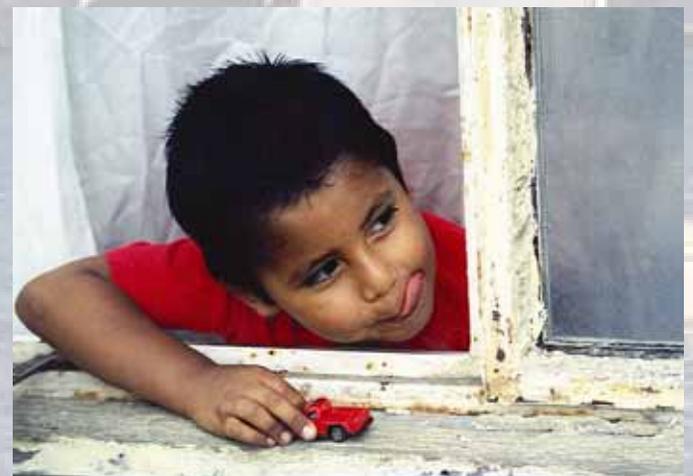


# CITY OF SAN DIEGO



**Lead Awareness Training  
for  
San Diego Residents**





# ENVIRONMENTAL SERVICES DEPARTMENT

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# Purpose of Today's Training

- ✓ Provide general background on lead hazards and related health effects
- ✓ Basic knowledge and signs of lead hazards
- ✓ Help prevent high levels of lead in the blood
- ✓ Learn how to safely fix certain lead hazards

# WHAT IS LEAD?

- ✓ Lead is a heavy, bluish/gray, soft, malleable metal
- ✓ Known to be a hazard since ancient times
- ✓ Negative effects of lead were recognized by Ben Franklin in 1786
- ✓ Lead use and occupational exposures accelerated during the 1800's
- ✓ First case of lead paint poisoning was diagnosed in Australia in 1895



# Lead Poisoning Has Multiple Sources

- ✓ 28% from lead paint and dust
- ✓ Other sources include: soil, pottery used for food, housewares, home remedies, imported candy, water, toys, soil, jewelry, hobbies, and occupational hazards



\* Percentages are based on cases within San Diego County 5

# Major Source of Lead Exposure: Lead-Based Household Paint

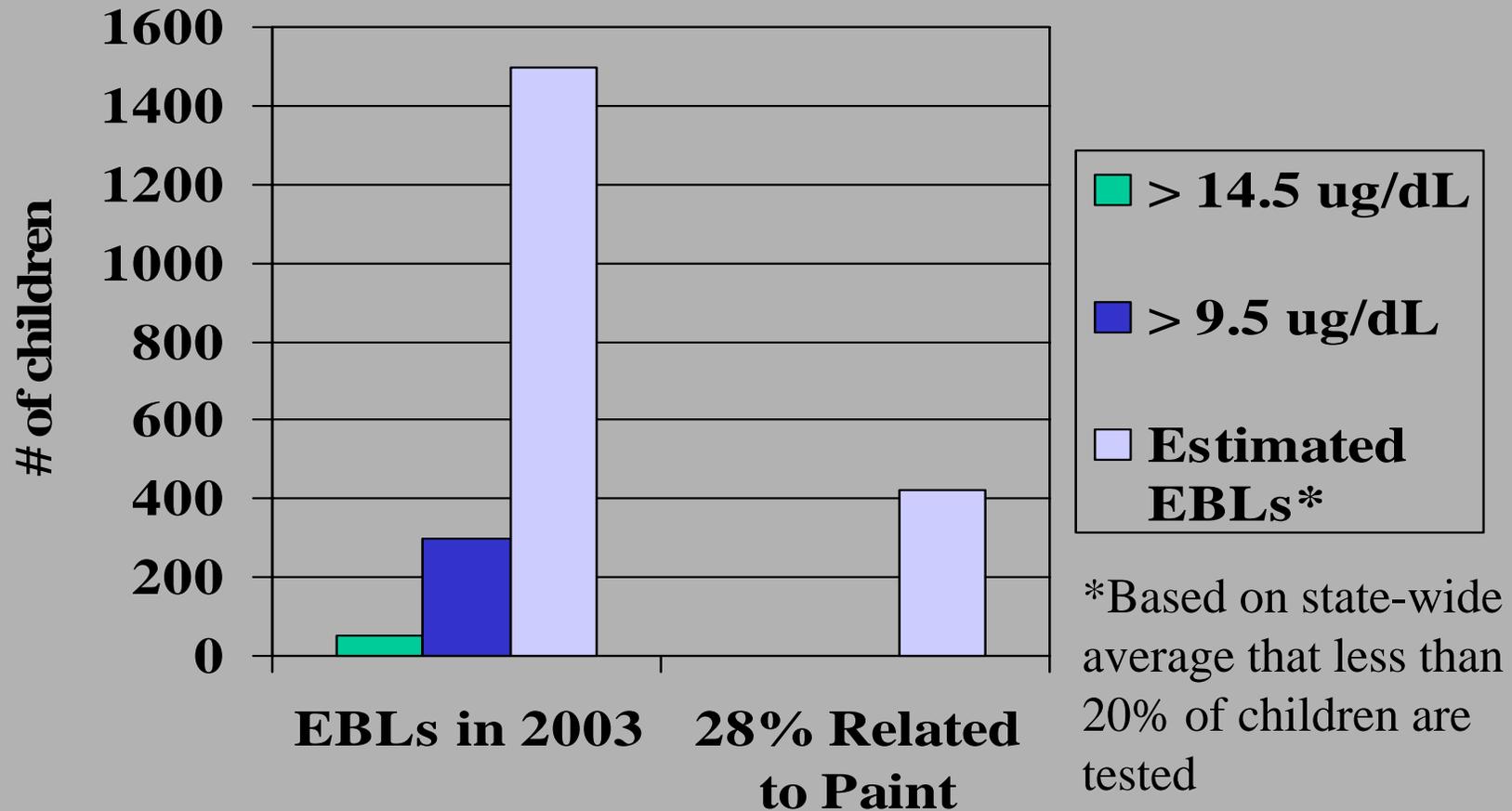
**Paint sold before 1978 may contain lead**

