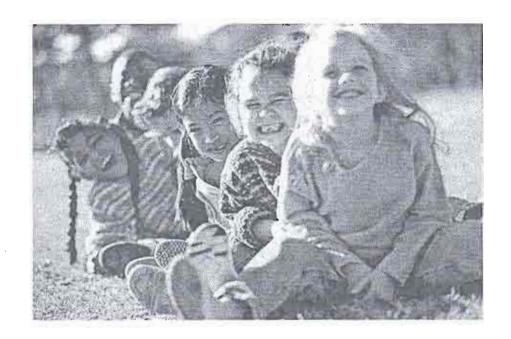
## KITS for KIDS

A curriculum guide for Pre-K teachers on lead poisoning prevention





Eliminating Childhood Lead Poisoning

Developed by the Erie County Department of Public Health with a grant from the New York State Department of Public Health. Adapted for use by the Illinois Department of Public Health and distributed by Lead Safe Illinois.

#### Table of Contents

#### Introduction

Dear Teacher Letter from Illinois Department of Public Health What You Should Know About Exposure to Lead

Teacher's Guide	1
Unit One: Lead Sources. Facts and Background. Teacher Guidelines. Activity. Dear Parent or care Giver.	7 8
Unit Two: Lead is a Poison. Facts and Background. Teacher Guidelines. Activity. Dear parent or Care Giver.	15 17 18
Unit Three: Foods High in Iron. Facts and Background. Teacher Guidelines. Activity. Iron-Rich Snacks and Recipes Dear Parent or Care Giver.	21 22 22
Unit Four: Foods High in Calcium. Facts and Background. Activity. Calcium-Rich Snacks and Recipes. Dear parent or Care Giver.	29 30 32
Unit Five: Preventing Lead Poisoning. Facts and Background. Teacher Guidelines. Activity. Lead Poisoning Prevention Songs. Dear Parent or Care Giver.  Childhood Lead Risk Assessment Questionnaire.	37 38 42 44
Appendices	
A: Resource List for Lead Information.	47
B: Illinois Department of Public Health: Nutrition and Lead Poisoning	49
C: Illinois Department of Public Health: Sources of Lead Poisoning	51
D: Illinois Department of Public Health: Housekeeping Tips	53
E: Illinois Department of Public Health: The Medical Consequences of Lead	55



#### Dear Teacher:

Lead poisoning is the nation's number one **preventable**, environmental health problem facing our children today. Illinois identified 6,480 children with lead poisoning in 2006.

The enclosed lead poisoning prevention materials are designed for use with 4 & 5 year old Pre-K students. The curriculum brings children, parents/care givers, and teachers together to help prevent this problem.

This mix of materials have been developed and tested by experts in child development, public health education, nutrition and health care. The curriculum contains five complete, flexible units. They can be tailored and adapted to meet the needs of your students.

In this packet you will find:

- A Teacher's Guide with an overview of the lead poisoning problem and suggestions for using the curriculum.
- Five units complete with learning objectives, teacher background information, guidelines for program implementation, activities, follow-up discussion questions, songs and ideas for optional arts and crafts projects.
- A full complement of informational materials for parents or care givers.
- Suggestions for activities, including materials, stories, songs and recipes.

We hope you will find these activities both instructive and enjoyable. They will assist you in teaching your children to become "helpers" in preventing lead poisoning.

If you have any questions or comments about the curriculum materials or would like further information on lead poisoning prevention, please share them with us at 866-909-3572. On behalf of the Illinois Lead Program, we appreciate your willingness to help PREVENT LEAD POISONING.

Sincerely,

Sam Churchill, M.S., L.E.H.P.

1 Quichest

Program Manager Illinois Lead Program 525 W. Jefferson St., 3<sup>rd</sup> Floor

Springfield, IL 62761

217-782-3517



Pat Quinn, Governor

Damon T. Arnold, M.D., M.P.H., Director

525-535 West Jefferson Street • Springfield, Illinois 62761-0001 • www.idph.state.il.us

May 2, 2007

Dear Day Care Provider:

Lead poisoning remains one of the most preventable environmental diseases affecting young children. Many children today are exposed to lead when they live and play in homes or structures that contain chips of lead paint or lead paint dust. Children younger than age 3 and those who have hand-to-mouth behavior are most at risk of lead poisoning. Lead poisoning affects the child's muscle and nerve development and has been linked to decreased IQ as well as several other medical conditions which may result in long-term health effects.

