

**Lead Safety for Remodeling, Repair, and Painting**  
**June 2003**

This course was a joint effort of the U.S. Environmental Protection Agency's Office of Pollution Prevention and Toxics, in partnership with the U.S. Department of Housing and Urban Development's Office of Healthy Homes and Lead Hazard Control. The course was developed by ICF Consulting under contract with EPA. Special thanks to the Environmental Management Institute for their contribution to the hands-on exercises.

# Lead Safety for Remodeling, Repair, and Painting

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**Notes to the  
Instructor**

## Lead Safety for Remodeling, Repair, and Painting

### A Note to Instructors on How to Use This Curriculum

#### Notes to Instructors on How to Use This Curriculum

This course was developed by the U.S Environmental Protection Agency (EPA), in collaboration with the U.S. Department of Housing and Urban Development (HUD) to train renovation, remodeling, and painting contractors how to work safely in housing with lead-based paint.

**The audience.** The audience for this course includes renovators, remodelers, painters, and maintenance personnel. They may be taking the course to enhance their credentials as private contractors or to satisfy HUD requirements for interim controls training in Federally assisted housing. As the trainer, you will want to tailor the course to highlight information and exercises and best meet the needs of your audience.

**The curriculum and schedule.** The curriculum consists of an Introduction and five instructional modules. Each of the modules includes options for interactive exercises. The timing of the course will depend largely on the choices the trainer makes about activities. A proposed course schedule for a one-day delivery is provided below. The course can also be delivered in several shorter sessions.

Overview of Proposed Schedule		
<i>Registration</i>		8:00 – 8:30
<b>Introduction</b>	30 minute lecture/discussion	8:30 – 9:00
<b>Module 1: Why Should I Be Concerned About Lead-Contaminated Dust?</b>	30 minute exercise 30 minute lecture	9:00 – 10:00
<i>Break</i>	15 minutes	10:00 – 10:15
<b>Module 2: Set Up Your Workspace to Contain Lead Dust</b>	30 minute lecture 30 minute exercise	10:15 – 11:15
<i>Lunch</i>	1 hour	11:15 – 12:15
<b>Module 3: Safe Work Practices</b>	30 minute lecture 30 minute exercise	12:15 – 1:15
<i>Break</i>	15 minutes	1:15 – 1:30
<b>Module 4: Clean-up and Check Your Work</b>	30 minute lecture 30 minute exercise	1:30 – 2:30
<b>Module 5: Planning the Job</b>	30 minute exercise	2:30 – 3:00
<b>Additional Activities</b> ( <i>E.g., review and additional exercises – see the Lesson Plans provided in this section.</i> )	30 minutes	3:00 – 3:30
<b>Test</b>	1 hour	3:30 – 4:30

**Preparing for the course.** Read the course materials in advance of the course. While the lesson plans and slides outline a straightforward and directive approach to teaching this course, you will have some decisions to make and some materials to prepare. Specifically:

- **Know your audience.** If you are delivering this course to private contractors consider their specific needs; for example, are they primarily painters or renovators? Pick examples and structure exercises around activities that are familiar to them. If you are delivering this course for a HUD audience, you must cover the HUD requirements (highlighted within the text and summarized in Appendices 1 and 2) and administer the test (see *Course Materials* for more guidance on the test.)

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- Know your training facility. When training in your own facility, you have more control over your environment and generally have access to many more supplies, tools, and equipment than when you are training in a hotel room or community space. As you make decisions about the types of exercises you plan to do during the training, consider your training facility, the space and tools available, and plan accordingly.
- Choose the activities. This course offers many options for activities. Modules 2, 3, and 4 include hands-on exercises that are highly encouraged to reinforce learning of specific skills. However, based on your audience and training facility, you may not have the flexibility to perform these activities. The course offers alternative paper-based exercises in Appendix 7.
- Plan your schedule. The lesson plans provided in this section illustrate different ways to organize the course. While the hands-on exercises are presented as integral parts of Modules 2, 3, and 4, (as shown in Lesson Plan #1), they can also be delivered as one single hands-on module at the end of the course (as shown in Lesson Plan #2). As you plan your schedule, consider how to time your breaks and activities appropriately depending on whether your course is scheduled for one full day, two half-day or several evening sessions. As you to plan your time, you should not substantively alter the time allotted to cover specific subjects, (e.g., the content of Module 2: Setting up the Worksite should receive 60 minutes of instructional time, regardless of whether the job set-up component of the hands-on exercise is delivered during the module or with the other hands-on components at the end of the course.)
- Administering the test. This test reinforces participant learning and helps evaluate their understanding. If your class includes participants who will be working in Federally assisted properties, they will need documentation of their results. Providing this document to all other participants is also recommended. See the Course Materials section below for guidance on how to obtain a copy of the test.
- Gather all the materials necessary. A list of recommended supplies and tools is provided in this section, for your convenience. Make sure you have all the materials necessary to perform the activities and demonstrations you have planned.

**Organization of the course.** The trainer has a number of choices to make when planning the course presentation. He/she can use the hands-on practice activities that are written into the module or replace them with paper-based exercises that are provided in Appendix 7. The trainer also has the option to move parts of the course around. For example, the hands-on activities in Modules 2, 3, and 4 can be consolidated into one longer hands-on module and delivered toward the end of the course. These choices are highlighted in the lesson plans provided at the end of this section. The lesson plans include:

- Lesson Plan #1: Hands-On Activities Included in Each Module. The Instructor and Student Manuals follow this lesson plan. This plan includes hands-on exercises and demonstrations in most modules. No paper-based exercises are used.
- Lesson Plan #2: Hands-On Activities Combined into One Unit. This lesson plan combines the hands on activities from Modules 2, 3, and 4 into one longer hands-on unit that can be delivered toward the end of the course. It also includes the use of paper-based exercises - if time allows.

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- Lesson Plan #3: Paper-Based Exercises Only. If the instructor chooses to use only the paper-based exercises for Modules 2 and 3 and no hands-on training in Modules 2, 3, and 4, this lesson plan is appropriate.

Note: These lesson plans are available for reference purposes only. The trainer is free to create his/her own lesson plan that combines the various options as he/she sees fit, as long as the content and course length are not substantively altered.

**Course Materials.** The training materials include Student Manuals, an Instructor Manual, overhead slides, toolkits, and an optional test, as described below.

Course Materials	
<b>Student Manual</b>	Each student should receive a printed copy of the student manual. The student manual includes pictures of all overhead slides used in the course and explanatory notes. The student manual also has appendices, which include optional exercises and a copy of the <i>Lead Paint Safety: A Field Guide for Painting, Home Maintenance and Renovation Work</i> .*
<b>Instructor Manual</b>	The instructor manual includes all the materials from the Student Manual and notes for trainers. The right-hand page shows the slide and notes for the student manual while the left-hand page has instructor's notes for that slide. The Instructor Manual also includes answers to the exercises.
<b>Overhead Slides</b>	The trainer should have overhead slides, electronically or on transparencies. The slides are available in PowerPoint and can be copied onto transparencies if desired.
<b>Toolkits</b>	The instructor is responsible for creating four toolkits: Set-up, Safe Work Practices, Personal Protective Equipment, and Clean-up. Recommended items to be included in the toolkits are listed below with the equipment and supplies you will need to teach the course.
<b>Test</b>	This course includes a test. Trainers can obtain a copy of the test, test answers and guidance on how to administer the test from the National Lead Information Center at 1-800-424-LEAD.

\* Note: Additional copies of *Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work* can be obtained from the National Lead Information Center. Contact the Center at 1-800-424-LEAD or through its Web site: <http://www.epa.gov/lead/nlic.htm>. Allow several weeks for delivery of the documents.

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**Classroom Supplies and Tools.** To teach this course properly, the trainer needs standard classroom supplies as well as a number of special tools to demonstrate lead safe work practices and perform hands-on exercises. The table below provides a list of recommended supplies. We recognize that trainers may not be able to transport all the tools and materials listed below to a given training site, or may vary the supply list slightly depending on if the trainer is simulating an interior or exterior activity. Therefore the list serves only as a checklist of recommended items. The trainer should consult the lesson plan and the individual modules to determine which supplies are critical to the delivery that he/she has planned.

