

Lead-Safe Work Practices for Renovation, Repair, and Painting



Training program

For workers who must be **trained**, but **not certified**, under the U.S. Environmental Protection Agency's **Lead: Renovation, Repair, and Painting Program**

Adapted from the U.S. Environmental Protection Agency's training for certified renovators by the **New England Lead Coordinating Committee** (NELCC: www.nelcc.uconn.edu), within the Healthy Environments for Children Initiative, University of Connecticut, Department of Extension, in partnership with the Connecticut Department of Public Health

Note to instructor

This program has been designed for certified renovators to use in training other renovation workers who, under the U.S. Environmental Protection Agency's *Lead: Renovation, Repair, and Painting Program*, must be **trained** but are not required **to be certified**. These non-certified workers must be trained by, and work under the direction of, a certified renovator. This course is adapted from materials in EPA's Lead Safety for Renovation, Repair, and Painting course, which is the model course for certified renovators.

This training should focus on teaching learners to perform the tasks necessary to work lead-safe on the job. Emphasize the practical skills and activities, using as much hands-on instruction as possible. Hands-on exercises should include setting up barriers and signs, practice cleaning procedures, and similar activities. The course developers recommend that non-certified workers view the entire presentation, to help them understand where their individual tasks fit within the overall requirements for lead safety.

Before the class begins, make copies of EPA's booklet entitled *Steps to Lead Safe Renovation, Repair, and Painting* for all members of the class. Distribute copies at the beginning of the class.

- The English version of this booklet can be downloaded from <http://www.epa.gov/lead/pubs/steps.pdf>. It is also found in Appendix 5 of the student manual for the curriculum *Lead Safety for Renovation, Repair, and Painting*, EPA-HUD's model certified renovator initial training course, which can be downloaded at http://www.epa.gov/lead/pubs/initial_renovator-student_oct2011.pdf.
- The Spanish version of this booklet can be downloaded from http://www2.epa.gov/sites/production/files/documents/rrp_8hr_app5_jul12_spa.pdf.

You can sign up for email updates on EPA's RRP at http://service.govdelivery.com/service/subscribe.html?code=USA-EPA_426.

NOTE: This training does not cover requirements of the Occupational Safety and Health Administration (OSHA), which may also apply to the renovation, repair, and painting work that is covered by EPA's RRP.

Photo source: U.S. Environmental Protection Agency, Office of Chemical Safety and Pollution Prevention, *Small entity compliance guide to renovate right: EPA's lead-based paint renovation, repair, and painting program*. EPA-740-K-10-003, September 2011.

Who should take this course?

Take this course if you will

(1)

Work on renovation, repair, and painting jobs in homes, childcare facilities, and some schools **built before 1978**



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and

(2)

Work under the direction of a **certified renovator**



2

Explain

Everyone who is paid to work on homes, childcare facilities, and some schools built before 1978 must have some training in working safely around lead paint.

The next slide explains the difference between certified and non-certified workers.

Certified?	Non-certified?
<p>A certified renovator is a person who has been certified in lead-safe work practices by the U.S. Environmental Protection Agency (EPA)</p> <p>Certified renovators must take a different course</p>	<p>This course is for non-certified workers</p> <p>It explains the skills you need to work lead-safe (under the direction of a certified renovator) but</p> <p>It does not meet the training requirements to become an EPA-certified renovator</p>

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Explain

EPA has defined two categories of workers who must be trained: certified renovators and non-certified workers.

1. Renovators certified by the U.S. Environmental Protection Agency have successfully completed an EPA-accredited training course in lead-safe work practices for renovation, repair, and painting. Certified-renovator training is required by EPA's Renovation, Repair, and Painting (RRP) rule. Certified renovators are permitted to provide on-the-job training to other workers.
2. Non-certified workers can be trained by and work under the direction of a certified renovator. They do not need to complete the EPA-accredited training course, but they must have on-the-job or classroom training with hands-on practice so that they can perform all of their assigned tasks in compliance with the RRP rule.

This training is designed for the certified renovator to use in training non-certified workers. The certified renovator can

1. Use the slides in this course to train non-certified workers in a classroom, in combination with hands-on training, *or*
2. Print the slides and distribute them as a summary of the on-the-job training.

Use EPA's *Steps to Lead Safe Renovation, Repair, and Painting* as reference during training and as a field guide during RRP work.

Emphasize

The present course can be used to train other (non-certified) workers.

It does **not** meet the training requirements to become an EPA-certified renovator.

Why should you take this course?

- To meet the requirements of EPA's **Renovation, Repair, and Painting Rule (RRP)** if you work on homes, child-care facilities, and many schools built before 1978
- To learn how to protect yourself, your family, and your community from lead poisoning



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Explain

The U.S. Environmental Protection Agency's Renovation, Repair, and Painting Rule (RRP), which became effective in 2010, requires that renovators who work in homes, child-care facilities, and many schools built before 1978 must be trained in and must follow work practices that are designed to prevent lead poisoning.

Note that the fines for violating the RRP may be up to \$37,500 per occurrence.

Why 1978?



