Module 1: Resident Interview

Healthy Housing Solutions Inc.

Conduct a Resident Interview

- Explain the purpose of the resident interview/environmental history.
- Practice conducting a resident interview.
- Identify and use appropriate assessment approaches and tools.

Self Assessment

Module 1 - Resident Interview

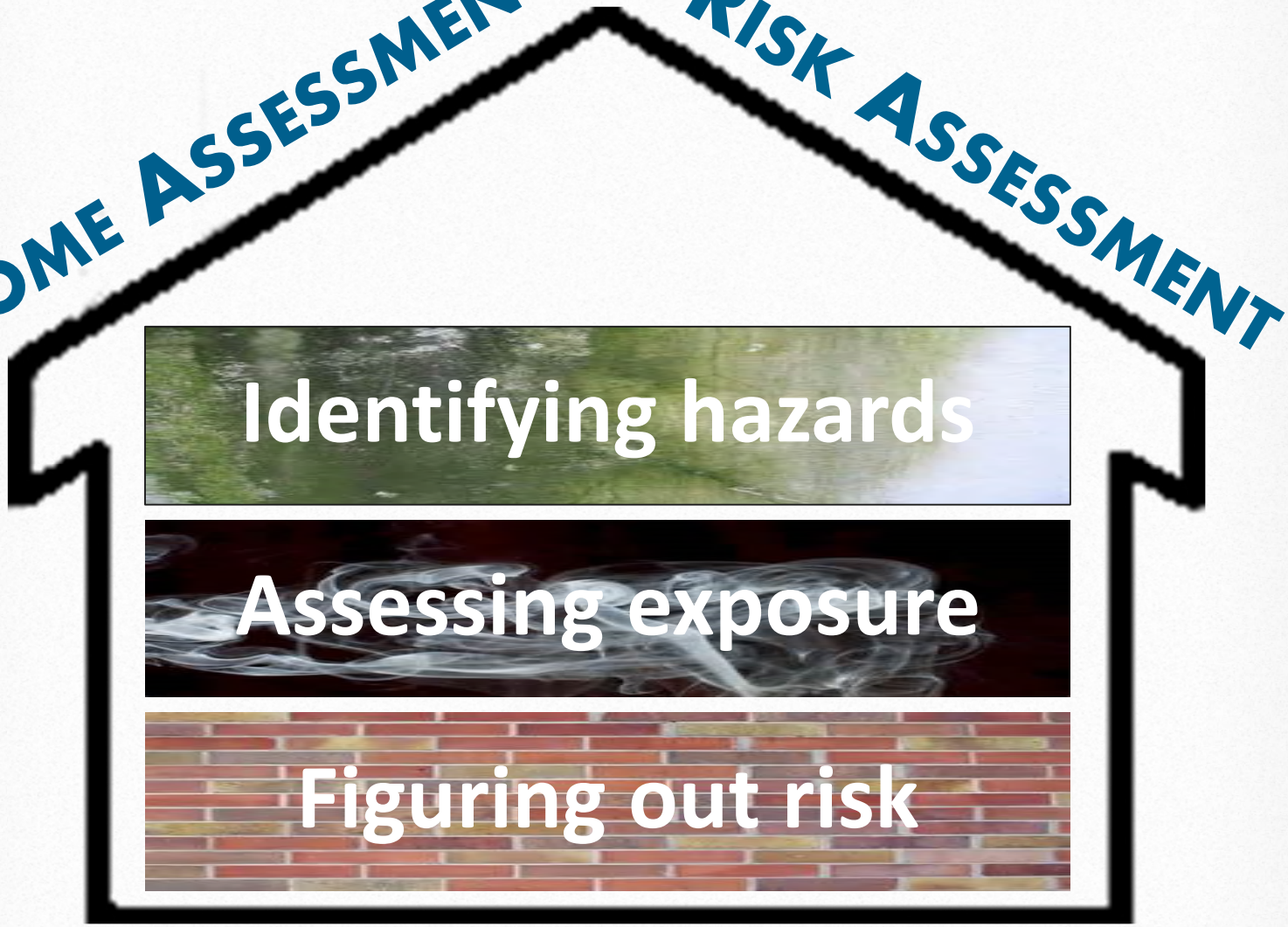
- List at least 5 issues that should be discussed during the resident interview.
- Identify 3 key decisions that need to be made once it is determined that a home assessment is appropriate.
- Identify 2 “social service” needs that may be discovered during a resident interview.

Federal Health Priorities

Healthy People 2020 Objectives

- Blood lead levels in children
- pesticide exposures
- indoor allergen levels
- homes with operating radon mitigation system
- new single family homes with radon-reducing features
- lead-based paint or related hazards in homes
- units with moderate or severe physical problems

Home Assessment = Risk Assessment



Why do we start with people?

What are the communication challenges and strategies?

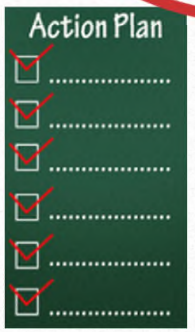
HOW do we start with the resident?

The Home Assessment Process

Interview resident
(Environmental History)

Determine need for/scope of assessment

Assess the home



Create an action plan

Interventions/ Education

Professional Follow-up

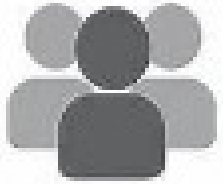
Resident Interview/ Environmental History

WHY take one?

Resident Interview/ Environmental History

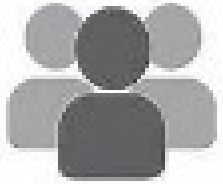
WHAT should it cover?

Small Group Exercise (3): Evaluate Interview & Assessment Tools



- Working in small groups, familiarize yourself with the 3 interview & assessment forms in your manual. PEHA, HEAL, CMH
- Briefly identify the pros and cons of each.
- Discuss and decide on the most appropriate interview tool for your purposes.
- Be prepared to explain your decision.

Small Group Exercise (4): Virtual Resident Interview



- Working in small groups, critique the resident interview, looking for strengths as well as things that could be done differently.
- Information will be provided via video, slides and narratives from the instructor. Remember to take notes as needed.
- Use the PEHA form (from the previous exercise) to document identified observations or concerns.

Resident Interview: Introductions

Launch Introductions video

Resident Interview: Basement

Include Narrative

Resident Interview: Basement

Resident Interview: Exterior

Resident Interview: Exterior

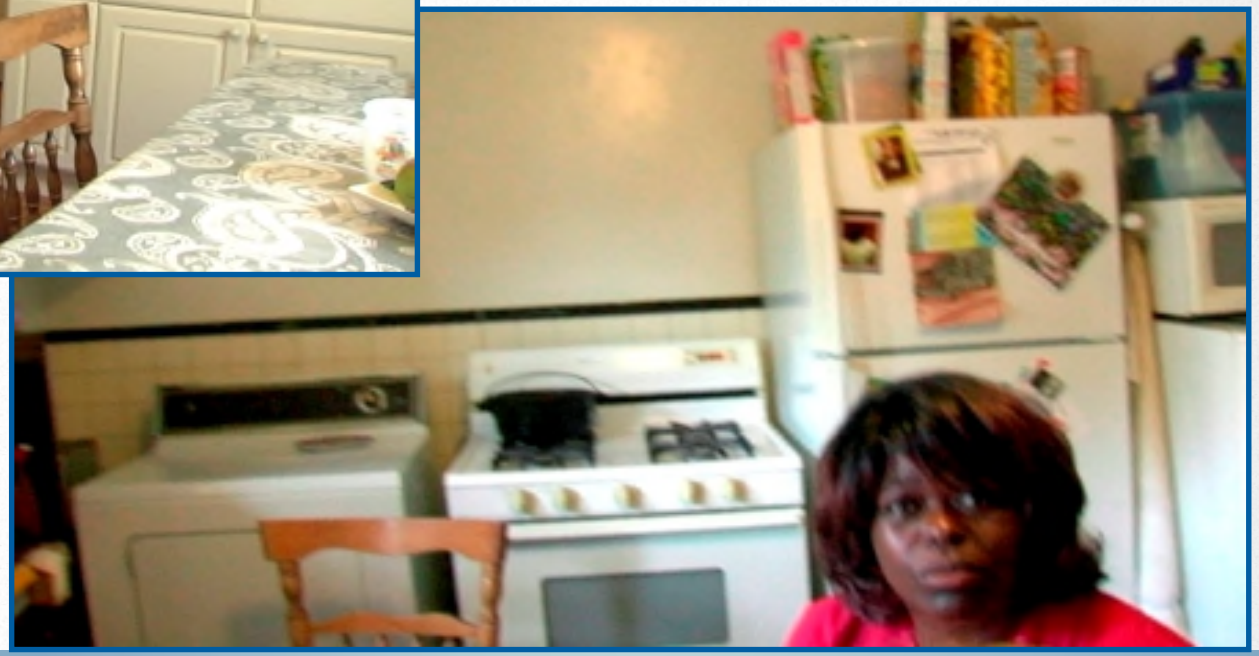
Resident Interview:

No video, just listen.

Resident Interview: Kitchen

Launch Kitchen video

Resident Interview: Kitchen



Resident Interview: Kitchen

Resident Interview: Kitchen

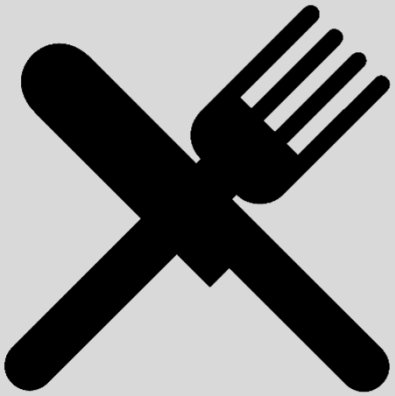
Resident Interview: Kitchen

Resident Interview: Kitchen

Resident Interview: Kitchen

Healthy Homes: Assessment and Interventions Training Guide

LUNCH



NOTE: This is a hidden slide.
It is provided for trainer reference only
and does not display as part of the slideshow.

Resident Interview: Living Room

Launch Living Room video

Resident Interview: Living Room

Resident Interview: Living Room

Resident Interview: Living Room

Resident Interview: General

No video, just listen...

Resident Interview: Bedroom and Bathroom

Launch Bedroom video

Resident Interview: Bedroom

Resident Interview: Bedroom

Resident Interview: Bedroom

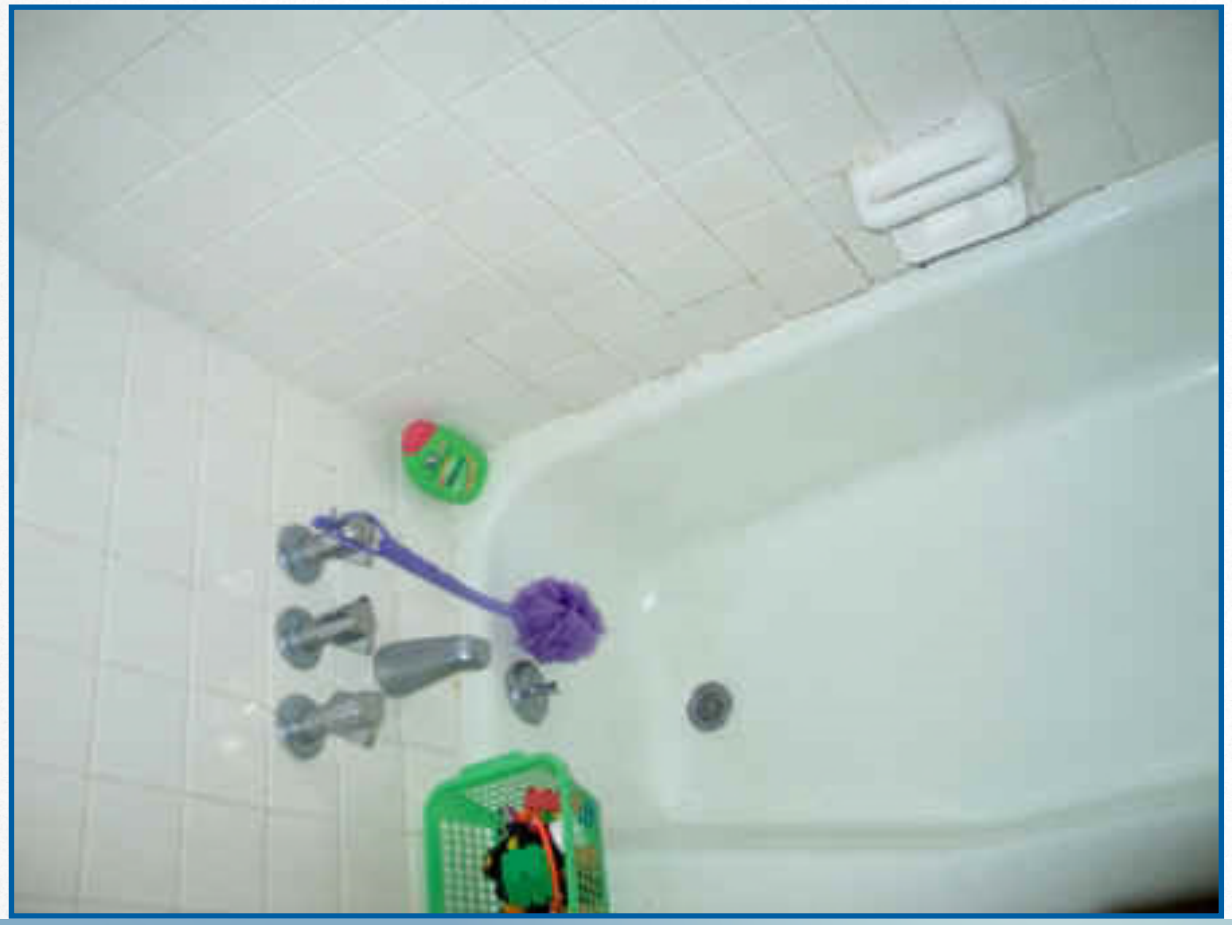
Include narrative…

Resident Interview: Bedroom

Resident Interview: Bathroom

Include narrative…

Resident Interview: Bathroom



Resident Interview: Bathroom

Resident Interview: Bathroom

Resident Interview: Medication review and wrap-up

Launch Wrap-up video

PEHA Answer Key 1

General Housing Characteristics					
Type of ownership		❑ Own house	❑ Market rate rental hsg.	X Subsidized rental hsg.	❑ Shelter
Age of home		❑ **Pre-1950**	X **1950 -1978**	❑ Post-1978	❑ **Don't know**
Structural foundation		X Basement	❑ Slab on grade	❑ Crawlspace	❑ Don't know
Floors lived in (check all that apply)		❑ Basement	❑ 1st	X 2nd	❑ 3rd or higher
Heating	**Fuel used**	❑ Natural gas / LPG	X Oil	❑ Electric	❑ Wood
	Sources in home	X Radiators	❑ Forced hot air vents	❑ Space heater or oven	❑ **Other:** _____
	Filters changed	❑ Yes	❑ **No**	X **Don't know**	X No filter
	Control	❑ Easy to control heat	X Hard to control heat		
Cooling		❑ Windows	X Central/window AC	❑ Fans	❑ None
Ventilation (check all that apply)		X Opens windows	❑ Kitchen & bathroom fans	❑ Central ventilation	
NOTES: PARENT REPORTS BIGGEST CONCERNS ARE DUST AND MICE					

PEHA Answer Key 2

Indoor Pollutants					
Mold and moisture		❑ Uses dehumidifier ❑ No damage	X Uses vaporizer or humidifier	❑ Musty odor evident	X Visible water / mold damage
Pet	Presence	X No pets	❑ Cat #_____	❑ Dog #_____	❑ Other: _____
	Management	❑ Kept strictly outdoors	❑ Not allowed in patient's bedroom	❑ Full access in home	❑ Sleeping location: _____
Pests	Cockroaches	❑ None	❑ Family reports	X Evidence seen	Present in X kitchen X bedroom ❑ other
	Mice	❑ None	X Family reports	X Evidence seen	Present in X kitchen ❑ bedroom X other
	Rats	X None	❑ Family reports	❑ Evidence seen	Present in ❑ kitchen ❑ bedroom ❑ other
	Bedbugs	X None	❑ Family reports	❑ Evidence seen	Present in ❑ bedroom ❑ other
Lead paint hazards		❑ Tested and passed	❑ Tested, failed, and mitigated	❑ Not tested/Don't know	X Loose, peeling, or chipping, paint
Asbestos		❑ Tested – None present	❑ Tested, failed, and mitigated	X Not tested/Don't know	X Damaged material
Radon		❑ Tested and passed	❑ Tested, failed, and mitigated	X Not tested/Don't know	❑ Failed test but not mitigated
Health and Safety Alarms		X Smoke alarm working and well placed	❑ CO alarm working and one on each floor	❑ CO alarm does not log peak level	❑ No smoke alarm X No CO alarm
Tobacco smoke exposure **SEE NOTES		X No smoking allowed	❑ Smoking only allowed outdoors	❑ Smoking allowed indoors ❑ bedroom ❑ playroom	❑ Total # smokers in household: _____ ❑ Mother smokes
Other irritants		X None	❑ Air fresheners	❑ Potpourri, incense, candles	❑ Other strong odors: _____
Type of cleaning		❑ Standard Vacuum (non HEPA)	X HEPA vacuum	❑ Damp mop and damp dusting	❑ Sweep or dry mop
NOTES: HOUSEHOLD IS NON-SMOKING BUT EXPOSED TO SMOKE FROM APT. BELOW; NEED TO RE-SEAL FOR MICE; HAS SMOKE ALARM BUT NOT CO ALARM. MAY HAVE LEAD PAINT AND REPAIRS TO IT APPEAR TO HAVE FAILED					

PEHA Answer Key 3

Home Environment					
Drinking Water Source		X Public water system	❑ **Household Well**		
Kitchen	**Cleanliness**	❑ No soiling	❑ Trash or garbage sealed	X **Trash or garbage not sealed**	❑ **Wall/ceiling/floor damage**
	Ventilation	❑ Functioning stove exhaust fan/vent	❑ **Mold growth present**	❑ **Broken stove exhaust fan/vent**	X **No stove exhaust fan/vent**
Bathroom		X Functioning exhaust fan/vent/window	❑ **Mold growth present**	❑ **Needs cleaning and maintenance**	❑ **Wall/ceiling/floor damage**
Basement		❑ None/No Access	❑ **Mold growth present**	X **Needs cleaning and maintenance**	❑ **Wall/ceiling/floor damage**
Living Room		X No soiling	❑ **Mold growth present**	❑ **Needs cleaning and maintenance**	❑ **Wall/ceiling/floor damage**
Laundry area		X None	❑ Well maintained	❑ **Dryer not vented**	❑ Hang clothes to dry

PEHA Answer Key 4

Sleep Environment				
Patient's sleep area	X Own room	❑ Shared # in room_____	❑ Other	
# Beds	❑ 0	X 1	❑ 2	❑ More than 2
Allergen impermeable encasings on beds	❑ On mattress and boxspring (zippered)	X On mattress only (zippered)	❑ On mattress (not zippered)	❑ **No mattress covers**
Pillows	X Allergen-proof	❑ Washable	❑ Feather/ down	
Bedding	X Washable	❑ Wool/not washable	❑ Feather/ down	
Flooring	X Hardwood/Tile/Linoleum	X Small area rug	❑ Large area rug	❑ **Wall-to-wall carpet**
Dust/mold catchers	X Stuffed animals/washable toys X No clutter	❑ **Non-washable toys**	❑ **Plants**	❑ **Other** _____
Window	X Washable shades/ curtains	X Washable blinds	❑ Curtains/ drapes	❑ **No window/ poor ventilation**
Other irritants	❑ **Abundant cosmetics and fragrances**			

PEHA Answer Key 5

Home Safety * *can indicate housing code violations*				
General				
Active renovation or remodeling	X Yes IN NEIGHBORHOOD	❑ No		
*Stairs, protective walls, railings, porches	X Yes	❑ No		
*Hallway lighting	X Adequate	❑ Inadequate		
Poison control number	❑ Posted by phone	X Not posted by phone		
**Family fire escape plan	❑ Developed and have copy available	X None		
Electrical appliances (radio, hair dryer, space heater)	❑ Not used near water	X Used near water BATHROOM		
Matches and lighters stored	X Out of child's reach	❑ Within child's reach		
Exterior environment	❑ Well maintained	X Abundant trash and debris	❑ Chipping, peeling paint	❑ Broken window(s)

PEHA Answer Key 6

Home Safety * *can indicate housing code violations*			
Young Children Present	X Yes	❑ No	
Coffee, hot liquids, and foods	❑ Out of child's reach	X Within child's reach	
Cleaning supplies stored	❑ Out of child's reach	X Within child's reach	
Medicine and vitamins stored	❑ Out of child's reach	X Within child's reach	
Child (less than six years old) been tested for lead poisoning	❑ Within past 6 months Result: _____	X Within past year or more. When? <1 year Result: <10	❑ No
Child watched by an adult while in the tub	❑ Always	X Most of the time	❑ No
*Home's hot water temperature	❑ <120 F	❑ >120 F	X Don't know
Non-accordion toddler gates used	❑ At top of stairs	❑ At bottom of stairs	❑ No
Crib mattress	❑ Fits well	❑ Loose	X NA
Window guards	❑ Yes	X No	
Window blind cords	❑ Split cord	X Looped cord	

NOTES: LOTS OF DUST FROM NEIGHBORHOOD CONSTRUCTION; HAS WINDOWS CLOSED AND A/C ON BUT STILL A PROBLEM; LOTS OFEXPOSED DIRT OUTSIDE DUE TO CONSTRUCTION; CABINET WITH CLEANING SUPPLIES IS NOT LOCKED AND IS AT CHILD LEVEL

Think Beyond the Forms...

- Resident habits
- Resident concerns
- Social service needs
- Environmental concerns

Where do we go from here? Determine Level of Assessment

- **Basic**- Visual assessment, healthy home education
- **Intermediate** - Visual assessment, healthy home education, environmental measurements
- **Comprehensive** - Visual assessment, healthy home education, basic and/or advanced environmental measurements. Sampling and lab analysis may be included.

Self Assessment Review

List five issues that should be discussed during the resident interview

- Type and age of their home
- Where residents spend time
- Routine activities
- Concerns about the home
- Possible triggers for concerns
- If symptoms, when/where they occur

Self Assessment Review

Identify three key decisions that need to be made once it is determined that a home assessment is appropriate

- The appropriate level of assessment
- The best approach for the given situation
- The most appropriate assessment tool

Self Assessment Review

Identify two "social service" needs that may be discovered during the interview

- Hoarding
- Need for fuel assistance
- Children's services
- Elder services

Module 2: Home Assessment

Healthy Housing Solutions Inc.

Conduct a Home Assessment

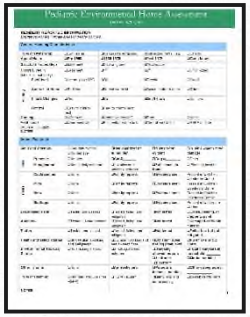
- Practice identifying health-related hazards based on the 8 Principles/Keep-its.
- Explain practical techniques for conducting home assessments.
- Correctly fill out assessment tool in the field.
- Conduct an onsite assessment.

Self Assessment

Module 2 - Home Assessment

- Explain the difference between a deficiency-based and solutions-based assessment checklist.
- Name the 2 key characteristics of an assessment checklist.
- List 4 steps to approaching a home assessment.
- Name the 3 most problematic pests
- Name the 3 mechanical systems that are key to keeping it climate-controlled.

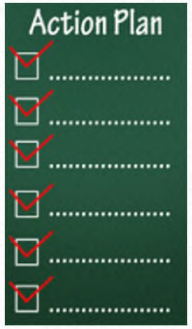
The Home Assessment Process



Interview resident
(Environmental History)

Determine need for/scope of assessment

Assess the home



Create an action plan

Interventions/ Education

Professional Follow-up

Plan Your Approach

Now that you've:

- Interviewed the resident
- Completed an environmental history
- Determined that a home assessment is appropriate

What do you need to do next, before actually conducting the assessment?

Goal: Identify Hazards

Resident Interview

+

Sampling/ Testing

+

Building Assessment

1. Dry
2. Clean
3. Pest-Free
4. Ventilated
5. Safe
6. Contaminant-Free
7. Maintained
8. Climate Controlled

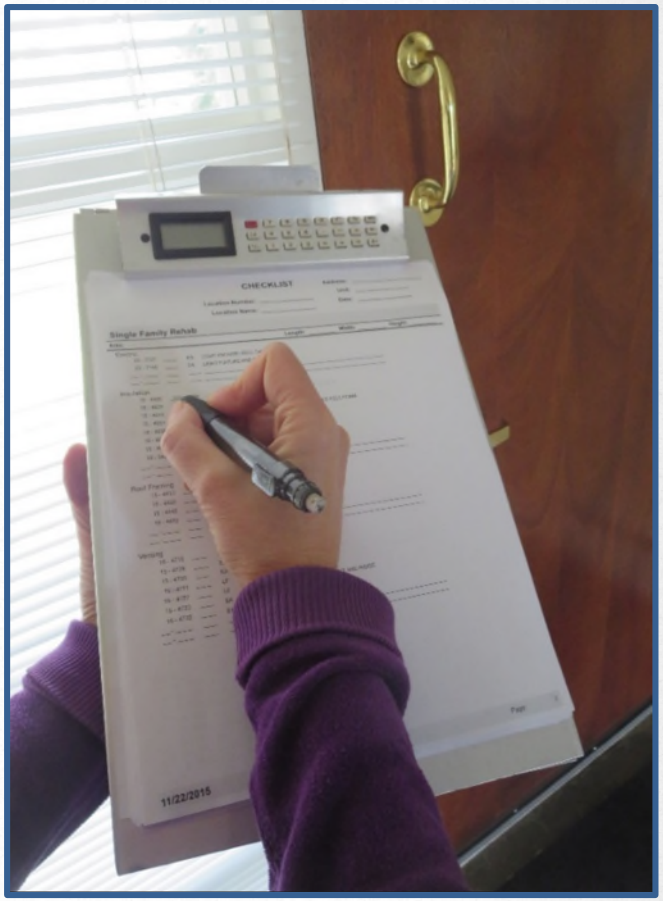
Keeping the Keep-Its in mind

Home Assessment Inspections: Survey first, then Inspect

1. Survey outside
2. Survey inside
3. Inspect outside
4. Inspect inside

Just Have a System!