Recommended Classroom Supplies
<ul style="list-style-type: none"><li>• Instructor manual</li><li>• Student manuals</li><li>• Overhead or LCD projector</li><li>• Course PowerPoint presentation or overhead transparencies</li><li>• Projection screen</li><li>• Blank overhead transparencies (1 box should be more than sufficient)</li><li>• Overhead transparency markers (for instructor and for students, at least one marker for each 4 students so that groups can write up answers to exercises and present them to the rest of the class)</li><li>• Blackboard, white board, or flip chart paper and stand</li><li>• Markers appropriate for blackboard, white board, or flip chart</li><li>• Masking tape</li><li>• Table tents with each student's name (a table tent is an 8½" x 11" sheet of heavy stock paper that is folded in half length-wise; the paper should be heavy enough that it will not flatten when set on the table after being folded)</li><li>• Heavy-duty disposal bag and duct tape</li><li>• Packet of sweetener</li><li>• Baby powder</li><li>• Broom and dust pan</li><li>• <b>Optional:</b> A laminated paint chip (1 centimeter square) on a cardboard display or in a sealed test tube</li></ul>
Recommended Supplies for Toolkits
<p><b>Set-up Toolkit</b></p> <ul style="list-style-type: none"><li>• Heavy duty plastic sheeting</li><li>• Tack pad</li><li>• Rope and/or Barrier Tape (bright color preferable)</li><li>• Disposable mesh (e.g., burlap, cheesecloth, landscaping mesh)</li><li>• Small disposable towels or wipes</li><li>• Saw horses</li><li>• Staple gun</li><li>• Misting bottle</li><li>• Orange cones or other similar marker</li><li>• Tape (duct, painters, and masking)</li><li>• Utility knife or scissors</li><li>• Signs</li></ul>

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Recommended Supplies for Toolkits (continued)
<p><b>Safe Work Practices Toolkit</b></p> <ul style="list-style-type: none"><li>• Wet/dry sandpaper or sanding sponge</li><li>• Heavy duty plastic protective sheeting</li><li>• HEPA exhaust attachments for power tools (sanders, grinders, planers, shavers)</li><li>• Mist bottle or pump sprayer</li><li>• Tape (duct, painters, and masking)</li><li>• Power washing equipment</li><li>• Chemical stripper</li><li>• Utility knife or scissors</li><li>• Needle gun with HEPA exhaust</li><li>• Heat gun</li><li>• Heavy duty garbage bags</li><li>• Vacuum with HEPA filter</li></ul>
<p><b>Personal Protective Equipment (PPE) Toolkit</b></p> <ul style="list-style-type: none"><li>• Painter's hats</li><li>• N-100 disposable respirators or other appropriate respirator</li><li>• First aid kit</li><li>• Gloves</li><li>• Pre-moistened disposable wipes</li><li>• Safety glasses</li><li>• Coveralls (disposable or launderable)</li><li>• Disposable hand towels (e.g., paper towels)</li><li>• Ear protection (when using power tools)</li><li>• Disposable shoe covers</li></ul>
<p><b>Clean-up Toolkit</b></p> <ul style="list-style-type: none"><li>• Misting bottle</li><li>• Detergent</li><li>• Pump sprayer</li><li>• Vacuum with HEPA filter</li><li>• Two buckets or two-sided bucket</li><li>• Shovel and rake</li><li>• Heavy duty garbage bags</li><li>• Mop with disposable heads</li><li>• Tape (duct)</li><li>• Disposable hand towels (e.g., paper towels)</li></ul>

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**Lesson Plans.** The three lesson plans on the following pages illustrate different ways to teach the course. Note that the trainer is free to borrow from these three lesson plans and create his/her own lesson plan that best fits the needs of a given audience and setting. However, to meet the teaching objectives of this course, the instructor should adhere to the guidelines about the time allotted to each subject.

The table below summarizes the choices available in each module. The lesson plans follow on the next pages.

Summary of Options		
Module	Standard components	Choices
<b>Introduction</b>	<ul style="list-style-type: none"> <li>✓ Lecture</li> <li>✓ Introductions of course participants</li> </ul>	<ul style="list-style-type: none"> <li>■ No choices</li> </ul>
<b>Module 1:</b> Why Should I Be Concerned About Lead-Contaminated Dust?	<ul style="list-style-type: none"> <li>✓ Lecture</li> <li>✓ Exercise/Demonstration (See choices)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Empty box</li> <li><input type="checkbox"/> Sweetener packet exercise</li> <li><input type="checkbox"/> Paper-based exercise on dust creation</li> </ul>
<b>Module 2:</b> Set Up Your Workspace to Contain Lead Dust	<ul style="list-style-type: none"> <li>✓ Lecture</li> <li>✓ Set-Up Exercise (See choices)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Hands-on Set-Up Exercise</li> <li><input type="checkbox"/> Paper-based Set-Up Exercise</li> <li><input type="checkbox"/> Perform hands-on Set-up exercise, after Module 5, with hands-on exercise from Modules 3 and 4</li> </ul>
<b>Module 3:</b> Safe Work Practices	<ul style="list-style-type: none"> <li>✓ Lecture</li> <li>✓ Work Practices Exercise (See choices)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Hands-on Safe Work Practices Exercise</li> <li><input type="checkbox"/> Paper-based Safe Work Practices Exercise</li> <li><input type="checkbox"/> Perform hands-on safe work practices exercise, after Module 5, with hands-on exercise from Modules 2 and 4</li> </ul>
<b>Module 4:</b> Clean-up and Check Your Work	<ul style="list-style-type: none"> <li>✓ Lecture</li> <li>✓ Gooseneck seal demonstration/exercise</li> <li>✓ Clearance demonstration</li> <li>✓ Clean-up Exercise (See choices)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Hands-on Clean-Up Exercise</li> <li><input type="checkbox"/> Perform hands-on clean-up exercise, after Module 5, with hands-on exercise from Modules 2 and 3</li> </ul>
<b>Module 5:</b> Planning the Job	<ul style="list-style-type: none"> <li>✓ Exercise and checklist</li> </ul>	<ul style="list-style-type: none"> <li>■ No choices</li> </ul>
<b>Additional Activities</b>	<ul style="list-style-type: none"> <li>✓ After Module 5 is complete, you may have additional activities(See choices)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Perform hands-on exercises from Modules 2, 3, and 4 as one exercise</li> <li><input type="checkbox"/> Review topics</li> </ul>
<b>Test</b>	<ul style="list-style-type: none"> <li>✓ Test</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Test</li> <li><input type="checkbox"/> Grade and review test</li> </ul>

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<b>Lesson Plan 1: Hands-On Activities Included in Each Module</b>	
<b>Introduction</b>	<b>30 minutes</b>
<ul style="list-style-type: none"><li>➤ <u>Activity</u>: Introductions</li><li>➤ Why are we here?</li><li>➤ What can you do?</li><li>➤ Jobs where Lead Safety is Important</li><li>➤ This Course</li><li>➤ Training Manual Overview</li><li>➤ Course Agenda</li></ul>	<p><u>Key message</u>: Why are we here? Because workers have a role to play in preventing lead poisoning.</p> <p><u>Notes</u>: This module is straightforward. Move quickly through the slides. Emphasize that this training applies to work in pre-1978 housing and additional precautions are needed when a property receives Federal, state, or local funds.</p> <p><u>Preparing for this module</u>: Review the class list before the session so you know something about your audience.</p>
<b>Module 1: Why Should I Be Concerned About Lead Dust?</b>	<b>1 hour</b>
<ul style="list-style-type: none"><li>➤ <u>Activity</u>: How do we create dust</li><li>➤ A little dust goes a long way</li><li>➤ <u>Activity</u>: Dust wipe demonstration</li><li>➤ Why is dust a problem?</li><li>➤ Health risks</li><li>➤ What is lead-based paint?</li><li>➤ How widespread is LBP?</li><li>➤ What is being done?</li><li>➤ How do I work lead safe</li></ul>	<p><u>Key message</u>: Dust is the problem and contractors make dust. By working lead safe, you can make a difference.</p> <p><u>Notes</u>: This module involves an upfront exercise and then slides.</p> <ul style="list-style-type: none"><li>➤ Exercise: Sweetener packet demo or paper-based exercise (30 minutes).</li><li>➤ Slides (30 minutes)</li></ul> <p><u>Preparing for this module</u>: Have materials ready for the exercise and demonstration.</p> <p><u>Materials needed</u>: – sweetener packet, dustpan, broom, dust wipe kit.</p> <p><u>Options</u>: Trainer can replace the interactive sweetener packet exercise with a paper-based exercise in which participants rate different activities by how much dust they create. See Appendix 7 for Optional Exercise #1. Note: Instructor must use one of these two exercises.</p>

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### A Note to Instructors on How to Use This Curriculum

<b>Lesson Plan 1 (Continued)</b>	
<b>Module 2: Set Up your Workspace to Contain Lead Dust</b> <span style="float: right;"><b>1 hour</b></span>	
<ul style="list-style-type: none"> <li>➤ What is containment?</li> <li>➤ Interior containment</li> <li>➤ Exterior containment</li> <li>➤ Special considerations for high dust jobs</li> <li>➤ <u>Activity</u>: Hands-on set-up exercise</li> </ul>	<p><u>Key message</u>: Keep the dust in the work area and make it easier to clean up.</p> <p><u>Notes</u>: Slides are followed by an exercise.</p> <ul style="list-style-type: none"> <li>➤ Slides: 30 minutes</li> <li>➤ Hands-On Exercise: Students set up containment in a small area. They lay plastic and secure it. Trainer demonstrates how to do a door flap. (30 minutes)</li> </ul> <p><u>Preparing for this module</u>: Prepare materials for hands-on exercise and identify appropriate locations for groups to work in.</p> <p><u>Materials needed</u>: See Set-Up Toolkit for list of materials needed.</p> <p><u>Option</u>: The trainer can replace the hands-on exercise on set-up with a paper-based exercise in which students look at pictures of worksites and identify good and bad practices. See Appendix 7 for Optional Exercise #2. The trainer must use one of these two exercises.</p>
<b>Module 3: Safe Work Practices</b> <span style="float: right;"><b>1 hour</b></span>	
<ul style="list-style-type: none"> <li>➤ High risk practices</li> <li>➤ Safe work practices</li> <li>➤ Personal protection</li> <li>➤ Control the spread of dust</li> <li>➤ <u>Activity</u>: Hands-on work practices exercise</li> </ul>	<p><u>Key Message</u>: These practices are not so different from what you already do.</p> <p><u>Notes</u>: Slides are followed by an exercise</p> <ul style="list-style-type: none"> <li>➤ Slides: 30 minutes</li> <li>➤ Hands-On Exercise: 30 minutes</li> </ul> <p><u>Preparing for this module</u>: Prepare a list of tasks for participants to work on and the materials for hands-on exercise.</p> <p><u>Materials needed</u>: Traditional tools and lead safety tools listed in the Work Toolkit.</p> <p><u>Option</u>: The trainer can replace the hands-on exercise with a paper-based exercise. See Appendix 7 for Optional Exercise #3. The trainer must use one of these two exercises.</p>

