



LESSON PLAN

Portable Fire Extinguishers



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Using portable fire extinguishers the right way requires training and practice.

Lesson Overview

Using portable fire extinguishers correctly requires training and practice. Not knowing what to do or doing the wrong thing can lead to a fire getting out of control. Review department operational guidelines regarding portable fire extinguisher training, as they will govern the level of training you can provide and procedures that must be followed.

This lesson is divided into a 25-minute theory session and a 25-minute practical session. Although the theory session may be taught independently of the practical session, it is recommended that the practical session always be accompanied by the theory session. It is critical that you know your audience and their needs prior to your session so that effective use is made of instructional time. If your lesson requires a practical session, the number of participants you can accommodate will be limited by the time you have allotted. In this lesson plan, 25 minutes is allotted for the practical session, which provides enough time for 10-12 individuals to extinguish a live fire. If your practical session is a demonstration only, a larger number of participants can be accommodated, but make every effort to remain within the scheduled time.

Practical portable fire extinguisher training should only take place in a controlled environment outdoors, such as outside the fire hall, due to the presence of fire during a live burn and the release of the extinguisher's contents. Ensure a safe and appropriate location has been chosen for the live burn. To ensure safety at all times during live burns, arrange for a truck and firefighter to be present. If a safe, controlled environment is not possible, then the practical training should not include a live burn. Consult your department's operational guidelines for other considerations.

Prior to the training event, it will be necessary to determine who will be providing the portable fire extinguishers – the fire department or the participants – and who will be responsible for servicing or refilling them. At the time of booking, notify participants of any costs they will be responsible for.

Lesson Objectives

- Identify when it is appropriate to use a portable fire extinguisher and select the appropriate type for different types of fires.
- Describe the proper maintenance and inspection procedures for portable fire extinguishers.
- Demonstrate the proper use of a portable fire extinguisher.

Resource List

Instructor Materials

- Optional video: [Kelowna Fire Department – How To Use a Fire Extinguisher](#)

Fire Department Materials

- Portable fire extinguishers
- Burn pan
- Fuel
- Ignition source

Optional Materials

- Flip chart or whiteboard, pens

In-lesson Handouts

- Get to Know Portable Fire Extinguishers package
 - Should You Fight a Fire? page
 - Choosing a Portable Fire Extinguisher page
 - Types of Portable Fire Extinguishers page
 - Installation, Inspection and Maintenance page
 - Fire Extinguisher Operation page
 - Fire Extinguishing Reminders page

Take-home Handouts

- Our Home is Fire Safe package

Teaching Tips

- Ensure that you know the needs of the group prior to the lesson.
- Consider the differences in audience ages, education levels and socio-economic status to create a more meaningful learning experience for all.
- Ensure your lesson considers different living situations and try to relate to the particular living arrangements of your audience (single detached homes, apartments, care homes or multi-generational households).
- Choose a teaching environment that is quiet and free of other activities and distractions.
- Deliver your lesson in a professional and confident manner.
- Establish a need for adults to know the information you are delivering. They must understand and believe that the material presented is important and relevant to them.
- Respond professionally to any responses or comments received with respect and honesty. Be fair, considerate and calm. If you are unsure of an answer, tell the group that you will find out the correct answer and get back to them.
- Accommodate a variety of learning styles by using props, demonstrations and problem-solving discussions.
- Encourage the group to share their experience and knowledge in the lesson.
- Support your lesson with real firefighter experiences. Use local media articles, success stories and fire and burn statistics to relate the lesson to the group's community and life.
- Maximize the lesson's impact by tapping into internal/external learning motivations. For example, an external motivator for being fire safe may be to keep insurance costs down; an internal motivator may be personal feelings of safety, security and/or protecting family.
- **Never** force anyone to extinguish a live fire.

