

FT. LEONARD WOOD EMPLOYER TO EMPLOYER TO EMPLOYEE FIRE EXTINGUISHER OPERATIONS TRAINING



Ft. Leonard Wood Fire & Emergency Services
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FIRE EXTINGUISHER TRAINING

***CFR (Code of Federal Regulations)*

*Title 29, Part 1910 (OSHA) Section 157, Paragraphs G.1 & 2***

G.1: Where the employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting.

G.2: The employer shall provide the education required in paragraph (g)(1) of this section upon initial employment and at least annually thereafter.

FIRE EXTINGUISHER TRAINING

*****Objectives*****

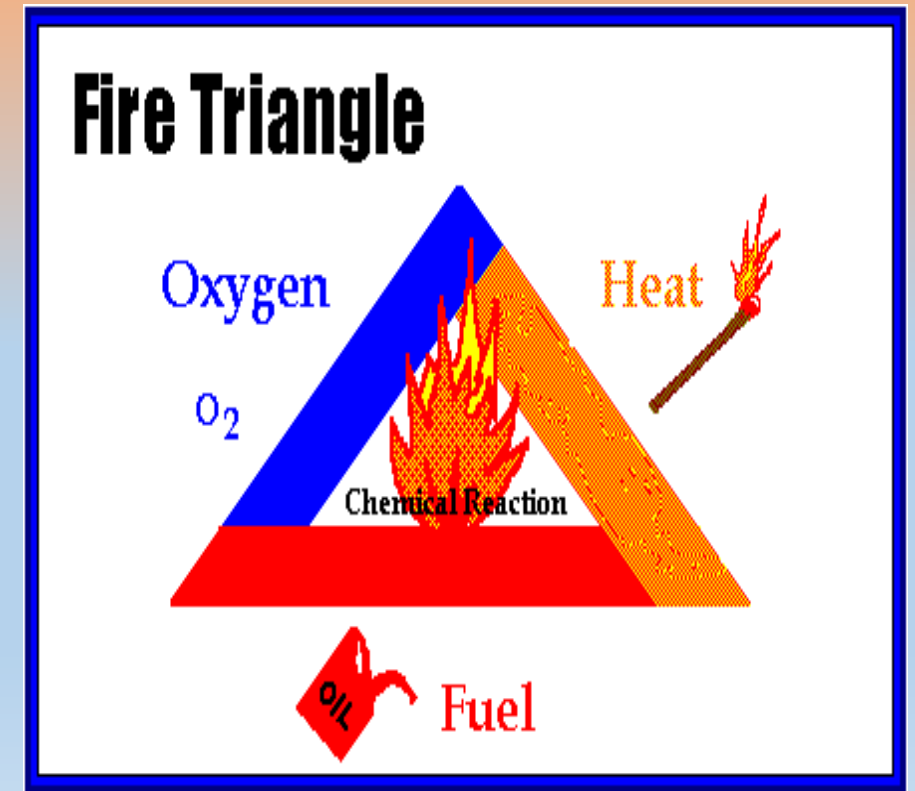
- Understand the combustion process and different fire classes
- Understand fire extinguisher types, operating procedures
 - When to put out a fire
 - When not to
 - When to exit
 - How to use a fire extinguisher
- Understand basic firefighting concepts:
 - *R.A.C.E*
 - *P.A.S.S*

FIRE EXTINGUISHER TRAINING

*****4 THINGS THAT MUST BE PRESENT AT THE SAME TIME IN ORDER TO PRODUCE AND SUSTAIN A FIRE*****

Essentially, fire extinguishers put out fire by taking away one or more elements of the fire triangle/tetrahedron.

1. Enough **oxygen** to sustain combustions,
2. Enough **heat** to raise the material to its ignition temperature,
3. Some sort of **fuel** or combustible material, and
4. The **chemical, exothermic reaction** that is fire.



FIRE EXTINGUISHER TRAINING

KNOW YOUR FIRE EXTINGUISHER, KNOW YOUR LIMITATIONS

Consider these facts:

- A portable fire extinguisher can save lives and property by putting out a small fire or containing it until the fire department arrives; but portable extinguishers have limitations. Because fire grows and spreads so rapidly, the number one priority for occupants is to get out safely.
- 94 percent of the time a portable fire extinguisher is used, it puts out the fire typically within the initial two minutes.
- *When fires are extinguished in the early stages:*

Loss of life is minimal.

