

Unit One: Disaster Preparedness

I. Unit overview, objectives and introductions

A. Unit overview

Unit one will explain what Disaster Preparedness is at the individual and household level. It will summarize the major types of hazards that exist in times of disaster and explain the concept of hazard mitigation. Emphasis will be placed preparedness at home, in the community and in the workplace.

B. . Unit objectives

1. By listening, participating and interacting in class activities, by the end of Unit One participants should be able to accurately:
 - a. Describe the types of hazards most likely to affect a home and community.
 - b. Identify steps to prepare for emergencies.
 - c. Understand the basic concept behind hazard mitigation.

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C. Introductions and Icebreaker activity

1. CERT: Putting the Pieces Together

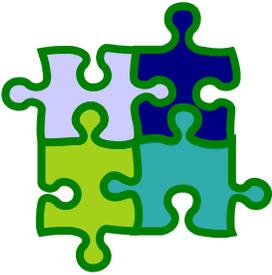
Form a group based on the classroom configuration you are in presently (based on the seating arrangements, tables, location in the room, etc.).

2. Each member of your team must participate.

3. The group has 10 minutes to have each member of your team introduce her/his self to the other members. The introduction should include a name and qualities that she/he feels will be unique and/or helpful to the group as a whole.

For example:

- Jean has great upper body strength and would be good at holding up heavy objects while another person from the group moves a victim from under the heavy object.
- Juan is a very organized person and can keep excellent records with ease.
- Mimeo recently took a Cardio Pulmonary Resuscitation (CPR) and First Aid Class from the American Red Cross. She understands how to bandage wounds and splint broken bones
- Bob is a daycare provider and is happy to watch children while parents respond to emergencies in the neighborhood.



4. Have a member or members of the group record the information everyone shares with the group.

5. Present this information to the whole classroom in 5 minutes or less. Include the whole group in the presentation (no, everyone doesn't need to present, they do have to be present).

6. The Instructor Team will be the first to present themselves as a group to the class.

7. The goal of this activity is first, to meet others in the classroom; second, to figure out how you will begin to function as a team; third, to constantly assess and reassess your aptitudes, strengths, power, talents, as well as those of others around you with whom you will form working groups.

8. The class will revisit this exercise several times during this training as each unit progresses so you can identify what else you bring to the team based on the knowledge base required of each unit.

II. Understanding Disasters

It is important that CERT trained individuals understand that a disaster is different than an emergency. Generally, an emergency, even a major emergency, can be handled by local or regional emergency management personnel. Such organizations are adequately prepared to deal with the short term and long-term demands of an emergency. An emergency may be overwhelming in a temporary sense; a disaster is quite different.

A. Defining Disaster

1. Charles Fritz a groundbreaking researcher of disasters indicates a disaster is unusual and catastrophic. A disaster is either due to accidental or hard to control events society undergoes after an incident that disrupts all or some of the essential functions of that society.¹

2. Disasters can be:

- a. Natural (high water, wind, or earth movement, etc).
- b. Cultural (technological, terrorism, choosing to live on a steep slope, living too close to water, or not planning for catastrophe, being uninsured or underinsured, etc.).

3. Regardless of the event, most disasters have several key elements in common:

- a. Lives, health, and the environment are endangered.
- b. Some are unexpected (technological or act of terrorism).
- c. Some natural disasters are more predictable (e.g. storms in the winter, flooding in the spring, etc.) many people are relatively unprepared for them.
- d. Available personnel and emergency services may be overwhelmed initially by demands for their services in the response phase of a disaster.
- e. Communities, individuals and families may take long periods of time to recover from a disaster, both physically and emotionally.

¹ Fritz, Charles E. 1961. "Disasters." Pp. 651-694 in *Contemporary Social Problems*, Robert K. Merton and Robert A. Nisbet (eds.). New York: Harcourt.

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B. The disaster response process

When a disaster occurs there is a well-thought-out and well-practiced response pattern in place for emergency managers. Details regarding professional emergency management are covered in Unit 2 of this manual and CERT organization is covered in Unit 6. The following is a brief overview of the pattern of response and recovery utilized by emergency managers. It will be the foundation of this chapter, which stresses disaster preparedness.

1. Disaster Strikes (natural or cultural)
2. Individuals and households – have supplies and plans to meet the needs of all their members. This includes shelter-in-place or evacuation, a three-day kit, and communication plans.
3. Local – First responders such as fire, police, and medical professionals work in tandem with community based organizations (such as the Red Cross, United Way or a Community Emergency Response Team) to respond to the immediate needs of the citizens. Local emergency operations centers are utilized.
4. State – Because a disaster can cause local emergency services personnel to be overwhelmed the state becomes involved. The State Emergency Operations Center will be activated and their resources will be applied based on priority need. Native American Tribes are a part of this process as well.
5. Federal – If the President approves, the Federal Emergency Management Agency will set up a joint field office in the affected region to support the response and recovery efforts of the local and state emergency services personnel.

