

# **Residential Fire Prevention and Safety Guide**

Time is of essence when it comes to fires at home. In just two short minutes, a fire can become life-threatening. In five minutes, an entire home can be engulfed in flames! With that said, it's important for residents and families to become familiar with how fire works, the main causes of home fires, and the various methods for fire safety. Fire safety awareness has resulted in a lower number of fire deaths in past years, but the number is still pretty high -- especially considering that residential fires are so preventable.

Staying safe from fires at home begins with you. Awareness alone is not enough; proper preventative action is crucial. Save your family from the trouble of having to deal with a fire at home, and a firefighter from risking his life running into your burning residence by taking action with our tips below.

## ***Insight from the Experts***

Curious to see what the professionals have to say about fire prevention at home? Here are some interesting bits of insight from reputable fire officials:



**Mark Brady** | PUBLIC INFORMATION OFFICER WITH PRINCE GEORGE'S COUNTY FIRE & EMERGENCY SERVICES DEPARTMENT

"Having a working smoke alarm provides you a 50 percent better chance of surviving a fire... We also strongly encourage everybody to remove the clutter from their homes, making hallways and doorways accessible and clear of any clutter."

**Tom Mueller** | RETIRED FIREFIGHTER & CURRENT OWNER OF KLM INSURANCE AGENCY IN BARRINGTON, ILLINOIS

"Overloading electrical circuits, ignoring frayed cords and running extension cords as a permanent source of power are also common hazards. Extension cords should only be used temporarily."



**Russ Paulsen** | EXECUTIVE DIRECTOR OF COMMUNITY PREPAREDNESS PROGRAMS FOR THE RED CROSS

"Make sure your family designates an outside meeting place in the event of a fire. A blaze doubles in size roughly every minute. One of the most dangerous things to do is to go back inside looking for a missing family member. The fire that may not have seemed all that big when you were escaping can be monstrous when you go back in."

**Fred Mullins** | PRESIDENT OF BURN & RECONSTRUCTIVE CENTERS OF AMERICA AND BURN SPECIALIST AT THE JOSEPH M. STILL BURN CENTER AT DOCTORS HOSPITAL

"It's best to make the kitchen a no-child zone if you can. We know that is not always possible or practical, so consider a three-foot safety zone around all cooking areas, and make sure that when children are in the kitchen, someone is keeping an eye on them at all times."



**Larry Wilder** | FIRE AND LIFE SAFETY SPECIALIST

Make "fall and crawl" a part of the escape routine so children understand that temperatures and air quality are more survivable lower to the ground.

## Fire: Fast Facts

Before we get into the details of fire prevention at home, let's quickly go over the **fundamental facts about fire** (<https://www.ready.gov/home-fires>) that will build a foundation for a better understanding of fire safety:

## FIRE IS HOT

As one might imagine, fire produces a lot of heat very quickly, and is more threatening than the flames themselves. During a fire, room temperatures at home can be 100 degrees at floor level and get up to 600 degrees at eye level. If you inhale this scorching hot air, your lungs will be scorched and clothes will be melted to your skin!

## FIRE IS DARK

At first, fire appears bright yellow-orange, but quickly turns into black smoke and total darkness.

## FIRE IS FAST

Don't underestimate the speed of fire! In under 30 seconds, a small flame can become a big fire. It also doesn't take very long for thick black smoke to fill a house, or for the house to become taken over by flames.

## FIRE IS DEADLY

Inhaling the poisonous gases that are emitted from fires will cause disorientation and drowsiness. If your system gets enough of it, it is extremely toxic. In fact, smoke & toxic gases kill people more than flames do! Asphyxiation is the number one cause of fire deaths.

## **Shocking Statistics about Home Fires**







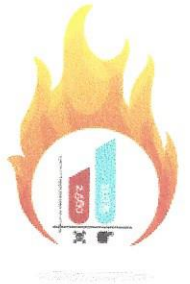
3 out of 5 deaths as a result of home fires occur in homes that do not have working smoke alarms installed.



About 7 people die in the United States as a result of a fire at home.



From 2010-2014, approximately 1 in every 338 households reported a house fire each year.



U.S. firefighters responded to about 365,500 home structure fires in 2015. These fires resulted in \$7 billion worth of damage, 11,075 civilian injuries, and 2,560 deaths!



Fires that start in the bedroom make up **51% of all house fire fatalities** (<https://www.usfa.fema.gov/downloads/pdf/statistics/v18i4.pdf>).

## 5 Tips for Preventing a Residential Fire

A house fire is a disaster that is easily **preventable** (<http://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/fire/home-fire-preparedness>). Every homeowner and family member should take the time to do the following to ensure fire safety.