93 percent of all fire-related deaths occur once the fire has progressed beyond the early stages.*

Direct property damage is minimal.

95 percent of all direct property damage occurs once the fire has progressed beyond the early stages.*



FIRE EXTINGUISHER TRAINING

KNOW YOUR FIRE EXTINGUISHER, KNOW YOUR LIMITATIONS

Fire Extinguishers should be appropriately matched to work environment.

1. Use the symbols to quickly identify the Type of Fire Extinguisher.

2. 6 Types of Fire Extinguishers

1. **Class A** – Wood, Paper, Plastics
2. **Class AB** – Wood, Paper and Flammable Liquid
3. **Class BC** – (flammable liquid and electrical)
4. **Class ABC** – Multipurpose
5. **Class D** – Metal Fires
6. **Class K** – Kitchen Fire



Class A extinguishers put out fires in ordinary combustible materials such as cloth, wood, rubber, paper, and many plastics.



Class B extinguishers are used on fires involving flammable liquids, such as grease, gasoline, oil, and oil-based paints.



Class C extinguishers are suitable for use on fires involving appliances, tools, or other equipment that is electrically energized or plugged in.



Class D extinguishers are designed for use on flammable metals and are often specific for the type of metal in question. These are typically found only in factories working with these metals.








Class K fire extinguishers are intended for use on fires that involve vegetable oils, animal oils, or fats in cooking appliances. These extinguishers are generally found in commercial kitchens, such as those found in restaurants, cafeterias, and caterers. Class K extinguishers are now finding their way into the residential market for use in kitchens.



FIRE EXTINGUISHER TRAINING

KNOW YOUR FIRE EXTINGUISHER, KNOW YOUR LIMITATIONS

	Water	Foam	Carbon Dioxide	Dry Chemical	Wet Chemical	Clean Agent	Dry Powder	Water Mist
 Class A	✓	✓	✗	✓	Sometimes	Larger Models	✗	✓
 Class B	✗	✓	✓	✓	✗	✓	✗	✗
 Class C	✗	✗	✓	✓	✗	✓	✗	✓
 Class D	✗	✗	✗	✗	✗	✗	✓	✗
 Class K	✗	✗	✗	✗	✓	✗	✗	✗
Methods Used to Extinguish Flame	Removes the heat element	Separates the oxygen from the other elements	Takes away the oxygen and heat with cold discharge	Interrupts the chemical reaction (B,C) Creates a barrier between oxygen and fuel(A)	Removes heat and creates a barrier between oxygen and fuel	Interrupts the chemical reaction	Removes heat and creates a barrier between oxygen and fuel	Removes the heat element



****Class K Extinguishers were introduced in 2008 & Primarily silver in appearance****

****Please Note: For more information on Commercial Cooking Extinguishing Systems see PPT "FLW Commercial Cook Extinguishing Systems and Employee Cleaning Procedures".****