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<b>Lesson Plan 1 (Continued)</b>	
<b>Module 4: Clean up and check your work</b>	
<b>1 hour</b>	
<ul style="list-style-type: none"> <li>➤ What is effective clean up?</li> <li>➤ Clean-up tool kit</li> <li>➤ Interior clean up</li> <li>➤ Exterior clean-up</li> <li>➤ Checking your work</li> <li>➤ Safe disposal (optional demo or exercise)</li> <li>➤ <u>Activity</u>: Hands on clean-up exercise</li> <li>➤ <u>Activity</u>: Clearance demonstration</li> </ul>	<p><u>Key message</u>: Clean up right. Use wet mops and HEPA vacuums. Traditional methods don't do the job.</p> <p><u>Notes</u>: Slides followed by an exercise</p> <ul style="list-style-type: none"> <li>➤ Slides (30 minutes)</li> <li>➤ Hands-on Exercise (30 minutes)</li> </ul> <p><u>Preparing for this module</u>: Prepare materials for hands-on exercise and clearance demonstration.</p> <p><u>Materials needed</u>: Dust wipe sampling materials and tools listed in the Clean-Up toolkit.</p> <p><u>Options</u>: The trainer can demonstrate gooseneck sealing or have participants do it themselves. Have necessary materials ready.</p>
<b>Module 5: Planning the Job</b>	
<b>30 minutes</b>	
<ul style="list-style-type: none"> <li>➤ Evaluate the Property</li> <li>➤ Evaluate the Work</li> <li>➤ Schedule the Work</li> <li>➤ Choose the right tools and methods</li> </ul>	<p><u>Key message</u>: Plan before you start the work.</p> <p><u>Notes</u>: This module is very interactive. A short scenario precedes each topic. Participants brainstorm questions before discussing the material. They also complete a planning checklist.</p> <p><u>Preparing for this module</u>: Review materials in advance so you are familiar with the scenarios and the checklist.</p>
<b>Optional Review Session</b>	
<b>30 minutes</b>	
<ul style="list-style-type: none"> <li>➤ Review key topics and rules for test</li> </ul>	
<b>Test</b>	
<b>60 minutes</b>	
<ul style="list-style-type: none"> <li>➤ Administer the test (30 minutes)</li> <li>➤ Review correct answers (30 minutes)</li> </ul>	Call 1-800-424-LEAD to receive a copy of the test, the answers, and guidance on giving and grading the test.
<b>Total Instructional Time</b>	
<b>6.5 hours</b>	

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<b>Lesson Plan #2: Hands-on Exercises Combined into One Unit</b>	
<b>30 minutes</b>	
<b>Introduction</b>	
<ul style="list-style-type: none"> <li>➤ <u>Activity</u>: Introductions</li> <li>➤ Why are we here?</li> <li>➤ What can you do?</li> <li>➤ Jobs where Lead Safety is Important</li> <li>➤ This Course</li> <li>➤ Training Manual Overview</li> <li>➤ Course Agenda</li> </ul>	<p><u>Key message</u>: Why are we here? Because workers have a role to play in fighting lead poisoning.</p> <p><u>Notes</u>: This module is straightforward. Move quickly through the slides.</p> <p><u>Preparing for this module</u>: Review the class list before the session so you know about your audience.</p>
<b>1 hour</b>	
<b>Module 1: Why should I be concerned about Lead Dust</b>	
<ul style="list-style-type: none"> <li>➤ <u>Activity</u>: How do we create dust</li> <li>➤ A little dust goes a long way</li> <li>➤ <u>Activity</u>: Dust wipe demonstration</li> <li>➤ Why is dust a problem?</li> <li>➤ Health risks</li> <li>➤ What is lead-based paint?</li> <li>➤ How widespread is LBP?</li> <li>➤ What is being done?</li> <li>➤ How do I work lead safe</li> </ul>	<p><u>Key message</u>: Dust is the problem and contractors make dust. By working lead safe, you can make a difference.</p> <p><u>Notes</u>: This module involves an upfront exercise and then slides.</p> <ul style="list-style-type: none"> <li>➤ Exercise: Sweetener packet demo or paper-based exercise (30 minutes).</li> <li>➤ Slides (30 minutes)</li> </ul> <p><u>Preparing for this module</u>: Have materials ready for the exercise and demonstration.</p> <p><u>Materials needed</u>: – sweetener packet, dustpan, broom, dust wipe kit.</p> <p><u>Options</u>: Trainer can replace the hands-on sweetener packet exercise with a paper-based exercise in which participants rate different activities by how much dust they create. See Appendix 7 for Optional Exercise #1. Note: Instructor must use at least one of the exercises.</p>
<b>30 minutes - 1 hour</b>	
<b>Module 2: Set Up your Workspace to Contain Lead Dust</b>	
<ul style="list-style-type: none"> <li>➤ What is containment?</li> <li>➤ Interior containment</li> <li>➤ Exterior containment</li> <li>➤ Special considerations for high dust jobs</li> <li>➤ <u>Activity</u>: Optional Paper-Based Set-Up Exercise</li> </ul>	<p><u>Key message</u>: Keep the dust in the work area and make it easier to clean up.</p> <p><u>Notes</u>: Exercise is optional.</p> <ul style="list-style-type: none"> <li>➤ Slides: 30 minutes</li> <li>➤ Optional paper-based set-up exercise: 30 minutes</li> </ul> <p><u>Option</u>: The trainer may add the paper-based Exercise #2 provided in Appendix 7 if time permits.</p>

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<b>Lesson Plan #2: Hands-on Exercises Combined into One Unit (Continued)</b>	
<b>Module 3: Safe Work Practices</b> <span style="float: right;"><b>30 minutes - 1 hour</b></span>	
<ul style="list-style-type: none"> <li>➤ High risk practices</li> <li>➤ Safe work practices</li> <li>➤ Personal protection</li> <li>➤ Control the spread of dust</li> <li>➤ <u>Activity</u>: Optional paper-based exercise</li> </ul>	<p><u>Key Message</u>: These practices are not so different from what you already do.</p> <p><u>Notes</u>: Exercise is optional</p> <ul style="list-style-type: none"> <li>➤ Slides: 30 minutes</li> <li>➤ Optional Exercise: 30 minutes</li> </ul> <p><u>Option</u>: The trainer may use the paper-based Exercise #3 provided in Appendix 7 if time permits.</p>
<b>Module 4: Clean up and check your work</b> <span style="float: right;"><b>30 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ What is effective clean up?</li> <li>➤ Clean-up tool kit</li> <li>➤ Interior clean up</li> <li>➤ Exterior clean-up</li> <li>➤ Checking your work</li> <li>➤ Safe disposal (demo/exercise)</li> <li>➤ Clearance demonstration</li> </ul>	<p><u>Key message</u>: Clean up right. Use wet mops and HEPA vacuums. Traditional methods don't do the job.</p> <p><u>Notes</u>: This is a 30-minute lecture.</p> <p><u>Preparing for this module</u>: Have materials ready to demonstrate gooseneck sealing and dust wipe sampling.</p> <p><u>Option</u>: The trainer can demonstrate gooseneck sealing or have participants practice it.</p>
<b>Module 5: Planning the Job</b> <span style="float: right;"><b>30 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ Evaluate the Property</li> <li>➤ Evaluate the Work</li> <li>➤ Schedule the Work</li> <li>➤ Choose the right tools and methods</li> </ul>	<p><u>Key message</u>: Plan before you start the work.</p> <p><u>Notes</u>: This module is very interactive. A short scenario precedes each topic. Participants brainstorm questions before discussing the material. They also complete a planning checklist.</p> <p><u>Preparing for this module</u>: Review materials in advance so you are familiar with the scenarios and the checklist.</p>

## Lead Safety for Remodeling, Repair, and Painting

### A Note to Instructors on How to Use This Curriculum

<b>Lesson Plan #2: Hands-on Exercises Combined into One Unit (Continued)</b>	
<b>Hands-On Activities</b> <span style="float: right;"><b>90 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ Set up the worksite</li> <li>➤ Work Practices</li> <li>➤ Clean-up</li> </ul>	<p><u>Key message:</u> Practice what you have learned.</p> <p><u>Notes:</u> This section is completely hands-on.</p> <p><u>Preparing for this section:</u> Use the hands-on exercises that are included in Modules 2, 3, and 4 to run this three-part hands-on exercise. These include:</p> <ul style="list-style-type: none"> <li>➤ Slides 2-18 and 2-19</li> <li>➤ Slides 3-15 and 3-16</li> <li>➤ Slides 4-13 and 4-14</li> </ul> <p>Make sure you have an appropriate facility, all necessary tools and equipment (see Toolkits) and have read carefully through each of the exercises.</p>
<b>Optional Review Session</b> <span style="float: right;"><b>30 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ Review key topics and rules for test</li> </ul>	
<b>Test</b> <span style="float: right;"><b>60 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ Administer the test (30 minutes)</li> <li>➤ Review correct answers (30 minutes)</li> </ul>	Call 1-800-424-LEAD to receive a copy of the test, the answers, and guidance on giving and grading the test.
<b>Total Instructional Time</b> <span style="float: right;"><b>6.5 – 7.5 hours*</b></span>	
<p>* <b>Note:</b> <i>The total instructional time will depend on the number of exercises done during modules 3 – 5 and the specific activities chosen for hands on activities. It would be extremely difficult to do all the activities listed in this lesson plan in one daylong course.</i></p>	

