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## Introduction to this Manual

### *How to Conduct a Fire Safety Inspection for a House, Dorm, or Apartment*



House fires can spread quickly and be devastating. A recent report from FEMA shows that unintentional fire setting has increased by 30% over the past 10 years. While the primary cause of house fires is cooking accidents, every residence contains multiple fire risks. This interactive manual aims to educate the reader about common fire risks in the home while assessing their current fire safety.

The topics presented in this manual do not need to be completed in the order presented, however, each step within the activities should be followed sequentially. Please take notice of any safety information presented throughout this document.

Anyone should want to complete this manual because most domestic fires are preventable through the practice of fire safety. This manual aims to provide practical information that the reader can use for life.

#### **Cost and Materials:**

1. A building or rooms to inspect. The minimum required rooms to participate fully in the manual are as follows: a bedroom, living room, or office/conference room with plugged-in electronics, and a kitchen area or bathroom.
2. A power strip or similar extension device (for Activity 1).
3. A printed manual and something to write with, you may also consider a clipboard or another hard surface to write on. A mobile device such as a tablet or laptop should also work. This manual is a workbook that requires you to add information in a live environment, including drawing an escape route, so the ability to edit the document is necessary.

**Active time:** Approximately 15 minutes to 1 hour.



**Disclaimer:** This manual provides a basic interactive guide to fire safety and is not a replacement for a fire safety course or certification. This document is also **not fully comprehensive** of all possible fire risks present in your home but is intended to provide interactive learning activities relating to fire safety.

## Topic 1: Electrical Safety

**Introduction:** Imagine a scenario where you would like to place your favorite reading lamp on the left-hand side of the bed, next to where you sleep. However, your bedroom wall outlet is on the right-hand side of the bed. Your solution is to purchase an extension cord or power strip to extend your reading lamp's short cable to reach the wall outlet. A single lamp will not draw much power through the extension cord and is likely fire safe. However, perhaps you decided to purchase an extension cord with multiple outlets because you would also like to charge your laptop overnight. This is when it's essential to check for **power compatibility**. When you use a power strip or similar product, you are essentially performing electrical work by extending your home's electrical network. An understanding of how to use these tools correctly will help prevent overheating, electrical shorting, or other safety issues that can lead to a fire.

What is a surge protector and why do I need one?

A surge protector is a device that protects appliances and electronics from damage in the case of a voltage spike or power surge. Many power strips have integrated surge protectors that protect their connected devices. **Power strips/hubs containing surge protectors are recommended for connecting electronic devices, particularly ones that can be damaged by overheating such as a laptop or TV.**

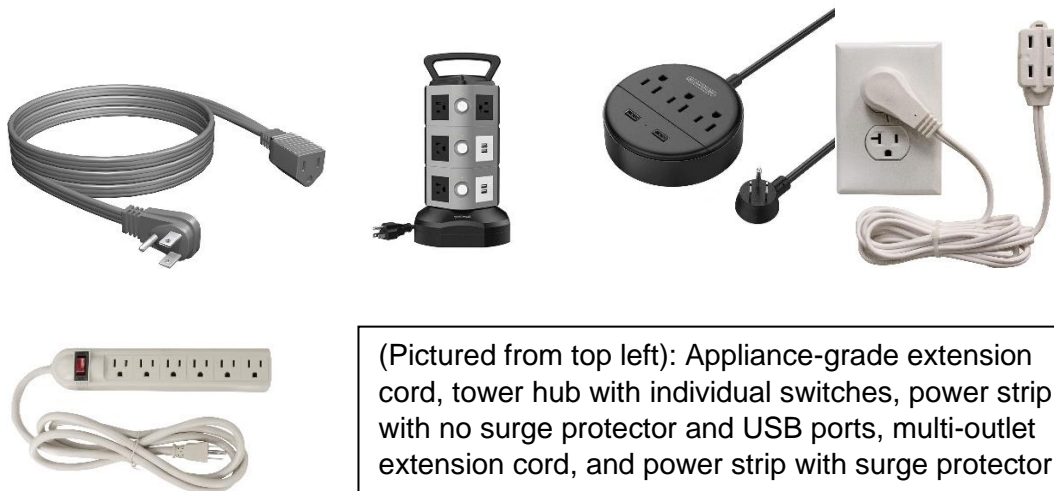
Basic extension cords and unprotected power strips should only be used for low-powered devices such as reading lamps and should be replaced frequently as these products tend to wear quickly. Cellphones are low-powered devices; however, their internal components are delicate and still vulnerable to damage from surges.

Always use the appropriate appliance-grade extension cord if you need to extend an appliance such as a dishwasher, air conditioner, or even smaller appliances like air fryers. However, it is always safer to plug large appliances directly into your wall outlet.



