Exercise – Identify Pest Problems

Photo No.	Potential Problems	Additional Notes
#1 Serving cart	Cart with pesticides (Garden Fogger), spray paint, cooking pans and cutting boards. Pesticide contamination is a possibility.	Pesticide – garden fogger
#2 Woodpile	Rat harborages.	Woodpile is a problem. Some housing or health codes call for woodpiles to be at least 18" from the ground.
#3 Raccoon nest	Raccoon in attic. Straw in corner keeps raccoon warm and happy.	Hole in attic to let raccoon get in and out.
#4 Droppings on Sill	Mouse droppings on window sill. They are pointed and small, so they are probably mice.	Mice like to hide behind curtains. Need to eliminate harborage and drink. Mice need sip of water each day.
#5 Bedroom Wall	Cockroach frass on baseboard behind headboard on bed. Frass is urine and feces from cockroaches.	Cockroaches are probably hiding in the wall. They only travel 5 to 10 feet from nest unless disturbed.
#6 Rodent hole in wall	Note carpeting. The hole is about 1" wide and ½" high. Probably a mouse based on size and location. There are	Hard to tell.
#7 Boric acid on floor	There is a small mouse hole in wall just above baseboard. Note how it is gnawed. The powder is boric acid that someone put down to kill the mouse.	Boric acid is ineffective in thick layers, even for cockroaches. Only a dusting works. Plus boric acid is dangerous to kids. A couple teaspoons of boric acid can kill a toddler.
#8 Thermostat	Cockroach free behind thermostat. Frass is debris left by cockroaches.	Cockroaches live in walls. They like heat from appliances.
#9 Sticky traps	Cockroaches on sticky traps. Only three of the traps affected. In this case it was kitchen and bathroom. Pretty typical.	Traps are an effective way to monitor for cockroaches not kill them. It is not usual to capture more than 50 on a trap. The traps are $0.05 each.
#10 Trash on Porch	Debris on a porch attracts rats, mice and cockroaches.	Cardboard is like an apartment complex for cockroaches.
#11 Bedbug evidence	Evidence of bedbugs on mattress. Dried blood and feces.	Mattress cover, heat treatment or discard
#12 Cockroach Frass	Frass along the top of a door, under a shelf, and on a wall where a clock was hung.	Note that when the clock was there the place looked clean - students have to know where to look to find signs.


ACE
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8 10:40 AM


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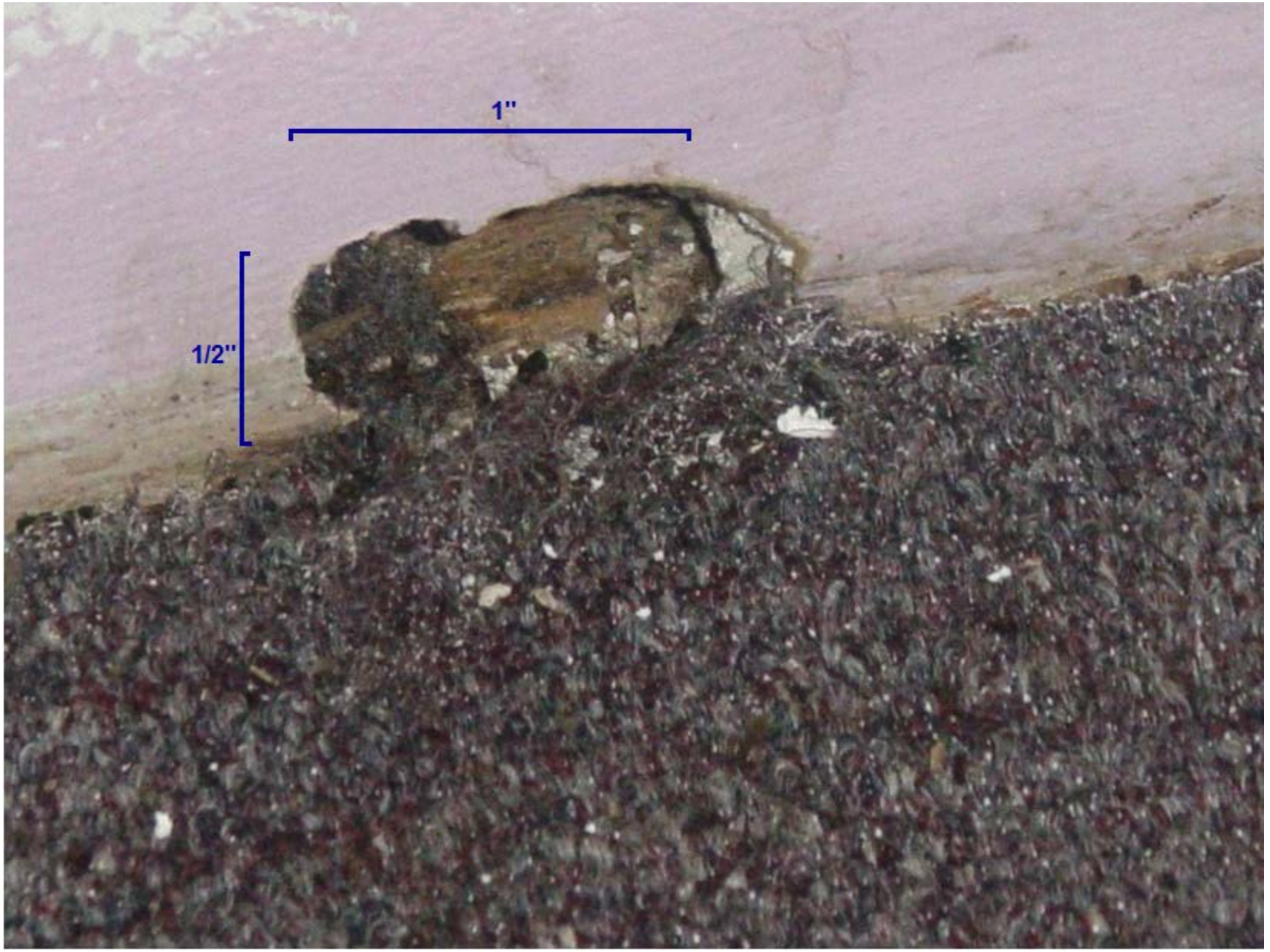
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Honeywell
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Victor
La Trampa y Comprobador
Para las Cucarachas


12/16 OZ.
BOXES
piper's
Supreme
4
STACK
PACKS
snack crackers
ITEM # 5014
DOLLAR TREE SKU# 126506
CASE PACK: 24 PCS
MADE IN CHINA
30 1:31 PM