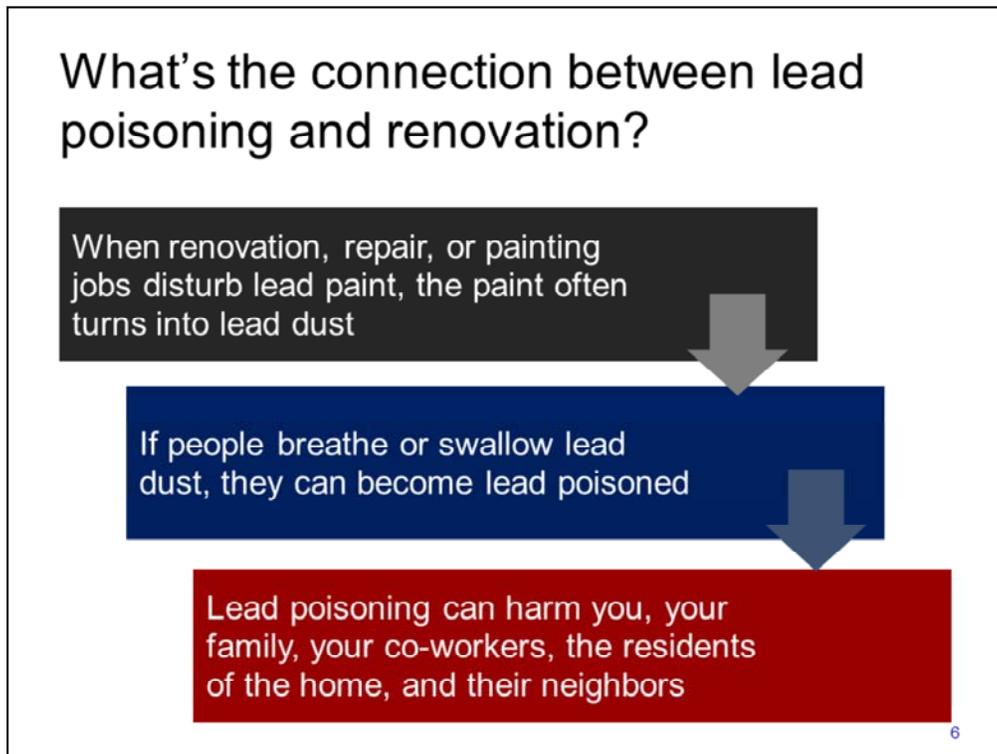
- Structures built before 1978 may contain **lead paint**
- If you do not handle lead paint safely
You, the residents, their neighbors, your co-workers, and your own family can become **lead poisoned**
- This training will teach you how to work lead-safe

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Explain

Lead paint was banned for residential use from 1978 on.



Explain

As noted earlier, paint in homes, childcare facilities, and schools may contain lead. Renovation, repair, and painting jobs that disturb such paint can create dust that contains lead.

The following activities often create a lot of lead dust:

- Preparing painted surfaces
 - Hand scraping
 - Power sanding
 - Using heat guns above 1100 degrees Fahrenheit
 - Open-flame burning
- More complicated tasks
 - Removing building components
 - Demolishing walls

What harm does lead poisoning do?

In young children	In adults
 <p>Lead can cause serious, permanent problems with learning, behavior, and health</p>	<p>Lead can cause serious problems with blood pressure, sexual function, digestion, and other illnesses</p> 

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Explain

Although lead poisoning is especially dangerous for young children, adults too can become lead poisoned.

In children, lead can cause

- Damage to the nervous system
- Decreased IQ
- Learning disabilities
- Attention deficit disorder
- Damage to the kidneys
- Damage to hearing

In pregnant women, lead can pass from the mother to the unborn baby and cause

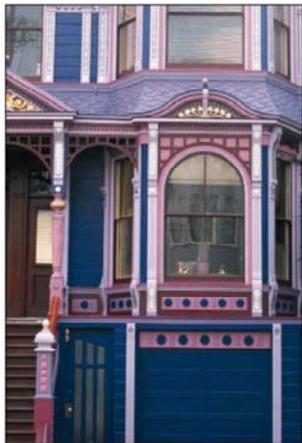
- Miscarriage or premature birth
- Brain damage to the baby
- Low birth weight

In adults, lead can cause

- High blood pressure
- Fertility problems in men and women
- Sexual problems
- Digestive problems
- Muscle or joint pain
- Nervous system disorders (causing problems with thinking and concentrating, for example)

The symptoms of lead poisoning are not always obvious. The only way to know if someone has been lead poisoned is through a blood test.

By the end of this training, you will know how to



Prevent the spread of dangerous lead dust during renovation, repair, and painting by

- Setting up the job properly to keep dust and debris from spreading
- Working so that you create as little dust as possible
- Cleaning up completely

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Explain the objectives of this class.

You'll work under direction of an EPA-certified renovator

Certified renovators



- Perform lead-safe work as described in the RRP Rule
- Train all non-certified workers in lead-safe work practices
- Direct all non-certified workers during setup and cleanup
- Are available by phone when not physically present at the work site during work
- Maintain proof of certification and training records for all non-certified workers

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Explain the responsibilities of certified renovators.