Agenda

Total lesson time: 60 minutes

Lesson Topics	Time
Introduction	5 min
Topic 1: Should you fight a fire?	5 min
Topic 2: Selecting an appropriate portable fire extinguisher	10 min
Topic 3: Installation, inspection and maintenance	5 min
Topic 4: Proper use of portable fire extinguishers (theory)	5 min
Topic 5: Proper use of portable fire extinguishers (practical)	25 min
Conclusion	5 min

Lesson Plan


Introduction

Time: 5 minutes

Outline	Time	Resources
<ul style="list-style-type: none">• Introduce yourself to the group.• Depending on the group size, you may want to ask participants to introduce themselves.• Clearly indicate the locations of washrooms and all exits.• Briefly outline evacuation procedures in the event of an emergency.• Using the agenda, discuss the activities to follow.• Survey the group for their expectations of the lesson. You may want to document responses on a flip chart or whiteboard to revisit later.• Ask the group if they have experience using portable fire extinguishers. Do not assume that everyone has a fire extinguisher in their home or has any personal experience using a fire extinguisher beyond seeing them used by others.• Distribute the Get to Know Portable Fire Extinguishers package. Explain to the class that you will reference the materials throughout the lesson.• Provide a lead-in to the first topic. <p>SAY! “Before we talk about how to use a portable fire extinguisher, you need to first understand when it is appropriate to use one.”</p>	5 min	Agenda Flip chart or whiteboard, pens Get to Know Portable Fire Extinguishers package

Topic 1: Should you fight a fire?


Time: 5 minutes

Outline	Time	Resources
<p>When to Fight a Fire</p> <ul style="list-style-type: none"> • Introduce the topic by explaining to the group that every home should have at least one fire extinguisher, and the importance of keeping it in the kitchen, located no more than 12 metres (40 feet) from the area of use. Multi-level homes ideally include three fire extinguishers: one in the kitchen, one in the basement and one in the garage. • Every home should have at least one adult who is trained to use a fire extinguisher properly. • Using the Should You Fight a Fire? page, discuss the decision-making process around whether or not to fight a fire. • Prior to deciding, you should first ensure: <ul style="list-style-type: none"> – Everyone has left the building – Someone is calling the fire department • Participants should consider fighting a fire ONLY if the following conditions exist: <ul style="list-style-type: none"> – The fire is confined to a small area and not spreading – A clear escape route exists between themselves and the fire – There is an appropriate, working fire extinguisher available – They know how to properly use the extinguisher • Remind the group that it is dangerous to fight a fire under any other circumstances. Emphasize that if they are ever unsure, uncomfortable or unable to extinguish a small fire themselves, they should immediately leave the area, close the door of the room on the way out, get outside, stay there and call 9-1-1 or their local emergency number. • Use this time to ask the group if they have any questions. 	4 min	Should You Fight a Fire? page
<p> Topic Close Out</p> <p>Say these key messages:</p> <ul style="list-style-type: none"> • Only use a portable fire extinguisher if you are trained and if: <ul style="list-style-type: none"> – The fire is small or confined and not spreading – You have a clear escape route – You have an appropriate fire extinguisher and you know how to use it properly 	30 sec	
<p>Lead into the next topic.</p> <p>SAY! “Now that we have decided it is safe to fight the fire, let’s look at how to select the proper portable fire extinguisher.”</p>	30 sec	

Topic 2: Selecting an appropriate portable fire extinguisher

Time: 10 minutes


Outline	Time	Resources								
<p>Classes of Fire</p> <ul style="list-style-type: none"> Using the Choosing a Portable Fire Extinguisher page, discuss the three common classes of fire (A, B, C) and their symbols for recognition. <ul style="list-style-type: none"> Class A – Ordinary combustibles Class B – Flammable liquids and gases Class C – Live electrical equipment Show the group a variety of portable fire extinguishers displaying each of the three classes. Note: If it is appropriate to the audience, include information on the following: <ul style="list-style-type: none"> Class D fires Class K extinguishers Halon extinguishers 	4 min	Choosing a Portable Fire Extinguisher page Portable fire extinguishers								
<p>Types of Portable Fire Extinguishers</p> <ul style="list-style-type: none"> Using the Types of Portable Fire Extinguishers page, discuss the three common types of portable fire extinguishers. Relate the type of portable fire extinguisher to the classes of fire they are designed to extinguish. <table border="1" data-bbox="204 1188 987 1423"> <thead> <tr> <th>Type of Portable Fire Extinguisher</th> <th>Classes of Fire</th> </tr> </thead> <tbody> <tr> <td>• Water</td> <td>• Class A</td> </tr> <tr> <td>• Carbon Dioxide</td> <td>• Class B, C</td> </tr> <tr> <td>• Dry Chemical</td> <td>• Class A, B, C</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Use this time to ask the group if they have any questions. 	Type of Portable Fire Extinguisher	Classes of Fire	• Water	• Class A	• Carbon Dioxide	• Class B, C	• Dry Chemical	• Class A, B, C	5 min	Types of Portable Fire Extinguishers page
Type of Portable Fire Extinguisher	Classes of Fire									
• Water	• Class A									
• Carbon Dioxide	• Class B, C									
• Dry Chemical	• Class A, B, C									