## Lead Safety for Remodeling, Repair, and Painting

### A Note to Instructors on How to Use This Curriculum

<b>Lesson Plan #3: Paper-Based Exercises</b>	
<b>Introduction</b>	<b>30 minutes</b>
<ul style="list-style-type: none"> <li>➤ <u>Activity</u>: Introductions</li> <li>➤ Why are we here?</li> <li>➤ What can you do?</li> <li>➤ Jobs where Lead Safety is Important</li> <li>➤ This Course</li> <li>➤ Training Manual Overview</li> <li>➤ Course Agenda</li> </ul>	<p><u>Key message</u>: Why are we here? Because workers have a role to play in preventing lead poisoning.</p> <p><u>Notes</u>: This module is straightforward. Move quickly through the slides. Emphasize that this training applies to work in pre-1978 housing and additional precautions are needed when a property receives Federal, state, or local funds.</p> <p><u>Preparing for this module</u>: Review the class list before the session so you know something about your audience.</p>
<b>Module 1: Why Should I be Concerned about Lead Dust?</b>	<b>1 hour</b>
<ul style="list-style-type: none"> <li>➤ <u>Activity</u>: How do we create dust</li> <li>➤ A little dust goes a long way</li> <li>➤ <u>Activity</u>: Dust wipe demonstration</li> <li>➤ Why is dust a problem?</li> <li>➤ Health risks</li> <li>➤ What is lead-based paint?</li> <li>➤ How widespread is LBP?</li> <li>➤ What is being done?</li> <li>➤ How do I work lead safe</li> </ul>	<p><u>Key message</u>: Dust is the problem and contractors make dust. By working lead safe, you can make a difference.</p> <p><u>Notes</u>: This module involves an upfront exercise and then slides.</p> <ul style="list-style-type: none"> <li>➤ Exercise: Sweetener packet demo or paper-based exercise (30 minutes).</li> <li>➤ Slides (30 minutes)</li> </ul> <p><u>Preparing for this module</u>: Have materials ready for the exercise and demonstration.</p> <p><u>Materials needed</u>: – sweetener packet, dustpan, broom, dust wipe kit.</p> <p><u>Options</u>: Trainer can replace the hands-on sweetener packet exercise with a paper-based exercise in which participants rate different activities by how much dust they create. See Appendix 7 for Optional Exercise #1. Note: Instructor must use at least one of the exercises.</p>

## Lead Safety for Remodeling, Repair, and Painting

### A Note to Instructors on How to Use This Curriculum

<b>Lesson Plan #3: Paper-Based Exercises (Continued)</b>	
<b>Module 2: Set Up your Workspace to Contain Lead Dust</b> <span style="float: right;"><b>1 hour</b></span>	
<ul style="list-style-type: none"> <li>➤ What is containment?</li> <li>➤ Interior containment</li> <li>➤ Exterior containment</li> <li>➤ Special considerations for high dust jobs</li> <li>➤ <u>Activity</u>: Paper-based set-up exercise (see Appendix 7, Exercise 2)</li> </ul>	<p><u>Key message</u>: Keep the dust in the work area and make it easier to clean up.</p> <p><u>Notes</u>: This module walks through the steps needed to contain an area, inside or outside. Then, it allows students to apply what they learned.</p> <ul style="list-style-type: none"> <li>➤ Slides: 30 minutes</li> <li>➤ Exercise: Students look at pictures and identify good and bad containment practices (30 minutes)</li> </ul>
<b>Module 3: Safe Work Practices</b> <span style="float: right;"><b>1 hour</b></span>	
<ul style="list-style-type: none"> <li>➤ High risk practices</li> <li>➤ Safe work practices</li> <li>➤ Personal protection</li> <li>➤ Control the spread of dust</li> <li>➤ <u>Activity</u>: Paper-based work practices exercise (See Appendix 7 – Exercise 3)</li> </ul>	<p><u>Key Message</u>: These practices are not so different from what you already do.</p> <p><u>Notes</u>: Slides are followed by an exercise</p> <ul style="list-style-type: none"> <li>➤ Slides: 30 minutes</li> <li>➤ Exercise: 30 minutes</li> </ul>
<b>Module 4: Clean up and check your work</b> <span style="float: right;"><b>30 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ What is effective clean up?</li> <li>➤ Clean-up tool kit</li> <li>➤ Interior clean up</li> <li>➤ Exterior clean-up</li> <li>➤ Checking your work</li> <li>➤ Safe disposal (optional demo or exercise)</li> <li>➤ <u>Activity</u>: Clearance demonstration</li> </ul>	<p><u>Key message</u>: Clean up right. Use wet mops and HEPA vacuums. Traditional methods don't do the job.</p> <p><u>Notes</u>: This module has no exercise but it does include a demonstration of dust sampling.</p> <p><u>Preparing for this module</u>: Prepare materials for dust wipe demonstration.</p> <p><u>Materials needed</u>: Dust wipe sampling materials.</p> <p><u>Option</u>: The trainer can demonstrate gooseneck sealing or have participants practice it.</p>

## Lead Safety for Remodeling, Repair, and Painting

### A Note to Instructors on How to Use This Curriculum

<b>Lesson Plan #3: Paper-Based Exercises (Continued)</b>	
<b>Module 5: Planning the Job</b> <span style="float: right;"><b>30 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ Evaluate the Property</li> <li>➤ Evaluate the Work</li> <li>➤ Schedule the Work</li> <li>➤ Choose the right tools and methods</li> </ul>	<p><u>Key message:</u> Plan before you start the work.</p> <p><u>Notes:</u> This module is very interactive. A short scenario precedes each topic. Participants brainstorm questions before discussing the material. They also complete a planning checklist.</p> <p><u>Preparing for this module:</u> Review materials in advance so you are familiar with the scenarios and the checklist.</p>
<b>Optional Review Session</b> <span style="float: right;"><b>30 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ Review key topics and rules for test</li> </ul>	
<b>Test</b> <span style="float: right;"><b>60 minutes</b></span>	
<ul style="list-style-type: none"> <li>➤ Administer the test (30 minutes)</li> <li>➤ Review correct answers (30 minutes)</li> </ul>	<p>Call 1-800-424-LEAD to receive a copy of the test, the answers, and guidance on giving and grading the test.</p>
<b>Total Instructional Time</b> <span style="float: right;"><b>6 hours</b></span>	

## Lead Safety for Remodeling, Repair, and Painting

### A Note to Instructors on How to Use This Curriculum

**Guidance on Conducting Hands-On Activities.** Hands-on training is not a required element of this curriculum. However, because hands-on training increases retention, trainers are encouraged to use the hands-on training exercises provided if conditions allow. If hands-on activities are selected, it is recommended that trainers consider the following factors when planning for and conducting the hands-on training segments:

- Have available the right kind of supplies. Use the lists provided in this section to plan appropriately and bring the right sorts of supplies to the training site. For example, household garbage bags are not equivalent to heavy duty disposal bags.
- Have supplies in adequate quantities. Depending on how you structure the activity, you may need varying number of supplies. For example, if the trainer demonstrates how to seal and gooseneck a disposal bag, you will use one bag. If each student practices this procedure, the training will consume a larger number of bags. Plan ahead so you have enough supplies.
- Have an adequate number of instructors. Depending on the class size, some hands-on activities require more than one instructor, to properly supervise and provide feedback. Make sure you have enough trainers available to deliver the course to the number of students you teach. Note: The training can be structured so that extra trainers are available only during the hands-on activities.
- Make sure your equipment is clean and in working order before the class. Test your equipment before the training. Trainers should not conduct training with lead-contaminated equipment or unclean respirators, if respirators are inspected or otherwise used. Trainers' policy about whether participants will use chemicals or respiratory protection during hands-on training is not dictated by this curriculum, but should be decided by the training provider based on its experience and local requirements, if applicable.
- The use of actual lead-based paint for training purposes is not recommended. Participants are in your class to learn the skills necessary to work around lead-based paint properly. Should they make a procedural error during training, they should not be placed at risk of being exposed to lead.
- Carefully estimate the time you will need to conduct the hands-on exercises. This curriculum contains a large amount of course content. Be mindful of class size and time constraints when selecting a hands-on exercise.
- The activities you select must be appropriate for your training facility and the facility requirements. Some locations prohibit the use of water inside for training. If you don't know the facility requirements, ask about them.
- Use the skills assessment checklist to coach participants through the activity. See Appendix 9 for a Skills Assessment Checklist for the hands on activities planned for modules 2, 3, and 4. The checklists list specific tasks that each participant should perform correctly during the hands on activity to reinforce proper safe work practices.



# **Lead Safety for Remodeling, Repair, and Painting**

## **Introduction and Welcome Instructor Notes**

### **Slide 1: Lead Safety for Remodeling, Repair, and Painting**

- This is the course title slide.
- Welcome everyone and introduce the course title.
- Be sure to verify that participants in the classroom intended to take this course and not some other course.

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# Lead Safety for Remodeling, Repair, and Painting

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# Lead Safety for Remodeling, Repair, and Painting

## Introduction and Welcome Instructor Notes

### Slide 2: Introduction and Welcome

- This is the title slide for this module.
- Introduce yourself. Write your name on the blackboard, whiteboard , flip chart paper or blank overhead transparency.
- Highlight your background and experience. Your goal here is to demonstrate to the participants in the class that you have the qualifications to present this material.

**Overview of this module:** The table below summarizes the content and teaching methods for this module. This is for your reference. Do not cover this with the participants.