- ✓ Normal wear and tear of paint produces lead dust, the most common source of lead poisoning
- ✓ Deteriorating paint may produce dust and flakes
- ✓ Disturbing intact lead-based paint during remodeling, renovation, and maintenance can create a lead hazard

**70% of San Diego housing was built before 1978**

# Childhood Blood Lead Poisoning in County of San Diego

CDC definition of lead poisoned child is  $\geq 10$  ug/dL  
(Elevated Blood Lead - EBL)



# At Greatest Risk: Very Young Children



**Very young children, who crawl on the floor and put their hands and toys in their mouths, are at highest risk of exposure and are most susceptible to damage.**

**Main ways that lead gets into a child's body:**

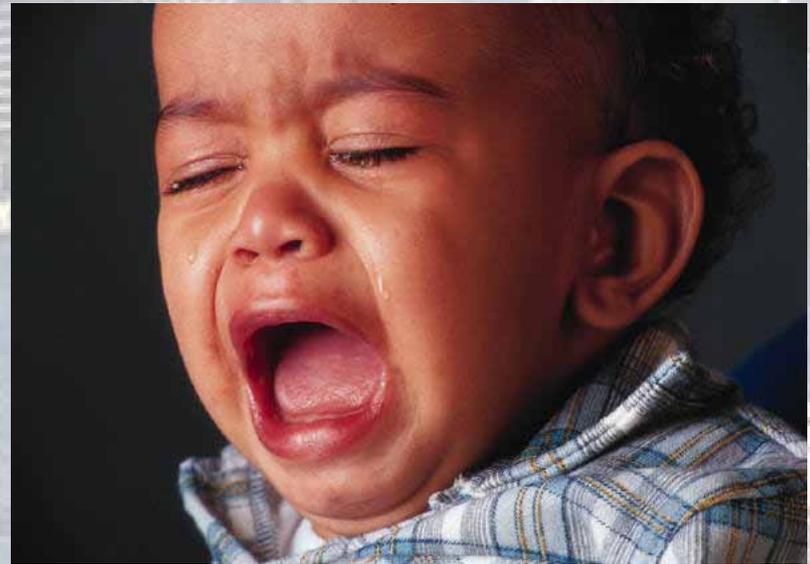
- ✓ **Swallowing** lead-paint dust or flakes, mainly through normal hand-to-mouth activity
- ✓ **Breathing** in lead dust

**Even very small amounts of lead are dangerous.**

# Symptoms of Lead Poisoning in Children

**USUALLY THERE ARE NO SYMPTOMS**

- ✓ Fatigue
- ✓ Irritability
- ✓ Headache
- ✓ Constipation
- ✓ Stomachache
- ✓ Cramps
- ✓ Vomiting
- ✓ Weight loss



# Lead's Effects on Unborn Children

- ✓ Lead from the mother's blood can pass to the unborn child
- ✓ Lead poisoning in unborn children can cause
  - Learning difficulties
  - Behavioral problems
  - Brain and nerve damage
  - Stillbirth and miscarriage
  - Premature birth
  - Low birth weight



