UNIT 2: FIRE SAFETY AND UTILITY CONTROLS

In this unit you will learn about:

- **Fire Chemistry:** How fire occurs, classes of fire, and choosing the correct means to extinguish each type of fire.

- **Fire and Utility Hazards:** Potential fire and utility hazards in the home and workplace, and fire prevention strategies

- **CERT Sizeup:** How to conduct the continual data-gathering and evaluation process at the scene of a disaster or emergency

- **Fire Sizeup Considerations:** How to evaluate fires, assess firefighting resources, and determine a course of action

- **Portable Fire Extinguishers:** Types of portable fire extinguishers and how to operate them

- **Fire Suppression Safety:** How to decide if you should attempt to extinguish a fire; how to approach and extinguish a fire safely

- **Hazardous Materials:** How to identify potentially dangerous materials in storage, in transit, and in your home

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OBJECTIVES	At the conclusion of this unit, the participants should be able to:

- Explain the role of CERTs in fire safety.
- Identify and reduce potential fire and utility risks in the home and workplace.
- Know the nine steps of the CERT sizeup process.
- Conduct a basic sizeup for a fire emergency.
- Operate a portable fire extinguisher correctly.
- Understand minimum safety precautions, including safety equipment, utility control, buddy system, and backup teams.
- Identify the locations of hazardous materials in the community and home and reduce the risk from hazardous materials in the home.
- Extinguish small fires using a fire extinguisher.

SCOPE	The topics that will be discussed in this unit are:

- Introduction and Unit Overview
- Fire Chemistry
- Fire and Utility Hazards
- CERT Sizeup
- Fire Sizeup Considerations
- Firefighting Resources
- Fire Suppression Safety
- Hazardous Materials
- Exercise: Suppressing Small Fires
- Unit Summary

ESTIMATED COMPLETION TIME	2 hours 30 minutes

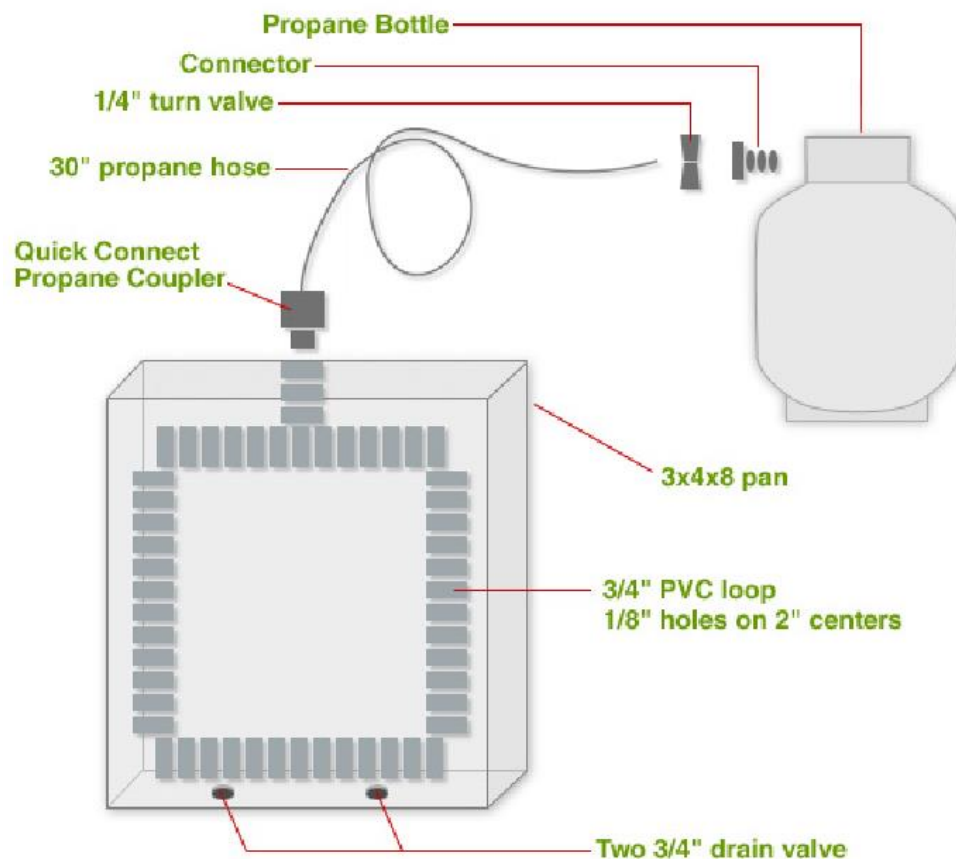|	
TRAINING METHODS	As an introduction to fire safety, the instructor will describe fire chemistry and the classes of fire, emphasizing the importance of selecting the correct methods or agent for fire safety.
	Then, the instructor will present an overview of hazards in the home and workplace, including electrical hazards, natural gas hazards, and flammable and combustible liquids, and lead a discussion of hazard mitigation and preparedness.
	The instructor will then describe CERT strategies for assessing disaster or emergency situations using the continual, 9-step sizeup process. Participants will learn fire sizeup considerations and how to use the fire sizeup checklist when conducting a sizeup for a situation involving fire.
	The next topic will be a discussion of firefighting resources, including portable fire extinguishers and creative resources such as pools, dirt or sand, and a garden hose. Emphasis will be placed on portable fire extinguishers because they will be the most common resource available to CERTs. Discussion of portable fire extinguishers will include types, extinguisher components, deciding to use a fire extinguisher, and correct extinguisher operation.
	Fire suppression safety will be the next topic. The instructor will introduce the use of fire safety equipment and will place special emphasis on firefighter safety rules, including the 5-second rule, using the buddy system and a backup team, and techniques for fighting fires (e.g., confine the fire, stay low to the ground, identify a second exit route, etc.).
	The instructor may choose to show a video at this point to reinforce the presentation on fire safety and fire extinguishers. (Video resources are included in the Equipment section below.)
	Next, the instructor will lead an interactive discussion of hazardous materials, including where they are found, placarding, storage, and defensive strategies for hazardous materials accidents.
	Finally, the unit will end with an exercise in which the participants will operate in teams of two and use a portable fire extinguisher to extinguish a gas fire.
RESOURCES REQUIRED	▪ *Community Emergency Response Team Instructor Guide* ▪ *Community Emergency Response Team Participant Manual* ▪ PowerPoint Slides 2-0 through 2-32

OTHER RESOURCES	If time permits, the 18-minute video *Fire Safety: The CERT Member's Role* is recommended for this unit. The video provides information on how to size up the fire and select the right extinguisher, as well as how to use extinguishers correctly. The video is available for download at the national CERT Web site, www.fema.gov/cert.
EQUIPMENT	In addition to the equipment listed at the front of this Instructor Guide, you will need the following equipment for this unit:

- A computer with PowerPoint software
- A computer projector and screen
- Samples of NFPA 704 Diamond and other hazardous materials placards, if possible
- One roll of cotton swabbing
- One Pyrex® jar with lid
- One box of wooden kitchen matches
- One water fire extinguisher
- One dry chemical fire extinguisher
- Portable Class A:B:C fire extinguishers (1for every 5 participants)
- Fire Pan (see page 2-5)
- Road flares and a long pole

NOTES	A suggested time plan for this unit is as follows: Introduction and Unit Overview...10 minutes Fire Chemistry ....10 minutes Fire and Utility Hazards ....15 minutes CERT Sizeup...5 minutes Fire Sizeup Considerations..5 minutes Firefighting Resources...20 minutes Fire Suppression Safety ....10 minutes Hazardous Materials..10 minutes Exercise: Suppressing Small Fires....................................60 minutes Unit Summary..5 minutes Total Time: 2 hours 30 minutes

REMARKS	Most fire extinguisher service companies will provide Class A:B:C portable extinguishers for the final activity in this unit. Contact local companies for support.

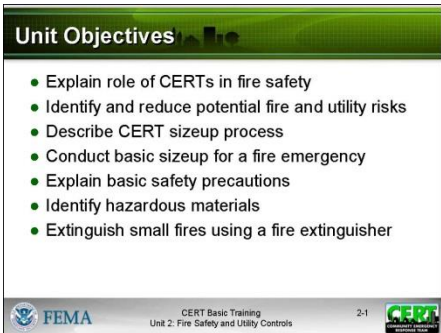|	
REMARKS (CONTINUED)	*One method for setting up this exercise is shown below. Consult your local fire department for any additional assistance required in building and operating the fire pan. Check with your State fire marshal about guidelines for open burning.*

Unit 2: Fire Safety and Utility Controls

INSTRUCTOR GUIDANCE	CONTENT

Display Slide 2-0 | ***Introduction and Unit Overview***

Welcome

Introduce this unit by welcoming the participants to Unit 2 of the *CERT Basic Training*.