Your responsibilities as a non-certified worker

Cooperate with the certified renovator in working lead-safe
Use the lead-safe work practices that you are being taught

- Ask questions if you do not understand how to work lead-safe
 - A certified renovator must be on-site while the work area is being set up, during cleaning, and during cleaning verification
 - During other steps, a certified renovator must be either on-site or available by telephone



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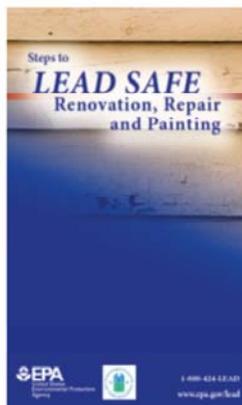
10

Explain the responsibilities of the non-certified workers.

Encourage the participants to ask questions if there is anything they do not understand.

We'll explain what cleaning verification means later.

EPA guidebook: *Steps to Lead Safe Renovation, Repair and Painting*



http://www2.epa.gov/sites/production/files/2013-11/documents/steps_0.pdf

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Note to instructor

Distribute copies of the publication shown. The English version of this booklet can be downloaded from http://www2.epa.gov/sites/production/files/2013-11/documents/steps_0.pdf

The Spanish version of this booklet can be downloaded from http://www2.epa.gov/sites/production/files/documents/rrp_8hr_app5_jul12_spa.pdf

7 steps to lead-safe work

Certified renovator must	Certified renovator or non-certified worker must
1. Determine whether job involves lead paint	
2. Be on site during setup	2. Set up safely
	3. Protect yourself
	4. Control the spread of dust
	5. Leave the work area clean
	6. Control waste
7. (a) Be on site during cleaning (b) Verify cleaning or document clearance testing	

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Explain the 7 steps to lead-safe work

These are the 7 steps to lead-safe renovation, repair, and painting. The rest of this training will cover these steps in detail.

Note that Step 1 and Step 7 are the responsibility of the **certified renovator**. All of the other steps can be done by either a certified renovator or a trained worker under the supervision of a certified renovator.

Remember, however, that a certified renovator must be on-site while the work area is being set up and while it is being cleaned. At other times, the certified renovator must be either on-site or available by telephone.

Step 1	Does the job involve lead paint?
The main idea	Why?
<p>If lead paint is present</p> <ul style="list-style-type: none">• You must use lead-safe work practices <p>If you don't know whether lead paint is present</p> <ul style="list-style-type: none">• You must assume that it is present• You must use lead-safe work practices	<p>If you don't work lead-safe</p> <ul style="list-style-type: none">• You, your family, or residents may become lead poisoned
NELCC	13

Explain Step 1.

Remind learners that the rule applies to homes, childcare facilities, and some schools built before 1978, when lead paint was banned.

Step 1 Does the job involve lead paint?

How will you know?

Only these people can determine whether lead paint is present:

- A certified renovator (but not non-certified workers, including those who have taken this course)
- A certified lead inspector
- A certified lead risk assessor



A certified renovator has been trained to

- Use an EPA-approved lead test kit *or*
- Collect paint chip samples for lab analysis

NELCC 14

Explain

A certified renovator (but not non-certified workers, including those who have taken this course), lead-based paint inspector, or lead-based paint risk assessor can determine whether lead paint is present.

Additional rules may apply if a certified lead inspector or risk assessor performs the testing. Check with your state's lead program (see http://www.nelar.net/States_And_Tribes.aspx).

Step 1 Does the job involve lead paint?

How will you know?

If testing shows that **no** lead paint is present, workers are not required to use lead-safe work practices

NELCC 15

Explain

A certified renovator (but not non-certified workers, including those who have taken this course), lead-based paint inspector, or lead-based paint risk assessor can determine whether lead paint is present.

Additional rules may apply if a certified lead inspector or risk assessor performs the testing. Check with your state's lead program (see http://www.nelar.net/States_And_Tribes.aspx).

Step 2	Set up safely: Contain (isolate) work area	
	The main idea	Why?
	Keep out <ul style="list-style-type: none">• People who are not working on project• Pets that can track lead dust throughout the home Keep in <ul style="list-style-type: none">• Dust and debris	<ul style="list-style-type: none">• To protect workers and residents• To prevent dust from spreading to rest of house• To make cleanup easier at end of job
	NELCC	16

Explain Step 2.

Here is what we mean by containing the work area.

Keep out people and pets until the final cleanup is complete.

It's important to keep people who are not working on the project out of the work area, so that they won't be exposed to lead dust or debris and won't track it around the house. It's especially important to keep children out of the work area.

It's also important to keep pets out of the work area to prevent them from tracking lead dust and debris throughout the home and to protect the pets themselves from lead poisoning.

Keep in dust and debris.

