

PUTTING OUT FIRES

FACILITATOR GUIDE



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ACTIVITY: PUTTING OUT FIRES

Purpose: The purpose of this activity is to educate participants about how to extinguish a fire.

Objectives:

- Identify the elements necessary for a fire.
- Demonstrate how to use a fire extinguisher.

Preparation and Needed Materials: Prior to conducting this activity:

- Ask the local fire department to participate by setting a controlled fire and demonstrate how to use a fire extinguisher. You should **not** do this activity without the support of the local fire department.
- Determine if local merchants or organizations will donate fire extinguishers to those who cannot afford them.

Presentation Tips: Refer the participants to the Fire Basics handout.

- Explain that fire requires the following three elements to exist:
 - **Heat:** Heat is required to elevate the temperature of a material to its ignition point. Sources of heat include matches, stoves, sparks, etc.
 - **Fuel:** The fuel for a fire may be a solid (e.g., coal, wood, paper, cloth, hay, etc.), liquid (e.g., gasoline, kerosene, alcohol, paint, cooking oil, etc.), or gas (e.g., propane, natural gas, butane, etc.). 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 percent oxygen. Without oxygen, most fuels could be heated until entirely vaporized, yet would not burn.
- Note that these three elements, called the “fire triangle,” create a chemical exothermic reaction, which is fire. **Ask participants to find sources of heat and fuel in the meeting room or building.**



ACTIVITY: PUTTING OUT FIRES

Presentation Tips: (Continued)

- Next, explain each class of fire. Emphasize the following key points:
 - It is very important to identify the type of fuel feeding the fire to select the correct method and agent for extinguishing the fire.
 - Never use water on a fire unless you know what is burning. Water conducts electricity which could spread the problem and cause more shorting in the equipment. Water will also carry burning oil, gas, and other petroleum products into new areas to ignite.
- Distribute the Fire Extinguishers handout. Using a fire extinguisher, explain the features and capabilities of fire extinguishers. Make sure to point out the symbols and information concerning the fire classes and capacity of the fire extinguisher(s).

Ask the participants to find the list of questions to answer when determining whether to use a fire extinguisher. Give the participants time to review the questions. Emphasize that **if you answer “NO” to any of these questions or if you are unable to put out the fire in 5 seconds using the extinguisher, you should not use a fire extinguisher.** Tell the participants in that case, they should:

- Leave the building immediately.
- Shut all doors as you leave to slow the spread of the fire.
- As soon as you get out of the building, call 911.

If you answer “YES” to all of the questions but still feel unable to extinguish the fire, you should leave immediately. **You should always remember the 5-second rule.**

- **Activity:** Present some “what-if” situations and have the participants determine whether to use the fire extinguisher. Provide feedback on the participants’ decisions.



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Presentation Tips: (Continued)

- Next, refer the participants to the “**PASS**” steps illustrated on the handout. Explain each of the following steps:
 - **STEP 1: PULL.** Pull the pin. This will also break the tamper seal.
 - **STEP 2: AIM.** Aim low, pointing the extinguisher nozzle (or its horn or hose) at the base of the fire. Note: Do not touch the plastic discharge horn on CO2 extinguishers; it could get very cold and may damage skin.
 - **STEP 3: SQUEEZE.** Squeeze the handle to release the extinguishing agent.
 - **STEP 4: SWEEP.** Sweep from side to side at the base of the fire until it appears to be out. Watch the area. If the fire re-ignites, repeat steps 2 through 4.
- **Demonstration:** Work with your fire department as they set a small, contained fire. Demonstrate how to put out the fire using the extinguisher. If you have the time and resources, have each participant practice using a fire extinguisher. Do **not** do this activity unless the local fire department is there with you!
- Distribute the Fire Safety Rules handout. Review the safety guidelines. Emphasize that only those trained in the proper use and maintenance of fire extinguishers should consider using them when appropriate.
- Ask the participants if they have any questions. Respond to any questions and tell the participants about other related sessions and community resources.