Introduce any new instructors who will be assisting with this session. |
| | Briefly review Unit 1. |
|

Correct response:
Themselves. | **Whom do CERT members take care of first?** |
|

Correct responses:
Families
Homes
Neighborhoods | **After that, whom do CERT members take care of?** |

INSTRUCTOR GUIDANCE	CONTENT
Correct responses: Damage to transportation, structures, communications, utilities, water service, fuel supply, financial services	**How might a disaster impact a community's infrastructure?**
Discuss responses.	**Did you look for potential structural and non-structural hazards?** **What did you find?**
Discuss.	**How might you mitigate those hazards?**
This is a gentle reminder to participants that they should be doing these things.	**Have you started to prepare a disaster supply kit?** **Have you started to work on a disaster plan?** Introduce fire and utility safety by telling the participants that during and immediately following a severe emergency, the first priorities of professional fire services are life safety and extinguishing *major* fires. They may be hampered by impassable roads, weather conditions, inadequate water supply, and other inadequate resources.

INSTRUCTOR GUIDANCE	CONTENT
Display Slide 2-1	**Unit Objectives** Tell the participants that at the end of this unit, they should be able to: ▪ Explain the role that CERTs play in fire safety. ▪ Identify and reduce potential fire and utility risks in the home and workplace. ▪ Describe the 9-step CERT sizeup process. ▪ Conduct a basic sizeup for a fire emergency ▪ Explain minimum safety precautions, including: • Safety equipment • Utility control • Buddy system • Backup teams ▪ Identify locations of hazardous materials in the community and the home and reduce the risk from hazardous materials in the home ▪ Extinguish small fires using a fire extinguisher

INSTRUCTOR GUIDANCE	CONTENT
Unit Topics • Fire chemistry • Fire and utility hazards in the home, workplace, and neighborhood • CERT sizeup • Fire sizeup considerations • Firefighting resources • Fire suppression safety • Hazardous materials FEMA CERT Basic Training 2-2 Unit 2: Fire Safety and Utility Controls **Display Slide 2-2**	**Unit Topics** Preview the unit topics by telling the group that the unit will provide them with the knowledge and skills that they will need to reduce or eliminate fire hazards and extinguish small fires. The areas that they will learn about include: ▪ Fire chemistry ▪ Fire and utility hazards in the home, workplace, and neighborhood ▪ CERT sizeup ▪ Fire sizeup considerations ▪ Firefighting resources ▪ Fire suppression safety ▪ Hazardous materials Tell the group that, at the end of the unit, they will have an opportunity to use a portable extinguisher to put out a fire.

Role of CERTs
 	
• CERTs play very important role in fire safety by:
  ▪ Extinguishing small fires
  ▪ Preventing additional fires by removing fuel sources
  ▪ Shutting off utilities
  ▪ Assisting with evacuations, when necessary
 	
FEMA   CERT Basic Training   2-3
Unit 2: Fire Safety and Utility Controls
 	
Display Slide 2-3
	Role of CERTs
	
	Emphasize that CERTs play a very important role in fire and utility safety by:
	
	▪ <u>Extinguishing small fires</u> before they become major fires
	
	• This unit will provide training on how to use an extinguisher to put out small fires and how to recognize when a fire is too big to handle. As a general rule, if you can't put out a fire in 5 seconds, it is already too big to handle and you should leave the premises immediately.

INSTRUCTOR GUIDANCE	CONTENT
Although CERTs assist with evacuations, the procedures for conducting evacuations are not covered in this course. It is recommended that evacuation be covered in supplemental training.	▪ <u>Preventing additional fires by removing fuel sources</u> • This unit will also describe how to ensure that a fire, once extinguished, is completely extinguished and stays extinguished. This process is called overhaul. ▪ <u>Shutting off utilities</u> when necessary and safe to do so • This unit will review utility shutoff procedures taught in Unit 1. ▪ <u>Assisting with evacuations</u> where necessary • When a fire is beyond the ability of CERTs to extinguish, CERT members need to protect lives by evacuating the area and establishing a perimeter.
	CERT Priorities Stress the important role that CERTs play in neighborhood and workplace fire and utility safety. CERT members help in fire- and utility-related emergencies before professional responders arrive. When responding, CERT members should keep in mind the following CERT standards:
Display Slide 2-4	▪ Rescuer safety is <u>always</u> the number one priority. Therefore, CERT members always: • Work with a buddy • Wear safety equipment (gloves, helmet, goggles, N95 mask, and sturdy shoes or boots) ▪ **The CERT goal is to do the greatest good for the greatest number.**

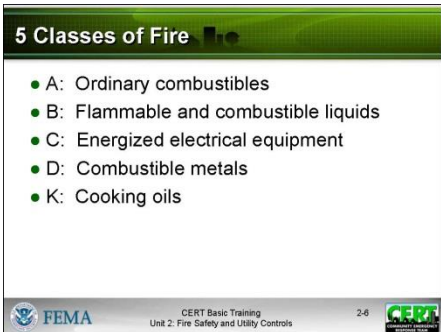| INSTRUCTOR GUIDANCE	CONTENT
    Display Slide 2-5 **PM, P. 2-4**	***Fire Chemistry*** **Does anyone know what it takes for a fire to burn?** **The Fire Triangle** If not mentioned by the participants, explain that fire requires three elements to exist: ▪ Heat: Heat is required to elevate the temperature of a material to its ignition point. ▪ Fuel: The fuel for a fire may be a solid, liquid, or gas. The type and quantity of the fuel will determine which method should be used to extinguish the fire. ▪ Oxygen: Most fires will burn vigorously in any atmosphere of at least 20 % oxygen. Without oxygen, most fuels could be heated until entirely vaporized, yet would not burn. Explain that working together, these three elements, called the *fire triangle,* create a chemical exothermic reaction, which is fire. Refer the participants to the *Fire Triangle* figure in the Participant Manual. Stress that if <u>any</u> of these elements is missing or if any is taken away, fire will not occur or will extinguish.

PM, P. 2-4	Fire Triangle
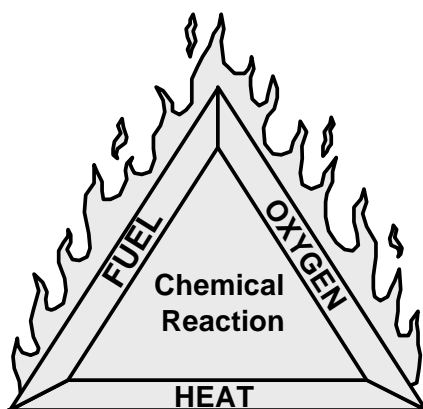
Fire Triangle: Fuel, oxygen, and heat create a chemical reaction, which causes fire.

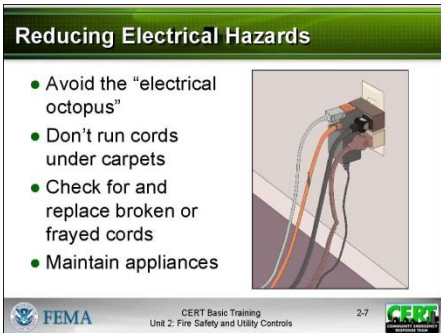| INSTRUCTOR GUIDANCE	CONTENT
Use the following steps to demonstrate the concept: 1. Ignite a rolled-up piece of cotton, place it inside a Pyrex® jar, and cover it tightly. 2. Wait until the flame goes out. 3. Remove the material from the jar and blow on it to demonstrate that, unless the fire is completely out and overhauled, adding oxygen may complete the fire triangle and rekindle the fire.	**Demonstrating the Fire Triangle** Tell the group that you will now demonstrate the concept of the fire triangle by removing the oxygen from burning cotton. Emphasize the need to ensure that every piece of burning material is completely extinguished. Tell the participants to think of Smokey the Bear and campfires to remember this point.

INSTRUCTOR GUIDANCE	CONTENT
	Classes of Fire
	Tell the participants that, to aid in extinguishing fires, fires are categorized into classes based on the type of fuel that is burning:
Display Slide 2-6	▪ Class A Fires: Ordinary combustibles such as paper, cloth, wood, rubber, and many plastics
	▪ Class B Fires: Flammable liquids (e.g., oils, gasoline) and combustible liquids (e.g., charcoal lighter fluid, kerosene). These fuels burn only at the surface because oxygen cannot penetrate the depth of the fluid. Only the vapor burns when ignited.
Reemphasize the need to overhaul Class A fires (i.e., ensure that every piece of burning material is completely extinguished).	▪ Class C Fires: Energized electrical equipment (e.g., wiring, motors). When the electricity is turned off, the fire becomes a Class A fire.
	▪ Class D Fires: Combustible metals (e.g., aluminum, magnesium, titanium)
	▪ Class K Fires: Cooking oils (e.g., vegetable oils, animal oils, fats)
	Stress that it is extremely important to identify the type of fuel feeding the fire to select the correct method and agent for extinguishing the fire.
	Does anyone have any questions about fire chemistry?