Install Smoke Detectors Throughout the Home

<https://www.safehome.org/resources/fire-prevention-guide/>

The first step for preventing a residential fire is properly installing enough **smoke detector** (<http://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/fire>) throughout your home. Smoke detectors should be **installed on every floor of your home** (<https://www.cpsc.gov/s3fs-public/SmokeAlarmWhyWhereandWhichCPSCPub559RevisedJuly2016PostReview%282%29.pdf>) and close to any bedrooms. To make sure that the detectors are always in working order, you'll want to test them out once a month. Batteries in smoke detectors should be replaced once a year. Smoke detector manufacturers suggest that they should be completely replaced every 10 years. Do not disable any smoke detectors while cooking, as this can potentially result in tragedy.

## Install Fire Extinguishers

Once you've got the smoke detectors installed, it's time to make sure that you have **fire extinguishers** (<https://www.nfpa.org/Public-Education/By-topic/Fire-and-life-safety-equipment/Fire-extinguishers>) readily available throughout your residence. These will come in handy should you experience a small fire. Using a fire extinguisher will prevent you and your family from having to battle a bigger fire. Fire extinguishers should be kept in the kitchen, garage, and any workshop areas of your home. Similar to smoke detectors, fire extinguishers should be checked regularly to ensure they are working properly.

If you are not sure about how to use a fire extinguisher, consider contacting your local fire department on training information to get you started. You'll be able to learn how to properly use and maintain it.

## Teach Kids About the Dangers of Fire

Let's face it -- kids are curious. This is a good and bad thing, but when it comes to something life-threatening like fire, curiosity can quickly turn into danger. Over 100,000 fires are set every year by kids under 5 years old playing with lighters or matches. To avoid this from happening, it's essential to **educate children** (<https://kidshealth.org/en/kids/fires.html>) about the potentially deadly consequences of playing with fire. Inform them to STOP, DROP, and ROLL if their clothes catch on fire in an emergency. Also, teach them about what firefighters do, and to not hide from them when they are in sight.

## Create a Plan for Escape

Having a **well-thought out, organized plan** (<http://www.redcross.org/news/article/A-Home-Fire-Escape-Plan-Can-Save-Your-Life>) is very important. Think about it -- the last thing you want to do during a fire is try to think rationally about what to do next to survive. Developing a plan for escape in advance will spare you some time (which is a huge deal during a fire).

Not only should you create a plan, you will also want to discuss it with your family members in detail so that everyone is on the same page should a fire take place. The escape plan should include at least two escape routes from every bedroom. Everyone living at home should be familiar with basic home fire safety procedures. This includes checking doors for heat before opening them, staying low on the ground to stay out of smoke, and knowing the closest way out. These little things can go a long way in saving lives during a blaze! Make digital copies of any valuable documents and records like birth certificates, and keep them in a safe place easily retrievable in the event a fire takes place.

In addition to creating a plan and talking about it, practice it. Fire drills are not only for grade school students -- they're a good reminder for everyone of all ages.

On top of having a solid escape plan in place for yourself and your family, it's also crucial to make sure that everything at home is in working order. For example, windows should not be stuck, and if you have any window screens, they should be easily removed if need be. Use security bars? Make sure they can be opened properly.

### Have a Family Communications Plan Set

Got the escape plan out of the way? Now it's time to **plan out your family communication methods** (<http://www.disastercenter.com/guide/family.htm>). Firstly, make sure that everyone knows how to call 9-1-1. In any emergency, it's important to ensure that everyone at home knows who to contact if they are not able to locate one another, or in any other instance. Spend some time to speak with family members about who to call and where to meet in such cases, to be extra prepared.

## Common Causes of Fire at Home

Avoid starting a fire by getting to know what often instigates flames at home:



## Clothing Dryers

Lint will easily get a fire started under the right conditions, so it is very important to keep **your clothing dryer well-maintained** ([https://www.usfa.fema.gov/prevention/outreach/clothes\\_dryers.html](https://www.usfa.fema.gov/prevention/outreach/clothes_dryers.html)). It is highly recommended that the air exhaust pipe to the outside of the home be inspected yearly to ensure that there is no blockage, which may interfere with the dryer working efficiently and safely.

After each load, clear the lint filter before starting a new one. Check around the drum as well, because sometimes lint can collect in this area. If you can, avoid having your dryer operate overnight or while you are out of the house. Keep in mind that it is better to do several rounds of drying if needed, rather than overloading the dryer. Doing so may lead to an excess of lint, increasing the chances of a house fire taking place.