Step 2

Set up safely: Contain (isolate) work area

Supplies and tools you'll need

- Signs
- Barrier tape, rope, or fencing
- Cones
- Heavy-duty plastic sheeting
- Masking, duct, or painter's tape
- Stapler
- Utility knife or scissors



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Explain

Photo source: U.S. EPA, Region 1

Step 2

Set up safely: Keep people and pets out

How

- Put up signs, tape, cones, fencing, or other barriers
- Use signs in residents' own language
- Ask owners to keep pets away from work area
- Explain that keeping out of the work area protects everyone from lead poisoning



Note: A certified renovator must be on-site while the work area is being set up

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Explain

People are more likely to cooperate if they understand why it's important to stay out of the work area.

A certified renovator must be on-site while the work area is being set up.

Photo source: U.S. EPA, Region 1

Step 2

Set up safely indoors: Keep dust and debris in

Protect furniture and other belongings

- Take all moveable items out of work area
- Cover items that cannot be moved with heavy plastic sheeting, and tape securely
- Cover floors with heavy plastic sheeting at least 6 feet in all directions from work that will be done



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Explain

To keep the dust in, and people out, of your work area, you will need to take slightly different steps for inside or outside jobs.

First we'll talk about working indoors.

If you are using a vertical containment system (one that consists of impermeable barriers that extend from the floor to the ceiling, tightly sealed where it joins the floor, ceiling, and walls), floor containment may stop at the edge of the vertical barrier. (Impermeable barriers do not allow liquids, gas, or other fluids to pass through them.)

Notes

Refer to *Steps to Lead Safe Renovation, Repair and Painting* for more detailed information.

**Step
2**

**Set up safely indoors:
Keep dust and debris in**

Seal off work area



Close, cover with plastic sheeting, and seal

- All windows
- All doors (except for entry to work area)
- All air vents

If necessary, create
airlock to enter and
leave work area



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Explain

Hands-on activity

If possible, have learners set up a sample area, including an airlock for an entryway.

Photo source: U.S. EPA, Region 1

**Step
2**

Set up safely indoors

Put all tools and supplies on plastic sheeting before starting work



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Photo source (right): *Don't Spread Lead: A do-it-yourselfer's guide to preventing lead poisoning by working lead-safe* [video], Connecticut Department of Public Health and University of Connecticut Healthy Environments for Children Initiative

Photo source (left): <http://www.epa.gov/pcbsincaulk/guide/guide-sect2.htm>

**Step
2**

**Set up safely outdoors:
General**

Keep dust and debris out of home

- Cover ground and plants with heavy-duty plastic sheeting
 - Extend sheeting at least **10 feet in all directions from work that will be done**
 - Secure sheeting to building
- Within **20 feet of work area**
 - Close and seal windows and doors
 - Move or cover play areas



- Put tools and supplies on protective sheeting before starting work

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Explain

These precautions are designed to catch dust and debris and keep them from getting inside the home, onto the ground of the property, or onto neighboring properties.

Put all necessary tools and supplies on the protective sheeting before you begin work, so that you won't have to step off the protective sheeting before the work is complete.

Notes

To secure sheeting to building, use either tape or a wood strip and staples.

If you are using a vertical containment system, the plastic sheeting on the ground may stop at the edge of the vertical barrier.

Photo source: U.S. EPA, Region 1

Step 2		Set up safely outdoors: Vertical containment
Why?	<ul style="list-style-type: none">• To ensure that dust and debris do not contaminate nearby buildings or properties	
When?	<ul style="list-style-type: none">• When work affects surfaces within 10 feet of property line• Wherever necessary to prevent contamination of<ul style="list-style-type: none">• Other buildings• Other areas of the property• Nearby buildings or properties	
How?	<ul style="list-style-type: none">• Set up vertical containment or equivalent precautions	

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Explain

Vertical containment is required in these situations.

Vertical containment means a vertical barrier that isolates the work area. It consists of plastic sheeting or other impermeable material over scaffolding or a rigid frame, or an equivalent system.

Photo source: EPA course: Lead Safety for Renovation, Repair, and Painting, module 4, October 2011.



Explain

If you are working on the 2nd story or above, extend the sheeting farther out from the base of the home and to each side of the area where paint is being disturbed.

Use vertical shrouding on scaffolding if the building is more than three stories high or if the work is close to a sidewalk, street, or property boundary.

**Step
2**

**Set up safely outdoors:
Special conditions**

If conditions are very windy

Avoid working in high winds if possible



If you must work, be very careful to keep dust and debris inside work area

You may need to make windscreen at edge of ground-cover plastic

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Explain

Avoid working in high winds if possible. The EPA Renovation, Repair and Painting Rule does not specifically address wind speed, but when the wind is strong enough to move dust and debris, be especially careful to keep the work area contained.

You may need to create a plastic windscreen at the edge of the ground-cover plastic to keep dust and debris from spreading.

Keep in mind that you are responsible for preventing dust and debris from leaving the work area, so take appropriate precautions.

Photo source: U.S. EPA, Region 1

Step 2 Set up safely:
Very dusty jobs

Examples

- Opening up wall cavities
- Removing old drop ceilings
- Scraping paint
- Dry sanding by hand

Usually require even more careful setup. All of the previous steps and

- Turn off forced-air heating and air-conditioning systems
- Set up vertical containment to limit size of work area

NELCC 26

Explain

Some jobs create more dust than can be contained by the methods described on the previous page. Certified renovators should judge carefully whether those methods provide enough containment or whether they should take additional precautions.