INSTRUCTOR GUIDANCE	CONTENT
	Fire and Utility Hazards
	Explain that this section will deal with identifying and preventing fire and utility hazards in the home and workplace.
	What are potential fire and utility hazards in homes or workplaces?
	Allow the group time to respond. Provide suggestions of additional potential fire and utility hazards.
	What measures have you taken to mitigate or prevent the hazards?
	Use the participants' responses to make the following points:
	▪ Each of us has some type of fire or utility hazard in our home and workplace.
	▪ Most of these hazards fall into three categories:
	• Electrical hazards
	• Natural gas hazards
	• Flammable or combustible liquids
	Point out that homes and workplaces can and do have other hazards, including incompatible materials stored in close proximity to each other, such as flammables/combustibles, corrosives, compressed gases, and explosives.

| INSTRUCTOR GUIDANCE	CONTENT
	Explain that simple fire prevention measures will help reduce the likelihood of fires:
	▪ First, *locate* potential sources of ignition.
	▪ Then, do what you can to *reduce or eliminate* the hazards.
Display Slide 2-7	**Electrical Hazards** Provide the group with examples of common electrical hazards and simple ways that they can be reduced or eliminated: ▪ Avoid the "electrical octopus." Eliminate tangles of electrical cords. Don't overload electrical outlets. Don't plug power strips into other power strips. ▪ Don't run electrical cords under carpets. ▪ Check for and replace broken or frayed cords immediately. ▪ Maintain electrical appliances properly. Repair or replace malfunctioning appliances.

INSTRUCTOR GUIDANCE	CONTENT
Display Slide 2-8 Check with a representative from the local utility company regarding local utility protocols. Obtain or develop training models of fuse and breaker boxes to allow demonstrations and hands-on practice. Depending on your location, you may also choose to cover propane gas shutoffs. **PM, P. 2-8**	**Responding to Electrical Emergencies** Point out that electrical emergencies sometimes occur despite our best efforts. Every member of the household should be aware of the following procedures in the event of an electrical emergency: ▪ Locate the circuit breakers or fuses, and know how to shut off the power. Post shutoff instructions next to the breaker box or fuse box. ▪ Unscrew individual fuses or switch off smaller breakers first, then pull the main switch or breaker. ▪ When turning the power back on, turn on the main switch or breaker first, then screw in the fuses or switch on the smaller breakers, one at a time. Stress that the participants should <u>not</u> enter a flooded basement or standing water to shut off the electrical supply because water conducts electricity. Refer the participants to the figures *Circuit Box and Fuse Box* in the Participant Manual.
Display Slide 2-9	

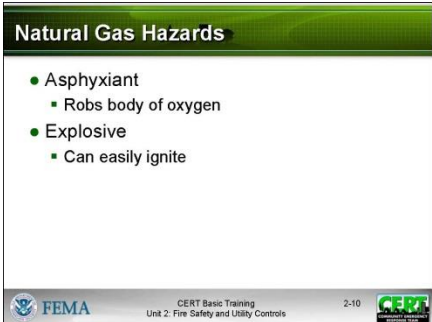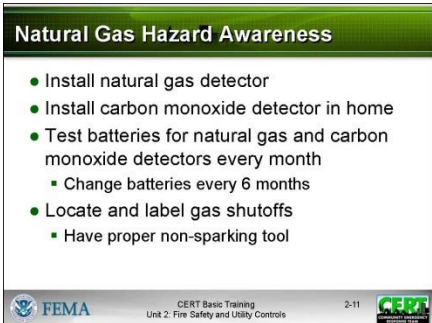| PM, P. 2-8	Circuit Box and Fuse Box

Circuit Box With Shutoff
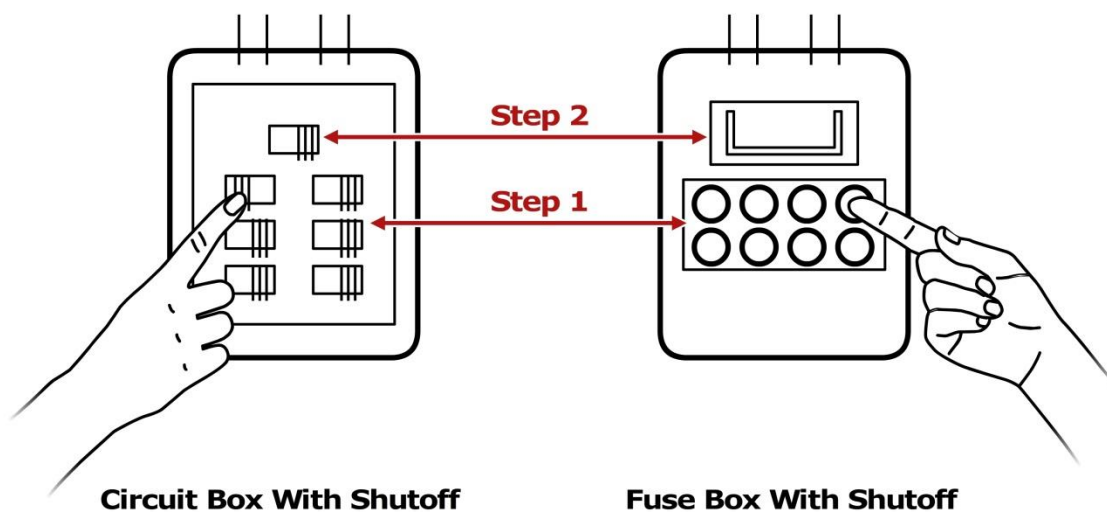
Circuit box showing shutoff steps.
Step 1: Shut off individual breakers.
Step 2: Shut off main breaker.

Fuse Box With Shutoff

Fuse box showing shutoff steps.
Step 1: Pull out individual fuses.
Step 2: Pull out main fuse.

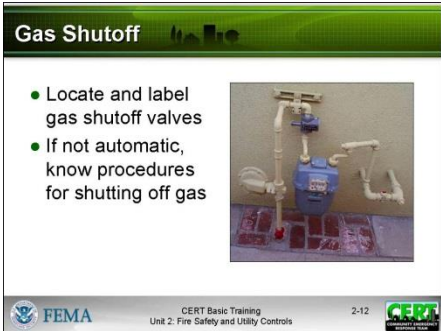| INSTRUCTOR GUIDANCE	CONTENT

Natural Gas Hazards slide
 	
Natural Gas Hazards
● Asphyxiant
  ▪ Robs body of oxygen
● Explosive
  ▪ Can easily ignite
 	
FEMA CERT Basic Training 2-10
Unit 2: Fire Safety and Utility Controls
 	
Display Slide 2-10
	Natural Gas Hazards
	
	Explain that natural gas presents two types of hazards. It is an:
	
	▪ <u>Asphyxiant</u> that robs the body of oxygen
	
	▪ <u>Explosive</u> that can easily ignite

Natural Gas Hazard Awareness slide
 	
Natural Gas Hazard Awareness
● Install natural gas detector
● Install carbon monoxide detector in home
● Test batteries for natural gas and carbon monoxide detectors every month
  ▪ Change batteries every 6 months
● Locate and label gas shutoffs
  ▪ Have proper non-sparking tool
 	
FEMA CERT Basic Training 2-11
Unit 2: Fire Safety and Utility Controls
 	
Display Slide 2-11
	Natural Gas Hazard Awareness
	Provide the participants with several examples for monitoring natural gas hazards:
	
	▪ As with smoke alarms that need to be strategically placed in your home, e.g., on every level of the home and near all sleeping areas, install a natural gas detector near the furnace, hot water tank, and gas appliances such as clothes dryer or stove. Test the detector monthly to ensure that it works.
	
	▪ Install a carbon monoxide detector near the sleeping area. Additional detectors may be installed on every level of the home and in every bedroom. Detectors should not be placed within 15 feet of heating or cooking appliances or in or near very humid areas such as bathrooms. Test the detector monthly to ensure that it works.
	
	▪ Locate and label the gas shutoff valve(s). (There may be multiple valves inside a home in addition to the main shutoff.) Know how to shut off the gas and have the proper non-sparking tool for shutting off the gas.

PM, P. 2-10	Refer the participants to the figure *Natural Gas Meter with Shutoff* in the Participant Manual.

PM, P. 2-10	Natural Gas Meter with Shutoff
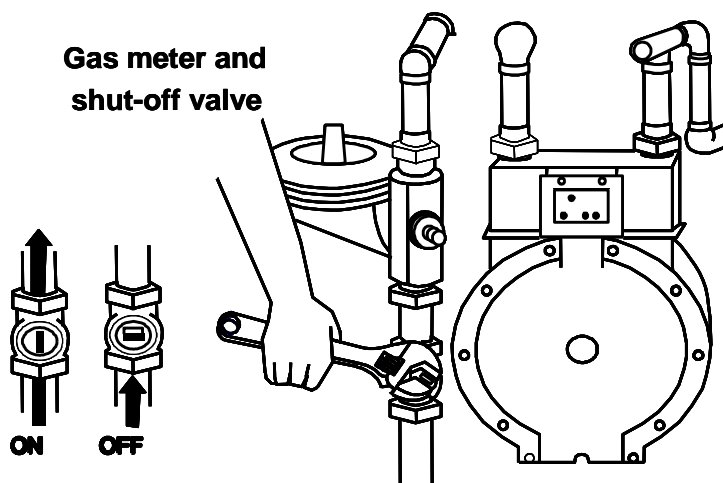
The gas meter shutoff diagram indicates the shutoff valve location on the pipe that comes out of the ground. To turn off the valve, use a non-sparking wrench to turn the valve clockwise one-quarter turn. Remember that, in all cases, natural gas flow should only be turned on by a licensed technician.

