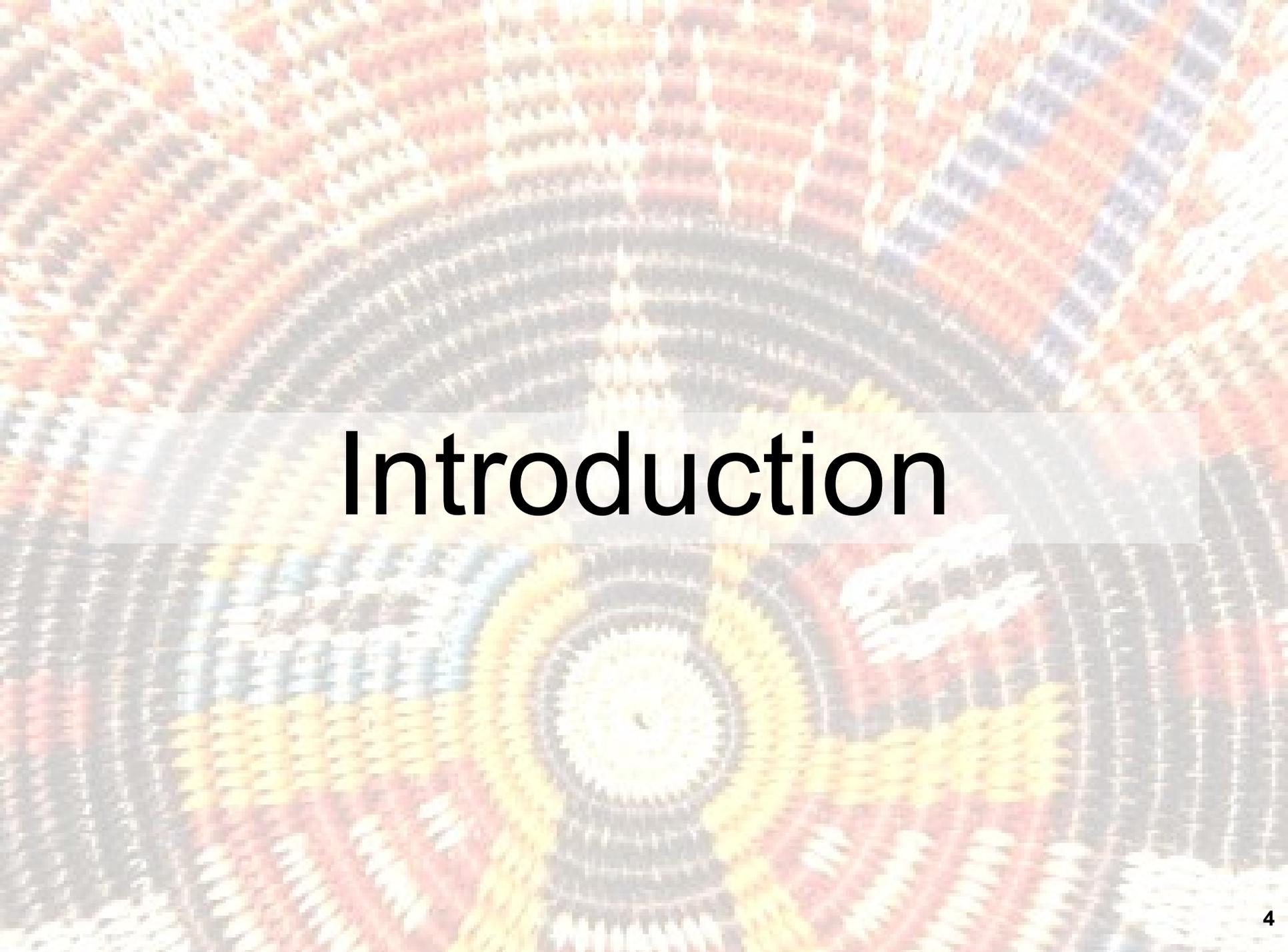
# Train-the-Trainer Outline

- Objectives
- Introduction
- Curriculum Materials
- *Actions to Reduce Potential Lead Exposure Infographic*
- Navigate [www.epa.gov/lead/tribal-lead-curriculum](http://www.epa.gov/lead/tribal-lead-curriculum)
- Steps to Prepare: Demonstration with Module 3
- Teaching Strategies & Discussion

# Objectives

- Understand the purpose of the curriculum and key actions to reduce childhood lead exposure
- Understand curriculum components
- Learn how to navigate materials
- Discuss teaching & outreach strategies
- Share and discuss best practices

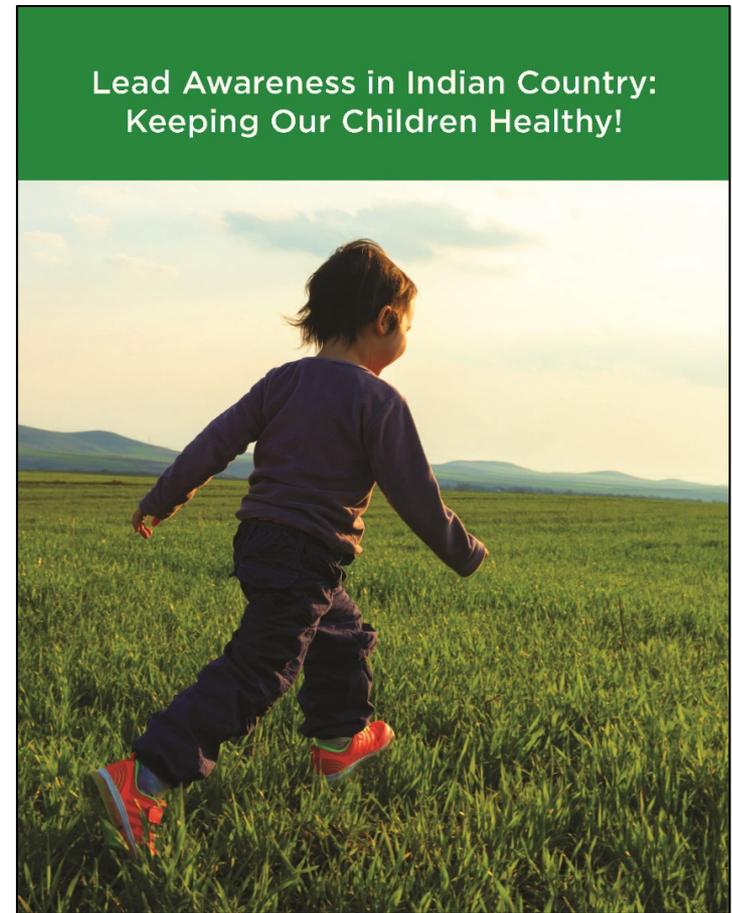




# Introduction

# Purpose

- Raise awareness about childhood lead exposure
- Expand understanding of lead's potential impacts on children's health and cultural practices
- Encourage actions that can be taken to reduce and/or prevent childhood lead exposure



# Target Audiences

## Instructors

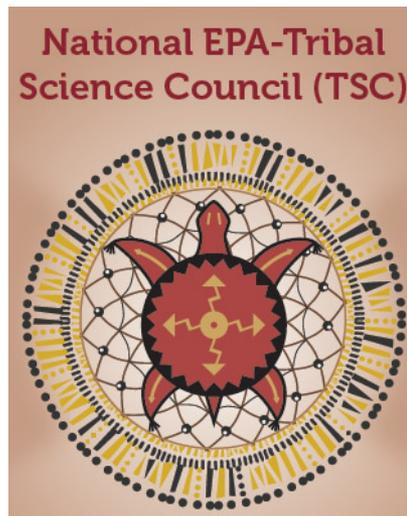
- Teachers
- Outreach specialists
- Educators
- Environmental staff
- Social workers
- Community health workers
- Youth leaders