- If you are consistent in your approach, you'll be less likely to miss something.
- You may even have a standard system within a room.



Individual Exercise (5): Identify Hazards

- View these slides related to 8 Keep-Its.
- Identify and record deficiencies related to each **numbered** (purple) image.
- For each deficiency, work with a teammate and suggest a corresponding solution.
- Add any notes or additional info to gather during inspection

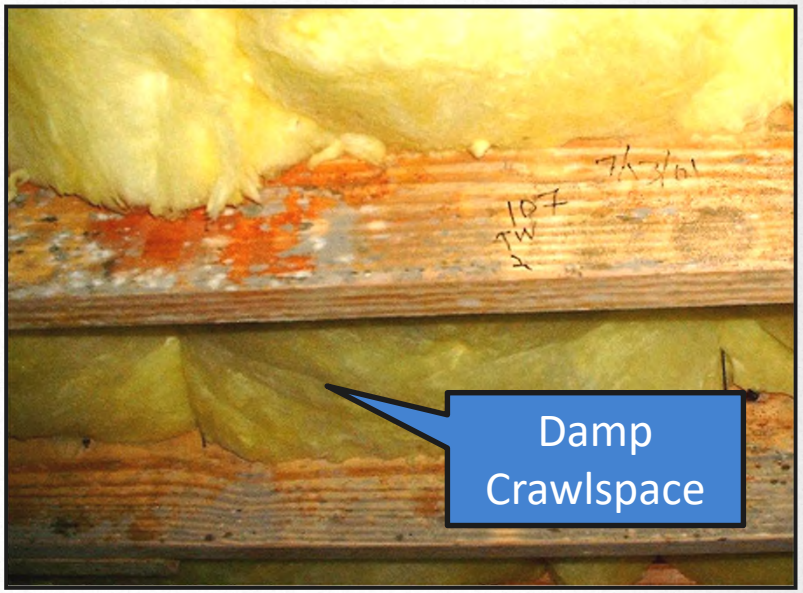
Keep It  1. Dry

Common Sources of Water & Moisture Problems

- Ground Water Intrusion: basements, crawl spaces, slab on grade foundations
- Roof and building envelope leaks
- Ice dams
- Plumbing leaks
- Condensation in wall, floor and ceiling cavities
- Moisture generated by residents, day-to-day activities
- Others?

MOLD

- Feeds on organic materials
  - Wood, paper, sheetrock
- Thrives in warm, moist environments
  - 40º F to 100º F
  - 70% RH humidity
  - Excess moisture: flooding, roof and plumbing leaks
- Is NOT killed by cold



1) Groundwater

© Armand C Magnelli, Livable Housing, Inc.

2) Groundwater

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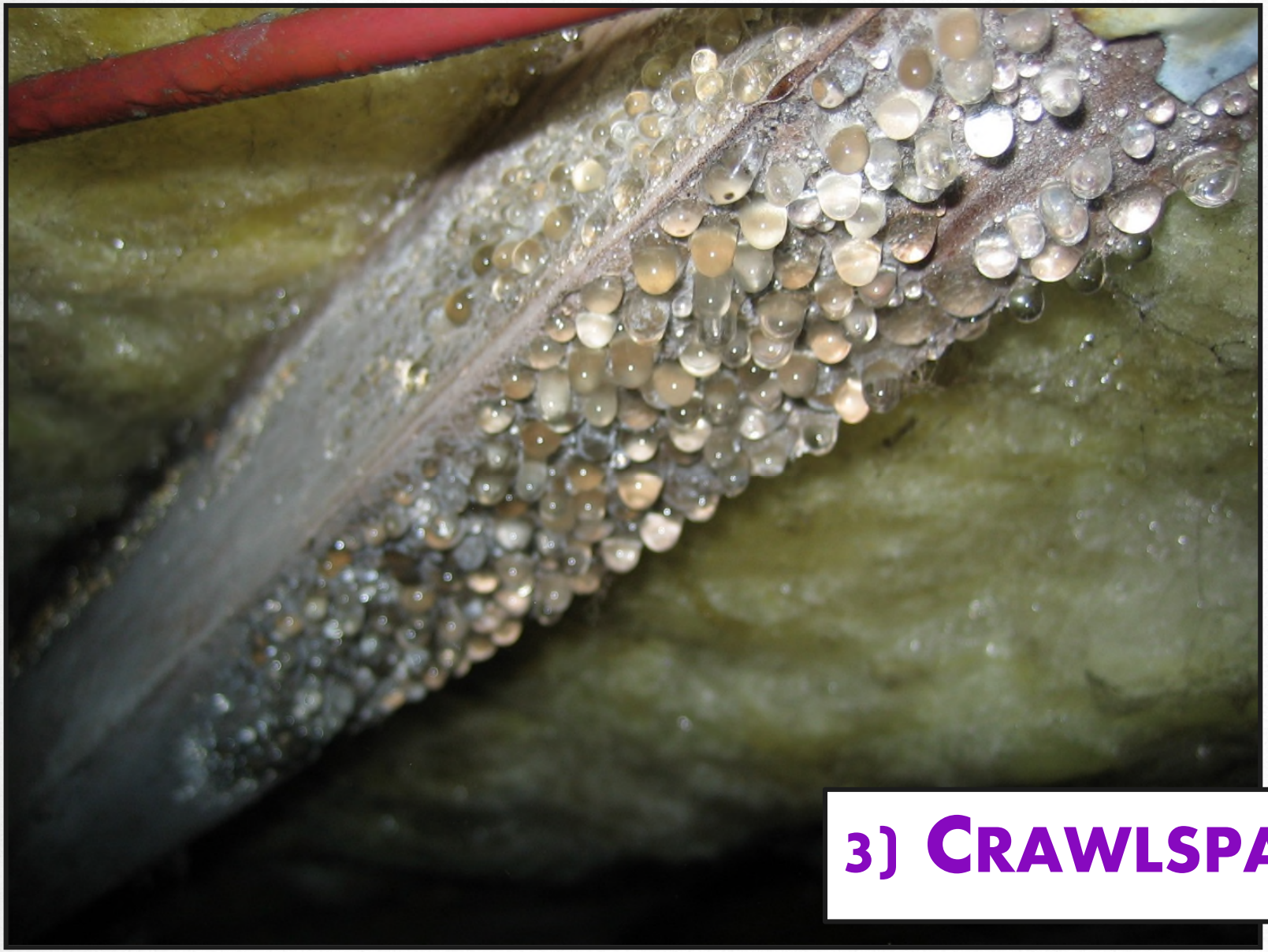


3) CRAWLSPACE

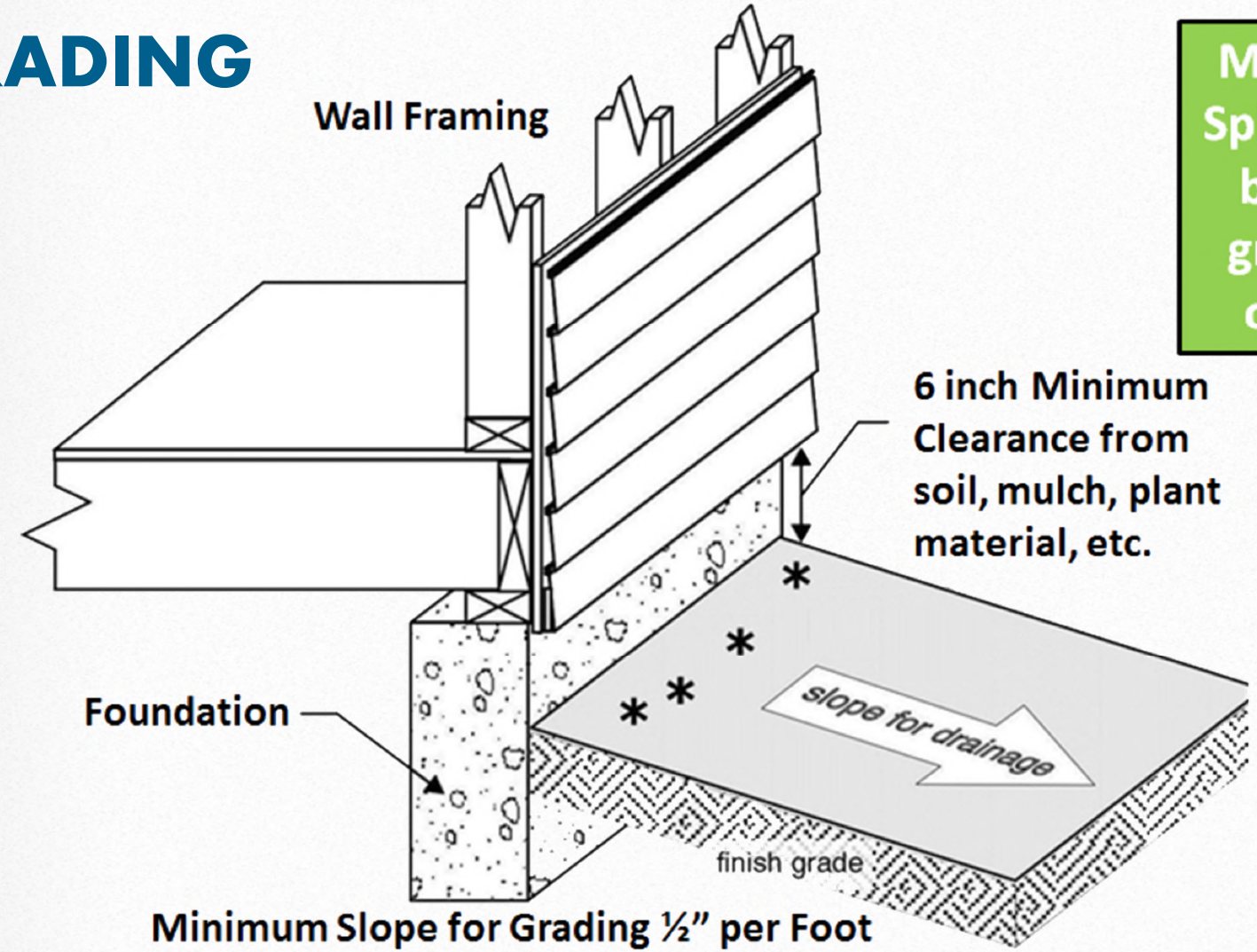
Crawlspace: Solution

4) CEILING BENEATH ATTIC

5) Ceiling beneath bathroom

6) BATHROOM

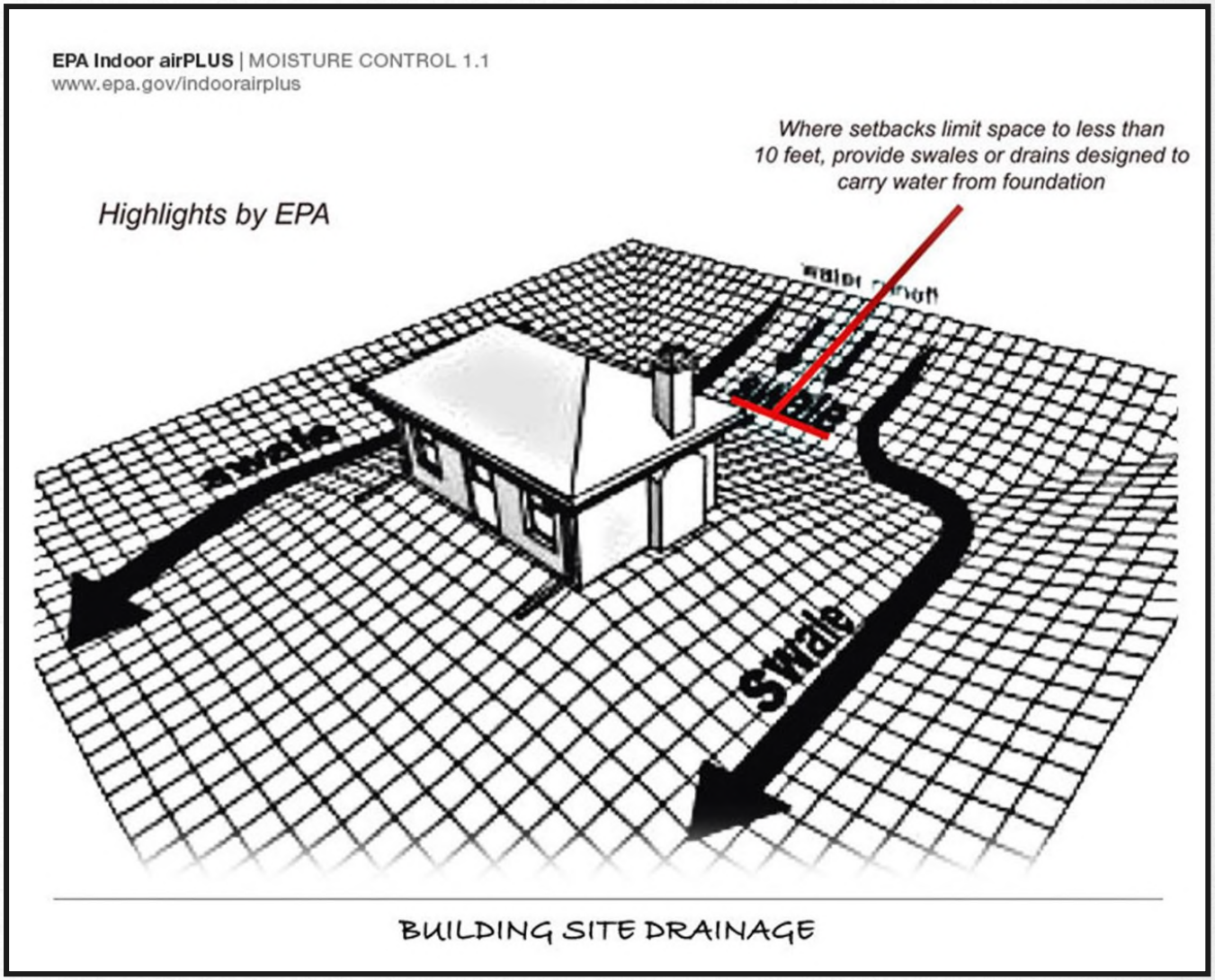
Storm Water Management (SWM): Grading



Minimum Slope for Grading ½" per Foot

Maintain a Splash-Zone between grade and cladding

Storm Water Management: Swales



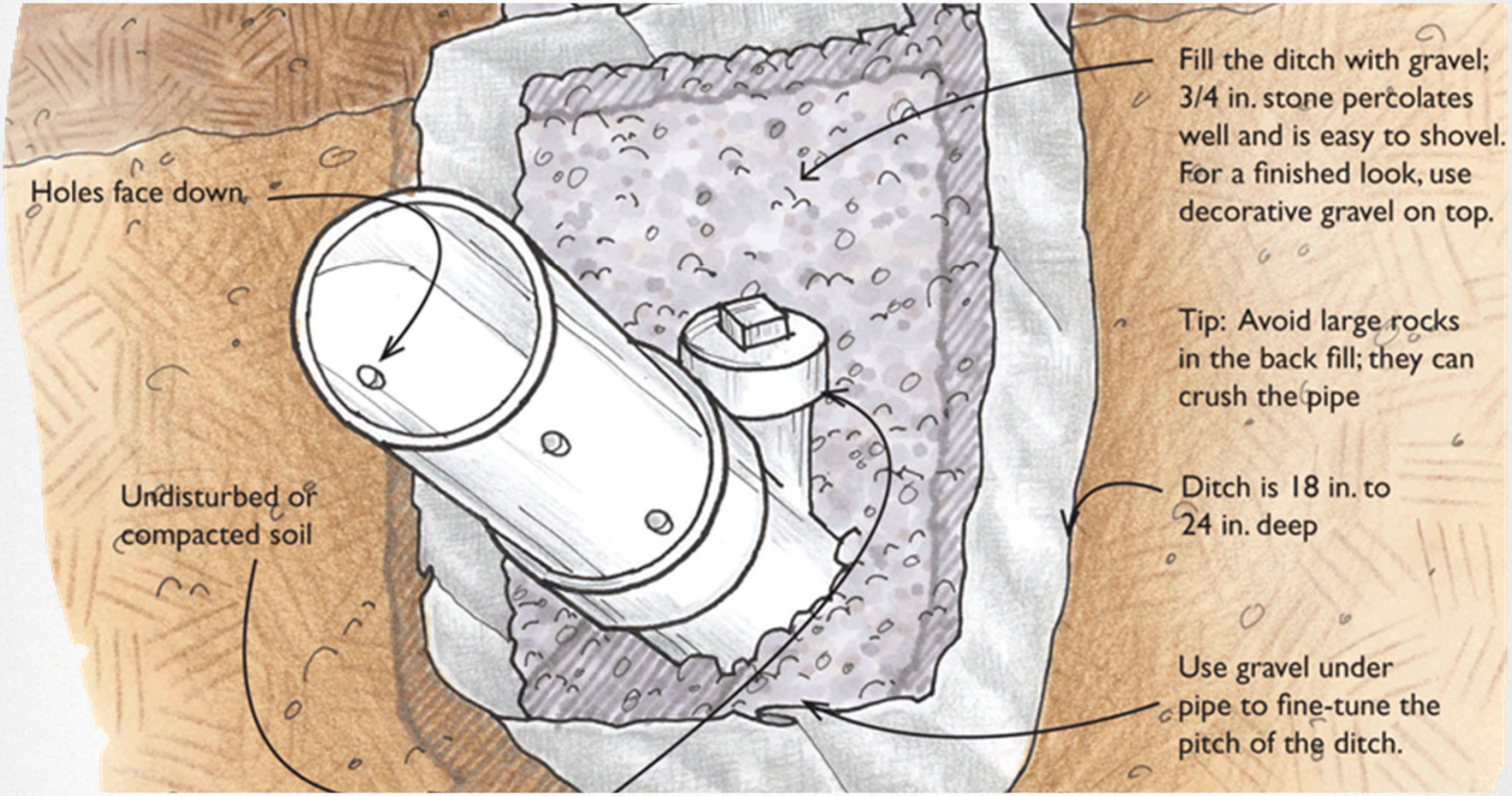
SWM: Downspout Outlet Options

SWM: Downspout Outlet Options

What is wrong with this Downspout Extension?

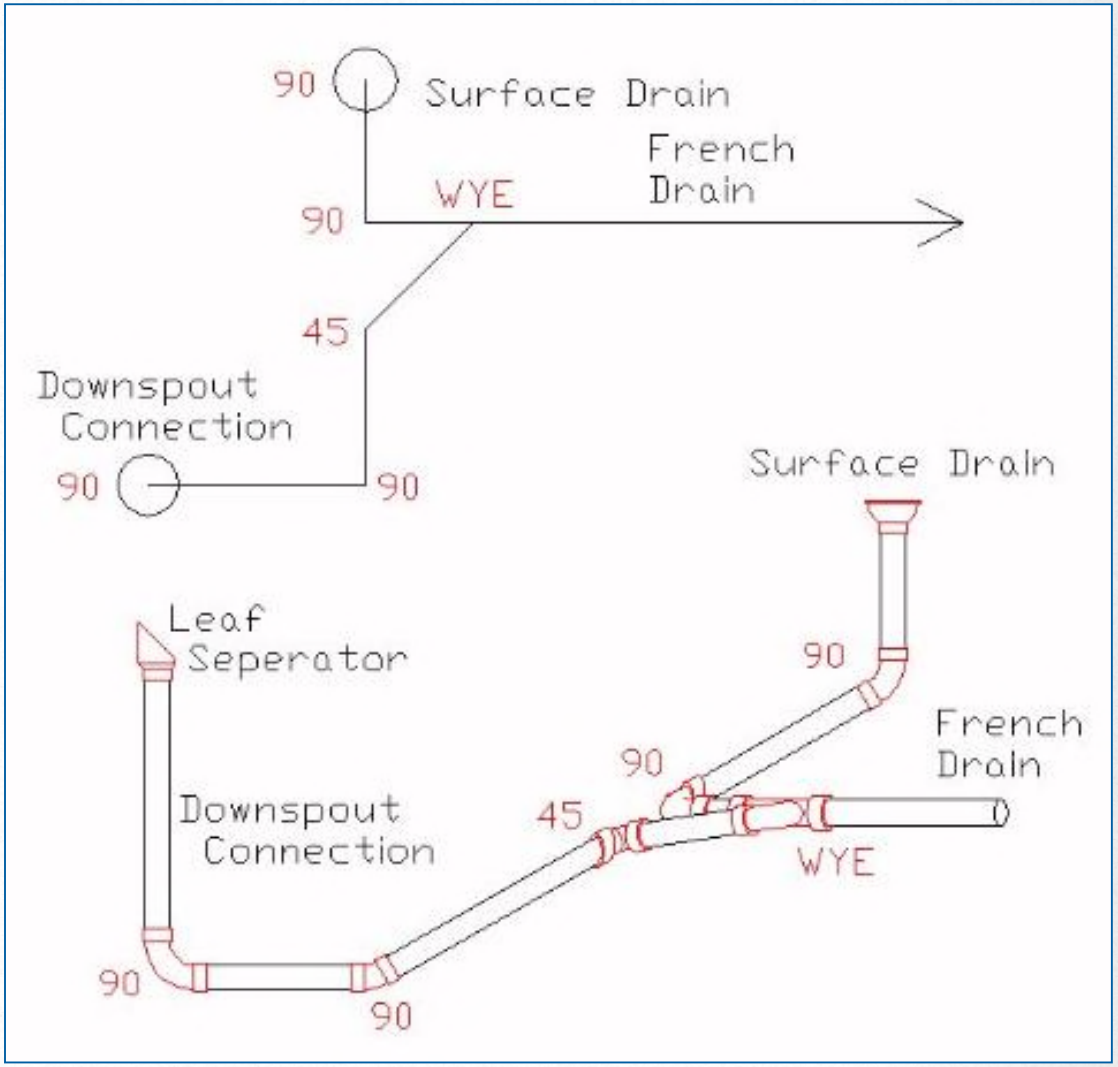
SWM: Downspout Outlet Options

The Ideal Drain Leader for Sites with Grading Problems

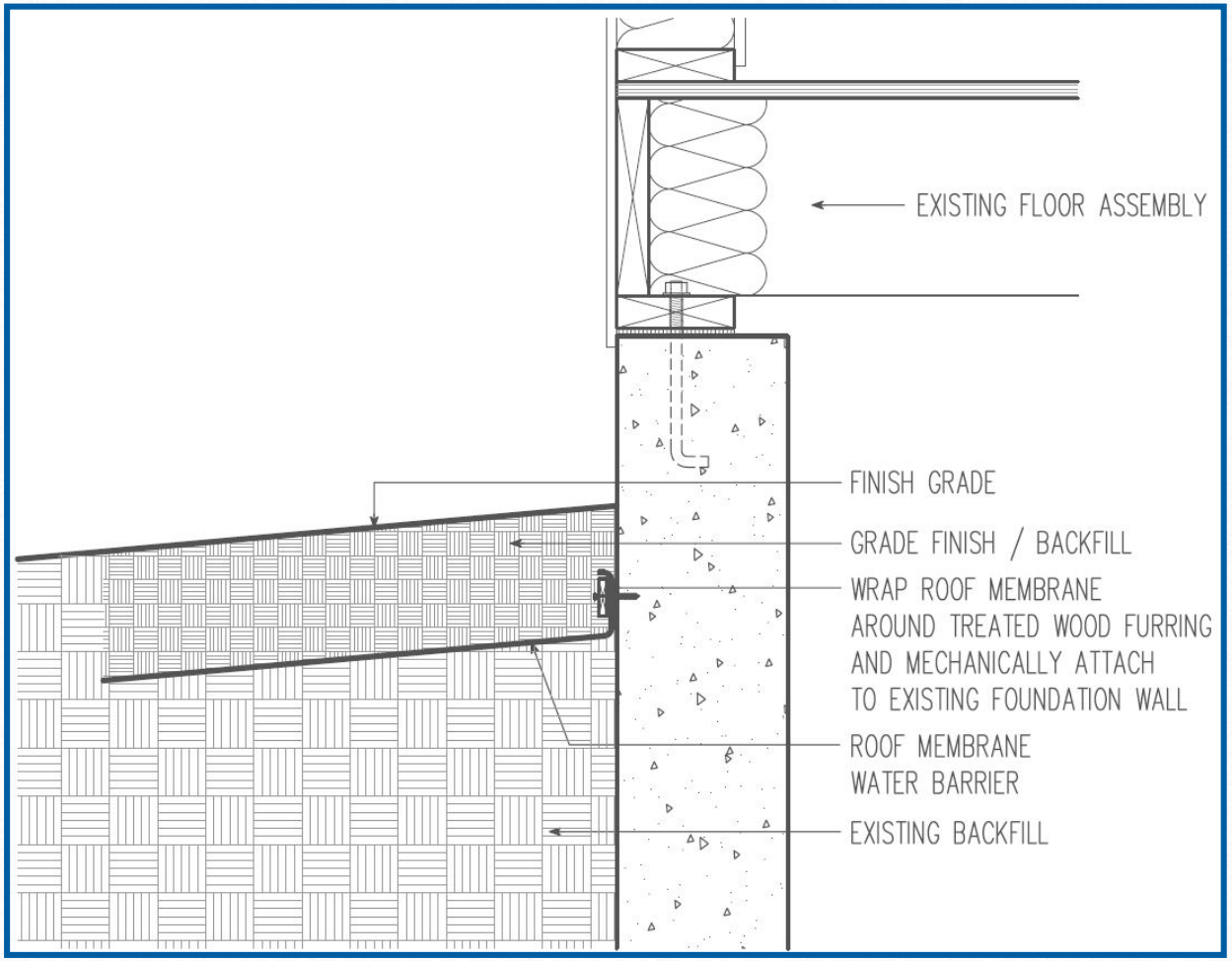


SWM: Drain Leader

- AKA: French Drain
- Purpose: Move water away from house to point where it can safely percolate into soil