FIRE EXTINGUISHER TRAINING

KNOW YOUR FIRE EXTINGUISHER, KNOW YOUR LIMITATIONS

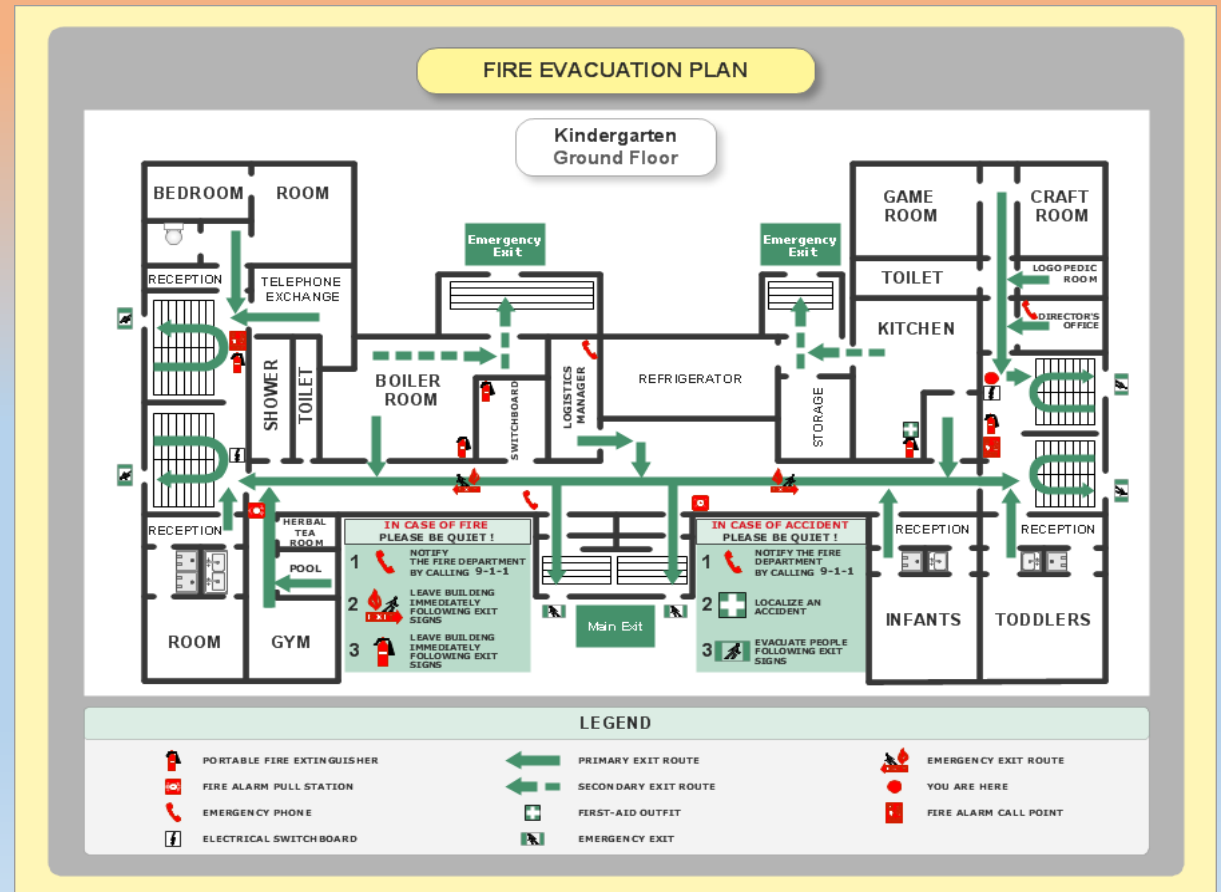
The Benefits of Portable Fire Extinguishers:

- ***Portable fire extinguishers are effective.***
Statistics show that when a fire is extinguished at the early stage with a portable fire extinguisher, deaths, injuries, and property damage are significantly minimized.
- ***Portable fire extinguishers are cost effective.***
In commercial occupancies, the current cost for portable fire extinguishers is less than one cent per square foot.
- ***Portable fire extinguishers operate quickly.***
Since it can take as few as 15 seconds for a 5lb. fire extinguisher to discharge, the short discharge time allows the user to decide if the fire is out or if they must evacuate the building.
- ***Portable fire extinguishers are safe to use.***
When used properly on small, contained fires, fire extinguishers are safe to use. In fact, people are more likely to injure themselves using make-shift methods. Fire extinguishers should always be inspected and maintained by competent fire equipment service personnel.

WHEN IT'S NOT JUST A DRILL

KNOW WHAT TO DO AND WHERE TO GO

- WHERE IS THE NEAREST EXIT?
- WHERE IS THE NEAREST FIRE ALARM PULL STATION?
- WHERE IS THE MEETING/GATHERING PLACE?
- ARE YOU ACCOUNTED FOR: DID YOU TELL SOMEONE YOU WERE GOING TO FIGHT THE FIRE WITH A FIRE EXTINGUISHER?
- DID SOMEONE CALL 911?
- WHERE IS THE NEAREST FIRE EXTINGUISHER?