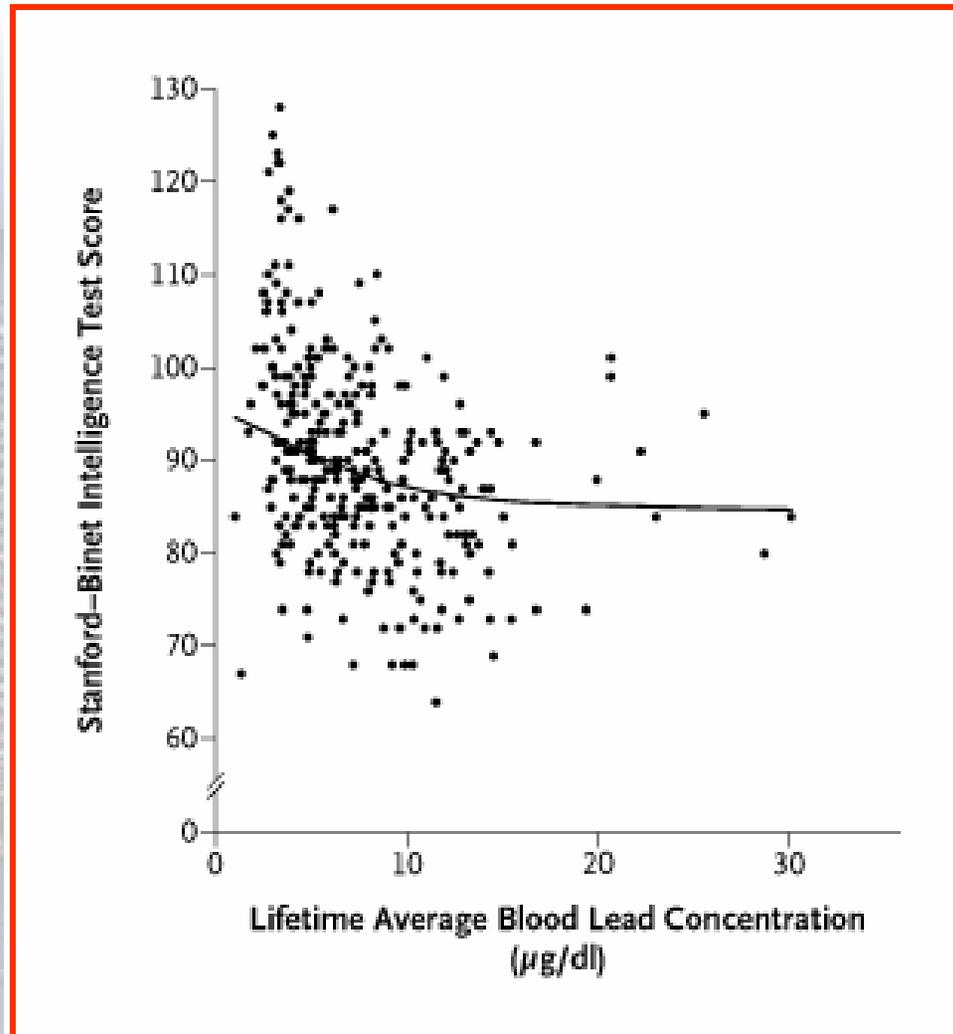
# Lead's Effects on Babies and Young Children

- ✓ Can damage the brain and other parts of the nervous system
- ✓ Can cause behavior and learning problems
- ✓ Can reduce muscle and bone growth
- ✓ Can damage hearing
- ✓ Can cause death



**Even children who seem healthy may have high levels of lead**

**Highest  
decrease in  
child's IQ  
occurs when  
blood lead level  
is less than  
10  $\mu\text{g}/\text{dL}$**



New England Journal of Medicine; April  
17, 2003

# Symptoms of Lead Poisoning in Adults

- ✓ Fatigue
- ✓ Irritability
- ✓ Anxiety
- ✓ Depression
- ✓ Headache
- ✓ Sleeplessness
- ✓ Tremors
- ✓ Metallic taste in mouth
- ✓ Skin paleness, especially of the face
- ✓ Constipation or diarrhea
- ✓ Stomachache
- ✓ Cramps
- ✓ Vomiting or nausea
- ✓ Weight loss
- ✓ Muscle or joint pain
- ✓ Weakness in arms, legs, or wrists
- ✓ Loss of sex drive

# Lead's Effects on Adults



✓ **Reproductive problems for men and women**

- ✓ **High blood pressure**
- ✓ **Digestive disorders**
- ✓ **Nervous system problems**
- ✓ **Difficulty with memory and concentration**

# What You Can Do

- ✓ **Avoid damaging painted surfaces**
- ✓ **Clean floors and window sills and wells regularly with water and detergent**
- ✓ **Wash children's hands and toys frequently**
- ✓ **Teach children to keep non-food items out of their mouths**
- ✓ **Get children tested for lead poisoning**
- ✓ **Provide a well-balanced diet, low in fat and high in iron and calcium for your family**

# LEAD-BASED PAINT HAZARD

- ✓ **A lead-based paint hazard is any condition that causes exposure to lead from lead-contaminated dust, soil or paint that is deteriorated or present on accessible, friction, or impact surfaces.**

# Identify Deteriorated Paint

To identify deteriorated paint, you will need to answer this question:

**Is the paint:**

- peeling,
- chipped,
- chalking
- cracking?



If the answer to this question is yes, then the paint should be considered deteriorated.

# Identify Deteriorated Paint

## Is There Anything else You Should Look For?

When performing a visual assessment, you should look for:

- ✓ Paint chips or dust from painting activities that were not cleaned up.
- ✓ Paint residue on the floors
- ✓ Evidence of paint chips in soil near driplines on exterior surfaces



# Identify Deteriorated Paint

These photos show evidence of substrate damage:

- ✓ The window sill has extensive moisture damage.
- ✓ The stair tread shows wear, tear and deterioration.



