ACTIVITY: SIMPLE RISK REDUCTION MEASURES

Purpose: The purpose of the activity is to encourage individuals to implement simple measures to reduce common home hazards.

Objective: Implement actions to reduce the risk of loss of life and property from common hazards.

Preparation and Needed Materials: Prior to conducting this activity, you should:

- Review the Emergency Management Institute (EMI) independent study course titled "Protecting Your Home or Small Business From Disaster" for more information about nonstructural hazard mitigation. The course can be accessed at: http://training.fema.gov/EMIWeb/IS/IS394Alst.asp.
- Develop examples of safety measures discussed in the accompanying handout.

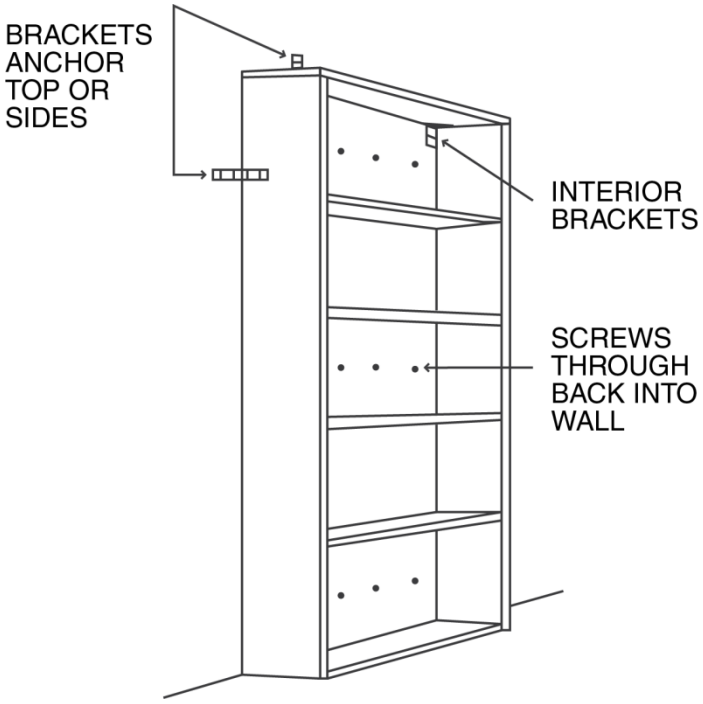
Presentation Tips:

- Welcome participants to the session. Explain that by the end of the session, they will be able to take actions to reduce the risk of loss of life and property from common hazards.
- Stress that there are simple, low-cost steps that households can take to help make their homes safer.
- Distribute the Simple Safety Measures handout. Briefly review the items. Tell the participants to check off the items that apply to their situation.
- Optional Demonstration: If you are able to do so, demonstrate some of the measures discussed in the handout.
- Optional Activity: Divide the participants into teams. Assign different areas of the room or building where you are meeting. Have the teams:
  - Identify existing measures for improving safety.
  - Recommend additional measures for improving safety.
- Conclude the session by asking participants if they have any questions. Thank participants for attending the session. Explain that more information about disaster preparedness is available in other sessions.

Securing Heavy Furniture/Other Items

Bookcases or other items can tip causing their contents, and sometimes the shelves themselves, to fall to the floor. Tipping can occur in an earthquake or other event that causes homes and buildings to vibrate or move. In addition, children or pets climbing on bookcases or other furniture can cause them to tip.

- ☐ Move or secure items that could fall over or block an exit, such as bookcases, china cabinets, and storage racks.
- ☐ Move heavy items, such as pictures, mirrors, or tall dressers, away from beds and sitting areas.
- ☐ Anchor all large kitchen and laundry equipment to the floor, wall, or countertop, including:
  - Stoves and ovens.
  - Built-in and countertop microwave ovens.
  - Garbage compactors.
  - Dishwashers.
  - Refrigerators and freezers.
  - Clothes washers and dryers.