## Participants

- Parents
- Grandparents
- Tribal leader
- Daycare workers
- Healthcare providers
- Youth (ages 12 and up)
- Anyone interested in learning more about lead and protecting children

# 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

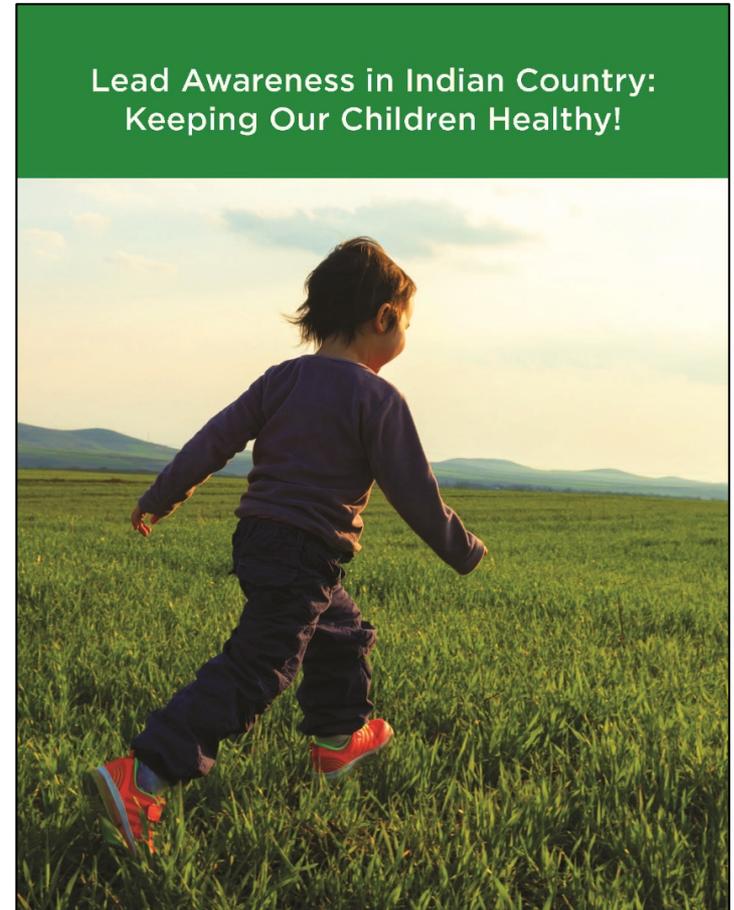




# Curriculum Materials

# Overview of Materials

- Preface
- Introduction
- Using the Curriculum
- Modules
  - Lesson Plan
  - Presentation
  - Worksheet
  - Key Messages
  - Kids Activity Sheets
- Appendices



# Module 1: Understanding Lead

- Educates participants on potential sources of lead exposure, and lead's impacts and health effects on humans, wildlife, the environment and cultural practices



Photo provided by Zender Environmental and Health Group

# Module 2: Effective Cleaning Techniques

- Explains and demonstrates cleaning techniques recommended to reduce household lead dust and potential lead exposure in the home



# Module 3: Personal Hygiene and Nutrition

- Focuses on how good personal hygiene habits and healthy nutritional practices may assist in reducing the absorption of lead in a child's body



# Module 4: Hiring Certified Lead Professionals

- Informs participants on what to do if a home, child care facility or preschool built before 1978 contains lead-based paint



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

# Lesson Plan

Lesson Plan | Module 1

Lead Awareness in Indian Country: Keeping ur Children Healthy!  
**UNDERSTANDING LEAD**

**Module 1: Understanding Lead** provides an overview of lead, its impacts and actions that can be taken to reduce potential lead exposure and lead poisoning. This module is developed to ensure that attendees understand the seriousness of lead exposure and steps to prevent lead poisoning. By the end of Module 1, participants will:

- Recognize potential sources of lead exposure;
- Understand impacts and effects of lead exposure;
- Learn simple actions to reduce lead exposure; and
- Know the importance of testing children for elevated blood lead levels.

**Instructor Preparation**

To fully prepare for **module 1: Understanding Lead**, the instructor should take the following steps:

- Preview the Lesson Plan to identify sections where examples, stories and local information may be inserted.
- Reach out to tribal personnel and seek other resources to find local information and partners, if possible.
- Invite a local healthcare provider or environmental health professional to participate in the session and be available to answer attendees' questions about childhood blood lead levels and testing. Review the Center for Disease Control and Prevention's (CDC) website for information on their recommendations on children's blood lead levels: [www.cdc.gov/hceh/lead/prevention/blood-lead-levels.htm](http://www.cdc.gov/hceh/lead/prevention/blood-lead-levels.htm).
- Research and identify sources of lead exposure(s) in your community.
- Discuss with tribal leaders, elders and staff your intentions to conduct the training and whether they have any stories related to lead and lead exposures they would like shared during this session.
- Make copies of the Module 1 Worksheet, Key Messages and Kid's Activity Sheet (1 copy per participant).
- Edit the Module 1 Presentation Slides to incorporate relevant stories, images and videos. Remove Presentation Slides you do not plan to use during the session.

**Instructor Notes** written in italics can be found throughout the Lesson Plan. These notes are intended to guide the instructor through the discussion and presentation and are not meant to be read out loud during the session.

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Notes:

**Suggested Materials**

- Laptop and projector to display Presentation Slides
- Flip chart
- Markers
- Module 1 Worksheet
- Module 1 Key Messages
- Module 1 Kid's Activity Sheet
- Pens or pencils
- Hard copies of presentation slides to hand out to participants (optional)

*If access to technology is limited, you can use hardcopies of Presentation Slides.*

**Outcomes**

Upon the completion of Module 1, participants will be able to:

- List three sources of lead exposure;
- List three health effects of lead exposure in children;
- Explain how lead impacts our cultural practices and wildlife; and
- List three actions that can minimize or eliminate potential exposure to lead.

**Outline (75 minutes)**

I. Introduction (10 minutes) .....	14
a. Actions to Reduce Lead Exposure	
II. Potential Sources of Lead Exposure (15 minutes) .....	16
a. What is Lead?	
b. Where is Lead Found and How is it Used?	
i. Tar Creek Superfund Site	
c. Are There Other Sources of Lead in the Community?	
III. Vulnerable Populations (5 minutes) .....	21
a. Children	
b. Adults, Including Pregnant Women	
IV. Impacts and Effects of Lead Exposure (15 minutes) ....	23
a. Health Effects of Lead	
b. Health Effects of Lead on Wildlife	
c. Potential Impacts of Lead on Cultural Practices	

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Lesson Plan - Module 1

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# Lesson Plan

## Notes:

### Hiring a Certified Lead Professional

It is important to hire a lead professional who follows work practices to reduce exposure to lead when: a) abating a home, child care facility or preschool built before 1978 to address identified lead-based paint or lead-based hazards, and b) disturbing paint in a renovation, repair, or painting project in homes, child care facilities or preschools built before 1978.

- 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.
- Change and wash clothes, remove shoes and shower to avoid tracking lead into the home from soil, work sites or hobbies.
- Wash daily any items your child uses regularly, such as pacifiers and toys, to minimize exposure to dust, which may contain lead.
- Flush your home's pipes by running your tap, taking a shower or doing a load of laundry or dishes before drinking or cooking.

These are a few of the actions we can take to reduce our potential exposure to lead. Later in this session, we will revisit these actions and learn more.