**Discard any extension cords, power strips/hubs, and power cables that are older than 10 years, become hot to the touch when in use, appear damaged or frayed, and/or transmit sparks or 'shocks' when used.**

Below are some examples of products used to extend your home's electrical network:



(Pictured from top left): Appliance-grade extension cord, tower hub with individual switches, power strip with no surge protector and USB ports, multi-outlet extension cord, and power strip with surge protector.

### Activity 1: Power Strips and Extension Cords

1. Locate a power strip or surge protector in your home that is being used to power more than one electronic device.
2. Find the power limits of your extension product. This information can be found on the original packaging, online, or printed on the product itself (as shown in the photo to the right). The power strip should say something like: 120V, 1200W, 60Hz, and 12A.

Mountable Design



3. Power compatibility in this exercise will be calculated using watts. If your extension cord/power strip does not have the power capacity listed in watts, use a search engine to convert the volts and amps to watts, (or you can use Watts Law: Watts = Amps X Volts). To use the previous example, 12 amps X 120 volts is 1200 watts and the maximum amount of power that the power strip can safely supply.
4. List the power requirements in watts of your connected devices (or devices that you typically plug into this strip). This information can often be found online or written on the product or packaging. Below is a quick reference guide for average power usage for some common devices.

Device	Typical power usage
laptop (in use and fully charged)	15w
laptop (in use and charging)	63w
smartphone	2-6w
lamp	20w
e-cigarette/vape	7-15w
television/monitor (19")	20w
table fan	42w

5. Calculate your total wattage for plugged-in devices and then compare that total to your power strip's total wattage using the worksheet below:

Device	Power usage
<b>Total Wattage of Devices:</b>	
<b>Total Wattage of Power Strip:</b>	

6. Finally, determine if your power cord can supply sufficient power to all connected devices. Ensure there is a buffer of at least 30% of available wattage to protect against a power surge. **Never 'max out' all the available power your extension device can deliver.** Most extension cords and power strips can supply many times more power than the

amount intended by the manufacturer, meaning, **your power strip could be running dangerously hot, but you may not realize it because it will still function.**

*Fun Fact: Did you know that Christmas/string lights are the most fire-safe lights and extension cords because each light contains an individual fuse?*

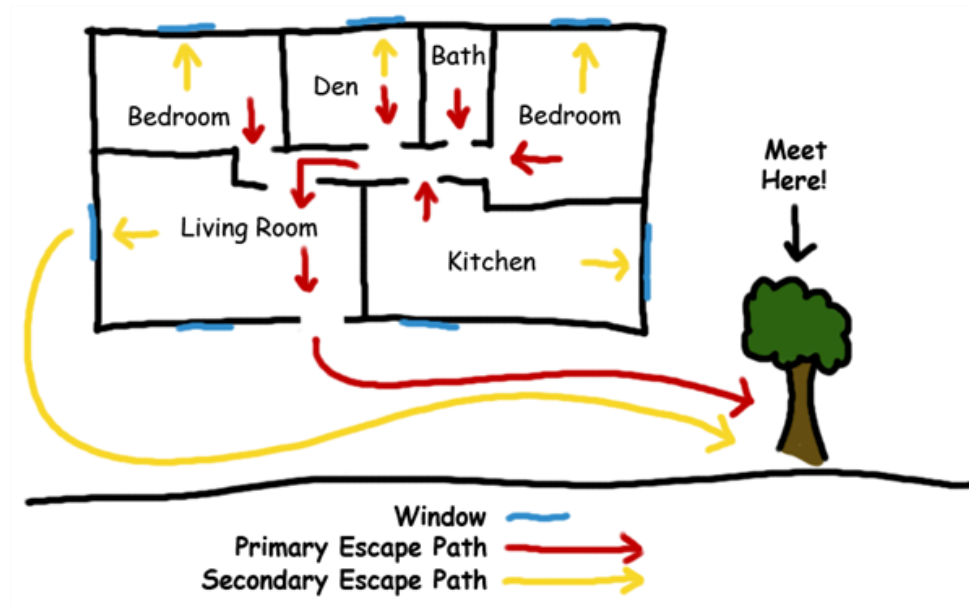
## Topic 2: Fire Emergency and Planning

**Introduction:** While fire escape planning is typically associated with compliance for schools and businesses, it is equally important to understand how to exit your home safely in the event of a fire. Whether you live in a home, apartment, or dorm, completing a fire escape plan to share with your family or roommates can potentially save a life in the event of an emergency.