Introduction	30 minutes
<ul style="list-style-type: none"><li>➤ <u>Activity:</u> Introductions</li><li>➤ Why are we here?</li><li>➤ What can you do?</li><li>➤ Jobs where Lead Safety is Important</li><li>➤ This Course</li><li>➤ Training Manual Overview</li><li>➤ Course Agenda</li></ul>	<p><u>Key message:</u> Why are we here? Because workers have a role to play in preventing lead poisoning.</p> <p><u>Notes:</u> This module is straightforward. Move quickly through the slides. Emphasize that this training applies to work in pre-1978 housing and additional precautions are needed when a property receives Federal, state, or local funds.</p> <p><u>Preparing for this module:</u> Review the class list before the session so you know something about your audience.</p>

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# Introduction and Welcome

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## **Lead Safety for Remodeling, Repair, and Painting**

### **Introduction and Welcome Instructor Notes**

#### **Slide 3: Introduction Overview**

- This Introduction covers the bulleted list of topics on the slide. Briefly review this list with the class participants. Do not go into detail about each of the topics because you will be covering the details when you present each of the following slides in the module. Then describe the meeting facility and review logistics with participants.
- Meeting facility and logistics:
  - Provide logistical information including a brief overview of the training schedule for the day, including breaks, lunch, etc.
  - Indicate where the emergency exits, restrooms and phones can be found.
  - Discuss ground rules, as necessary. Examples of ground rules include:
    - ✓ Come back from breaks on time so that the class can finish at the designated hour.
    - ✓ Raise hands to be recognized.

# Introduction Overview

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- ◆ Introductions
- ◆ Course objectives
- ◆ Course manual
- ◆ Course agenda

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## **Lead Safety for Remodeling, Repair, and Painting**

### **Introduction and Welcome Instructor Notes**

#### **Slide 4: Introductions**

- Ask the participants to introduce themselves in less than one minute per person. Ask them to state:
  - Name;
  - Company they work for;
  - Whether they currently use any lead-safe work practices;
  - What they want to learn in the course.
- You may want to capture on a whiteboard , flip chart, or blank transparency the information about what each person wants to learn during the course so that you can refer back to it when you cover those issues during the course.
- Remember, if each person speaks for one minute and you have 15 people in the class, introductions will take at least 15 minutes of your allotted 30 minutes for the introduction and welcome. Especially if you have class with more than 10 participants, ask them to be as brief as possible while still providing the information requested.

# Introductions

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◆ **In less than 1 minute please tell us:**

- Your name
- Company you work for
- What you want to learn in this course
- Do you currently use lead-safe work practices?

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## **Lead Safety for Remodeling, Repair, and Painting**

### **Introduction and Welcome Instructor Notes**

#### **Slide 5: Why Are We Here?**

- This slide highlights a key message. To motivate the participants to learn the material, you must impress on them the role that they play in preventing lead poisoning. They are here because they can actually make a difference.
- Also emphasize that what they learn in this course protects them and their children, as well as their clients, from potential poisoning.

## Why are we here?

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### ◆ To help prevent lead poisoning!

- Renovation, repair, and painting activities create dust
- In older homes, this dust can contain lead
- Lead is toxic – to you, your kids, and your clients

### ◆ By using the right work practices, you can help protect against lead poisoning

### ◆ This course shows you how

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## Why are we here?

- Many commonly used work practices generate a lot of dust.
- Practical changes in work practices can minimize and contain dust.
- Minimizing and containing dust saves clean-up time and customers value cleaner, less dusty job sites.

## **Lead Safety for Remodeling, Repair, and Painting**

### **Introduction and Welcome Instructor Notes**

#### **Slide 6: What Can You Do?**

- This slide summarizes five actions contractors can take to prevent lead poisoning. Each of these will be discussed in detail during the course.
- At this point, simply read through them and emphasize that the learning objectives for this course are to teach them these five things.

## What can you do?

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- ◆ **Contain dust in the work area**
- ◆ **Minimize the dust created**
- ◆ **Clean up completely**
- ◆ **Dispose of waste safely**
- ◆ **Determine if special requirements apply to your job**

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## What can you do?

There are five key steps to take during work that will help reduce the risk of lead poisoning. You should plan your job so all of these steps can be performed properly.

1. **Contain the dust.** You will learn how to close off the area you are working in to keep the dust inside the work area and away from the rest of the house. (We'll talk about this in detail in Module 2.)
2. **Minimize the dust.** You will also learn about tools and techniques for creating less dust while you work. (Module 3.)
3. **Clean-up.** This course will teach you how to clean your work area so that no dust is left behind. (Module 4)
4. **Dispose of waste.** This course will tell you how to properly dispose of waste from jobs with lead waste (Module 4).
5. **Determine special requirements.** Some jobs require that you use the work practices in this course. Other jobs require additional training. See the next slide for more detail.

## **Lead Safety for Remodeling, Repair, and Painting**

### **Introduction and Welcome Instructor Notes**

#### **Slide 7: Jobs Where Lead Safety Is Important**

- This slide shows the three types of jobs a contractor might do and demonstrates where safe work practices are appropriate or required.
- Emphasize that we are talking only about pre-78 housing.
- Also point out that these practices are required in some housing and that this course will teach them to recognize when the practice are required.
- Define abatement and emphasize that this course does not teach or qualify anyone to do abatement. To do abatement, one must take another course and obtain a license.
- Note: These practices are also recommended (and sometimes required) in child-occupied facilities but this course focuses on residential properties.

## Jobs Where Lead Safety Is Important

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### PRE-1978 HOUSING

Remodeling, Repairs, and  
Painting in:

- Private Housing
- Housing Receiving Government Assistance



This Training Applies

Abatement in Any Housing



Additional Training  
Needed

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### There are 3 types of jobs where Lead Safety is important

- Jobs being done in pre-78 private housing.
- Jobs in pre-78 housing that receives Federal, State, local, or tribal assistance. There may be specific requirements that apply to these jobs that are important to know when planning the work. To find out about if there are requirements and what must be done to meet them, ask for guidance from the public agency providing the housing assistance
- Housing where lead abatement is required. Abatement refers to work that is being done specifically with the intent to permanently control known lead-based paint. When the work to be done involves lead abatement, there are specific requirements, qualifications, and licensing needed to properly perform this work. Additional training beyond this course is needed and the supervisor must be certified. If a project requires abatement, advise the property owner that he or she will need an abatement firm to perform those parts of the job.

Note: The lead safe work practices taught in this course are also appropriate for any child-occupied facilities, such as schools and day care centers.

## **Lead Safety for Remodeling, Repair, and Painting**

### **Introduction and Welcome Instructor Notes**

#### **Slide 8: This Course...**

- The main point of this slide is to inform participants that completing the training is a way to be distinctive in the marketplace and bring added value to clients.
- It also qualifies them to work on jobs for Federally assisted housing where lead safe work practices are required. They must pass the test at the end of this course and keep their results to demonstrate that they are qualified.
- This course is not an abatement course and does not qualify participants to conduct abatement activities, nor does it meet OSHA requirements. Note that employers are responsible for complying with any OSHA requirements.

## This Course...

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- ◆ Meets HUD requirements
- ◆ Demonstrates your commitment to safety

**BUT,**

- ◆ Is not an abatement course
- ◆ Does not satisfy OSHA training requirements
- ◆ May not satisfy State, local, or tribal training requirements

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### The Value of this Training

- This course meets HUD requirements for interim controls / lead safe work practices training.
- Completing this training demonstrates your company's competence to prospective clients and can be a marketing advantage that distinguishes your company from the competition.

### Lead abatement training

- Lead abatement refers to work that is done for the specific purpose of permanently removing lead-based paint hazards from a home. This type of work requires special training that is not provided by this course.

### OSHA

- OSHA has training requirements for workers that employers should be aware of. For more information on OSHA requirements, visit [www.osha.gov/Publications/osha3142.pdf](http://www.osha.gov/Publications/osha3142.pdf).

### State, Local, and Tribal Requirements

- Many localities have their own lead-based paint requirements, including specific training and certification requirements. Check with your State, local, or tribal housing and environmental agencies to obtain information about any requirements.

## **Lead Safety for Remodeling, Repair, and Painting**

### **Introduction and Welcome Instructor Notes**

#### **Slide 9: Training Manual Overview**

- Walk participants through the five modules by highlighting the module title and length of time needed to cover the material.
- Emphasize that the course is intended to be interactive with discussions and exercises to practice some of the activities discussed in the modules.
- Highlight each of the appendices.
- Take the time to have participants thumb through the Field Guide in Appendix 8. Emphasize that they can take it on-site to help provide guidance on working in a lead-safe manner and that the guide contains illustrations of suggested methods for reducing, containing, and cleaning up dust in work areas.

## Training Manual Overview

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- ◆ Five modules
- ◆ Interactive and hands-on exercises
- ◆ Appendices
- ◆ Lead Paint Safety Field Guide

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### Modules

In addition to this Introduction and Welcome, there are five modules in this course:

- Module 1 Why Should I Be Concerned About Lead Dust? **(1 hour)**
- Module 2 Set-up Your Work Space to Contain Lead Dust **(1 hour)**
- Module 3 Safe Work Practices **(1 hour)**
- Module 4 clean up and Check Your Work **(1 hour)**
- Module 5 Planning the Work **(1/2 hour)**

### Activities and Exercises

- The course includes activities and exercises to help you identify methods of reducing the amount of dust you create, and containing and cleaning up the dust you created. Many of the exercises and activities take place in small groups, so you will have an opportunity to share your experiences and ideas with others in the class.

### Appendices

- As indicated in the Table of Contents, this manual has several appendices that provide extra information that will help contractors.