Vertical containment means a vertical barrier consisting of plastic sheeting or other impermeable material over scaffolding or a rigid frame, or an equivalent system of containing the work area. Vertical containment is required for some exterior renovations but it may be used on any renovation.

**Step
2**

**Set up safely:
Maintain containment**

Problems may occur after containment is set up <i>Examples</i>	What should you do?
Tape comes loose	
Plastic sheeting gets torn	
Paint chips fly off plastic during work	

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Ask

Ask learners what they think they should do if problems arise after containment is set up.

**Step
2**

**Set up safely:
Maintain containment**

Problems may occur after containment is set up <i>Examples</i>	What should you do? <i>Fix them!</i>
Tape comes loose	Put down more tape
Plastic sheeting gets torn	Repair or replace torn plastic sheeting
Paint chips fly off plastic during work	Extend plastic sheeting
	Questions? Call the certified renovator

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Explain

If problems occur, fix them or call the certified renovator to review.

Step 3 **Protect yourself**

The main idea

Protect yourself from lead on the job	→	Avoid breathing and swallowing lead dust
Protect your family from lead poisoning	→	Avoid carrying lead dust home on your skin, hair, and work clothes

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Explain Step 3.

If a worker breathes or swallows lead dust, he or she may become lead poisoned.

If a worker carries home lead dust on his or her skin, hair, or clothing, the worker's family may be in danger of becoming lead poisoned.

Remind learners that lead poisoning can affect everyone, although it is especially dangerous to young children and pregnant women.

**Step
3** **Protect yourself:
Personal protective equipment**

Safety goggles or glasses to protect your eyes

Disposable latex or rubber gloves to keep your hands clean, especially when you eat

Disposable coveralls to keep dust off your clothes



NELCC 30

Explain

Photo source: U.S. EPA, Region 1

**Step
3**

Protect yourself: Personal protective equipment



Disposable painter's hat
to keep dust
out of your
hair

Disposable shoe
covers
to keep dust off
your shoes and
keep you from
tracking dust out of
the work area

Disposable N-100 respirator
to keep you from breathing lead dust

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Explain

Photo source: U.S. EPA, Region 1

Step 3

Protect yourself: At work



Wear personal protective equipment



Do not eat, drink, or smoke in work area



Wash your hands and face carefully

- Each time you leave work area
- Before you eat or drink
- At end of each work day

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Explain

The certified renovator should post a warning sign at each entrance to the work area, reminding workers not to eat, drink, or smoke in the work area.

If appropriate, mention that workers should not apply cosmetics, even lip balm, in the work area.

Note

OSHA rules may require additional steps to protect the health of workers on the job.

Photo source: top left, U.S. EPA, Region 1

Step 3 **Protect yourself and your family: After work**

Clean your clothes

- At end of work day, vacuum dust off clothes and shoes or put on clean clothes and shoes
 - Use HEPA vacuum to collect dust
 - Do not use compressed air to blow dust off clothing
- Wash work clothes separately from household laundry



No hugging until you are clean
Do not hug anyone until you have

- Changed out of your work clothes
- Washed yourself thoroughly



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Explain

Use a HEPA vacuum to clean off clothes and shoes.

We'll talk more about a HEPA vacuum later.

**Step
4** Control the spread of dust

The main idea

- Create as little dust as possible
- If you do create dust, keep it from spreading

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Explain Step 4.

Step 4

Control the spread of dust

Supplies and tools you'll need

- Wet-dry sandpaper, sanding sponge
- Misting bottle or pump sprayer
- Heavy-duty plastic sheeting and bags
- Utility knife or scissors
- Masking, duct, or painter's tape
- HEPA vacuum cleaner
- Tack pads, paper towels, or disposable wipes

For some jobs, you'll also need

- Low-temperature heat gun
- Chemical strippers without methylene chloride
- Power tools with HEPA attachments

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Explain

A HEPA vacuum is a high-efficiency particulate air vacuum cleaner. It has special filters and can safely remove very small particles of lead dust from places like floors, windowsills, and carpets, without returning them to the air.

If you need to use power tools (such as sanders and grinders), you **must** use tools that are equipped with HEPA-filter attachments to collect any dust that is created. Note that power tools must also be shrouded.

Use heat guns that are set below 1,100 degrees Fahrenheit.

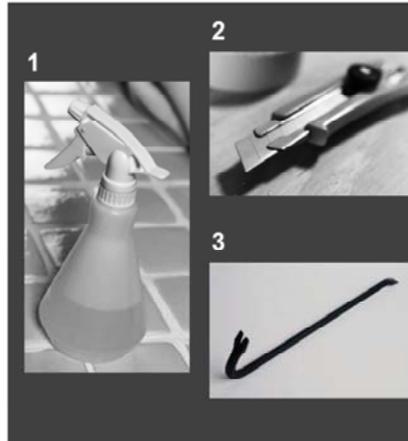
Note: In Connecticut, the limit for heat guns is 700 degrees Fahrenheit.

