PREPAREDNESS ACTIVITY #2
Beat the Quake

Grades 3 and Up

This activity is one of several in a basic curriculum designed to increase student knowledge about earthquake science and preparedness. The activities can be done at any time in the weeks leading up to the ShakeOut drill. Each activity can be used in classrooms, museums, and other educational settings. They are not sequence-bound, but when used together they provide an overview of earthquake information for children and students of various ages. All activities can be found at www.shakeout.org/schools/resources/.

Please review the content background (page 3) to gain a full understanding of the material conducted in this activity.

OBJECTIVE:

For students to evaluate earthquake hazards by determining classroom risks and playing an online game

MATERIALS/RESOURCES NEEDED:

- Computer lab with internet access **OR** a digital projector connected to a computer or laptop with internet access
- Classroom Hazard Hunt copies for each student
- Quake Safe Home Checklist for each student

PRIOR KNOWLEDGE:

In order to conduct this activity, students must have basic computer skills.

ACTIVITY:

Set-Up (10 – 15 minutes)

On the ShakeOut website (www.shakeout.org) home page, in the "Learn & Play" section, click on the "Beat the Quake" image. If using a classroom projector, make sure all students can view the screen. If using the computer lab, have the website added to each browser's favorites for easier student access. If not, create a sign with the website printed large enough for all the students to type in.

Procedure (40 minutes)

The italicized phrases are spoken suggestions for the instructor and those in parenthesis are possible answers students might provide.

1. In the computer lab or classroom, discuss earthquake hazards.
   Today, we will be learning about earthquake hazards. Anything that can move, fall or break when the ground starts to shake is an earthquake hazard if it can cause physical or emotional harm.

2. Give each student a copy of the Classroom Hazard Hunt.
   With this sheet, I want you to check for classroom hazards. Read the description and if you locate the items listed on the sheet in this room, check the box. This means that the item is an earthquake hazard.
3. After the students have finished the list, ask:
   a. *Is the classroom/computer lab safe?* (No)
   b. *What are some hazards?* (Lights, books, windows, etc.)
   c. *How can we fix this? What can we do to secure these items?* (Move, relocate, attach, fasten, secure, tie down, anchor, replace, remove, eliminate and change)
4. Students start the Beat the Quake Activity.
   Now that we have identified potential dangers, we are going to play a game called Beat the Quake to test your knowledge on securing these hazardous items.
   a. If students are playing individually in the computer lab say:
      In this game, you must secure items by selecting the correct answer from a multiple choice list. You will compete with your classmates to see who can secure the most items before the earthquake hits the room!
   b. If students are participating as a class say:
      Since we are playing this game as a class, I will read the questions out loud and we must all decide on the best way to secure the item. Keep in mind that there is a timer, so if we don't act quickly enough, the whole room will fall apart when the earthquake hits!
5. After the class has finished playing, discuss reducing risks at home.
   As you have seen, it is very important to secure hazards in case of an earthquake. In the game, did you see any items that you have at home? (Yes)
   What items did you see that you have in your house? (TV, couch, pictures, etc.)
   *Would you be upset if these items broke? (*Yes)
   It is very important to protect these items to reduce the risk of harm and loss of property. Many home improvement stores carry earthquake safety straps, fasteners, and adhesives that will protect the items in your home, and protect you.
6. Handout the Quake Safe Home Checklist.
   Please go over this list with your family to check for possible hazards. If you find some hazards, you can make some changes like the ones we discussed today.
7. Optional: Secure the classrooms hazards with students.
   Since we have identified some potential hazards in this room, it is time to make some changes. As a class, we are going to move some of the items to make our classroom safer.

CONTENT BACKGROUND:

"Beat the Quake" is a fun and interactive quiz to test students on earthquake safety knowledge. This informative game allows players to secure objects in the living room before a simulated earthquake shakes and breaks items not properly secured.

Earthquake safety is more than minimizing damage to buildings. We must also secure the contents of our buildings to reduce the risk to our lives and our possessions. You should secure anything 1) heavy enough to hurt you if it falls on you, or 2) fragile or expensive enough to be a significant loss if it falls.