### Field Guide

- This manual also provides you with a copy of the *Lead-Based Paint Safety Field Guide* in Appendix 8. This handy Field Guide is easy to use and has illustrations of suggested methods for reducing, containing, and cleaning up dust in work areas. Take it with you to work.

## **Lead Safety for Remodeling, Repair, and Painting**

### **Introduction and Welcome Instructor Notes**

#### **Slide 10: Course Agenda**

- The agenda on the slide does not contain times (because the training could be offered over several days), so you may want to write the agenda (with times) on a flip chart, blackboard or whiteboard so that participants can refer to it throughout the course, or you could make a hardcopy of the agenda and distribute it to participants.
- Walk participants through the agenda for the training.
- Mention the test.
- The Notes to the Instructor has a proposed course schedule and lesson plans to help you plan your schedule.

# Course Agenda

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- ◆ Introduction and welcome
- ◆ Module 1
- ◆ Break
- ◆ Module 2
- ◆ Break
- ◆ Module 3
- ◆ Break
- ◆ Module 4
- ◆ Module 5
- ◆ Test
- ◆ Adjourn

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# Lead Safety for Remodeling, Repair, and Painting

## Module 1 Instructor Notes

### Slide 1-1: Module 1 Why Should I Be Concerned About Lead-Contaminated Dust?

- This is the module title slide.
- Announce the module and move quickly to the next slide.

**Overview of this module:** The table below summarizes the content and teaching methods for this module. This is for your reference. Do not cover this with the participants.

<b>Module 1: Why Should I Be Concerned About Lead Dust?</b>	<b>1 hour</b>
<ul style="list-style-type: none"><li>➤ <u>Activity</u>: How do we create dust</li><li>➤ A little dust goes a long way</li><li>➤ <u>Activity</u>: Dust wipe demonstration</li><li>➤ Why is dust a problem?</li><li>➤ Health risks</li><li>➤ What is lead-based paint?</li><li>➤ How widespread is LBP?</li><li>➤ What is being done?</li><li>➤ How do I work lead safe</li></ul>	<p><u>Key message</u>: Dust is the problem and contractors make dust. By working lead safe, you can make a difference.</p> <p><u>Notes</u>: This module involves an upfront exercise and then slides.</p> <ul style="list-style-type: none"><li>➤ Exercise: Sweetener packet demo or paper-based exercise (30 minutes).</li><li>➤ Slides (30 minutes)</li></ul> <p><u>Preparing for this module</u>: Have materials ready for the exercise and demonstration.</p> <p><u>Materials needed</u>: – sweetener packet, dustpan, broom, dust wipe kit.</p> <p><u>Options</u>: Trainer can replace the interactive sweetener packet exercise with a paper-based exercise in which participants rate different activities by how much dust they create. See Appendix 7 for Optional Exercise #1. Note: Instructor must use one of these two exercises.</p>

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# Module 1

## Why Should I Be Concerned About Lead Dust?

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## **Lead Safety for Remodeling, Repair, and Painting**

### **Module 1 Instructor Notes**

#### **Slide 1-2: Module 1 Overview**

- This module covers the bulleted list of topics on the slide. Review this list with the class participants.
- Module objective. The purpose of this module is to identify and describe the health effects of lead exposure and thereby establish the importance of protecting residents (and workers) from exposure to lead-contaminated dust.
- Upon completion of this module, participants will be able to explain:
  - Why we are concerned with lead-contaminated dust;
  - The health risks of lead to children and adults; and
  - The Federal regulations that affect lead-based paint.

## Module 1 Overview

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- ◆ Why is lead-contaminated dust a problem?
- ◆ Health risks and effects of lead?
- ◆ What is lead-based paint?
- ◆ How many homes contain lead-based paint?
- ◆ What is being done about lead-based paint?
- ◆ Summary

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1-2

### Upon completion of this module, you will be able to explain:

- Why we are concerned with lead-contaminated dust
- The health risks of lead to children and adults
- What the government is doing about lead-based paint and what you can do to help

## Lead Safety for Remodeling, Repair, and Painting

### Module 1 Instructor Notes

#### Slide 1-3: How Do We Create Dust?

Use this slide to launch a five-minute brainstorming exercise. The goal of the exercise is for participants to make a connection between the work they do and dust.

- 1) Tell participants to think of activities they do that create dust. Ask them to write them down, individually or in groups. (Possible answers include: planning, sanding, scraping, drilling, sawing, demolition, etc.)
- 2) After a couple minutes, stop them and ask them to share their answers.
- 3) Write their answers on a flipchart or overhead slide. (Option – Participants can write answers on an overhead slide and then present the slide.)
- 4) Highlight the fact that many common renovating, remodeling, and painting activities create dust.

**Optional Hands-On Activity:** Another way to achieve this training objective is to have participants do some paint preparation work in class.

- 1) Select a small number of participants.
- 2) Give them pieces of painted wood and assign them tasks such as sanding, planing, drilling, and sawing.
- 3) When they are done, examine the area. Ask the large group – Did these activities generate dust?

This activity helps reinforce the key message that dust is the big concern, and the goals are to minimize it, contain it, and clean it up effectively.

## How do we create dust?

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1-3

**Note the things that you commonly do during a job that create dust.**

## Lead Safety for Remodeling, Repair, and Painting

### Module 1 Instructor Notes

#### Slide 1-4: A Little Dust Goes a Long Way...

*For this slide you need a sweetener packet, broom and dust pan, and dust-sampling supplies.*

Do the following demonstration to emphasize the points on this slide:

- 1) Tear open a packet of artificial sweetener and sprinkle it on the floor. (Note: Use artificial sweetener rather than sugar. It is finer.)
- 2) Ask a few participants to walk through it.
- 3) Now give a participant a broom and tell him or her to sweep up all the sweetener.
- 4) Question to the class -- Do they think the sweetener is all gone? Ask them if there is any on the soles of the feet that walked through it. Where is that sweetener now? (probably all over the room).
- 5) Explain that one way to test the amount of sweetener on the floor is to do a dust wipe.
- 6) **Demonstrate the dust-wipe sampling process.** (For guidance on how to conduct dust wipe sampling, consult EPA's Lead Sampling Field Guide, which can be downloaded at <http://www.epa.gov/lead/Handbk-2A.pdf>.)
- 7) Question for the class: Do you think a lab analysis would show sweetener on the wipe?
- 8) Now tell the class to imagine that packet was actually full of lead dust. The fact is that a packet of lead that size (one gram) could contaminate several family homes. The math that substantiates this assertion is provided below. You do not need to go into it in detail but use it if questioned.

**Option:** If this activity is not appropriate for your training, consider using Optional Exercise 1 in Appendix 7.

#### **Sweetener Packet Math (Use the information below only if asked by the participants.)**

A packet of sweetener contains one gram of sweetener. Imagine that one-gram packet contains 10,000 tiny pieces of sweetener. Each piece would weigh a very small amount, 100 micrograms. (A microgram is a millionth of a gram; a millionth of a packet of sweetener.)

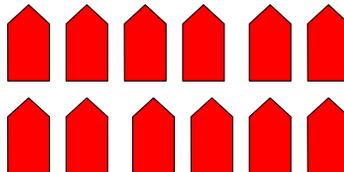
If one of those tiny pieces were crushed and spread over a one square foot area, that would be 100 micrograms per square foot. If the granule were actually lead instead of sweetener, having it spread over a square foot would exceed the EPA lead clearance standard of 40 micrograms per square foot.

Those 10,000 granules in the package could be crushed and spread out over 25,000 square feet and contaminate that entire area - that's the floor space of twelve average houses!

## A little dust goes a long way . . .

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- ◆ You can't see it
- ◆ It's hard to sweep up
- ◆ And it travels



**One gram of lead can  
contaminate several homes!**

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1-4

### A little dust goes a long way.

- **You can't see it.** Even a floor that looks clean can have lead dust. Only a laboratory test can tell you for sure if an area is contaminated with lead.
- **It's hard to sweep up.** Normal cleaning methods will not pick up all the lead in a work area. Sweeping is not enough. You need to clean with water, detergent, and a HEPA-filtered vacuum to clean up effectively.
- **It travels.** Once the lead is released, it is easily tracked out of the work area. An exterior painting job can contaminate the inside of a home as the dust, chips, and leaded soil are tracked inside.

## Lead Safety for Remodeling, Repair, and Painting

### Module 1 Instructor Notes

#### Slide 1-5: Why Is Dust and Debris a Problem?

- Review the notes beneath the slide.
- Highlight the following points:
  - Tiny amounts of lead can be extremely harmful.
  - If dust contains lead, it can poison workers, residents, and children.
  - Workers may bring home lead-contaminated dust in their vehicles and on their clothes and shoes and expose children and other adults to lead-contaminated dust.
  - Lead particles are often so small that you cannot see them, and yet you can breathe or swallow them.
  - Children often inhale or swallow lead-contaminated dust during normal hand-to-mouth activities.
  - Adults can swallow or breathe dust during work activities.
- **Optional:** Pass around a laminated paint chip to show the amount of lead-based paint it takes to poison a child.
- ✓ **Emphasize that if proper precautions are not taken prior to or during jobs that generate dust, workers, residents, and children may become lead-poisoned.**

## Why Is Dust and Debris a Problem?

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- ◆ **Dust and debris can contain lead**
- ◆ **Lead-contaminated dust and debris is poisonous**
- ◆ **Very small amounts of lead-contaminated dust can poison children and adults**
  - Children swallow it during ordinary play activities
  - Adults swallow or breathe it during work activities
- ◆ **Workers can bring lead-contaminated dust home and poison their families**



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1-5

### **Dust and debris from renovation, remodeling, repair, and painting jobs in pre-1978 housing may contain lead**

- Pre-1978 paint may contain lead.
- Renovation, repair, and painting jobs disturb paint that may contain lead. Any activity involving surface preparation, such as hand-scraping, power sanding, the use of heat guns, and open flame burning, can generate lead dust or fume. More complicated tasks such as removing building components and demolishing walls also can create a lot of dust.