Door


Behind wallpaper


Wall clock


Under a
cabinet shelf


Behind the wall clock


ACE
ENAMEL


8 10:40 AM


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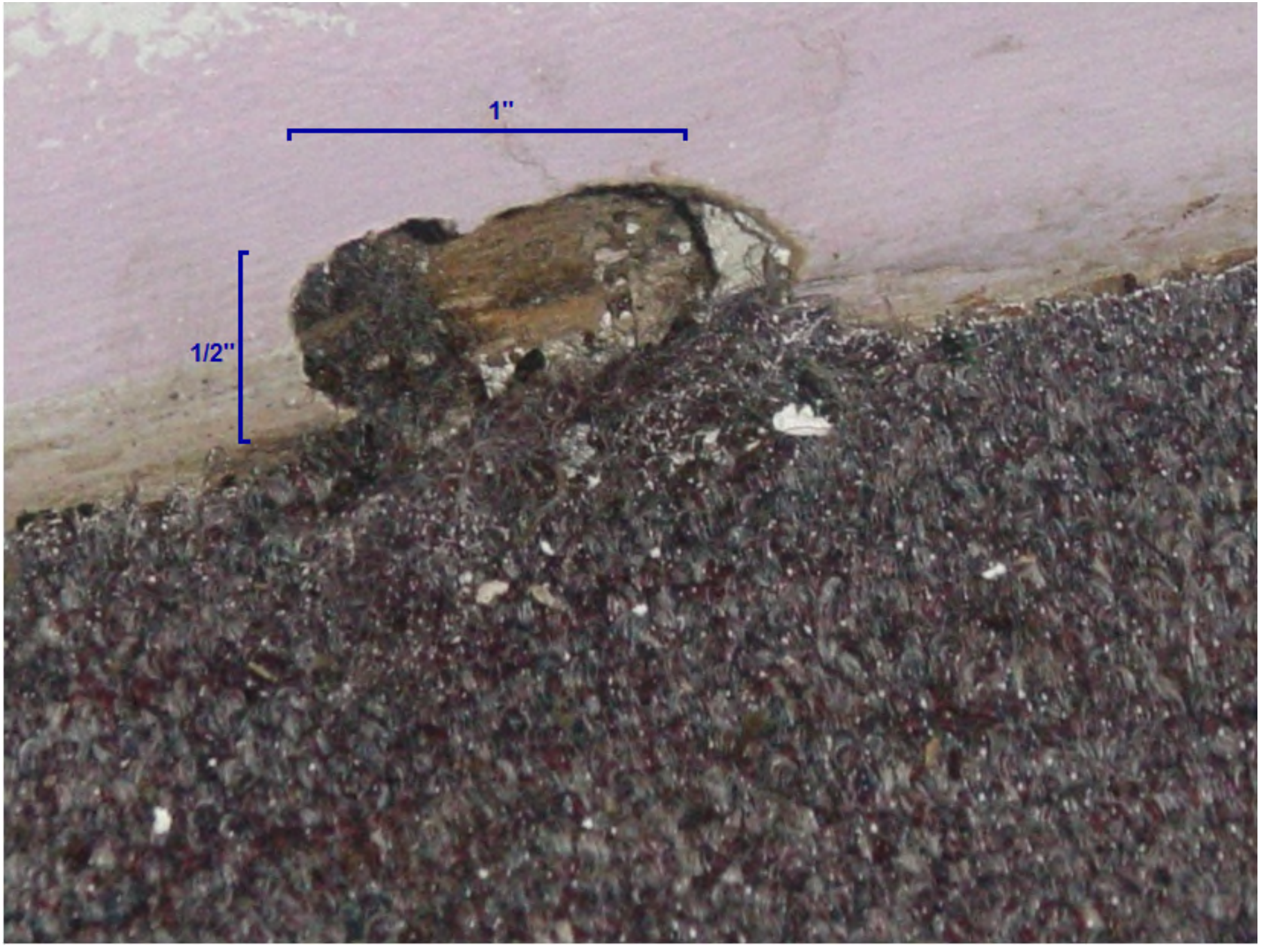
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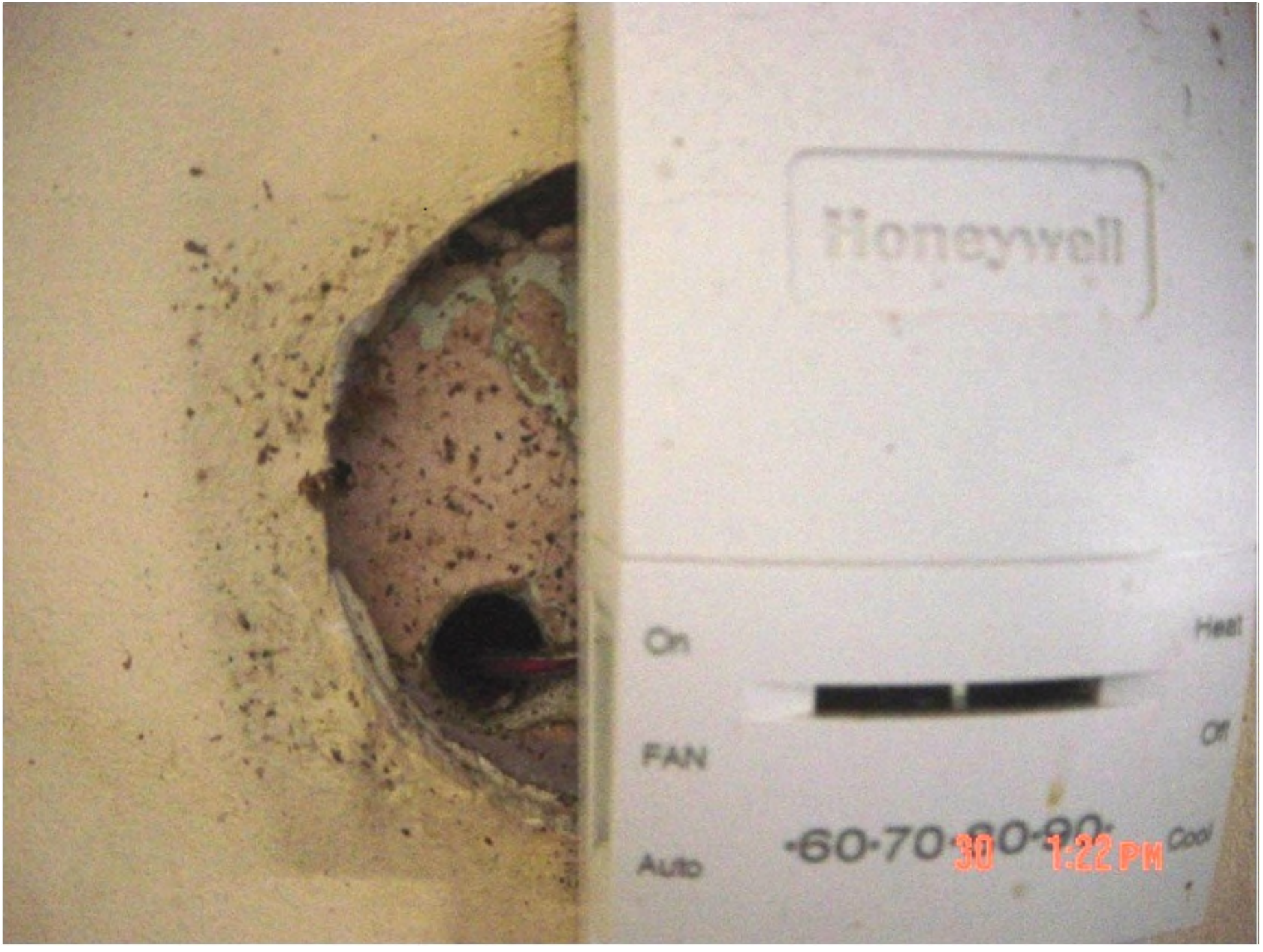
Honeywell
On
Heat
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Victor