# LEAD SAFE WORK PRACTICES

- Please refer to the brochure  
*“Reducing Lead Hazards When Remodeling Your Home”*  
for detailed procedure information.
  - Available in many languages from the website:
    - <http://www.epa.gov/lead/leadpbed.htm>

# Benefits of Safe Work Practices

- Protect your health
- Protect your family by not bringing dust home with you
- Protect residents, especially children
- Simplify daily and final cleanup
- Enhance reputation for knowledge and professionalism

A photograph of a sailboat on the water with a city skyline in the background. The sailboat is on the right side of the frame, and the city buildings are in the background. The text is overlaid on the image.

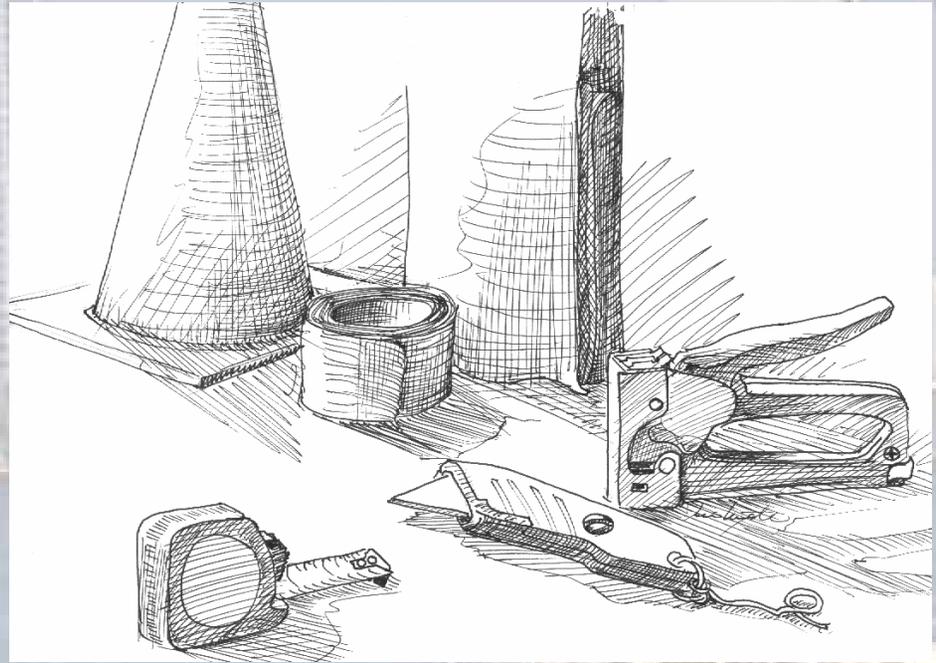
# **Set-Up Your Workspace to Contain Lead Dust**

# What Is Containment and Why Do It?

- Keeping lead-contaminated dust in the work area
- Benefits of containment
  - Protects residents and workers
  - Easier clean-up at the end of the job

# Set-up Toolkit

- Barriers and signs
- Coverings for furniture, fixtures, plants, or outdoor play areas
- Other set-up containment items



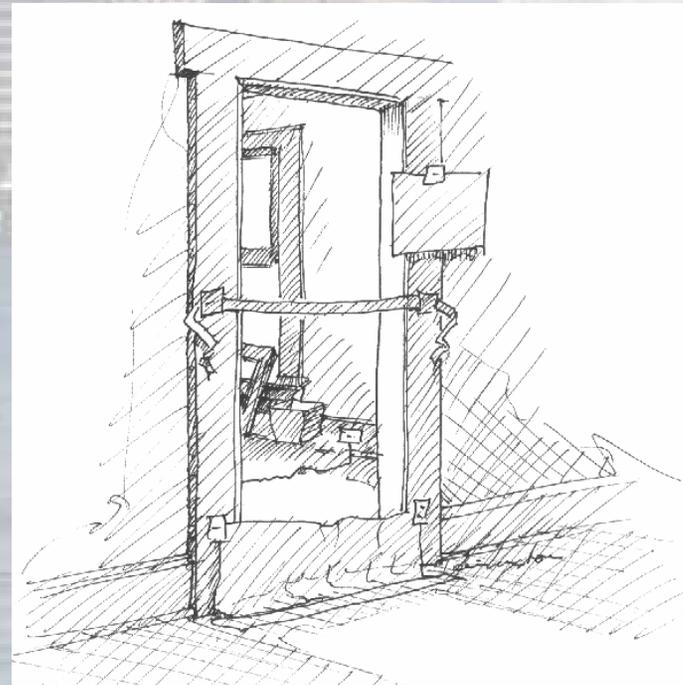
# Set-up and Work Tools

- Please contact the City of San Diego's Lead Safe Neighborhoods Program if you need to borrow tools to complete the work
- We can also give you tips on how to purchase inexpensive supplies such as paint