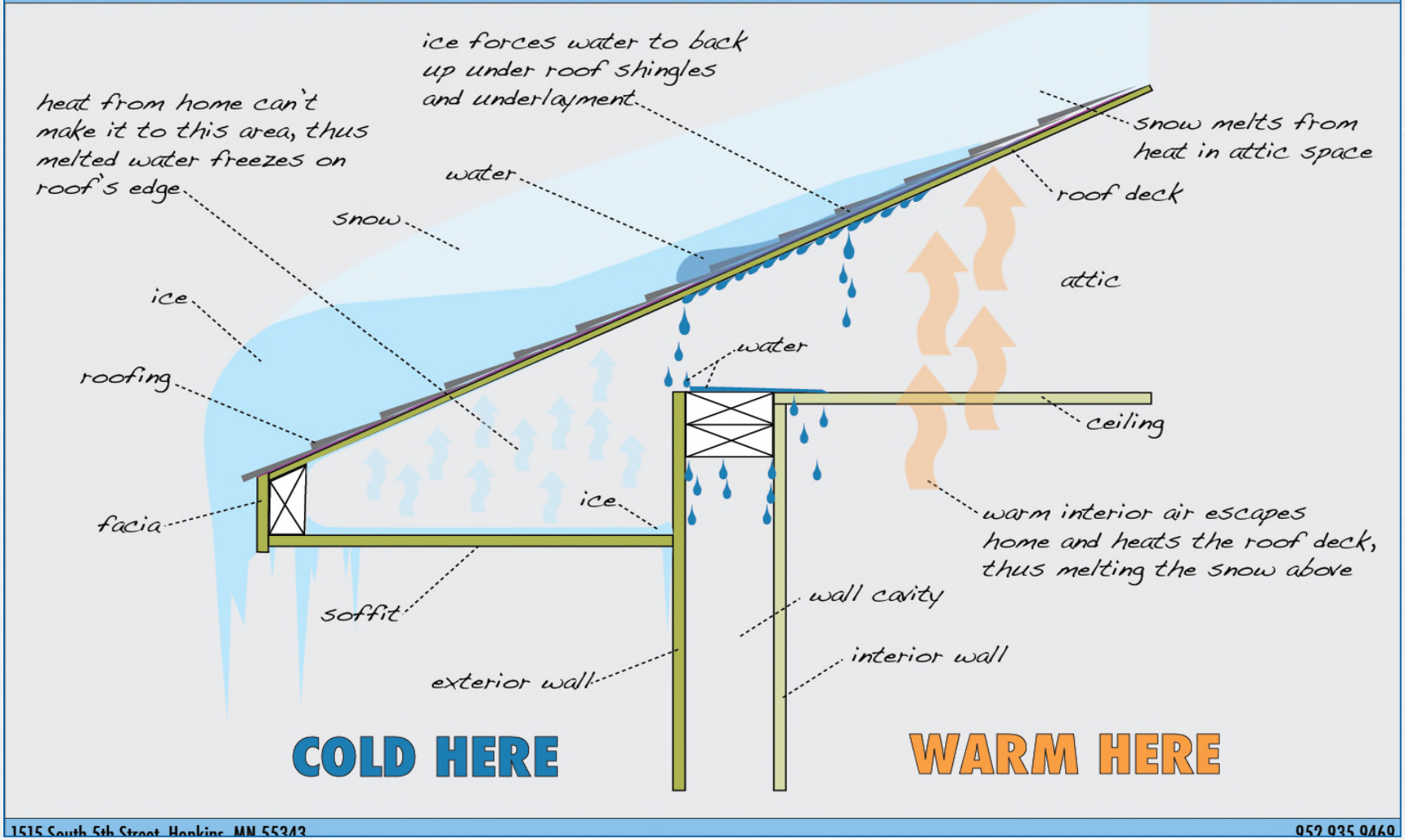
Exterior retrofitted sub-grade membrane waterproofing



Those (dam$%d) Ice Dams

ANATOMY OF AN ICE DAM

Illustration by Steve Kuhl, The Ice Dam Company www.theicedamcompany.com



1515 South 5th Street, Hopkins, MN 55343 952.935.9460

7) Windows

Windows: Solution

Moisture Meter

- Measures the % of water in a material
- Can confirm existence of water leak or moisture problem
- Can “map” moisture levels to identify the source.
- $100 - $450.

Mini-Ligno S/DC $140

Keep It

2. Clean

- **Cleanability is Key**
- Horizontal surfaces are the highest priority
- Then walls, ceilings and finishes
- Look for signs of wear that affect cleanability
- And don't forget to educate the resident!

Educate Residents About..

- Clutter
- Harborage

CLEANABILITY

©Jayne Windham: Livable Housing Inc.

Cleanability: Smooth Flooring vs Carpet

Cleanability: Smooth Flooring vs Carpet

Keep It 3. Pest-Free

- Trigger asthma & allergies
- Cause infection from bites
- Transmit disease
- Contaminate food
- Can lead to the (appropriate or inappropriate) use of pesticides

8) Pests

How do we know if we have a problem?

- Ask the occupants.
- Look for visible signs.
- “Sniff” for odors.
- Take a census.
- If you see the actual pests you likely have a huge problem!

The Pestiest of Pests!

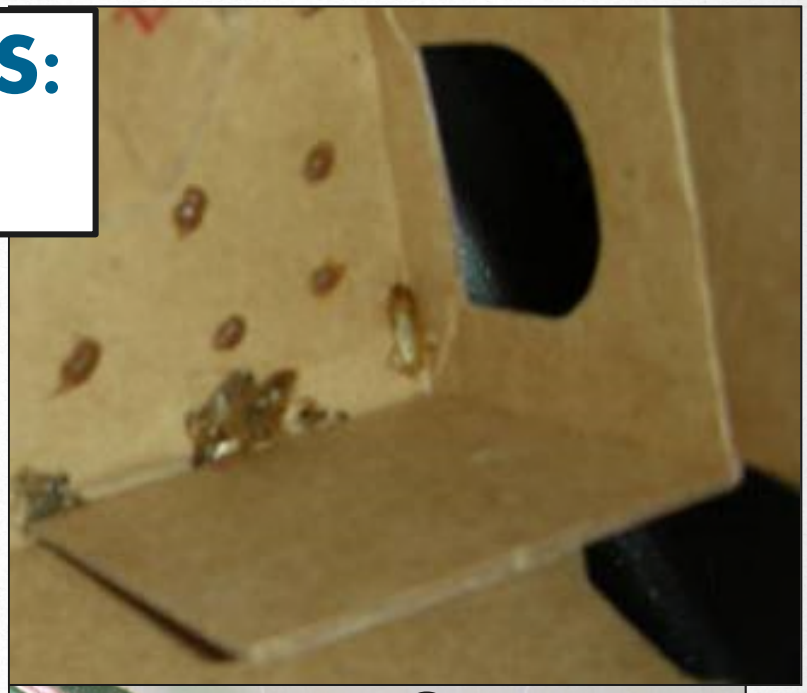
- Cockroaches
- Rodents
  - mice
  - rats
- Bed Bugs

Signs of Cockroaches:

- Live cockroaches
- Cockroach parts and shed skins
- Frass
- Egg cases

Signs of Cockroaches: Living Proof

American Cockroaches



German Cockroaches

Signs of Cockroaches: Where they live

- Anywhere!
- Where there's water, food, and harborage
- In cracks and crevices where their bodies touch surfaces above and below

Signs of Cockroaches: Shed Skins and Parts

German cockroaches on a sticky trap

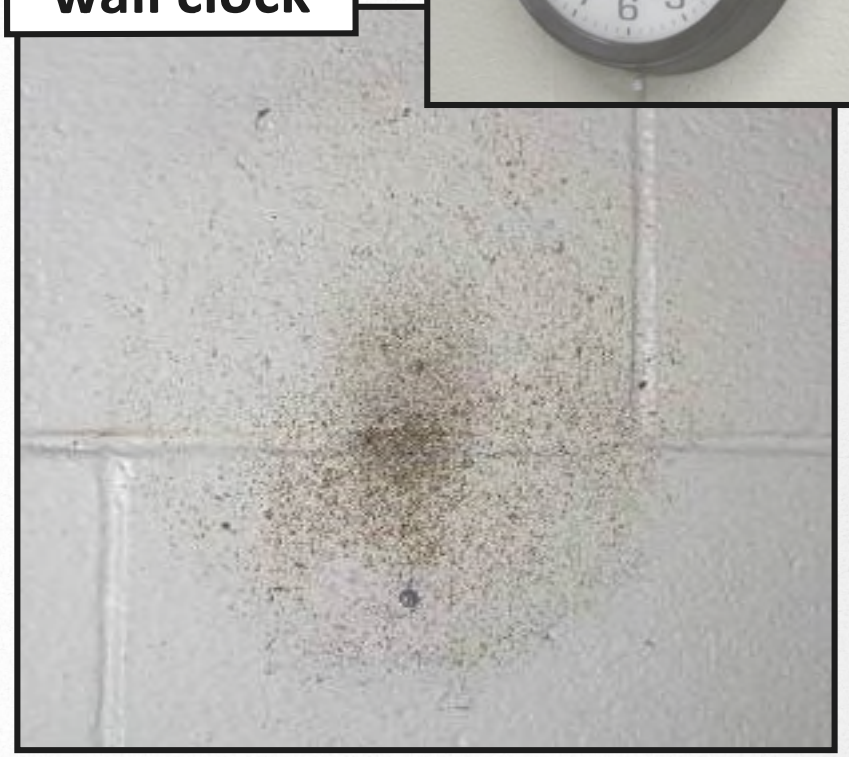
Brown banded cockroaches by a door hinge

Signs of Cockroaches: Frass

Door

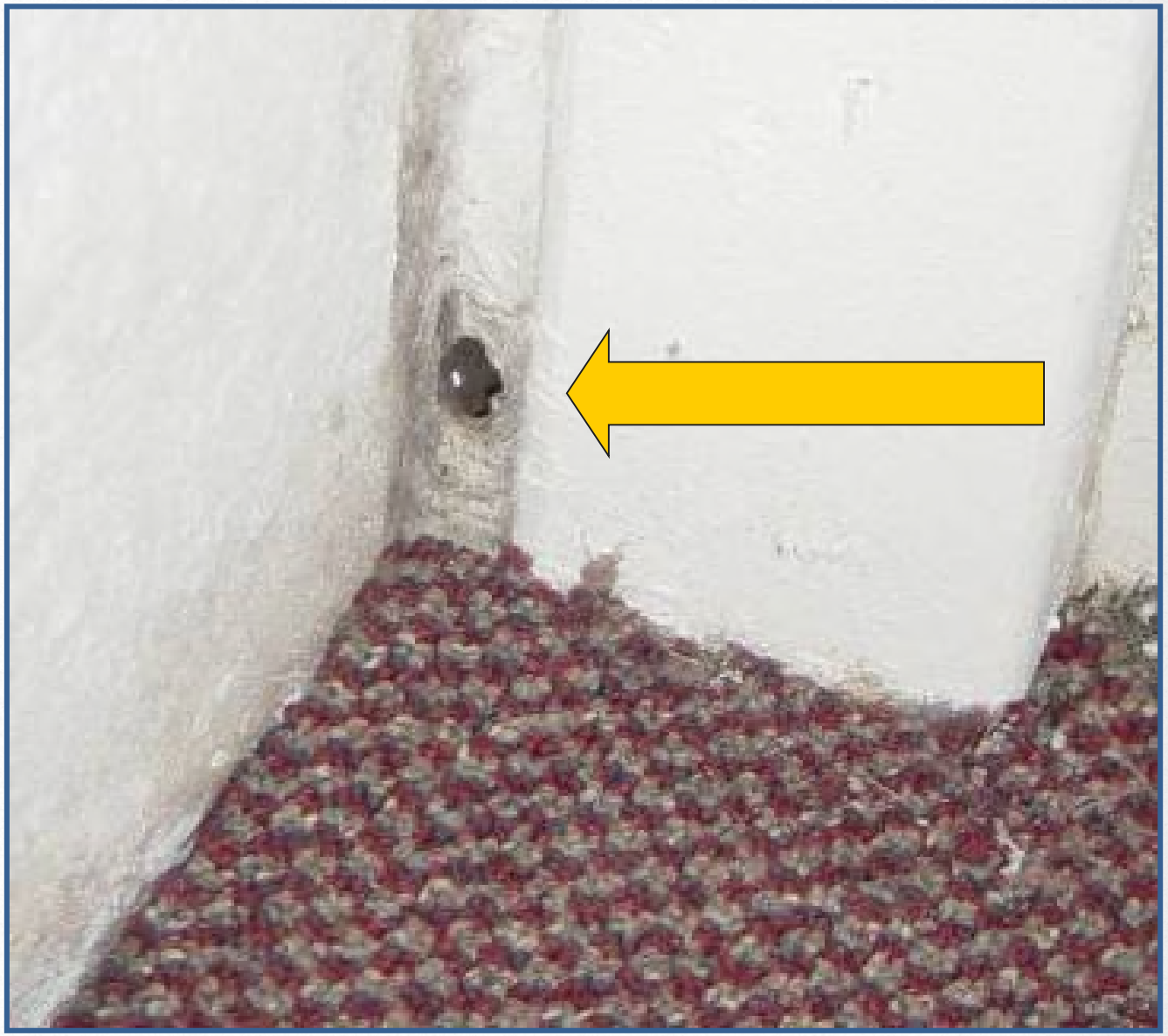
Under a cabinet shelf

Behind the wall clock



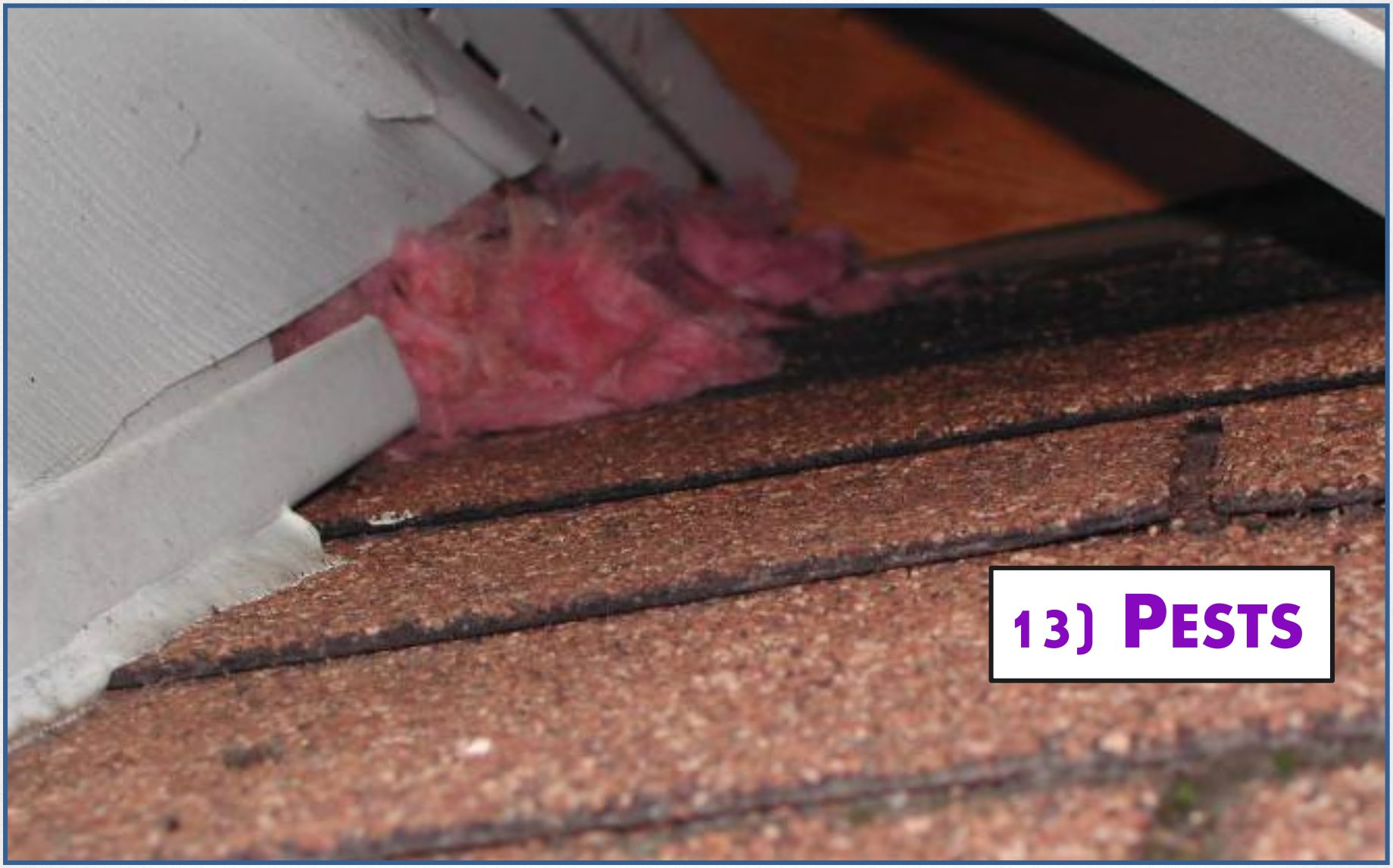
9) Pests

10) Pests




11) Pests

12) Pests


13) Pests

Keep It

4. Ventilated

- To control moisture
- To dilute toxic consumer products
- To dilute toxic building material emissions
- To dilute emissions from biological sources
- To dilute tobacco smoke and cooking contaminants

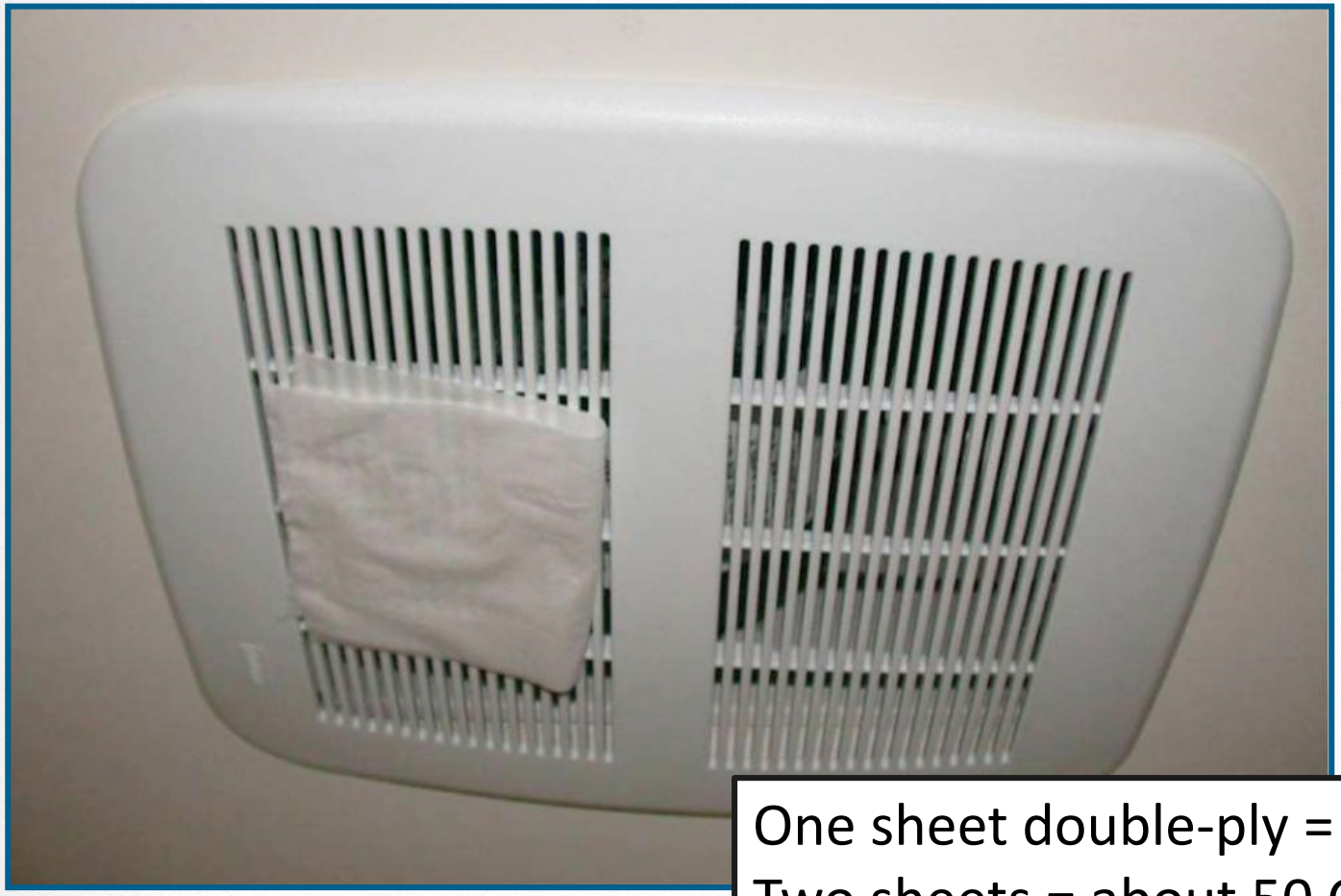
Signs of Ventilation Issues

- Mold
- Odor

Areas of Ventilation Problems

- Kitchen
- Bathroom
- Laundry room

Test Fan Performance



One sheet double-ply = about 25 CFM
Two sheets = about 50 CFM
Copy paper = at least 90/100 CFM

14) Exhaust Fans

15) Exhaust Fans

Duct Size & Material

TABLE 7.1 PRESCRIPTIVE DUCT SIZING REQUIREMENTS (FROM *ASHRAE 62.2*)								
Duct Type	Flex Duct				Smooth Duct			
Fan Rating (cfm at 0.25 in. w.g.)	50	80	100	125	50	80	100	125
	Maximum Allowable Duct Length (ft)							
Diameter, (in)	Flex Duct				Smooth Duct			
3	X	X	X	X	5	X	X	X
4	70	3	X	X	105	35	5	X
5	NL	70	35	20	NL	135	85	55
6	NL	NL	125	95	NL	NL	NL	145
7 and above	NL	NL	NL	NL	NL	NL	NL	NL

This table assumes no elbows. Deduct 15 ft of allowable duct length for each turn, elbow, or fitting. Interpolation and extrapolation in Table 7.1 is not allowed. For fan rating values not listed, use the next higher value. This table is not applicable for fan ratings > 125 cfm.

NL = no limit on duct length of this size.

X = not allowed, any length of duct of this size with assumed turns and fittings will exceed the rated pressure drop (0.25 in w.g.).

Note: water gauge (w.g). is the same as water column (w.c.)

