

PREPAREDNESS ACTIVITY: **Safe Areas**

BACKGROUND:

Earthquakes are inevitable, but the damage and injury from earthquakes is not – even in a large earthquake. Many people think that all the damage and injuries from earthquakes comes from collapsing buildings. This isn't the case. While the areas near the exterior walls of a building are generally the most dangerous places to be because windows, facades, and architectural details are often the parts of a building that collapse first, as buildings become better designed, more of the losses in earthquakes are from objects that break or fall on people, causing injury.

ACTIVITY:

Set-Up

Set-up varies depending on the availability of presentation equipment:

- If available, obtain a digital projector and download the Safe Areas file onto a laptop.
- If an overhead projector is available (but not a digital one), print the Safe Areas file onto transparencies with one picture per page.
- If no projector is available, print the Safe Areas file onto 8.5"x11" or 11"x17" pieces of paper with one picture per page.

Make enough copies of the classroom worksheet to distribute to each of your students.

Procedure

1. Explain to students that most earthquake-related injuries are from falling and moving objects, and windows are the most sensitive architectural elements of buildings.
2. Discuss what items would be potential hazards during an earthquake.
3. For each pair of photographs, first show students the unaltered image and take comments from the students about where the potential hazards are; then display the photographs labeled with green and red areas, and discuss why these items or spaces are dangerous (red) or safe (green).
4. Alternatively, students can be broken up into groups, and each group can be given one or two of the unaltered photographs to analyze. The green- and red-labeled photographs can then be projected onto a screen and the group can discuss why certain objects or areas are safe or dangerous.
5. To end, distribute the classroom worksheet and have the students color things that are hazards in red and places that are safe in green (beneath the desks).

CONTENT:

Safe areas and hazards for each image, in the event of an earthquake:

1. Kitchen – Red: cabinets and contents, stovetop left on, refrigerator unit; Green: a clearer location or under sturdy furniture in another room nearby
2. Library – Red: ceiling lights, unsecured computers and printers, tall book shelves, books; Green: underneath sturdy tables
3. Beach – Red: anywhere near shore; Green: higher ground
4. Restaurant – Red: hanging lamps; Green: beneath sturdy tables
5. Living Room – Red: unsecured books/figurines/china/antiques on shelves, ceiling fan, hanging photo frames, candle holders on mantle, vases, glass windows; Green: pillows for protection if there is no sturdy furniture to get under nearby
6. Dining Room – Red: tall standing lamp, wall decorations, windows, chandelier, unsecured objects; Green: below the table – room to drop, cover, and hold on

Safety information by room/location:

- General
 - o Most earthquake injuries are from falling and moving objects. You should secure anything:
 - heavy enough to hurt you if it falls on you, and
 - fragile or expensive enough to be a significant loss if it falls
- Kitchen
 - o contain cabinets and their contents with hooks and latches
- Garage
 - o secure shelves, boxes, and water heaters with rope, Velcro, or furniture straps
- Living Room/Dining Room
 - o move tall bookcases and shelves away from places where people sit
 - o move heavy objects to lower shelves
 - o secure display items with putty or Velcro
 - o secure objects above you, whether they are hanging or along the walls, including tall furniture
 - o use flexible connectors to hold large furniture in place while avoiding the rupture of rigid connections
- Bedroom
 - o move tall bookcases and shelves away from places where people sleep
 - o secure small objects, frames, and memorabilia with putty or Velcro

Procedures during an earthquake:

- General
 - o move away from windows, mirrors, hanging objects, fireplaces, bookcases, unsecured cabinets, stoves
 - o drop, cover, and hold on under something stable
- Indoors
 - o drop, cover, and hold on under something stable or by an interior wall away from ceiling lights, shelves, and windows
- Outdoors
 - o move away from tall objects such as power lines, trees, flagpoles, and fences
 - o stay in a clear area nearby

- Kitchen
 - o if you're cooking, turn off the stove before taking cover
- In bed
 - o stay where you are
 - o protect your head with a pillow or with your arms
- In a stadium or theater
 - o drop and cover between two rows of seats
- In a mall
 - o move away from windows
 - o do not use elevators
 - o move away from shelves that could topple or spill their contents
- In a car or bus
 - o have the driver pull over away from tall objects, and set the parking brake
 - o stay where you are but be alert
- At the beach
 - o stay in place until the shaking stops
 - o if it lasts longer than a few seconds, quickly head away from shore towards higher ground