## II. Potential Sources of Lead Exposure (15 minutes)

**Instructor Note:** This section is meant to provide participants with a brief introduction. Various examples of exposure are provided, please keep in mind that actual exposure depends on a variety of situations, such as: source, location, manufacturing processes, age and condition of products. Throughout this section, place an emphasis that these are potential sources of lead exposure so as not to alarm participants. If needed, use information provided within the Taking Action section to assist with your discussion.

### a. What is Lead?

Lead is a naturally occurring bluish-gray metal found in small amounts in the Earth's crust. Lead is mined and then used in products to make them durable and last longer. Once lead is used in a product, it is nearly impossible to identify with the naked eye. Similar to other heavy metals, lead does not biodegrade or disappear from the environment over time.

### b. Where is Lead Found and How is it Used?

Lead has been mined and used for a long time and can be found in many different products and places. Where do you think lead can be found? Take a moment to glance around the space we are in and think about your everyday activities.

### When Can Lead Be Seen?

In the case of lead service lines for water, you can identify them easily (if they are accessible) by carefully scratching the pipe with a key. If the pipe is made of lead the area you scratched will turn a bright silver color (Ref. 2).

## VII. References

The following is a list of the documents and websites that are specifically referenced in this Lesson Plan.

1. Centers for Disease Control and Prevention. Lead Poisoning: Words to Know from A to Z. Available at [https://www.cdc.gov/nceh/lead/tools/LeadGlossary\\_508.pdf](https://www.cdc.gov/nceh/lead/tools/LeadGlossary_508.pdf). [Accessed January 27, 2020].
2. US Environmental Protection Agency. Advice to Flint Residents. 2016. Available at <https://www.epa.gov/flint/advice-flint-residents>. [Accessed January 27, 2020].
3. Consumer Product Safety Commission. Part 1303—Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint. 2008. Available at <https://www.gpo.gov/fdsys/pkg/CFR-2015-title16-vol2/pdf/CFR-2015-title16-vol2-part1303.pdf>. [Accessed January 27, 2020].
4. US Environmental Protection Agency. Basic Information about Lead in Drinking Water. 2019. Available at <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water#skin>. [Accessed January 27, 2020].
5. US Food and Drug Administration. Questions and Answers on Lead-Glazed Traditional Pottery. Available at <https://www.fda.gov/food/metals/questions-and-answers-lead-glazed-traditional-pottery>. [Accessed January 27, 2020].
6. US Environmental Protection Agency. Types of Contaminated Sites. 2017. Available at [https://19january2017snapshot.epa.gov/enforcement/types-contaminated-sites\\_html](https://19january2017snapshot.epa.gov/enforcement/types-contaminated-sites_html). [Accessed January 27, 2020].
7. US Food and Drug Administration. Lead in Food, Foodwares, and Dietary Supplements. 2018. Available at <https://www.fda.gov/Food/FoodborneIllnessContaminants/Metals/ucm2006791.htm>. [Accessed January 27, 2020].
8. Pourrut, B.; Shahid, M.; Dumat, C.; Winterton, P.; and Pinelli, E. Lead Uptake, Toxicity, and Detoxification in Plants. Reviews of Environmental Contamination and Toxicology. 2011. Vol. 213, pp. 113-136. Available at [https://pdfs.semanticscholar.org/9be6/8222aa4e89eb91eae921f7\\_8517fe785477ce.pdf?ga=2.57735337.2093406863.1532459162.1251993272.1532459162](https://pdfs.semanticscholar.org/9be6/8222aa4e89eb91eae921f7_8517fe785477ce.pdf?ga=2.57735337.2093406863.1532459162.1251993272.1532459162). [Accessed January 27, 2020].
9. Wierzbicka, M. and Antosiewicz, D. How lead can easily enter the food chain – a study of plant roots. The Science of the Total Environment. 1993. Supplement, pp. 423-429. Available at <https://www.sciencedirect.com/science/article/pii/S0048969705800439>. [Accessed March 4, 2020].
10. US Environmental Protection Agency. Soil, Yards and Playgrounds. 2017. Available at <https://www.epa.gov/lead/protect-your-family-exposures-lead#soil>. [Accessed January 27, 2020].
11. Centers for Disease Control and Prevention. Lead in Drinking Water. 2019. Available at <https://www.cdc.gov/nceh/lead/prevention/sources/water.htm>. [Accessed January 27, 2020].
12. National Institute for Occupation Safety and Health. Lead: Information for Workers: Jobs That May Have Lead Exposure. 2017. Available at <https://www.cdc.gov/niosh/topics/lead/jobs.html>. [Accessed January 27, 2020].
13. Centers for Disease Control and Prevention. NCEH/ASTDR Clear Writing Hub: Environmental Health Thesaurus: Pica. 2019. Available at <https://www.cdc.gov/nceh/clearwriting/thesaurus/>. [Accessed January 27, 2020].
14. National Eating Disorders Association. Pica. 2018. Available at <https://www.nationaleatingdisorders.org/learn-by-eating-disorder/other/pica>. [Accessed January 27, 2020].

# Presentation

The screenshot shows a Microsoft PowerPoint presentation with the following content:

- Slide 1:** Module 1: Understanding Lead. Includes a logo for 'ENVIRONMENTAL LEAD EXPOSURE'.
- Slide 2:** Outline. Lists: Potential Sources of Lead Exposure, Vulnerable Populations, Impacts and Effects of Lead Exposure, and Taking Action. Includes an image of a child.
- Slide 3:** Outcomes. Lists: List three sources of lead exposure, List three health effects of lead exposure in children, Explain how lead impacts cultural practices and wildlife, and List three actions that can minimize or eliminate potential exposure to lead. Includes an image of a child.
- Slide 4:** Introduction. Contains three numbered questions:
  1. How many of you have ever heard of lead or lead poisoning before today?
  2. What are some things you have heard about lead or lead poisoning?
  3. Does anyone know what year their house or apartment was built; was it before or after 1978?
- Slide 5:** What questions do you have about lead and lead poisoning?

The main slide content (Slide 4) is displayed in a larger view, including an **Introduction** section with the same three questions. Below the questions, there is an **Introduction** heading followed by an **Instructor Note**: "Allow participants to introduce themselves. Use the questions below to determine participants' current knowledge and awareness of lead and lead poisoning. Record participants' responses on a flipchart for future reference. Remember to place an emphasis on the sentence: 'Please keep in mind that lead exposure and lead poisoning are preventable – we can take actions to reduce potential exposure to lead, and there are laws in place to protect us.'" This is followed by a paragraph: "You may have heard of lead or lead poisoning before today but may not know much about it. Our goal today is for you to walk away with an understanding of lead. We will learn:" and a bulleted list:

- What lead is;
- Where lead is found;
- How lead can harm both children and adults; and
- Potential impacts on the environment, wildlife and cultural practices.

Another **Instructor Note** follows: "Please keep in mind that lead exposure and lead poisoning are preventable – we can take actions to reduce potential exposure to lead, and there are laws in place to protect us. At the end of this session, we will discuss several actions we can take as a community and as individuals to reduce potential lead exposure." The slide concludes with: "Before we begin, I have a few questions for the group to gain a better understanding of what you already know about lead and lead poisoning:" and the same three numbered questions as above.

# Worksheet

Worksheet | Module 2

Lead Awareness in Indian Country: Keeping Our Children Healthy!  
**EFFECTIVE CLEANING TECHNIQUES**

**LEAD DUST TRAPS**

Lead in household dust (lead dust) can form when lead-based paint is scraped, sanded or heated. It also forms when painted surfaces containing lead bump or rub together. A lead dust trap is a space or object where lead dust can easily gather on it or under.

Directions: This home has at least 6 lead dust traps, find and circle them all.