Outline	Time	Resources
 <p>Topic Close Out</p> <p>Say these key messages:</p> <ul style="list-style-type: none"> • Before using a portable fire extinguisher, ensure it is the correct type for the material that is burning. • Do not fight a fire if you do not know what material is burning or what type of fire extinguisher to use. 	30 sec	
<p>Lead into the next topic.</p> <p>SAY! "It is critical that portable fire extinguishers are installed and maintained properly so they are ready to use when we need them."</p>	30 sec	

Topic 3: Installation, inspection and maintenance

Time: 5 minutes


Outline	Time	Resources
<p>Portable Fire Extinguisher Care</p> <ul style="list-style-type: none"> Using the Installation, Inspection and Maintenance page, discuss appropriate procedures. Note that the owner/operator’s manual should be read for installation, inspection and maintenance instructions specific to your fire extinguishers. <p>Installation</p> <ul style="list-style-type: none"> Install fire extinguishers in plain view near an escape route. Install fire extinguishers away from stoves and heating appliances. Fire extinguishers should be located no more than 12 metres (40 feet) from the area of use (i.e., kitchen, sleeping area or garage). You should have at least one fire extinguisher in the kitchen and on every level of your home. <p>Inspection</p> <ul style="list-style-type: none"> Inspect your fire extinguishers once a month: <ul style="list-style-type: none"> Check the pressure gauge Check for damage and leaks Check if the pin is in place Lift or weigh the fire extinguisher to see if it is full Take any fire extinguishers that fail inspection for service. Check to see if your fire extinguisher is under any Canadian federal recalls or safety alerts. Update the tag to track your extinguisher’s inspection, service and recharge dates. If your extinguisher does not have a tag, attach one. <p>Maintenance</p> <ul style="list-style-type: none"> Have your fire extinguishers serviced annually by a certified service technician. Rechargeable fire extinguisher models must be serviced after every use. Disposable fire extinguishers must be replaced after use. Use this time to ask the group if they have any questions. 	<p>4 min</p>	<p>Installation, Inspection and Maintenance page</p>

Outline	Time	Resources
 <p>Topic Close Out</p> <p>Say these key messages:</p> <ul style="list-style-type: none"> • Along with your smoke alarms, inspect your fire extinguishers once a month and have them serviced annually by certified personnel. • Check to see if your fire extinguisher is under any Canadian federal recalls or safety alerts. • Portable fire extinguishers should be located no more than 12 metres (40 feet) from the area of use (i.e., kitchen, sleeping area or garage). • Placing a fire extinguisher right next to the oven/stove is not recommended as smoke and flames could block access to the extinguisher. • Ideally, you should have at least one fire extinguisher on every level of your home and in the kitchen. 	30 sec	
<p>Lead into the next topic.</p> <p>SAY! “Now that we have talked about the types of portable fire extinguishers, installation and maintenance, let’s learn how to use them properly.”</p>	30 sec	

Topic 4: Proper use of portable fire extinguishers (theory)

Time: 5 minutes


Outline	Time	Resources
<p>Handling a Portable Fire Extinguisher</p> <ul style="list-style-type: none"> • Using the Fire Extinguisher Operation page, discuss the appropriate steps to effectively use a portable fire extinguisher. • Explain to the group the acronym “PASS”: <ul style="list-style-type: none"> – Pull the pin – Aim at the base of the fire – Squeeze the lever – Sweep from side to side • Using the Fire Extinguishing Reminders page, explain that the following actions should also be taken: <ul style="list-style-type: none"> – Test the extinguisher prior to approaching the fire. – Keep low and approach with wind at your back, if outside. – Stay away from the fire, keeping a distance of at least 2 metres (6.5 feet). – Remember when using portable fire extinguishers on stove fires the extinguisher spray can knock over pots and pans, potentially causing the fire to spread. – Extinguish the fire using PASS. – Back away and watch out for re-ignition. – Leave the building, close the door and wait for the fire department to arrive for further assessment. (Remember: Someone should call the fire department before you extinguish a fire.) – Never re-enter the building without the fire department’s approval. – Escape if a fire does not extinguish after using one fire extinguisher. Leave the area and if possible, close the door. Get outside and call your local emergency number. – Never intentionally set a fire for the purposes of portable fire extinguisher practice. – Contact your local fire department if you require additional portable fire extinguisher training in a safe environment. • Use this time to ask the group if they have any questions. 	<p>4 min</p>	<p>Fire Extinguisher Operation page Fire Extinguishing Reminders page</p>

