OBJECTIVES

To train students and teachers and to test the various elements of your response plan in order to evaluate and revise it.

During a damaging earthquake, life-protecting actions must be taken immediately. There will not be time to decide what to do next; everyone must already know how to react appropriately. After an earthquake, further life-protecting actions such as emergency evacuation or first aid administration may be necessary; well-trained staff and students will guarantee that these crucial steps are taken as quickly as possible.

Earthquake drills and exercises are an extremely important part of your preparedness plan because they 1) teach students, staff and parents how to respond to the complications of an actual earthquake, and 2) help you evaluate how well all parts of your emergency plan work together, and how well your staff and students have been trained.

"I think drills are one of the most important parts of an earthquake plan. They allow you to see how well things operate and to correct any problems. When an earthquake happens it is too late to discover that parts of your plan may not work."

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**KEEP IN MIND**

- Plans are of **ABSOLUTELY NO USE** if they aren't **known** to everyone; students, staff and parents.

- **Plans must be exercised** periodically to refresh memories and educate newcomers.

- The preliminaries to, and components of, earthquake drills are:
  - Understanding of earthquake dynamics and potential damages--pictures and tapes illustrating damages are useful in educating students and staff; both structural and nonstructural (glass, bookcases, ceiling tiles, light fixtures) damages should be discussed.
  
  - Demonstrations of ways to:
    
    * duck, cover and hold protect head and body if no cover available
    * deal with resultant hazards (fire, injuries)
    * evacuate the building.

  - Discussions of response plan goals and design--If all students and staff know why they are taking a particular step, they are more apt to do it with speed and commitment.

  - Tests of parts of the plan -- duck and cover drills, for example.

  - Full-scale earthquake response exercise -- once or twice a year.
• Evaluation of the drills and exercises -- you will learn something from every drill or exercise, so make sure your plans get changed to reflect the wisdom of experience.

• You must construct your own drills to take into account the particular circumstances in your school, with your students and personnel.

**ACTIVITIES**

1. Teachers -- Plan and carry out drills in your own classroom. Those presented in *Duck and Cover Scenario* and *Suggested Activities and Drills* are good examples of the kinds of activities that are helpful.

2. Administrators -- Use the suggestions in *Drill Preparations* and *Checklist for Developing an Evacuation Plan* to determine what steps need to be taken and in what order.

3. Following the suggestions in *Drill Preparations*, develop a scenario that will test the various parts of your response plan. Utilize aspects presented in the attached *Duck and Cover Scenario, Suggested Activities and Drills*, and the *Evacuation Checklist*.

4. Test the total emergency response plan as a "walk through" exercise, with each team discussing its individual responsibilities. Use the *Team Tasks Checklist Drill Evaluation Form* to assess the drill and adjust it.

5. Test your plan in a total simulation drill using the scenario you have developed. Request evaluation assistance from your local fire department, Office of Emergency Services, or school district office.
"We had many parents tell us afterwards (after October 17, 1989), that their children were telling them what to do--get under a table, duck and cover, stay down. The children were actually able to reassure the parents because they had been trained. In fact the children had been trained well enough that they knew it was important to turn off the gas, water and electricity, and they were telling their parents to do so."

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DRILL PREPARATIONS FOR PLANNERS AND/OR ADMINISTRATORS

1) After constituting special terms to deal with emergency response and preparations (see Section 3), hold a special meeting with each team to discuss its responsibilities and recommended preparations:

- Planning -- oversee whole process
- Administrator/EOC -- coordinate response
- Teachers -- deal with students (determine which teachers, if any, will be relieved of classroom duties to serve on other teams)
- First Aid -- maintaining medical kits and knowing procedures
- Search and Rescue -- maintaining tools and knowing procedures
- Site Security -- direct police, medical and fire personnel to places within building; close off building if necessary
- Fire Safety -- special fire patrol; gas shutoff; maintain equipment
- Evacuation -- assess situation in evacuation area and organize evacuation to it
- Maintenance -- maintain food and water supplies, sanitation supplies, shelter provisions
- Other special teams -- for example, bus drivers, counselors or communications