ANSWERS  
 1. floors, carpets, rugs, and baseboards 2. windows and window sills 3. air ducts and radiators 4. doors and door frames 5. stairs, railing, and banisters 6. furniture

**LEAD DUST CLEANING TECHNIQUES**

Directions: Draw a line to match each lead dust trap with recommended cleaning technique. A cleaning technique can be matched to more than one lead dust trap since the same technique is recommended for cleaning more than one area in the home.

Lead Dust Trap	Recommended Cleaning Technique
1. Floors, baseboards, carpets, and rugs	A. Wet cloth or sponge and all-purpose cleaner
2. Windows and window sills	B. Wet mop, cloth or sponge and all-purpose cleaner or HEPA-filter vacuum
3. Air ducts and radiators	C. Dust with furniture polish and a cloth
4. Doors and door frames	D. Wet mop, cloth or sponge and all-purpose cleaner
5. Stairs, railings, and banisters	
6. Furniture	

ANSWERS  
 1, 2, 3, 4, 5, 6 C

**HELPFUL CLEANING HINTS**

- After cleaning your house using the recommended techniques, what should you do to avoid re-contaminating the area(s) you just cleaned? Select all that apply.
  - Wash hands and cleaning supplies in a sink (or area) that preferably is not used for food preparation.
  - Wash the sink itself after washing your cleaning supplies so that lead dust does not remain in the sink.
  - Shower and wash hair when you finish cleaning.
  - Wipe off your shoes after cleaning to avoid tracking dust around your home.
- TRUE or FALSE** - I should remove and wash curtains and mini-blinds AFTER I wash the windows.
- TRUE or FALSE** - Many items in my home are potential lead dust traps and clutter could prevent me from effectively cleaning my home.

ANSWERS  
 1. all are correct 2. false 3. True

After today I am going to start using the following cleaning technique(s) in my home

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# Key Messages

Key Messages | Module 3

Lead Awareness in Indian Country: Keeping our Children Healthy!  
**PERSONAL HYGIENE AND NUTRITION**

Good personal hygiene habits and healthy nutritional practices can limit absorption of and reduce exposure to lead.

## WHAT ARE PERSONAL HYGIENE HABITS THAT CAN REDUCE POTENTIAL LEAD EXPOSURE?

One way young children ingest lead is through dust or soil that settles on their hands as they play. When children put their hands in their mouths, they may swallow lead-contaminated dust or soil, which can then get into their bloodstream. Good personal hygiene habits, such as consistent handwashing, reduces the likelihood of this happening and is the best way to reduce the number of germs on children's hands in most situations. Children should wash their hands with soap several times a day using the Six Steps of Handwashing.

Step 1: Wet hands with clean, running water.

Step 2: Add soap, then rub hands together making a soapy lather. Do this away from the running water; be careful not to wash the lather away.

Step 3: Scrub the front and back of hands, between fingers and under nails. Wash for at least 20 seconds, the amount of time it takes to sing the ABCs once or the Happy Birthday song twice.

Step 4: Rinse hands from wrists to fingertips under clean, running water. Let the water run back into the sink, not down to your elbows.

Step 5: Dry hands thoroughly with a clean towel or paper towel.

Step 6: Turn off the faucet with the used towel. Remember, dirty hands turned on the faucet.



## HOW CAN WE REDUCE POTENTIAL EXPOSURE TO LEAD WHILE OUTDOORS?

Children may be exposed to lead in outdoor environments through contaminated soil or breathing in dust containing lead. To reduce potential exposure to lead while outdoors we can:

- Check the exterior of your home, including porches and fences, for deteriorating paint.
- Wash outdoor toys and playground equipment regularly.
- Use designated picnic, camping, biking and hiking areas.
- Use water from clean sources for drinking, cooking or washing.

To avoid tracking soil into your home:

- Put doormats outside and inside all entryways.
- Remove shoes before coming inside.
- Wipe pets' paws prior to bringing them indoors.

## HOW MAY NUTRITION ASSIST IN REDUCING THE ABSORPTION OF LEAD?

Eating a variety of foods gives children the vitamins and minerals they need to grow up healthy. When children do not have enough calcium or iron in their bodies, their bodies may absorb lead instead of these nutrients. A diet that includes foods rich in calcium, iron and vitamin C may assist in reducing the absorption of lead.



Important facts to understand are:

- An overall unhealthy diet high in fat and oil may increase the rate of lead absorption; and
- A child with an empty stomach will absorb more lead.

Review the Module 3 Worksheet for information on specific foods that contain calcium, iron and vitamin C.

## WHAT ARE SOME MEALS THAT CONTAIN CALCIUM, IRON AND/OR VITAMIN C?



### BREAKFAST:

- Oatmeal, sliced banana and 100% orange juice
- Vegetable omelet, apple sauce and low-fat milk
- French toast, orange slices, yogurt and 100% fruit juice
- Iron-fortified cereal with low-fat milk, topped with raisins
- Wild rice porridge with berries



### LUNCH:

- Turkey & tomato sandwich, coleslaw and low-fat milk
- Tuna salad sandwich on whole-grain bread and pear slices
- Lean cheeseburger on a whole-grain bun and 100% cranberry juice
- Shrimp, squash and brussels sprouts



### DINNER:

- Stoppo joe, watermelon and low-fat milk
- Macaroni and cheese, stewed tomatoes and melon slices
- Chicken, rice, green beans and berries
- Salmon, rice and bell peppers

## WHERE CAN I LEARN MORE?

For more information, contact the National Lead Information Center (NLIC) at 1-800-424-LEAD (5323) or visit [www.epa.gov/lead](http://www.epa.gov/lead).

# Kids Activity Sheet

Kid's Activity Sheet | Module 2

Lead Awareness in Indian Country: Keeping Our Children Healthy!  
EFFECTIVE CLEANING TECHNIQUES

## Crossword Puzzle

Down:



1



2



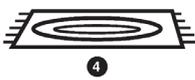
3.

Use the clues to the left to fill in the crossword puzzle for areas in your home where lead dust may be found. Lead dust is dust that contains lead.

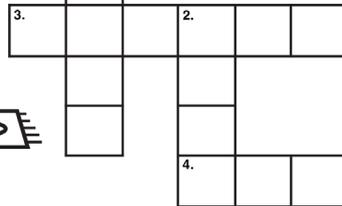
Across:



3



4



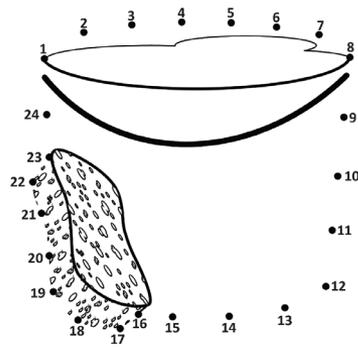
4.

Answers: 1 down: stairs, 2 down: door, 3 across: window, 4 across: rug

## Connect the Dots

Wet washing uses a wet cloth, sponge or mop for cleaning.

Join the dots starting and ending at 1 to discover two items you may use when cleaning.



## Seek and Find

To keep our homes clean and lead dust free, we should clean weekly. Can you find the supplies needed to clean this home?