**Roles and responsibilities:** Laws vary from city to city, however, if you are a renter, your landlord is likely required to provide you with a fire safety plan. This information may be included as part of your lease/rental information packet or posted publicly in the building. Fire safety plans typically include escape routes, important contact information, hazard and warning information, and the location of fire alarms and extinguishers. For rentals and dorms, fire safety plans and emergency escape routes are developed by fire inspectors and represent the best ways to exit your building or house. Ask your landlord to provide this information if not readily available. In a college dormitory, the resident advisor is typically designated as a fire safety warden – a person who is responsible for executing the fire safety plan in the event of an emergency.

Homeowners and some private renters will need to develop their own escape plans.

OSHA and the United States government recommend that you have **two means of escape** from your home. Do not use an elevator as part of your escape plan. If you use a window as an escape, make sure you can reasonably climb out of it. If the window is located on an upper story, a rope ladder or similar tool would be needed to climb down (although not required for the completion of this manual). Your escape route should be practiced twice a year by all residents and communicated to any overnight guests to ensure their safety.



### ***Activity 2: Develop Your Escape Plan***

1. Use the box on the next page to draw two escape routes from at least one room in your home to a designated meeting spot outside (feel free to complete a full house map like the example on page 5).

#### **My Fire Escape Plan**



Primary escape route:

Secondary escape route:

Designated meeting place:

### ***Activity 3: Test Smoke and Carbon Monoxide Alarms***

A functioning smoke alarm or carbon monoxide detector will have a solid green light (if hardwired) or a flashing light (if battery battery-operated). However, these lights alone do not necessarily mean that your detectors are working. Smoke alarms should be installed in kitchens, bedrooms, and hallways. You should also have a carbon monoxide detector on each floor. Only one smoke or carbon monoxide alarm/detector is needed to complete this activity. You should test your alarms every three months.



**If ceiling-installed, you may need a step ladder or chair to reach the detector(s). Only accomplish this task if you feel comfortable doing so and ask a friend to assist with holding the step ladder or chair.**



1. Locate a smoke alarm or carbon monoxide detector in your home.
2. Test the alarm by pushing the test button for **at least 20 seconds**. Depending on your manufacturer, the test button may be in a different location on your alarm than the one pictured.
3. The test sound should stop when you release the button. If the alarm does not sound or is weak, the alarm either needs a battery replacement or there is an issue with the wiring.
4. Replace batteries in the detector if needed or refer to the manufacturer/your landlord for additional maintenance.

### Topic 3: General Maintenance

**Introduction:** Keeping your home and belongings clean, organized, and in good repair is an important component of fire safety. Excess paper, dust, or other debris can accelerate or even help start a fire. Inspect appliances as you use them to ensure they are in good working order and for any signs of wear. Report any maintenance or electrical issues that you see promptly to your landlord or address them as soon as possible if you are a homeowner.

#### Activity 4: Maintenance Checklist

Below is a quick checklist to perform on all rooms you are inspecting. Each item on the checklist represents an effective habit that can help prevent fire. The purpose of this checklist is to help build good practices around home safety and maintenance. While it may be impossible to always keep your home free from possible fire risks, I urge you to address or rectify any item where you have not selected 'Yes'.

Item	Yes	No
Unused appliances are unplugged.		
Appliances and electronics away from wet areas.		
No collections of paper products (mail, boxes, etc.).		
Room doors can be securely closed to prevent fire spread.		
Vents: kitchen, dryer, and forced heat (if applicable) vents appear clean and free from debris. Homeowners are to check external vents.		
Surfaces are free from excessive dust.		
Cleaning and flammable products are kept in a dedicated cabinet away from any ignition source or flame.		

No items that can catch fire are present near the stove (gloves, calendar, napkins, towels).		
Fire exits are free from obstacles.		
Food is put away securely to avoid rodents that can chew wires		
Extension cords and power strips are visible and do not run under rugs.		

## Conclusion

To summarize, take care when using power strips, extension cords, charging cables, or any other cable or device that delivers power. Be sure to check for power compatibility and use surge protectors and appliance-grade cables when necessary.

Create a fire safety plan for yourself or with the help of your family or roommates. Practice the escape route and review or modify your plan each year. Be sure to inform any long-term guests of your fire safety plan. If you are a renter or student, this plan may have already been created and should be provided to you.

Pay attention to any flashing red lights or chirps from your carbon monoxide detectors and smoke detectors/fire alarms. Be sure you have adequate coverage for your home or apartment and check these alarms at least once a year.

Finally, keeping your home free from dust and ensuring all appliances are well maintained minimizes fire risk in your home. Regularly check and clear any external or internal vents, especially the external vent for your dryer.

Thank you for taking the time to read and participate in this manual! Hopefully, you have gained a better understanding of the present fire risks in your home and what you can do to prevent them. While it is not possible to mitigate all home fire risks, good practices can help protect your family from tragedy and provide some peace of mind.



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