## Children & Pets

To kids, fire is exciting and certainly peaks curiosity. It is very important that kids know about the serious dangers of fire. In addition to explaining how fire is a tool and not a toy, it's beneficial to also **inform them of an escape plan** (<https://www.nfpa.org/Public-Education/By-topic/Safety-in-the-home/Escape-planning>), what the sound of the smoke alarm is like, etc. Keep them away from any stoves that are on or burning candles. Lighters and matches should not be left out in the open where children can easily access them.

Similarly, you can't expect pets at home to know any better. So, if any burning candles are left out in the open for them to reach or play with, you and your home may be in trouble.

## Electrical Appliances

Faulty electrical appliances can also result in a fire, so it's imperative to check them regularly to make sure they are operating properly. Frayed or damaged cords should be unplugged and replaced immediately. If you have kids at home, consider opting for tamper resistant outlets, so that they don't injure themselves or pose a risk when you are not directly supervising. It is dangerous to constantly overload outlets with high-wattage devices, so it's strongly recommended that you spread out your appliances. As far as lighting goes, only use light bulbs that match the fixture's recommended wattage. Extension cords come in really handy when you need to plug in multiple devices in any given vicinity. Just make sure that they are not tucked in under rugs, carpet, or other furniture. Since they power so many things, it's inevitable that extension cords get hot and when overheated, it could fray or wear out, resulting in a potential fire hazard.

If you experience problems with any outlet or wiring at home often, such as blown fuse, constant light flickering, or sparking, then you may want to contact an electrician and have him address the issue. Putting this off may exacerbate the issue in the long run, and it's always better to tackle these problems as they arise.

## Flammable Liquids

Liquids like cleaning agents, paints, gasoline, and adhesives, for example, are highly flammable. This means that they can start a fire with high temperatures or other sources like small sparks of static electricity. To prevent this from happening at home, **store flammable liquids away from any heat source** ([https://www.osha.gov/dte/library/TrngandMatlsLib\\_FlammableLiquids.pdf](https://www.osha.gov/dte/library/TrngandMatlsLib_FlammableLiquids.pdf)). If possible, keep it outside of the home in a ventilated and cool area.

## Smoking

Another really common cause of house fires is **smoking accidents** (<https://www.nfpa.org/Public-Education/By-topic/Top-causes-of-fire/Smoking>). Smoking indoors is never a good idea. Take the extra step and go out onto your balcony or backyard if you must smoke. When you are done smoking, make sure that the embers are completely out in the ashtray or run under water.



## Portable Space Heaters

Space heaters come in really handy in the winter months when you only need to really warm up one room, but it's important to **use them responsibly** (<https://www.firerescue1.com/fire-products/fire-safety-for-children/articles/1206100-5-common-causes-of-electrical-fires/>). These actually account for a third of heating fires, so you will want to make sure that any flammable items are kept at least three feet away from an operating space heater. Keep the space heater on a flat and stable surface when using it so that it doesn't potentially fall on something and catch on fire. Some are designed to automatically turn off once tipped over -- these ones are much safer. Space heaters should not be left on overnight or unattended.

## Cooking

Most house fires occur as a result from using cooking oils, fryers, microwaves, and unattended **cooking** ([http://www.redcross.org/images/MEDIA\\_CustomProductCatalog/m4340086\\_FireCookingFactSheet.pdf](http://www.redcross.org/images/MEDIA_CustomProductCatalog/m4340086_FireCookingFactSheet.pdf)). To avoid potential hazards, never leave the kitchen unattended while cooking, especially when you are using high temperatures or cooking oil. After you are done cooking, ensure that the stove and/or oven is completely turned off before leaving the kitchen. Hot items should be kept away from loose clothing, dish towels, and other fabrics that could potentially cause a fire.

## Fireplaces

Use a fireplace regularly at home? It is essential to get it checked out yearly to ensure it is working properly. Similar to space heaters, you'll only want to use the fireplace when you are home and make sure that it's put out before you go to bed. To prevent flying sparks, utilize a fireplace screen big enough to cover the entire opening, and heavy enough to stop any rolling logs.

## Conclusion

You might be thinking that these fire safety tips are common sense. However, it's easy to overlook them especially when busy and stressed about work, the holidays, and more. It's not uncommon that people lose track of even the most basic precautions. So whether you're reading this piece to gain informational knowledge or to get a very much needed reminder, know that you can never play it too safe when it comes to fire prevention at home. Taking the necessary measures will not only save a ton of hassle and your precious belongings, but also your loved ones!