2) Discuss with all teams the plan's overall goals and purposes:

a) Let the purpose of each part of the emergency plan (preparedness, emergency response, evacuation) determine what a specific drill's goals should be.

b) Decide which kinds of drills can best test the goals.

c) List five main objectives of each drill (for example: reaction time, coordination, communication, training).

d) Decide criteria for success and/or revision of plan's parts.
3) Explain the different kinds of drills and their goals:
   a) Duck, cover and hold--in which everybody gets under a desk or table for
      60 seconds and holds on to it.
   b) Evacuation--in which only that response is tested.
   c) "Walk through"--in which actions and responsibilities of each
      team are discussed by all and coordinated.
   d) "Shock"--in which first aid response to injuries is tested.
   e) Full Scale--actual field test of a complete plan during a simulated
      earthquake.

4) Discuss and determine procedures for evacuating building:
   See the Checklist for Developing and Evaluating an Evacuation
   Plan (next page).

5) Plan for the unexpected--generate alternative procedures for each of your
   steps:
   • Key personnel get injured or killed.
   • Power fails.
   • Water pumps stop or water lines break.
   • Evacuation routes get blocked.
   • Aftershocks further damage precarious structures or nonstructural
     elements.
   • There could be fire.
   • Injured people can't move.
   • Communications equipment doesn't work.
   • The earthquake hits while students are on buses.
   • Classroom door(s) jam closed.

6) Build evaluation into your procedures. Specify all the goals you want to
   accomplish and then give yourself a checklist (or use the Team Tasks
   Checklist) so you can assess the drill and change areas that need
   improvement.
CHECKLIST FOR DEVELOPING AND EVALUATING AN EVACUATION PLAN

A. **Organization**--provision is made, and responsibility assigned, for the following functions:
   - Determining optimum evacuation routes--can be the same as fire routes, but need not be.
   - Informing everyone in the building about the evacuation routes and assembly area(s).
   - Assessing the safety of the emergency assembly area.
   - Clearing the evacuation route or designating another.
   - Ordering evacuation.
   - Communicating order to others.
   - Assisting in evacuation.
   - Helping special needs students.
   - Accounting for all students and staff.
   - Shutting down utilities and equipment.
   - Securing the facility and presiding over the release of students.
   - Keeping records of decisions made and students released.
   - Announcing facility re-entry or another plan.

B. **Emergency Situation**--during an earthquake, everybody does only one thing: DUCK, COVER AND HOLD.

C. **Evacuation Orders**--consideration must be given to the following:
   - Evacuation should never be automatic.
   - You should draw up criteria to help determine when not to evacuate.
   - There are degrees of evacuation--know when each is called for:
     - partial
     - complete
   - Procedures for communicating the order should be clear to everyone.
• Ways to communicate other information back to the EOC should also be clear.

D. Evacuation Process--the following must be done:
• All areas searched and all people accounted for.
• Evacuation routes and reception area(s) checked out.
• Determination made that evacuation is definitely indicated.
• Evacuation instructions developed and communicated.
• All able-bodied students and staff evacuated.
• All disabled students and staff helped by someone.

E. Assembly and Accountability--you must have a system and team to:
• Account for everyone.
• Report roll call results to EOC.
• Determine who is in most need of medical aid.
• Communicate first aid and rescue needs to internal and external medical and rescue crews.

F. Securing the Facility--there should be a system and team for:
• Checking the safety of the facility.
• Reporting all findings to the EOC.
• Closing all but one door of the school. (Locked doors must be able to be opened from inside to prevent entrapment.)
• Monitoring release of students to parents or others.
• Liaison with outside helping agencies.