C. It all begins with Individual Preparedness

‘Take care of yourself first or you will not be able to care for others!’

This is the phrase you will need to know and understand to succeed in this Community Emergency Response Training program. Notice in the section above that the first response comes from individuals. Whether you are at home or in public, you need to be prepared to take care of yourself during a disaster. This may be until help arrives if you are in great distress, or it may be for as long as three days if you are simply without water or power. If emergency services are overwhelmed you will need to know how to respond to the disaster on your own, and enlist the help of others!

III. Personal Preparedness for the Home

Preparedness is the key to survival in times of disaster so this section of unit one will explore how to develop and practice a disaster plan. The example utilized is for a home plan, but it can and should be adapted to your place of work as well.

A. Ask the “what if” disaster preparedness questions – A disaster plan can mean the difference between life and death during a disaster. Planning for a disaster will help you react in an organized and appropriate fashion should one happen. Test your preparedness by answering as many of the following questions as you can.

1. Where will you meet household members?
2. What route will you take out of your neighborhood if evacuation becomes necessary? Do you have an alternate route in case your route is blocked or otherwise impassable?
3. What will you take with you?
4. Where will you go?
5. What will you need to shelter in place? Do you have those items or enough of those items?

B. You should ask ‘What will I do if this happens?’ for every hazard that presents a high risk to the community you live or work in. The answers to these questions may be different depending on the hazard. You should have a plan that addresses all of these questions

C. Developing a disaster plan.

1. Contact your local emergency management office and your local chapter of The American Red Cross.
 - a) Find out which disasters are most likely to happen in your community.
 - b) Ask how you would be warned.
 - c) Find out how to prepare for each type of disaster.

Personal preparedness for the home continued

2. Meet with members of your household
 - a) Discuss the types of disasters that could occur.
 - b) Explain how to prepare and respond.
 - c) Discuss what to do if advised to evacuate.
 - d) Practice what you have discussed.
3. Plan how your household will stay in contact if separated by disaster.
 - a) Pick two meeting places:
 - A location a safe distance from your home in case of fire.
 - A place outside your neighborhood in case you can not return home.
 - b) Choose someone out-of-state as a 'check-in contact' for all to call.
4. Complete the following steps.
 - a) Post emergency telephone numbers by every phone.
 - b) Show responsible household members how and when to shut off water, gas, and electricity at main switches.
 - c) Install a smoke alarm on each level of your home, especially near bedrooms; test them monthly and change the batteries two times each year. Change batteries when you change your clocks in the spring and fall.
5. Contact your local fire department to learn about home fire hazards.
6. Learn first aid and CPR. Contact your local chapter of The American Red Cross for information and training.
7. Meet with your neighbors and get to know them.
 - a) Plan how the neighborhood could work together after a disaster.

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Personal preparedness for the home continued

- b) Know your neighbors' skills (medical, technical). Share your skills with them as well.
- c) Consider how you could help neighbors who have special needs, such as elderly or disabled persons.
- d) Make plans for childcare in case parents can not get home.