On June 20, 2006, Public Act 94-0879, amended the Illinois Lead Poisoning Act [410 ILCS 45/7.1] by adding the following:

"Childcare facilities that participate in the Illinois Child Care Assistance Program (CCAP) shall annually send or deliver to the parents or guardians of children enrolled in the facility's care an informational pamphlet regarding awareness of lead paint poisoning. Pamphlets shall be produced and made available by the Department and shall be downloadable from the Department's Internet Web site. The Department of Human Services and the Department of Public Health shall assist in the distribution of the pamphlet."

The document on the reverse side of this letter may be copied and provided annually to each of the parents or guardians of children under your care. The document is also downloadable from the Illinois Department of Public Health Web site, along with educational materials at <a href="http://www.idph.state.il.us/envhealth/pdf/Lead Daycare Handout.pdf">http://www.idph.state.il.us/envhealth/pdf/Lead Daycare Handout.pdf</a> or contact the Illinois Lead Program at 217-782-3517 to request additional information.

Early detection, education and treatment are important to the proper growth and development of healthy children. We appreciate the assistance of daycare providers in encouraging appropriate care of children to prevent or lessen the impact of lead poisoning to a child's health.

Sincerely,

A Quantity

Sam Churchill Illinois Lead Program Division of Environmental Health

SC:emd

Rvsd: June 18, 2009



## What You Should Know About Exposure to Lead

#### What is lead?

• Lead is a metal that is found in many places. You can't always see lead, even when it's present in high amounts in substances like paint, dust or dirt.

### What damage is done by lead?

- Lead in the body is not safe at any level. Even very small amounts of lead can permanently damage the brain as it develops. The only way to prevent damage from lead is to prevent exposure to lead.
- Lead makes it harder for a child to learn and causes behavior problems.
- Damage done by small amounts of lead may be hard to see. Most children who get lead in their body do not have any physical symptoms.

#### Where is lead found?

- Children are often exposed to lead in their own homes and at places they visit.
- Lead was added to paint until 1978. Most older homes have paint that contains lead. In the United States, lead is in paint in:
  - 87 percent of homes built before 1940,
  - 69 percent of homes built from 1940 to 1959 and
  - 24 percent of homes built from 1960 to 1977.
- Lead gets into dust and dirt. Children eat lead by getting lead on their hands and then putting their hands in their mouth.
- High amounts of lead in dust occur when paint is chipping or peeling or when paint is disturbed during repairs.
- Lead is sometimes found in toy jewelry and other products.



## What can I do to protect my child?

- Learn if you have lead in your home. Before you sign a lease, ask the landlord about lead. Before you buy a home, have it inspected for lead.
  - If your home was built before 1978 or you don't know when it was built, assume it has lead.
- Painted surfaces should be kept in good repair. Do not disturb paint unless you and your family are
  protected from the dust that will occur during repairs. Repairs not done safely can make the problem
  worse. Learn how to protect your family before work begins by getting information from the sources
  below.
- Have your child's blood lead level checked.
  - A parent or guardian of a child between the ages of 6 months through 6 years of age, attending a licensed day care center, day care, home preschool, nursery school, kindergarten, or other child care facility, licensed or approved by the State, must provide a statement from a physician or health care provider that the child has been risk assessed or screened for lead as defined in Section 6.2 of 410ILCS. (410ILCS 45/7.1)
  - A blood lead test at 1 and 2 years of age is required for children who could be exposed to lead. Also, whenever new exposures to lead may have occurred, a blood lead test should be considered.

## For more information, please contact:

- Illinois Department of Public Health, phone 866-909-3572 or 217-782-3517 (for hearing impaired use only TTY 800-547-0466)
- Your local health department
- Access information on the Web at http://sis.nlm.nih.gov/enviro/lead.html





## Teacher's Guide

## Target Population:

Four and five year old Pre-K students and their families.