Please note: Some gas meters have automatic shutoff valves that restrict the flow of gas during an earthquake or other emergency. These are installed by a licensed plumber, downstream of the utility point of delivery. If you are unsure whether your home has this shutoff device, contact your gas service company. If this shutoff device is closed, only a qualified professional should restore it.

INSTRUCTOR GUIDANCE	CONTENT
Display Slide 2-12 Consult with a local utility representative to determine protocols and, if possible, create a model gas meter to demonstrate and allow practice with the procedure for shutting off the gas.	**Gas Shutoff** <u>Gas meter inside the home</u> Explain that if the gas meter is located inside the home, participants should only shut off the gas flow when instructed to by local authorities. Emphasize that if they smell gas or see the dials on the meter showing gas is flowing even though appliances are turned off, they should evacuate the premises and call 911. Tell them that they should not attempt to shut off the gas from inside the building if gas may be in the air. <u>Gas meter outside the home</u> Tell participants that they should turn off the meter from outside the building if they smell gas or see dials on the meter showing gas is flowing even though appliances are turned off. Stress that if there is a fire that they cannot extinguish, they should call 911 and turn off the gas only if it is safe to do so. Explain that if participants are unsure of the proper procedures, they should not attempt to turn the utilities on again by themselves, particularly in multiple-unit dwellings. They should always follow the local fire department's guidelines. Stress that after the gas flow is turned off, <u>it can be restored only by a trained technician</u>. Note that some gas meters have automatic shutoff valves that restrict the flow of gas during an earthquake or other emergency. Explain that these should be installed by a licensed plumber, downstream of the utility point of delivery. Tell participants that if they are unsure whether their home has this shutoff device, they should contact their gas service company. Stress that if this shutoff device is closed, only a qualified professional should restore it. Warn the participants never to enter the basement of a structure that is on fire to turn off any utility.

INSTRUCTOR GUIDANCE	CONTENT
	Explain that they should use a flashlight, not a candle, if an additional light source is needed to locate and shut off the gas valve.
	Flammable Liquid Hazards
Display Slide 2-13 L.I.E.S. stands for Limit, Isolate, Eliminate, Separate.	Provide several examples for reducing hazards from flammable liquids: ▪ Read labels to identify flammable products. ▪ Store them properly, using the L.I.E.S. method (Limit, Isolate, Eliminate, Separate). Stress that participants should only extinguish a flammable liquid using a portable fire extinguisher rated for Class B fires.
Provide the group with information about safe disposal of hazardous materials in your area.	Tell the group that they should extinguish a flammable liquid using a portable fire extinguisher rated for that class of fire. Explain that ratings for portable extinguishers will be addressed later in this unit.

INSTRUCTOR GUIDANCE	CONTENT
Display Slide 2-14	### *CERT Sizeup* Introduce this topic by explaining to the group that sizeup is a continual process that enables professional responders to make decisions and respond appropriately in the areas of greatest need. CERT sizeup consists of 9 steps and should be used in any emergency situation. Refer the participants to *CERT Fire Sizeup* in the Participant Manual. Point out that, although the checklist is not exhaustive, it does include many of the questions that CERT members should ask when sizing up a fire situation.
PM, PP. 2-13 to 2-15	Explain that you will now discuss fire sizeup considerations and review the checklist with the group.
Point out that, while sizeup is a fire department term, the process has been tailored for CERTs and will be used again in other areas of CERT responsibility. Provide several examples to illustrate the differences between fire department sizeup and CERT sizeup.	**CERT Sizeup Steps** Explain that the 9 steps of CERT sizeup are: 1. <u>Gather facts</u>. What has happened? How many people appear to be involved? What is the current situation? 2. <u>Assess and communicate the damage</u>. Try to determine what has happened, what is happening now, and how bad things can really get. 3. <u>Consider probabilities</u>. What is likely to happen? What could happen through cascading events? 4. <u>Assess your own situation</u>. Are you in immediate danger? Have you been trained to handle the situation? Do you have the equipment that you need? 5. <u>Establish priorities</u>. Are lives at risk? Can you help? <u>Remember, life safety is the first priority</u>!

INSTRUCTOR GUIDANCE	CONTENT
	6. <u>Make decisions</u>. Base your decisions on the answers to Steps 1 through 5 and in accordance with the priorities that you established.
	7. <u>Develop a plan of action</u>. Develop a plan that will help you accomplish your priorities. Simple plans may be verbal, but more complex plans should always be written.
	8. <u>Take action</u>. Execute your plan, documenting deviations and status changes so that you can report the situation accurately to first responders.
	9. <u>Evaluate progress</u>. At intervals, evaluate your progress in accomplishing the objectives in the plan of action to determine what is working and what changes you may have to make to stabilize the situation.

PM, PP. 2-13 to 2-15	CERT Fire Sizeup

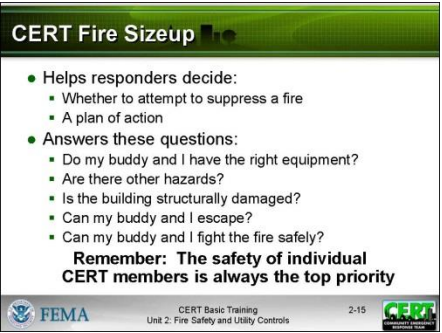|	Yes	No
Step 1: Gather Facts		
Time		
▪ Does the time of day or week affect fire suppression efforts? How?	☐	☐
Weather		
▪ Are there weather conditions that affect your safety? If yes, how will your safety be affected?	☐	☐
▪ Will weather conditions affect the fire situation? If yes, how will the fire situation be affected?	☐	☐
Type of Construction		
▪ What type(s) of structure(s) are involved?		
▪ What type(s) of construction are involved		
Occupancy		
▪ Are the structures occupied? If yes, how many people are likely to be affected?	☐	☐
▪ Are there special considerations (e.g., children, elderly, pets, people with disabilities)?	☐	☐

	Yes	No
Hazards		
▪ Are hazardous materials evident?	☐	☐
▪ Are any other types of hazards present? If yes, what other hazards?	☐	☐
Step 2: Assess and Communicate the Damage		
▪ Survey all sides of the building. Is the danger beyond the CERT's capability?	☐	☐
▪ Have the facts and the initial damage assessment been communicated to the appropriate person(s)?	☐	☐
Step 3: Consider Probabilities		
Life Hazards		
▪ Are there potentially life-threatening hazards? If yes, what are the hazards?	☐	☐
Path of Fire		
▪ Does the fire's path jeopardize other areas? If yes, what other areas may be jeopardized?	☐	☐
Additional Damage		
▪ Is there a high potential for more disaster activity that will impact personal safety? If yes, what are the known risks?	☐	☐

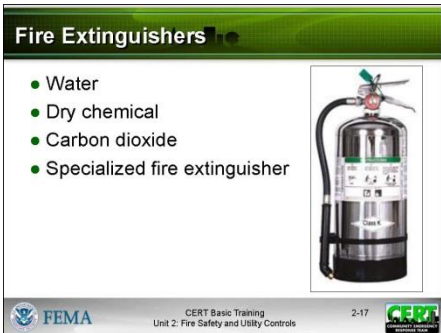|	Yes	No
Step 4: Assess Your Own Situation		
▪ What equipment is available to help suppress the fire?		
▪ What other resources are available?		
▪ Can fire suppression be *safely* attempted by CERT members? If not, do *not* attempt suppression.	☐	☐
Step 5: Establish Priorities		
▪ Are there other, more pressing needs at the moment? If yes, list.	☐	☐
Step 6: Make Decisions		
▪ Where will resources do the most good while maintaining an adequate margin of safety?		
Step 7: Develop a Plan of Action		
▪ Determine how personnel and other resources should be used.		
Step 8: Take Action		
▪ Put the plan into effect.		
Step 9: Evaluate Progress		
▪ Continually size up the situation to identify changes in the: • Scope of the problem • Safety risks • Resource availability		
▪ Adjust strategies as required.		

INSTRUCTOR GUIDANCE	CONTENT
![question icon]	Emphasize that sizeup is a continuous process.
	Evaluation of progress — Step 9 — may require you to go back and gather more facts.
	Does anyone have any questions about CERT fire sizeup?
CERT Fire Sizeup • Helps responders decide: ▪ Whether to attempt to suppress a fire ▪ A plan of action • Answers these questions: ▪ Do my buddy and I have the right equipment? ▪ Are there other hazards? ▪ Is the building structurally damaged? ▪ Can my buddy and I escape? ▪ Can my buddy and I fight the fire safely? **Remember: The safety of individual CERT members is always the top priority** FEMA — CERT Basic Training — 2-15 — Unit 2: Fire Safety and Utility Controls **Display Slide 2-15**	*Fire Sizeup Considerations* Explain that a sizeup of a situation involving a fire will dictate whether to attempt fire suppression and will help you plan for extinguishing the fire. Point out that CERT sizeup is a continual 9-step process that enables one to make decisions and respond appropriately in the areas of greatest need. Emphasize that the safety of individual CERT members is always the top priority. Say that effective fire sizeup will allow participants to answer all of the following questions: ▪ Do my buddy and I have the right equipment? ▪ Are there other hazards? ▪ Is the building structurally damaged? ▪ Can my buddy and I escape? ▪ Can my buddy and I fight the fire safely? Remind participants that the safety of individual CERT members is always the top priority.