Bucket



Mop



Sponge



All-purpose Cleaner



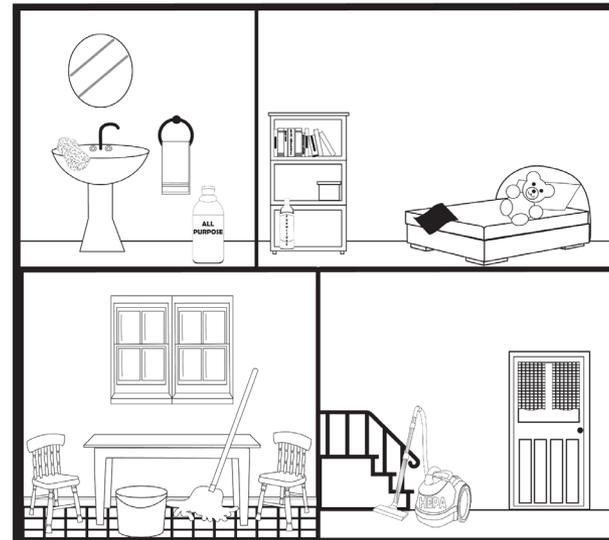
Cloth



Furniture Polish



HEPA Vacuum



Tell an adult if you find peeling paint.

# Appendices

Lead Awareness in Indian Country: Keeping our Children Healthy!

## APPENDIX A: FOODS THAT CONTAIN CALCIUM, IRON & VITAMIN C

Over 150 foods that contain varying amounts of calcium, iron and/or vitamin C are listed below. This table is an unofficial source (provided by tribal representatives) that provides examples of local/traditional foods and items found in a grocery store that can be part of an overall healthy diet. For more detailed information about nutrient content in the foods below, please visit the U.S. Department of Agriculture's FoodData Central at <https://fdc.nal.usda.gov/>.  
**Instructor Note:** Use this table to identify foods during Module 3.

Food	Calcium	Iron	Vitamin C
Acorns	x	x	
Almonds	x	x	
Amaranth	x	x	x
Antelope		x	
Asparagus			x
Avocado	x	x	x
Bananas	x	x	x
Barnacles	x	x	
Beach asparagus	x	x	x
Beans	x	x	
Bear		x	
Beech nuts	x	x	x
Bell peppers	x	x	x
Beluga whale	x	x	
Biscuit root/Coush		x	x
Bison		x	
Bitter root			x
Black walnuts	x	x	
Blackberries	x	x	x
Blue camas bulb	x	x	x
Blueberries	x	x	x
Bone broth	x	x	
Breadfruit	x	x	x
Broadleaf arrowhead/Water potato/Wapato leaf & root	x	x	x
Broccoli	x	x	x
Brussels sprouts	x	x	x
Butternuts	x	x	x
Cabbage	x	x	x
Cantaloupe	x	x	x
Caribou		x	
Carrots	x		x

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Lead Awareness in Indian Country: Keeping Our Children Healthy!

## APPENDIX B: RENOVATION, REPAIR AND PAINTING PROJECTS FOR DO-IT-YOURSELFERS

The Lead Renovation, Repair and Painting (RRP) Rule typically does not apply to homeowners renovating, repairing or painting their own homes, unless the home or a portion of the home is a rental or is used to provide child care services. Do-it-yourself projects can easily create dangerous lead dust. Protect your family and home – work safely, control the dust and clean up completely.

Follow these safeguards to prevent lead dust from spreading throughout your home and exposing your family to lead dust.

### Work Safely

- Remove all furniture, area rugs, curtains, food, clothing and other household items until cleanup is complete.
- Items that cannot be removed from the work area should be tightly wrapped with plastic sheeting and sealed with tape.
- Cover floors with plastic sheeting.
- If working on a larger job, construct an airlock at the entry to the work area.
  - The airlock consists of two sheets of thick plastic. One sheet is completely taped along all four edges.
  - The plastic sheet is then cut down the middle.
  - The second sheet is only taped along the top and acts as a flap covering the slit in the first sheet of plastic.
- Turn off forced-air heating and air conditioning systems. Cover vents with plastic sheeting and tape the sheeting in place.
- Close all windows in the work area.
- If disturbing paint, when using a hand tool, spray water on lead-painted surfaces to keep dust from spreading.

### Get the Right Equipment

- It is important to get the right equipment to protect you and your family from lead exposure.
- NIOSH-certified disposable respirator with a HEPA (High-Efficiency Particulate Air) filter (N-100, R-100, or P-100).
- HEPA filter-equipped vacuum cleaner. Regular household vacuums may release harmful lead particles into the air.
- Wet-sanding equipment (e.g., spray mister), wet/dry abrasive paper, and wet sanding sponges for "wet methods."
- Two buckets and all-purpose cleaner. Use one bucket for the cleaning solution and the other bucket for rinsing. Change the rinse water frequently and replace rags, sponges and mops often.
- Heavy-duty plastic sheeting and heavy-duty plastic bags.
- Tape. Use tape to completely seal the plastic sheeting in place (e.g., covering furniture and air vents to construct an airlock).

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# Appendices

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

**Blood lead level** – The amount of lead in blood, measured in micrograms per deciliter (µg/dl).

**Blood lead test** – Test that measures how much lead is in blood.

**Elevated blood lead level** – A single blood lead test at or above the U.S. Centers for Disease Control and Prevention (CDC) blood lead reference value. For more information on CDC's current blood lead reference value, visit: <https://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm>.

**EPA-administered** – In the absence of an EPA-authorized program, EPA retains program implementation authority and directly implements programs under federal environmental statutes in Indian country. Currently, EPA directly implements the vast majority of programs under federal environmental statutes in Indian country.

**EPA-authorized** – Several federal environmental laws provide authority for EPA to authorize eligible Indian tribes to administer environmental programs established under those statutes in the same manner as states. For more information, visit: <https://www.epa.gov/tribal/tribal-assumption-federal-laws-treatment-state-tas>.

**High Efficiency Particulate Air (HEPA) filter** – A special filter which traps extremely small particles such as lead dust. For more information, visit: <https://www.epa.gov/indoor-air-quality-iaq/what-hepa-filter-1>.

**Hygiene** – Actions taken to keep our bodies clean, such as washing our hands or hair and taking a bath.

**Lead** – A naturally occurring element found in small amounts in the earth's crust.

**Lead abatement** – An activity designed to permanently eliminate lead-based paint hazards. There are four options: replacement, removal, enclosure and encapsulation. Replacement and removal activities completely remove lead-based paint. Enclosure and encapsulation methods are applied on top of lead-based paint in good condition without removing the lead-based paint.

**Lead-based paint** – Paint with lead levels greater than or equal to 1.0 milligram per square centimeter (mg/cm<sup>2</sup>), or more than 0.5% by weight (as defined by the federal government).

**Lead-based paint hazard** – Any condition resulting from deteriorating (peeling, chipping, chalking or cracking) paint, which causes exposure to lead from paint, dust or soil.

**Lead-based paint inspection** – An activity conducted by a trained and certified lead-based paint inspector that tells you if your home has lead-based paint and where lead-based paint is located.

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## Lead Awareness in Indian Country: Keeping Our Children Healthy! APPENDIX D: SUPPLEMENTAL RESOURCES

The following is a list of resources containing additional information on the topics covered in the Curriculum. Resources are categorized by topic.

### Blood Lead Levels

1. Centers for Disease Control. Blood Lead Levels in Children. 2020. Available at <https://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm>. [Accessed March 30, 2020].
2. Centers for Disease Control. Recommended Actions Based on Blood Lead Level. 2019. Available at <https://www.cdc.gov/nceh/lead/docs/lead-levels-in-children-fact-sheet-508.pdf>. [Accessed March 30, 2020].