Start now by moving furniture such as bookcases away from beds, sofas, or other places where people sit or sleep. Move heavy objects to lower shelves. Then, begin to look for other items in your home or school that may be hazardous in an earthquake.

Objects on open shelves and tabletops
Collectibles, pottery objects, and lamps can become deadly projectiles. Use either hook and loop fasteners on the table and object, or non-damaging adhesives such as earthquake putty, clear quake gel, or microcrystalline wax to secure breakables in place. Move heavy items and breakables to lower shelves.

Hanging objects
Mirrors, framed pictures, and other objects should be hung from closed hooks so that they can not bounce off the walls. Pictures and mirrors can also be secured at their corners with earthquake putty. Only soft art such as tapestries should be placed over beds and sofas.

Electronics
Televisions, stereos, computers and microwaves and other electronics are heavy and costly to replace. They can be secured with flexible nylon straps and buckles for easy removal and relocation.

Furniture
Secure the tops of all top-heavy furniture, such as bookcases and file cabinets, to a wall. Be sure to anchor to the stud and not only to the drywall. Flexible fasteners such as nylon straps allow tall objects to sway without falling over, reducing the strain on the studs. Loose shelving can also be secured by applying earthquake putty on each corner bracket.

For more information, see the Southern California Earthquake Center publication, *Putting Down Roots in Earthquake Country*, accessible online at: www.earthquakecountry.org.

Classroom Hazard Hunt

Name_____

Check box if YES

☐ 1. Free-standing cabinets, bookcases, and wall shelves are secured to structural support.

☐ 2. Heavy objects are removed from shelves above the heads of seated students.

☐ 3. Aquariums and other potentially hazardous displays are located away from seating areas.

☐ 4. The TV monitor is securely fastened to a stable platform or it is attached securely to a rolling cart with lockable wheels.

☐ 5. The classroom piano is secured against rolling during an earthquake.

☐ 6. Wall mountings are secured to prevent them from swinging free during an earthquake.

☐ 7. All hanging plants are in lightweight, unbreakable pots and fastened to closed hooks.

Quake-Safe Home Checklist

Name_____

- ☐ 1. Place beds so that they are not next to large windows.
- ☐ 2. Place beds so that they are not right below hanging lights.
- ☐ 3. Place beds so that they are not right below heavy mirrors.
- ☐ 4. Place beds so that they are not right below framed pictures.
- ☐ 5. Place beds so that they are not right below shelves with lots of things that can fall.
- ☐ 6. Replace heavy lamps on bed tables with light, non-breakable lamps.
- ☐ 7. Changing hanging plants from heavy pots into lighter pots.
- ☐ 8. Used closed hooks on hanging plants, lamps, etc.
- ☐ 9. Make sure hooks (hanging plants, lamps, etc.) are attached to studs.
- ☐ 10. Remove all heavy objects from high shelves.
- ☐ 11. Remove all breakable things from high shelves.
- ☐ 12. Replace latches such, as magnetic touch latches on cabinets, with latches that will hold during an earthquake.
- ☐ 13. Take glass bottles out of medicine cabinets and put on lower shelves.
  (PARENT NOTE: If there are small children around, make sure you use child-proof latches when you move things to lower shelves.)
- ☐ 14. Remove glass containers that are around the bathtub.
- ☐ 15. Move materials that can easily catch fire so they are not close to heat sources.
- ☐ 16. Attach water heater to the studs of the nearest wall.
- ☐ 17. Move heavy objects away from exit routes in your house.
- ☐ 18. Block wheeled objects so they cannot roll.
- ☐ 19. Attach tall furniture such as bookshelves to studs in walls.
- ☐ 20. Use flexible connectors where gas lines meet appliances such as stoves, water heaters, and dryers.
- ☐ 21. Attach heavy appliances such as refrigerators to studs in walls.
- ☐ 22. Nail plywood to ceiling joists to protect people from chimney bricks that could fall through the ceiling.
- ☐ 23. Make sure heavy mirrors/pictures are well fastened to walls.
- ☐ 24. Make sure air conditioners are well braced.
- ☐ 25. Make sure all roof tiles are secured.
- ☐ 26. Brace outside chimney.
- ☐ 27. Bolt house to the foundation.
- ☐ 28. Remove dead or diseased tree limbs that could fall on the house.