### **Small amounts of lead-contaminated dust can poison**

- A tiny amount of lead can be extremely harmful.
- Lead particles are often so small that you cannot see them, and yet you can breathe or swallow them. Smaller dust particles that are inhaled or swallowed are more easily absorbed by the body than larger particles, and can therefore cause poisoning more easily.

### **Lead-contaminated dust is dangerous to children and adults**

- Lead particles in dust or fumes may be breathed or swallowed by children, residents, and workers.
- Through normal hand-to-mouth activities, children may swallow or inhale dust on their hands, toys, food, or other objects. Children may also ingest paint chips.
- Adults can swallow or breathe dust during work activities.
  - When workers perform activities such as scraping and sanding by hand or use a power sander or grinding tool, it creates dust. These particles get into the air that they breathe.
  - If workers eat, drink, smoke, or put anything into their mouths without washing up first, they may swallow lead.

# Lead Safety for Remodeling, Repair, and Painting

## Module 1 Instructor Notes

### Slide 1-6: Health Risks of Lead

- This slide and the next cover similar points, so review both slides before presenting to the class to be sure you make the necessary points appropriate for each slide.

#### Health Effects in Children

- Children, particularly children under age 6, are most at risk from small amounts of lead.
- For children, the major route of entry of lead into the body is through ingestion of lead dust by normal hand-to-mouth contact as they swallow dust from their hands, toys, and other things they put in their mouths.
- Children's bodies absorb a much greater percentage (50%) of the lead that they ingest or breathe, compared to adults (10%).
- In children, lead can cause:
  - Nervous system and kidney damage.
  - Learning disabilities, attention deficit disorder, and decreased intelligence.
  - Speech, language, and behavior problems.
  - Poor muscle condition.
  - Decreased muscle and bone growth.
  - Hearing damage.

While low-lead exposure is most common, exposure to high levels of lead can have devastating effects on children, including seizures, unconsciousness, and, in some cases, death.

#### Health Effects in Adults

- Emphasize that adults the major route of entry of lead into the bodies of adults is through inhalation (breathing) of leaded dust.
- In adults, lead can cause:
  - Increased chance of illness during pregnancy.
  - Harm to a fetus (unborn child), including brain damage or death. (Note: Lead does not get in breast milk.)
  - Fertility problems in men and women.
  - High blood pressure.
  - Digestive problems.
  - Nerve disorders.
  - Memory and concentration problems.
  - Muscle or joint pain.

## Health Risks of Lead

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### ◆ Very hazardous to children

- Reading and learning difficulties
- Behavioral problems
- Difficulty paying attention and hyperactivity
- May result in seizures, coma, and death

### ◆ Hazardous to pregnant women

- Damage to fetus

### ◆ Also hazardous to workers and other adults

- Loss of sex drive
- Physical fatigue, high blood pressure

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1-6

### **Children, particularly children under six, are most at risk from small amounts of lead**

- Children are at a greater risk than adults because, during normal and frequent playing or hand-to-mouth activity, children may swallow or inhale dust from their hands, toys, food, or other objects.
- In children, lead can cause:
  - Nervous system and kidney damage.
  - Learning disabilities, attention deficit disorder, and decreased intelligence.
  - Speech, language, and behavior problems.
  - Poor muscle condition.
  - Decreased muscle and bone growth.
  - Hearing damage.

### **Among adults, pregnant women are especially at risk from exposure to lead**

- Changes in a woman's body during pregnancy may cause lead stored in her bones to be released into her blood.
- Lead can then be passed from the mother to the fetus. Lead poisoning can cause:
  - Miscarriages
  - Premature births
  - Low birth weight

### **Health effects of lead in adults include**

- Fertility problems in men and women.
- High blood pressure.
- Digestive problems.
- Nerve disorders.
- Memory and concentration problems.
- Muscle or joint pain.

## Lead Safety for Remodeling, Repair, and Painting

### Module 1 Instructor Notes

#### Slide 1-7: Lead Poisoning

- Lead poisoning often has no symptoms.
- Testing a person's blood is the way we measure exposure to lead.
- The most common way to measure the amount of lead in blood is the Blood Lead Level (BLL) test.
- It is not necessary to describe the two tests listed below to participants. The information is provided for your purposes in case of questions.
- The point to emphasize is that even small amounts of lead in the blood are cause for concern.
- The BLL test:
  - Measures the amount of lead that is circulating in your blood.
  - Tells you about your exposure to lead in the last 2-3 weeks.
  - Does not tell you the total amount of lead in your body.
  - Does not tell you if any long-term damage has occurred.
  - A blood lead level above 10 µg/dl is not safe for children or for women during pregnancy. A level of 39 µg/dl or less may mean that damage to your body is occurring, even if you have no symptoms. A level of 40 to 49 µg/dl means that serious health damage may occur. A level of 50 µg/dl or greater means that severe health damage is likely, may be permanent, and may occur quickly.
- A different, less common, test is the Zinc Protoporphyrin (ZPP) test. The ZPP test:
  - Indicates the effect of lead exposure over the previous 3-4 months.
  - The test can measure damage to a person's blood-forming system.
  - Does not tell you the total amount of lead in your body.
  - Does not tell you if any long-term damage has occurred.

# Lead Poisoning

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## ◆ Lead poisoning does not always have obvious symptoms

- Symptoms are easily misdiagnosed, thus delaying effective treatment and increasing the likelihood of permanent physical and mental damage
- Only sure way to determine lead poisoning is to take a blood lead level (BLL) test.

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1-7

## Lead poisoning does not always have obvious symptoms

- Lead poisoning often has no obvious symptoms, so symptoms are frequently attributed to other causes.
- Specific symptoms that people with lead exposure sometimes complain of include:
  - Headache
  - Stomach ache
  - Irritability
  - Fatigue
  - Loss of appetite
  - Pain in joints
- Because many symptoms are vague or similar to flu symptoms, parents may not get immediate medical attention for their children. This is critical for young children. The longer lead remains in the body of a young child, the higher the risk of permanent damage.
- The best way to determine if lead is present in the body is by testing a person's blood.
- We measure the amount of lead in blood by  $\mu\text{g}/\text{dl}$ , a very small unit of measurement. The Centers for Disease Control has designated  $10 \mu\text{g}/\text{dl}$  a "level of concern" but even lower levels may be harmful.

## **Lead Safety for Remodeling, Repair, and Painting**

### **Module 1 Instructor Notes**

#### **Slide 1-8: What Is Lead-Based Paint?**

- The purpose of this slide is to provide the definition of “lead-based paint.”
- Review the notes beneath the slide and emphasize that paint with lower concentrations of lead can cause health problems.

# What Is Lead-Based Paint?

---

### ◆ Lead-based paint is

- Any paint or surface coating that contains more lead than 0.5% or 5,000 ppm by dry weight or 1.0 mg/cm<sup>2</sup>
- Some states regulate paint with lower concentrations of lead

### ◆ Why was lead used in paint?

- Primary pigment
- Added color
- Durability
- Drying agent
- Mildew inhibitor
- Corrosion inhibitor

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1-8

## Lead-Based Paint

- Lead-based paint is any paint or other surface coating that contains lead equal to or greater than than 0.5 percent or 5,000 parts per million by weight or 1.0 milligram per square centimeter (mg/cm<sup>2</sup>) as measured by laboratory analysis or X-ray fluorescence (XRF).
- Paint with concentrations of lead lower than the standard definition above can still cause health problems.

## Some states regulate paint with lower concentrations of lead

- You should check with your state health department to see if the state has requirements that are more stringent than the Federal requirements.

## Why was lead added to paint?

- Lead was added to paint for color and durability. Lead-based paints stood up to wear and tear, temperature and weather changes, and resisted mold and mildew in moist areas.
- Before the 1950's concentrations of lead in paint were as high as 50 percent by weight. From about 1950 to 1973, the concentration of lead in paint was reduced as other pigment materials became more popular.
- In addition to being added to paint, lead was added to all surface coatings.

## Lead-based paint was banned from residential use in 1978

- In 1978 the Consumer Products Safety Commission banned the sale of lead-based paint for residential use. In practice, this means that homes built in 1978 could still have used lead-based paint because existing supplies of paint containing lead would still have been available.

## Lead Safety for Remodeling, Repair, and Painting

### Module 1 Instructor Notes

#### Slide 1-9: How Widespread is Lead in Housing?

**Key message of this slide:** Pre-1960 housing contains significant amounts of lead-based paint. Homes built between 1960 and 1978 may contain significant amounts of lead-based paint, but at a declining rate.

- Emphasize that pre-1978 housing should be assumed to contain lead-based paint. Additionally, note that lead-based paint under new paint is still a problem and will create lead-contaminated dust and debris.
- Highlight that approximately 38 million homes contain some lead-based paint, according to the HUD Report on the National Survey of Lead-Based Paint in Housing, 2001.
- Homes built before 1950 may contain significant levels of lead-based paint. Explain that many homes built before 1978 may contain some lead-based paint. Participants should assume that any house built in 1978 or earlier contains lead-based paint unless the house has been tested for lead by an EPA or State-certified risk assessor or inspector and the results indicate that the house does not contain lead-based paint.
- Emphasize that pre-1950 housing is likely have lead-based paint on the exterior and interior. After 1950 and up through 1978, there was a decline in the use of lead-based paint in the interior of housing; however, it is likely that it will be present on the exterior of housing. Lead paint on the exterior of housing could result in soil contamination with lead, making it easy for dirt and dust from around the house to blow in or be tracked into the home. Children also are more likely to play in the dirt near the house and thus be exposed to lead contaminated soil, dirt, and dust. After 1978, lead-based paint is not likely to be found in the interior or exterior of housing.