## General Educational Objectives:

To make children aware of the dangers of lead in their environment and to have children demonstrate behaviors that will help prevent them from becoming lead poisoned. The ultimate goal of the curriculum is to alert parents/care givers to the dangers of lead poisoning in their home in order that they may implement the precautions needed to protect their children from becoming lead poisoned.

## Specific Learning Objectives:

Each child will be able to:

- 1. Identify three **primary** sources of lead in the environment. These are: **paint**, **dust and soil**.
- 2. Identify lead as a poison found in the environment and demonstrate a **minimum** of two behaviors which will help prevent lead poisoning.
- 3. Identify one or two foods that are rich in iron which will help prevent children's bodies from absorbing environmental lead.
- 4. Identify one or two foods that are rich in calcium which will help prevent children's bodies from absorbing environmental lead.
- 5. Identify the main points of objectives 1 through 4 above. Name at least two (2) ways that he/she can be a lead poisoning prevention helper.

## Why This Curriculum is Important

## Teacher Facts and Background Information:

#### Fact:

Lead poisoning has been referred to as the "silent epidemic." Rarely are there visible symptoms. A child may not look or act sick. Lead poisoning is our nation's number one childhood environmental health problem. When lead accumulates within a child's body it affects that child's normal growth and impacts upon his health, behavior and intellectual development.

#### Background:

The Centers for Disease Control (CDC) in Atlanta GA, consider children between nine months and six years old, exposed to houses built before 1978, to be at greatest risk. This is the age when the brain undergoes its greatest development and body weight is at its lowest. The CDC estimates that 3 to 4 million children between the ages of nine months and six years of age are at risk for lead poisoning.

The effects of lead poisoning depend on how much lead has been absorbed into the body and the duration of the exposure to lead. Symptoms are often hard to detect and may lie dormant for many years. A child poisoned at two years might be more likely to drop out of high school or have a lower IQ than his contemporaries.

#### Fact:

The only sure way to determine whether a child has a high blood lead level is to have that child tested annually for lead poisoning. This is particularly true for those children living in older homes where the risk of lead poisoning is greater. Consult with your physician.

#### Background:

In the majority of lead poisoning cases there may be no warning signs or signs may be as common as fatigue, loss of appetite, irritability, sleeping problems, or sudden behavioral changes. More serious indications include pica (the eating of non-edible items), clumsiness or loss of muscle control, weakness, abdominal pain, vomiting, constipation and changes in consciousness. In severe cases, coma and death can occur.

# HOW TO USE THE LEAD POISONING PREVENTION MATERIALS

#### General Information:

Each of the five units, like the Teacher's Guide, is introduced with lead poisoning facts and background information. This helps the teacher understand why children need to learn lead poisoning prevention behaviors. Throughout the curriculum, children are introduced to the dangers of lead poisoning and how it can be prevented. The units are self-contained. Each unit contains specific learning objectives. The curriculum is flexible enough to be used within a week, a month or over the course of a term. The teacher can then reinforce lead poisoning prevention habits throughout the year.

The curriculum has been designed to involve parents/care givers as an integral part of the child's learning experience. Adult involvement is essential to the success of the curriculum. Parents/care givers need to be aware of the effects of lead poisoning and steps they can take to reduce their child's risk of becoming lead poisoned. At the end of each unit a letter should be sent home to parents/care givers suggesting activities which can be done together.

**NOTE:** Each unit contains facts and background information which are important to the presentation and success of this lead curriculum.

## Before Introducing the Curriculum:

The first step in using the Lead Poisoning Prevention Curriculum is to read through the Teacher's Guide to familiarize yourself with the program. Points felt important for teachers to stress are noted in the learning objectives. Teachers are encouraged to use their imagination and to use the ideas provided, improvising and tailoring them to their needs.

**NOTE:** The day prior to using this curriculum, send home the suggested introductory letter to parents found at the end of this section of the Teacher's Guide.

#### Methods:

Concepts about lead poisoning prevention will be taught in the following ways:

- An introductory letter to parents/care givers informing them of the lead poisoning prevention curriculum.
- Take home letters to parents/care givers accompany each unit to encourage home participation.
- Take home information to share with parents/care givers such as recipes, etc.
- · Hands-on classroom activities.
- Stories about lead poisoning prevention.
- Classroom discussion.
- · Songs and arts and crafts projects.
- Educational posters and materials provided by the Illinois Lead Program.
- A Sesame Street video on Lead Poisoning Prevention is also available. You may contact the Illinois Lead Program to borrow a copy of this video at 217-524-2081.