WHEN IT'S NOT JUST A DRILL

- R** **RESCUE:** When you discover a fire, rescuing people in the Immediate danger is top priority.
- A** **ALARM:** Sound the alarm (by pull station or yelling fire if there is no fire alarm system) and call **911**.
- C** **CONFINE:** Close all doors behind you to prevent the spread Of smoke and fire.
- E** **EXTINGUISH:** Extinguish a small fire with the appropriate, nearest fire extinguisher

WHEN IT'S NOT JUST A DRILL

*Before deciding to fight the fire with an extinguisher, keep
These rules in mind.*

• *Know what is burning.*

If you don't know what is burning, you don't know what type of extinguisher to use. Even if you have an ABC extinguisher, there may be something in the fire that is going to explode or produce highly toxic smoke. Chances are, you *will* know what's burning, or at least have a pretty good idea, but if you don't, let the fire department handle it.

• *The fire is spreading rapidly beyond the spot where it started.*

The time to use an extinguisher is in the incipient, or beginning, stages of a fire. If the fire is already spreading quickly, it is best to simply evacuate the building, closing doors and windows behind you as you leave.

R
A
C
E

WHEN IT'S NOT JUST A DRILL

CONT: Before deciding to fight the fire with an extinguisher, keep
These rules in mind.

R

A

C

E

- **Do Not Fight the Fire If:**
- **You don't have adequate or appropriate equipment.** If you don't have the correct type or large enough extinguisher, it is best not to try to fight the fire.
- **You might inhale toxic smoke.** If the fire is producing large amounts of smoke that you would have to breathe in order to fight it, it is best not to try. Any sort of combustion will produce some amount of carbon monoxide, but when synthetic materials such as the nylon in carpeting or foam padding in a sofa burn, they can produce highly toxic gases such as hydrogen cyanide, acrolein, and ammonia in addition to carbon monoxide. These gases can be fatal in very small amounts.

WHEN IT'S NOT JUST A DRILL

CONT: *Before deciding to fight the fire with an extinguisher, keep
These rules in mind.*

R
A
C
E

- ***Your instincts tell you not to.*** If you are uncomfortable with the situation for any reason, just let the fire department do their job.
- ***The final rule is to always position yourself with an exit or means of escape at your back before you attempt to use an extinguisher to put out a fire.*** In case the extinguisher malfunctions, or something unexpected happens, you need to be able to get out quickly, and you don't want to become trapped. Just remember, ***always keep an exit at your back & NEVER TURN YOUR BACK ON THE FIRE.***

WHEN IT'S NOT JUST A DRILL

*CONT: Before deciding to fight the fire with an extinguisher, keep
These rules in mind.*

**DO NOT ATTEMPT TO FIGHT ANYTHING LARGER THAN A TRASH CAN FIRE
UNLESS IT IS BETWEEN YOU AND YOUR WAY OUT!!!**



****Most extinguishers only last
about
10 to 18 seconds!!****

R
A
C
E

WHEN IT'S NOT JUST A DRILL

KNOW HOW TO USE IT BEFORE YOU NEED IT

PULL
AIM
SQUEEZE
SWEEP



WHEN IT'S NOT JUST A DRILL

RESCUE

ALARM

CONTAIN

EXTINGUISH



PULL

AIM

SQUEEZE

SWEEP

FIRE EXTINGUISHER TRAINING

*WHAT SHOULD YOU DO IF YOU DISCOVER A
FIRE ?*



FIRE EXTINGUISHER TRAINING

WHAT SHOULD YOU DO IF YOU DISCOVER A FIRE ?

1. ***Do you know where the nearest fire extinguisher is in your work area?***
 - A. Yes
 - B. No
2. ***You should always keep an exit or means of escape at your back when trying to fight fire.***
 - A. True
 - B. False
3. ***A water extinguisher is safe to use on an electrical fire.***
 - A. True
 - B. False

FIRE EXTINGUISHER TRAINING

WHAT SHOULD YOU DO IF YOU DISCOVER A FIRE ?

- 4. *An example of two “Class B” fuels would be:***
- A. *Cardboard, newspapers*
 - B. *Lamp, hot plate*
 - C. *Grease, paint thinner*
- 6. *As a general rule, you should not attempt to fight a fire if:***
- A. *The fire is spreading rapidly*
 - B. *You feel uncomfortable doing it*
 - C. *The fire is bigger than you*
 - D. *All of the above*

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