# Interior Set-Up

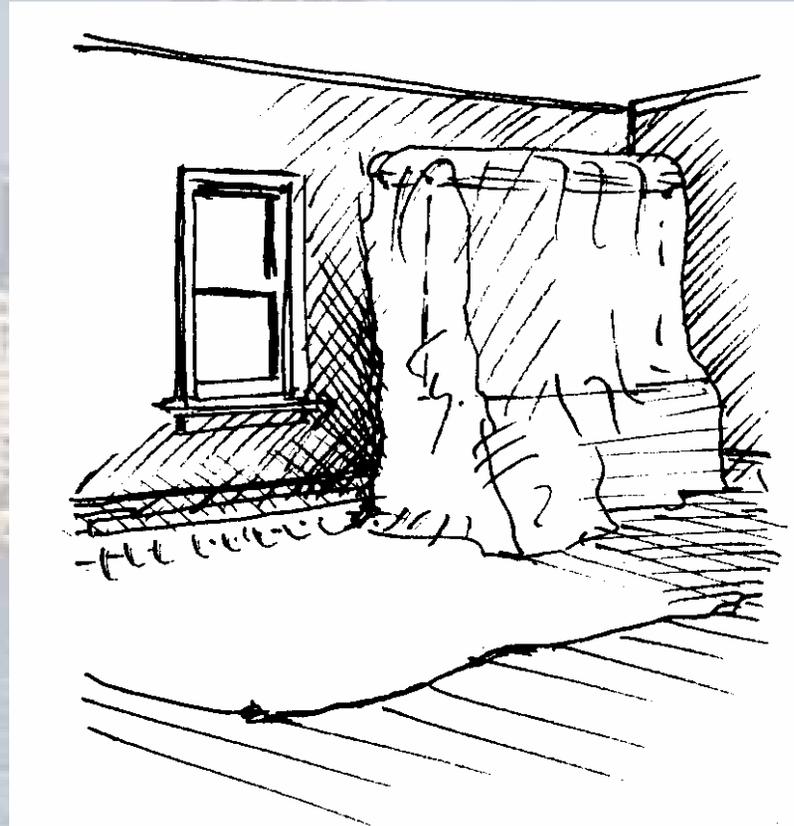
## Step 1: Limit Access

- Don't let people or pets in the work area, especially children and pregnant women
- Place a barrier or tape across entrances
- Post warning signs
- Do not allow eating, drinking, or smoking in the work area