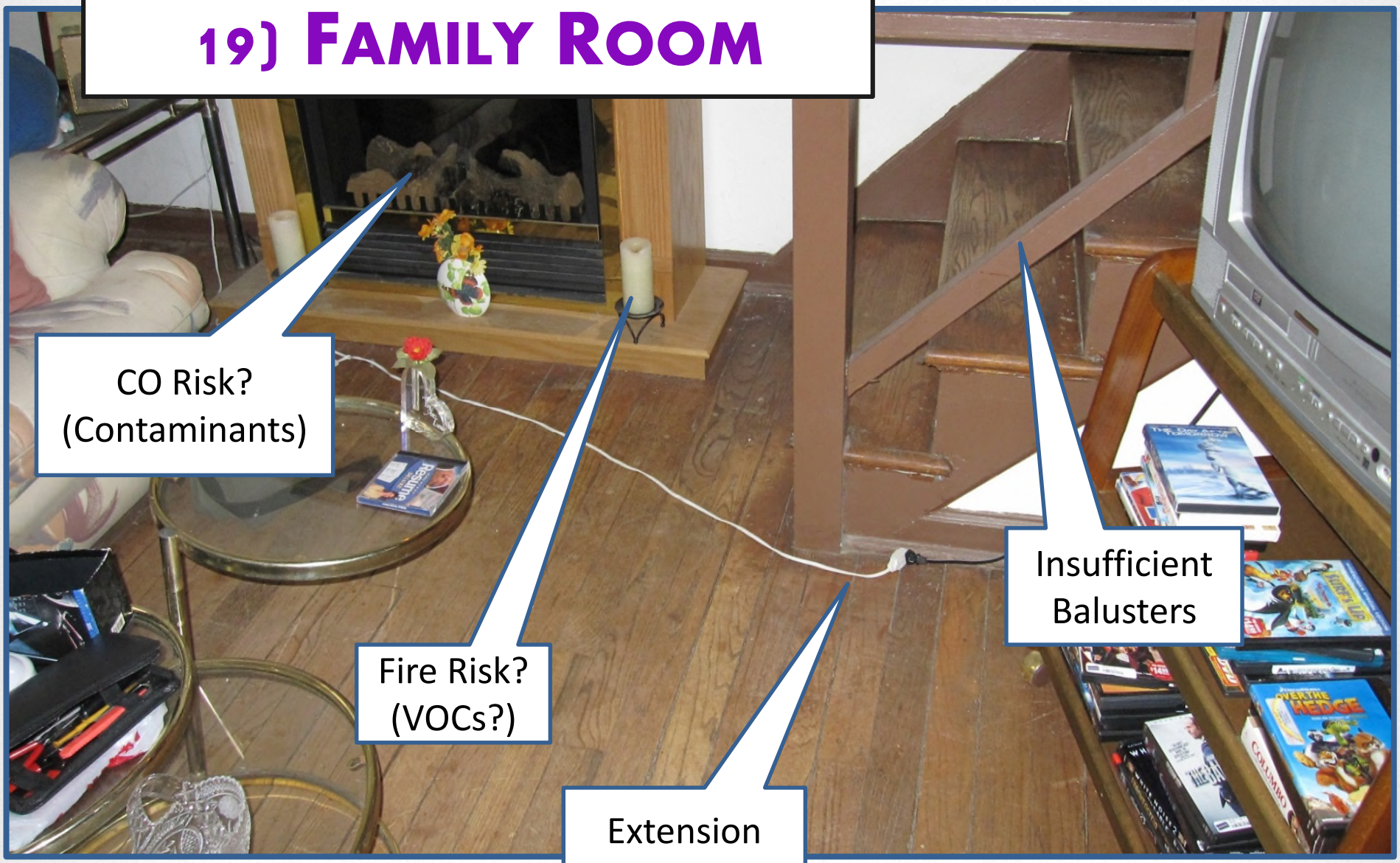
16) Recirculating Range Hood

17) Vented Range Hood

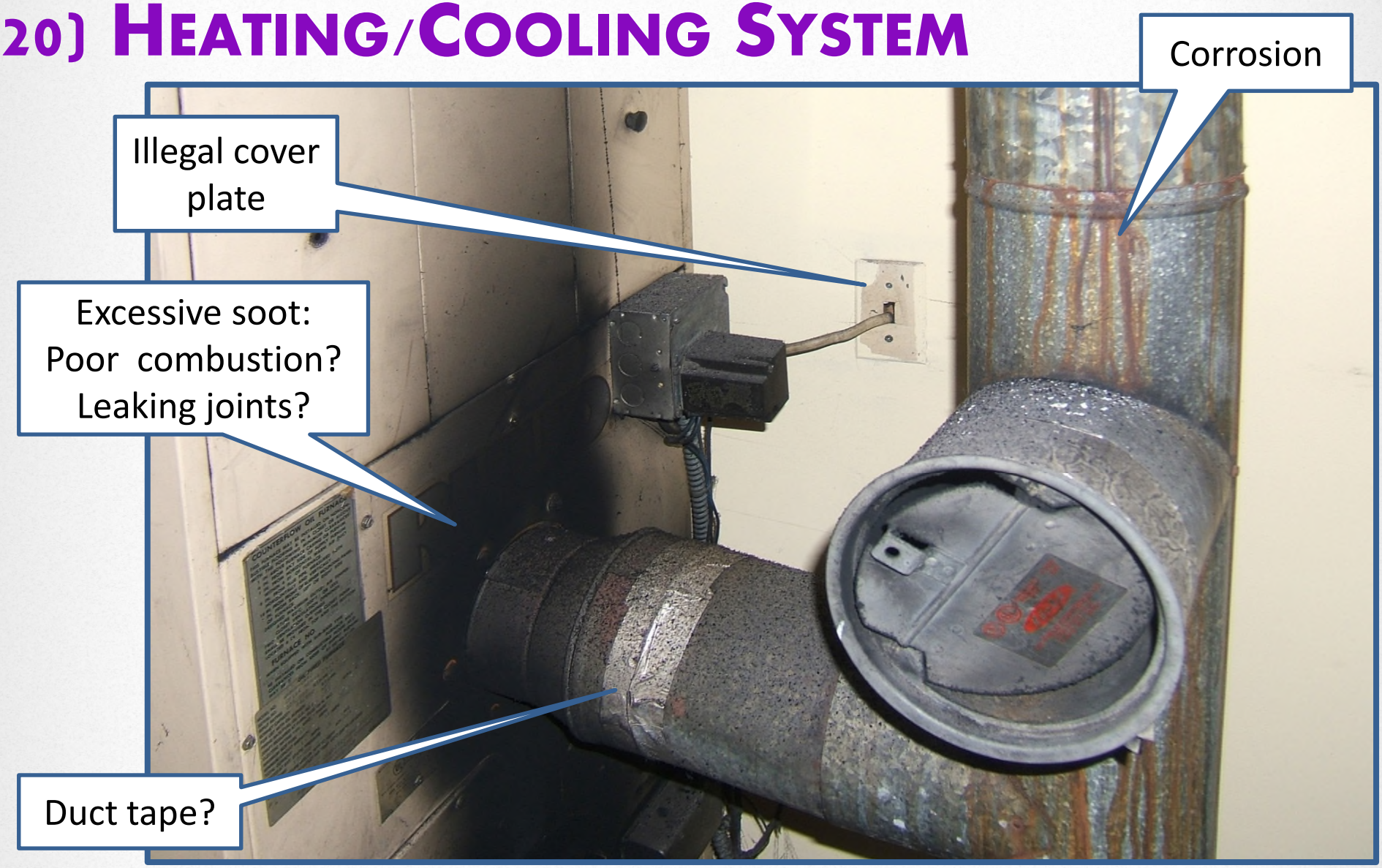
Keep It 5. Safe

18) Stairwell

19) Family Room



20) Heating/Cooling System



21) Electricity

Bathroom Safety

- Grab bar placement
- Outside shower controls

Ramp Safety

Keep It

6. Contaminant-Free

Avoid Contaminants!

- Use low/no VOC paints, caulks and sealants
- Avoid installing products with formaldehyde
- Use lead-safe work practices (LBP testing)
- Know how to recognize and handle asbestos
- Clean: Remove contaminants in household

Contaminants: Asbestos

- Residential use was limited in 1970's-1980's
- Still found in old products, vinyl tiles, insulation

Contaminants: Asbestos Tiles

©Armand C Magnelli, Livable Housing, Inc.

- Almost always 9”X 9”
  - Sometimes 8”x 8”
- Easy to spot compared to the standard 12” X 12” Vinyl Composition Tiles (VCT)

More Ways to Avoid Contaminants!

- Radon: Test and address
- CO: Install and maintain up-to-code alarms
- ETS: Educate Residents
- Atmospherically vented appliances: Combustion Appliance Zone Testing (CAZ)

CAZ Testing

BPI Certified Combustion Appliance Zone Testing

1. Gas pipe leakage
2. Combustion efficiency
3. Spillage
4. Draft
5. CO

Draw & Flue Gas Testing

Gas Leak Testing

Visual Cues for Backdrafting

Flue Connection

Condensation & Corrosion

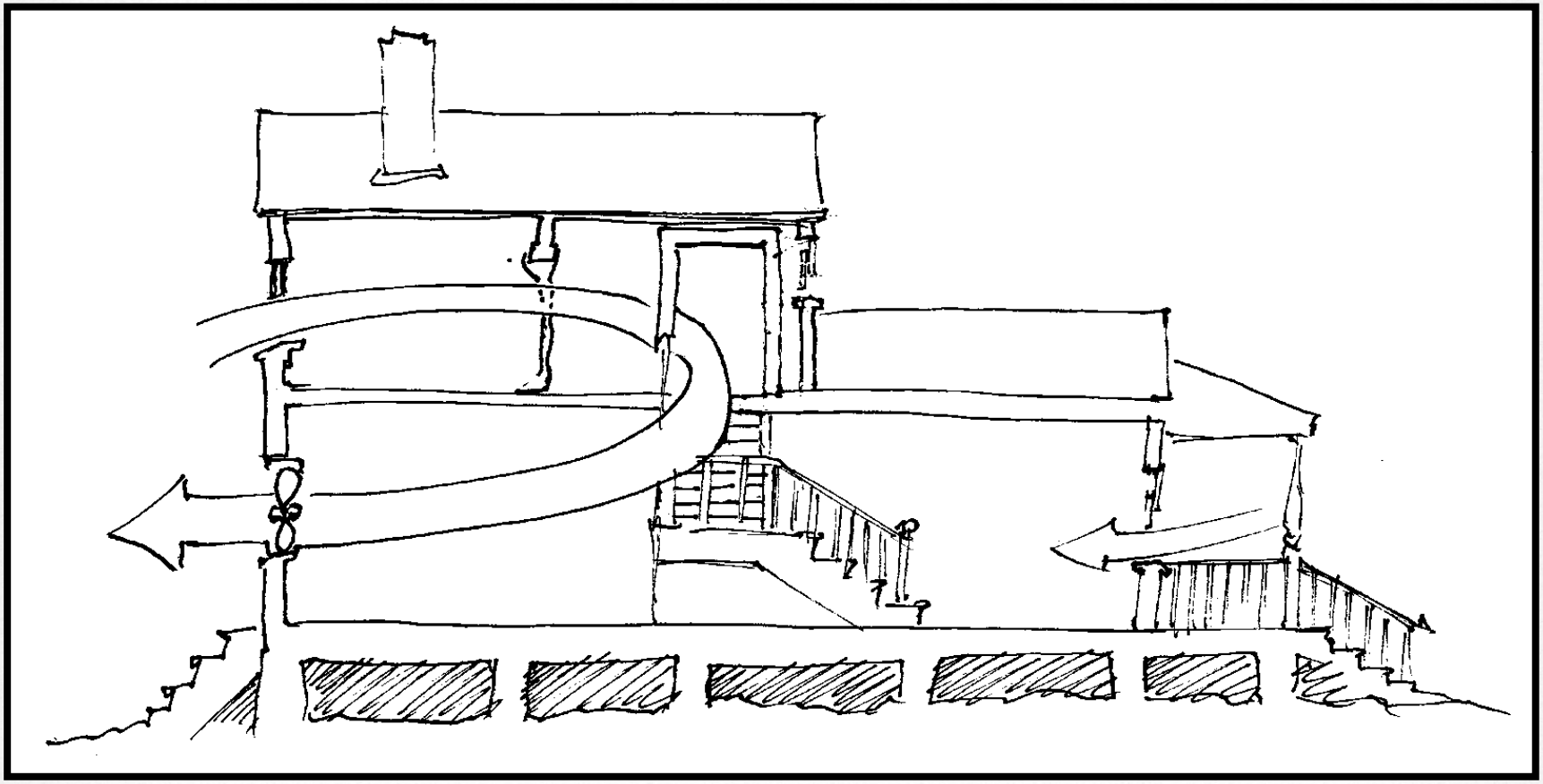
CO Detectors/Alarms

Plug-In

10 year Lithium Ion Battery

10 year Battery with Display 30PPM +

Assess for Mechanical Ventilation & Function



Keep It 7. Maintained

- Inspect
- Clean
- Lubricate mechanical appliances
- Repair
- Replace
- Organize

(22) Paint

Chalking & Peeling Paint Outside

Lead: Age of Housing Matters

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

KEEP IT 8. Climate Controlled

Climate-Control Systems:

- Heating
- Cooling
- Ventilation
- Think of the house as a System

We Have Systems To:

- Add heat
- Remove heat
- Ventilate
- Add or remove humidity

Heating Systems

- Fuel
  - Gas (natural or LP), oil, wood, coal
  - Electric
- Distribution
  - Hot water, steam, warm air
  - Radiators, baseboard, ducts, space heaters
  - Radiant floors and ceilings
- Chimneys, sealed combustion, fan powered
- Temperature Controls

Mechanical Ventilation

All exhaust appliances "suck" air.

Photos courtesy of The US Department of Energy

Occupant Factors
(The ways we do the things we do)

- Water Usage
- Cooking & Storing Food
- Cleanliness
- Systems Operation
- Maintenance
- Tolerance For Pests
- Lighting, Appliances

These Systems Must Work-Together

- Combustion Appliances
  - Heating systems
  - Water heaters
  - Gas range
- Exhaust Fans & Clothes Dryers
- Building Shell features
  - Type and quality of construction
  - Insulation & air sealing
  - Fenestration: Windows, doors, skylights
- Occupants

Measuring Thermal Comfort

Infrared Thermometer

Extech Mini Infrared Thermometer - (8:1) - $70

- Affordable thermal infrared "camera"
- ~$60 - $250
- Instantaneous, digital reading
- Helps to identify materials that are moist (since condensation of moisture results in cooling)

Measuring Thermal Comfort

Hygro-thermometer

Extech Hygro-Thermometer - $50

- Measures:
  - Temperature
  - Humidity
  - Calculated Dew Point
- Can be used with Laser Thermometer to locate potential sites for condensation

Preparing for Success

Lets prep for an inspection with the goal of developing a Scope of Work

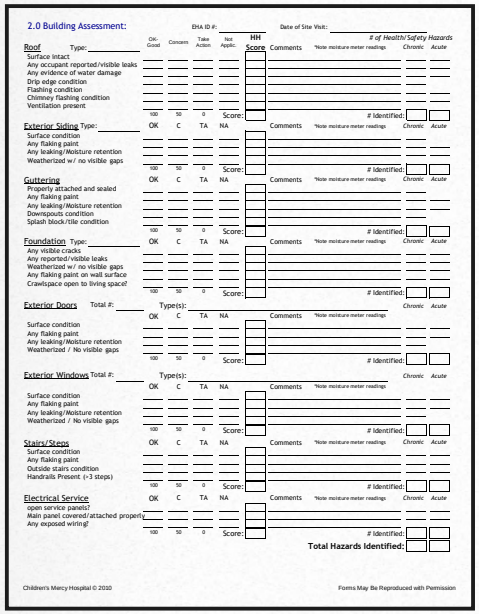
- Checklist check-up, comparing Deficiency-based and Solutions-based

  Practicing use of the Checklist

  What to bring for the inspection
- What's your role

Deficiency-Based Checklists

- Used to document existing conditions
- May help to prioritize the health risks
- Focused on itemizing the health and safety issues
- See the samples in your manual



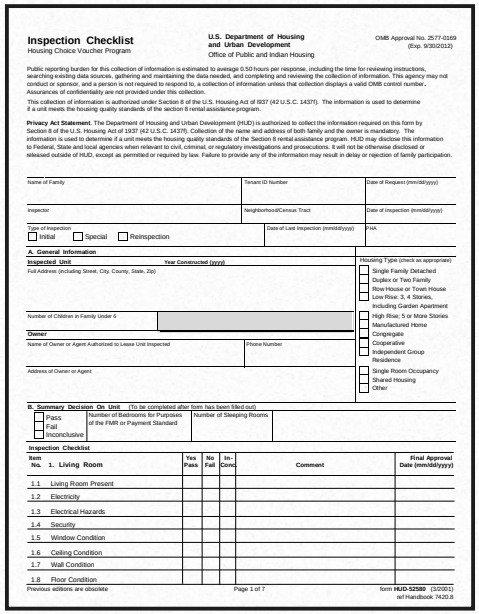
2.0 Building Assessment:

EHA ID #: _____ Date of Site Visit: _____

	OK-Good	Concern	Take Action	Not Applic.	HH Score	Comments *Note moisture meter readings	# of Health/Safety Hazards: Chronic	Acute
Roof Type: _____								
Surface intact								
Any occupant reported/visible leaks								
Any evidence of water damage								
Drip edge condition								
Flashing condition								
Chimney flashing condition								
Ventilation present								
	100	50	0		Score:		# Identified:	
Exterior Siding Type: _____	OK	C	TA	NA		Comments *Note moisture meter readings	Chronic	Acute
Surface condition								
Any flaking paint								
Any leaking/Moisture retention								
Weatherized w/ no visible gaps								
	100	50	0		Score:		# Identified:	
Guttering	OK	C	TA	NA		Comments *Note moisture meter readings	Chronic	Acute
Properly attached and sealed								
Any flaking paint								
Any leaking/Moisture retention								
Downspouts condition								
Splash block/tile condition								
	100	50	0		Score:		# Identified:	
Foundation Type: _____	OK	C	TA	NA		Comments *Note moisture meter readings	Chronic	Acute
Any visible cracks								
Any reported/visible leaks								
Weatherized w/ no visible gaps								
Any flaking paint on wall surface								
Crawlspace open to living space?								
	100	50	0		Score:		# Identified:	
Exterior Doors Total #: _____	Type(s): _____						Chronic	Acute
	OK	C	TA	NA		Comments *Note moisture meter readings		
Surface condition								
Any flaking paint								
Any leaking/Moisture retention								
Weatherized / No visible gaps								
	100	50	0		Score:		# Identified:	
Exterior Windows Total #: _____	Type(s): _____						Chronic	Acute
	OK	C	TA	NA		Comments *Note moisture meter readings		
Surface condition								
Any flaking paint								
Any leaking/Moisture retention								
Weatherized / No visible gaps								
	100	50	0		Score:		# Identified:	
Stairs/Steps	OK	C	TA	NA		Comments *Note moisture meter readings	Chronic	Acute
Surface condition								
Any flaking paint								
Outside stairs condition								
Handrails Present (+3 steps)								
	100	50	0		Score:		# Identified:	
Electrical Service	OK	C	TA	NA		Comments *Note moisture meter readings	Chronic	Acute
open service panels?								
Main panel covered/attached properly								
Any exposed wiring?								
	100	50	0		Score:		# Identified:	

Total Hazards Identified: _____

Children's Mercy Hospital © 2010 Forms May Be Reproduced with Permission



Inspection Checklist
Housing Choice Voucher Program

U.S. Department of Housing and Urban Development
Office of Public and Indian Housing

OMB Approval No. 2577-0169 (Exp. 9/30/2012)

Public reporting burden for this collection of information is estimated to average 0.50 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless that collection displays a valid OMB control number. Assurances of confidentiality are not provided under this collection.

This collection of information is authorized under Section 8 of the U.S. Housing Act of 1937 (42 U.S.C. 1437f). The information is used to determine if a unit meets the housing quality standards of the section 8 rental assistance program.

Privacy Act Statement. The Department of Housing and Urban Development (HUD) is authorized to collect the information required on this form by Section 8 of the U.S. Housing Act of 1937 (42 U.S.C. 1437f). Collection of the name and address of both family and the owner is mandatory. The information is used to determine if a unit meets the housing quality standards of the Section 8 rental assistance program. HUD may disclose this information to Federal, State and local agencies when relevant to civil, criminal, or regulatory investigations and prosecutions. It will not be otherwise disclosed or released outside of HUD, except as permitted or required by law. Failure to provide any of the information may result in delay or rejection of family participation.

Name of Family | Tenant ID Number | Date of Request (mm/dd/yyyy)

Inspector | Neighborhood/Census Tract | Date of Inspection (mm/dd/yyyy)

Type of Inspection: ☐ Initial ☐ Special ☐ Reinspection | Date of Last Inspection (mm/dd/yyyy) | EHA

A. General Information

Inspected Unit | Year Constructed (yyyy)

Full Address (including Street, City, County, State, Zip)

Number of Children in Family Under 6

Housing Type (check as appropriate)
☐ Single Family Detached
☐ Duplex or Two Family
☐ Row House or Town House
☐ Low-Rise 3, 4 Stories, Including Garden Apartment
☐ High Rise; 5 or More Stories
☐ Manufactured Home
☐ Congregate
☐ Cooperative
☐ Independent Group Residence
☐ Single Room Occupancy
☐ Shared Housing
☐ Other

Owner

Name of Owner or Agent Authorized to Lease Unit Inspected | Phone Number

Address of Owner or Agent

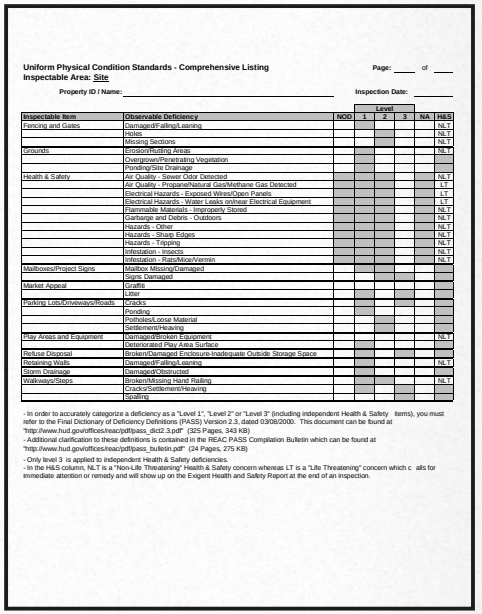
B. Summary Decision On Unit (To be completed after form has been filled out)

☐ Pass ☐ Fail ☐ Inconclusive | Number of Bedrooms for Purposes of the FMR or Payment Standard | Number of Sleeping Rooms

Inspection Checklist

Item No.	1. Living Room	Yes Pass	No Fail	In-Conc	Comment	Final Approval Date (mm/dd/yyyy)
1.1	Living Room Present					
1.2	Electricity					
1.3	Electrical Hazards					
1.4	Security					
1.5	Window Condition					
1.6	Ceiling Condition					
1.7	Wall Condition					
1.8	Floor Condition					

Previous editions are obsolete | Page 1 of 7 | form **HUD-52580** (3/2001) ref Handbook 7420.8



Uniform Physical Condition Standards - Comprehensive Listing
Inspectable Area: Site

Page: ____ of ____

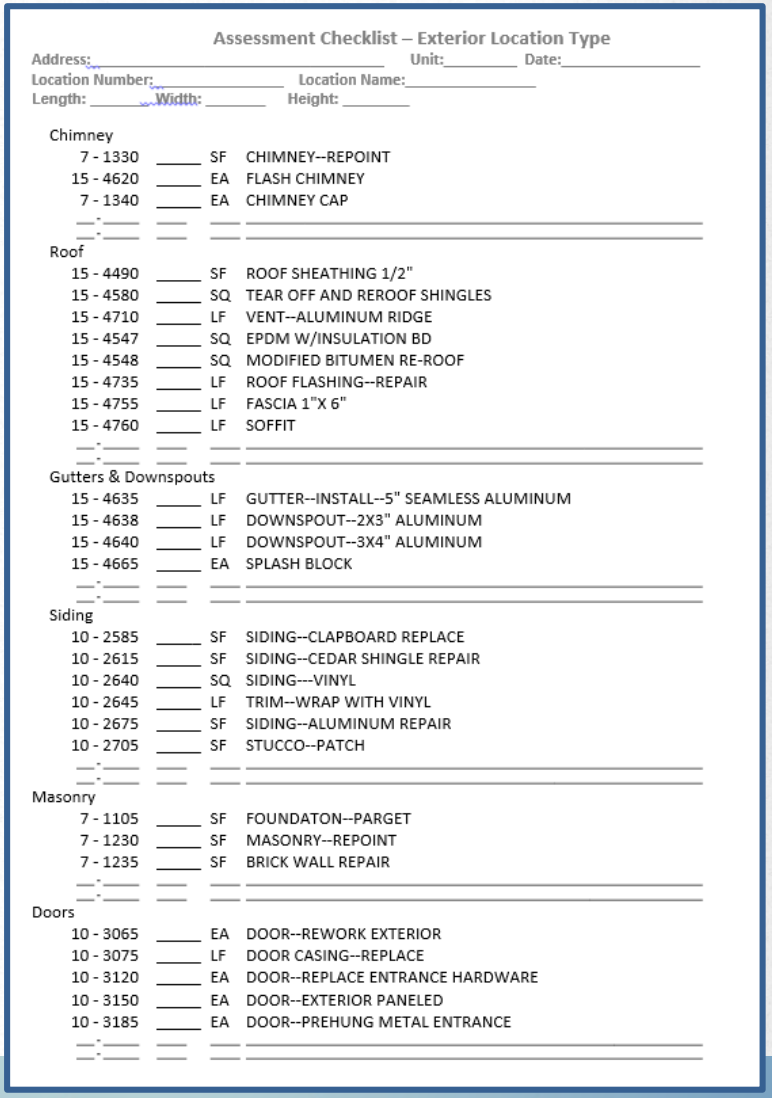
Property ID / Name: _____ Inspection Date: _____

Inspectable Item	Observable Deficiency	NOD	Level 1	Level 2	Level 3	NA	H&S
Fencing and Gates	Damaged/Falling/Leaning						NLT
	Holes						NLT
	Missing Sections						NLT
Grounds	Erosion/Rutting Areas						NLT
	Overgrown/Penetrating Vegetation						
	Ponding/Site Drainage						
Health & Safety	Air Quality - Sewer Odor Detected						NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected						LT
	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Flammable Materials - Improperly Stored						NLT
	Garbage and Debris - Outdoors						NLT
	Hazards - Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
Mailboxes/Project Signs	Mailbox Missing/Damaged						
	Signs Damaged						
Market Appeal	Graffiti						
	Litter						
Parking Lots/Driveways/Roads	Cracks						
	Ponding						
	Potholes/Loose Material						
	Settlement/Heaving						
Play Areas and Equipment	Damaged/Broken Equipment						NLT
	Deteriorated Play Area Surface						
Refuse Disposal	Broken/Damaged Enclosure-Inadequate Outside Storage Space						
Retaining Walls	Damaged/Falling/Leaning						NLT
Storm Drainage	Damaged/Obstructed						
Walkways/Steps	Broken/Missing Hand Railing						NLT
	Cracks/Settlement/Heaving						
	Spalling						

- In order to accurately categorize a deficiency as a "Level 1", "Level 2" or "Level 3" (including independent Health & Safety items), you must refer to the Final Dictionary of Deficiency Definitions (PASS) Version 2.3, dated 03/08/2000. This document can be found at "http://www.hud.gov/offices/reac/pdf/pass_dicf2.3.pdf" (325 Pages, 343 KB)
- Additional clarification to these definitions is contained in the REAC PASS Compilation Bulletin which can be found at "http://www.hud.gov/offices/reac/pdf/pass_bulletin.pdf" (24 Pages, 275 KB)
- Only level 3 is applied to independent Health & Safety deficiencies.
- In the H&S column, NLT is a "Non-Life Threatening" Health & Safety concern whereas LT is a "Life Threatening" concern which c alls for immediate attention or remedy and will show up on the Exigent Health and Safety Report at the end of an inspection.