H. Escape Planning

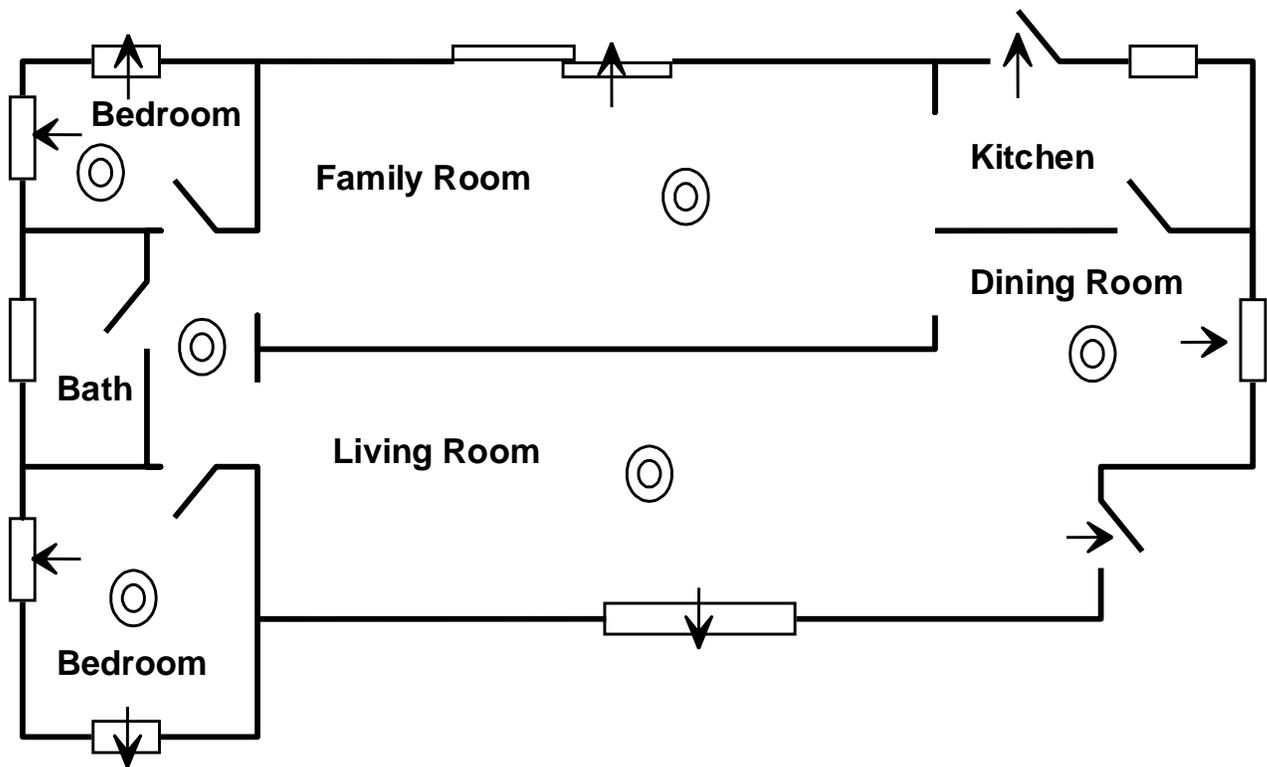
1. Develop an escape plan that provides for escape from every room. As part of your escape plan:

- a) Consider the needs of children and physically challenged individuals.
- b) Involve all household members in the plan and practice drill.
- c) Conduct practice escape drills.

An example of an escape plan is shown in the figure that follows.

Unit One: Disaster Preparedness Visual One: Sample Household Escape Plan

This is an example of a household escape plan with arrows showing an escape route from every room in the home. There are smoke detectors in every room. There is a meeting place outside and away from the home.



☉ Smoke Detector
➔ Escape Routes

Meet Here



IV. Assembling and Storing a Disaster Supply Kit

A. You can cope best by preparing for disaster before it strikes. One way to prepare is by assembling a Disaster Supply Kit. After disaster strikes, you won't have time to shop or search for supplies. But if you've gathered supplies in advance, you and your family can endure an evacuation or home confinement. ***Items marked with an asterisk are recommended for evacuation.** The disaster supplies included on this list is fairly complete, and you should determine the supplies that you will need for evacuation, those that you will need to shelter in place, and those that you will need for both.

1. Evacuation-only supplies such as prescription medications that are required for evacuation and shelter in place should be stored where they can be accessed quickly in an evacuation situation.

2. Shelter-in-place-only supplies such as a 3 day supply of water for each family member should be stored in an accessible location within the home or workplace.

3. Depending on the hazard and situation, the decision of whether to evacuate or shelter-in-place is not always easy. If time and location allow, you should listen to the Emergency Alert System (EAS) for instructions from emergency management professionals who are evaluating the situation.

B. To Prepare Your Kit

1. Review the checklist on the next few pages (from FEMA L-189, ARC 4463) *Your Family Disaster Supplies Kit*.
2. Gather the supplies from the list.
3. Place the supplies you're apt to need for an evacuation in an easy-to-carry container. These supplies are listed with an asterisk (*).

C. Water

1. Store water in plastic containers such as soft drink bottles. Avoid using containers that will decompose or break, such as milk cartons or glass bottles.