Tips for Securing Items

- Screws must penetrate the studs behind the wall. Gypsum board, drywall, and plaster won't hold heavy furniture during an earthquake.
- For wood studs (typically spaced 16 or 24 inches apart on center), use minimum 1/4" diameter by 3" lag screws.
- For metal studs, use #12 sheet-metal screws long enough to penetrate the flange material. For concrete or masonry walls, use concrete anchor bolts.
- If wall studs do not line up with the furniture, attach a wood 2x4 or steel horizontal mounting strip to the studs near the top of the items to be anchored. Anchor furniture to that strip.
- If possible, bolt file cabinets together (and to the wall studs) to form a more stable shape.
- Anchor eyebolts to wall studs for hanging heavy items such as pictures, mirrors, and shelving. Securely attach picture wires to picture frames.

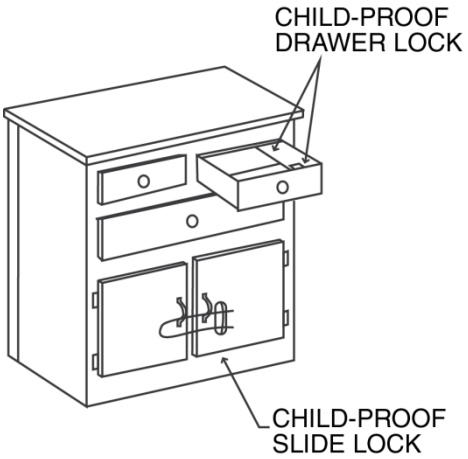
Tips for Securing Items (Continued)

- Make sure overhead light fixtures and hanging plants are anchored to the structural support above the ceiling. Ask a carpenter or an electrician to determine whether light fixtures and modular ceiling systems are securely fastened.

Note: Water heaters can tip over and spill dangerously hot water into a building. If the heater uses flammable gas and the gas line breaks, the situation becomes far more serious. For additional information on how to secure water heaters and other items, you should take the following independent study course: IS-394.a, Protecting Your Home or Small Business From Disaster (http://training.fema.gov/EMIWeb/IS/IS394Alst.asp).

Securing Loose Items and Equipment: Items in Drawers or Cabinets

- ☐ Use barrel bolts, safety hasps, and childproof locks. Most permanent latches will not interfere with opening and closing drawers and doors.
- ☐ Use a slide lock as shown on doors that are not opened often.
- ☐ Store breakable items such as bottled foods, glass, and china in low, closed cabinets with latches.
- ☐ Store weed killers, pesticides, and flammable products on bottom shelves in sturdy, closed, latched cabinets that are fastened to the wall or floor. Move incompatible chemicals to prevent mixing if the containers break.

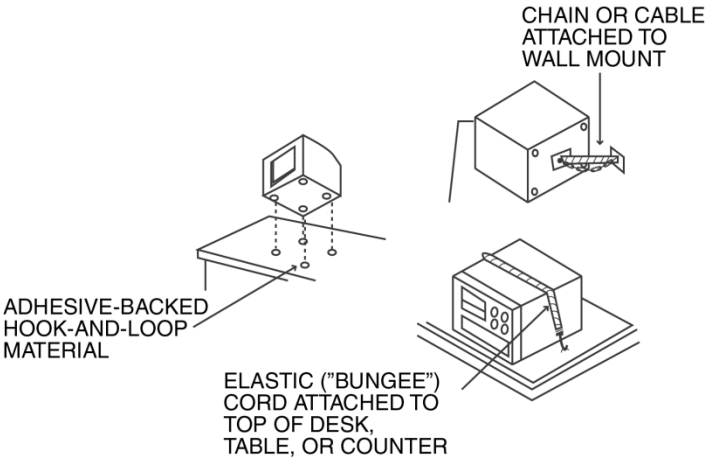


Securing Loose Items and Equipment: Items on Shelves

- ☐ Add lips or edge restraints.
- ☐ Use elastic cords or wire guardrails to keep items from falling off open shelves.
- ☐ Fasten heavy or precious items to shelves or tables.
- ☐ Use tack putty to secure fragile objects on shelves.
- ☐ Keep breakable items in original packing boxes if possible.

Securing Loose Items and Equipment: Electronic Equipment

- ☐ Secure items to desks, tables, shelves, or countertops with hook-and-loop material, such as Velcro.
- ☐ Use chains, cables, or elastic cord (e.g., "bungees") for heavier items.