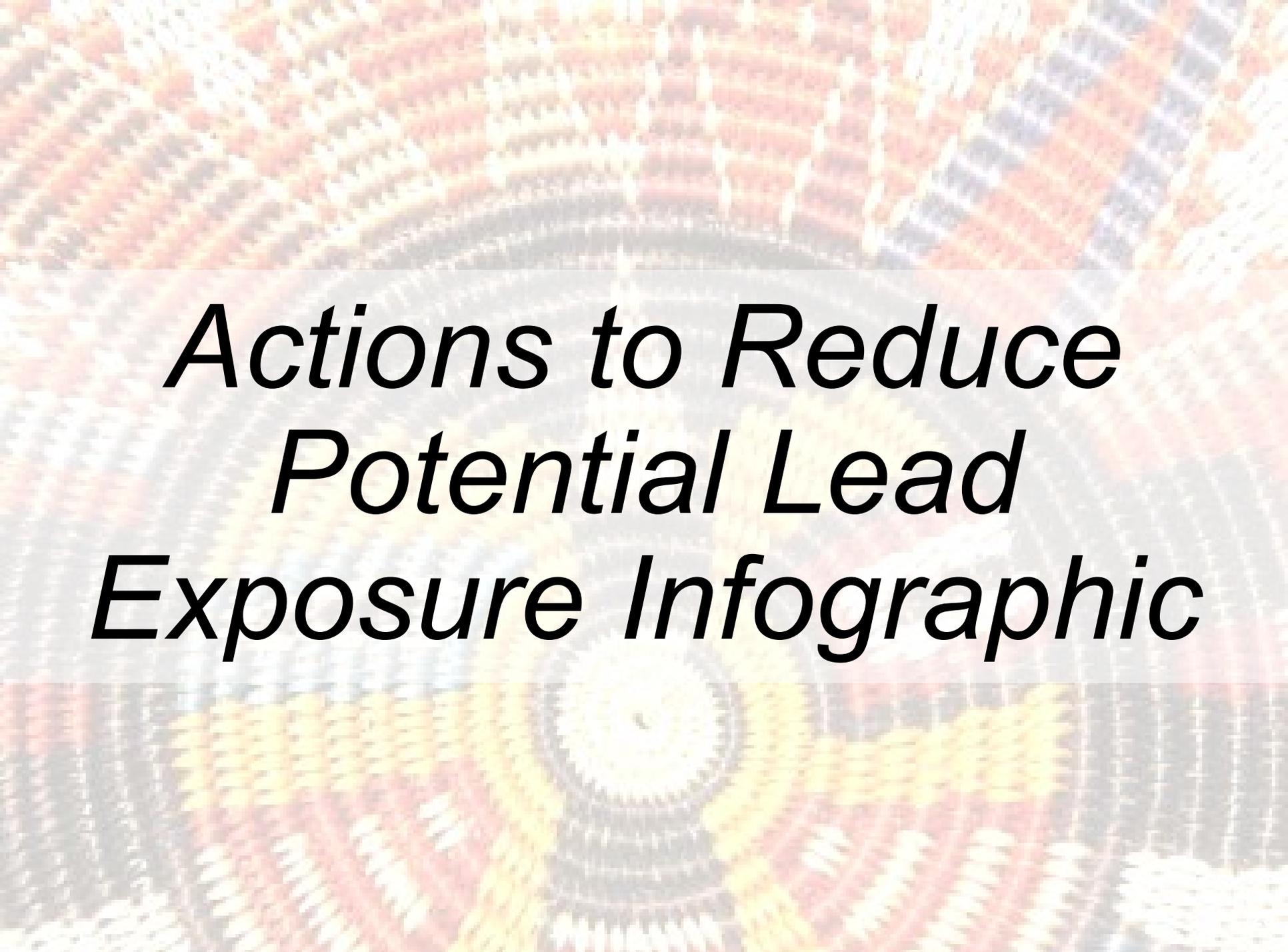
### Cleaning

1. Michigan Childhood Lead Poisoning Prevention Program. Safe Cleaning of Lead Paint Chips and Dust. 2018. Available at [https://www.michigan.gov/documents/lead/Guide\\_to\\_Cleaning\\_Lead\\_FINAL\\_approved\\_547508\\_7.pdf](https://www.michigan.gov/documents/lead/Guide_to_Cleaning_Lead_FINAL_approved_547508_7.pdf). [Accessed March 30, 2020].
2. UCSF Institute for Health & Aging, UC Berkeley Center for Environmental Research and Children's Health, Informed Green Solutions, and California Department of Pesticide Regulation. 2013. Green Cleaning, Sanitizing, and Disinfecting: A Toolkit for Early Care and Education. Available at [https://www.epa.gov/sites/production/files/documents/ece\\_curriculumfinal.pdf](https://www.epa.gov/sites/production/files/documents/ece_curriculumfinal.pdf). [Accessed March 30, 2020].
3. U.S. Environmental Protection Agency. Safer Choice. 2018. Available at <https://www.epa.gov/saferchoice>. [Accessed March 30, 2020].

### Exposure Sources

1. Chen, L. and Eisenberg J. Health hazard evaluation report: exposures to lead and other metals at an aircraft repair and flight school facility. 2013. Available at <https://www.cdc.gov/niosh/hhe/reports/pdfs/2012-0115-3186.pdf>. [Accessed June 30, 2020].
2. Contra Costa Health Services. Questions and Answers about Lead in Older Vinyl Mini Blinds. (No date). Available at <https://cchealth.org/lead-poison/pdf/miniblind.pdf>. [Accessed August 24, 2020].
3. State of Alaska Epidemiology. 2001. Bulletin No. 17: Cottage Industry Causes Acute Lead Poisoning. Available at [http://epi.alaska.gov/bulletins/docs/b2001\\_17.pdf](http://epi.alaska.gov/bulletins/docs/b2001_17.pdf). [Accessed August 24, 2020].
4. U.S. Consumer Product Safety Commission. Recall List. (No date). Available at <https://www.cpsc.gov/Recalls>. [Accessed March 30, 2020].
5. U.S. Environmental Protection Agency. Superfund. 2018. Available at <https://www.epa.gov/superfund>. [Accessed March 30, 2020].

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*Actions to Reduce  
Potential Lead  
Exposure Infographic*

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.

# Outreach Materials



Learn more about lead and how to protect your children



Lead Awareness in Indian Country:  
Keeping our Children Healthy!

HOST: *[Insert organization's name]*

ATTENDEES: Anyone interested in learning more about lead *[or insert specific audience here]*

DATE(S): *[Insert date(s) of session(s)]*

TIME(S): *[Insert time(s) of session(s)]*

WHERE: *[Insert location]*

*[Insert your logo here]* For more information contact:  
*Insert name*  
*Insert phone number*  
*Insert email*