Disaster Preparedness

Assembling and Storing a Disaster Supply Kit continued

2. A normally active person needs to drink at least two quarts of water each day. Hot environments and intense physical activity can double that requirement. Children, nursing mothers, and ill people will need more. Store 1 gallon of water per person per day, 2 quarts for drinking, 2 quarts for food preparation/sanitation.*
3. Keep at least a 3-day supply of water for each person in your household.
4. If you have questions about the quality of the water, purify it before drinking. You can heat water to a rolling boil for 1 minute or use commercial purification tablets to purify the water. You can also use household liquid chlorine bleach if it is pure, unscented, 5.25% sodium hypochlorite. To purify water, use the table below as a guide:

Unit One: Disaster Preparedness Chart One: Ratios for Purifying Water with Bleach After adding bleach, shake or stir the water container and let it stand 30 minutes before drinking.	
Water Quantity	Bleach Added
1 Quart	4 Drops
1 Gallon	16 Drops
5 Gallons	1 Teaspoon

D. Food

1. Store at least a 3-day supply of nonperishable food. Select foods you normally consume that require no refrigeration, preparation, or cooking and little or no water.
2. If you must heat food, pack a can of Sterno[®] and a small cooking stove.

Disaster Preparedness

Assembling and Storing a Disaster Supply Kit continued

3. Select food items that are compact and lightweight.
4. Include a selection of the following foods in your disaster supply kit:
 - a) Ready-to-eat canned meats, fruits, and vegetables.
 - b) Canned juices, milk, soup (if powdered, store extra water).
 - c) Staples³/₄ sugar, salt, pepper.
 - d) High-energy foods³/₄ peanut butter, jelly, crackers, granola bars.
 - e) Foods for infants, elderly persons, or persons on special diets.
 - f) Comfort/stress foods³/₄ cookies, hard candy, sweetened cereals, lollipops, instant coffee, tea bags.
 - g) Food for the animals in your household.

D. Kitchen Items

1. Manual can opener.
2. Mess kits or paper cups, plates, and plastic utensils.
3. All-purpose knife.
4. Household liquid bleach to treat drinking water.
5. Sugar, salt, pepper.
6. Aluminum foil and plastic wrap.
7. Re-sealing plastic bags.

E. First Aid Kit* Assemble a first aid kit for your home and one for each car. A first aid kit should include:

1. First aid manual.
2. Sterile adhesive bandages in assorted sizes.
3. 2-inch sterile gauze pads (4-6).

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Assembling and Storing a Disaster Supply Kit continued

4. 4-inch sterile gauze pads (4-6).
5. Hypoallergenic adhesive tape.
6. Triangular bandages (3).
7. Needle.
8. Moistened towelettes.
9. Antibacterial ointment.
10. Thermometer.
11. Tongue blades (2).
12. Tube of petroleum jelly or other lubricant.
13. Assorted sizes of safety pins.
14. Cleaning agent/soap.
15. Latex gloves (2 pairs).
16. Petroleum jelly.
17. Cotton balls.
18. Sunscreen.
19. 2-inch sterile roller bandages (3 rolls).
20. 3-inch sterile roller bandages (3 rolls).
21. Scissors.
22. Tweezers.
23. Aspirin or non-aspirin pain reliever.
24. Anti-diarrhea medication.
25. Antacid (for stomach upset).
26. Syrup of Ipecac (to induce vomiting if advised by the Poison Control Center).

Disaster Preparedness

Assembling and Storing a Disaster Supply Kit continued

27. Laxatives.
28. Vitamins.
29. Activated charcoal (used if advised by the Poison Control Center).
30. Batteries for hearing aids.
31. Crutches.
32. Medicine for animals in your home.

F. Tools and Supplies

1. Mess kits, or paper cups, plates and plastic utensils*.
2. Emergency preparedness manual*.
3. Battery-operated radio and extra batteries*.
4. Flashlight and extra batteries*.
5. Fire extinguisher: small canister, ABC type.
6. Tube tent.
7. Pliers.
8. Duct tape.
9. Compass.
10. Matches in a waterproof container.
11. Aluminum foil.
12. Plastic storage containers.
13. Signal flare(s).
14. Paper, pencil.
15. Needles, thread.

Disaster Preparedness

Assembling and Storing a Disaster Supply Kit continued

16. Work gloves.
17. Medicine dropper.
18. Shutoff wrench, to turn off household gas and water.
19. Whistle.
20. Plastic sheeting.
21. Kennels for household animals (service animals are permitted in human shelters, however, pets are not).

G. Sanitation

1. Toilet paper.
2. Towelettes*.
3. Soap, liquid detergent*.
4. Feminine supplies*.
5. Personal hygiene items*.
6. Plastic garbage bags, ties (for personal sanitation uses).
7. Plastic bucket with tight lid.
8. Disinfectant.
9. Household chlorine bleach.

H. Clothing and Bedding

1. Include at least one complete change of clothing and footwear per person.
2. Sturdy shoes or work boots*.
3. Rain gear*.
4. Blankets or sleeping bags*.