Solutions-Based Checklists

- Identifies specific work items to address deficiencies
- Ideally quantifies the work using units of measurement
- Allows for recording special notes
- Records the information necessary for a scope of work



Assessment Checklist – Exterior Location Type

Address:_____ Unit:_____ Date:_____
Location Number:_____ Location Name:_____
Length: _____ Width: _____ Height: _____

Chimney			
7 - 1330	_____	SF	CHIMNEY--REPOINT
15 - 4620	_____	EA	FLASH CHIMNEY
7 - 1340	_____	EA	CHIMNEY CAP
Roof			
15 - 4490	_____	SF	ROOF SHEATHING 1/2"
15 - 4580	_____	SQ	TEAR OFF AND REROOF SHINGLES
15 - 4710	_____	LF	VENT--ALUMINUM RIDGE
15 - 4547	_____	SQ	EPDM W/INSULATION BD
15 - 4548	_____	SQ	MODIFIED BITUMEN RE-ROOF
15 - 4735	_____	LF	ROOF FLASHING--REPAIR
15 - 4755	_____	LF	FASCIA 1"X 6"
15 - 4760	_____	LF	SOFFIT
Gutters & Downspouts			
15 - 4635	_____	LF	GUTTER--INSTALL--5" SEAMLESS ALUMINUM
15 - 4638	_____	LF	DOWNSPOUT--2X3" ALUMINUM
15 - 4640	_____	LF	DOWNSPOUT--3X4" ALUMINUM
15 - 4665	_____	EA	SPLASH BLOCK
Siding			
10 - 2585	_____	SF	SIDING--CLAPBOARD REPLACE
10 - 2615	_____	SF	SIDING--CEDAR SHINGLE REPAIR
10 - 2640	_____	SQ	SIDING---VINYL
10 - 2645	_____	LF	TRIM--WRAP WITH VINYL
10 - 2675	_____	SF	SIDING--ALUMINUM REPAIR
10 - 2705	_____	SF	STUCCO--PATCH
Masonry			
7 - 1105	_____	SF	FOUNDATON--PARGET
7 - 1230	_____	SF	MASONRY--REPOINT
7 - 1235	_____	SF	BRICK WALL REPAIR
Doors			
10 - 3065	_____	EA	DOOR--REWORK EXTERIOR
10 - 3075	_____	LF	DOOR CASING--REPLACE
10 - 3120	_____	EA	DOOR--REPLACE ENTRANCE HARDWARE
10 - 3150	_____	EA	DOOR--EXTERIOR PANELED
10 - 3185	_____	EA	DOOR--PREHUNG METAL ENTRANCE

WHATEVER FORM YOU USE, IT MUST BE:

- Thorough
- Efficient

Hazards and Solutions Checklist

Location Type	Bathroom				
Address:				Unit:	
Location Name:				Location #:	
Dimensions:	L:	W:	H:	Date:	

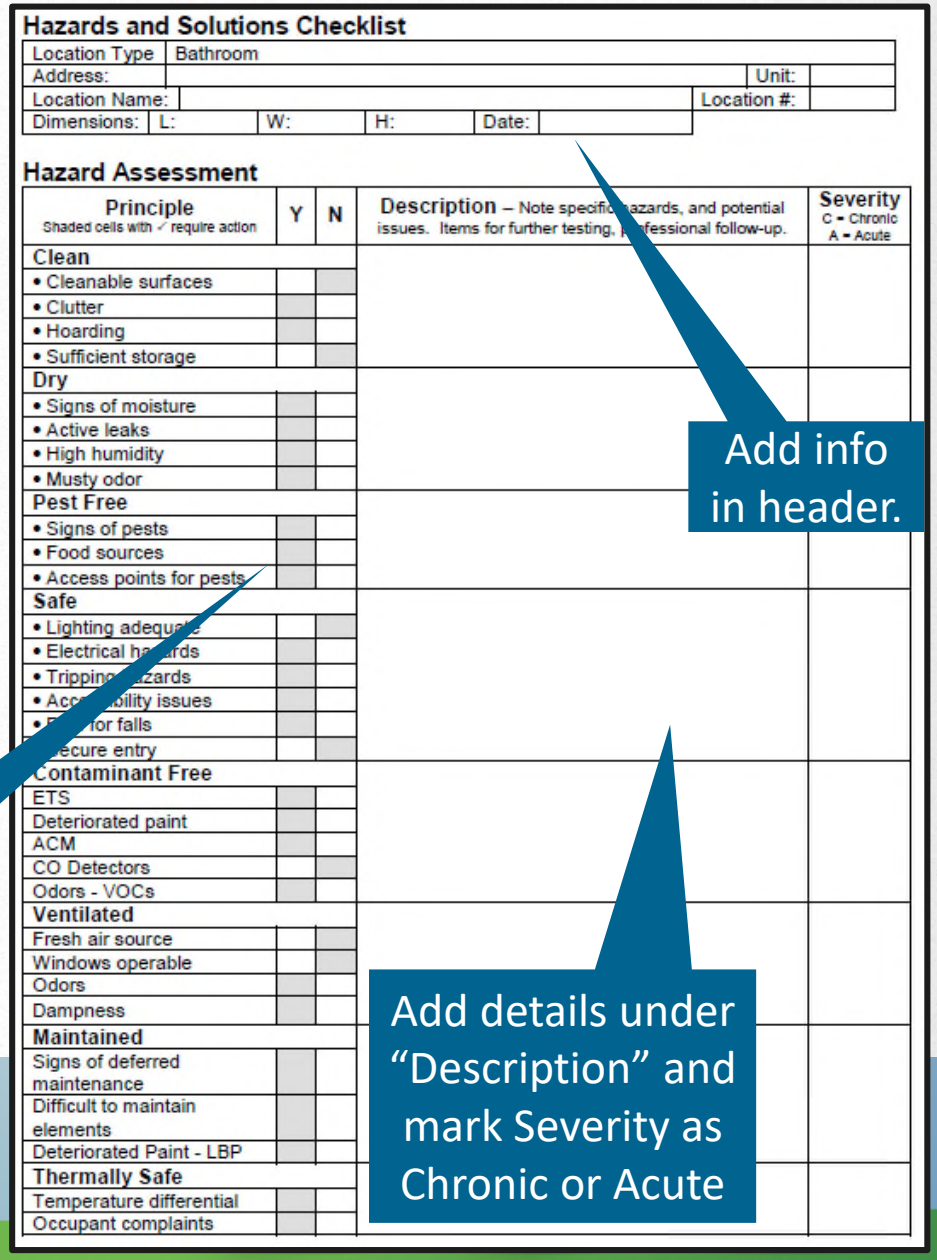
Hazard Assessment

Principle Shaded cells with ✓ require action	Y	N	**Description** – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	**Severity** C = Chronic A = Acute
Clean				
• Cleanable surfaces				
• Clutter				
• Hoarding				
• Sufficient storage				
Dry				
• Signs of moisture				
• Active leaks				
• High humidity				
• Musty odor				
Pest Free				
• Signs of pests				
• Food sources				
• Access points for pests				
Safe				
• Lighting adequate				
• Electrical hazards				
• Tripping hazards				
• Accessibility issues				
• Risk for falls				
• Secure entry				
Contaminant Free				
ETS				
Deteriorated paint				
ACM				
CO Detectors				
Odors - VOCs				
Ventilated				
Fresh air source				
Windows operable				
Odors				
Dampness				
Maintained				
Signs of deferred maintenance				
Difficult to maintain elements				
Deteriorated Paint - LBP				
Thermally Safe				
Temperature differential				
Occupant complaints				

Prepare for Onsite Visit:

Let's:

- Familiarize ourselves with the checklist that we'll use tomorrow
- Practice filling one out using photos
- Here's the Hazards section



Hazards and Solutions Checklist

Location Type	Bathroom				
Address:				Unit:	
Location Name:				Location #:	
Dimensions:	L:	W:	H:	Date:	

Hazard Assessment

Principle (Shaded cells with ✓ require action)	Y	N	Description – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	Severity (C = Chronic, A = Acute)
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Odors				
Dampness				
Maintained				
Signs of deferred maintenance				
Difficult to maintain elements				
Deteriorated Paint - LBP				
Thermally Safe				
Temperature differential				
Occupant complaints				

Add info in header.

Check marks signal a hazard exists.

Add details under "Description" and mark Severity as Chronic or Acute

Prepare for Onsite Visit:

- Here's a typical Solutions section

Category:	**Electric**		
Spec #	Unit of Measure	Quantity	Spec Title
23-7590	EA		RECEPTACLE—GFCI BATH
Addendum			
23-7819	EA		FAN/LIGHT FIXTURE—ENERGY STAR
Addendum			
23-7675	EA		REPLACE SINGLE POLE LIGHT SWIT
Addendum			
23-7690	EA		INSTALL SINGLE POLE LIGHT SWITC
Addendum			
23-7761	EA		ENERGY STAR 2 BULB BATH VANITY FIXTURE
Addendum			
23-7824	EA		BATHROOM FAN--CONTINUOUS--SINGLE SWITCH
Addendum			
23-	EA		
Addendum			
23-	EA		
Addendum			

Chose a line item by entering a "Quantity"

Add notes for additional instructions under "Addendum".

Add work items as needed

Individual Exercise (6): Hazards and Solutions Checklist

First cut:

- View these slides and identify and record hazards/deficiencies related to each image on your Checklist
- We'll start by focusing on the hazards/deficiencies, and next work on solutions

Individual Exercise (6): Hazards and Solutions Checklist

Second cut:

- View the slides again, and for each deficiency, identify a line item of work that would be a solution by entering a "Quantity"
- Next, work with a teammate and discuss your choices for solutions.
- Add any notes or additional info to gather during inspection

Kitchen "A" Wall

Kitchen "B" Wall

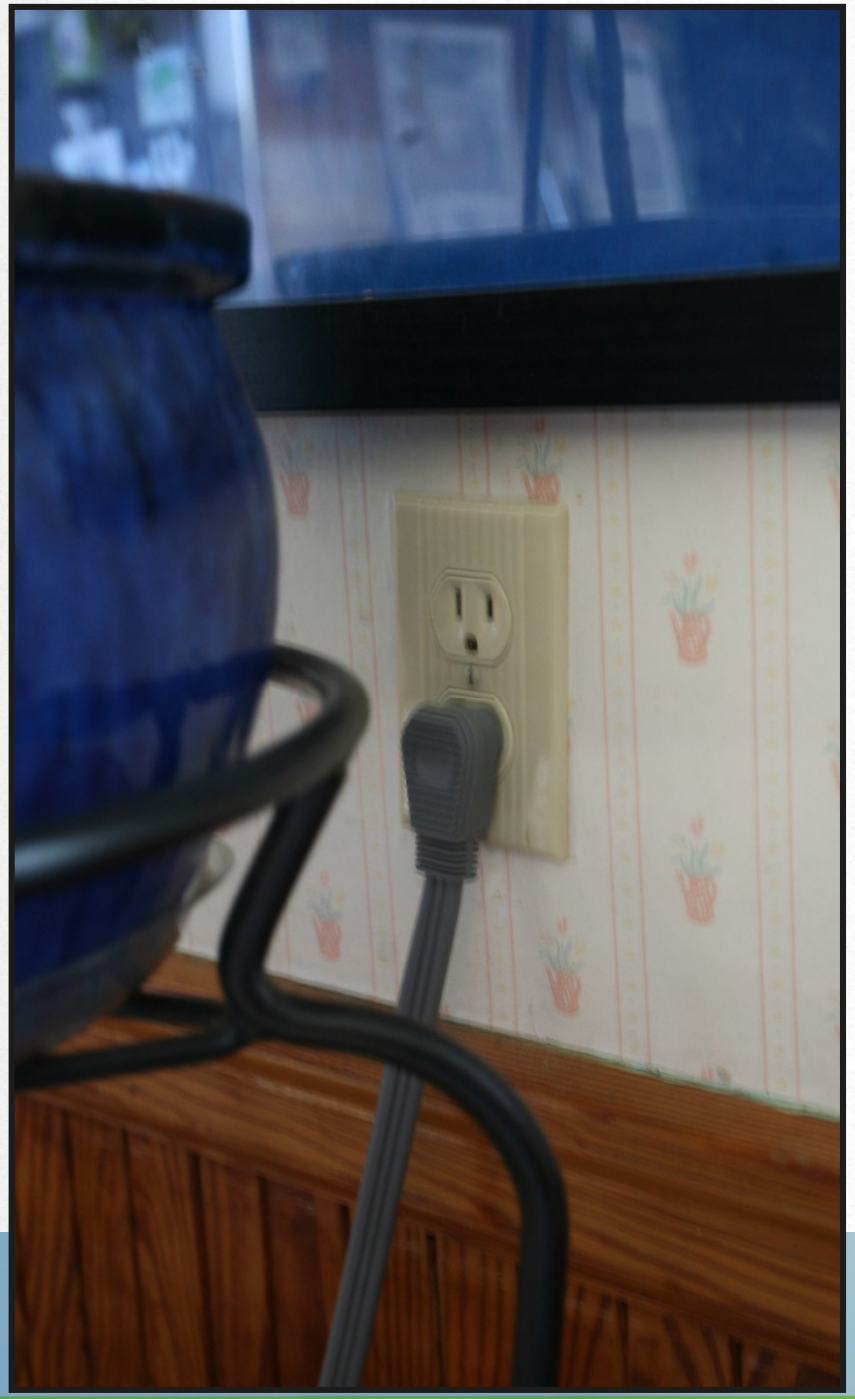
Kitchen "C" Wall

Kitchen Alcove "A" Wall

Kitchen Alcove "B" Wall

Kitchen Alcove "D" Wall

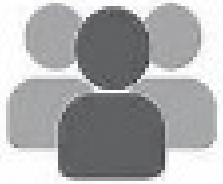
Kitchen Floor Detail



Kitchen Electrical

Kitchen Entry

Small Group Exercise (7): Preparing for Success



- Work in small groups.
- List EVERYTHING you can think of that the inspector needs for a successful assessment.
  - Tools
  - Information about the building
  - Information about/from the resident or owner

Preparing for Success

nfo - Environmental	To	From the /Occupant
Presence of existing hazards	A way to record information	someone to let the inspector in
History of the home	A reminder for what to examine	Access to all areas of the property
Neig info	A way to quantify th work	t profiles
B	Aids to see properly	
Program Guidelines/Standards	Hand-held testing equipment	

Environmental Assessments

Checklist, Camera

Checklist

Checklist & measuring devices

Flashlights

Moisture meter, ambient CO detector, laser thermometer

Assessor Safety

Personal protective equipment to consider for Inspections:

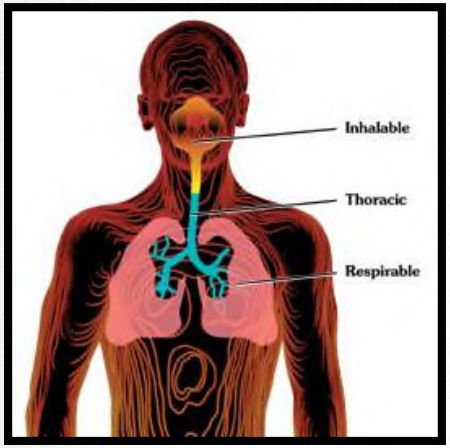
- Booties
- Gloves
- Tyvek Coveralls
- Respirator

What would you add to this list?

Note- this discussion is about professionals who go into people's homes. Occupation-related personal protective equipment (PPE) is covered by OSHA with specific regulations regarding medical monitoring and guidance on worker protection.

Fine particles

If a particle is less than 10 microns:	If a particle is smaller than 20 microns:	Most common airborne particle size is:	Most harmful particle size is less than:
You can breath it in.	You can't see it.	2.4 microns	1 micron



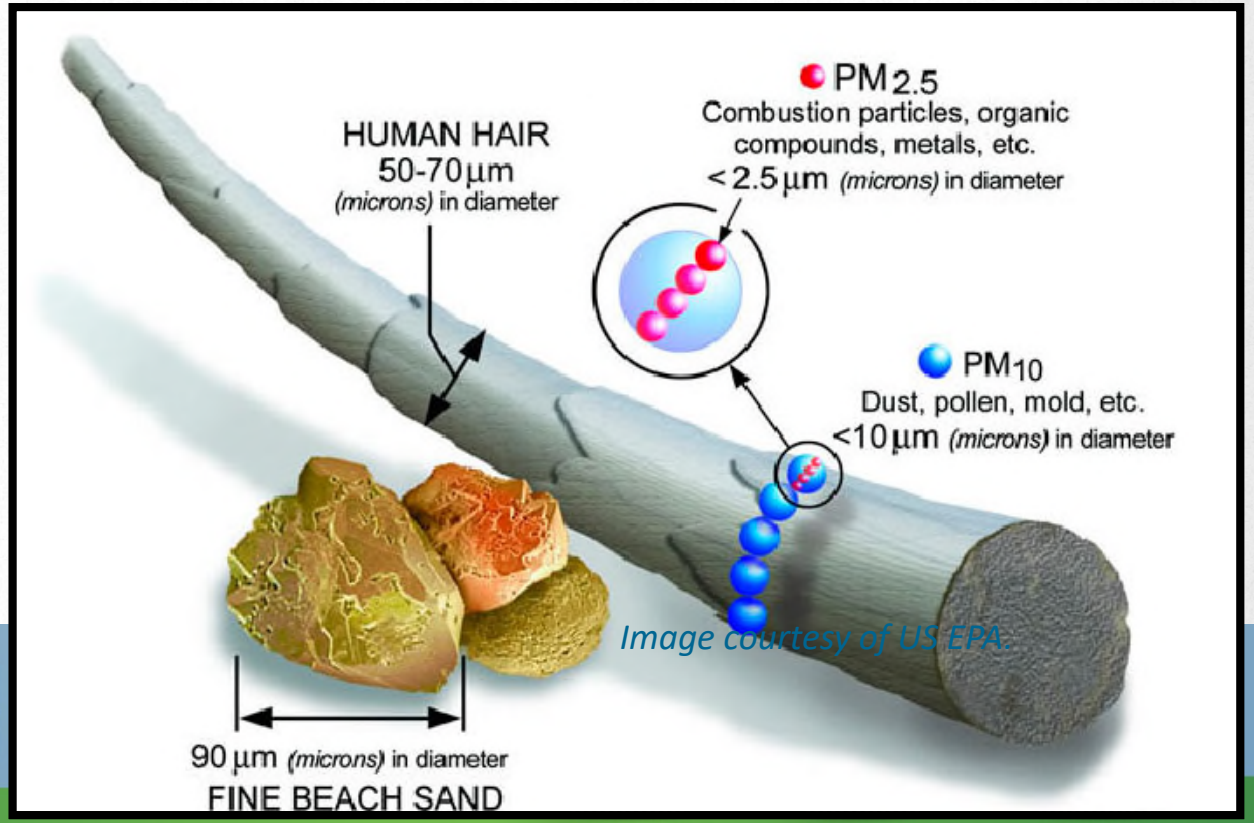


Image courtesy of US EPA.

N-95 Respirator

Minimum protection if high concentrations of unknown particles are observed

Dust, mold, and smoke are made up of particles. First line of defense for protection is a NIOSH approved N-95 rated respirator.

Particle respirators do not provide any protection from carbon monoxide or other toxic gases!

Respirators are only a part of personal protective equipment (PPE).

Note- this discussion is about professionals who go into people's homes. Occupation-related personal protective equipment (PPE) is covered by OSHA with specific regulations regarding medical monitoring and guidance on worker protection.

Respirator Masks

NIOSH approved N-95 Respirator mask.

Must fit test to work properly.

Minimum protection for dust, mold or smoke particles

No protection from carbon monoxide or other toxic gases.

Note- this discussion is about professionals who go into people's homes. Occupation-related personal protective equipment (PPE) is covered by OSHA with specific regulations regarding medical monitoring and guidance on worker protection.

Respirator Rating Class

Respirator Rating Letter Class

- **N** - Not oil resistant
- **R** - Resistant to oil
- **P** - Oil Proof

Respirator Rating Number Class

- **95** - Removes 95% of all particles 0.3 microns in diameter
- **99** - Removes 99% of particles 0.3 microns in diameter
- **100** - Removes 99.97% of all particles 0.3 microns in diameter or larger. HE or HEPA quality filter.

Assessor Hazards & Precautions: Be aware of

- Significant structural defects and physical hazards
- Improperly stored and uncharacterized chemicals and pesticides
- Visible and significant biological Contamination
- Fire and improperly stored combustible materials

Can you ask for a hazard to be removed?

Healthy Homes: Assessment and Interventions Training Guide

Instructor-Led Discussion:

Prepare for Onsite Visit

NOTE: This is a hidden slide.
It is provided for trainer reference only

NOTE: This is a hidden slide; students cannot see it.

Where are we going tomorrow?

- Address
- Neighborhood
- Age of home
- Occupants
- Available programs

What's Your role?

- Resident interview
- Bring forms
- Bring tools

The on-site visit

- Work in pairs or groups
- Rotate through house
  - Use the four Hazards & Solutions Checklists
    - Kitchen, Bath, Generic Interior Room, Exterior
  - Use PEHA Environmental Home Assessment for the resident interview
- Timing
- Treat the resident's property with respect

Self Assessment Review

Explain the difference between a deficiency-based and a solutions-based assessment checklist?

- Deficiency-based: Document existing conditions; prioritize health risks; itemizes health & safety issues
- Solutions-based: Identifies specific work to address deficiencies; quantifies the work using units of measurement; enables recording special notes and scope of work

Self Assessment Review

Name the two most important characteristics of an assessment checklist:

- Thoroughness
- Efficiency

Self Assessment Review

Explain the 4 steps to approaching a home assessment:

- Survey Outside
- Survey Inside
- Inspect Outside
- Inspect Inside

Self Assessment Review

List the three most problematic pests:

- Cockroaches
- Rodents
- Bed bugs

Self Assessment Review

List the three mechanical systems that are key to keeping it climate-controlled?

- Heating
- Cooling
- Ventilation

Healthy Homes: Assessment and Interventions Training Guide

Instructor-Led Discussion:

Day One Wrap Up

NOTE: This is a hidden slide.
It is provided for trainer reference only
and does not display as part of the slideshow.

Healthy Homes: Assessment and Interventions Training Guide

Instructor-Led Discussion:

Day Two Getting Started

NOTE: This is a hidden slide.
It is provided for trainer reference only
and does not display as part of the slideshow.

Module 3: Develop an Action Plan

Healthy Housing Solutions Inc.

Develop an Action Plan

- Prioritize identified hazards.
- Identify occupant / homeowner responsibilities.
- Identify potential community resources to address hazards.
- Develop a sample action plan given an assigned issue.

Self Assessment

Module 3 – Develop an Action Plan

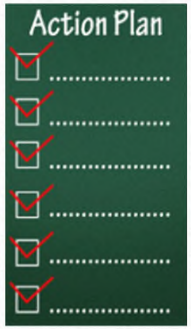
- Name at least 2 types of specialized input we may request before finalizing a scope of work.
- Name four ways program design can affect prioritization.
- Name at least one potential program partner.
- Name three potential program funding sources.

The Home Assessment Process

Interview resident
(Environmental History)

Determine need for/scope of assessment

Assess the home



Create an action plan

Interventions/ Education

Professional Follow-up

Developing an Action Plan

1. Identify hazards
2. Prioritize hazards
3. Define scope of work/specs
4. Identify responsible parties
5. Identify funding sources and resources.