## **FACTS ABOUT LEAD**

- Lead is found in paint, dust and outside dirt
- Washing hands often is important to keep lead dust away
- Washing toys and pacifiers often will help keep lead dust out of the body
- Damp mopping floors and windowsills twice a week also keeps lead dust away
- All children should have a blood lead test at ages 1 and 2
- Other children up to age 6 should be tested if the doctor thinks they are at risk
- Keep children from eating paint chips
- A healthy diet makes a difference in keeping lead away from children's bones and muscles
- Calcium fights lead poisoning foods like milk, yogurt, cheese, egg yolks, sardines, salmon, nuts, beans, whole grains and green leafy vegetables
- Iron fights lead poisoning foods like lean beef, beans, egg yolks, seafood, green leafy vegetables, fruits like raisins, nuts, whole grains, cereals or spaghetti that add iron

**NOTE:** Production of the Lead Poisoning Prevention Curriculum for Preschool Children and Their Families was funded by the Erie County Department of Health through a New York State Department of Health-Public Health Campaign grant. The original Erie County curriculum for 4 and 5-year olds was revised by the New York State Department of Health in 1998 prior to distributing it to Head Start programs serving 3 and 4-year olds. This document has been adapted for the Illinois Lead Program campaign by permission granted by both the New York State Health Department, Center for Environmental Health and the Erie County Lead Poisoning Prevention Curriculum Committee. The information and views presented in the Lead Poisoning Prevention Curriculum for Preschool Children and Their Families represent those of the authors and do not necessarily represent those of the Erie County Department of Health or the Illinois Department of Public Health, Illinois Lead Program.

## LEAD CAN MAKE YOUR CHILD SICK

#### Dear Parent/Caregiver:

This week we will be learning about lead poisoning. Childhood lead poisoning is a serious disease. The good news is that it can be prevented!

#### We will talk about:

- lead as a poison
- where lead is found inside and outside the house
- behaviors which help keep lead out of children's bodies
- how you and your child can become lead poisoning prevention helpers.
- how children can help themselves and their brothers and sisters stay safe

We need your help to make this program work. Here's how:

Your child will be bringing home information on lead poisoning prevention.

- Read the pamphlets we will send home with your child
- Talk to your child about what he or she is learning
- Check your home with your child to see if it is lead safe
- Try some of the snack recipes we send home
- Use posters or stickers from the school program at home

Then talk to your child about what he or she is learning. Try some of the ideas and activities together. This is how you can help as we PULL TOGETHER TO PREVENT LEAD POISONING.

For additional information about lead poisoning or how to prevent it, call toll free 1-866-909-3572 for the Illinois Lead Program at the Illinois Department of Public Health.

-								
C.	1	~		$\sim$	~	$\sim$	V	
	1	11	L.	ᆮ	1	┖.	ı v	

Teacher

## Unit 1: Lead Sources

## Objective 1

Each child will be able to identify three **primary** sources of lead in the environment. These are: **paint**, **dust and soil**.

## Facts and Background Information:

#### Fact:

The most significant sources of exposure for children are: lead based paint; leaded dust and lead-contaminated soil. Eighty percent of lead poisoning is caused by deteriorated leaded paint which is cracking, chipping or peeling. The leaded paint from exterior painted surfaces falls into the soil and is ground into the soil in the form of dust. Similarly, the friction of windows and painted cabinets, being opened and closed, results in small particles of dust falling upon carpets, furniture and curtains. Children chewing on lead painted surfaces is also a concern. Brass faucets, soldered pipes (solder contains lead) and leaded pipes are the primary sources of lead found in water.

#### Background:

Lead paint is found in paint chips, paint dust around window sills and window wells/ledges, front porches, porch railings, around kitchen cabinets and shelves, doors, walls, baseboards, radiators, and other painted surfaces.