Preventing Falls

- ☐ Reduce fall risks by making sure carpets are securely fastened to floors via tacks, Velcro, or anti-skid linings.
- ☐ Reduce clutter in living areas and make sure pathways around furniture are clear, especially if the individual relies on a cane or walker.
- ☐ Keep the stairs clear of clutter.
- ☐ Make sure you can turn on lights before entering a dark room.
- ☐ Add grab bars in the tub and shower.
- ☐ Wipe-up spills when they happen.
- ☐ Place nightlights along pathways throughout your home.

Preventing Water Damage: Simple No-Cost/Low-Cost Measures

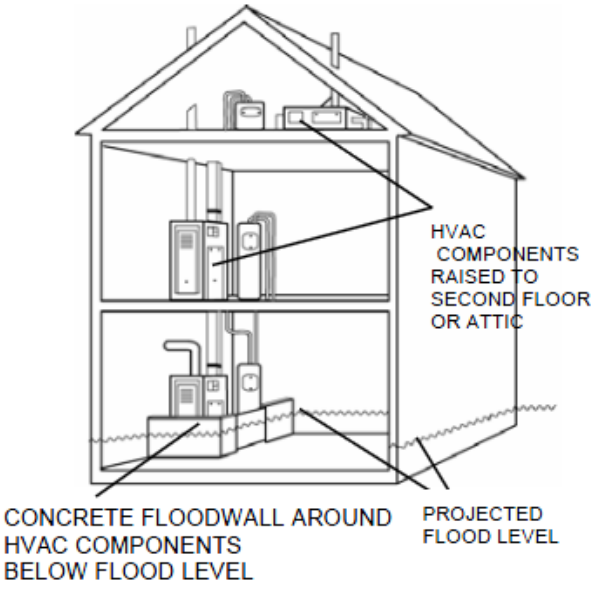
- ☐ Check storm drain lines to make sure they are clear of debris, roots, etc.
- ☐ Grade the property around your home to drain water away from it.
- ☐ Install gutters and make sure downspouts are extended away from the foundation in order to carry water away from the basement walls.
- ☐ Use shelving or store items several inches above the potential water level in order to prevent loss.
- ☐ Fix leaks in faucets, toilets, or pipes immediately. Continued small leaks can result in mold, dry rot, and pest infestation as well.
- ☐ Check the water hoses on your washing machine, refrigerator icemaker, and dishwasher for signs of wear. Check your water heater for leaks. Partially drain the heater every 6 months to stop sediment from building up on the bottom.

Preventing Water Damage: Simple No-Cost/Low-Cost Measures (Continued)

- ☐ Check for cracked or missing grout across the base of your toilet, bathtub, and/or shower, and bathroom cabinets.
- ☐ In cold climates, protect against frozen pipes by:
  - Making sure you have adequate insulation in places where pipes run along outside walls, under floors above basements, and above ceilings in unprotected attics.
  - Disconnecting outside garden hoses before cold weather.
  - Wrapping exposed pipes with insulating sleeves.
  - Taping and sealing foundation cracks in crawlspaces that could let cold air, snow, or ice in to freeze pipes.
  - Opening the cabinet doors under your sinks to allow warm air to get to piping during a deep freeze.
  - Running a small trickle of water through vulnerable cold and hot water faucets when there is a cold snap.

Protecting HVAC Equipment

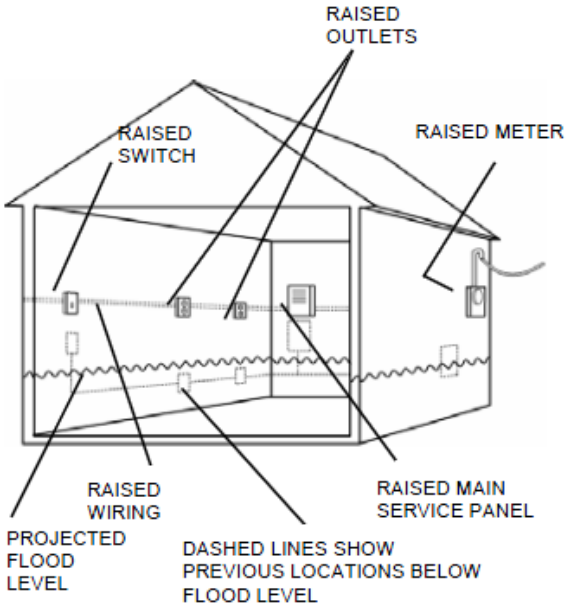
In flood-prone buildings, HVAC equipment can be moved from the basement or lower level to an upper floor, or even to the attic. Relocation can involve plumbing and electrical changes. If you decide to raise your HVAC equipment, consider upgrading to a more energy-efficient unit at the same time. Upgrading not only can save you money on your heating and cooling bills, but also may make you eligible for a rebate from your utility company.