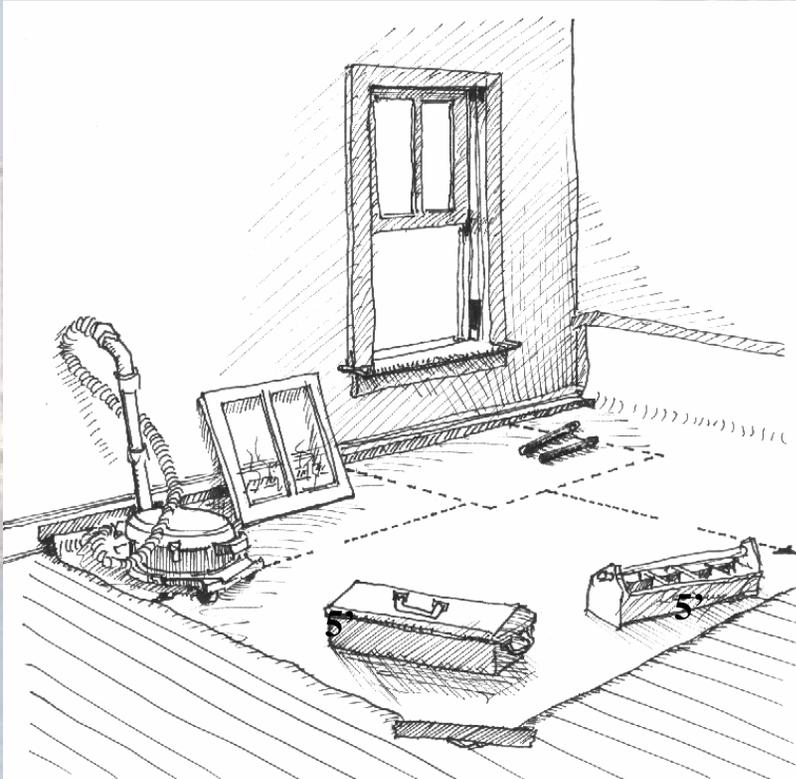
# Interior Set-Up

## Step 2: Remove and Cover Belongings



# Interior Set-Up

## Step 3: Cover Floors



- Cover floors with protective sheeting well beyond the work area

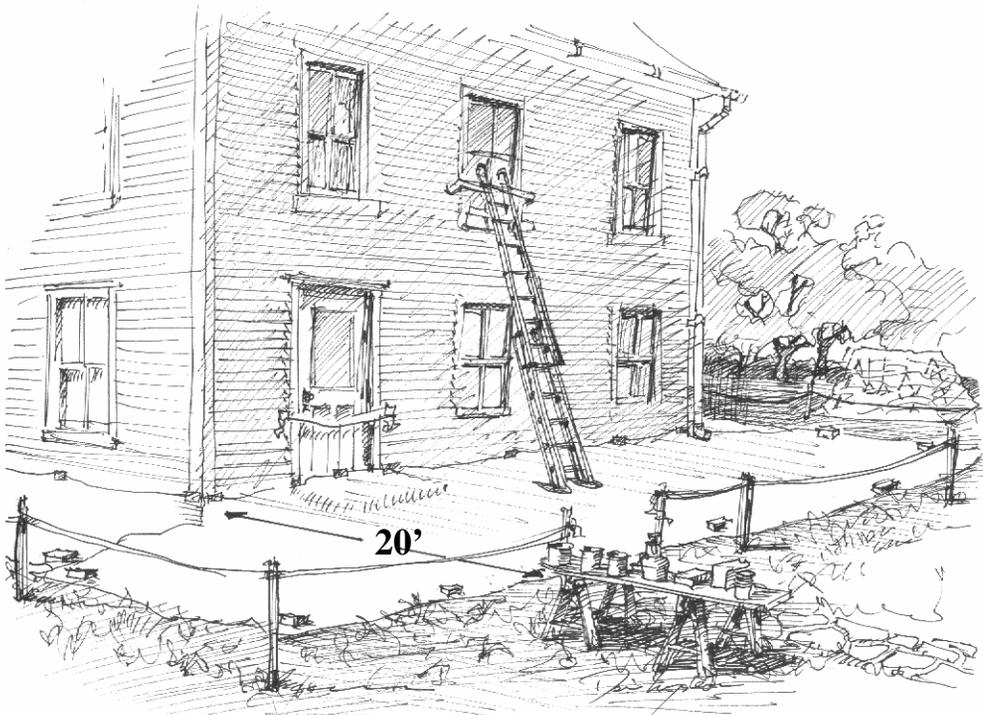
# Interior Set-Up

## Step 4: Close Windows, Doors, HVAC

- Close all windows and doors
- Close and seal HVAC vents

# Exterior Set-Up

## Step 1: Establish Work Area



- Cover the ground with protective sheeting
  - Extend at least 10 feet from work area
  - Cover nearby vegetable gardens and children's play areas
- Limit work area access
- Close Windows and doors

A photograph of a city skyline across a body of water. In the foreground, a white sailboat is on the right side. The city skyline in the background features several tall buildings, including a prominent one with a pointed top. The text "Safe Work Practices" is overlaid in the center in a bold, blue, serif font.

# Safe Work Practices

# Safe Work Practice Alternatives to High Risk Practices

## High Risk – Don't Do!

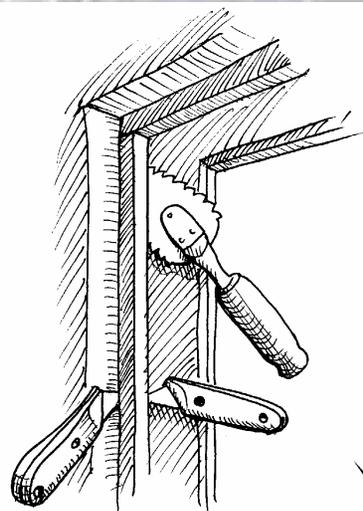
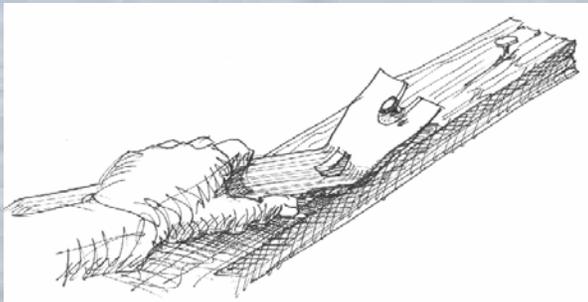
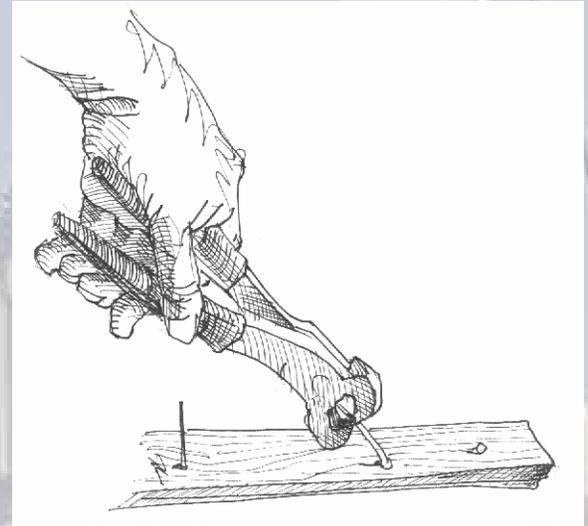
- ❌ Open flame burning or torching
- ❌ Heat gun on high (1,100+ degrees F)
- ❌ Dry scraping and sanding
- ❌ Power sanding, grinding, abrasive blasting without attachment to HEPA vacuum

## Safe

- ✓ Wet scraping and sanding, chemical stripping, heat gun below 1,100 degrees F
- ✓ Heat gun below 1,100 degrees F
- ✓ Wet scraping and sanding
- ✓ Use of power tools with attachment to HEPA vacuum