Disaster Preparedness

Assembling and Storing a Disaster Supply Kit continued

5. Hat and gloves*.
6. Thermal underwear*.
7. Sunglasses*.

I. Household Documents and Contact Numbers

1. Personal identification, cash (including change) or traveler's checks and a credit card.
2. Copies of important documents: birth certificates, marriage certificate, driver's license, social security cards, passport, wills, deeds, inventory of household goods, insurance papers, immunizations records, bank and credit card account numbers, stocks and bonds. Be sure to store these in a watertight container.
3. Emergency contact list and phone numbers.
4. Map of the area and phone numbers of places you could go.
5. An extra set of car keys and house keys.

J. Special Items - Remember family members with special needs.

1. For Baby*
 - a) Formula.
 - b) Diapers.
 - c) Bottles.
 - d) Powdered milk.
 - e) Medications.
2. For Adults*
 - a) Specific medications and health aids.

Disaster Preparedness

Assembling and Storing a Disaster Supply Kit continued

- b) Insulin.
- c) Prescription drugs (including oxygen).
- d) Denture needs.
- e) Contact lenses and supplies.
- f) Extra eye glasses.
- g) Entertainment^¾ games and books.
- h) A way to keep medicine cold if needed.

3) Important Family Documents ^¾ keep these records in a waterproof, portable container

- a) Will, insurance policies, contracts, deeds, stocks and bonds.
- b) Passports, social security cards, immunization records.
- c) Bank account numbers.
- d) Credit card account numbers and companies.
- e) Inventory of valuable household goods.
- f) Important telephone numbers.

V. Structural and Nonstructural Hazards and Mitigation

A. Shutting off or raising utilities is one way to reduce—or mitigate—a hazard before a disaster occurs. Shutting off utilities is one way to mitigate a hazard immediately after a disaster. See the three visual images at the end of this unit that explain how to shut off utilities.

B. The mitigation steps that one should take before and immediately after a disaster depend on the hazard and type of structure. This topic will deal with types of structures and the hazards related to each. Safety precautions, including hazard mitigation for structural and nonstructural hazards, will be covered next.

C. Hazards Related to Structure Type

1. You might not have an opportunity to select the type of structure that you are in when a disaster occurs. It is important to know what type of damage to expect from the main types of structures in the community.

2. Engineered buildings, such as most high-rise buildings, have performed well in most types of disasters. During earthquakes and high-wind events (e.g., tornadoes, hurricanes), older high-rise buildings, however, are more susceptible to damage from:

a) Broken glass.

b) Falling panels.

c) Collapsing walkways and stairways and non-functioning elevators.

3. Age, type of construction, and type of disaster are major factors in potential damage to homes and garages.

a) Based on local building codes and enforcement, some homes are not bolted to the foundation, making them subject to being shaken, blown, or floated off their foundations.

b) Older homes constructed of unreinforced brick are less stable than newer construction.

c) Following an event in which a structure has been damaged, there is a threat of additional damage, such as fire from ruptured gas lines.

Disaster Preparedness

Structural and Nonstructural Hazards continued

c) Mobility and communication systems can be impacted (e.g. ramps, communication systems that alert people using lights or sounds, alarm systems, elevators) leaving people stranded or uninformed.

5. Mobile homes are most susceptible to damage because they are easily displaced. When displacement occurs, structural integrity becomes questionable, and utility connections are easily damaged, increasing the risk of fire and electric shock.

6. Malls, sports arenas, airports, places of worship, and other places with long roof spans also may pose hazards in some types of disasters. For example:

a) Strip shopping centers pose a threat from collapse and broken glass.

b) Warehouse-type structures may also collapse.

D. Nonstructural Hazards. There is also risk in all types of structures from nonstructural hazards. Everyone has hazards in their homes or workplaces. Fixtures and items within a home, garage, or workplace can pose a hazard during or after a disaster. Some of the hazards include:

1. Gas line ruptures from water heaters or ranges displaced by shaking, water, or wind.
2. Damage from falling books, dishes, or other cabinet contents.
3. Risk of injury or electric shock from displaced appliances and office equipment.
4. Fire from faulty wiring, overloaded plugs, frayed electrical cords.
5. Electric based oxygen and respirator systems fail.

E. There are relatively simple measures that individuals can take to alleviate many home and workplace hazards. Consider the precautions against structural and nonstructural hazards covered in Unit One Chart Two found on the next page (page 19).

