

WILDFIRES THE FIRST LINE OF DEFENSE

A GUIDE TO PREVENTION, EVACUATION, AND SURVIVAL



THE NEW REALITY OF WILDFIRE



THERE IS NO MORE "WILDFIRE SEASON"

Historically, emergency management agencies and fire departments prepared for a specific "wildfire season" confined largely to the late summer and early fall months. Today, that concept is obsolete. Due to shifting climate patterns, prolonged multi-year droughts, and changing vegetation cycles, the threat of catastrophic wildfire is now a year-round reality.

As communities continue to expand outward into natural areas, millions of homes now sit in what experts call the Wildland-Urban Interface (WUI). This is the transition zone where human development meets combustible wildland vegetation. If your home is located in or near a forest, grassland, or natural brush area, you are living on the front lines.

PREPAREDNESS IS A COMMUNITY EFFORT

Wildfires do not respect property lines or city limits. Your home's safety is heavily dependent on your neighbor's preparedness, and vice versa. Work with your community, HOA, or local Fire Safe Council to ensure your entire neighborhood is hardened, cleared of hazardous fuels, and ready for emergencies.

THE IGNITION PROBLEM

When we view images of massive wildfires on the news, it is easy to assume these disasters are entirely acts of nature triggered by extreme weather and lightning strikes.

The reality is much more controllable. While extreme heat and prolonged droughts dry out the vegetation and create the fuel, human behavior provides the spark. These are rarely intentional acts of arson. The vast majority of these catastrophic events are sparked by everyday people making simple, preventable mistakes. A dragging trailer chain, a lawnmower striking a rock, an improperly extinguished campfire, or a poorly managed debris burn can ignite a field in seconds. Driven by high winds, that single spark can rapidly escalate into a firestorm that threatens thousands of homes and lives.

Because human error is the leading cause of wildfire ignition, the most effective fire-suppression tool we have isn't a fire engine or an air tanker, it is a vigilant, educated community. Protecting your home and your neighborhood does not start when the evacuation sirens sound; it starts with changing how we live and work in dry environments.

PREVENTION — ONE LESS SPARK

IN YOUR OWN BACKYARD

According to the U.S. Forest Service, nearly 90% of all wildfires in the United States are human-caused. The vast majority are the result of everyday people doing everyday activities without realizing how dry the environmental conditions are around them.

YARD EQUIPMENT & MACHINERY

- **The "10 A.M. Rule":** Never use lawnmowers, weed trimmers, or chainsaws on dry vegetation during the heat of the day. A metal mower blade striking a single rock can generate a spark that ignites a field instantly. Always complete your heavy yard work before 10:00 A.M.

- **Hot Work:** Grinding, welding, or cutting metal outside should only be done in a cleared area with no vegetation within 30 feet.

SAFE DEBRIS BURNING & ASH DISPOSAL

- **Verify Burn Days:** Always check with your local fire department or air quality management district to ensure it is a permitted burn day. Never burn during a Red Flag Warning.

- **Clear the Area:** Clear all flammable material down to bare soil within a 10-foot radius of your burn pile.

- **Never Leave It Unattended:** Stay with the fire, with a shovel and water source, until it is completely dead out.

- **Fireplace Ashes:** Thousands of fires are started by homeowners dumping "cold" fireplace or woodstove ashes in their yard. Coals buried in the ash can stay dangerously hot for days. Always place ashes in a metal bucket with a tight-fitting lid and douse them with water.



SPARK ARRESTORS

Wildfires often begin not from massive, open flames, but from tiny, hot particles of carbon expelled by the engines of everyday equipment like chainsaws, weed trimmers, and off-road vehicles.

