

# **PRESENTER'S GUIDE**

## **"FIRE PREVENTION IN THE OFFICE"**

**Part of the General Safety Series**

# **OUTLINE OF MAJOR PROGRAM POINTS**

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The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- **Ever since humans learned to control fire, it's helped us to do a lot of good things. It has:**
  - Kept us warm when we were cold.
  - Cooked our food when we were hungry
  - Created light when it was dark.
  
- **But when it gets out of control fire can be devastatingly destructive to property, and lethal to people.**
  - Every year in the U.S., more than a million fire emergencies are reported, over 3,000 of them in offices.
  - They cause upward of \$100 million dollars in damage, as well as thousands of deaths and injuries.
  
- **When you want to stop a fire quickly and safely, it helps to understand what fire is and how it works.**
  
- **To get started and keep going, a fire requires fuel, oxygen and heat.**
  - Removing any one of these three ingredients will stop a fire from burning, so let's look at each of them in more detail.
  
- **First, a fire needs a material that will burn.**
  - That's the fuel.
  
- **There are many types of materials that can be fuel for a fire, such as:**
  - Wood.
  - Paper and cardboard.
  - Gasoline.
  - Propane.
  - Even some types of metals.

- **Second, the fuel must be in an environment where there is oxygen, so it can "breathe".**
  - In fact, the more oxygen a fire has, the better it will burn, which is why "fanning" a fire makes it flare up.
- **The third element that is needed for a fire is a "source of ignition" (heat) such as a burning match or an electric spark, that will "light" it.**
- **In an office, potential sources of ignition can include:**
  - A smoldering cigarette butt.
  - A hot surface, such as the heating element of a hot plate or a coffeemaker.
  - An overloaded electrical circuit.
- **It's important to understand that it's the flammable vapors that are given off by a material that mix with oxygen and actually burn.**
  - Some materials such as gasoline, and gases such as propane, give off vapors almost all the time, so they are easy to ignite.
- **Other materials, like wood or cardboard have to be "pre-heated" in order to generate these vapors.**
  - That's why you need to light some crumpled-up newspaper under a log fire to get the wood to ignite.
- **Once a fire has started, it generates additional heat by consuming more fuel and more oxygen.**
  - This chemical reaction will continue to generate heat as long as there is fuel and oxygen to feed it.
- **So left to itself, a fire will get bigger and hotter.**
  - This is how a fire gets out of control.
  - And it can happen very quickly.
- **All it takes is fuel, oxygen and heat, but take just one of them away, and the fire will stop.**

- **To put out a fire, you usually apply some type of "retardant", like water, or baking soda, or sand.**
  - This will reduce its heat, or deprive it of fuel or oxygen.
- **But not all fires are alike.**
  - When extinguishing them, it's important to pay attention to the types of materials that are burning, as well as where the fire is located.
  - Using the wrong fire retardant can make a bad situation even worse.
- **For example, water does a great job of putting out a fire in a pile of cardboard, but...**
  - If you pour water on burning liquids, it will spread the fire further.
  - If the fire is located in or around electrical equipment, pouring water on it could get somebody electrocuted, because water conducts electricity.
- **To make it easier to distinguish between different types of fires and determine what substances should be used to extinguish them, fires have been divided into "classes".**
- **"Class A" fires involve everyday solid combustibles, such as paper and wood.**
  - As we've seen, these can be extinguished with water, which cools the burning materials as well as helps deprive them of oxygen.
- **"Class B" fires involve flammable gases, liquids and some plastics.**
  - For example, fires fueled by gasoline or propane are Class "B" fires.
  - Class B fires can be put out by applying chemical foams that blanket the area and cut off the fire's oxygen supply.

- **"Class C" fires involve electricity, and can occur in equipment such as copiers, light fixtures, fuse boxes, electrical wiring and receptacles.**
  - These fires are extinguished by starving them of oxygen... a process called "smothering".
  - This can be done safely with dry chemicals such as monoammonium phosphate, potassium bicarbonate and potassium chloride... all of which are nonconductive.
  
- **"Class D" fires occur when combustible metals, such as potassium, sodium and magnesium catch fire.**
  - You will probably never encounter a Class D fire, but if you do, don't attempt to put it out yourself.
  - Call your local fire department immediately.
  
- **When a fire starts, seconds count.**
  - The burning has to be slowed down as much as possible as soon as possible, in order to protect lives and property.
  
- **The first line of defense in most buildings is a sprinkler system.**
  - The heat of a fire triggers it automatically.
  - Sprinklers in most offices are designed to quench Class A fires with large quantities of spraying water.
  