G. Conclusion of Evacuation--you must have a system for deciding to:
• Terminate the evacuation order.
• Coordinate a return to the facility OR
• Issue an order to release all the children as soon as possible (or transfer them to an alternative site and leave the grounds completely).


DUCK, COVER AND HOLD SCENARIO

To set the scene for a duck and cover drill, the teacher reads this to the class. The class members do what is called for by the teacher as he or she reads. The class knows how to take cover because they have seen the illustrated directions. (See page 6-17.)

Imagine that you hear a low, rumbling or roaring sound. The noise builds, getting louder and louder, for about ten seconds. Then WHAM! there's a terrific jolt. You feel like someone suddenly slammed on the brakes in the car, or like a truck just rammed into the side of the building.

You hear someone say, "EARTHQUAKE, DROP AND COVER!". The floor seems to be moving beneath you. It's hard to stand up or even stay in your seat.

You take cover under your desk as quickly and quietly as possible. You listen very carefully to what the teacher is saying.

The shaking and commotion can last as long as 60 seconds. We'll have a timer person count off the seconds for as long as the earthquake shaking lasts. [The timer begins counting softly.]

The building is creaking and rattling. Books are failing from the bookcase. Hanging light fixtures and plants are swaying. Suddenly a pot falls to the floor and smashes. Your desk begins to slide a little too.

Be sure to stay in the covered position under your desk and hold on to the legs so that the desk cannot slide away from you.

You hear noises outside. Dogs are barking, cats are meowing, a baby is crying. People are shouting and screaming. The shaking is making some
distant church bells ring. You hear crashing sounds from brick chimney’s and other loose building parts falling to the ground. Trees are swaying and scraping against each other and buildings.

Then there's silence. The shaking stops and the rooms grows quiet. *[The timer can stop counting now.]*

"Please, everyone, GET BACK IN YOUR SEATS." It is important to sit quietly now and wait for instructions about what to do next. If it is safe to leave the building and evacuation is ordered by the principal, I will lead you outside to a safe place. Prepare to take cover again at any second if an aftershock strikes and the shaking starts again.

Look around and see if everyone around you is OK or if anyone seems to be hurt. Tell me if anyone is hurt.
SUGGESTED ACTIVITIES AND DRILLS FOR TEACHERS

I. Drop and Cover Drill

Review classroom earthquake drill procedures with students and have them practice the drop, cover and hold routine. You may do the drill with or without the simulation script.

II. Evacuation Drill

Walk the class through the designated earthquake evacuation route(s) to the appointed reception area(s) outdoors. Ask students to make mental notes, as they go along, of things that might become hazards during an earthquake. When you reach the designated site, talk about what they noticed or hazards they thought of. A list of such hazards is below:

- power failure (is there emergency lighting?)
- halls or stairways cluttered with debris--ceiling tiles or plaster from walls
- halls blocked by fallen lockers or trophy cabinets
- smoke in the hallway
- exit doors and windows that jam and will not open
- aftershocks could hit while they're evacuating (in which case, students drop and cover where they are)
- bricks, glass and debris piled up, outside electrical wires on the ground

When you return to the classroom, discuss with the students how the hazards could be reduced, and/or how they could cope with them if they happened.
III. Safety Considerations

Explain to the class that if there is a strong earthquake, each student's first responsibility is for his or her own personal safety. Every student should learn, however, how to help someone else who is injured. Present some "what if" questions to provoke discussion.

- What if the teacher is injured?
- What if a student if cut by shattered glass and is bleeding?
- What if someone is hit by a falling light fixture or heavy object and knocked out?
- What if a student is very upset by the earthquake?

IV. Emotional Considerations

Lead a discussion with the students about the reactions they may have to an earthquake. Mention that it is normal to feel very frightened, worried, or even physically sick. Some people respond to the fear by crying and some by laughing. Have the students talk about what they can do after an earthquake to help themselves and their classmates feel less scared and worried.