**Step
4**

Control the spread of dust

Create as little dust as possible

1. Mist areas before sanding, scraping, drilling, and cutting (except near live electrical outlets)
2. Score paint with utility knife before separating components
3. Pry and pull apart components instead of pounding and hammering



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Explain

Step
4

Control the spread of dust

Keep dust within work area

- Keep work area closed off from rest of home
- Stay in contained work area and on contained paths
- Don't track dust and debris out of work area
 - Remove disposable suit and shoe covers before you leave work area
 - Clean shoes on tack pads or use damp paper towels to wipe off shoes before you step off protective sheeting

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Explain

You may use a HEPA vacuum to clean off shoes and clothing when workers leave the work area.

**Step
4**

Control the spread of dust

To remove components from work area

- Before removing
 - Wrap securely in heavy plastic sheeting or secure in heavy-duty plastic bags
 - HEPA vacuum outside of bag
- After removing
 - Store in safe area away from residents



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Explain

Photo source: U.S. EPA, Region 1.

**Step
4**

Control the spread of dust: Prohibited practices

When working on lead paint

- **Do not** use open-flame burning
- **Do not** remove paint with high heat (heat guns must operate under 1,100 degrees Fahrenheit)
- **Do not** use power tools, such as sanders and grinders, unless they are shrouded and have HEPA attachments

No



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Explain

On painted surfaces, you may **not** use high-speed machines designed to remove paint or other surface coatings, such as power sanders, grinders, planers, needle guns, abrasive blasters, or sandblasters, unless these machines have shrouds or containment systems and are equipped with a HEPA vacuum attachment to collect dust and debris at the point of generation. HEPA attachments collect dangerous lead dust created when using power tools.

If you do use the permitted (shrouded or contained) machines, they must be operated so that no visible dust or release of air occurs outside the shroud or containment system.

You may not use a heat gun on painted surfaces at temperatures at or above 1,100 degrees Fahrenheit.

Photo source: http://www.nps.gov/hps/tps/standguide/rehab/rehab_wood.htm

**Step
5** Leave work area clean

Main idea

Leave work area completely clean of dust and debris

- At end of every day
- At end of job

Note: A certified renovator must be on-site while work area is being cleaned

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Explain Step 5.

**Step
5**

Leave work area completely clean of dust and debris

Supplies and tools you'll need

- Heavy-duty plastic bags
- Masking, duct, or painter's tape
- Misting bottle or pump sprayer
- Disposable wet wipes or hand towels
- HEPA vacuum with beater bar



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Explain

Photo source: U.S. EPA, Region 1

**Step
5**

**Leave work area completely
clean of dust and debris**

Supplies and tools you'll need



- Detergent or general-purpose cleaner
- Mop and disposable mop heads
- Two buckets or a two-sided bucket with wringer
- Shovel and rake
- Wet mopping system
- Swiffer®-type dry cloths

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Explain

Photo source: U.S. EPA, Region 1

**Step
5**

**Leave the work area clean:
Every day**

Throughout each day

- Clean and pick up as you work
 - Vacuum work area with HEPA vacuum cleaner often
 - Put trash in heavy-duty plastic bags
- Wash your hands and face each time you leave work area



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Explain

Reminder workers to use **HEPA** vacuum, not standard household or shop vacuum.

**Step
5**

**Leave the work area clean:
Every day**



At end of each day

- Clean entire work area and two feet beyond work area in all directions
- Vacuum again with HEPA vacuum cleaner
- Clean your tools
- Wash well before you go home
- Safely dispose of, or clean off, personal protective equipment

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Explain

Reminder workers to use **HEPA** vacuum, not standard household or shop vacuum.

Make sure to clean two feet beyond work area. For example, if work area is whole room, clean two feet beyond the doorway into the room.

**Step
5**

**Leave the work area clean:
At end of job**

- Keep sheeting that isolates work area in place until work area is completely clean
- Remove plastic sheeting carefully
 - Spray with water
 - Fold with dirty side in
 - Tape it shut
 - Dispose of properly
- Remove all dust, chips, trash, and debris, including building components, from work area
- Vacuum all surfaces, including walls, with HEPA vacuum cleaner
 - Use beater bar on carpets

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Explain

Step 5	Leave the work area clean: At end of job	
	Damp clean	Inspect
	<ul style="list-style-type: none">• Mist work area• Scrub with general-purpose cleaner on wet rag or mop until all dust and debris are gone• Change rinse water often	<ul style="list-style-type: none">• Look around work area<ul style="list-style-type: none">• Also look 2 feet beyond work area and paths where debris was carried• You should see no dust or debris• Clean area again thoroughly if you see any dust or debris
	HEPA vacuum again	
<ul style="list-style-type: none">• Let surfaces dry, and vacuum again		
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Explain

**Step
6**

Collect and control waste

The main idea

Contain waste at all times

- On-site
- When it is being removed from the site



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Explain Step 6.

**Step
6**

**Collect and control waste:
What is included?**

- Waste from painted surfaces
 - Dust
 - Debris
 - Paint chips
 - Architectural components
- Protective sheeting
- Dirty water
- Cleaning supplies
 - Mop heads
 - Wipes
 - HEPA filters
- Protective gear
 - Disposable clothing
 - Gloves
 - Respirators
- Any other waste

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Explain

All of these things are considered waste.