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FIRE BASICS: HANDOUT

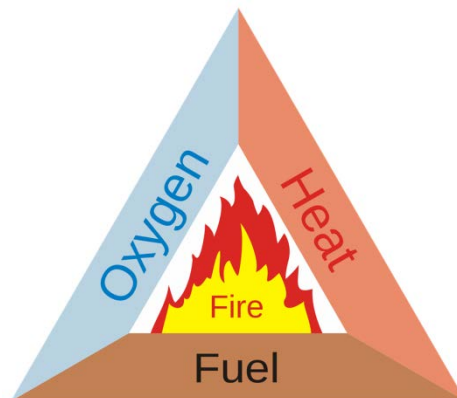


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Fire Triangle

Fire requires the following three elements to exist:

- **Heat:** Heat is required to elevate the temperature of a material to its ignition point. Sources of heat include matches, stoves, sparks, etc.
- **Fuel:** The fuel for a fire may be a solid (e.g., coal, wood, paper, cloth, hay, etc.), liquid (e.g., gasoline, kerosene, alcohol, paint, cooking oil, etc.), or gas (e.g., propane, natural gas, butane, etc.). 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 percent oxygen. Without oxygen, most fuels could be heated until entirely vaporized, yet would not burn.



These three elements, called the “fire triangle,” create a chemical exothermic reaction, which is fire.

What are some examples of heat and fuel in this room?

Classes of Fire

Knowing the type of fuel helps determine what kind of fire extinguisher to use and how to use it. There are five common classes of fires:

Fire Class	Fuel
A	Ordinary combustibles such as paper, cloth, wood, rubber, and many plastics
B	Flammable liquids (e.g., oils, gasoline) and combustible liquids (e.g., charcoal lighter fluid, kerosene)
C	Energized electrical equipment (e.g., wiring, motors) – when the electricity is turned off, the fire becomes a Class A fire
D	Combustible metals (e.g., aluminum, magnesium, titanium)
K	Vegetable oils, animal oils, or fats in cooking appliances

Source: U.S. Fire Administration

It is very important to identify the type of fuel feeding the fire to select the correct method and agent for extinguishing the fire.

Never use water on a fire unless you know what is burning. Water conducts electricity, causing the problem to spread and cause more shorting in the equipment. Water will also move burning oil, gas, and other petroleum products into new areas to ignite.

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FIRE EXTINGUISHERS: HANDOUT

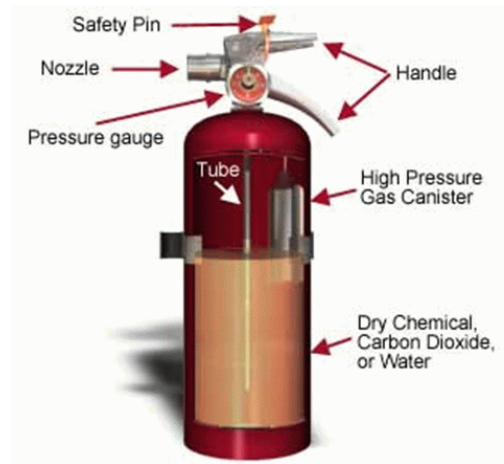


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Fire Extinguishers: Overview

Understanding Fire Extinguishers

- 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.
- The type of fuel that is burning will determine which resources to select to fight a fire. Most household fires are:



Class A (ordinary combustible)



Class B (flammable liquids)



Class C (energized electrical equipment)



Class D (flammable metals – commercial use)



Class K (cooking oils, animal fats)

- A dry chemical extinguisher can be used on any type of fire. Common characteristics of dry chemical extinguishers include:
 - **Capacity.** Approximately 10 to 20 seconds discharge time.
 - **Range.** Standard range is 8 to 12 feet.
 - **Pressure.** Standard pressure is 175 to 250 pounds per square inch.