INSTRUCTOR GUIDANCE	CONTENT
	Firefighting Resources
	What comes to mind when you think about firefighting resources?
	If not mentioned, tell the group that the most common firefighting resources are:
	▪ Portable fire extinguishers
	▪ Interior wet standpipes
	Other resources include confinement and "creative resources."
Display Slide 2-16	
	Fire Extinguishers
	Remind the participants that portable fire extinguishers are invaluable for putting out small fires. A well-prepared home or workplace will have at least two portable fire extinguishers of the appropriate type for the location.
	Emphasize that the type of fuel that is burning will determine which resources to select to fight a fire.
	Because portable fire extinguishers are most common, this section will focus on them.

INSTRUCTOR GUIDANCE	CONTENT
  Display Slide 2-17 **PM, P. 2-18**	**Types of Fire Extinguishers** Tell the group that there are four types of extinguishers: ▪ Water ▪ Dry chemical ▪ Carbon dioxide ▪ Specialized fire extinguishers Explain that the next section will briefly describe the characteristics of each type of fire extinguisher. Refer the participants to the *Fire Types, Extinguishing Agents, and Methods* chart in the Participant Manual for an overview of this information. Review the types of fires and extinguishing methods with the group.

PM, P. 2-17	Fire Types, Extinguishing Agents, and Methods

FIRE TYPE	EXTINGUISHING AGENT	EXTINGUISHING METHOD
Ordinary Solid Materials	Water	Removes heat
	Foam	Removes air and heat
	Dry chemical	Breaks chain reaction
Flammable Liquids	Foam	Removes air
	CO_2	
	Dry chemical	Breaks chain reaction
Electrical Equipment	CO_2	Removes air
	Dry chemical	Breaks chain reaction
Combustible Metals	Special agents	Usually remove air
Kitchen Oils	Chemical	Usually removes air

INSTRUCTOR GUIDANCE	CONTENT
  Display Slide 2-18	**Extinguisher Rating and Labeling** Tell the group that portable fire extinguishers must be rated and approved by the State fire marshal and Underwriters Laboratories (an organization that sets safety standards for manufactured goods). They are rated according to their effectiveness on the different classes of fire. Their strength and capability must also be labeled by the manufacturer. Explain that the label contains vital information about the type(s) of fire for which the extinguisher is appropriate. Extinguishers that are appropriate for Class A fires have a rating from 1A to 40A, with a higher number indicating a higher volume of extinguishing agent. Extinguishers that are appropriate for Class B fires have a rating from 1B to 640B. No number accompanies an extinguisher rated Class C, D, or K. The C on the label indicates only that the extinguisher is safe to use on electrical fires. Extinguishers for Class D fires must match the type of metal that is burning and are labeled with a list detailing the metals that match the unit's extinguishing agent. These extinguishers also do not use numerical ratings. Extinguishers for Class K fires are designed to supplement fire suppression systems in commercial kitchens. They spray an alkaline mixture that, when combined with the fatty acid of the burning cooking oil or fat, creates soapy foam to hold in the vapors and extinguish the fire.

INSTRUCTOR GUIDANCE	CONTENT
  Display Slide 2-19	Describe some of the different types of fire extinguisher labels that participants might encounter.
PM, P. 2-20	Refer the participants to the *Manufacturer's Label* illustration in the Participant Manual.

PM, P. 2-20	**Manufacturer's Label Illustration**
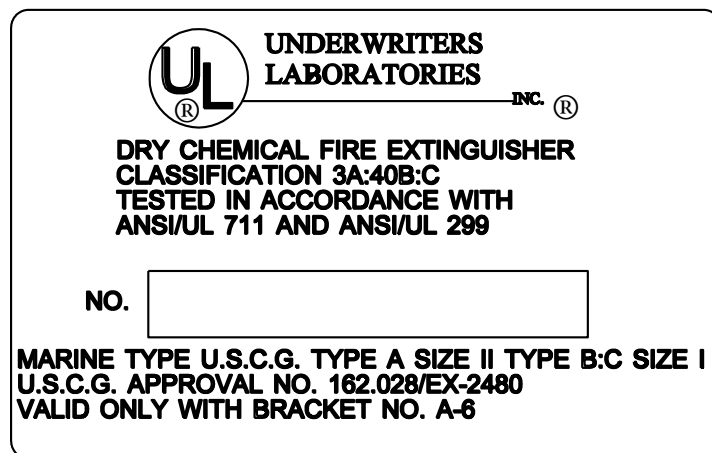
Sample manufacturer's label for a fire extinguisher, showing the Underwriters Laboratories symbol at the top, the type and classification of fire extinguisher, testing procedures used, and

serial number. At the bottom of the label is marine information, including the U.S. Coast Guard approval number.

INSTRUCTOR GUIDANCE	CONTENT
	Review the types of fires and appropriate extinguishing methods with the group, noting the capacity, range, and pressure of each type of extinguisher.
Display a water extinguisher.	**Water Extinguishers** Tell the group that common characteristics of water extinguishers include: ▪ Capacity. Standard size is 2.5 gallons. ▪ Range. Standard range is 30-40 feet. ▪ Pressure. Standard pressure is 110 pounds per square inch (psi). Warn the group to use extreme caution when using a water extinguisher to ensure that the water, which is under pressure, does not scatter lightweight materials and spread the fire.
Display a chemical extinguisher.	**Chemical Extinguishers** Tell the participants that dry chemical extinguishers are most common. ▪ Dry chemical extinguishers have a sodium bicarbonate base and are effective on Class B and C fires. ▪ Multipurpose dry chemical extinguishers have a monoammonium phosphate base and are effective for Class A, B, and C fires.

INSTRUCTOR GUIDANCE	CONTENT
If discussing or demonstrating how to use a carbon dioxide extinguisher indoors, note the need for caution, as these extinguishers remove oxygen from the room.	Common characteristics of dry chemical extinguishers include: ▪ Capacity. Approximately 10-20 seconds discharge time ▪ Range. Standard range is 8-12 feet. ▪ Pressure. Standard pressure is 175-250 psi. Explain that, while still in use, carbon dioxide and other specialized extinguishers are becoming less common. **Deciding to Use a Fire Extinguisher** Tell the participants that there is a series of questions that they should ask themselves before attempting to fight a fire with a fire extinguisher.
PM, P 2-23	Refer the group to the chart titled *Deciding to Use a Fire Extinguisher* in the Participant Manual, and review the questions and decisions with the group: ▪ Are there two ways to exit the area quickly and safely if I attempt to extinguish the fire? (The first priority for you and your buddy is safety.) ▪ Do I have the right type of extinguisher for the type of fire? ▪ Is the extinguisher large enough for the fire? ▪ Is the area free from other dangers, such as hazardous materials and falling debris? Stress that if the participants answer "NO" to any of these questions, or if they have been unable to put out the fire in 5 seconds using the extinguisher, they should: ▪ Leave the building immediately. ▪ Shut all doors as they leave to slow the spread of the fire.

INSTRUCTOR GUIDANCE	CONTENT
	Tell the participants that if they answer "YES" to <u>all</u> of these questions, they may attempt to extinguish the fire. Emphasize that, even if they answer "YES" to all of the questions but feel unable to extinguish the fire, they should leave immediately. Reemphasize the 5-second rule.
	Overhauling the Fire
	Explain that, if the fire is extinguished in 5 seconds and the area is safe, CERT members should stay and overhaul the fire. Overhauling is the process of searching a fire scene for hidden fire or sparks in an effort to prevent the fire from rekindling. Tell the participants how to overhaul a fire by remembering "cool, soak, and separate."