Disaster Preparedness

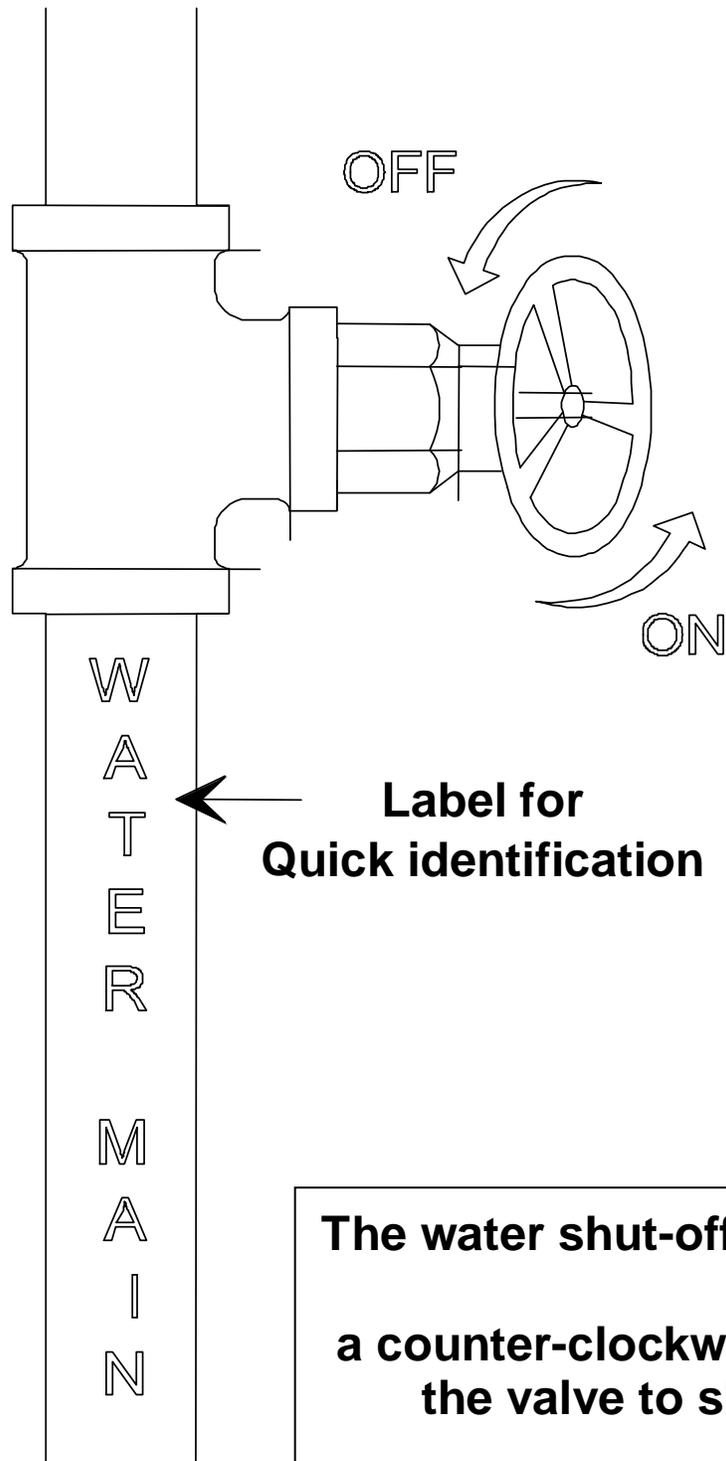
Unit One: Disaster Preparedness	
Chart Two: Precautions Against Structural and Nonstructural Hazards	
Type of Hazard	Sample Precautions
Structural	<ul style="list-style-type: none"> § Bolt older houses to the foundation. § Strap propane tanks. § Raise utilities (above the level of flood risk). § Strap mobile homes to their concrete pads. § Ask a professional to check the foundation, roof connectors, chimney, etc. § Install working ramps (alternative to elevators)
Nonstructural	<ul style="list-style-type: none"> § Anchor furniture that is taller than waist high, such as bookshelves, hutches and grandfather clocks, to the wall. § Secure appliances and office equipment in place with industrial-strength Velcro[®]. § Secure cabinet doors with childproof fasteners. § Locate and label shutoffs for gas, electricity, and water before disasters occur. After a disaster, shut off the utilities as needed to prevent fires and other risks. Store a shutoff wrench where it will be immediately available. § Secure water heaters to the wall to safeguard against a ruptured gas line or loose electrical wires.