It may take a long time for parents or caretakers to get to the school, so everyone should be prepared to wait patiently. Students may be very concerned about their parents or siblings; they may in fact be "worried sick". Have students discuss what they can do to help each other pass the time and not worry so much. Point out that if their family has made an earthquake plan, they will have a better idea of what to expect from each family member.
V. Teacher Reminders

A. Duck and Cover

• take cover yourself
• consider special needs students
• talk calmly to the students
• stay covered at least 60 seconds
• give instructions for what to do after the shaking stops

B. When No Cover is Available

• move to an inside wall kneel
• next to wall, facing away from windows
• cover head and neck with hands and elbows; if coats are available, cover heads with them to protect from glass

C. When Outside

• stay outside
• take cover in an open area away from falling hazards
• talk calmly and give instructions

D. If in Bus or Car

• driver should stop as quickly as possible
• park away from buildings, highway overpasses, power poles, trees
• passengers should stay in vehicle and duck and cover as well as possible there
TEAM TASKS CHECKLIST
(for drill evaluation)

A. Planning Committee
   • monitored work of other teams?
   • noted areas for change and improvement?

B. Principal/Administrator
   • were all students and staff familiar with duck and cover?
   • were all teachers, staff and students accounted for?
   • were internal and external communications controlled?
   • was a record of events and decisions kept?
   • did teachers take cover during the drill?
   • did teachers remain calm and reassure students?
   • were special needs students provided cover?
   • was the decision to evacuate (or not) made by using the established criteria?
   • did teachers remember to take class rosters and response checklists with them when they evacuated?

C. Instructional Staff
   • did all students duck and cover immediately?
   • is there sufficient shelter space under the desks and tables for all the students?
   • if there is no cover available, do students know how to protect themselves?
   • did everyone remain in the quake-safe position for 60 seconds?
   • did students remain quiet during evacuation?
   • did students demonstrate their ability to help each other?
D. First Aid Team
- were first aid supplies up to date and complete?
- were emergency cards and health cards up to date?
- did the team report immediately and regularly to the EOC?
- was a record kept of every treatment administered?
- were needs for further medical assistance determined and reported?

E. Search and Rescue Team
- were supplies and equipment complete and easily located?
- was every room in the building checked (visually, vocally and physically)?
- were locations of injured reported to the First Aid Team?
- were the locations of other problems reported to the EOC?
- were team members prepared to rescue mobility impaired students properly?

F. Site Security Team
- were all equipment and records ready and easily located?
- were all external gates and doors locked?
- were all locked doors capable of being opened from inside?
- was one team member stationed at the main gate/front door to deal with parents/community?
- were fire, police, medical and rescue sent to areas where they were needed?
- was the EOC constantly informed about what was going on?
- were children released only to approved parties

G. Fire Safety
- was equipment ready and easily located?
- was a systematic search for fires undertaken?
- were fires reported to the EOC and Site Security?
• were all fires controlled?
• were staff or students at risk rescued?
• were dangerous areas secured?

H. Evacuation Team
• were plans for designated emergency assembly area current?
• was emergency assembly area(s) checked to determine its safety?
• were findings communicated to the EOC?
• were necessary supplies up to date and easily located?
• assisted in evacuation process?
• took roll call and reported status of all groups to EOC?
• supervised group in the assembly area for the duration?
• were mobility impaired students evacuated effectively?

I. Maintenance Staff
• was all equipment complete and easily located?
• checked utilities immediately and minimized any danger?
• checked sanitation system and determined damages?
• reported all findings to the EOC?
• inventoried supplies available to feed students and staff?
• took whatever steps necessary to establish alternate sanitation provisions?

J. Special Teams
• did bus drivers follow correct procedures if they had children on the bus?
• did counselors begin to calm any distressed students and/or staff?.
• did communications systems (internal and external) function properly?
Drop, Cover and Hold

1. Turn away from windows.
2. Crouch under a desk or table.
3. Put both hands on the back of your neck and tuck your head down.
4. If the desk or table moves, hold the legs and move with it.