- **This may extinguish the fire, but even if it doesn't, the water beats down the flames and slows the burning process, so people can evacuate and fire department personnel can do their job.**
  
- **Fire extinguishers provide another line of defense in a fire emergency.**

- **Depending on the extinguisher, they discharge different fire-suppressing materials, such as water, carbon dioxide or dry chemicals, to fight specific classes of fires.**
  - Before using an extinguisher, you must make sure that it is compatible with the class of fire you're fighting.
  - If the label indicates that it's the wrong type of extinguisher for that fire, don't use it.
- **Many fire extinguishers are marked "A, B and C" on their label.**
  - They are multipurpose units and can safely be used for all three fire classes.
- **When you use a fire extinguisher, remember to follow the "P.A.S.S." method:**
  - **P**ull the pin.
  - **A**im the nozzle.
  - **S**queeze the trigger.
  - **S**weep from side to side.
- **Most extinguishers will empty in less than 15 seconds.**
  - If you can't put a fire out in that amount of time, you should evacuate the area immediately.
- **Place the empty extinguisher out of the way, on its side, so no one will trip over it or try to use it again.**
- **Sprinkler systems and fire extinguishers can keep a fire at bay, but the best way to "fight" fires is to keep them from starting in the first place.**
  - You can help to prevent fires in your office by learning to recognize potential fire hazards and doing what's needed to eliminate them.

- **Careless smoking is a leading cause of fires not only at home, but in the office as well.**
  - If you smoke, be sure to follow your company's smoking policy and be careful where you put your cigarette butts.
  - Make sure cigarettes are completely out before you toss them, and dispose of the butts only in appropriate containers (do not throw them in the trash).
- **Many other office fires involve electricity, and can result from:**
  - Overloaded circuits.
  - Damaged power cords.
  - Improper or unsafe use of extension cords and small appliances.
- **"Overloads" occur when too much power is being drawn through an electrical circuit, which can cause the wiring to heat up and catch fire.**
  - A common cause of overloads is plugging too many office machines into a single receptacle.
  - You can prevent this by not using power strips or any other "adapters" that allow you to plug multiple power cords into the same outlet.
- **Pay close attention to the cords that you're plugging in, as well.**
  - If they're cracked or frayed, they're a fire hazard.
- **Don't use extension cords for any equipment that "pulls" a lot of current, such as copiers or microwaves.**
  - They can overload the cord if it isn't rated to carry that much power.
- **Remember that extension cords are intended for temporary use.**
  - Don't install one as a "permanent" power-supply solution.
  - Over time it can deteriorate, crack and become a potential ignition source.



- **Hot-plates, toaster ovens, coffeemakers and other small appliances can be convenient, but they can be fire hazards as well.**
  - In an office, they could ignite papers or other clutter that they come into contact with.
  - You can prevent this from happening by using them only in break rooms and kitchens, where these "fuels" are less likely to accumulate.
- **Remember that piles of paper and boxes can be Type A fires "waiting to happen".**
  - Keep your work area neat and throw away waste periodically.
- **By taking precautions and eliminating hazards we can reduce the risk of fires occurring in our workplace, but accidents can still happen.**
  - So it's important to know how to respond if and when a fire does occur.
- **The groundwork for this has already been laid out in your facility's "Emergency Action Plan".**
  - One of the things the plan does is to detail the steps that should be taken if an emergency occurs.
  - This includes mapping out escape routes and explaining how everyone in the building can evacuate safely.
- **You should take the time now to familiarize yourself with the plan and identify at least two paths of escape from the areas where you work.**
  - That way if one path is blocked, you'll be able to evacuate quickly using the other route.
  - Remember to always keep escape routes and emergency exits clear so everyone can get out safely.
- **During a fire, smoke can make it difficult to see where you're going.**
  - Learn how to navigate your escape routes with your eyes closed.
  - It could save your life.

- **When a fire alarm rings, it's your signal to leave the building.**
  - Don't delay because you think it's "just a drill".
  - Do not stop to pick up any of your personal possessions.
  - Just go.
- **Remain calm and follow your evacuation route.**
  - Walk, don't run.
  - Never push past people in front of you.
- **Do not use an elevator to travel between floors.**
  - You could be trapped inside if the power fails.
  - Use the stairs instead.
- **Inhaling the smoke from a fire could kill you.**
  - Since smoke rises you can avoid breathing it by staying as close to the floor as possible.
  - Cover your face with a wet cloth if you can.
  - Take short breaths.
- **When you approach a closed door, make sure that it's cool before you open it.**
  - Check the temperature with the back of your hand (it is more sensitive to heat than your palm).
- **A door that is hot probably has flames behind it, so don't open it!**
  - Use an alternate route instead.
- **If you work in a "high-rise", you may be instructed to evacuate to a "safe area" inside the building.**
  - Otherwise, proceed to the ground floor and leave the building immediately.
- **When you arrive at the assembly area that's been identified in your company's Emergency Action Plan, report yourself as "safe", and remain there until you're told that it's okay to leave.**

**\* \* \* SUMMARY \* \* \***

- **For a fire to burn, it requires fuel, and oxygen and heat.**
  - Taking any one of these away will extinguish the fire.
- **Different types of fires have been divided into classes to make it easier to identify them.**
- **Before using a fire extinguisher, check the label to make sure it's designed for the class of fire you're fighting.**
- **When you use a fire extinguisher, pull the pin, aim the nozzle, squeeze the trigger and sweep side to side.**
- **To help prevent fires in your office:**
  - Don't overload electrical circuits.
  - Smoke only in designated areas.
  - Keep your work area neat.
- **If a fire emergency does occur, remain calm and follow your company's evacuation plan.**
- **Now that you understand the precautions you should take to prevent fires, and what to do if one does occur, you can help to ensure that you and your coworkers never get "burned"!**