Protecting Electrical Systems

Electrical system components, including service panels (fuse and circuit breaker boxes), meters, switches, and outlets, are easily damaged by floodwater. If the electrical system components are inundated, they probably will have to be replaced. Short circuits from flooded systems also cause fires.

Raising electrical system components helps you avoid damage. All components of the electrical system, including the wiring, should be raised at least 1 foot above the base flood level for your location.



Protecting Washers and Dryers

Elevate them on masonry or pressure-treated lumber at least 1 foot above the projected flood level.

Preventing Wind Damage: Simple No-Cost/Low-Cost Measures

Strong winds from severe weather such as thunderstorms, tornadoes, and tropical storms can turn patio furniture, grills, and tree branches into destructive missiles.

To protect against wind damage, take the following steps:

- ☐ Identify and remove trees and branches that could fall on power lines, walls, or roofs. Wind can topple trees onto your home and can pick up smaller objects and drive them through windows and glass doors.
- ☐ Secure all storage sheds and other outbuildings, either to a permanent foundation or with straps and ground anchors. You may use straps and ground anchors for manufactured homes to anchor systems for outbuildings.
- ☐ Secure other objects. You can secure outdoor furniture and barbecue grills by bolting them to decks or patios or by attaching them to ground anchors with cables or chains. Even trash cans can be secured with cables or chains attached to ground anchors or to wood posts firmly embedded in the ground.

Preventing Wind Damage: Simple No-Cost/Low-Cost Measures (Continued)

Prior to a storm with predicted strong winds:

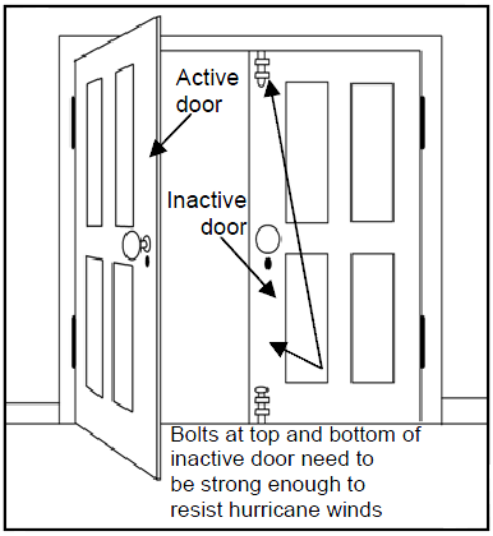
- ☐ Move breakable items away from doors and windows.
- ☐ Bring in flowerpots, outdoor furniture, and other items that could become airborne.
- ☐ Board up doors and windows (if possible).
- ☐ Turn off propane tanks.

Also, secure items if your home will be vacant during a trip.

Preventing Wind Damage: Securing Double-Entry Doors

If you have double doors, then you should secure at least one of the doors at both the top of the doorframe and the floor with sturdy sliding bolts.

Most bolts that come with double doors, however, are not strong enough to withstand high winds. Your local hardware store can help you select the proper bolts. Some door manufacturers provide reinforcing bolt kits made specifically for their doors.