#### Fact:

Dust from lead based paint is a major factor in lead poisoning among children. Dirt surrounding homes, garages, and sheds (within four feet from the structures) is particularly susceptible to lead dust as a result of paint chipping and falling to the ground.

#### Background:

Wet mopping, damp dusting and routine cleaning of air ducts, including cleaning and/or replacing furnace/air conditioning filters, and safe paint-removal practices are essential. (Call your local health department for specific advice).

#### Teacher Guidelines:

#### Goal:

Children will be able to identify three primary sources of lead in their environment. These are: **Paint, Dust and Soil.** 

Activity:

Read story.

Materials:

Story by Donald Levin: Little (name of insect of your choice) Goes Exploring.

Letter #1 to parents for children to take home.

#### Procedure:

- 1. Read the story to the children soliciting as much student participation as possible.
- 2. Review the places in the story where lead could have been found.
  Answers: paint chips, paint dust, around window ledges and window sills, baseboards, and hands.

#### Discussion Questions:

- General. What can "Little \_\_\_\_\_\_" do to help keep himself healthy and lead safe?
   (Wash hands, wet mop, damp dust, wash pacifier (toys), eat nutritious meals, each year ask their health care provider for a blood lead test, tell an adult if they see someone eating paint chips, remind friends not to put their hands in their mouths, etc.)
- 2. Hand washing. What do we do with dirty hands? (Wash them, keep them out of our mouth, etc.)
  When is it important to wash hands?
  (Before eating, before nap time, before bed time, after playing, etc.)
- 3. **Toys**. What is important to remember when playing with toys? (Not putting toys in the mouth, washing baby's pacifier. Dust and dirt gets on toys.)
- 4. Window and window ledge. What is very important to remember about windows?

- (Not to chew or suck on window ledges. If a child is seen doing this to report it to an adult. The dust and dirt found in window ledges can blow into the room and get on toys, carpet, furniture, etc.)
- 5. Paint chips. What do we have to remember about paint chips? (They are poisonous. They make us sick. They make it hard for us to learn.) What do we do if we see a child eating paint chips? (Tell an adult.)

#### Follow-Up:

- 1. Distribute Unit 1 letter for the children to take home to their parent/care giver (found on the last page of this section).
- 2. The day after the letter is sent to parents discuss the home activity suggested in the letter.

#### Optional Activities:

- 1. View Sesame Street video regarding lead poisoning prevention.
- 2. Using a doll house have children explore the house, pointing out dangerous lead paint areas within and outside the house.
- 3. Introduce role playing or dramatic play. Have the children pretend they are various characters and re-enact scenes from the story.
- 4. Have children construct a puppet(s) to act out the story.

Make a doll or puppet with an open mouth. Use a see-through net or long sock for the doll's body. Ask children what things are good to put into their mouth. Those things that are good can be placed in the doll's mouth. Those things that are not good can be placed in a trash can. Inappropriate items include: paint chips, toys, railings, window ledges (use pictures), etc.

## LITTLE (add insect name of your choice) GOES EXPLORING

#### by Don Levin

This is a story that happened once upon a time . . . Little (add insect name here) lived with his Mother in a room in a very big, very old house. Each day, Little \_\_\_\_\_ asked his mother, "May I walk through the rest of our house? I would like to meet our neighbors and play in their rooms." Mother would say, "This is a very big, very old house, and you must wait until you are bigger and older before you may explore it." Little \_\_\_\_\_ sighed, and said, "I understand." Walking about he explored all the nooks and crannies of the windows in his room. And he explored the baseboards. And the cabinets. And the floor. Each day his Mother reminded Little not to eat the paint chips that sometimes fell on the floor. And to wash the dust from his hands with soap and water. And to keep his hands out of his mouth. "There may be lead in the dust around the windows," his mother told him. "And in the paint chips from the baseboards, and on the cabinets, and on the floor in our room. Lead is very bad for you. It will make you sick, and make it hard for you to learn new things. So you must always remember to wash the dust off your hands after exploring, and never put paint chips in your mouth." Little \_\_\_\_\_ did what his mother asked him to do. One day, Mother was busy making a polka dot quilt when all of a sudden a gust of wind blew in through the open window - and blew the door open the tiniest bit. \_\_ peeked out into the longest hallway he had ever seen. Quick as a wink another gust of wind came in through the window and blew Little right out into the hallway. And blew the door closed behind him! was afraid to be out in the hallway all by himself. Then, he realized he finally had the chance to explore his old house. He walked down the hallway until he came to an open doorway. He went into the room.