12/16 OZ.
BOXES
piper's
Supreme
4
STACK
PACKS
snack crackers
ITEM # 5014
DOLLAR TREE SKU# 126508
CASE PACK: 24 PCS
MADE IN CHINA
30 1:31PM


Door


Behind wallpaper


Wall clock


Under a
cabinet shelf


Behind the wall clock

Healthy Home Evaluator Course – Non-binder Supplies

Answers to Pest Photos

Module 3 Exercise: Identify Pest Problems

Module 3 Exercise: Visual Identification Poster

Module 4 Exercise: Case Study—Orlov—Part 2 and 3 Assessment Sheet

Module 4 Exercise: Case Study—Orlov—Part 2 and 3 Pictures

Module 4 Exercise: Case Study—Orlov—Part 2 Quantitative Measurements

Module 5 Exercise: Case Study—Orlov—Part 3 Justify and Prioritize

Module 8 Exercise: Resident Education Scenarios

Site-visit - Asbestos 1

Site-visit - Asbestos 2

Site-visit - Mold 1 small

Site-visit - Mold 2 LARGE-24x36

Renovate Right brochure

Healthy Home Evaluator Course – Non-binder Supplies

Answers to Pest Photos

Module 3 Exercise: Identify Pest Problems

Module 3 Exercise: Visual Identification Poster

Module 4 Exercise: Case Study—Orlov—Part 2 and 3 Assessment Sheet

Module 4 Exercise: Case Study—Orlov—Part 2 and 3 Pictures

Module 4 Exercise: Case Study—Orlov—Part 2 Quantitative Measurements

Module 5 Exercise: Case Study—Orlov—Part 3 Justify and Prioritize

Module 8 Exercise: Resident Education Scenarios

Site-visit - Asbestos 1

Site-visit - Asbestos 2

Site-visit - Mold 1 small

Site-visit - Mold 2 LARGE-24x36

Renovate Right brochure

Site Visit Field Assessment form

3.0 House/Floor/Room Plan Drawings

EHA ID #: _____ Date: _____

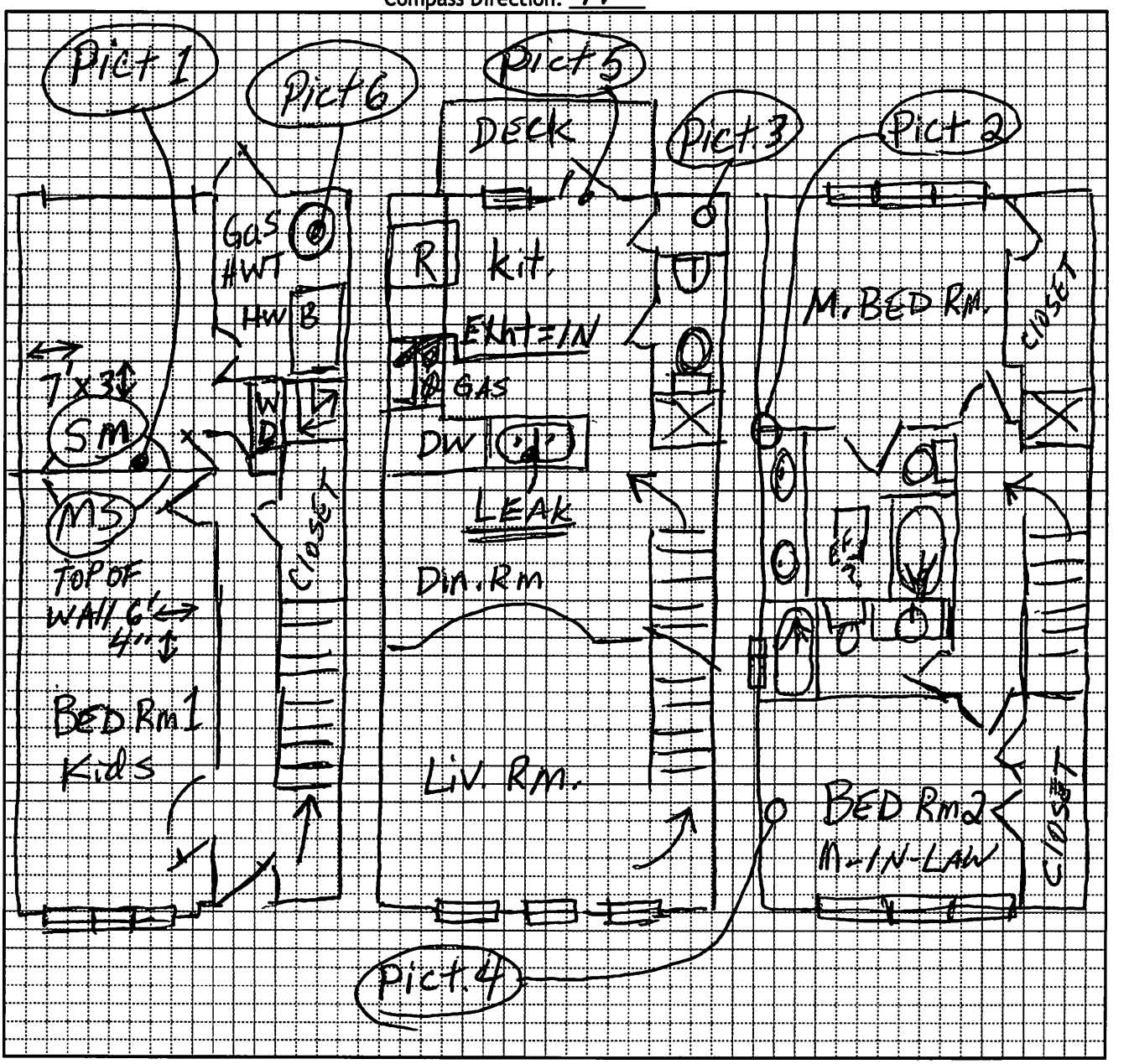
Items to be included on floor plan drawing: ORLOV's

* Smoke tube applicable doorways
* Measure and note ft^2 and ft^3 for each room assessed
* Note locations for supply, return, and exhaust vents
* Note room contents (tables, couches, dressers, etc.)
* Note locations of moisture sources (sinks, toilets, W/D, etc.)
* Note locations of "issues"

