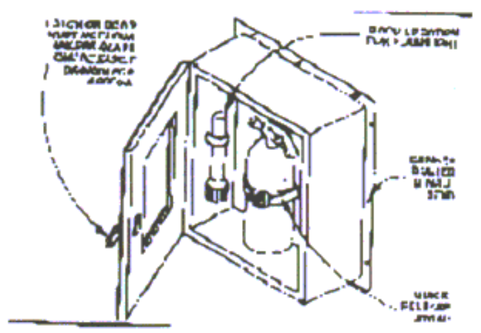
catch, baby proof latches or locks on the cabinets doors or drawers. These items can be found in the baby sections of discount or grocery stores, as well as, hardware and building supply stores.

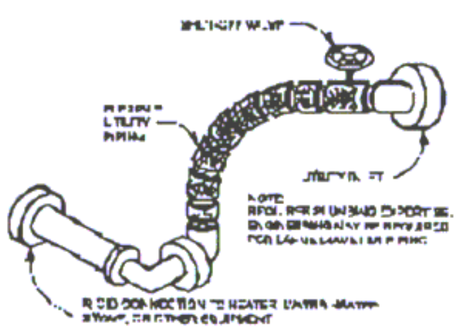
9. Secure the Fire Extinguisher in a Cabinet

Use a quick release strap to secure a fire extinguisher and a flashlight to a wall, inside wooden cabinets under the kitchen sink or inside the pantry door. If you want to get more sophisticated, a homeowner might consider purchasing a metal cabinet with a glassed door to house the fire extinguisher and flashlight -- remember the cabinet should be secured to the wall studs. The cabinet housing might cost as much as $300 depending on where you live.



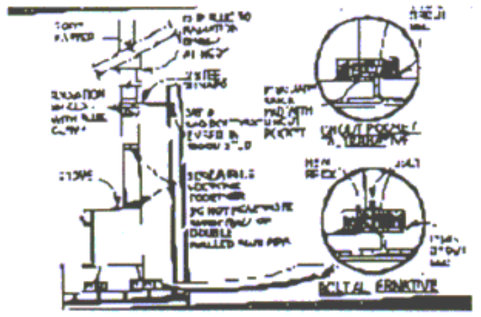
10. Install a Flexible Connector for Stove, Water Heater, Furnace Gas Lines

Flexible utility piping and a shut-off valve can be found in plumbing sections of hardware stores. This flexible piping should be secured to the rigid connector. The safety valve allows the homeowner to shut off the gas at the utility inlet connector.



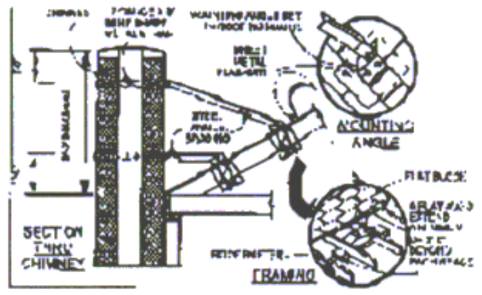
11. Securing a Freestanding Wood Stove

Using steel straps, screws, bolts and bricks, a homeowner can secure a free standing wood stove for approximately $500. See the diagram for details.



12. Securing a Residential Chimney

Securing a residential chimney in a low to moderate seismicity area will probably require some professional engineering. FEMA estimates the approximate cost to be about $1,000. See the diagram.



For More Information Contact:
Earthquake Program
Missouri State Emergency Management Agency
P. O. Box 116
Jefferson City, MO 65102-0116
e-mail: mosema@mail.state.mo.us

Earthquake Home Improvements

A Toolbox of Earthquake Mitigation Tips You Can Do Yourself To Protect Your Home

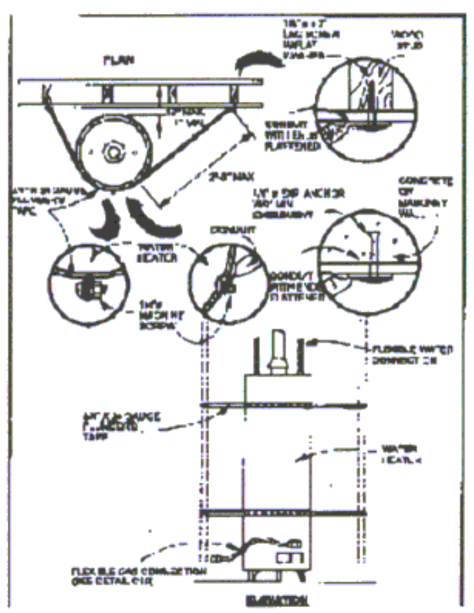
1. Save Your Windows

The next time the kids send a baseball through one of your windows, consider replacing the glass with tempered glass. Tempered glass may still break during an earthquake; but it will break into small dull fragments instead of large dangerous shards.

Another alternative is to put polyester shatter resistant films on all your windows. The film will help hold together glass fragments of any panes that crack in an earthquake. (Typical solar film may not be adequate for this purpose.)

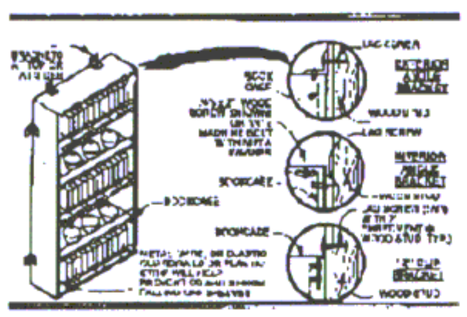
2. Strap Your Water Heater to the Walls

Strapping your water heater to the wall is one mitigation item every homeowner can do himself. Here are two different diagrams for strapping your water heater to the wall - the first diagram is a corner location and may cost about $80 to complete this home improvement. The second diagram shows how to strap your water heater to the wall - this may cost about $200 dollars.