# Outreach Materials

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

**Take Action Now to Prevent  
Childhood Lead Exposure!**

**ACTIONS TO REDUCE  
POTENTIAL LEAD EXPOSURE**

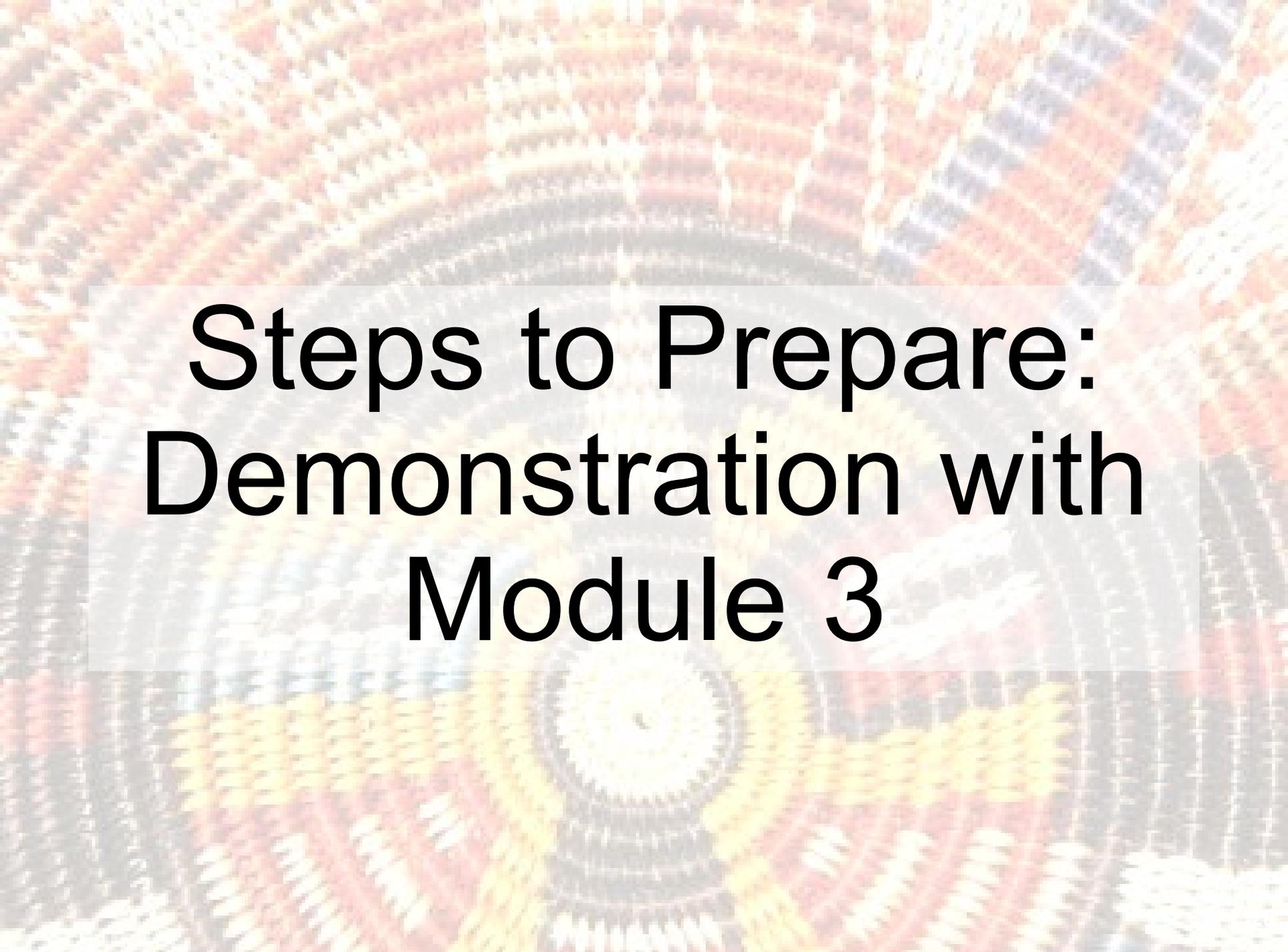
- RUN YOUR WATER
- KEEP HOMES CLEAN & DUST FREE
- EAT A DIET HIGH IN IRON, CALCIUM & VITAMIN C
- WASH HANDS
- PLAY IN GRASS
- HIRE CERTIFIED LEAD PROFESSIONALS
- SHOWER & CHANGE
- WASH TOYS, PACIFIERS & BOTTLES

For more information, contact the National Lead Information Center (NLIC) at 1-800-424-LEAD (5323)



# Navigate

[www.epa.gov/lead/tribal-lead-curriculum](http://www.epa.gov/lead/tribal-lead-curriculum)



# Steps to Prepare: Demonstration with Module 3

# Steps For All Modules

- Preview lesson plan, presentation, worksheet, key messages, kids activity sheet, appendices
- Review “Instructor Preparation” section
- Determine partners
- Gather local information
- Modify curriculum
- Gather materials for demonstrations and optional activities

## Instructor Preparation

To fully prepare for **Module 1: Understanding Lead**, the instructor should take the following steps:

- Preview the Lesson Plan to identify sections where examples, stories and local information may be inserted.
- Reach out to tribal personnel and seek other resources to find local information and partners, if possible.
- Invite a local healthcare provider or environmental health professional to participate in the session and be available to answer attendees' questions about childhood blood lead levels and testing. Review the Center for Disease Control and Prevention's (CDC) website for information on their recommendations on children's blood lead levels: [www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm](http://www.cdc.gov/nceh/lead/prevention/blood-lead-levels.htm).
- Research and identify sources of lead exposure(s) in your community.
- Discuss with tribal leaders, elders and staff your intentions to conduct the training and whether they have any stories related to lead and lead exposures they would like shared during this session.
- Make copies of the Module 1 Worksheet, Key Messages and Kid's Activity Sheet (1 copy per participant).
- Edit the Module 1 Presentation Slides to incorporate relevant stories, images and videos. Remove Presentation Slides you do not plan to use during the session.

*Instructor Notes* written in italics can be found throughout the Lesson Plan. These notes are intended to guide the instructor through the discussion and presentation and are not meant to be read out loud during the session.

# Module 3: Instructor Preparation

- Preview the lesson plan
  - Where can you insert your own examples and stories?
  - What would you modify?
- Outdoor practices
  - Play in grass; play in areas not contaminated
- List of personal hygiene habits
  - Washing hands, washing toys
  - Insert local/cultural relevant practices



Photo provided by Zender Environmental and Health Group

# Module 3: Instructor Preparation

- Reach out to partners and find additional resources
  - Community Health Services
  - Wildlife, Fisheries, Natural Resource Departments
  - Cultural Resource Programs
- Compile a list of your community's local/traditional foods and snacks
  - Specific nuts, fish, fruit

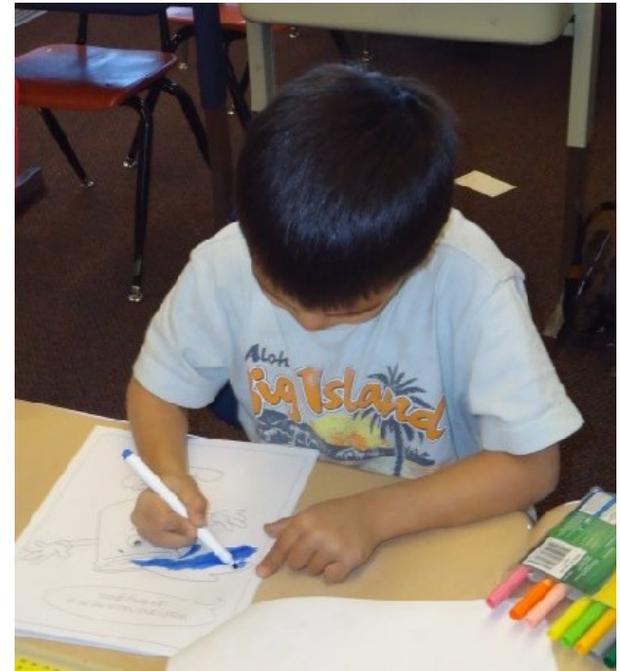


Photo provided by Zender Environmental and Health Group

# Foods that May Help Reduce the Absorption of Lead

<b>Nutrients</b>	<b>Local/Traditional Foods</b>
<p><b>Calcium</b> (mineral needed to build and maintain strong bones)</p>	
<p><b>Iron</b> (mineral critical to blood function)</p>	
<p><b>Vitamin C</b> (vitamin that protects the body from disease and increases the absorption of iron)</p>	