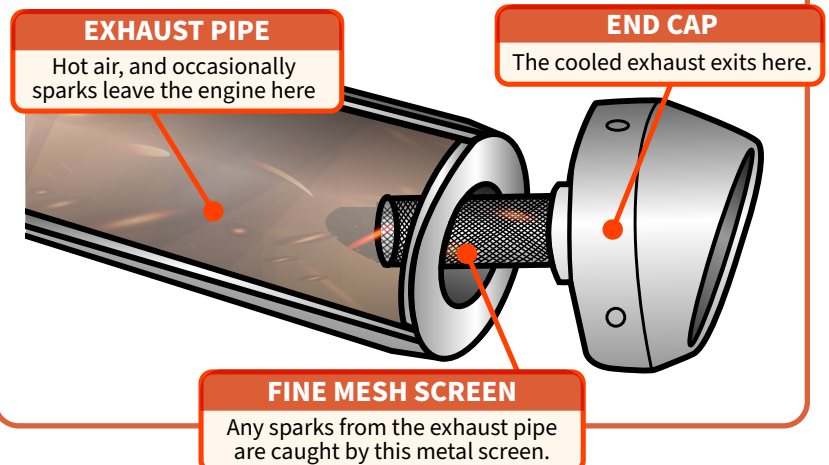
HOW THEY PROTECT US

A spark arrestor is a relatively simple yet crucial device installed directly onto an engine's exhaust system. While designs vary, they typically rely on a fine wire mesh screen or a series of internal metal baffles.

- **The Physical Barrier:** The primary goal of an arrestor is to physically block large, dangerously hot carbon particles from escaping the engine, while still allowing the necessary exhaust gases to flow freely into the air.

- **Cooling and Disintegration:** Even if a smaller particle manages to pass through the initial barrier, the multiple metal surfaces and twisted paths within the arrestor force the spark to collide. This breaks the hot particle up into microscopic, harmless fragments and rapidly cools it down before it ever reaches the dry grass.

- **Maintenance is Key:** A spark arrestor is only effective if it is clear of buildup. If a screen becomes damaged, rusted, or heavily clogged with black carbon soot, its effectiveness drops significantly. Regular inspection and cleaning with a wire brush are vital before using any equipment in high-risk areas.





VEHICLE & ROADWAY SAFETY

YOUR CAR IS AN IGNITION SOURCE

Your vehicle is a heavy piece of machinery that generates immense heat and friction. Routine mechanical failures or poor parking choices spark massive highway fires every year.

TOWING AND TIRE MAINTENANCE

- **Dragging Chains:** Ensure your trailer safety chains are crossed and properly secured to the hitch. A loose safety chain dragging on the asphalt will throw a continuous shower of sparks into dry roadside brush.
- **Tire Blowouts:** Driving on an exposed steel wheel rim after a tire blowout will create massive friction sparks. Pull over immediately on a paved shoulder if you suffer a flat tire.
- **Brake Wear:** Worn-out brake pads can cause metal-to-metal contact, throwing sparks onto the road edge.

EXHAUST SYSTEMS & TALL GRASS

- **The Catalytic Converter Danger:** The catalytic converter underneath your car routinely reaches operating temperatures in excess of 1,000°F. If you pull off the highway and park your vehicle in tall, dry grass, the ambient heat radiating from the exhaust system can ignite the vegetation directly beneath you in a matter of seconds.
 - **The Rule:** Always park on completely paved surfaces, gravel, or dirt areas entirely clear of vegetation.
- #### OFF-ROAD VEHICLES (ATVS & UTVS)
- Ensure all ATVs, dirt bikes, and UTVs have federally approved, clean spark arrestors installed.
 - Avoid riding through tall, dry grass where seeds and dry debris can accumulate tightly around the exhaust manifold or engine block, eventually catching fire.

RECREATION & OUTDOOR ACTIVITIES



CAMPFIRE SAFETY & EXTINGUISHMENT

An unattended or improperly extinguished campfire can quickly spread to surrounding dry vegetation. Taking a few simple precautions can ensure that the only thing burned is the marshmallows.

- **Safe Construction:** Only build fires in designated, metal or concrete fire rings. Clear all dry leaves, pine needles, and twigs in a 10-foot radius around the ring.
- **The "Drown, Stir, Feel" Method:** When extinguishing your campfire, do not just throw dirt on it, as this insulates the coals. Drown the fire completely with water. Stir the wet ashes with a shovel, and drown it again. Finally, hold the back of your bare hand just above the wet ashes. If it is too hot to touch, it is too hot to leave.