**Step
6**

**Control waste:
How to bag it**

Bag and seal all waste before removing it from work area

- Put all waste in heavy plastic sheeting or bags
- Gooseneck seal bag with duct tape
 - Double bag when necessary to prevent tears
- Wrap large components in protective sheeting and seal with tape



- HEPA vacuum outside of waste bags and bundles before removing them from the work area.

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Note to trainer: This step is a good hands-on activity to practice.

**Step
6**

**Control waste:
How to store it**

- Store all waste in secure container or dumpster until disposal
- Dispose of waste as soon as possible
- Do not carry waste in open truck or personal vehicle



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Explain

**Step
6**

Control waste: Water

Check and follow **federal, state, and local rules** to dispose of water used to remove paint and to clean up

- **If rules allow**, filter water and dump it in a toilet
- **If rules do not allow** this method
 - Collect water in a drum and remove from work site
 - Do **not** dump water down a sink or tub, in a storm drain, or on the ground



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Explain

The certified renovator should learn the federal, state, and local rules and explain them to the workers.

Water used to remove paint or to clean up should be filtered through a 0.5 micron filter.

If local rules do not allow you to dump in a toilet, you may have to contain and test the water. You may have to contact a waste disposal company to help you dispose of this waste water.

Check with your local water treatment authority, and check federal and state regulations for more information. See EPA's website: <http://www.epa.gov/epawaste/wyl/stateprograms.htm> .

In Connecticut, if the property is on a septic system, the wastewater must be hauled away. It cannot be dumped into the septic system. If the property is on a city sewer, first contact the local sewer authorities and then follow their directions. Usually, you can filter the water through a mesh filter and put it down a toilet. If you have any questions, contact the Connecticut Department of Energy and Environmental Protection at 860-424-3018.

**Step
6**

Control waste: Disposal rules

EPA considers most residential renovation, repair and painting activities “routine residential maintenance”

Waste created by these activities

- Is considered **solid, non-hazardous waste**
- Can be disposed of in an ordinary waste landfill

However, if your state or locality has stricter waste disposal requirements, you must follow the stricter rules

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Note to trainer

Make sure that you know the rules in the area where you are working and explain these rules to your workers.

In Connecticut, the Department of Energy and Environmental Protection (DEEP) considers residential renovation, repair, and painting activities “routine residential maintenance” if

1. The homeowner agrees in writing to accept the waste *and*
2. The amount of waste generated during the project is less than ten cubic yards *and*
3. The homeowner disposes of the waste in accordance with local requirements at a landfill, transfer station, or household hazardous waste collection

If these conditions are **not** met, the waste must be tested to determine if it is hazardous waste and disposed of accordingly.

More information is available on the DEEP website at www.ct.gov/dep/constructioncontractors (look in the list under “lead”) or by calling DEEP at 1-800-424-4193.

Step 7		Check the work: Visual inspection
Why?	To make sure no lead dust or debris is left behind	
Who?	Certified renovator only	
How?	A. Looks carefully at entire work area B. If certified renovator sees dust, paint chips, or debris, clean again C. Repeat steps A and B until certified renovator cannot see any dust, paint chips, or debris in work area	

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Explain Step 7.

Remind the non-certified worker that Step 7 must be done by the certified renovator.

Step 7 Check the work:
After passing visual inspection



For outside work
Job is complete



For all inside work
Visual inspection must be followed by **cleaning verification** or **clearance testing**

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Explain

The next slide explains cleaning verification and clearance testing.

Step 7	Cleaning verification or clearance testing?	
Cleaning verification	Clearance testing	
<ul style="list-style-type: none"> • Required for most renovations that are <ul style="list-style-type: none"> • Performed by contractor or landlord <i>and</i> • Not funded by federal government 	<ul style="list-style-type: none"> • Required in projects that are <ul style="list-style-type: none"> • Performed by contractor or landlord <i>and</i> • Funded by federal government • May be requested by property owner instead of cleaning verification 	
Must be done by certified renovator, not non-certified worker		Must be done by certified lead inspector, lead risk assessor, or dust sampling technician
	Taking a dust wipe sample	

Explain

When all the cleaning is complete, and before residents can return to the work area, the certified renovator must conduct a cleaning verification procedure or an authorized person must conduct a clearance examination to make sure that lead dust is not left behind.

Briefly, for cleaning verification, the certified renovator compares dust wipe samples from window sills, countertops, and uncarpeted floors with a standardized card. If a wipe is lighter than or matches the card, the surface is considered clean. The procedure for cleaning verification is covered in detail in the course for certified renovators.

For clearance testing, wipe samples are sent to an EPA-approved lab, which measures their lead content. Clearance testing is required by the U.S. Department of Housing and Urban Development (HUD) for housing that receives federal assistance. If the HUD rule applies, a clearance examination is required in place of cleaning verification. Property owners may also request clearance testing in place of cleaning verification. And some states and localities may require clearance testing. For example, in Connecticut, clearance testing is required for licensed child daycare facilities. Specialized training is required to conduct clearance testing. (Note that Connecticut does not recognize dust sampling technicians.)