Outline	Time	Resources
 <p>Topic Close Out</p> <p>Say these key messages:</p> <ul style="list-style-type: none"> • When using a portable fire extinguisher, remember the acronym “PASS”: Pull, Aim, Squeeze and Sweep • If you are unable to extinguish the fire, begin your escape outside and call your local emergency number. 	30 sec	
<p>Lead into the next topic.</p> <p>SAY! “Although the steps to using a portable fire extinguisher seem easy, we need hands on practice to gain confidence should you face a real fire.”</p>	30 sec	

Topic 5: Proper use of portable fire extinguishers (practical)

Time: 25 minutes

Outline	Time	Resources
<p>Practice Using a Portable Fire Extinguisher</p> <ul style="list-style-type: none"> • Note: Practical portable fire extinguisher training should only take place in a controlled environment outdoors, due to the presence of fire during the live burn and the release of the extinguisher's contents. Ensure a safe and appropriate location has been chosen for the live burn, such as at the fire hall. To ensure safety during live burns, arrange for a truck and firefighter to be present. If a safe, controlled environment is not possible, then the practical training should not include a live burn. Consult your department's operational guidelines for other considerations. • Gather the group in the live burn area. To ensure safety, consider the following when providing a practical session on portable fire extinguisher training: <ul style="list-style-type: none"> – Always follow fire department operational guidelines – Be aware of bylaws for live burning regulations – Notify neighbours and the dispatch centre of the training event to avoid any false reports of fire – Ensure the correct type and size of extinguishers are available for the fuels being used – Ensure extinguishers are in proper working order – Provide additional safety by having a firefighter present in full protective clothing with a charged line or other means of controlling the fire – Ensure the method of ignition has due regard for the safety of the firefighter – Establish a safety perimeter for non-participants, upwind from the burn location – Situate live burns in open areas away from all combustible materials – Review live burn procedures with participants prior to starting the practical session – Instructors should accompany participants when approaching the fire – Ensure that the participants extinguishing the live fire are upwind of the fire (wind at their back) – Arrange clean-up of the burn area after the session • Use this time to ask the group if they have any questions. 	<p>24 min 30 sec</p>	<p>Portable fire extinguishers Burn pan Fuel Ignition source</p>

Outline	Time	Resources
 <p>Topic Close Out</p> <p>Say these key messages:</p> <ul style="list-style-type: none"> Familiarize yourself with the portable fire extinguishers in your home, their location and their annual maintenance check. When using a portable fire extinguisher, remember “PASS”: Pull, Aim, Squeeze and Sweep. Never intentionally set a fire for the purposes of portable fire extinguisher practice. Contact your local fire department if you require additional training in a safe environment. 	30 sec	

Conclusion

Time: 5 minutes

Outline	Time	Resources
<ul style="list-style-type: none"> • Reinforce the importance of every home having at least one fire extinguisher, ideally in the kitchen and located no more than 12 metres (40 feet) from the area of use. • Emphasize that using portable fire extinguishers should only be considered when: <ul style="list-style-type: none"> – Everyone has left the building – Someone is calling the fire department – The fire is confined to a small area and not spreading – A clear escape route exists between you and the fire – There is an appropriate and working fire extinguisher available – You know how to effectively use the extinguisher • Remind the group that using a portable fire extinguisher the right way requires training and practice. If they are not trained to use a portable fire extinguisher and a fire breaks out in their home, they should leave immediately and call 9-1-1 or their local emergency number. If they are unsure, uncomfortable or too scared to extinguish a fire, they should leave immediately and call 9-1-1 or their local emergency number. • Explain to the group that children should not be trained to operate portable fire extinguishers. It is more important to teach them to get outside and stay outside until help arrives. • Use this time to ask the group if they have any questions. • Provide the group with a method for contacting you with future questions or concerns. • If using Evaluation Form: Emphasize the importance of the group's feedback and ask that they complete the Evaluation Form. • Share the Our Home is Fire Safe package and explain to the group that it contains more valuable lessons on keeping their homes fire safe. • Thank the group for attending. 	<p>5 min</p>	<p>Evaluation Form Our Home is Fire Safe package</p>

Materials and Handouts

In-lesson Handouts

To be distributed during the lesson in support of the topics listed below.