## How Widespread is Lead in Housing?

Year House Was Built	Percent of Houses with Lead-Based Paint
Before 1940	87 percent
1940-1959	69 percent
1960-1978	24 percent
All Housing	40 percent



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1-9

- **Source of data in table above:** *HUD Report on the National Survey of Lead-Based Paint in Housing, 2001.*

### Homes built in 1978 and earlier

- Approximately 38 million pre-1978 housing units may contain paint that meets the Federal definition of “lead-based paint” (Source: *HUD Report on the National Survey of Lead-Based Paint in Housing, 2001*).
- Play it safe. You should assume that any house built in 1978 or earlier contains lead-based paint unless the house has been tested for lead and the results indicate that the house does not contain lead-based paint.
- Components most likely to have lead include windows and doors (interior and exterior) as well as outside walls and porches.

### Homes built before 1960

- Homes built before 1960 are more likely than homes built after 1960 to contain higher concentrations of lead and to have deteriorated paint surfaces. In the 1950’s paint companies began to use less lead.

## Lead Safety for Remodeling, Repair, and Painting

### Module 1 Instructor Notes

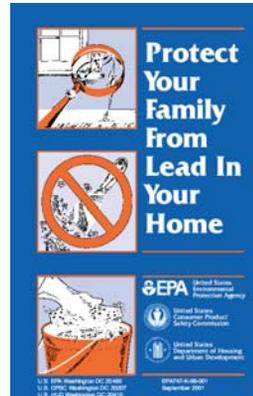
#### Slide 1-10: What is Being Done About Lead?

*For this slide, have a copy of the blue "Protect Your Family Brochure" on hand.*

- Review the notes beneath the slide.
- Highlight the following:
  - Lead was banned from residential use in 1978. This is why 1978 is the critical cut-off date.
  - The Pre-Renovation Education Rule (PRE) requires contractors to distribute a pamphlet to clients in pre-1978 homes. This is the law. (See details in the notes under this slide and in Appendix 5.)
  - Show the "Protect Your Family" pamphlet. (Note that it is available in English, Spanish, and Vietnamese. Download these pamphlets on the Web at <http://www.hud.gov/offices/lead/disclosurerule/index.cfm#forms> or call 1-800-424-LEAD.)
- Some clients will have already seen this pamphlet. The disclosure rule requires that sellers and landlords give it to buyers and tenants.

## What Is Being Done About Lead?

- ◆ **Ban in Residential Housing**
  - Lead-based paint was banned from residential use in 1978
- ◆ **Pre-Renovation Education Rule**
  - Contractors must distribute a pamphlet (See Appendix 5).
- ◆ **Disclosure Rule**
  - Buyers/renters receive information about lead in their homes
  - They can share this information with contractors



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1-10

### Lead-based paint was banned from residential use in 1978

- This means that homes built after 1978 are unlikely to have lead-based paint in them. Some states may have banned it earlier.

### Pre-Renovation Education Rule (PRE)

- This EPA regulation requires that contractors distribute a lead hazard information pamphlet to residents of pre-1978 housing before they begin any renovation or remodeling activities. For copies of the required lead information pamphlet, *Protect Your Family from Lead in Your Home*, call the National Lead Information Center at 1-800-424-LEAD. Note: The pamphlet is available in English, Spanish, and Vietnamese.
- The PRE requires written acknowledgment from the client that he or she has received the pamphlet. Alternatively, the contractor can send the pamphlet by certified mail. Contractors should keep this documentation in their files.
- The PRE does not apply to non-residential dwellings, child-occupied facilities, dorm rooms, studios, or housing for the elderly.
- The PRE does not apply to jobs that involve less than 2 sq. ft. of paint per component.
- **Appendix 5** has additional information on the PRE, its requirements, and its exemptions.

### Disclosure Rule

- HUD and EPA's disclosure rule requires sellers and landlords to provide the same pamphlet that the PRE does (*Protect Your Family from Lead in Your Home*) and to tell prospective buyers and renters about any known lead-based paint and/or hazards in the dwelling. Because of the disclosure rule, your client may have some information about lead in his/her home. Ask for it.

## **Lead Safety for Remodeling, Repair, and Painting**

### **Module 1 Instructor Notes**

#### **Slide 1-11: What Is Being Done About Lead?**

- Review the notes at the bottom of this slide.
- Highlight the following:
  - Specialized training is required for abatement supervisors and workers. EPA and the States have training and accreditation programs.
  - This training is also part of a national initiative to train people. While voluntary, it provides critical information to people who need it – contractors and their personnel.

# What Is Being Done About Lead?

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### ◆ Worker Training

- EPA/state training and accreditation programs for abatement
- Lead Safe Work Practice Training (like this one) for renovation, repair, and painting.

### ◆ Worker Protection

- Worker protection standards

### ◆ Lead Hazard Reduction Initiatives

- Required actions in Federally-assisted housing
- Federal grant programs
- State and local initiatives

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1-11

## Worker Training

- EPA has training requirements for people involved in lead abatement (i.e., the permanent removal of lead). This course does not qualify you to perform abatement.
- This training is one of several trainings on Lead Safe Work Practices. It trains you to work safely with lead in standard renovation jobs and it also qualifies you to work in Federally assisted housing or Federally owned housing being sold, as described below.

## Worker Protection

- OSHA has a lead in construction standard which outlines worker protection requirements. Your employer should be aware of these. For more information, visit [www.osha.gov/Publications/osha3142.pdf](http://www.osha.gov/Publications/osha3142.pdf).

## Lead Hazard Reduction Initiatives

- If you work in Federally assisted housing, certain actions are required to address lead hazards. In these cases, the workers must have proper training. See Appendix 3 for more information on the Federal requirements for worker training and lead hazard reduction in federally assisted housing.
- HUD has a grant program to state and local governments for funding lead hazard reduction activities.
- Check with your states and localities to find out if there are any local programs (which may be State or Federally funded) that are designed to address lead hazards.

## Lead Safety for Remodeling, Repair, and Painting

### Module 1 Instructor Notes

#### Slide 1-12: How Do I Work Lead Safe?

- Use this slide to transition to the next modules. It shows participants what they must do in a renovation, remodeling, or maintenance job to work in a lead safe manner. The rest of this course will follow these steps in detail.
- Remind them of 3 types of jobs discussed the Intro chapter (Slide 7) and refer them to Appendix 1. The flowchart in this appendix is a useful tool for determining if lead safe work practices are recommended or required in any given job.
- Explain that if the property where the work will be performed receives housing assistance (Federal or State), contractors need to check whether there are specific lead safety requirements that must be met.
  - Supervisors should make this determination and find out about the requirements.
  - Workers need to check with their supervisors to see if additional requirements apply. If work changes during the course of a job, workers need to check with their supervisor to make sure that the changes will meet the lead safety requirements. Remind them that if a job involves required abatement activities, this work must be done by a certified abatement contractor.

## How Do I Work Lead Safe?

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- ◆ **Follow the work practices shown during this training**
- ◆ **Plan your work using the chart in Appendix 1 to determine if Federal or State requirements apply to a job.**
- ◆ **Properties that receive housing assistance**
  - Ask the agency providing the assistance about lead safety requirements.
- ◆ **Jobs involving lead abatement**
  - Tell the owner that a certified lead abatement contractor must perform those activities.

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1-12

### How do I work lead safe?

The rest of this course will discuss the practices you need to follow to work lead safe. Also see Appendix 1 for a helpful resource.

## Lead Safety for Remodeling, Repair, and Painting

### Module 1 Instructor Notes

#### Slide 1-13: Now You Know

Reiterate the three key points from this module – you may want to do this as a discussion by asking the participants the following questions:

Q: Why are we concerned with lead-contaminated dust?

A: We are concerned about lead-contaminated dust because standard work practices tend to create a lot of dust. If the painted surfaces being worked on contain lead-based paint, this work can generate dust that can poison workers and residents.

Q: How does lead get into children and adults, and what are the health risks of lead?

A: Adults tend to inhale lead-contaminated dust, while children tend to swallow lead-contaminated dust. Either way, lead-contaminated dust can cause significant health problems for both adults and children.

A: Adults: loss of sex drive, high blood pressure, and damage to kidneys, reproductive organs, and the circulatory system. Pregnant women are susceptible to miscarriages, low birth-weight babies, and premature births.

A: Children: Irreversible brain, nervous system, and organ damage that can cause reading and learning difficulties in school, behavioral problems, and difficulty paying attention and hyperactivity.

Q: What is being done about lead?

A: It is no longer used in residential housing.

A: Workers are being trained to work safely.

A: Abatement workers are trained and certified by the State.

Emphasize that proper set-up and containment, work practices, and clean-up techniques leave less lead-contaminated dust than standard work practices and, therefore, are safer than standard work practices.

## Now You Know

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- ◆ **Why we are concerned with lead-contaminated dust**
- ◆ **The health risks of lead to children and adults**
- ◆ **Some actions taken to address lead-based paint**

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1-13

The modules in the rest of the course describe how proper set-up and containment, safe work practices, and clean-up techniques leave less lead-contaminated dust and debris than standard renovation, remodeling, and painting work practices.