PM, P. 2-23	Deciding to Use a Fire Extinguisher

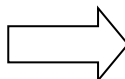| Can I escape quickly and safely from the area if I attempt to extinguish the fire and do not succeed?	**NO** ⟹	**LEAVE IMMEDIATELY!**

⬇ **YES**

Do I have the right type of extinguisher?	**NO** ⟹	**LEAVE IMMEDIATELY!**

⬇ **YES**

Is the extinguisher large enough for the fire?	**NO** ⟹	**LEAVE IMMEDIATELY!**
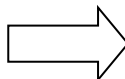
⬇ **YES**

Is the area free from other dangers such as hazardous materials and falling debris?	**NO** ⟹	**LEAVE IMMEDIATELY!**
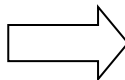
⬇

START TO EXTINGUISH THE FIRE

Is the fire extinguished in 5 seconds?	**NO** ⟹	**LEAVE IMMEDIATELY!**
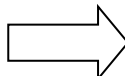
⬇ **YES**

STAY AND OVERHAUL THE FIRE IF THE AREA IS SAFE

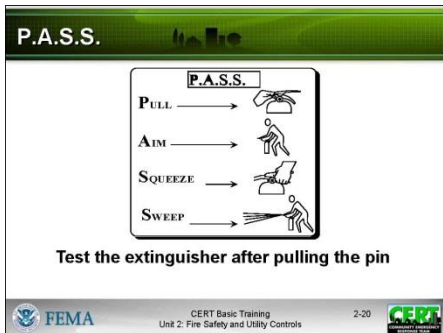| INSTRUCTOR GUIDANCE	CONTENT
	Does anyone have any questions about how to use the decision-making flowchart?
	Operating a Fire Extinguisher
	How many of you have operated a portable fire extinguisher?
	After a show of hands, ask a few participants to share their results. Use their comments to elaborate on the topic.
Demonstrate how to use a portable extinguisher.	Explain that you will demonstrate how to use a portable fire extinguisher.
PM, P. 2-24	Refer the participants to the diagram titled *Components of a Portable Fire Extinguisher* in the Participant Manual. Explain that a portable fire extinguisher includes four components:
	▪ A pressure gauge
	▪ A hose
	▪ A cylinder
	▪ A carrying handle with trigger
	Tell the group that they should always operate portable fire extinguishers in an upright position.

PM, P. 2-24	Components of a Portable Fire Extinguisher
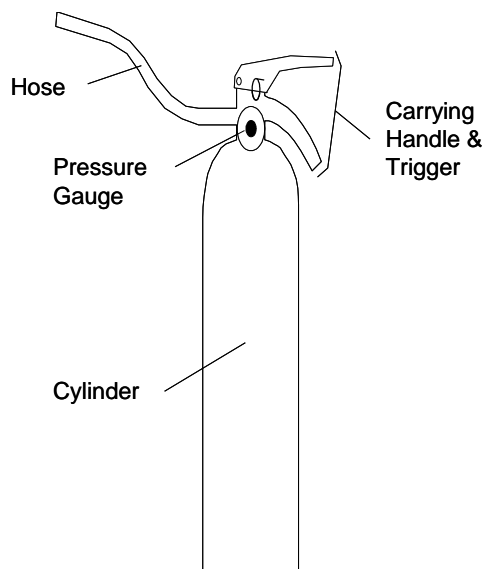
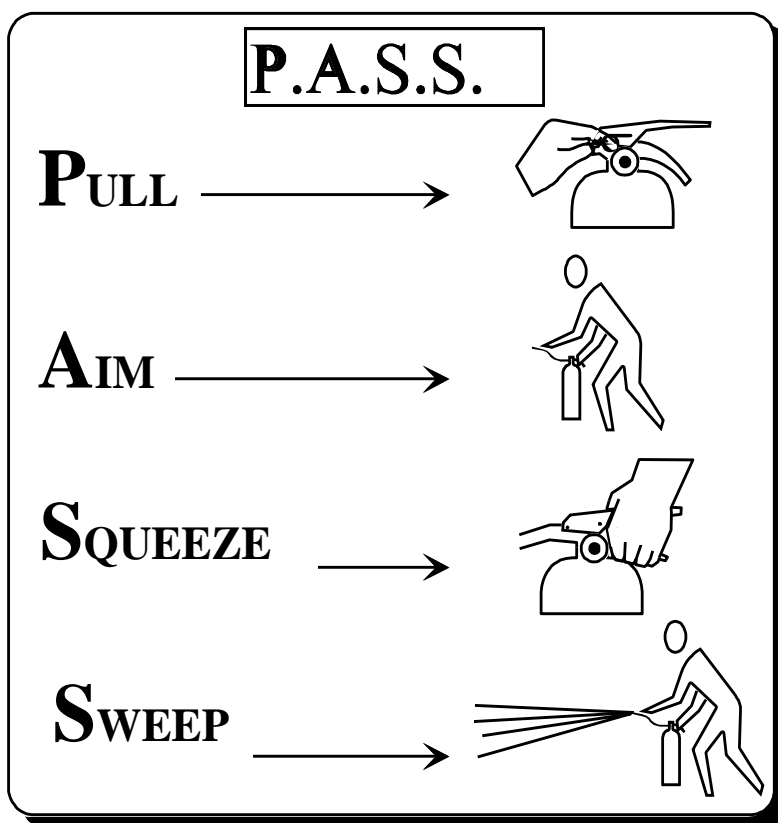**Components of a portable fire extinguisher: Hose, carrying handle and trigger, pressure gauge, cylinder**

INSTRUCTOR GUIDANCE	CONTENT
  Display Slide 2-20 Demonstrate P.A.S.S. **PM, P. 2-25**	**P.A.S.S.** Explain that the acronym for operating a fire extinguisher is P.A.S.S.: ▪ Pull (Test the extinguisher after pulling the pin) ▪ Aim ▪ Squeeze ▪ Sweep To ensure that the extinguisher is working properly, test it before approaching any fire. Refer the participants to the *PASS* diagram in the Participant Manual. Emphasize the need to <u>aim at the base</u> of the fire. Explain that each participant will have the opportunity to practice this technique near the end of the session. Explain that, once used, fire extinguishers that have been completely depleted should be laid down and stored on their side so no attempt will be made to use them until recharged.
	Does anyone have any questions about portable fire extinguishers or their operation?

PM, P. 2-25	P.A.S.S
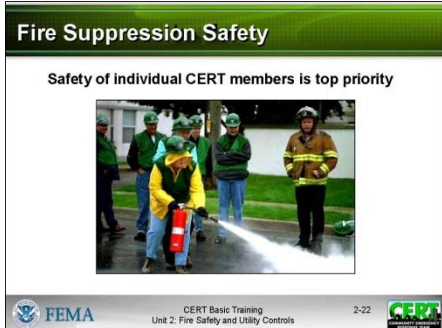
INSTRUCTOR GUIDANCE	CONTENT
Display Slide 2-21	**Interior Wet Standpipes** Explain that interior wet standpipes are usually in commercial and apartment buildings and consist of 100 feet of 1.5-inch jacketed hose with an adjustable spray nozzle. They deliver up to 125 gallons of water per minute. Caution the group always to work in two-person teams when using an interior wet standpipe. **Team Member 1:** Removes the hose from the cabinet and makes sure that hose is free of kinks and bends in the line. When ready, gives the go-ahead to Team Member 2 to open the water valve. **Team Member 2:** After Team Member 1 gives the go-ahead, opens the water valve. Team Member 2 will then back up Team Member 1 at the nozzle. Explain that, due to the dryness of the hose fabric, water may seep through the hose fabric until the hose is saturated. This may last for approximately 1 minute. **Confinement** In interior spaces, it is possible to *confine* a fire and restrict the spread of smoke and heat by closing doors, interior and exterior.

INSTRUCTOR GUIDANCE	CONTENT
  If not mentioned, suggest these: ▪ Swimming pool or spa water and buckets ▪ Sand or dirt and shovels ▪ A garden hose	**Other Creative Resources** **What other resources might be handy to fight a fire?**
  Display Slide 2-22 **PM, P. 2-27-28**	## *Fire Suppression Safety* Introduce this topic by reminding the participants that, as CERT members, small fire suppression may be one of their roles. Emphasize, however, that — even following a disaster — their personal safety must always be their number one concern. Stress that they will be unable to help anyone if they are injured through careless sizeup or unsafe acts. Refer the group to the list of *Fire Suppression Safety Rules* in the Participant Manual. **Fire Safety Rules** Stress the importance of following <u>all</u> fire suppression safety rules. ▪ <u>Use safety equipment</u> at all times. Wear your helmet, goggles, dust mask, leather gloves, and sturdy shoes or boots. If you are not equipped to protect your personal safety, <u>leave the building</u>.

INSTRUCTOR GUIDANCE	CONTENT
	▪ <u>Work with a buddy</u>. Buddies serve an important purpose. They protect your safety. Don't ever try to fight a fire alone.
	▪ <u>Have a backup team, whenever possible</u>. A backup team just makes good sense. A backup team can support your fire suppression efforts and can provide help if you need it.
	▪ <u>Always have two ways to exit the fire area</u>. Fires spread much faster than you might think. Always have a backup escape plan in case your main escape route becomes blocked.
	▪ <u>Look at the door</u>. If air is being sucked under the door or smoke is coming out the top of the door, do <u>not</u> touch the door.
	▪ <u>Feel closed doors with the back of the hand</u>, working from the bottom of the door up. Do <u>not</u> touch the door handle before feeling the door. If the door is hot, there is fire behind it. Do not enter! Opening the door will feed additional oxygen to the fire.
	▪ <u>Confine the fire</u>, whenever possible, by closing doors and keeping them closed.
	▪ <u>Stay low to the ground</u>. Smoke will naturally rise. Keeping low to the ground will provide you with fresher air to breathe.
	▪ <u>Maintain a safe distance</u>. Remember the effective range of your fire extinguisher. Don't get closer than necessary to extinguish the fire.
	▪ <u>Never turn your back on a fire when backing out</u>.
	▪ <u>Overhaul the fire</u> to be sure that it is extinguished – and stays extinguished.