- Get to Know Portable Fire Extinguishers package
 - Should You Fight a Fire? page (Topic 1)
 - Choosing a Portable Fire Extinguisher page (Topic 2)
 - Types of Portable Fire Extinguishers page (Topic 2)
 - Installation, Inspection and Maintenance page (Topic 3)
 - Fire Extinguisher Operation page (Topic 4)
 - Fire Extinguishing Reminders page (Topic 4)

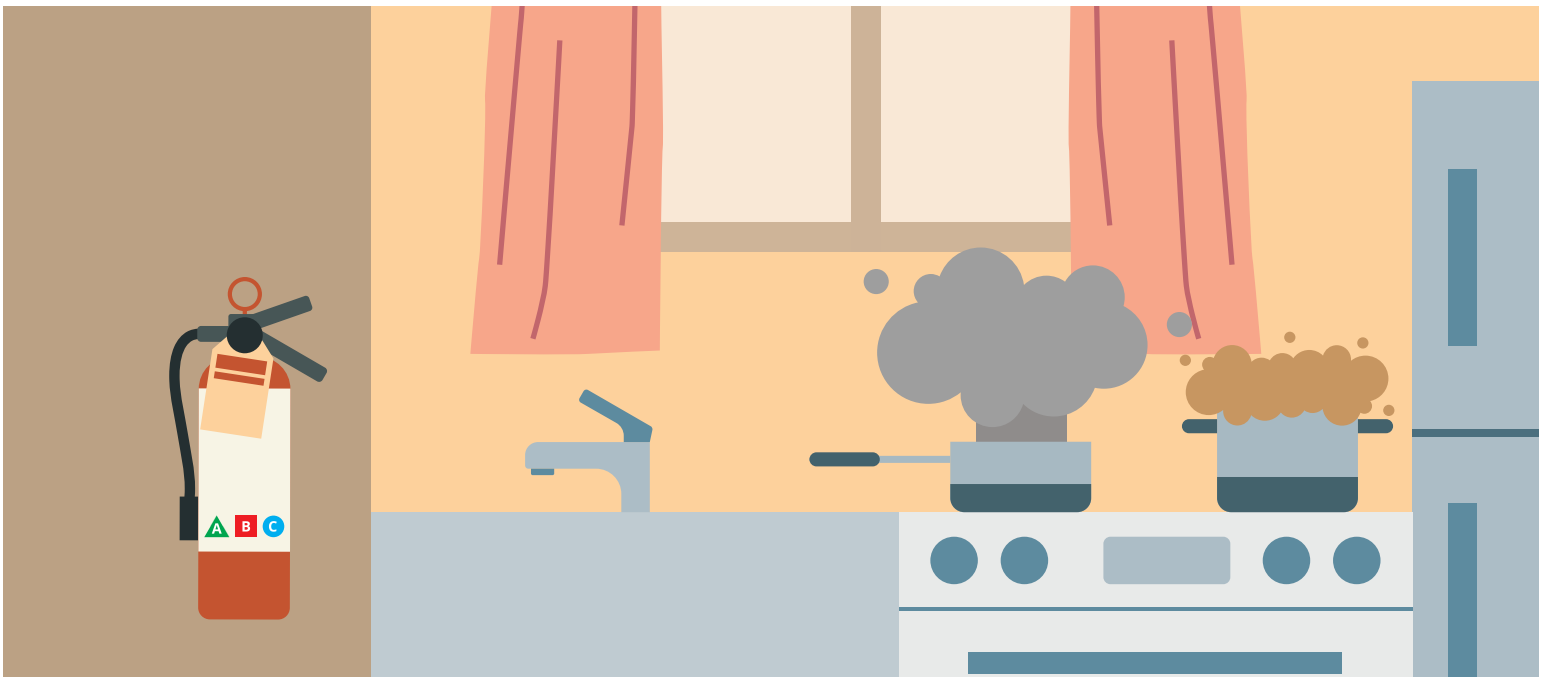
Take-home Handouts

To be provided after the lesson. Handouts can be assigned as homework or completed after the lesson.