Identify Hazards

Resident Interview + Building Assessment + Sampling/ Testing +

Does the resident information match what we observed during the assessment?

=

Specialized Input

- Lead Inspection/Risk Assessment
- Combustion Safety Testing
- Structural
- Social Services?

Why should we deal with these before the action plan is finalized?

Keep in mind…

The goal is to eliminate or reduce exposure to housing-related hazards that trigger symptoms or cause illness.

- Consider environmental factors and lifestyle choices
- Determine interventions for inside and outside the home

How Does Program Design impact Prioritization?

- Program Scenarios
- Target Market/Audience
- Funding Source
- Team Capacity
- Current Occupant Needs
- Potential, Vulnerable Occupants

Prioritizing competing demands can be challenging

We Have competition…

Your program requirements may guide prioritization

Example:

- Healthy Home Rating System (HHRS): A risk-based assessment that considers the effect of property hazards in 29 categories.
- Hazards are rated according to how serious they are and the effect they are having, or could have, on the occupants, that is, “the effect of the defect.”

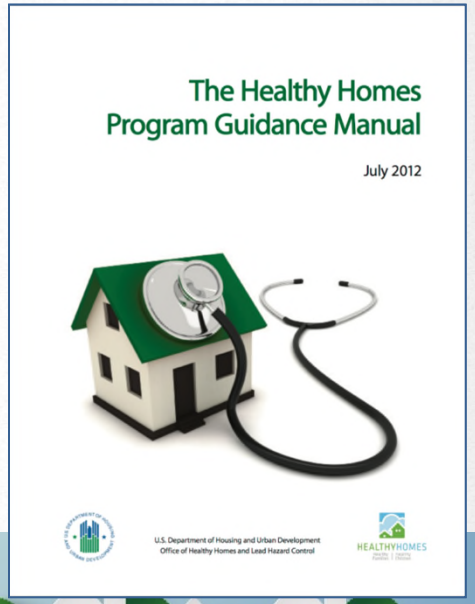
Prioritize Hazards: HEED

- **H**ealth Impact
  - Acute vs Chronic
- **E**fficiency/effectiveness

  Quick? Big impact?
- **E**xpense
- **D**ifficulty

Effective Interventions: Healthy Homes Guidance Manual

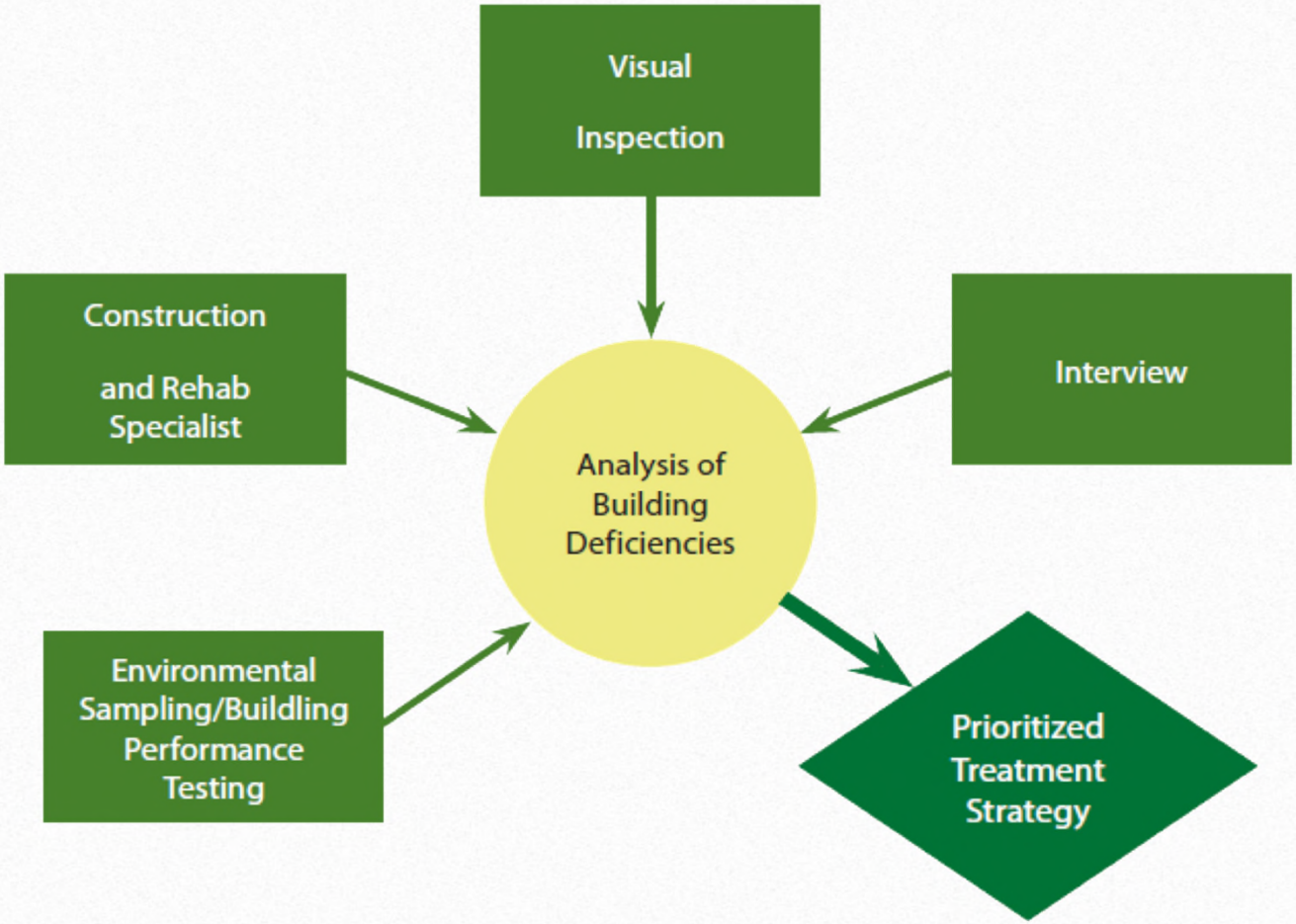
- Chapter 1 Introduction
- Chapter 2 Community Involvement in Program Planning
- Chapter 3 Program Design
- **Chapter 4 Housing-Related Health and Safety Hazard Assessment**
- **Chapter 5 Intervention Strategies**
- Chapter 6 Evaluating Your Program
- Chapter 7 Program Sustainability



Available online at portal.hud.gov; search by title

Assessing Building Deficiencies & Outcomes

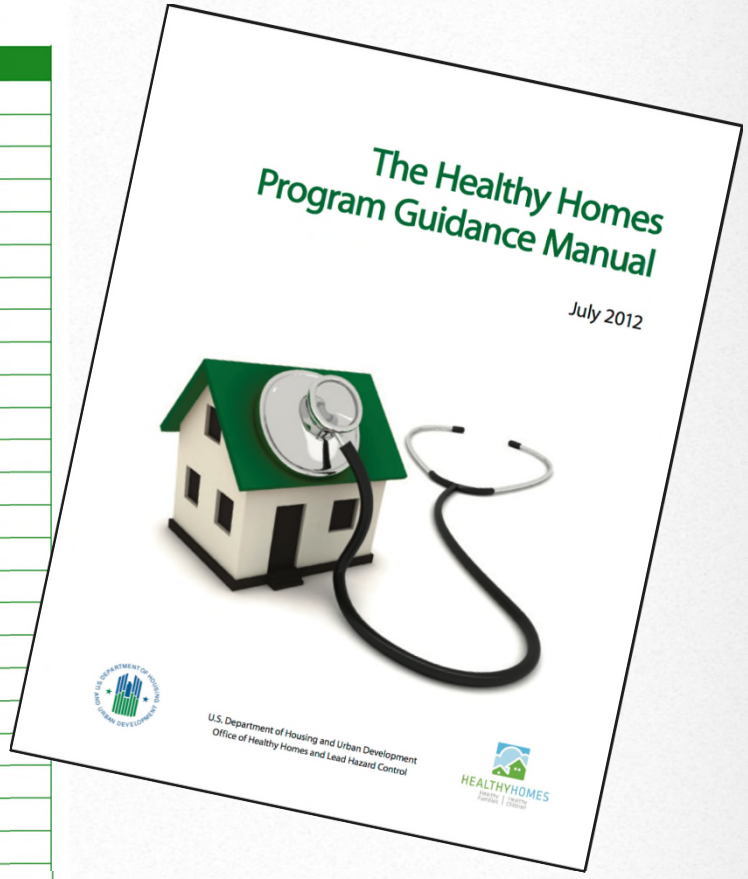
Fig 4.2 Healthy Homes Program Guidance



HUD Healthy Home Intervention Priorities

High priority items are indicated with an [A] and lower-priority items with [B] or [C].

Description
Vent clothes dryer to exterior using rigid metal ducting, not flexible plastic. [A]
Repair plumbing leaks [A]
Correct mold problems [A]
Clean evaporator pan under refrigerator [A]
Install range hoods that vent to exterior [A for gas; B for electric]
Repair dry floor drain traps if sewer gases detected [A]
Assure that at least one window in each room can open [A]
Remove basement, bath and kitchen wall to wall carpet [A]
Install smoke and carbon monoxide alarms [A]
Repair deteriorated bath and tub caulk [B or C]
Install pleated filter in forced-air heating system. [A]
In the crawl space, seal /cover soil with poly. [A]
Seal crawl space from house air. [A]
Assure adequate runoff from downspout away from house. [A: wet walls; B: other]
Caulk windows. [A]
Caulk wood siding vertical seams. [A]
Caulk door seams. [A]
Repair roof and chimney flashing if damaged or evidence of interior leaking is observed. [A]
Check furnace chimney draft and, if inadequate, check cleanout opening. [A]
Redirect flow from gutters to functioning downspout. [B]
Check return and supply ducts (only if in garage, crawl space, or attic) for leaks. [B]
Remove debris from the crawlspace, make rodent-proof. [B]
Wood-earth contact—assure 6 inch minimum gap. [C]
Repair or replace leaky chimney flue. [A]
Seal basement concrete if moisture probe indicates high moisture content. [C]

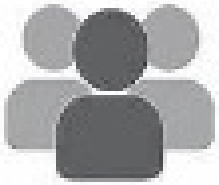


http://portal.hud.gov/hudportal/HUD?mode=disppage&id=HHGUIDANCEMANUAL

Onsite debriefing:
Establishing a Perspective

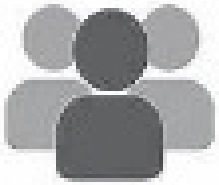
It's important to approach this exercise from a "constructive" perspective. Assume you are working in a program that has construction resources.

Small Group Exercise (8): Prioritizing Hazards



- Work in small groups. You'll be assigned a specific room/area. Use Exercise 8 in your manual
- For **Resident interviewers**, see your specific instructions.
- Identify the top 5 hazards for your assigned room.
  - Related health risks
  - Acute or chronic
  - Rank from most to least serious
  - Select specific line items of work from your assessment forms

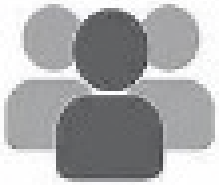
Small Group Exercise (8): Prioritizing Hazards (continued)



Prepare your flipchart :

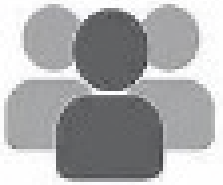
- List highest priority from top to bottom
- Note acute or chronic “A” or “C”
- Select specific line items of work (spec number and quantity)
- Prepare to discuss: Do the selected work items sufficiently address the hazard?

Small Group Exercise (8): Resident On-site Interview Debriefing



- Complete *your* Exercise 8 solely based upon what you learned during the resident interview.
  - What did the resident report?
  - How does the resident prioritize?
  - Does this change our ranking?

Full Group Debriefing



What are the Top 5 Hazards for the House?

1._____

2. _____

3. _____

4. _____

5. _____

Creating a Scope of Work

- Details and defines the work to be completed
- Specifies required materials and workmanship
  - Prep work
  - Materials & manufacturers
  - Installation methods
  - Codes & standards
  - Required warranty
  - etc.
- Clarifies project parameters

Sample Bath Specifications

Sample Specifications – Bathroom

FAN/LIGHT FIXTURE-ENERGY STAR $450/EA

Install an ENERGY STAR Qualified and Home Ventilation Institute Certified ceiling mounted Fan/Light fixture, rated at a min. 80 CFM operating at 1 Sone or less, with an integral damper, and vented to the exterior. Switch fan & light using a single switch with a time delay for the fan such as the AirCycler Smart Exhaust Bathroom Fan Light Timer Switch # 11129s (color to coordinate with existing) https://www.aircycler.com/pages/smartexhaust or equip the fan with a switch controlled by a humidistat sensor. Install galvanized metal duct or aluminum duct of the same diameter as the fan outlet and vent to the exterior ideally through a wall or gable end using a metal hooded vent of like diameter and with damper. All duct seams shall be sealed with duct mastic. Insulate the ductwork with vinyl or foil faced R 8 minimum duct insulation. Repair any damage to the ceiling installation and air seal fan/light assembly to the ceiling with low VOC caulk.

GFCI RECEPTACLE $145/EA

Install a new ivory GFCI receptacle and required distribution with an appropriate box. Receptacle and cover plate to match existing. GCI shall be tamper-resistant and conforming with UL 943 standard including the required self-test (auto-monitoring) function. Patch any tear out.

See sample specifications from HUD at:
https://www.hudexchange.info/resource/744/sample-nsp-singlefamily-housing-rehabilitation-specifications-including-green-specs/

Taking Action: Identify Responsible Parties

- Residents
- Landlord/owner
- Partners
- Contracted Professionals

Remembering Program Funding and Capacity variables

- Allowable program parameters
  - Program design – what they do
  - What they pay for
    - Materials - Work
  - Who does what work
- Partners & their parameters

Refining the Scope of Work

- Especially important when multiple entities involved
  - Partners
  - Residents
  - Contractors
- Level of detail will vary by intended audience
  - Do non-professionals need guidance/training?

Regardless of your Program Design…

- There are significant benefits in having someone skilled in health issues and construction on the team for the building assessments
- It is best to identify the full range of issues and solutions (with their costs) prior to finalizing your “Common Sense Response”

Resources for Healthy Homes information/Education/Funding

U.S. Department of Housing and Urban Development	National Center for Healthy Housing
U.S. Department of Energy	U.S. Centers for Disease Control and Prevention
Centers for Medicare and Medicaid Services	U.S. Environmental Protection Agency
Indian Community Health Representatives (Indian Health Service)	

Resources for Supplies

Donated Healthy Homes Supplies

- Smoke Detectors- Red Cross, Fire Department
- CO Detectors- Fire Departments
- Radon Test Kits - State Radon Offices
- Child Safety Kits - Child Advocacy Organizations

Resources for Supplies

Discounted Healthy Homes Supplies

- Healthy Home Supply Manufacturers
  - Filters, paint, caulk, etc.
- Hardware Stores, Home Improvement Stores
- National Retailers - Local Donation Committees
- TIP: Buy local so households can find replacement supplies and buy local, too.

Exercise 9: Community Resources

- What resources are in the room?
  - Your personal knowledge
  - Smartphones
  - Each other
- Customize the Community Action For Healthy Housing flyer in your manual
- Be specific! Include websites, emails, phone numbers

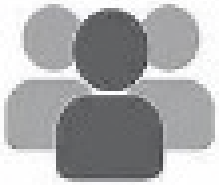
The group with the most complete flyer wins a fabulous prize!

Creating an action Plan:

Establishing a Perspective

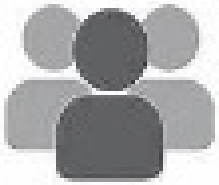
It's important to approach this exercise including the home health visitor perspective. Assume you are working in a program that regularly conducts home visits and education.

Small Group Exercise (10): Create an Action Plan



- Working in groups, you will be assigned one of the top 5 issues (Exercise 8, Part C).
- First, use the PEHA nursing care plan to determine responsibilities.
  - This is only one example of an Action Plan.
  - Is it complete for your program purposes?

Small Group Exercise (10): Create an Action Plan (continued)



- Next, use the Exercise 10 worksheet to develop an Action Plan for your assigned issue.
- Include all potential resources:
  - Your agency
  - Family
  - Landlord
  - Community organizations, etc.
- Revisit Exercise 2 Making the Connections

Self Assessment Review

Name at least two types of specialized input we may request before finalizing a Scope of Work

- Lead Inspection/Risk Assessment
- Combustion Safety Testing
- Social Services

Self Assessment Review

Name four ways program design can affect prioritization

- Funding Source
- Team Capacity
- Current Occupant Needs
- Potential, Vulnerable Occupants

Self Assessment Review

Name one potential program partner

- Local non-profits
- Local volunteer groups
- Social service agencies

Self Assessment Review

Name three potential program funding sources

- HUD
- Medicaid
- Weatherization

Module 4: Implement Interventions

Healthy Housing Solutions Inc.

Implement Interventions

- Monitor occupant participation.
- Manage bid process & contracting.
- Measure and disseminate program results.

Self Assessment

Module 4 – Implement Interventions

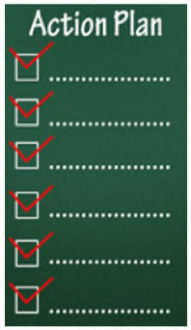
- Name the five steps in the bid process.
- Name at least four reasons to complete an in-house cost estimate.
- Name five suggested requirements for accepting contractor bids.
- Name five sources of program evaluation data.

The Home Assessment Process

Interview resident
(Environmental History)

Determine need for/scope of assessment

Assess the home



Create an action plan

Interventions/ Education

Professional Follow-up

Health Hazard Identification and Remediation Process

- Bid work to Contractors?
- Assist owner/occupants in finding their contractor?
- Engage a local partner to accomplish the work (nonprofit organizations)?
- Assist the owner/occupants in a DIY approach?
- Others?

Identify Responsible Parties

(Déjà vu? We've been here before!)

- Owner
- Resident
- Volunteers
- In-house construction
- Partners
- Outside contractors

Effective Remediation Requires

- Good Scope
- Good Spec
- **Good Cost Estimate**
- **Fair Bid Process**
- **Quality Control**
- **Recordkeeping**

Individual Exercise (11): Your Contracting Process

- What do you know about the process for handling contractors in your organization?
- Briefly jot down notes on your worksheet in response to the questions.
- Share your responses as part of a class discussion.

Benefits of In-House Cost Estimates

1. Feasibility & Budgeting
2. Manage expectations
3. No surprises on bid opening
4. Contractor honesty check
5. Keep contractor from “going under”
6. **Funders may require it**

Cost Analysis Example

Break down the price by cost components, and examine each item of cost

New Roofing:

- Materials: plywood, nails, felt, asphalt shingles;
- Equipment: Cranes, dump truck
- Labor costs

Specs with Fully Loaded Pricing

- Includes labor, material overhead & profit in one number
- Used in solutions-based checklists

TIP: The easiest way to maintain up-to-date unit pricing? Have contractors provide you with an line-item breakdown.

Suggested Cost Categories

Allowable costs will differ by program

Outreach and Education Costs	Health Intervention and Assessment Costs	Housing Intervention Costs
Forms and outreach materials	Home visits	Specification costs
Media costs	Visual assessments	Average cost per housing unit
	Environmental sampling	Range of housing unit costs
Public education and training offerings	Laboratory analysis	Specific intervention costs

The Bid Process

1. Specifications/Scope of work
2. Request for bids
   - Site visit
3. Bidding: formal/informal
   - Bid process and control
4. Review bids
5. Award the contract

Bids & Quotes

- Why bid at all?
- What are the advantages of bidding?
- What are the consequences if you don't?
- Who Controls the Bid Process?
  - Should bids go to you?
  - Should bids go to the property owner?

Procurement Policy

- Agency may have guidelines for how jobs must be bid according to dollar value.
- Know your policy!

Suggested Requirements for Accepting/Opening Bids

- Require sealed bids or secure electronic bids
- Date & time stamp
- Hold public openings
- Get a witness (or two)
- Recording of results
- Notification of results

Contract Guidelines

1. Scope of work
2. Timing & penalties
3. Costs, payment method & penalties
4. Change orders
5. Rules, laws, and codes
6. Warranties
7. Dispute resolution
8. Breach of contract
9. Attorney fees

Draw Schedule: Benefits

- Helps avoid payment conflicts
- Based on accurate, detailed estimate and schedule of values
- Strikes balance between contractor's and program's needs
- Reflects actual value of work completed
- May be highly detailed or more basic, depending on project type/size and the financing arrangements

Sample Draw Schedules

Small Remodeling Project Sample

Sample Draw Schedule: Small Remodeling Project		
	Work Completed	**Amount**
Draw 1	Demolition	$3,000
Draw 2	Framing, wiring and plumbing rough-in, insulation.	$6,000
Draw 3	Drywall, windows, cabinets.	$6,000
Draw 4	Patch exterior, painting, flooring, fixtures, cleanup.	$5,000

Provide Intervention Resources to Residents and Owners

- Education, guidelines
- Contact information for agencies and volunteer organizations that might be able to help
- Suggestions on what materials to use and where to get them
- Recommendations for contractors if they need one
- Information, including timelines, about what work is to be completed by others

Quality Control: Monitor Resident's Participation

- Telephone follow-up
- Onsite visits
- Work completion follow-up
- Long-term follow-up for bigger, more serious interventions
- Follow-up tests as needed

Quality Control: Monitor Other Work Efforts

- Co-workers
- Volunteers
- Partners
- Supervisors
- Contractors
- Others?

Record Keeping

- What information do they need?
- When do they need it?
- In what format?
- How do you find it?

Evaluation starts at the program design phase

- Decide early: Who's on the team, how to secure good quality data, and ways to measure qualitative and quantitative accomplishments.
- Evaluation measures include process (outputs), outcomes, and costs.
- Disseminating evaluation findings is critical to **program sustainability**.

The Logic Model can serve as an important planning and evaluation tool.

Figure 6.2 A Proposed Logic Model Related to Healthy Homes

Program Focus	Inputs	Activities	Outputs	Short Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
Asthma Healthy Homes Pilot	Health Department Staff Home Visiting Programs Home Inspectors Community Organizations Advocacy Organizations Rental Property Owners Pest Management Professionals Contractors Elected Officials Clinicians Health Insurers Foundations Funding Equipment Supplies	Educate families about environmental triggers in the home Conduct visual assessments Provide supplies for dust control and pest management Interventions including integrated pest management (IPM), moisture control, lead hazard reduction, etc. Refer families to smoking cessation programs Refer families to housing rehab services to address issues beyond program scope Refer housing units to code enforcement	Number of home visits completed Number of referrals to partner organizations Counts of supplies delivered Number of visual assessments for pests, mold, and moisture completed Number of homes receiving specific interventions such as IPM Number of housing inspections for housing code violations	Increased use of mattress and pillow covers, IPM supplies after one month Improvement in family Knowledge, Information, and Behavior (KIB) scores in one month Increase number of units where family limits smoking in the home	Reduction in counts of pests in units after three months Reduction in the reported number of symptom days after 3 months Reduction in the number of asthma triggers Reduction in ER and hospitaliztions at 12 months Increased number of units enrolled in housing rehab programs	Reduction in mold and moisture conditions observed at 12-month visual assessment Families show long term improvement on KIB scores Health insurers reimburse or pay for home visits and low cost environmental interventions Property owners adopt preventive policies

Logic Models Serve Multiple Purposes

- Identify short-, immediate, and long-term outcomes for the program.
- Link expected outcomes to the program's intended activities and inputs.
- Establish program boundaries to prevent "mission creep."

Where does evaluation data come from?

- Grant proposals and quarterly reports
- Newsletters, publicity materials and press releases
- Meeting minutes and administrative records
- Registration and enrollment forms
- Publications and journal articles
- Prior evaluations
- Asset and needs analyses
- Client satisfaction surveys
- Databases
- Reports held by funders or partner agencies
- Websites
- Graphs, maps, charts, photos, and videos
- Feedback from key individuals, including clients and non-participants, staff, general public, key informants, critics, staff of other agencies, representatives of advocacy groups, policy-makers, funders, federal, state, and local health & housing officials.

Common Program Outputs

See Chapter 6, Figure 6.6 in the HUD Healthy Homes Program Guidance Manual

Figure 6.6 Common Program Outputs

- Program Outreach and Community Education
  - Number and type of presentations
    - Audience (health care personnel, parents, contractors, educators, community, rental property owners, tenants, owner-occupants). Audiences can be divided into public and professional.
    - Number of individuals reached
  - Number of health fairs
    - Number of interactions (participants, names recorded on sign in sheets, requests for follow up information)
    - Pieces of literature distributed
  - Number of housing units reached through door-to-door canvassing
  - Number of media events
    - Paid vs. unpaid
- Program Referrals
  - Number of referrals from medical providers
  - Number of referrals from community-based organizations
  - Number of requests for information and enrollment associated with different media placements
  - Number of referrals by healthy housing programs to other housing programs
  - Number of referrals by healthy housing programs to other health or social service programs
- Families/Individuals Recruited
  - Demographics of participants and nonparticipants
  - Level of housing risk in units of participants and non-participants
- Case Management/Care Coordination and Education
  - Number of children tested for lead exposure
  - Number of home visits
  - Number of families receiving educational intervention
  - Number of referrals provided to families for supportive health and social services
  - Number of referrals to other services completed and not completed
  - Number of families receiving cleaning supplies
- Home Assessment
  - Number of questionnaires administered
  - Number of homes with assessments conducted
  - Number of homes with environmental samples collected
  - Number of environmental samples collected
- Housing Unit Remediation
  - Number receiving enhanced ventilation and moisture control interventions
  - Number receiving integrated pest management
  - Number receiving lead hazard reduction
  - Number of fire alarms and carbon monoxide detectors installed
- Work Force Development Activities
  - Number of contractors recruited
  - Number of contractors recruited from the target population and area
  - Number of individuals trained

Measure/Disseminate Program Results
Who needs to know?