1. A good resource is the FEMA publication *Talking About Disasters*.
2. Additional information that is more in depth can be found on the website: www.fema.gov/rrr/talkdiz/.
3. The following are suggestions to mitigate nonstructural hazards:
 - a) Home Fires: Make sure that burglar bars and locks on outside window entries are easy to open.
 - b) Landslides/Mudslides: Install flexible pipe fittings to avoid gas or water leaks. Flexible fittings are more resistant to breakage.
 - c) Wildfires: Avoid using wooden shakes and shingles for roofing. Clear all flammable vegetation at least 30 feet from the home. Remove vines from the walls of the home. Place propane tanks at

Unit One: Disaster Preparedness
Visual Two: Water Shut-Off

Stack firewood at

Water Shut-Off



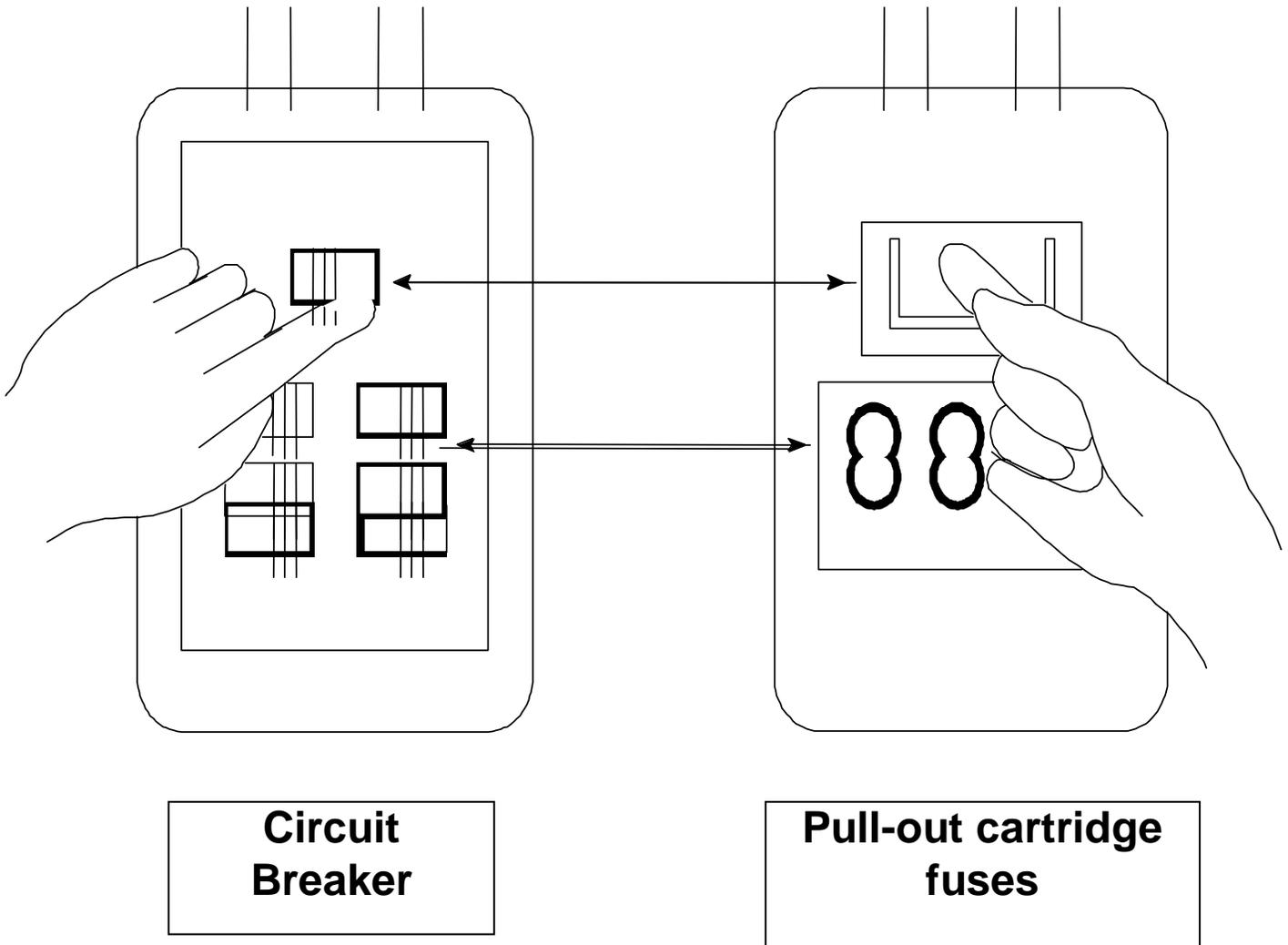
The water shut-off indicates:

**a counter-clockwise turn of
the valve to shut off**

and clockwise turn

Unit One: Disaster Preparedness
Visual Three: Electrical Shut-Off Procedure

Electrical Shut-Off

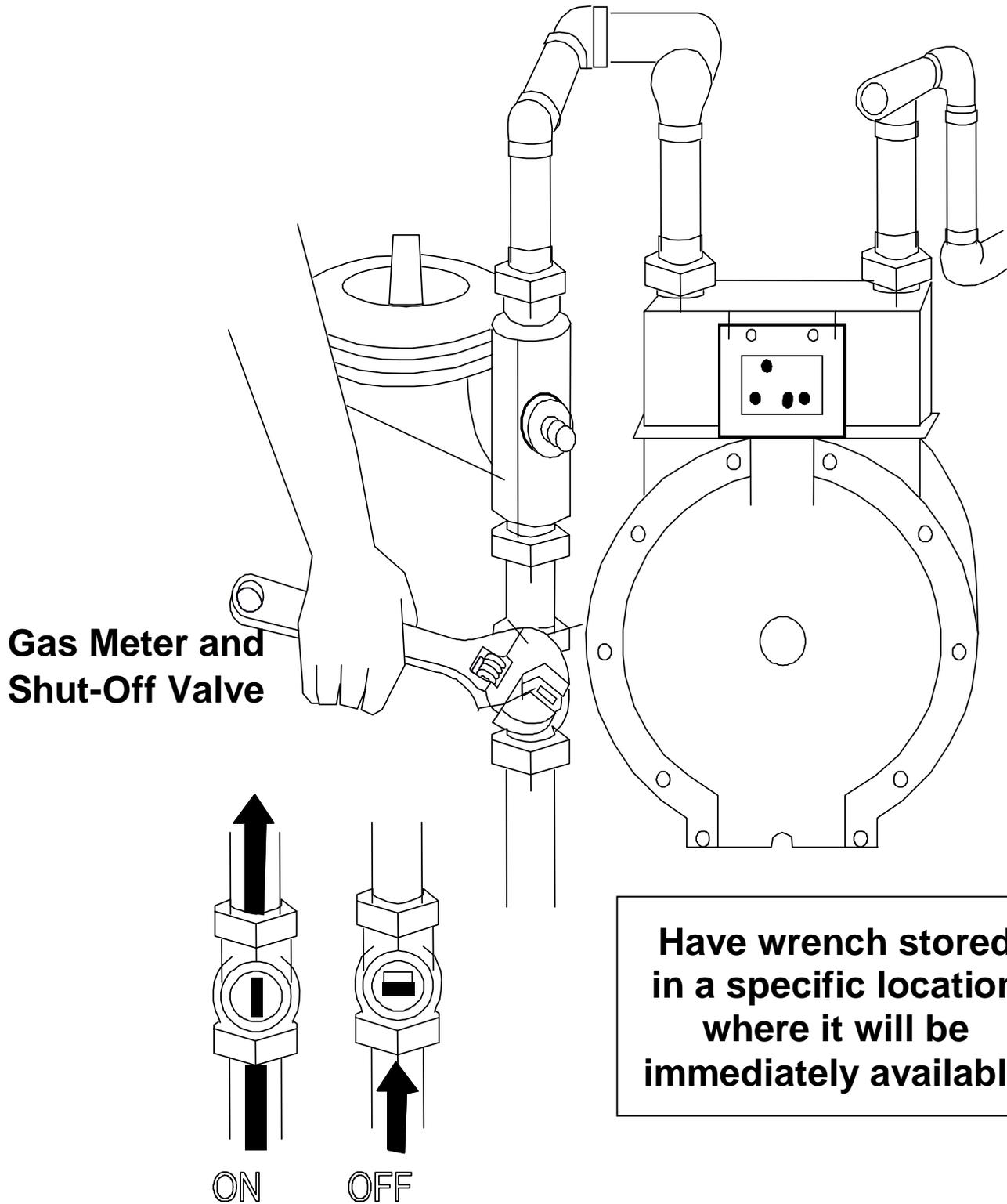


The electrical shut-off procedure shows both a circuit box and a fuse box and shows two steps.

Step 1 is to shut off the main circuit (or main fuse switch).

Step 2 is to turn off all individual breakers (or unscrew fuses).

Gas Meter and Shut-Off Valve



**Have wrench stored
in a specific location
where it will be
immediately available**

NEXT . . .

1. If your CERT class continues on the same day, take your break and return to this classroom.
2. If your CERT class continues on another day (next week or next month) Your **Homework Assignment** is to read Unit Two: Understanding Emergency Management.

End of Unit One