Inside he found ten fat cats sitting around giving each other baths with their tongues, as cats like to do.
"Hello," said one of the cats. "Welcome to our room. Please explore it, if you would like to."
"Thank you," said Little
He went up to the window, where he explored the nooks and crannies of the window sill and the well where the window slid up and down.
"Did your mother tell you that you should wash the lead dust from your hands with soap and water after you explore?" a fat cat asked Little
"Oh yes," said Little "I must wash the lead dust off so I don't get sick." And he washed his hands, and said good-bye to his new friends, and went out into the hallway again.
There he found another open doorway. Inside another room, he found twenty scampering hamsters.
One of the scampering hamsters said, "Hello, Little Welcome to our room.  Would you like to explore?"
"Oh yes, very much!" said Little
And he went to the baseboard, where he explored every nook and cranny.
He found a big piece of paint chip that had fallen off the baseboard. He brought it into the group of scampering hamsters. "Look what I found," he said. "I bet this is good to eat,"
"No!" said a hamster. "Didn't your mother tell you that you must never eat paint chips? They will make you very sick."
Little put the paint chip in the waste basket, and washed his hands. Then he said good-bye to his new friends, and went out into the hallway and into the next open doorway.
There Littlefound another room with forty silly billy goats, standing around and chewing.
One of the silly billy goats said, "Hello, Little Please explore our room."
He went around the floor, where he explored every nook and cranny.

mouth. He remembered all by himself to wash his hands as his mother had taught him. "Won't you join us, Little \_\_\_\_\_?" one of the silly billies asked. "We're chewing on some paint chips we found on the floor and chewing on the paint on the window sill and licking the dust off our hooves." Little \_\_\_\_\_ said, "You shouldn't eat paint chips, and you shouldn't put dust near your mouth. You may get lead poisoning. It will make you sick, and make it hard for you to learn new things," But the forty silly billies ignored him, and chewed their paint chips, and gnawed on the window sill. Just then Little \_\_\_\_\_! Where are you?" Little \_\_\_\_\_ went out into the hallway. "Little \_\_\_\_\_\_," his mother cried. "There you are! What happened?" Little\_\_\_\_\_\_ told her about the wind that blew him into the hall. And he told her about the ten fat cats, and the twenty scampering hamsters, and the forty silly billies chewing on paint. "That is very dangerous," said his Mother. "Lead in the paint chips and in the dust can make them very sick. I will let their mothers know about what they are doing, so they can learn how to protect themselves from lead poisoning". "And do you know what else? I remembered to wash my hands with soap and water after exploring, and to keep my dirty fingers out of my mouth," said Little \_\_\_\_proudly. Mother smiled at her child. She knew Little \_\_\_\_\_was finally big enough to go exploring on his own after all. And after that day, he did. And he never ate paint chips, and he never put dust in his mouth. And when he played outside when the springtime came, he always washed the dust and dirt off his hands because he knew the soil contained lead dust from the paint chips which had fallen off the house into the soil. And he learned to help his mother keep the house clean and lead free. And Little \_\_\_\_\_ and his mother were happy and healthy, ever after.

He remembered all by himself not to put the paint chips from the floor into his

Dear Parent or Care giver:
Today the children heard the story, <b>Little Goes Exploring</b> . The purpose of this story was to introduce children to the problem of lead poisoning and help them to understand where lead is most often found around the house:
<ul> <li>In leaded paint</li> <li>In household dust</li> <li>In the soil outside</li> </ul>
The story also talks about:
<ul> <li>The importance of hand washing</li> <li>The importance of wet mopping and damp dusting homes to keep the house free from dust</li> </ul>
Tonight, to help your child act on this lesson, please take a few minutes to:
<ul> <li>Ask your child about the story.</li> <li>Ask your child to watch you damp dust an area of your home to help you keep the house lead safe.</li> <li>Wash your hands together after the activity.</li> </ul>
Thanks!
Teacher
CUT HERE
Parent/Care giver: Please fill out this form and return it with your child tomorrow.