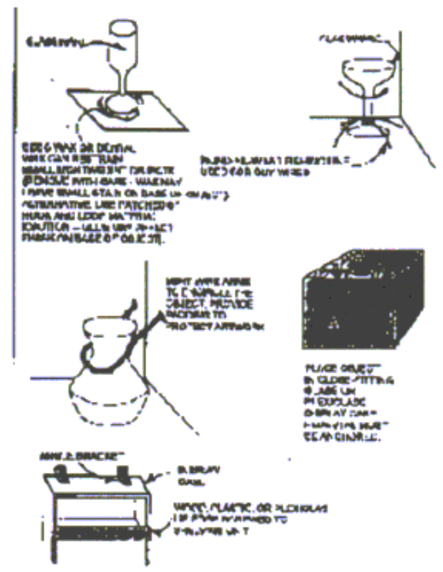
3. Secure Bookcases, China Hutches and Display Cases to the Wall

The homeowner needs angle brackets to secure the bookcase etc to wall studs. Metal wires or elastic guardrails may help keep books, dishes, trophies etc from falling out of the unit. REMEMBER keep heavy items off the top shelves especially if the unit is located close to where someone will be sitting or lying in bed. Depending on the number of bookcases, hutches, display cases, record racks, the cost may run as high as $50.



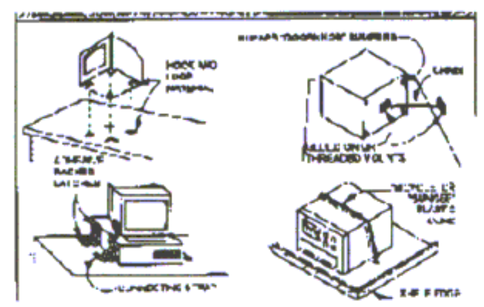
4. Saving Fragile Artwork and Trophies

Seldom used glassware in china hutches may be secured to the shelf with either bee's wax on the bottom of the glass or double-sided sticky Velcro. If you don't like the idea bee's wax, you might try monofilament fishing line or fine wire wrapped around the glassware and secured to the back of the hutch. A third option, might be to build a close-fitting clear plexiglass display case - but remember to anchor the object inside the display case. Instead of wire or elastic bands across the shelves, a homeowner might make a plexiglass lip which can be screwed into the shelving unit.

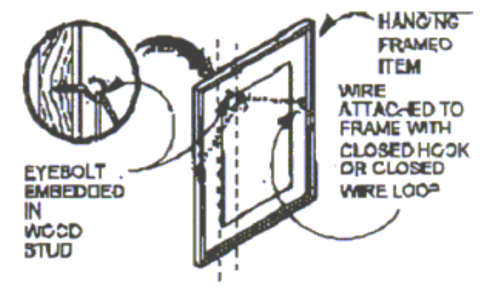


5. Computers, TVS, Stereo Equipment Microwave, etc.

Double sided sticky Velcro to the rescue! Along with connecting straps, "bungee" elastic cords, rubber "doorknob bumpers, and a chain to secure the equipment to a wall. Your electronic equipment can be secured to a desk or table with double sided sticky Velcro or a bungee cord; a chain would secure the equipment to a nearby wall. Connecting straps may be used to secure electronic equipment that is stacked such as a computer monitor on top of a processor or a CD player on top of a power unit. The cost may run as much as $50 per unit depending on how you wish to secure your electronic equipment.



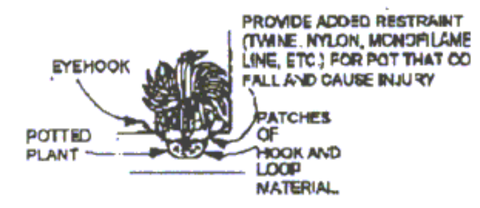
6. Framed Photographs, or Artwork

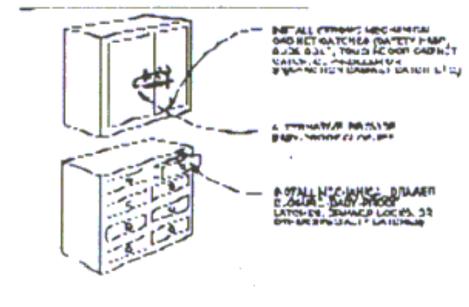


Every homeowner can protect framed photographs and artwork. You need to make sure that a closed hook or a closed wire loop is secured to the back of the frame. Use a eye bolt embedded into a wood stud to secure your photos and artwork to the wall. Depending on the numbers of framed photographs and artwork, this improvement might cost as much as $50.

7. Securing Large Potted Plants

Similar to securing your electronic equipment, use double sided sticky Velcro on the bottom of the pot to a coffee table, the floor or window ledge where you normally keep your large potted plants. As an added protection to keep the pot from tipping over, wrap nylon or monofilament line around the largest part of the pot and secure the line to eye hooks embedded into the wall. The cost should be negligible.



8. Earthquake and Baby Proofing Your Kitchen

Plastic bicycle latches (the kind used to baby proof the kitchen) are ideal for securing kitchen cabinets. However to be more aesthetically pleasing, a homeowner might want to use a strong mechanical cabinet catch such as a safety hasp, slide bolt, touch-door cabinet catch, clip roller or snap-action