- Board of Directors
- Funder Reporting
- Partners
- Marketing
- Health Agencies/Plans
- Participants
- Colleagues
- Others?

Provide Professional Follow-up and Testing

- Clearance testing for contaminant hazards (LBP, Asbestos, Radon, CAZ testing for CO)
- Supportive services (Resident training, Occupational Therapist, Mental Health support)
- Testing for energy performance (Blower Door, Duct Blaster)
- Building Inspection
- Others?

Self Assessment Review

List four reasons to complete an in-house cost estimate

- Feasibility & Budgeting
- Manage expectations of Owners & Contractors
- No surprises on bid opening
- Contractor “honesty” check
- Keep contractor from “going under”
- Funder requirement

Self Assessment Review

Name five suggested requirements for accepting contractor bids

- Require sealed bids
- Date & time stamp
- Hold public openings
- Get a witness (or two)
- Recording of results
- Notification of results

Self Assessment Review

Name five sources of program evaluation data

- Grant proposals and quarterly reports
- Newsletters, publicity materials and press releases
- Meeting minutes and administrative records
- Registration and enrollment forms
- Publications and journal articles
- Prior evaluations
- Asset and needs analyses
- Client satisfaction surveys
- Databases
- Reports
- Websites

Module 5
Educate Residents

Healthy Housing Solutions Inc.

Educate Residents

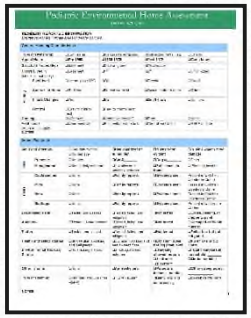
- Prioritize information to be shared based on housing and health concerns.
- Select audience-appropriate materials.
- Practice communication strategies.
- Brainstorm ways to grow your program.

Self Assessment

Module 5 - Educate Residents

- Name the most important factors in inspiring trust and credibility.
- Name the final step in the assessment process, before closing out a client.

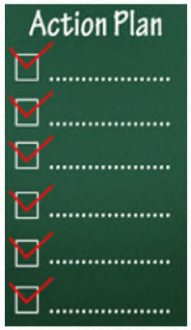
The Home Assessment Process



Interview resident
(Environmental History)

Determine need for/scope of assessment

Assess the home



Create an action plan

Interventions/ Education

Professional Follow-up

Healthy Homes Assessment and Interventions Training Guide

Instructor-Led Discussion: Audience Appropriate Material

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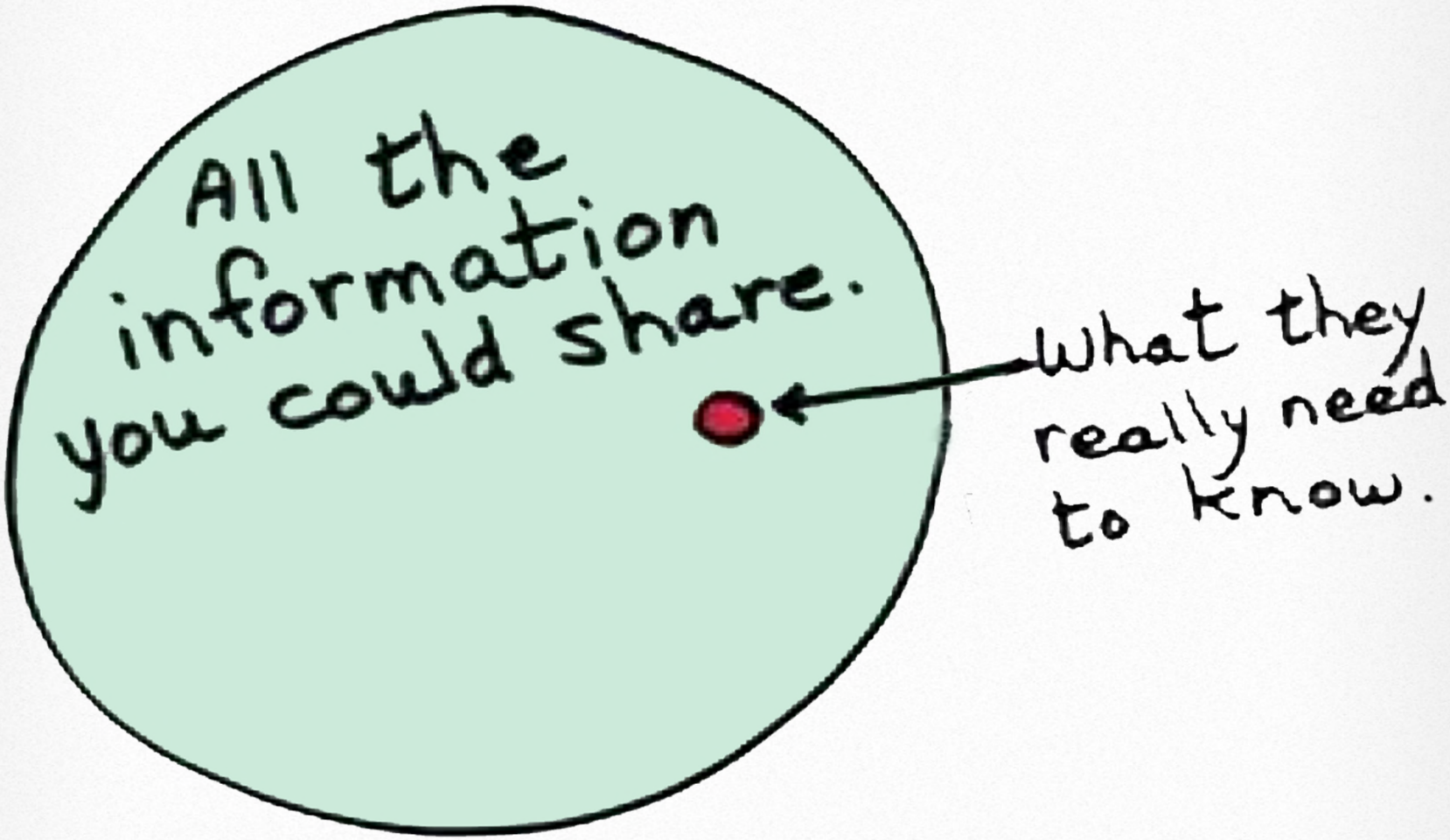
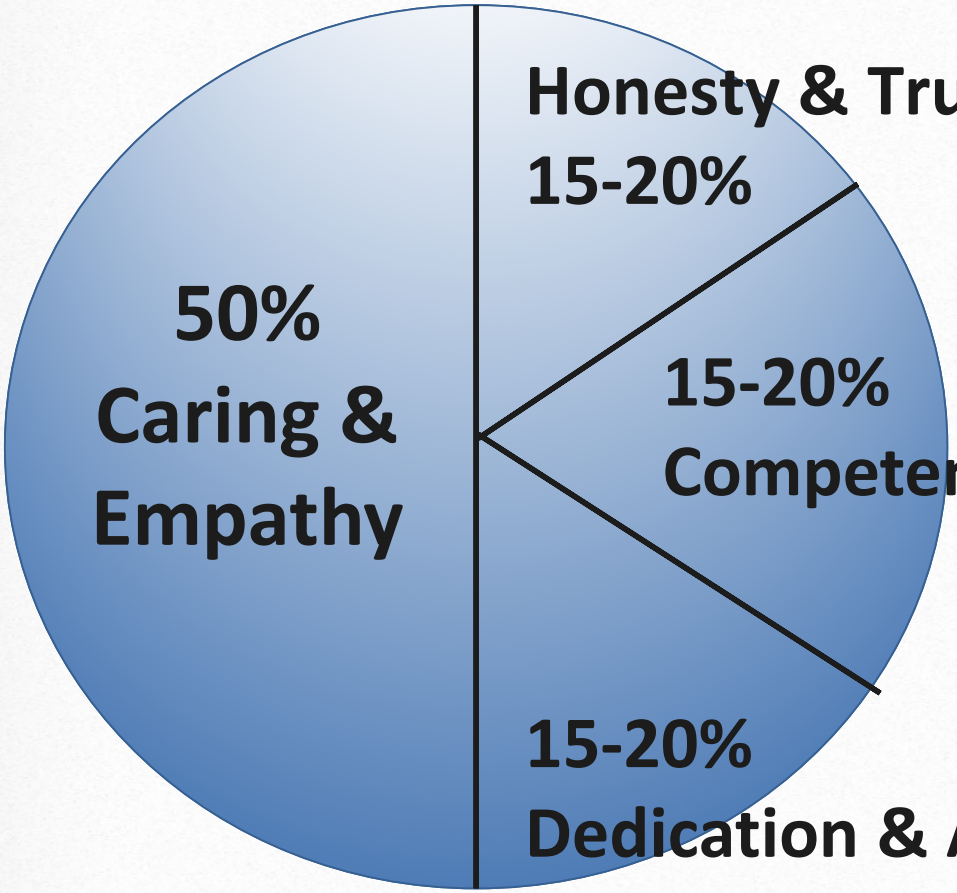
It is provided for trainer reference only
and does not display as part of the slideshow.

Audience Appropriate



Factors that Inspire Trust and Credibility



Honesty & Trustworthiness
15-20%

15-20%
Competency & Expertise

15-20%
Dedication & Accountability

What is Empathy?

Launch Empathy video

https://www.youtube.com/watch?v=cDDWvj_q-o8

Education

- Begins at the beginning and ends at the end!
- Takes many forms: verbal, written, sign-language, pantomime
- Goes hand-in-hand with communicating assessment results
- Should be aligned with agency policy on how assessment results are delivered

In-Home Education

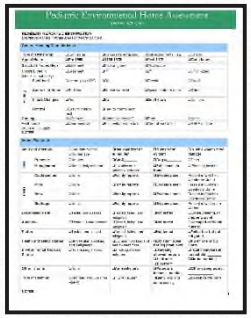
- Find teachable moments:
  - Visual walk-through of home
  - One-on-one education
- Keep information relevant and accessible
- Explain relationships between hazards and health
- Answer questions
- Schedule follow-up to deliver assessment results

Healthy Housing Kit

What's in your bag?

- Demonstration Kit
- Items to leave with the Resident

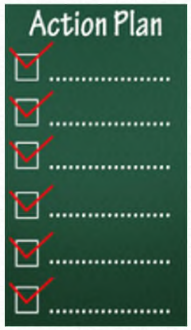
The Home Assessment Process



Interview resident
(Environmental History)

Determine need for/scope of assessment

Assess the home



Create an action plan

Interventions/ Education

Professional Follow-up

Follow Up & Project Closeout

- Determine what follow-up is needed
  - Check your logic model
  - Funding/reporting
  - What format the follow-up should take
  - Is it possible?
- How many follow-ups
  - Frequency
  - With whom?

Exercise 12: Grow Your Program

Revisit Exercise 1 (Intro Module)

Considering all you've learned, how might you expand your current healthy homes program?

- New services
- New residents
- New partners
- New contractors and/or volunteers

Exercise 1 Part 2

We Have a Dream

Exercise 1 Part 1

What's Your Program?

Self Assessment Review

Name the most important factors in inspiring trust and credibility?

- Caring
- Empathy

Self Assessment Review

Name the final step in the assessment process, before closing out a client

- Conduct follow-up (the minimum, at least a phone call)

Healthy Homes Assessment and Interventions Training Guide

Instructor-Led Discussion: Course Wrap-up

NOTE: This is a hidden slide.
It is provided for trainer reference only

NOTE: This is a hidden slide; students cannot see it.

Healthy Homes: Assessment and Interventions

Healthy Housing Solutions Inc.

NATIONAL HEALTHY HOMES

TRAINING CENTER™ & NETWORK

Healthy Housing Solutions Inc.

We have an agenda

- Resident Interview
- Home Assessment
- Action Plan
- Implement Interventions
- Educate Residents

- Helping you to be better at your job
- About your trainer
- Manual
- Exercises
- Site Visit
- Receiving your certificate

Exercise 1 Part 1

What's Your Program?

Exercise 1 Part 2

We Have a Dream

Goals and Objectives

- Resident Interview

- Home Assessment

- Action Plan

- Implement Interventions

- Educate Residents

Goals and Objectives

Conduct a Resident Interview

- Explain the purpose of the resident interview /environmental history.
- Practice conducting a resident interview
- Identify appropriate assessment approaches and tools.

Conduct a Home Assessment

- Practice identifying health-related hazards based on the 8 Principles/Keep-its.
- Explain practical techniques for conducting home assessments.
- Correctly fill out assessment tool in the field.
- Conduct an onsite assessment.

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- Prioritize identified hazards.
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Goals and Objectives

Implement Interventions

- Monitor occupant participation.
- Manage bid process and contracting.
- Measure and disseminate program results.

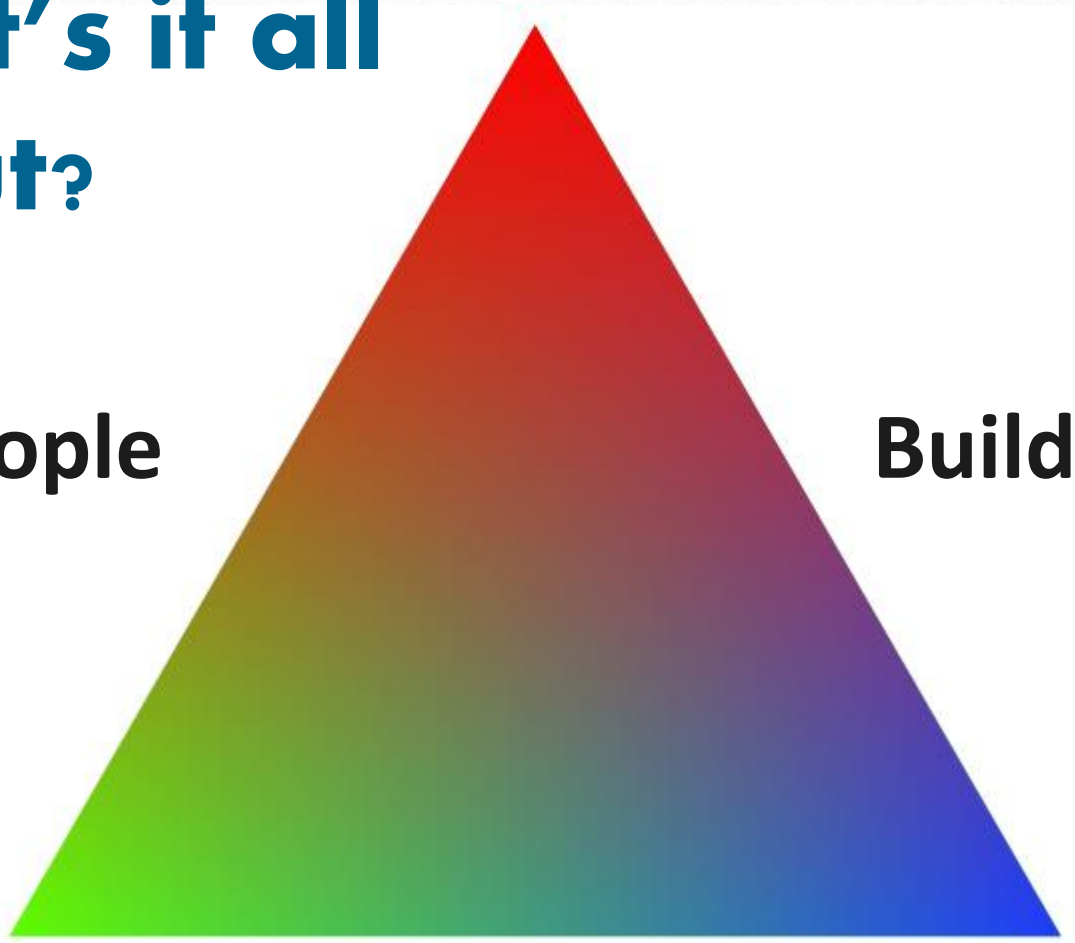
Educate Residents

- Prioritize information to share, based on housing and health concerns.
- Select audience-appropriate materials.
- Practice communication strategies.
- Brainstorm ways to grow your program.

"I know that you believe you understand what you think I said, but I am not sure you realize that what you heard is not what I meant."

-- Robert McCloskey (author) or Richard Nixon, depending on whom you ask

What's it all about?



Interviewing the Resident:

- Resident Interview
- Occupant Interview
- Resident Environmental Tool
- Environmental Assessment
- Environmental History
- Others?

PEOPLE

Assessing the Building:

BUILDINGS

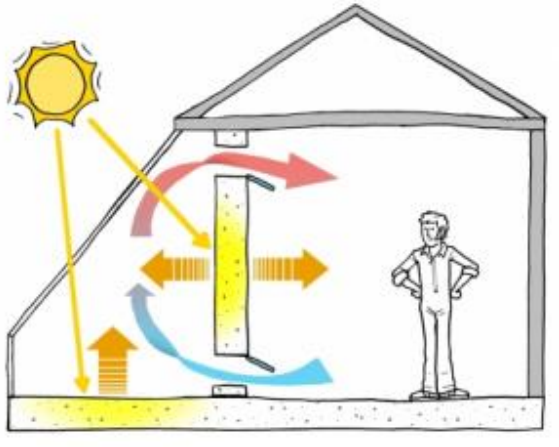
- Building Inspection
- Building Assessment
- Inspection Tools
- Environmental Testing
- Environmental Review
- Others?

Defining the Work:

- Scope of Work
- Statement of Work
- Work Write-up
- Specifications
- Others?

WORK

Building Science Basics



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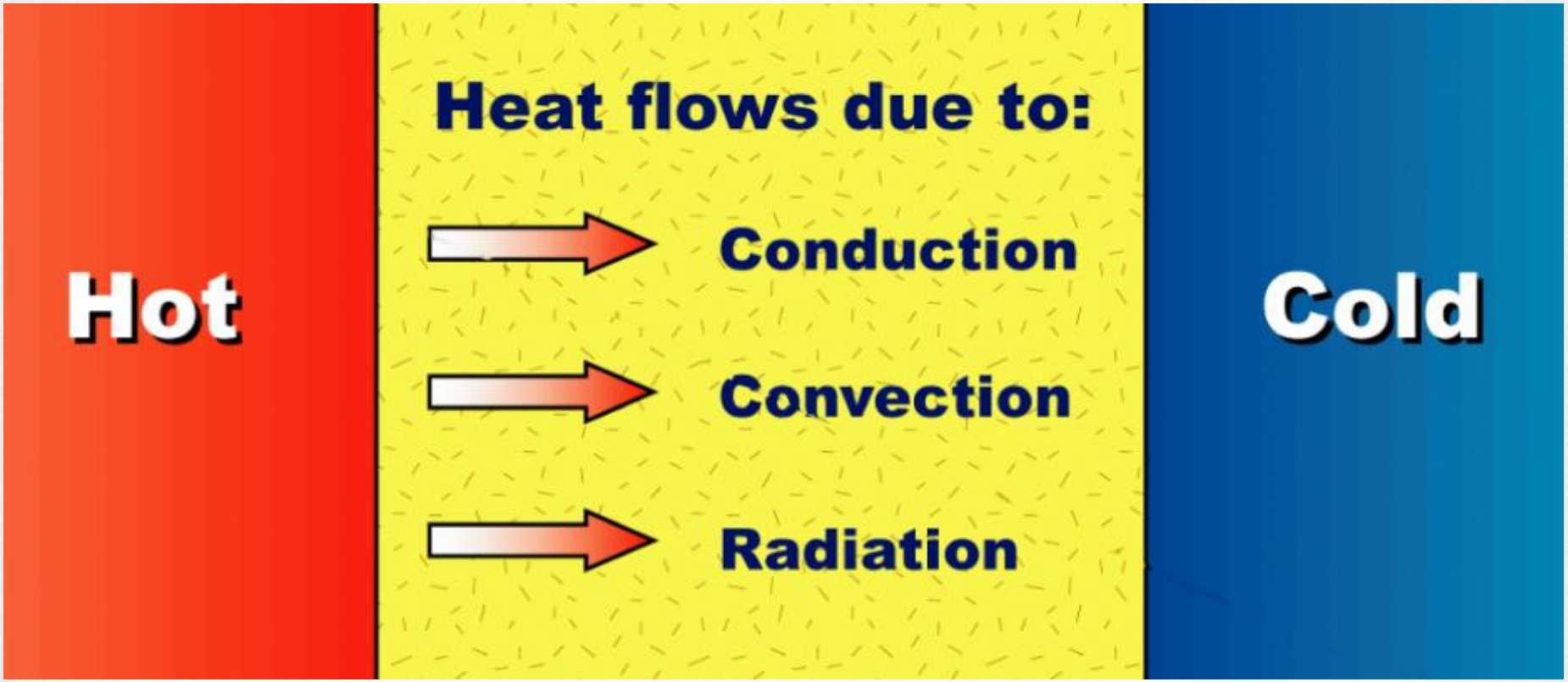
- **Air** moves from High pressure to Low (if there is a pressure difference and a pathway)
- **Moisture** moves from areas of higher moisture to areas of lower moisture

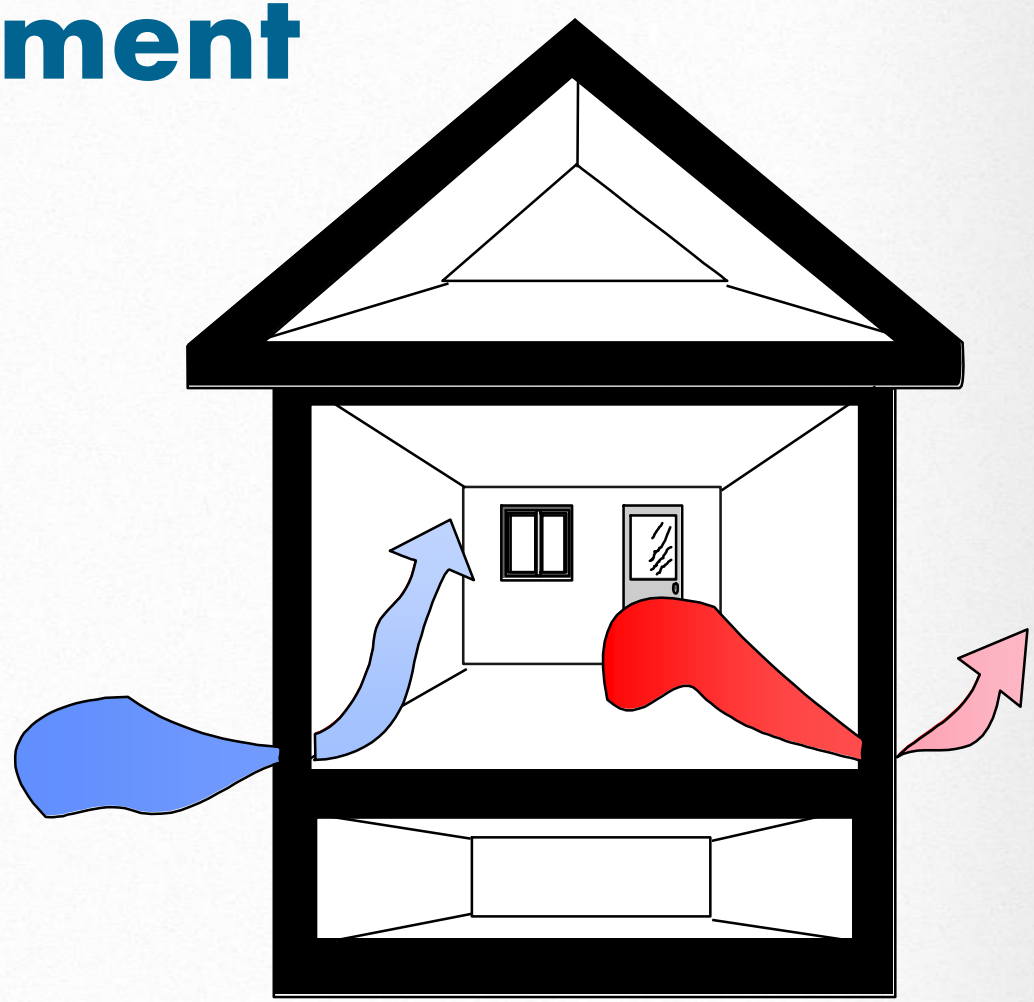
Heat Transfer



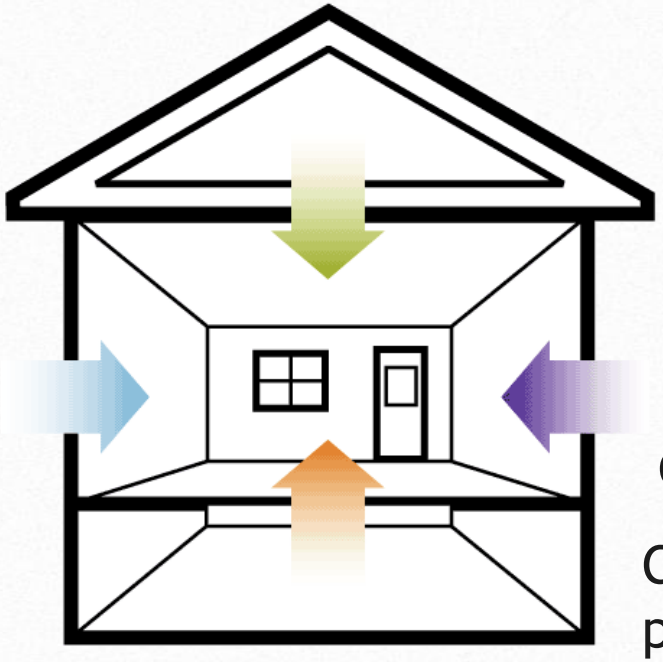
Air Movement

Conditions for Air Infiltration & Exfiltration

- Pressure difference (high to low)
- Penetrations in building envelope (holes)



Where does our indoor air come from? What's in it?