Last night, we talked about keeping our home free of lead dust and the importance of washing our hands to prevent lead poisoning.

Parent/Care giver signature

## UNIT 2: Lead Is a Poison

## Objective 2

On request, each child will be able to identify lead as a poison found in the environment and be able to demonstrate a minimum of two behaviors which will help prevent lead poisoning.

## Facts and Background Information:

#### Fact:

Lead is a highly toxic metal. Because it is stable and easy to work with, it has been used for a variety of purposes. Nevertheless, lead can produce a range of adverse human health effects, particularly in children and fetuses. Effects include nervous and reproductive system disorders, delays in neurological and physical development, cognitive and behavioral changes, and hypertension. The human body has no need for even the smallest amount of lead.

#### Background:

The most common sources of lead exposure in and around the home are lead based paint, household dust (that contains lead from deteriorating lead paint) and soil. Often lead is present today from past uses that have been banned, such as lead based paint (banned in 1978) and lead in gasoline (the trend toward unleaded gas started in 1976).

Lead poisoning can affect people of any age, race, geographic region or socioeconomic level. Anyone who is exposed to lead and who eats or breathes it in may develop an elevated blood lead level.

#### Fact:

Lead can harm virtually every system in the human body. Lead is particularly harmful to the developing brain and nervous system of fetuses and young children. In many cases, there are no visible symptoms of lead poisoning.

#### Background:

If symptoms do occur, they may include general fatigue, irritability, difficulty concentrating, hyperactivity, tremors, headaches, abdominal pain, nausea, vomiting, weight loss, or constipation. These symptoms may be mistaken for other disorders. Only a blood test for lead poisoning can determine if a child is lead poisoned. Lower levels can adversely affect the central nervous system, kidneys, and blood formation system. Blood-lead levels as low as 10 ug/dl which do not cause distinctive symptoms, may be associated with decreased intelligence and impaired neurobehavioral development. (In scientific terms, lead levels are measured in micrograms per deciliter - ug/dl. In simpler terms, one ug/dl is even less than a speck of dust in a third of a cup of liquid.) Many other effects begin at these low levels, including decreased stature or growth, decreased hearing acuity, and decreased ability to maintain a steady posture. Very severe lead exposure in children (blood-lead levels greater than 80 ug/dl) can cause coma, convulsions, and even death.

#### Fact:

Children are at a greater risk from exposure to lead than adults.

#### Background:

Children are more vulnerable to damage because their bodies and nervous systems are still developing. Frequent hand-to-mouth activity places a child at greater risk for lead poisoning. Children absorb and retain a larger percentage of ingested lead per unit of body weight than adults, which increases the toxic effects of the lead.

#### Fact:

All children should have a blood lead test at ages 1 and 2. Other children up to 6 years of age should be tested if their doctors think they are at risk. A blood lead level of 10 ug/dl or greater is a concern.

#### Background:

The need for and frequency of retesting depends on previous blood-lead test results and whether the child is at high or low risk for exposure to lead.

#### Teacher Guidelines:

#### Goals:

- Children will learn that lead is a poison which can harm them
- Children will be able to identify three sources of lead
- Children will be able to demonstrate a minimum of two behaviors which will help prevent lead poisoning

#### Materials

- Dusty surface (chalk dust or flour might be used)
- Letter #2 to parent for child to take home

#### Procedure:

#### Discuss poisons.

- a. Have children give examples of things that are poisonous and should not go into the mouth.
- b. Ask the children what poisons do to their body (give examples that the children can relate to). Emphasize that poisons can make you very sick and can hurt your body.
- c. Identify lead as a poison that can make you sick and make it difficult to learn new things.

#### 2. Where do we find lead?

- a. Discuss the sources of lead.
- b. Lead is found in the paint in older homes.
- c. Lead is found in paint chips. Refer to the window with chipping paint. Ask the children, "What other areas inside the house might have chipping paint?" (door frames, baseboards, shelves, cabinets, spindles of stair railings, etc.)
- d. Lead is found in paint chips outside the house too. Refer to the area outside the home where paint is chipping. Ask the children "What other areas outside the home might have chipping paint?" (garage, shed, house siding, porch railings, porch floors, etc.) Prior to the lesson, have paint chips collected by the teacher in a clear plastic bag for the children to see (with the adult being the only one who handles the plastic bag).
- e. Lead paint dust.