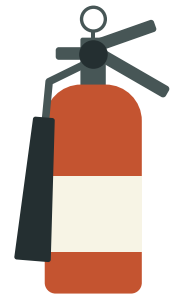
- Our Home is Fire Safe package



Get to Know Portable Fire Extinguishers



Should You Fight a Fire?



The best way to fight a fire is through prevention and early detection. Learning to properly use a portable fire extinguisher may prevent injury and minimize property damage.

Before fighting a fire, keep this checklist in mind. If you are unable to quickly assess if all items can be checked, leave immediately and call 9-1-1.

Checklist

- Has everyone left the building?
- Has the fire department been called?
- Is the fire contained to a small area?
- Do you have a clear escape route between you and the fire?
- Is there an appropriate, working fire extinguisher available?
- Do you know how to effectively use the extinguisher?



Remember, it is dangerous to fight a fire under any other circumstances!

Choosing a Portable Fire Extinguisher



Fire extinguishers are marked with letters that show what specific class of fire they can put out. It is important to choose the right fire extinguisher for the potential fires that could start in your home.

ABC-rated fire extinguishers are an excellent option for home use, as they can help extinguish three types of common home fires.

Class

Common types of fires



Class A extinguishers are for ordinary combustibles, such as wood, cloth, paper, rubber and many plastics.

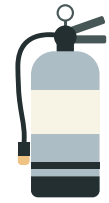


Class B extinguishers are for flammable liquids, such as gasoline, cooking oil, grease, tar, oil-based paint, lacquer and flammable gas.



Class C extinguishers are for energized electrical equipment, including wiring, fuse boxes, circuit breakers, machinery and appliances.

Types of Portable Fire Extinguishers



The following table shows the different materials fire extinguishers use and what types of fires they are effective on. It is important to know the advantages and disadvantages of your fire extinguishers before use.

Extinguisher Type	Fire Classes	Advantages	Disadvantages
Water	<p>A Combustible materials, such as paper or rubber</p>	<ul style="list-style-type: none"> Absorbs heat Environmentally-friendly 	<ul style="list-style-type: none"> May freeze in cold conditions Can spread Class B and D fires Can risk electrocution in Class C fires
Multi-Purpose Dry Chemical	<p>A Combustible materials, such as paper or rubber</p>	<ul style="list-style-type: none"> Common in homes Lightweight Does not freeze 	<ul style="list-style-type: none"> Leaves a mess Regular Dry Chemical extinguishers are only suitable for Class B and C fires Contact can cause irritation to eyes, nose, throat and lungs
	<p>B Flammable liquids, like paint and fuel</p>		
	<p>C Electrical equipment</p>		
Carbon Dioxide (CO₂)	<p>B Flammable liquids, like paint and fuel</p>	<ul style="list-style-type: none"> No residue Environmentally-friendly 	<ul style="list-style-type: none"> Can suffocate people and animals in confined spaces Not ideal in windy conditions Contact can cause frostbite Very heavy
	<p>C Live electrical equipment</p>		
Wet Chemical	<p>A Combustible materials, such as paper or rubber</p>	<ul style="list-style-type: none"> Only type of extinguisher suitable for Class K fires Often present in commercial kitchens 	<ul style="list-style-type: none"> Can create toxic fumes
	<p>K Cooking oils and fats</p>		
Foam	<p>A Combustible materials, such as paper or rubber</p>	<ul style="list-style-type: none"> Helps prevent reignition in Class B fires 	<ul style="list-style-type: none"> Freezing temperatures
	<p>B Flammable liquids, like paint and fuel</p>		
Dry Powder	<p>D Combustible metals</p>	<ul style="list-style-type: none"> Only type of extinguisher suitable for Class D fires 	<ul style="list-style-type: none"> Leaves a mess that should not be inhaled Not suitable for other fire classes

Note: Halon fire extinguishers are not included as their production has been discontinued due to environmental concerns

Installation, Inspection and Maintenance



Note: Read the owner/operator's manual for installation, inspection and maintenance instructions specific to your fire extinguishers.

Installation

- Install fire extinguishers in plain view near an escape route.
- Install fire extinguishers away from stoves and heating appliances.
- Fire extinguishers should be located no more than 12 metres (40 feet) from the area of use (i.e., kitchen, sleeping area or garage).
- You should have at least one fire extinguisher in the kitchen and on every level of your home.