Issues Key

F	Fragranced products
C	Chemical products
MS	Moisture stain
SM	Suspect mold
FP	Flaking paint
SH	Safety hazard

Compass Direction: N ←



	Door 1	Door 2	Door 3	Door 4	Door 5	Door 6	Door 7	Door 8	Door 9	Door 10
Pressure Readings/ Smoke Tube Measurements										

Home Assessor Name(s): _____

Orlov Family Case Study – Picture 1

Garage

Orlov Family Case Study – Picture 2

M. Bathroom ceiling

Orlov Family Case Study – Picture 3

Pantry room

Orlov Family Case Study – Picture 4

Bed room 2

Orlov Family Case Study – Picture 5

Kitchen door to deck

Orlov Family Case Study – Picture 6

Hot water tank in the utility room – off garage

Keep it Principles

Areas	Dry	Clean	Pest-free	Ventilated	Safe	Contaminant-free	Maintained	Climate-Controlled
Building								
Area around building								
Mechanical equipment and applicances								
Kitchens and bathrooms								
Interior rooms								

Case Study: Orlov Case Study Part 2
Quantitative-Measurements
Refer to pictures and site map

The Setting

The Orlov family lives in a single family, three story townhouse style home in a large city. There are other houses near and it is a fairly dense neighborhood. The house is fifteen years old. The house has three bedrooms and 2 1/2 bathrooms.

Visit Trigger

The house had water damage from a burst water pipe in the kitchen. The Orlovs explained that a contractor was called to repair the damage. A considerable amount of mold had developed after that work was done. The contractor would not return their calls. No one else has performed any work in the house. The Orlovs also complained that their children and mother-in-law were not feeling well and were having "cold" like symptoms, (coughing sneezing and runny nose.)

The Residents

The Orlov family has six members – three children, mother and father and his mother. Two of the children are teenagers (boy and girl) and the third child is a toddler (girl). The family recently moved from a rural town. The mother-in-law speaks little English.

Post Interview

Answers to most common interview questions:
- The water damage occurred 2 months ago.
- The water leak occurred in the middle of the night and was observed in the morning.
- Mom and mother-in-law have had occasional "cold" like symptoms, not as much as kids.
- The contractor fixed the pipe and replaced damaged cabinets in the kitchen. He also painted the walls in the room below the kitchen – these are the walls that had the water damage.

The children's "cold" like symptoms began after the water damage repairs. They visited a doctor but the diagnosis was inconclusive, they cannot afford to see an allergy specialist. The mother explained she is concerned for her infant and wants to know how you, (the HHE) can make them "feel better." She also shows you a website on their computer that refers to "Black Mold" and says that she believes this is the issue. You also discover that the infant sleeps in the master bedroom with the parents and the teenagers sleep in the room adjacent to the water damage. The wife said her husband says "the kids are fine!" but she is very worried about the conditions. (You now perform your walk through evaluation.)

Need for Quantitative Measurements

Given the details in the case study and the pictures you have viewed of the house, do you think it is necessary to do quantitative measurement in this case?

____ Yes ____ No

If yes, why?

_____

_____

_____

If no, why?

Quantitative Measurements / Tools or Sampling

If you answered yes to the question above, identify the quantitative measurement tool(s) and or sampling methods you would use in this case. If you answered no, just write “Not applicable.”

Case Study: Orlov Case Study Part 3
Justification and Prioritization Tasks

The Setting

The Orlov family lives in a single family, three story townhouse style home in a large city. There are other houses near and it is a fairly dense neighborhood. The house is fifteen years old. The house has three bedrooms and 2 1/2 bathrooms.

Visit Trigger

The house had water damage from a burst water pipe in the kitchen. The Orlovs explained that a contractor was called to repair the damage. A considerable amount of mold had developed after that work was done. The contractor would not return their calls. No one else has performed any work in the house. The Orlovs also complained that their children and mother-in-law were not feeling well and were having "cold" like symptoms, (coughing sneezing and runny nose.)

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1. Visit Hypothesis

We discussed examples of hypotheses for home visits and since you haven't done that yet for the Orlovs, draft a hypothesis for them, and write it below.

_____

_____

_____

2. Hazards and Justification

Take a few moments to decide how you would prioritize the hazards that you identify in the pictures of the Orlovs' house. Then in order of priority, list the hazards you found. Explain how you prioritized each hazard and write a brief summary of why it is a hazard.

Priority #1 Hazard: _____

What is your justification for the priority ranking? _____

_____

_____

_____

Why this is a hazard: _____

_____

_____

_____

_____

Priority #2 Hazard: _____

What is your justification for the priority ranking? _____

_____

_____

_____

Why this is a hazard: _____

_____

_____

_____

_____

Priority #3 Hazard: _____

What is your justification for the priority ranking? _____

_____

_____

_____

Why this is a hazard: _____

_____

_____

_____

_____

Priority #4 Hazard: _____

What is your justification for the priority ranking? _____

_____

_____

_____

Why this is a hazard: _____

_____

_____

_____

_____

Priority #5 Hazard: _____

What is your justification for the priority ranking? _____

_____

_____

_____

Why this is a hazard: _____

_____

_____

_____

_____

Priority #6 Hazard: _____

What is your justification for the priority ranking? _____

_____

_____

_____

Why this is a hazard: _____

_____

Scenario #1: Resident

You are Annie Long, a 69 year old retiree. You live in an older single family house in a suburban neighborhood outside of Baltimore, MD. The house has three bedrooms and two bathrooms. You lost her husband about 2 years ago.

You have had your home evaluated by a Healthy Homes Evaluator and he / she is telling you that you have a possible cockroach and mice problem. You are extremely offended and insist that the HHE is mistaken. It's going to take a lot to convince you that there is a problem.

Scenario #1: Healthy Home Evaluator

You are visiting Annie Long, a 69 year old retiree. She lives in an older single family house in a suburban neighborhood outside of Baltimore, MD. The house has three bedrooms and two bathrooms. She lost her husband about 2 years ago. You evaluated Mrs. Long's home and have determined that she has a possible cockroach and mice problem. Here's the evidence:

There is pretty extensive clutter around the house including piles of magazines and newspapers. A number of boxes and bins are scattered through the house. When inspecting one of the bathrooms in the home, you notice some water damage to the wall in the cabinet underneath the sink. When moving a box in the kitchen (with Mrs. Long's permission), you see a bottom corner of the box that looks like it has been gnawed. Shredded pieces of cardboard from the box are scattered around. In a corner area of the pantry, you notice dark specks that look like ground coffee. Finally, you note that she said that she often gets short of breath climbing the stairs.

She is extremely offended and insists that you are mistaken. How do you convince her that action needs to be taken on this?