<b>Nutrients</b>	<b>Local/Traditional Foods</b>
<p><b>Calcium</b> (mineral needed to build and maintain strong bones)</p>	<p>acorns, barnacles, blue camas bulb, cattail, cholla buds, cow parsnip, fireweed leaves, mesquite bean flour, nettles, prairie turnip, sea cucumber, smelt, sochan, spruce tip tea</p>
<p><b>Iron</b> (mineral critical to blood function)</p>	<p>antelope, amaranth (grains and leaves), barnacles, beach asparagus, bear, beluga whale, bone broth, broadleaf arrowhead, butternuts, caribou, crab, duck, elk, fish liver, hickory nuts, lamprey eel, moose, pima lima bean, pine nuts, quail, quinoa, rabbit, sea lion, sea urchin, seaweed, seal, snail, squid, squirrel, tepary bean, walrus, willow leaves, wocas</p>
<p><b>Vitamin C</b> (vitamin that protects the body from disease and increases the absorption of iron)</p>	<p>avocado, beech nuts, biscuit root/coush, bitter root, breadfruit, chokecherries, cloudberries, dandelion greens, fiddleheads, New Mexico green chile, nodding onion, pine needles, purslane, ramps, rosehip, salmonberries, taro, tundra tea, yam</p>



# Module 3: Instructor Preparation

- Make copies
  - 1 copy of each handout per person
- Gather materials
  - Handwashing Demo
  - Healthy Snack Activity
  - *Black Light Activity - optional*
  - *Reading Food Nutrition Facts Label Activity - optional*
- Edit and modify curriculum/slides





**You're Ready!**

# Module 3: Personal Hygiene and Nutrition

- Outline
  - Personal Hygiene
  - Nutrition



# Nutrition

- Nutrition is important for a child's overall growth, development and learning
- When children do not have enough calcium or iron, their bodies may absorb lead instead of these nutrients



# Key Nutrients

Calcium	Iron	Vitamin C
 <p>Photo by <a href="#">Annie Spratt</a> on Unsplash</p>  	  <p>Photo by <a href="#">Mel Elias</a> on Unsplash</p> 	  

# Important Facts to Consider

- Foods high in fat and oil may increase the rate of lead absorption
- A child with an empty stomach will absorb more lead



Chips



Ice cream

What other foods do you think we can provide so children get calcium iron and/or vitamin C in their diets?

# Foods that May Help Reduce the Absorption of Lead

Nutrients	General Foods
<p><b>Calcium</b></p> <p>(mineral needed to build and maintain strong bones)</p>	<p>almonds, bone broth, broccoli, canned salmon, cheese, chia seeds, collard greens, cottage cheese, crab, edamame, figs, okra, milk, non-dairy milk, nopal cactus pads, prickly pear, sardines, seaweed, sweet potatoes, tofu, white beans, whole wheat bread, yogurt</p>
<p><b>Iron</b></p> <p>(mineral critical to blood function)</p>	<p>apricots, asparagus, beans, beef, bison, black walnuts, chicken, clams, eggs, fish, fish eggs, hazelnuts, lentils, liver, mushrooms, mussels, mustard greens, oats, oysters, peanut butter, peas, pine nuts, pumpkin seeds, prunes, raisins, salmon, scallops, shrimp, spinach, venison, water potato, wild rice</p>
<p><b>Vitamin C</b></p> <p>(vitamin that protects the body from disease and increases the absorption of iron)</p>	<p>apples, bananas, bell peppers, blackberries, blueberries, brussels sprouts, cabbage, cantaloupe, cauliflower, chestnuts, citrus fruits, corn, green beans, honeydew, huckleberries, kale, kiwi, leeks, parsnips, pears, plums, potatoes, raspberries, rhubarb, squash, squid, strawberries, tomatoes, turnips, watercress</p>

Is the table missing any foods, specifically any local/traditional foods eaten in our community?

<b>Nutrients</b>	<b>Local/Traditional Foods</b>
<p><b>Calcium</b> (mineral needed to build and maintain strong bones)</p>	<p>acorns, barnacles, blue camas bulb, cattail, cholla buds, cow parsnip, fireweed leaves, mesquite bean flour, nettles, prairie turnip, sea cucumber, smelt, sochan, spruce tip tea</p>
<p><b>Iron</b> (mineral critical to blood function)</p>	<p>antelope, amaranth (grains and leaves), barnacles, beach asparagus, bear, beluga whale, bone broth, broadleaf arrowhead, butternuts, caribou, crab, duck, elk, fish liver, hickory nuts, lamprey eel, moose, pima lima bean, pine nuts, quail, quinoa, rabbit, sea lion, sea urchin, seaweed, seal, snail, squid, squirrel, tepary bean, walrus, willow leaves, wocas</p>
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# Meal Ideas – Breakfast

- Oatmeal, sliced banana and 100% orange juice
- Vegetable omelet, apple sauce and low-fat milk
- Wild rice porridge with berries



Wild rice porridge with raspberries and maple syrup

# Meal Ideas - Lunch

- Tuna salad sandwich on whole-grain bread and pear slices
- Shrimp, squash and brussels sprouts



Grilled sandwich

# Meal Ideas - Dinner

- Macaroni and cheese, stewed tomatoes and melon slices
- Chicken, rice, green beans and berries
- Salmon, rice and bell peppers



Chicken with rice and broccoli

What other meal ideas do you have that include all three nutrients?

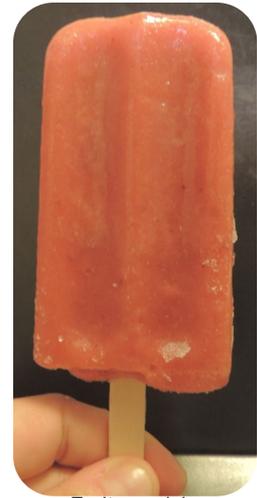


# Healthy Snacks

- Air-popped popcorn
- Applesauce
- Fruit
- Peanut butter on whole-grain crackers, apples or celery
- Jerky
- Frozen 100% fruit juice pops
- Cheese and whole-grain crackers
- Nuts, sunflower seeds and dried fruits



Apples and peanut butter



Fruit popsicle



Almonds

Which of these foods, meals or snacks we covered today are you going to add to your children's diet this week?



# Teaching Strategies & Discussion

# Teaching Strategies

- Adjust each session to capture and incorporate personal/local observations and real-life scenarios unique to your community
- Discuss issues of importance to your community and work toward identifying relevant solutions
- Make sessions interactive
- Customize presentation
  - Add stories, images, videos
  - Remove slides



Photo provided by Zender Environmental and Health Group

# Teaching Strategies

- Identify additional resources that may be important to participants such as brochures and phone numbers
- Be aware of how you speak and interact with participants when discussing certain topics (e.g., hygiene)



# Modify Materials

1. How could this be used by my community?
2. Who is my target audience?
3. Who should I partner with and consult?
4. Which modules should I present?
5. When should I facilitate sessions?



Photo provided by Zender Environmental and Health Group

# Modify Materials

6. What factors need to be considered when modifying the Curriculum?
7. What modifications do I need to make?
8. What resources are needed?
9. How can I facilitate sessions online?



# Promote Attendance

- Keep it simple
- Pull a team together
- Convenient, appealing location
- Hold sessions in conjunction with other community events
- Advertise using innovative means
- Provide refreshments, free childcare or door prizes



The background is a complex, multi-colored pattern with a woven or knitted texture. It features concentric circular bands of color, including shades of red, orange, yellow, and blue. A semi-transparent grey rectangle is overlaid on the center of the image, containing the text "Questions?".

**Questions?**

# Thank you!

- *Share on social media using:*
  - *#TribalLeadCurriculum*
  - *#LeadFreeKids*

*For more information contact:*

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

*[www.epa.gov/lead/tribal-lead-curriculum](http://www.epa.gov/lead/tribal-lead-curriculum)*