In both methods, if too much lead dust remains, the area must be cleaned again.

Photo source: Joint EPA-HUD Curriculum, Model Certified Lead Dust Sampling Technician Training Course, Student Manual, October 2011 (http://www2.epa.gov/sites/production/files/documents/ldst-instructor_manual-2011-10-12_0.pdf)

Now you know the 7 steps to lead-safe renovation

1. Determine whether the job involves lead paint



2. Set up safely



3. Protect yourself



4. Control the spread of dust



5. Leave the work area clean



6. Control the waste



7. Verify cleaning or document clearance testing

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Review

Remember that steps 1 and 7 are the responsibility of the certified renovator.

Questions?

For more information, contact

- U.S. Environmental Protection Agency
 - General information (New England)
http://www.epa.gov/region1/eco/ne_lead/index.html
 - Frequently asked questions
<http://www.epa.gov/lead/pubs/rrp-faq.pdf>
 - 888-372-7341
- Connecticut Department of Public Health
 - <http://www.ct.gov/dph/lead>
 - 860-509-7299

Check your learning

	True	False
1. This course qualifies you to be a certified renovator.		
2. Lead paint may be found in houses built before 1978.		
3. Lead is dangerous for children but not for adults.		
4. Common renovation activities can create dangerous lead dust.		
5. Anyone can test to see whether a job involves lead paint.		
6. People who are not working on a project should be kept out of the work area.		
7. Keep windows in the work area open to provide fresh air.		
8. It's safe to drink but not to eat or smoke in the work area.		
9. Regular power sanding is the best way to remove lead paint.		
10. Use a HEPA vacuum for cleaning.		

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You can ask learners to complete this test to see how well they have understood and remember the information in this training. The answer key is on the next slide.

Answer key

	True	False
1. This course qualifies you to be a certified renovator.		X
2. Lead paint may be found in houses built before 1978.	X	
3. Lead is dangerous for children but not for adults.		X
4. Common renovation activities can create dangerous lead dust.	X	
5. Anyone can test to see whether a job involves lead paint.		X
6. People who are not working on a project should be kept out of the work area.	X	
7. Keep windows in the work area open to provide fresh air.		X
8. It's safe to drink but not to eat or smoke in the work area.		X
9. Regular power sanding is the best way to remove lead paint.		X
10. Use a HEPA vacuum for cleaning.	X	

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These are the correct answers. If the learner has made any errors, be sure to explain the correct answers.

1. This course qualifies you to be a certified renovator. **False.** A different course is required to become a certified renovator.
2. Lead paint may be found in houses built before 1978. **True.**
3. Lead is dangerous for children but not for adults. **False.** Lead is dangerous for children and adults.
4. Common renovation activities can create dangerous lead dust. **True.**
5. Anyone can test to see whether a job involves lead paint. **False.** Only a certified renovator, lead inspector, or lead risk assessor can test.
6. People who are not working on a project should be kept out of the work area. **True.**
7. Keep windows in the work area open to provide fresh air. **False.** Keep windows (as well as doors) closed to keep lead dust inside the work area.
8. It's safe to drink but not to eat or smoke in the work area. **False.** It's not safe to eat, drink, or smoke in the work area.
9. Regular power sanding is the best way to remove lead paint. **False.** Regular power sanding may create and spread dangerous amounts of lead dust. Wet sanding and power sanding using a shrouded tool attached to a HEPA filter are acceptable ways to remove lead paint.
10. Use a HEPA vacuum for cleaning. **True.**

Evaluation of this training

- Was the information clear?
- Do you still have questions about how to work lead-safe?

Training record sheet

Non-certified worker's name: Date:	Check below if worker viewed slides on the topic	Check below if worker completed hands-on activity
1. Determining whether job involves lead paint		Task must be done by certified renovator
2. Setting up safety		
• Setting up barriers, signs, and flapped door entries		
• Covering or removing furniture		
• Controlling the spread of lead dust		
• Establishing containment indoors		
• Establishing containment outdoors		
3. Using personal protective equipment		
4. Cleaning up at the end of a job		
• Indoors		
• Outdoors		
6. Bagging waste		
7. Other: explain		
7. Checking the work		Task must be done by certified renovator
• Inspecting visually		
• Cleaning verification		
Signature of certified renovator who conducted the training:		

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Notes

To ensure that non-certified workers are trained to perform that activities to which they are assigned, EPA requires that certified renovators document the on-the-job training, including practical hands-on training, of non-certified workers. You can make a copy of this slide for each non-certified worker to record his or her training.

Instructions for the hands-on activities are in the *Student Manual of the Joint EPA-HUD Lead Safety for Renovation, Repair, and Painting Curriculum*, appendix 6. This form has been adapted for training non-certified workers.

Certified renovators must

- Show which workers have had which training
- List all training topics for each worker
- Sign the record of each worker's training
- Keep this form at the job site while the work is being performed, and keep it for 3 years after the work has been completed. Like other records, this form should be kept in a safe, secure, clean, and dry place.