Deciding to Use a Fire Extinguisher: Before attempting to put out a fire with a portable fire extinguisher, you must quickly answer the following questions:

- Has someone called the fire department?
- Are there two ways to exit the area quickly and safely if I attempt to extinguish the fire? (The first priority for you 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 fire small and contained (like in a wastepaper basket)?
- Is the area free from other dangers, such as hazardous materials or any debris?

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FIRE EXTINGUISHERS: HANDOUT



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Fire Extinguishers: Overview (Continued)

If you answer “NO” to any of these questions or if you will be unable to put out the fire in 5 seconds using the extinguisher, you should not use a fire extinguisher. Rather, you should:

- Leave the building immediately.
- Shut all doors as you leave to slow the spread of the fire.
- As soon as you get out of the building, call 911.

If you answer “YES” to all of the questions but still feel unable to extinguish the fire, you should leave immediately. **You should always remember the 5-second rule.**

If the fire is extinguished in 5 seconds and the area is safe, you should stay and carefully check the fire scene for hidden fire or sparks in an effort to prevent the fire from rekindling. Separate any burned or charred material to allow it to cool completely.

Fire Extinguisher: Steps

To use a fire extinguisher, remember “**PASS**”:



P **PULL.** Pull the pin. This will also break the tamper seal.



A **AIM.** Aim low, pointing the extinguisher nozzle (or its horn or hose) at the base of the fire. Stand approximately 8 feet away. Note: Do not touch the plastic discharge horn; it may get very cold and may damage skin.



S **SQUEEZE.** Squeeze the handle to release the extinguishing agent.



S **SWEEP.** Sweep from side to side at the base of the fire until it appears to be out. Watch the area. If the fire re-ignites, repeat steps 2 through 4.

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FIRE EXTINGUISHERS: HANDOUT



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Fire Extinguisher: Steps (Continued)

When using a fire extinguisher:

- Always stand with an exit at your back.
- Stand several feet away from the fire, moving closer once the fire starts to diminish.
- Use a slow, sweeping motion and aim the fire extinguisher nozzle at the base of the fire.
- If possible, use a "buddy system" to have someone back you up or to call for help if something goes wrong.

After putting out the fire, call 911. Be sure to watch the area for a while to ensure the fire does not re-ignite.

**If you have the slightest doubt about your ability to stop the fire . . .
EVACUATE IMMEDIATELY!**

Installing and Maintaining Fire Extinguishers

- Extinguishers should be installed in plain view, above the reach of children, near an escape route, and away from stoves and heating appliances.
- Extinguishers require routine care. Read your operator's manual to learn how to inspect your extinguisher. Follow the manufacturer's instructions on maintenance.
- You must service rechargeable models after every use. Disposable fire extinguishers can be used only once and must be replaced after use.

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FIRE SAFETY RULES: HANDOUT



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- **Always have two ways to exit the fire area.** Fires spread much faster than you might think. Always have a backup escape plan in case your main escape route becomes blocked.
- **Look at the door.** If air is being sucked under the door or smoke is coming out the top of the door, do not touch the door.
- **Feel closed doors with the back of the hand, working from the bottom of the door up.** Do not 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.
- **Confine the fire**, whenever possible, by closing doors and keeping them closed.
- **Stay low to the ground.** Smoke will naturally rise. Keeping low to the ground will provide you with fresher air to breathe.
- **Don't get too close. Stay near the outer range of your extinguisher.** If you feel the heat, you are too close.
- **Never turn your back on a fire when backing out.**
- **When you have extinguished the fire, carefully check to be sure that it is out, and stays out.** Sometimes, what you don't do when suppressing fires is as important as what you should do.
- **Don't forget that your personal safety is your first priority.** Don't put it at risk.
- **Don't try to suppress a large fire.** If you can't put out the fire in **5 seconds** or less, the fire is too large. Get out.
- **Don't enter smoke-filled areas.** Suppressing fires in smoke-filled areas requires equipment other than a portable fire extinguisher.

Remember . . . Only those trained in the proper use and maintenance of fire extinguishers should consider using them when appropriate.