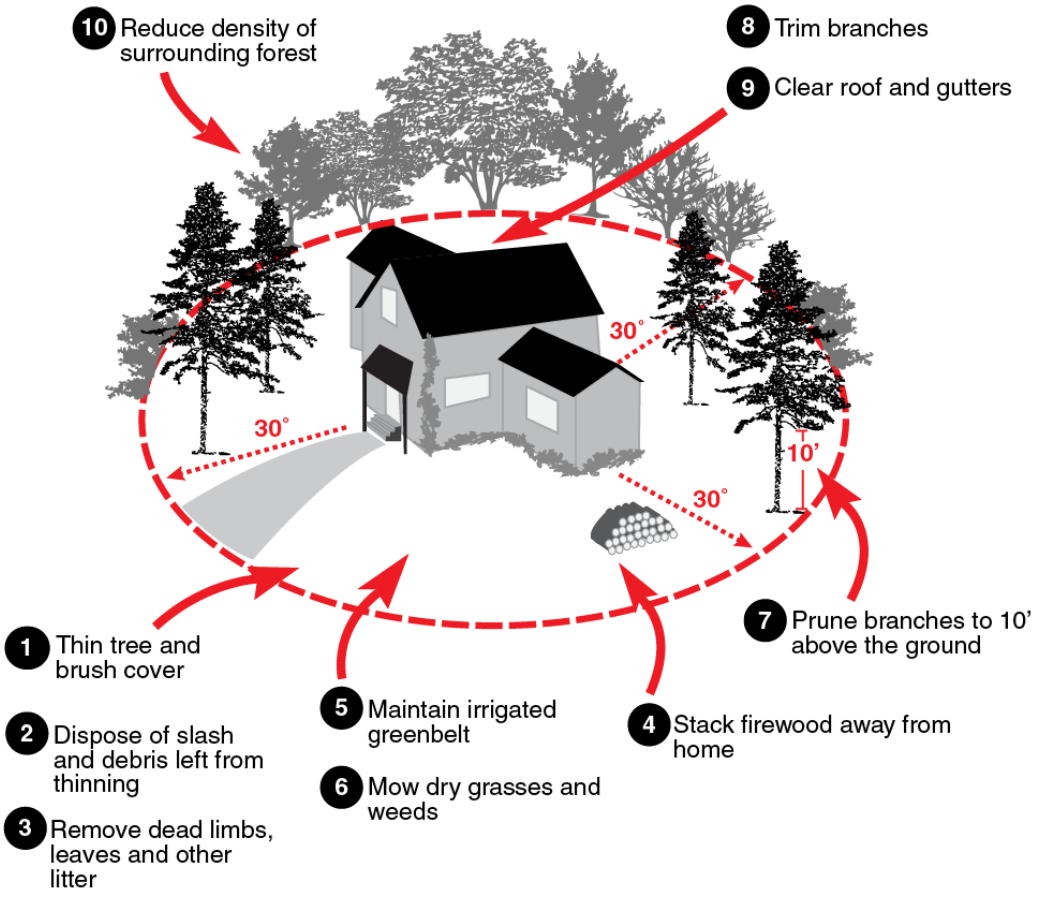


Creating a Safe Outdoors

- Make sure that the street number is clear and legible from the street. This will ensure that emergency vehicles do not have trouble locating your home in an emergency.
- Maintain the yard. Unkempt brush and dry lawns can catch fire; so can sheds and woodpiles. Overhanging tree limbs, and entire diseased trees, can fall through a roof.
- Position trees at least 10 feet apart and at least 100 feet away from the house.
- Remove any dead trees or trees that pose a threat of falling on your home.
- Clean pine needles, leaves, and other debris from roofs and gutters often.
- Enclose the undersides of aboveground decks with non-combustible materials, such as wire mesh, in order to prevent the buildup of leaves and other debris.

Creating a Safe Outdoors (Continued)

- Plant native, fire-resistant vegetation, and avoid vines or climbing plants that may serve as a link between grass and treetops or roofs during a fire.
- Ensure all cords used outside, such as for electric lawn mowers and other lawn tools, are rated for outdoor use and have the correct amp rating (15-20 amps is usually okay, 20 amp rating for larger motors like lawn mowers).
- Do not use power tools or lawn equipment when it is raining, or use an electric lawnmower on wet grass. Check all cords for damage before and after use.
- Store all yard and gardening equipment safely, making sure to keep all chemicals out of reach.



Source: Bureau of Land Management, U.S. Department of Interior