INSTRUCTOR GUIDANCE	CONTENT
  Display Slide 2-23 Explain that a small fire, unlike a large fire: ▪ Is about the size of a wastepaper can ▪ Can be extinguished with one fire extinguisher Remind the group of the earlier demonstration (using burning cotton in the Pyrex® jar) to stress the need for overhauling.	Stress that what CERTs <u>don't</u> do when suppressing fires is as important as what they should do. <u>DON'T</u>: ▪ <u>Get too close</u>. Stay near the outer range of your extinguisher. If you feel the heat, you are too close. ▪ <u>Try to fight a fire alone</u>. Remember that your first priority is your personal safety. Don't put it at risk. ▪ <u>Try to suppress large fires</u>. Learn the capability of your equipment, and do not try to suppress a fire that is clearly too large for the equipment at hand (i.e., a fire that is larger than the combined ratings of available fire extinguishers). ▪ <u>Enter smoke-filled areas</u>. Suppressing fires in smoke-filled areas requires equipment that CERTs don't have.

PM, P. 2-27	**Fire Suppression Safety Rules**

- <u>Use safety equipment</u> at all times. Wear your helmet, goggles, dust mask, leather gloves, and sturdy shoes or boots. If you are not equipped to protect your personal safety, <u>leave the building</u>.

- <u>Work with a buddy</u>. Buddies serve an important purpose. They protect your safety. Don't ever try to fight a fire alone.

- <u>Have a backup team, whenever possible</u>. A backup team just makes good sense. A backup team can support your fire suppression efforts and can provide help if you need it.

- <u>Always have two ways to exit the fire area</u>. Fires spread much faster than you might think. Always have a backup escape plan in case your main escape route becomes blocked.

- <u>Look at the door</u>. If air is being sucked under the door or smoke is coming out of the top of the door, do <u>not</u> touch the door.

- <u>Feel closed doors with the back of the hand</u>, working from the bottom of the door up. Do <u>not</u> touch the door handle before feeling the door. If the door is hot, there is fire behind it. Do not enter! Opening the door will feed additional oxygen to the fire.

- <u>Confine the fire</u>, whenever possible, by keeping doors closed.

- <u>Maintain a safe distance</u>. Remember the effective range of your fire extinguisher. Don't get closer than necessary to extinguish the fire.

- <u>Overhaul the fire</u> to be sure that it is extinguished — and stays extinguished.

What CERTs <u>don't</u> do when suppressing fires is as important as what they should do. <u>DON'T</u>:

- <u>Get too close</u>. Stay near the outer range of your extinguisher. If you feel the heat, you are too close.

- <u>Try to fight a fire alone</u>. Remember that your first priority is your personal safety. Don't put yourself at risk.

- <u>Try to suppress large fires</u>. Learn the capability of your equipment, and do not try to suppress a fire that is clearly too large for the equipment at hand (i.e., a fire that is larger than the combined ratings of available fire extinguishers).

- <u>Enter smoke-filled areas</u>. Fire suppression in smoke-filled areas requires equipment that CERTs don't have.

INSTRUCTOR GUIDANCE	CONTENT
	Proper Fire Suppression Procedures
	Describe and demonstrate the process for proper fire suppression.
Ask for a volunteer to assist you in demonstrating this technique.	Explain briefly the responsibilities of each buddy. A buddy system is used in all cases. The job of Team Member 1 is to put out a fire with an extinguisher. The job of Team Member 2 is to watch for hazards and ensure the safety of both team members.
	1. Assume ready position. With the pin pulled, Team Member 1 holds the extinguisher aimed and upright, approximately 20 to 25 feet from the fire for small fires.
	2. When ready to approach the fire, Team Member 1 should say, "Ready." Team Member 2 should repeat, "Ready."
	3. As Team Member 1 begins to move forward, he or she should say, "Going in." Team Member 2 should repeat the command and stay within reach of Team Member 1.
	4. Both team members should walk toward the fire. Team Member 1 should watch the fire and Team Member 2 should stay close to Team Member 1, keeping his or her hand on Team Member 1's shoulder. Team Member 2's job is to protect Team Member 1.
	5. When Team Member 1 is exiting the fire area, he or she should say, "Backing out." Team Member 2 should repeat the command.
After reviewing the fire suppression procedure, show the video *Fire Safety: The CERT Member's Role.*	6. Team Member 2 should guide Team Member 1 from the area with his or her hands as Team Member 1 continues facing the fire and looking for other hazards. Team Member 1 must never turn his or her back on the fire scene.

INSTRUCTOR GUIDANCE	CONTENT
	Does anyone have any questions about fire suppression safety? Tell the group that next they are going to learn about identifying hazardous materials.

INSTRUCTOR GUIDANCE	CONTENT
	Hazardous Materials
	How do you know if a material is hazardous?
Allow the group time to respond.	
Hazardous Materials ● Corrode other materials ● Explode or are easily ignited ● React strongly with water ● Are unstable when exposed to heat or shock ● Are otherwise toxic to humans, animals, or the environment through absorption, inhalation, injection, or ingestion FEMA CERT Basic Training 2-24 Unit 2: Fire Safety and Utility Controls **Display Slide 2-24**	Explain that materials are considered hazardous if they have <u>any</u> of the characteristics listed on the slide: ▪ Corrode other materials ▪ Explode or are easily ignited ▪ React strongly with water ▪ Are unstable when exposed to heat or shock ▪ Are otherwise toxic to humans, animals, or the environment through absorption, inhalation, injection, or ingestion Explain that hazardous materials include, but are not limited to: ▪ Explosives ▪ Flammable gases and liquids ▪ Poisons and poisonous gases ▪ Corrosives ▪ Nonflammable gases ▪ Oxidizers ▪ Radioactive materials

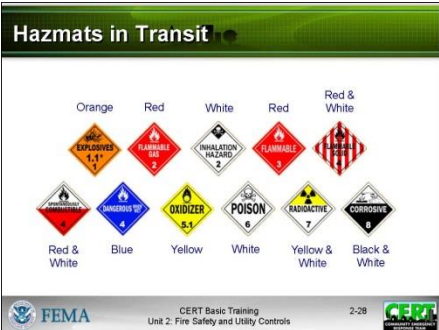| INSTRUCTOR GUIDANCE	CONTENT
 Acknowledge the participants' responses.	**Why is it important to know if hazardous materials are present?** If not mentioned by the group, explain that knowledge that hazardous materials are present helps to protect CERT members' safety and is valuable sizeup information for all first responders. **Identifying Hazardous Materials Locations** Explain that there are several ways to identify locations where hazardous materials are stored, used, or in transit: ▪ Location and type of occupancy ▪ Placards ▪ Sights, sounds, and smells Location and Type of Occupancy Explain that hazardous materials are commonplace throughout every community. They are used in many commercial processes and sold in many retail outlets. While these hazards are managed under normal circumstances, accidents and disasters can cause these materials to be released into the environment. Provide some common locations in the community: ▪ Industrial locations (e.g., warehouse, rail yard, shipyard) ▪ Dry cleaner ▪ Funeral home ▪ Home supply store ▪ Big box store ▪ Delivery van (UPS, FedEx)

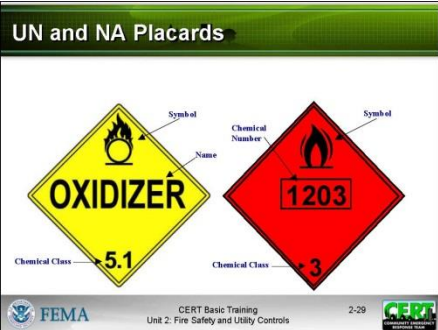| INSTRUCTOR GUIDANCE	CONTENT
Display Slide 2-25	Placards **Has anyone ever seen the symbol in the slide or one similar to it? Does anyone know what it is or what it means?** If not mentioned by the group, explain that the placard is an NFPA 704 Diamond — the identification system instituted by the National Fire Protection Association. The NFPA 704 Diamond is a concise system for identifying the hazards associated with specific materials. This placard would be found on a fixed facility. Tell the participants that the diamond is divided into four colored quadrants, each with a rating number inside of it, and that the number indicates the degree of risk associated with the material. Numbers range from 1 to 4. **The higher the number the higher the risk!** Explain that: ▪ The red quadrant describes the material's flammability. ▪ The blue quadrant indicates health hazard. ▪ The yellow quadrant indicates reactivity.

INSTRUCTOR GUIDANCE	CONTENT
  Display Slide 2-26	Point out that the <u>white</u> quadrant indicates <u>special precautions</u>. There are two symbols specified in the National Fire Codes, section 704. ▪ W indicates a material that displays unusual reactivity with water (i.e., should never be mixed with water or have water sprayed on it). <u>Magnesium metal</u> is an example of a material that is reactive to water. ▪ OX indicates a material that possesses oxidizing properties. <u>Ammonium nitrate</u> is an example of a material with oxidizing properties. Explain that materials that are oxidizers increase the potential for explosion or fire. Tell participants that in addition to the above symbols that are specified under the National Fire Codes, some NFPA 704 Diamonds will include additional symbols: ▪ <u>ACID</u> indicates that the material is an acid. ▪ <u>ALK</u> indicates that the material is a base. ▪ <u>COR</u> indicates that the material is corrosive. ▪ ☢ indicates that the material is radioactive.
  Display Slide 2-27	Stress that the numbers within the NFPA 704 Diamond are used to assist professional firefighters in responding to accidents or fires. <u>CERT members should consider these placards a "stop sign."</u> The only action CERT members should take is to evacuate persons who are downwind, as necessary, to an uphill or upwind location. Do not enter the building in an attempt to evacuate persons inside.