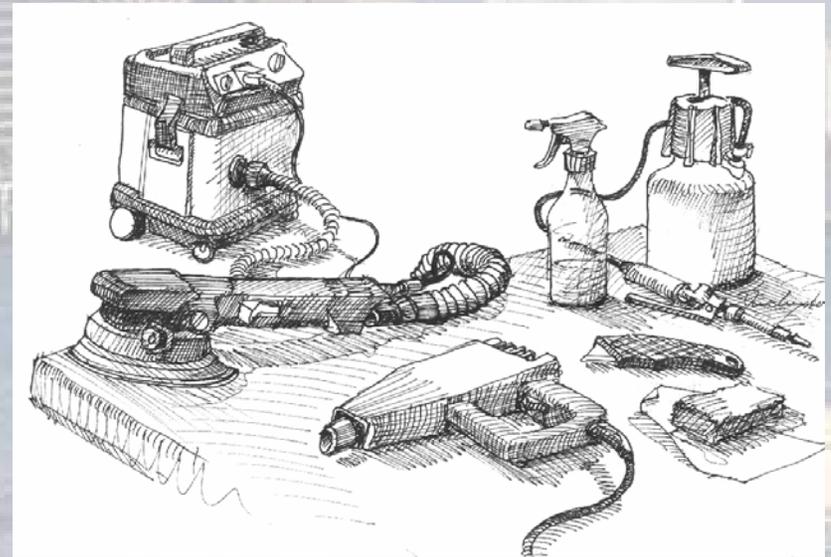
# More Safe Work Practices

- Mist before drilling and cutting (hand tools only)
- Score paint
- Minimize pounding and hammering -- pry and pull instead
- Mist surroundings
- Use shaving cream



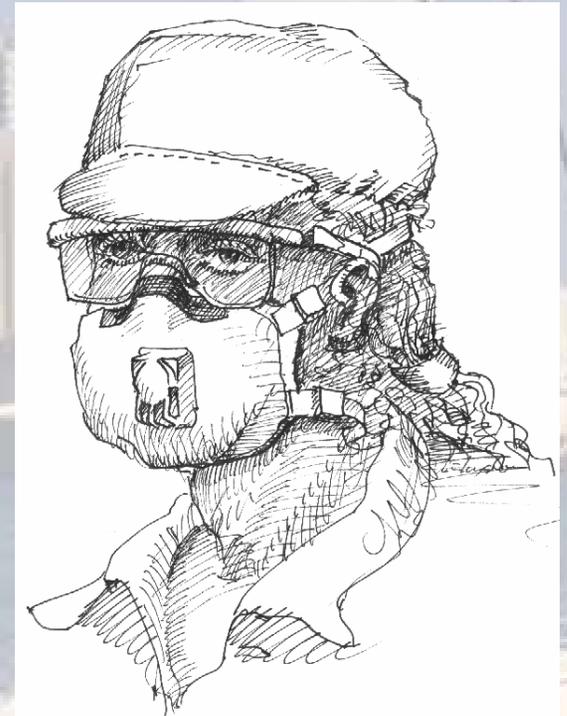
# Safe Work Practices Toolkit: Tools, Equipment, and Supplies

- Wet/dry sandpaper, sanding sponge
- Heavy duty (4-6 mil) plastic sheeting
- Tape (painter's, duct, masking)
- Mist bottle, pump sprayer
- Heavy duty garbage bags
- Chemical stripper
- Utility knife
- Heat gun (<1100 °F)
- Vacuum with HEPA filter



# Protect Yourself

- Important Protective Equipment
  - Disposable hand towels
  - Pre-moistened disposable wipes
  - Painter's hats
  - Gloves
  - Disposable Coveralls
  - Disposable shoe covers
  - N-100-rated disposable respirators
- Also, wash hands and face frequently when working



# Control the Spread of Dust

- When you leave the work site
  - Remove shoe coverings, HEPA vacuum or wipe shoes
  - Use tack pads
  - Remove coveralls or HEPA vacuum clothes
- At the end of the day don't take lead home to your family on your clothes or in your car
  - HEPA vacuum clothes, shoes
  - Change your clothes and dispose or place in plastic bag to wash separately from household laundry
  - Wash hands, face
  - Shower as soon as you get home

# Cleaning During the Job

- A clean work site reduces the spread of dust and paint chips
- Clean as you work
  - HEPA vacuum horizontal surfaces
  - Remove debris frequently
  - Remove paint chips as they are created
  - As building components are removed, wrap and dispose of them immediately
- Clean frequently (in stages, at least daily)

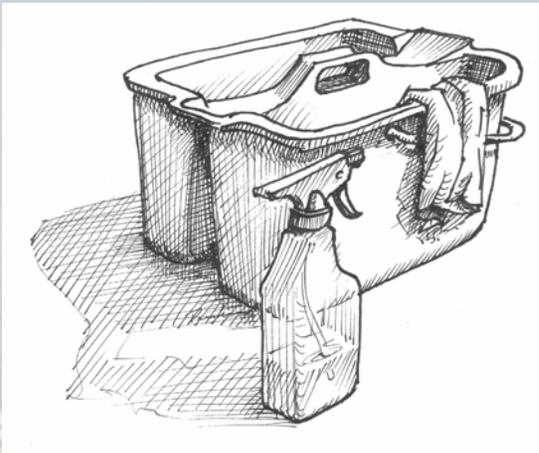
A photograph of a sailboat with a white sail on the water, with a city skyline in the background. The text "Clean-up and Check Your Work" is overlaid in the center.