Prior to the lesson, have chalk dust or flour in a plastic bag for the children to see how the dust sticks to the inside of the bag just like it would on their hands (with the adult being the only one who handles the plastic bag.)

f. Lead in the soil. Prior to the lesson, put dirt in a plastic bag so that children can see the dirt as you explain that it is a lot like dust, it sticks to your hands and may contain lead. Playing in the dirt near the house is a problem.

#### Let's make sure you do not get poisoned by lead.

- a. Do not eat paint chips. Have the children identify paint chips. Review all possible paint chip areas inside and outside the house.
- b. Wash hands after touching surfaces that might have lead. Have children identify when it is important to wash their hands after touching dust and dirt.
- c. Wash pacifiers and toys that are dusty. Toys can be covered with the dust, just like your hands.
- d. Be a helper: if you see any paint chip areas in your home, tell your parents. Be watchful of younger children so they will not get lead poisoned.
- 4. Have the children wash their hands to remove the dust.

#### Activity:

Hand washing component of the lesson:

Demonstrate proper hand washing:

- 1. Rinse hands under warm running water.
- 2. Lather hands with soap to loosen dirt and bacteria.
- 3. Rub hands together vigorously. Friction helps remove microorganisms and dirt.
- 4. Rub soap between fingers and under nails.
- 5. Rinse off all dirt and soap under running water. Keep hands lower than elbows to prevent dirty water from running up the arms.
- 6. Dry well with a paper towel and then throw it away.

**Note:** As you demonstrate this technique to your children, try making up a song or story about how much your hands like taking a bath! Then invite each child to wash his or her hands under your supervision. By the way, it should take about 20 seconds for hands to be washed well, which is about as long as it takes to sing a verse of Old MacDonald Had a Farm or Happy Birthday!

#### Follow-Up:

- Review the sources and ways to prevent lead poisoning. Teachers are encouraged to reinforce the concepts and to put the prevention suggestions into practice throughout the class day as appropriate. This will help children keep the things they have been taught in their minds.
- 2. Discuss the home activity in which children participated the night before.
- 3. Send each child home with parent/care giver letter for Unit #2 pertaining to the day's activities.

Concept: Germs on our hands can make us sick and/or spread illness to others.

Objectives: Children will be able to describe when it's important to wash their hands, and will learn to wash their hands thoroughly using soap - without assistance.

Materials: Liquid or bar soap, paper towels, and sink with running water.

Discuss: Talk about when it's important to wash hands - after blowing our noses, after using the bathroom, before eating or cooking, after playing outside or on the floor, before nap time and before bedtime, etc.

#### Optional Activity:

- 1. Reinforce, whenever appropriate throughout the day, the importance of hand washing, and the invisible dust around the room that might contain poison. Remind the children that they do not want this poison to get inside their bodies. It is important they keep their bodies healthy.
- 2. Designate a lead poisoning prevention helper for the day.
- 3. Consider setting up a messy art activity using finger paint, clay or glue. Ask children to look at their hands before and after washing them. Remind them of the value of washing hands.
- 4. Make a rainbow poster with finger paints placing the children's hands in the formation of a rainbow.

Your child has been learning about sources of lead around the home. We talked about places where lead is commonly found. Again, we stressed the importance of proper hand washing.

Ask your child to tell you about the lesson. He/She should be able to tell you

where lead is found and how to avoid getting poisoned by lead. This is a good time for you and your child to inspect your home to make sure it is lead safe.
Sincerely,
Teacher
Facts:
Lead is a dangerous poison. All children should have a blood lead test at ages 1 and 2. Other children-up to 6 years of age should be tested if their doctors think they are at risk.
Paint chips should not be eaten.
Frequent hand washing helps prevent lead poisoning.
Wet mopping and damp dusting the home two times a week helps prevent lead poisoning.
CUT HERE
We talked about the places where lead can be found in and around our home.
(Please sign and return with your child tomorrow.)

Parent/Care giver signature