INSTRUCTOR GUIDANCE	CONTENT
Mention or use slides to illustrate local transportation hazards and any facilities that use the NFPA 704 Diamond, to provide more relevance to the discussion.	
If possible, show the group an actual 704 placard to improve recognition.	
	Identifying Hazardous Materials in Transit
Display Slide 2-28	
	Does anyone recognize the placards in the slide?
The NA placarding system is being phased out but is still occasionally used, usually on hazardous materials being transported from Canada.	If not mentioned by the group, explain that they are Department of Transportation (DOT) placards.
	Explain that the DOT placard is one of three ways that hazardous materials are marked and identified while in transit. The other two ways are:
	▪ The United Nations (UN) system
	▪ The North American (NA) warning placards

INSTRUCTOR GUIDANCE	CONTENT
If anyone asks, hazardous materials that require placarding in any quantity include poisonous gases that present an inhalation hazard (DOT Class 2.3), poisonous liquids that present an inhalation hazard (DOT Class 6.1), and radioactive materials (DOT Class 7).	Point out that these placards can be on any vehicle, not only tankers. Also, emphasize that: ▪ No placard is required for less than 1,000 pounds of many hazardous materials. ▪ Certain hazardous materials (e.g., anhydrous ammonia) are placarded as a nonflammable gas for domestic transport but as a flammable gas for international transport. (Anhydrous ammonia is a flammable gas!) ▪ Sometimes drivers forget to change the placard when they change their cargo. CERT members should use extreme caution when approaching any vehicle in an accident.
PM, P. 2-33	Refer the participants to the *DOT Placard Warning* illustrations in the Participant Manual.
  Display Slide 2-29 If possible, show the participants actual DOT placards to improve recognition.	Tell the group that this slide shows examples of the UN and NA systems. The UN and NA systems are displayed mainly on tank cars, cargo tanks, rail cars, and portable tanks. Explain that, like the NFPA 704 Diamond, the DOT, UN, and NA placards should be a "stop sign" for CERT members. CERT members should always err on the side of safety. They should *not* assume that, because there is no placard, no hazardous materials are present. Treat any unknown situation as a hazardous materials incident.

INSTRUCTOR GUIDANCE	CONTENT
Greater Than 1? Remember! All hazardous material placards are a stop sign for CERTs FEMA — CERT Basic Training Unit 2: Fire Safety and Utility Controls — 2-30 **Display Slide 2-30**	As a general rule of thumb, if you see a number in the NFPA 704 Diamond that is greater than one, stay away.

Sights, Sounds, and Smells

Explain that hazardous materials are all around us and may be present regardless of the location or whether there are placards or other posted warnings. While hazardous materials often smell, sound, or look unusual, participants may not be able recognize something toxic. Participants should stay away from any unidentifiable substance and alert building managers or authorities.

Does anyone have any questions about hazardous materials or how they are identified in storage or transport?

Exercise: Suppressing Small Fires

Purpose: This exercise will provide the participants with experience in two key areas of fire suppression:

- Using a portable fire extinguisher to suppress a small fire
- Applying teamwork to fire suppression

Ensure that all of the participants are dressed properly and wear safety equipment for this exercise. Dress for this exercise may be casual. However, shorts and open-toed shoes should not be permitted.

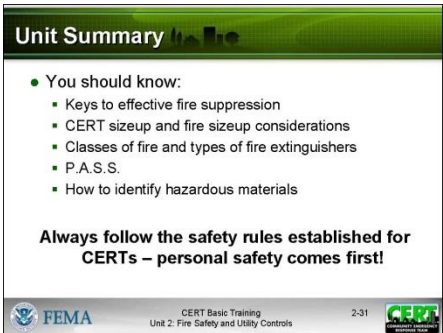| INSTRUCTOR GUIDANCE	CONTENT
	Prepare a propane gas fire source outside in an area with at least 40 feet of open space upwind of the fire source. Provide Class A:B:C portable extinguishers.
	This exercise requires two instructors: Instructor 1 will lead the exercise. Instructor 2 will observe and serve as the exercise Safety Officer.
It is advisable to demonstrate critical steps (e.g., the "ready" position) before allowing the participants to complete this exercise.	**Instructions:** Follow the steps below to conduct this exercise. **Coach the participants through the exercise using the instructions shown in bold type.**
	1. Assign the participants to two-person teams. Stress that participants must communicate with each other. The emphasis is on safety and teamwork.
	2. Taking one team at a time, provide each team member with a portable fire extinguisher.
	3. Instructor 2 will light the fire, using a road flare mounted on a long pole, when Instructor 1 indicates that the participants are ready to begin the exercise.
	4. Before allowing the participants to begin this exercise, Instructor 1 should ask them:
	▪ What their exit routes are
	▪ From which direction the wind is blowing
	▪ Whether the fire is spreading and where it would be in the next 30 seconds

INSTRUCTOR GUIDANCE	CONTENT
	5. Ask Team Member 1 to assume the "ready" position, with pin pulled, extinguisher aimed and upright, approximately 20 to 25 feet from the fire.
	When ready to approach the fire, Team Member 1 should say, "Ready." Team Member 2 should repeat, "Ready."
	As Team Member 1 begins to move forward, he or she should say, "Going in." Team Member 2 should repeat the command and place his or her hand on Team Member 1's shoulder and stay within reach of Team Member 1.
	6. Ask Team Member 2 to act as backup, assuming the "ready" position at an arm's distance from Team Member 1.

INSTRUCTOR GUIDANCE	CONTENT
	7. Position Instructor 1 between the participants and the fire at all times.
	Both team members should walk toward the fire. Team Member 1 should watch the fire and Team Member 2 should stay close to Team Member 1, keeping his or her hand on Team Member 1's shoulder. Team Member 2's job is to protect Team Member 1.
	8. Ask Team Member 1 to approach the fire from the windward side (i.e., with the wind to the participant's back). When approximately 10 feet from the fire, Team Member 1 should begin to discharge the extinguisher at the base of the fire, continuing the approach until the range for the extinguisher is optimal.
	9. Team Member 1 should sweep the base of the fire until it is extinguished.
	When Team Member 1 is ready to exit the fire area, he or she should say, "Backing out." Team Member 2 should repeat the command. Team Member 2 should guide Team Member 1 from the area with his or her hands as Team Member 1 continues facing the fire and looking for other hazards.
	After the fire is extinguished, ask the participants to trade positions and repeat the exercise. If time permits, allow each participant to use the extinguisher twice, to provide added practice.
	Repeat this exercise with the other teams until all participants have had the opportunity to extinguish the fire.

INSTRUCTOR GUIDANCE	CONTENT
Display Slide 2-31	***Unit Summary*** Summarize the key points of this unit: Effective fire suppression depends on an understanding of: ▪ The elements required for fire to exist ▪ The type of fuel involved ▪ The class of fire ▪ The resources required and available to extinguish each type of fire ▪ Effective fire suppression techniques Fire requires heat, fuel, and oxygen to exist. There are five types, or classes, of fire: ▪ Class A: Ordinary combustibles ▪ Class B: Flammable liquids ▪ Class C: Energized electrical equipment ▪ Class D: Combustible metals ▪ Class K: Cooking oils It is extremely important to identify the class of fire to use the proper extinguisher for the class. Portable fire extinguishers are most frequently used for suppressing small fires. Their labels tell the types of fires for which they are effective and the area that they can suppress. When using portable fire extinguishers, remember P.A.S.S.: Pull, Aim, Squeeze, and Sweep. Always test the extinguisher after pulling the pin. When suppressing a fire, <u>always</u> follow the safety rules established for CERTs.

INSTRUCTOR GUIDANCE	CONTENT
	To help understand the types of materials, there are several methods of placarding hazardous materials being stored or transported, including NFPA, DOT, UN, and NA. When faced with accidents involving materials that are placarded as hazardous — or when the material is unknown — <u>keep away and call for professional help immediately</u>.
Homework Assignment 1. Read unit to be covered in next session 2. Bring necessary supplies to next session 3. Wear appropriate clothes to next session FEMA CERT Basic Training Unit 2: Fire Safety and Utility Controls 2-32 **Display Slide 2-32**	**Homework Assignment** Remind the participants that, before the next session, they should: ▪ Read and familiarize themselves with Unit 3: Disaster Medical Operations — Part I in the Participant Manual. ▪ Obtain and bring to the session: • One box of 4- by 4-inch bandages • One roll of gauze • One medical mask (N95) • One pair of examination gloves • One blanket Ask the participants to wear comfortable clothes for the next session because they will be practicing medical techniques. Thank the participants for attending the session. Remind them of the date and time for the next session if necessary.