Earthquake Home Hazard Hunt

Recommendations for reducing earthquake hazards in your home are presented on the other side of this poster.

- Strap down computers
- Strap bookcases and shelves to walls to prevent tipping
- Know how and when to shut off utilities
- Secure cabinets to wall studs; use latches to keep cabinet doors from flying open during an earthquake
- Ensure that gas appliances have flexible connections
- Prevent rolling or tilting of refrigerators
- Upgrade unbraced crawlspace walls (or other foundation problems)
- Brace water heaters
- Brace or replace masonry chimneys
- Secure ceiling fans and hanging light fixtures
- Know how and when to shut off utilities
- Strap down televisions and other expensive or hazardous electrical components
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In the Kitchen

1. Cabinet doors, refrigerators, and gas appliances should be secured so that they will not move or fall over during an earthquake.

2. First, secure all cabinets above waist level securely to the wall studs.

3. Use latches designed for earthquake child-proofing, or boat safety to keep cabinet doors from flying open and contents falling (see Figure D).

4. Have a plumber install flexible connectors on gas appliances.

Furniture

1. Follow these important guidelines:

   a. Secure all tall, top-heavy furniture, including bookshelves, wall units, and entertainment centers (see Figure F).

   b. Attach them securely to the wall studs with straps.

   c. Secure the top, both on the right and left sides of the unit, into wall studs, not just into the drywall.

   d. Use flexible mounting straps to allow furniture independent movement from the wall, reducing the strain on studs.

   e. Secure loose shelving by attaching earthquake gussets on each corner bracket.

   f. Secure heavy items and breakables on lower shelves.

Water Heaters

1. Water heaters should be braced and secured. There are many solutions — all relatively inexpensive.

   a. Purchase and install a strap kit or bracing kit from your local hardware store.

   b. Other options include:

      - Have a licensed plumber or engineer secure the water heater according to code.

      - Use metal straps and screws to secure the water heater to the wall studs.

      - The gas and water lines should have flexible connector tubes. These are safer than rigid metal pipes, especially if an earthquake occurs. Be sure to check the straps once a year. They may corrode, crack, or become weakened by other causes.

Figure D. Securing home electronics

Figure E. Securing cabinet doors and shelves.

Figure F. Securing top-heavy furniture.

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Figure F. Securing top-heavy furniture.

Hanging Objects

1. Prevent soil hangings from bouncing off walls.

2. Secure mirrors, plants, plates, and other objects on closed hooks.

3. Secure the bottom corners with earthquake putty or adhesive pads.

4. Place only soft art such as tapestries over beds and sofas.

Strong Brace (top and bottom)

Figure G. Securing water heaters.

Base brakes.

Flexible water shut-off valves.

Water shut-off valve, found with the meter in a concrete box in the sidewalk or yard. 

Utilities

1. To responsible members of your family how to turn off electricity, gas, and water at main switch and valves.

2. Caution: Do not shut off gas unless an emergency exists. If gas is ever turned off, a professional must restore service. Contact your local utilities for more information.

Label the water shut-off valve, found where water enters the house. Also the main water shut-off valve, found with the meter in a concrete box in the sidewalk or yard.

What would happen to heavy furniture, fixtures, and appliances?

1. Look at tall bookcases and shelves. How much would fall off the shelves? Would the whole bookcase topple, or is it anchored to the wall? Anchor bookcases and other top-heavy furniture to wall studs using flexible fasteners (e.g., nylon straps) and lag screws.

2. Prevent refrigerators, washers, and other heavy appliances from moving by putting it back on its foundation, while upgrading before an earthquake will be much cheaper.

3. Add bearing to your conditions, particularly on rooftops.

4. Do you have hanging light fixtures or plants? Could they swing and hit a window or wall? A minimum precaution, transfer hanging plants from above the roof line, as bricks may fall into the house.

Check for possible flying glass.

1. Replace glass bottles in the medicine cabinet and around the bathtub and shower with plastic containers.

2. What kind of latches are your kitchen cabinets? Remember to obtain a second, one which can be obtained in case of an emergency.

Gardens With Living Spaces Above

1. The large opening of a garage door and the weight of a secondary room built over the garage can result in the garage walls being too weak to withstand earthquake shaking, resulting in severe damages to the narrow sections of the wall on each side of the garage door opening. These weaknesses can be reinforced or braced, the potential for earthquake damage is greater.

Garages

1. Look at the openings around and the garage door opening — are there braces or supports? If not, strengthening may be needed. Consult a licensed architect or engineer to determine the strengthening required to upgrade your garage walls. Your home may need to have plywood paneling or a steel frame designed and installed around the door opening (see Figure B). Remember to obtain a permit from your local Building Department before starting work.

Bracing

1. To prevent the chimney from breaking away from the house, you should have it secured in the framing of the roof withheet metal strips (see Figure C). If your roof doesn’t have solid shingling, construct adding plywood panels above the ceiling joists. Have the chimney inspected annually to determine whether the chimney should be upgraded or replaced.

Children can share their new awareness in the classroom. Determine whether their school has a practical earthquake plan, whether earthquake drills are held, and what the policy is if an earthquake occurs while school is in session.

With your powers of perception more finely tuned, you may wish to extend these suggestions to your workplace. Check to determine whether your company has an earthquake safety plan.

The gas and water lines should have flexible connector tubes. These are safer than rigid metal pipes, especially if an earthquake occurs. Be sure to check the straps once a year. They may corrode, crack, or become weakened by other causes.

Further Information

For more information about earthquake preparedness and safety, refer to the following publications from the FEMA Distribution Facility at 1-800-480-2520. As noted, some are available for download from the FEMA website.

After Disaster Strikes: How to recover financially from a natural disaster. FEMA 529, available in both English and Spanish.


Full publication and Individual fact sheets are available online in both English and Spanish at http://fema.gov/preparedness/prepared_guides_links.shtml. The Links section uses the financial preparedness deal with a natural disaster, FEMA 291, May 1997. Available in both English and Spanish.


Visit the FEMA website at http://www.fema.gov/hazards/earthquakes/ for information about the National Earthquake Hazards Reduction Program (NEHRP) and more ways to address earthquake risks.