Scenario #2 Resident

You and your wife have recently moved into your parents' unfinished basement, and you are converting it into a place to live. You have two small children named Josh and James. You are slowly working to make the basement a comfortable living space as time and money permit. You are interested in referrals and information about area resources. The first modification on your list is to add carpeting as a form of insulation. You also want to get the old wood burning fireplace fixed to keep the home warm during the cold winter months.

To celebrate the new living area, your family recently added a cat named Cocoa to the home. Your older son, 5-year old James, has asthma and since bringing Cocoa home you've have noticed James wheezing a little more than before. You assume he is adjusting to the new environment and have allowed him to use his inhaler more frequently for relief. Your parents installed gutters around the roof to help with drainage during storms, but they havn't had the opportunity to connect the downspouts, which is resulting in water running down the house walls and pooling around the foundation.

Your parents have had an HHE evaluate the house and you ask them what problems the HHE has found. You also want to make sure that you get referrals and information about area resources. Finally, it's very important to you that you get the carpeting installed and get the wood burning fireplace working again.

Scenario #2 Healthy Home Evaluator

Mr. and Mrs. Johnson have recently moved into Mr. Johnson's parents' unfinished basement, which they are converting into a place to live. They have two small children named Josh and James. They are slowly working to make the basement a comfortable living space as time and money permit. They are interested in referrals and information about area resources. The first modification on their list is to add carpeting as a form of insulation. They also want to get the old wood burning fireplace fixed to keep the home warm during the cold winter months.

To celebrate the new living area, the family recently added a cat named Cocoa to the home. The older son, 5-year old James, has asthma and since bringing Cocoa home they have noticed James wheezing a little more than before. Both parents assumed he was adjusting to the new environment and allowed him to use his inhaler more frequently for relief. Mr. Johnson's parents installed gutters around the roof to help with drainage during storms, but hasn't had the opportunity to connect the downspouts, which is resulting in water running down the house walls and pooling around the foundation.

Sit down with Mr. and Mrs. Johnson and explain the hazards and related interventions you need to discuss with them.

SCENARIO #3: Resident

You are a 50 year old mom with two teenagers. You've had a Healthy Home Evaluator come to your house to evaluate it because there are temperature extremes in the house – some areas very cold, some very warm.

Your HHE has addressed that issue but is now saying that the air fresheners you use throughout the house could be a problem. You like the pleasant lemon scent that you're using right now and your daughter likes the fresh smell that comes out of the aerosol air freshener that is set to intermittently spray above her bed.

You don't understand why air fresheners could be an issue. You've never heard that they could cause any health problems and you really want to continue using them.

SCENARIO #3: Healthy Home Evaluator

You've just finished evaluating a home for a 50 year old mom with two teenagers. She asked you to evaluate it because there are temperature extremes in the house – some areas very cold, some very warm.

You addressed that issue by diagnosing the problem and talking to her about how it can be fixed. As you did the evaluation of the house you noticed that the mom has put the air fresheners in every room throughout the house. You notice that there is one attached to the wall above her daughter's bed and it intermittently sprays.

You realize you need to educate the mom about how air fresheners can have an impact on health and recommend that she not use them. How do you do that?

Hint: https://www.nrdc.org/sites/default/files/fairfresheners.pdf

SCENARIO #4: Residents

You are a 35 year old dad with a 4 year old daughter. You've had a Healthy Home Evaluator come to your house to evaluate it because you mold problems in the bathrooms you couldn't get rid of.

Your HHE has addressed that issue and you chatted about the difficulty of raising kids. You mentioned to him that ever since you got back from a trip to visit family in Cleveland, your daughter seems to have bites on her when she wakes up in the morning. You can't figure out what's causing the bites. The HHE suggests that it might be a bed bug problem. You are really offended by his suggestion and insist that you have a very clean house and there's no way you could have bed bugs.

SCENARIO #4: Healthy Home Evaluator

You have just finished evaluating the home and are talking with one of the owners – a 35 year old dad with a 4 year old daughter. The family noticed a mold problem in the bathrooms and couldn't get rid of it.

You've addressed that issue by identifying a problem with the exhaust fan and discussed the need for a new fan. You're wrapping up the visit and as you were chatting with the dad, he mentions to you that ever since he got back from a trip to visit family in Cleveland, his daughter seems to have bites on her when she wakes up in the morning. He can't figure out what's causing the bites.

You realize that it's possible it might be a bed bug problem. He is really offended by your suggestion and insists that he has a very clean house and there's no way they could have bed bugs.

What do you say to him? How do you educate him about identifying whether there is a problem and addressing it if he does?
HINT: https://www.epa.gov/bedbugs/introduction-bed-bugs

THE LEAD-SAFE CERTIFIED GUIDE TO RENOVATE RIGHT

Important lead hazard information for families, child care providers and schools.

1-800-424-LEAD (5323)
epa.gov/getleadsafe
EPA-740-K-10-001
Revised September 2011

This document may be purchased through the **U.S. Government Printing Office** online at bookstore.gpo.gov or by phone (toll-free): **1-866-512-1800**.

IT'S THE LAW!

Federal law requires contractors that disturb painted surfaces in homes, child care facilities and schools built before 1978 to be certified and follow specific work practices to prevent lead contamination. Always ask to see your contractor's certification.

Federal law requires that individuals receive certain information before renovating more than six square feet of painted surfaces in a room for interior projects or more than twenty square feet of painted surfaces for exterior projects or window replacement or demolition in housing, child care facilities and schools built before 1978.

- Homeowners and tenants: renovators must give you this pamphlet before starting work.
- Child care facilities, including preschools and kindergarten classrooms, and the families of children under six years of age that attend those facilities: renovators must provide a copy of this pamphlet to child care facilities and general renovation information to families whose children attend those facilities.

WHO SHOULD READ THIS PAMPHLET?

This pamphlet is for you if you:

- Reside in a home built before 1978.
- Own or operate a child care facility, including preschools and kindergarten classrooms, built before 1978, or
- Have a child under six years of age who attends a child care facility built before 1978.

You will learn:

- Basic facts about lead and your health.
- How to choose a contractor, if you are a property owner.
- What tenants, and parents/guardians of a child in a child care facility or school should consider.
- How to prepare for the renovation or repair job.
- What to look for during the job and after the job is done.
- Where to get more information about lead.

This pamphlet is not for:

- **Abatement projects.** Abatement is a set of activities aimed specifically at eliminating lead or lead hazards. EPA has regulations for certification and training of abatement professionals. If your goal is to eliminate lead or lead hazards, contact the National Lead Information Center at **1-800-424-LEAD (5323)** for more information.
- **"Do-it-yourself"** projects. If you plan to do renovation work yourself, this document is a good start, but you will need more information to complete the work safely. Call the National Lead Information Center at **1-800-424-LEAD (5323)** and ask for more information on how to work safely in a home with lead-based paint.
- **Contractor education.** Contractors who want information about working safely with lead should contact the National Lead Information Center at **1-800-424-LEAD (5323)** for information about courses and resources on lead-safe work practices.