**Clean-up  
and  
Check Your Work**

# What is Effective Clean Up?

- Containing dust during clean-up to the area that will be cleaned
- Using proper cleaning techniques
- Cleaning all surfaces, tools and clothing
- Checking your work
  - This could include clearance testing
- Safe and secure disposal

# Clean Up Toolkit



- Vacuum with HEPA filter
- Misting bottle and pump sprayer
- Mop with disposable heads
- Detergent
- Two buckets or two-sided bucket OR a “Swifter” type mop
- Disposable hand towels
- Heavy duty garbage bags
- Duct tape



# Clean-Up Techniques

- Collect and dispose of any debris or chips on sheeting
  - HEPA vacuum sheeting Pick up protective sheeting
  - Mist sheeting before folding
  - Fold dirty side inward
  - Tape shut to seal in dirty side
- Dispose of protective sheeting at end of job
- Visually inspect beyond work area

# Interior Clean-Up Techniques



- HEPA Vac work area from high to low
  - Start with walls, tops of doors, window troughs
  - HEPA Vac at least two feet beyond contained area
- Wet clean from high to low areas
  - It is recommended to use disposable wipes
  - Clean the floor last
- Check your work visually

# Interior Checking Your Work

- Always conduct a visual inspection after cleaning
  - Look for paint chips, dust, debris, and deteriorated paint
  - Focus on child access areas such as floors, window troughs, window sills
  - Inspect beyond work area
  - Repeat clean-up steps if necessary
- Clearance (dust sampling)
  - Encouraged to check work
  - Sometimes required

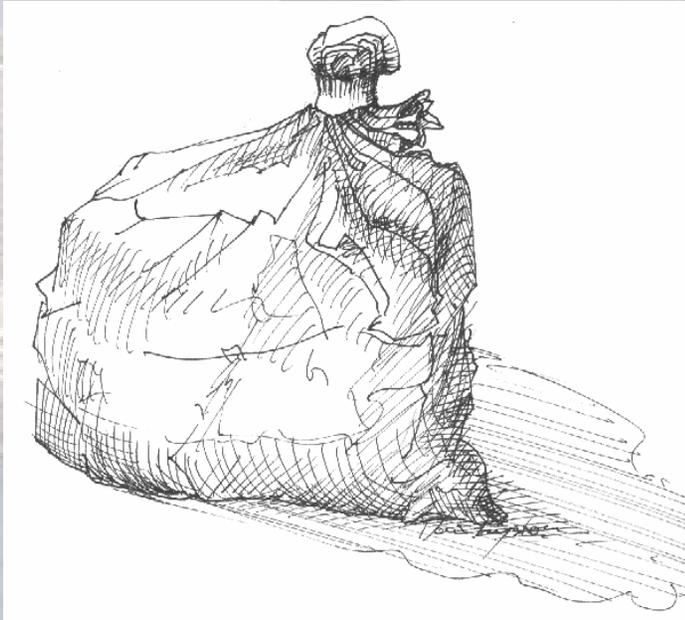
# Exterior Checking your Work

- Visual inspection
  - Always conduct a visual inspection after any cleaning
  - Focus on child access areas such as
    - Bare soil or ground
    - Windows
    - Exterior porches
    - Play areas
  - Inspect beyond work area
- Collect and dispose all paint chips, dust, debris, and deteriorated paint

# Lead-Impacted Soil Hazards

- For a permanent solution, cover the lead-impacted soil with concrete or pavement.
- For a temporary solution, cover with sod, wood chips, gravel, or thorny bushes – choose most appropriate method to create a barrier between you and the lead.

# Disposal



- What should I do with my waste?
- At the work site
  - Place waste in heavy duty plastic bag
  - “Gooseneck Seal” the bag with duct tape
  - Carefully dispose of waste in accordance with State and Federal regulations
  - Store waste in a secure area

# Disposal - Local and Federal Information

- Segregate hazardous and non-hazardous waste
- Minimize generation of hazardous waste
- Always check State regulations!

# Disposal - Local Information

- Only components with intact paint can be disposed of at Miramar Landfill
- Home owners can dispose of up five gallons of lead paint chips at the City's permanent hazardous waste facility.  
Call (858) 694-7000 for an appointment.

# Lead Safe Clearance

- Call the City of San Diego Lead Safe Neighborhoods Program to see if you are qualified to schedule an inspector to give you a clearance on the property.
- If not qualified, you may need to hire a certified Lead Inspector/Assessor.

# QUESTIONS?