ATTIC

Insulation fibers, dust, coal soot, rodent scat

OUTSIDE

Pollen, auto fumes, dust

GARAGE

Carbon monoxide, pesticides, gasoline, fertilizers

CRAWLSPACE

Mold, dust, lead, radon, moisture, termiticide

Moisture In Buildings: Two Forms

Liquid

- **Bulk**

  Liquid water (rain, drainage, plumbing leaks)
- **Capillary**

  Wicking through porous materials (concrete, fiberglass and cellulose insulation, wood)

Vapor

- **Diffusion**

  Molecules of water moving through porous materials
- **Infiltration**

  Moisture-laden air brought into or out of the house

Self Assessment

Introductions Module

- Find the **Self-Assessment Form** in the back of the Introduction section of your binder.
- List as many of the 8 Principles as you can.
- List at least 5 home hazards and their related health impacts.
- What are 2 conditions needed for air movement?
- In a mixed humid climate during summer, in which direction will heat flow?

Self Assessment review: The 8 Principles of Healthy Homes

Keep It:

Self Assessment Review:
MAKING THE CONNECTIONS

Self Assessment Review

What are 2 conditions needed for air movement?

- Difference in pressure
- Pathway

Self Assessment Review

In a mixed humid climate during summer, in which direction will heat flow?

- Outside to inside

Using the HHAI videos

The sound quality is variable on these videos.

If you have internet in your classroom and can play the videos directly from the internet, there is an option for closed-captioning on YouTube. The videos are captioned through YouTube, but not for the download.

See the next slide for a link that will download the videos for free to your computer and links to YouTube.

NOTE: This is a hidden slide.
It is provided for trainer reference only
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For a link that will download the videos for free to your computer, **go to: https://www.computerhope.com/issues/ch001002.htm**

Video links for Module 1 Resident Interview:

Introduction: **https://www.youtube.com/watch?v=PM3BjJBpktw**

Kitchen: **https://www.youtube.com/watch?v=YZlTLsQtaiA**

Living room: **https://www.youtube.com/watch?v=OpYXivLI3ZU**

Bedroom: **https://www.youtube.com/watch?v=wM_WHKncV6w**

Wrap-up: **https://www.youtube.com/watch?v=Va3yzfv94vk**

Module 5 Educate Residents Empathy video:

https://www.youtube.com/watch?v=cDDWvj_q-o8

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Healthy Homes Assessment and Interventions Goals:

- To train public health and housing practitioners in the assessment and treatment of housing related health hazards
- Diagnosing the causes of home-related health issues
- Prescribing practical and cost-effective fixes
- Monitoring the results

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Healthy Homes Assessment and Interventions Course overview:

- Program Timing: This is a 2 1/2 day course that includes an onsite housing assessment.
- Number of Participants: Minimum number of participants is 8; recommended maximum is 15. You may consider larger enrollment with a second site and additional trainer

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Healthy Homes Assessment and Interventions Course overview:

- The on-site visit is critical for students and you need to arrange for this visit. If there is some unforeseen circumstance that prevents this, the course includes a back-up virtual inspection to be used instead of on-site inspection. We STRONGLY URGE you to only do the virtual inspection if you have absolutely no other choice.
- Also note that in order to have the students prepared for the on-site visit, you must have completed the course through Module 2. Keep a close eye on timing so you are able to do this.

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Assemble required materials:

- The most recent versions of the PowerPoint files.
- Print a hard copy of the course's PowerPoint files as a trainer guide
- Load all videos (Module 1 and Module 5)
- Student Manuals - one per student
- Speakers
- Photographs for the Virtual Inspection (if needed)
- Supplies: flipcharts and markers (multiple sets); notecards for questions, nametags, table tents

NOTE: This is a hidden slide.
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Assemble Demo tools:

- Camera
- Flashlight
- Measuring device (tape or laser)
- Moisture meter
- Laser thermometer
- Checklist & Clipboard, writing utensil

- Healthy Housing Kit:

Bait stations, gels, Coffee stirrers, CO alarm, Glue traps, Radon test kit, temp/humidity, moisture meter

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Room set-up

- Load your PowerPoint & be certain it works.
- Attach speakers, check videos
- Arrange tables, chairs, and training equipment in a manner that makes it easy for students to view slides and participate in group discussions.
- Distribute student materials to each seat
- List your name and contact information (or add to your slides)
- Set out demonstration supplies, training tools & resources so you have them available.

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Healthy Homes: Assessment and Interventions

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HHS Credential Exam

HHS Credential will sunset on 12.31.17

- NEHA website
  - http://neha.org/professional-development/credentials/hhs
- 5 years of experience in housing, environmental health or public health
- Additional study resources (14)
- Credentialing Handbook

Do you have what it takes to be a HEALTHY HOMES SPECIALIST?

- Client outreach, identification and intake
- Interface with household
- Physical environment assessment
- Provide recommendations based on assessment
- Implement interventions
- Evaluate success of interventions

Exercise 1 Part 1

What's Your Program?

Exercise 1 Part 2

We Have a Dream

Goals and Objectives

- Resident Interview
- Home Assessment
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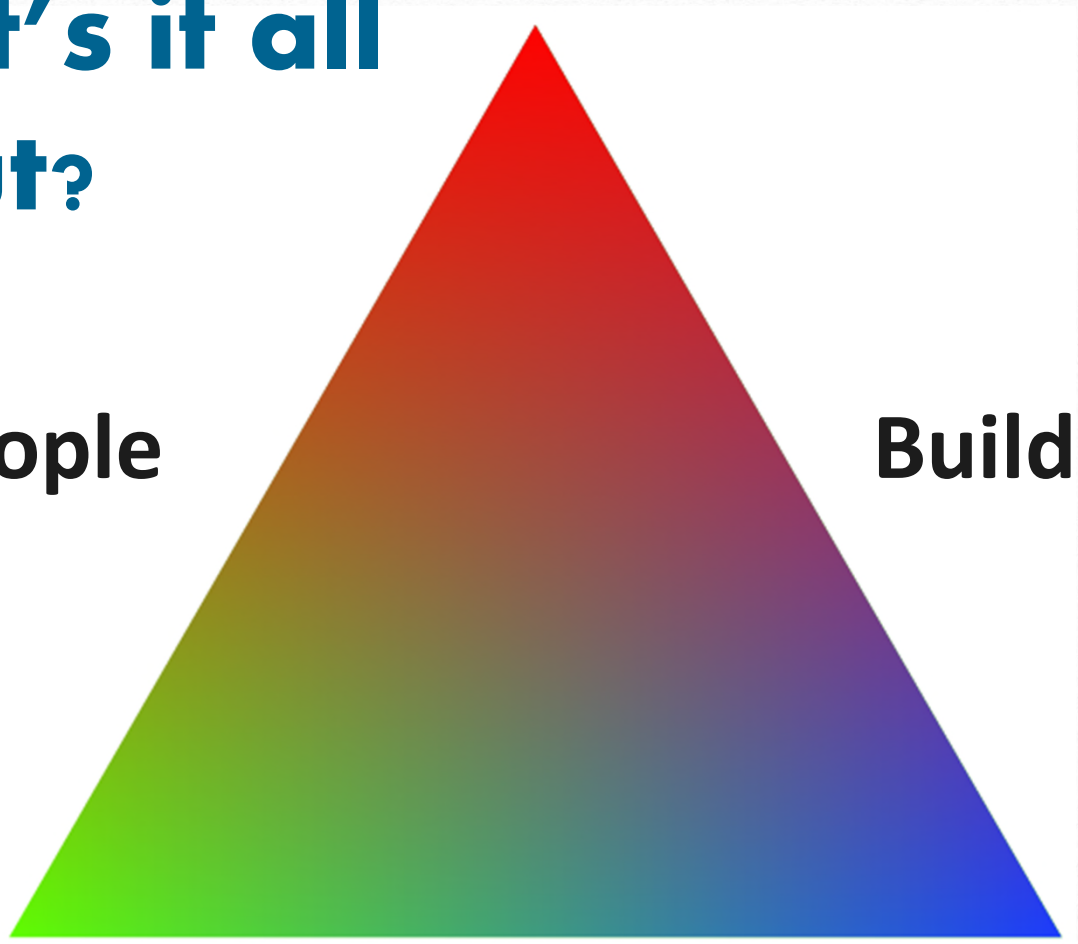

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PEOPLE

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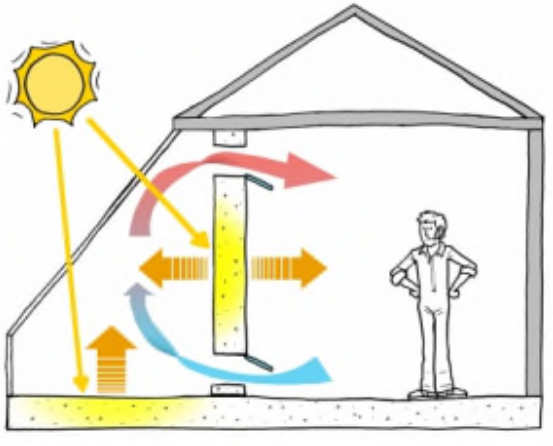

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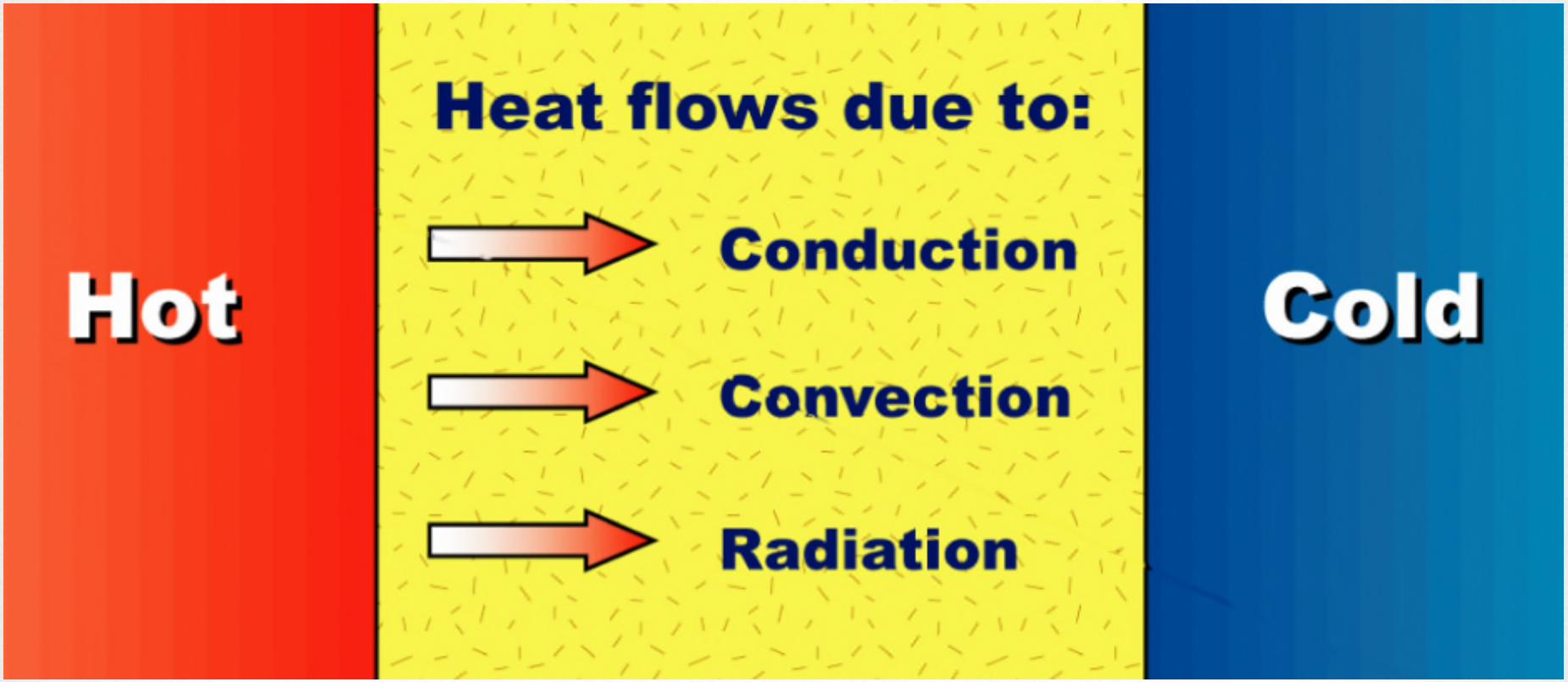

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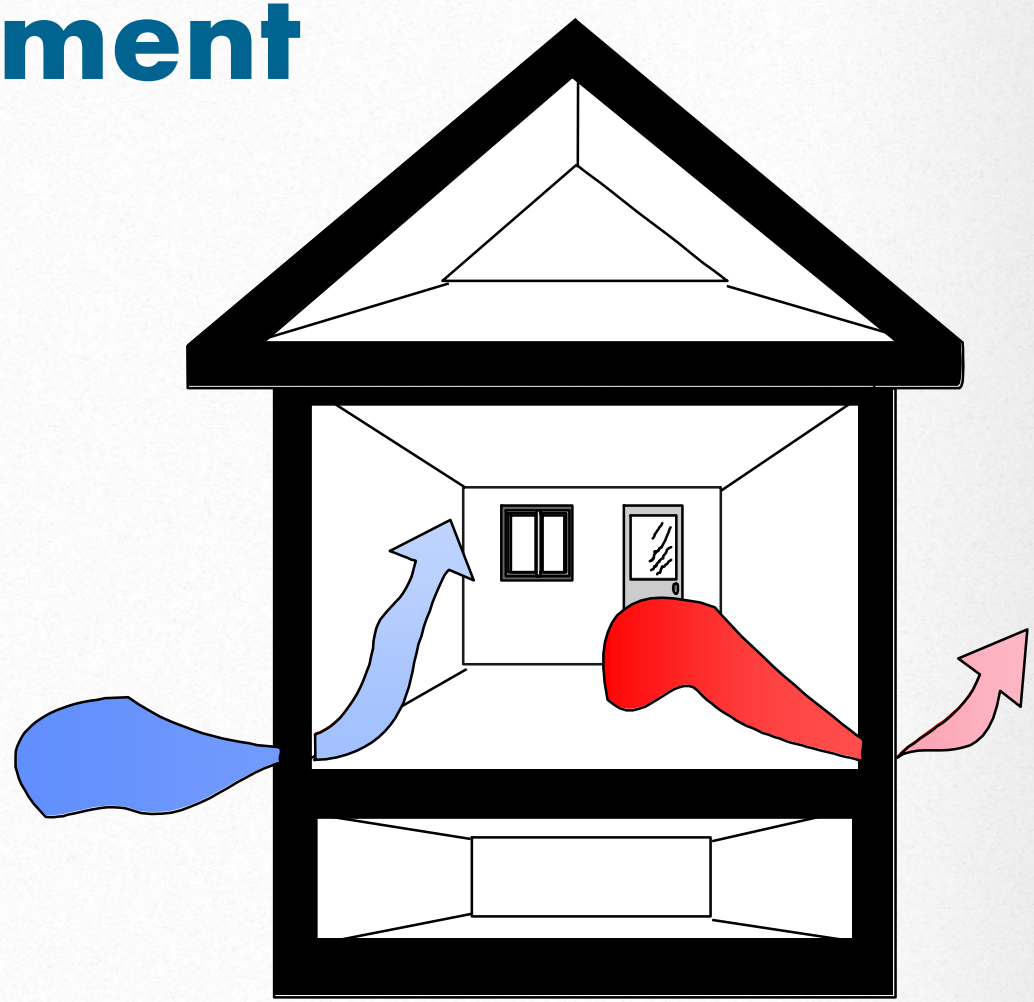

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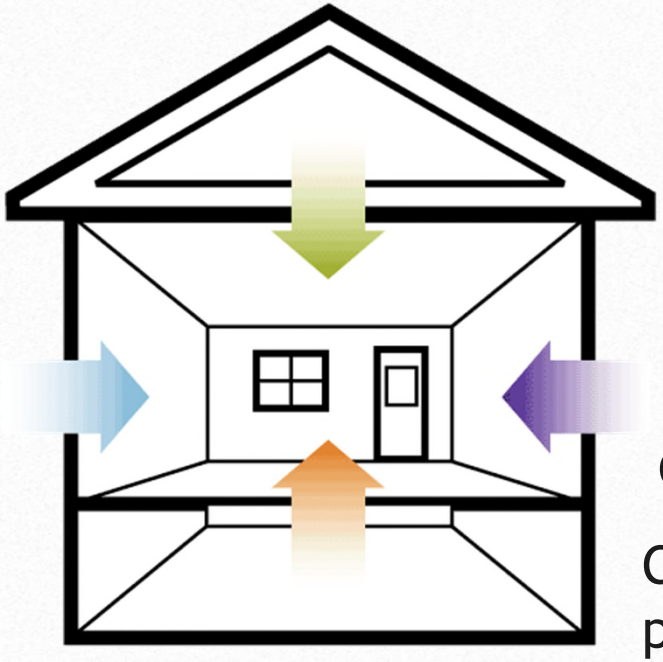

ATTIC

Insulation fibers, dust, coal soot, rodent scat

OUTSIDE

Pollen, auto fumes, dust

GARAGE

Carbon monoxide, pesticides, gasoline, fertilizers

CRAWLSPACE

Mold, dust, lead, radon, moisture, termiticide

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Self Assessment Review:
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Healthy Homes: Assessment and Interventions Training Guide

NOTE: THIS IS A SHARED FILE: ANY AND ALL CHANGES MADE MUST BE REFLECTED IN THE CORRESPONDING FILE ALL COURSES

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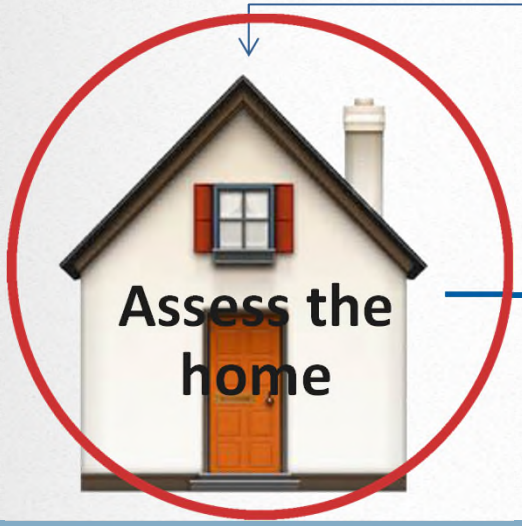
The Home Assessment Process

Interview resident (Environmental History)

Determine need for/scope of assessment



Assess the home

Create an action plan

Interventions/ Education

Professional Follow-up

Virtual Inspection Form

Instructions: Identify the healthy housing problems found in each photograph, and propose a course of correction. Avoid writing on the photos.

Photo	Identified Hazard(s)	Proposed Correction(s)
MOISTURE		
#1		
#2		
#3		
#4		
#5		
CLEANLINESS		
#1		
#2		
#3		

Virtual Inspection Form

Area of Home	Nature of Violation/ Code Sections Potentially Violated	Nature of Violation		Responsible Person	
		Definite	Potential	Owner	Occupant
Exterior					
Entryway					
Living Room					
Dining Room					
Kitchen					
Bedroom 1					
Bedroom 2					
Bathroom 1					

What's Wrong Here? (Moisture)

What's Wrong Here? (Moisture)

What's Wrong Here? (Moisture)

What's Wrong Here? (Moisture)

What's Wrong Here? (Moisture)

What's Wrong Here? (Cleanliness)

What's Wrong Here? (Cleanliness)

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What's Wrong Here? (Ventilation)

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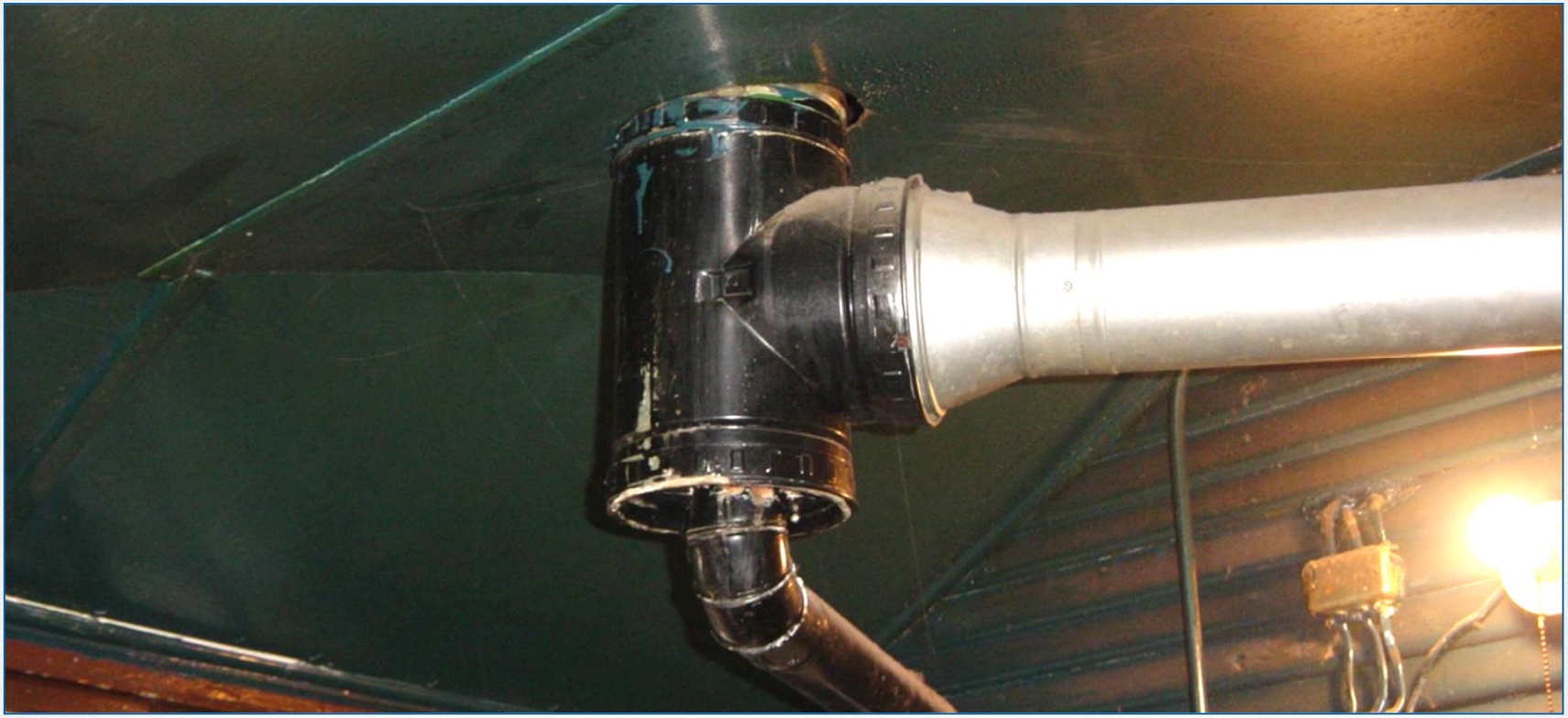

What's Wrong Here? (Ventilation)

What's Wrong Here? (Ventilation)

What's Wrong Here? (Ventilation)

What's Wrong Here? (Safety)

What's Wrong Here? (Safety)

What's Wrong Here? (Safety)

What's Wrong Here? (Safety)

What's Wrong Here? (Safety)

What's Wrong Here? (Safety)

What's Wrong Here? (Pests)

What's Wrong Here? (Pests)

What's Wrong Here? (Pests)

What's Wrong Here? (Pests)

What's Wrong Here? (Pests)

What's Wrong Here? (Contaminants)

What's Wrong Here? (Contaminants)

What's Wrong Here? (Contaminants)

What's Wrong Here? (Maintenance)

What's Wrong Here? (Maintenance)

What's Wrong Here? (Maintenance)

What's Wrong Here? (Maintenance)

What's Wrong Here? (Maintenance)

What's Wrong Here? (Maintenance)

What's Wrong Here? (Climate-Controlled)

What's Wrong Here? (Climate-Controlled)

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