RENOVATING, REPAIRING, OR PAINTING?

- Is your home, your building, or the child care facility or school your children attend being renovated, repaired, or painted?
- Was your home, your building, or the child care facility or school where your children under six years of age attend built before 1978?

If the answer to these questions is YES, there are a few important things you need to know about lead-based paint.

This pamphlet provides basic facts about lead and information about lead safety when work is being done in your home, your building or the child care facility or school your children attend.

The Facts About Lead

- Lead can affect children's brains and developing nervous systems, causing reduced IQ, learning disabilities, and behavioral problems. Lead is also harmful to adults.
- Lead in dust is the most common way people are exposed to lead. People can also get lead in their bodies from lead in soil or paint chips. Lead dust is often invisible.
- Lead-based paint was used in more than 38 million homes until it was banned for residential use in 1978.
- Projects that disturb painted surfaces can create dust and endanger you and your family. Don't let this happen to you. Follow the practices described in this pamphlet to protect you and your family.

LEAD AND YOUR HEALTH

Lead is especially dangerous to children under six years of age.

Lead can affect children's brains and developing nervous systems, causing:

- Reduced IQ and learning disabilities.
- Behavior problems.

Even children who appear healthy can have dangerous levels of lead in their bodies.

Lead is also harmful to adults. In adults, low levels of lead can pose many dangers, including:

- High blood pressure and hypertension.
- Pregnant women exposed to lead can transfer lead to their fetuses. Lead gets into the body when it is swallowed or inhaled.
- People, especially children, can swallow lead dust as they eat, play, and do other normal hand-to-mouth activities.
- People may also breathe in lead dust or fumes if they disturb lead-based paint. People who sand, scrape, burn, brush, blast or otherwise disturb lead-based paint risk unsafe exposure to lead.

What should I do if I am concerned about my family's exposure to lead?

- A blood test is the only way to find out if you or a family member already has lead poisoning. Call your doctor or local health department to arrange for a blood test.
- Call your local health department for advice on reducing and eliminating exposures to lead inside and outside your home, child care facility or school.
- Always use lead-safe work practices when renovation or repair will disturb painted surfaces.

For more information about the health effects of exposure to lead, visit the EPA lead website at epa.gov/lead/pubs/leadinfo or call **1-800-424-LEAD (5323)**.

There are other things you can do to protect your family every day.

- Regularly clean floors, window sills, and other surfaces.
- Wash children's hands, bottles, pacifiers, and toys often.
- Make sure children eat a healthy, nutritious diet consistent with the USDA's dietary guidelines, that helps protect children from the effects of lead.
- Wipe off shoes before entering the house.

WHERE DOES THE LEAD COME FROM?

Dust is the main problem.

The most common way to get lead in the body is from dust. Lead dust comes from deteriorating lead-based paint and lead-contaminated soil that gets tracked into your home. This dust may accumulate to unsafe levels. Then, normal hand to-mouth activities, like playing and eating (especially in young children), move that dust from surfaces like floors and window sills into the body.

Home renovation creates dust.

Common renovation activities like sanding, cutting, and demolition can create hazardous lead dust and chips.

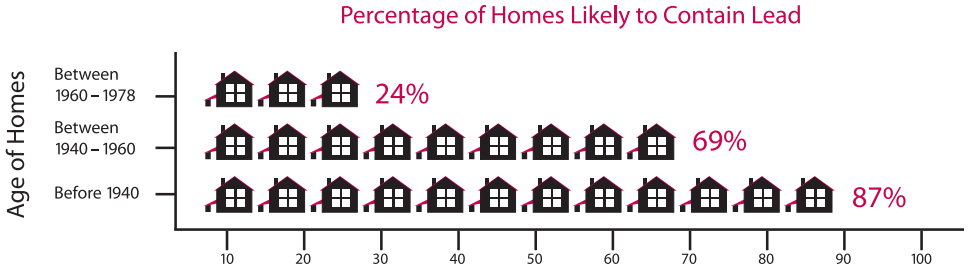
Proper work practices protect you from the dust.

The key to protecting yourself and your family during a renovation, repair or painting job is to use lead-safe work practices such as containing dust inside the work area, using dust-minimizing work methods, and conducting a careful cleanup, as described in this pamphlet.

Other sources of lead.

Remember, lead can also come from outside soil, your water, or household items (such as lead-glazed pottery and lead crystal). Contact the National Lead Information Center at **1-800-424-LEAD (5323)** for more information on these sources.

CHECKING YOUR HOME FOR LEAD-BASED PAINT



Older homes, child care facilities, and schools are more likely to contain lead-based paint.

Homes may be single-family homes or apartments. They may be private, government-assisted, or public housing. Schools are preschools and kindergarten classrooms. They may be urban, suburban, or rural.

You have the following options:

You may decide to assume your home, child care facility, or school contains lead. Especially in older homes and buildings, you may simply want to assume lead-based paint is present and follow the lead-safe work practices described in this brochure during the renovation, repair, or painting job.

You can hire a certified professional to check for lead-based paint. These professionals are certified risk assessors or inspectors, and can determine if your home has lead or lead hazards.

- A certified inspector or risk assessor can conduct an inspection telling you whether your home, or a portion of your home, has lead-based paint and where it is located. This will tell you the areas in your home where lead-safe work practices are needed.
- A certified risk assessor can conduct a risk assessment telling you if your home currently has any lead hazards from lead in paint, dust, or soil. The risk assessor can also tell you what actions to take to address any hazards.
- For help finding a certified risk assessor or inspector, call the National Lead Information Center at **1-800-424-LEAD (5323)**.

You may also have a certified renovator test the surfaces or components being disturbed for lead by using a lead test kit or by taking paint chip samples and sending them to an EPA-recognized testing laboratory. Test kits must be EPA-recognized and are available at hardware stores. They include detailed instructions for their use.

FOR PROPERTY OWNERS

You have the ultimate responsibility for the safety of your family, tenants, or children in your care.

This means properly preparing for the renovation and keeping persons out of the work area (see p. 8). It also means ensuring the contractor uses lead-safe work practices.

Federal law requires that contractors performing renovation, repair and painting projects that disturb painted surfaces in homes, child care facilities, and schools built before 1978 be certified and follow specific work practices to prevent lead contamination.

Make sure your contractor is certified, and can explain clearly the details of the job and how the contractor will minimize lead hazards during the work.

- You can verify that a contractor is certified by checking EPA's website at epa.gov/getleadsafe or by calling the National Lead Information Center at **1-800-424-LEAD (5323)**. You can also ask to see a copy of the contractor's firm certification.
- Ask if the contractor is trained to perform lead-safe work practices and to see a copy of their training certificate.
- Ask them what lead-safe methods they will use to set up and perform the job in your home, child care facility or school.
- Ask for references from at least three recent jobs involving homes built before 1978, and speak to each personally.