Inspection

- Inspect your fire extinguishers once a month:
 - Check the pressure gauge
 - Check for damage and leaks
 - Check if the pin is in place
 - Lift or weigh the fire extinguisher to see if it is full
- Take any fire extinguishers that fail inspection for service.
- Check to see if your fire extinguisher is under any Canadian federal recalls or safety alerts.
- Update the tag to track your extinguisher's inspection, service and recharge dates. If your extinguisher does not have a tag, attach one.

Maintenance

- Have all your fire extinguishers serviced annually by a certified service technician.
- Rechargeable fire extinguisher models must be serviced after every use.
- Disposable fire extinguishers must be replaced after use.



Fire Extinguisher Operation

When using your fire extinguisher, it is important to remember **PASS!**

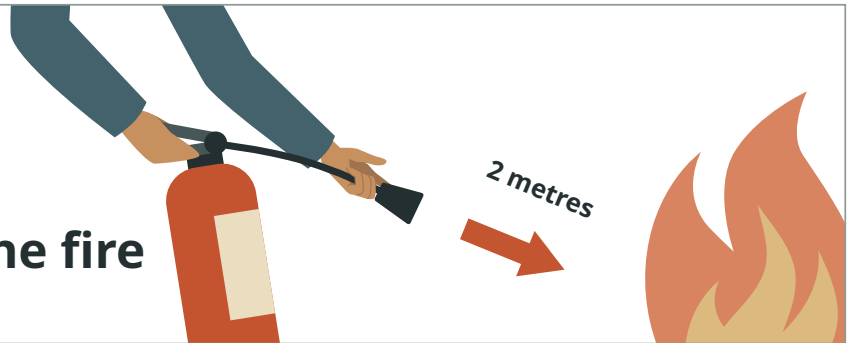
PULL

the pin



AIM

at the base of the fire



SQUEEZE

the lever



SWEEP

from side to side



Fire Extinguishing Reminders



- **Test** the extinguisher prior to approaching the fire.

- **Keep low** and approach with wind at your back, if outside.

- **Stay away** from the fire, keeping a distance of at least 2 metres (6.5 feet).

- **Remember** when using portable fire extinguishers on stove fires the extinguisher spray can knock over pots and pans, potentially causing the fire to spread.

- **Extinguish** the fire using PASS:
 - **Pull** the pin
 - **Aim** at the base of the fire
 - **Squeeze** the lever
 - **Sweep** from side to side

- **Back away** and watch out for re-ignition.

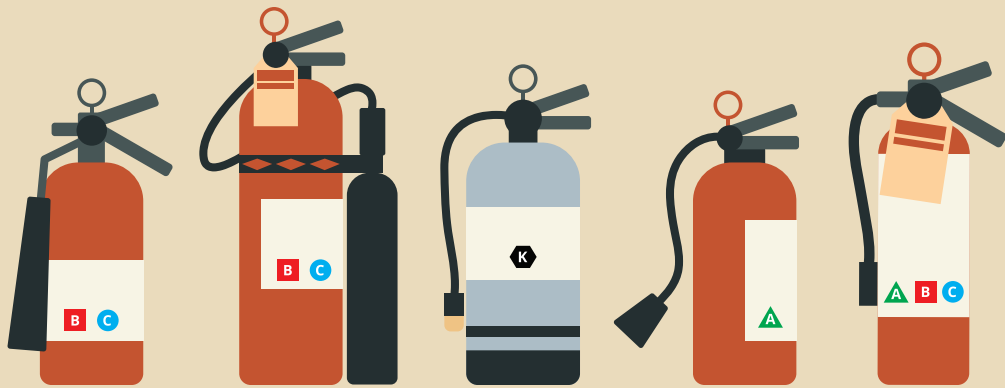
- **Leave** the building, close the door and wait for the fire department to arrive for further assessment. (Remember: Someone should call the fire department before you extinguish a fire.)

- **Never re-enter** the building without the fire department's approval.

- **Escape** if a fire does not extinguish after using one fire extinguisher. Leave the area and if possible, close the door. Get outside and call your local emergency number.

- **Never intentionally set a fire** for the purposes of portable fire extinguisher practice.

Contact your local fire department if you require additional portable fire extinguisher training in a safe environment.



provincial guide to home
fire and burn prevention