Always make sure the contract is clear about how the work will be set up, performed, and cleaned.

- Share the results of any previous lead tests with the contractor.
- You should specify in the contract that they follow the work practices described on pages 9 and 10 of this brochure.
- The contract should specify which parts of your home are part of the work area and specify which lead-safe work practices will be used in those areas. Remember, your contractor should confine dust and debris to the work area and should minimize spreading that dust to other areas of the home.
- The contract should also specify that the contractor will clean the work area, verify that it was cleaned adequately, and re-clean it if necessary.

If you think a worker is not doing what he is supposed to do or is doing something that is unsafe, you should:

- Direct the contractor to comply with regulatory and contract requirements.
- Call your local health or building department, or
- Call EPA's hotline **1-800-424-LEAD (5323)**.

If your property receives housing assistance from HUD (or a state or local agency that uses HUD funds), you must follow the requirements of HUD's Lead-Safe Housing Rule and the ones described in this pamphlet.

FOR TENANTS AND FAMILIES OF CHILDREN UNDER SIX YEARS OF AGE IN CHILD CARE FACILITIES AND SCHOOLS

You play an important role ensuring the ultimate safety of your family.

This means properly preparing for the renovation and staying out of the work area (see p. 8).

Federal law requires that contractors performing renovation, repair and painting projects that disturb painted surfaces in homes built before 1978 and in child care facilities and schools built before 1978, that a child under six years of age visits regularly, to be certified and follow specific work practices to prevent lead contamination.

The law requires anyone hired to renovate, repair, or do painting preparation work on a property built before 1978 to follow the steps described on pages 9 and 10 unless the area where the work will be done contains no lead-based paint.

If you think a worker is not doing what he is supposed to do or is doing something that is unsafe, you should:

- Contact your landlord.
- Call your local health or building department, or
- Call EPA's hotline **1-800-424-LEAD (5323)**.

If you are concerned about lead hazards left behind after the job is over, you can check the work yourself (see page 10).

PREPARING FOR A RENOVATION

The work areas should not be accessible to occupants while the work occurs.

The rooms or areas where work is being done may need to be blocked off or sealed with plastic sheeting to contain any dust that is generated. Therefore, the contained area may not be available to you until the work in that room or area is complete, cleaned thoroughly, and the containment has been removed. Because you may not have access to some areas during the renovation, you should plan accordingly.

You may need:

- Alternative bedroom, bathroom, and kitchen arrangements if work is occurring in those areas of your home.
- A safe place for pets because they too can be poisoned by lead and can track lead dust into other areas of the home.
- A separate pathway for the contractor from the work area to the outside in order to bring materials in and out of the home. Ideally, it should not be through the same entrance that your family uses.
- A place to store your furniture. All furniture and belongings may have to be moved from the work area while the work is being done. Items that can't be moved, such as cabinets, should be wrapped in plastic.
- To turn off forced-air heating and air conditioning systems while the work is being done. This prevents dust from spreading through vents from the work area to the rest of your home. Consider how this may affect your living arrangements.

You may even want to move out of your home temporarily while all or part of the work is being done.

Child care facilities and schools may want to consider alternative accommodations for children and access to necessary facilities.

DURING THE WORK

Federal law requires contractors that are hired to perform renovation, repair and painting projects in homes, child care facilities, and schools built before 1978 that disturb painted surfaces to be certified and follow specific work practices to prevent lead contamination.

The work practices the contractor must follow include these three simple procedures, described below:

1. **Contain the work area.** The area must be contained so that dust and debris do not escape from that area. Warning signs must be put up and plastic or other impermeable material and tape must be used as appropriate to:
   - Cover the floors and any furniture that cannot be moved.
   - Seal off doors and heating and cooling system vents.
   - For exterior renovations, cover the ground and, in some instances, erect vertical containment or equivalent extra precautions in containing the work area.

These work practices will help prevent dust or debris from getting outside the work area.

2. **Avoid renovation methods that generate large amounts of lead-contaminated dust.** Some methods generate so much lead-contaminated dust that their use is prohibited. They are:
   - Open flame burning or torching.
   - Sanding, grinding, planing, needle gunning, or blasting with power tools and equipment not equipped with a shroud and HEPA vacuum attachment.
   - Using a heat gun at temperatures greater than 1100°F.

There is no way to eliminate dust, but some renovation methods make less dust than others. Contractors may choose to use various methods to minimize dust generation, including using water to mist areas before sanding or scraping; scoring paint before separating components; and prying and pulling apart components instead of breaking them.

3. **Clean up thoroughly.** The work area should be cleaned up daily to keep it as clean as possible. When all the work is done, the area must be cleaned up using special cleaning methods before taking down any plastic that isolates the work area from the rest of the home. The special cleaning methods should include:
   - Using a HEPA vacuum to clean up dust and debris on all surfaces, followed by
   - Wet wiping and wet mopping with plenty of rinse water.

When the final cleaning is done, look around. There should be no dust, paint chips, or debris in the work area. If you see any dust, paint chips, or debris, the area must be re-cleaned.

FOR PROPERTY OWNERS: AFTER THE WORK IS DONE

When all the work is finished, you will want to know if your home, child care facility, or school where children under six attend has been cleaned up properly.

EPA Requires Cleaning Verification.

In addition to using allowable work practices and working in a lead-safe manner, EPA's RRP rule requires contractors to follow a specific cleaning protocol. The protocol requires the contractor to use disposable cleaning cloths to wipe the floor and other surfaces of the work area and compare these cloths to an EPA-provided cleaning verification card to determine if the work area was adequately cleaned. EPA research has shown that following the use of lead-safe work practices with the cleaning verification protocol will effectively reduce lead-dust hazards.

Lead-Dust Testing.

EPA believes that if you use a certified and trained renovation contractor who follows the LRRP rule by using lead-safe work practices and the cleaning protocol after the job is finished, lead-dust hazards will be effectively reduced. If, however, you are interested in having lead-dust testing done at the completion of your job, outlined below is some helpful information.

What is a lead-dust test?

- Lead-dust tests are wipe samples sent to a laboratory for analysis. You will get a report specifying the levels of lead found after your specific job.

How and when should I ask my contractor about lead-dust testing?

- Contractors are not required by EPA to conduct lead-dust testing. However, if you want testing, EPA recommends testing be conducted by a lead professional. To locate a lead professional who will perform an evaluation near you, visit EPA's website at epa.gov/lead/pubs/locate or contact the National Lead Information Center at **1-800-424-LEAD (5323).**
- If you decide that you want lead-dust testing, it is a good idea to specify in your contract, before the start of the job, that a lead-dust test is to be done for your job and who will do the testing, as well as whether re-cleaning will be required based on the results of the test.
- You may do the testing yourself. If you choose to do the testing, some EPA-recognized lead laboratories will send you a kit that allows you to collect samples and send them back to the laboratory for analysis. Contact the National Lead Information Center for lists of EPA-recognized testing laboratories.

FOR ADDITIONAL INFORMATION

You may need additional information on how to protect yourself and your children while a job is going on in your home, your building, or child care facility.

The National Lead Information Center at **1-800-424-LEAD (5323)** or epa.gov/lead/nlic can tell you how to contact your state, local, and/or tribal programs or get general information about lead poisoning prevention.

- State and tribal lead poisoning prevention or environmental protection programs can provide information about lead regulations and potential sources of financial aid for reducing lead hazards. If your state or local government has requirements more stringent than those described in this pamphlet, you must follow those requirements.
- Local building code officials can tell you the regulations that apply to the renovation work that you are planning.
- State, county, and local health departments can provide information about local programs, including assistance for lead-poisoned children and advice on ways to get your home checked for lead.

The National Lead Information Center can also provide a variety of resource materials, including the following guides to lead-safe work practices. Many of these materials are also available at epa.gov/lead/pubs/brochure

- Steps to Lead Safe Renovation, Repair and Painting.
- Protect Your Family from Lead in Your Home
- Lead in Your Home: A Parent's Reference Guide

For the hearing impaired, call the Federal Information Relay Service at 1-800-877-8339 to access any of the phone numbers in this brochure.

EPA CONTACTS

EPA Regional Offices

EPA addresses residential lead hazards through several different regulations. EPA requires training and certification for conducting abatement and renovations, education about hazards associated with renovations, disclosure about known lead paint and lead hazards in housing, and sets lead-paint hazard standards.

Your Regional EPA Office can provide further information regarding lead safety and lead protection programs at epa.gov/lead.

Region 1
(Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont)
Regional Lead Contact
U.S. EPA Region 1
Suite 1100
One Congress Street
Boston, MA 02114-2023
(888) 372-7341

Region 2
(New Jersey, New York, Puerto Rico, Virgin Islands)
Regional Lead Contact
U.S. EPA Region 2
2890 Woodbridge Avenue
Building 205, Mail Stop 225
Edison, NJ 08837-3679
(732) 321-6671

Region 3
(Delaware, Maryland, Pennsylvania, Virginia, Washington, DC, West Virginia)
Regional Lead Contact
U.S. EPA Region 3
1650 Arch Street
Philadelphia, PA
19103-2029
(215) 814-5000

Region 4
(Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)
Regional Lead Contact
U.S. EPA Region 4
61 Forsyth Street, SW
Atlanta, GA 30303-8960
(404) 562-9900

Region 5
(Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)
Regional Lead Contact
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3507
(312) 886-6003

Region 6
(Arkansas, Louisiana, New Mexico, Oklahoma, Texas)
Regional Lead Contact
U.S. EPA Region 6
1445 Ross Avenue,
12th Floor
Dallas, TX 75202-2733
(214) 665-7577

Region 7
(Iowa, Kansas, Missouri, Nebraska)
Regional Lead Contact
U.S. EPA Region 7
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7003

Region 8
(Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)
Regional Lead Contact
U.S. EPA Region 8
1595 Wynkoop Street
Denver, CO 80202
(303) 312-6312

Region 9
(Arizona, California, Hawaii, Nevada)
Regional Lead Contact
U.S. Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 947-8021

Region 10
(Alaska, Idaho, Oregon, Washington)
Regional Lead Contact
U.S. EPA Region 10
1200 Sixth Avenue
Seattle, WA 98101-1128
(206) 553-1200

OTHER FEDERAL AGENCIES

CPSC

The Consumer Product Safety Commission (CPSC) protects the public from the unreasonable risk of injury or death from 15,000 types of consumer products under the agency's jurisdiction. CPSC warns the public and private sectors to reduce exposure to lead and increase consumer awareness. Contact CPSC for further information regarding regulations and consumer product safety.

CPSC
4330 East West Highway
Bethesda, MD 20814
Hotline 1-(800) 638-2772
cpsc.gov

CDC Childhood Lead Poisoning Prevention Branch

The Centers for Disease Control and Prevention (CDC) assists state and local childhood lead poisoning prevention programs to provide a scientific basis for policy decisions, and to ensure that health issues are addressed in decisions about housing and the environment. Contact CDC Childhood Lead Poisoning Prevention Program for additional materials and links on the topic of lead.

CDC Childhood Lead Poisoning Prevention Branch
4770 Buford Highway, MS F-40
Atlanta, GA 30341
(770) 488-3300
cdc.gov/nceh/lead

HUD Office of Healthy Homes and Lead Hazard Control

The Department of Housing and Urban Development (HUD) provides funds to state and local governments to develop cost-effective ways to reduce lead-based paint hazards in America's privately-owned low-income housing. In addition, the office enforces the rule on disclosure of known lead paint and lead hazards in housing, and HUD's lead safety regulations in HUD-assisted housing, provides public outreach and technical assistance, and conducts technical studies to help protect children and their families from health and safety hazards in the home. Contact the HUD Office of Healthy Homes and Lead Hazard Control for information on lead regulations, outreach efforts, and lead hazard control research and outreach grant programs.

U.S. Department of Housing and Urban Development
Office of Healthy Homes and Lead Hazard Control
451 Seventh Street, SW, Room 8236
Washington, DC 20410-3000
HUD's Lead Regulations Hotline
(202) 402-7698
hud.gov/offices/lead/

SAMPLE PRE-RENOVATION FORM

This sample form may be used by renovation firms to document compliance with the Federal pre-renovation education and renovation, repair, and painting regulations.

Occupant Confirmation

Pamphlet Receipt

❑ I have received a copy of the lead hazard information pamphlet informing me of the potential risk of the lead hazard exposure from renovation activity to be performed in my dwelling unit. I received this pamphlet before the work began.

Printed Name of Owner-occupant

Signature of Owner-occupant

Signature Date

Renovator's Self Certification Option (for tenant-occupied dwellings only)

Instructions to Renovator: If the lead hazard information pamphlet was delivered but a tenant signature was not obtainable, you may check the appropriate box below.

❑ **Declined** – I certify that I have made a good faith effort to deliver the lead hazard information pamphlet to the rental dwelling unit listed below at the date and time indicated and that the occupant declined to sign the confirmation of receipt. I further certify that I have left a copy of the pamphlet at the unit with the occupant.

❑ **Unavailable for signature** – I certify that I have made a good faith effort to deliver the lead hazard information pamphlet to the rental dwelling unit listed below and that the occupant was unavailable to sign the confirmation of receipt. I further certify that I have left a copy of the pamphlet at the unit by sliding it under the door or by (fill in how pamphlet was left).

Printed Name of Person Certifying Delivery

Attempted Delivery Date

Signature of Person Certifying Lead Pamphlet Delivery

Unit Address

Note Regarding Mailing Option — As an alternative to delivery in person, you may mail the lead hazard information pamphlet to the owner and/or tenant. Pamphlet must be mailed at least seven days before renovation. Mailing must be documented by a certificate of mailing from the post office.