FIREWORKS: LEAVE IT TO THE PROFESSIONALS

During periods of drought and high fire danger, personal fireworks are an unacceptable risk. A simple sparkler burns at temperatures up to 2,000°F. Attend professional municipal displays and keep personal fireworks out of wildland areas entirely.



RECREATIONAL SHOOTING

Target shooting is a major ignition source in the United States during the dry summer months.

- **Ammunition Matters:** Never use steel-jacketed ammunition, armor-piercing rounds, or tracer bullets in dry areas. When these bullets strike a rock, they create high-intensity sparks.
- **Exploding Targets:** Never use binary exploding targets during fire season or in dry, grassy areas. They are strictly illegal on public lands during fire restrictions.



CIGARETTES & SMOKING MATERIALS

Improperly discarded smoking materials remain a persistent and entirely preventable cause of devastating wildfires. A smoldering cigarette tossed into dry grass, pine needles, or roadside brush can easily ignite a catastrophic blaze.

- **Proper Disposal:** Never discard a cigarette butt out of a moving vehicle's window or drop it on the ground while hiking or working outdoors. Always use a designated, fire-safe vehicle ashtray or a heavy metal receptacle.
- **Crush and Douse:** If you must smoke outdoors, do so only in a cleared area devoid of all combustible vegetation. When finished, crush the ember completely against a bare rock or paved surface, douse the remains thoroughly with water, and carry the unlit filter out with you to safely dispose of in a proper trash receptacle.





EVACUATION PREPAREDNESS

PACKING YOUR "GO-BAG"

When a wildfire threatens your neighborhood, you may only have minutes to evacuate. Every household member should always have a pre-packed "Go-Bag" emergency supply kit ready during periods of high fire danger.

ESSENTIAL GO-BAG CONTENTS:

- **Documents:** Copies of crucial documents (insurance policies, deeds, IDs, passports, birth certificates) stored in a fireproof and waterproof envelope.
- **Health:** A minimum 7-day supply of prescription medications, spare eyeglasses, and a comprehensive first aid kit.
- **Air Quality:** N95 or P100 respirator masks to protect your lungs from dangerous, microscopic smoke particles during the evacuation.
- **Currency:** Cash in small bills. If the power grid or cellular networks fail, credit card machines will not work.
- **Tech & Light:** A battery-powered or hand-crank emergency radio, high-lumen flashlights, extra batteries, and portable power banks.
- **Clothing:** One change of sturdy clothing, prioritizing long sleeves, long pants, and heavy boots made of natural fibers like cotton or wool, not synthetic materials that can melt.

FAMILY COMMUNICATION

Gather your family to build a clear, actionable plan:

- **Crucial Logistics:** Discuss and identify multiple evacuation routes, establish safe shelter zones, and determine how you will communicate if separated by sudden road closures.
- **Household Needs:** Customize your framework to accommodate the unique requirements of your family, assigning responsibilities for emergency "Go-Bags," daily medications, and essential pet care.
- **Support Network:** Build a strong local web of trusted neighbors who can help coordinate transportation or assist vulnerable family members with mobility challenges during a fast-paced evacuation.
- **Documentation:** Document the entire strategy clearly and keep physical copies easily accessible. Power outages frequently render digital devices useless during a blaze, so ensure every family member reviews and understands this written plan long before smoke reaches your neighborhood.
- **Rehearsal:** Regularly practice your completed plan together, physically driving your various evacuation routes to minimize panic and guarantee everyone knows exactly what to do when a wildfire strikes.

PET PREPAREDNESS:

Never leave pets behind: Create a Pet Go-Bag. Pack a separate bag containing a sturdy carrier, a spare leash/collar, a three-day supply of food and water, bowls, and copies of veterinary records.

Livestock & Large Animals: Pre-arrange a safe evacuation location, such as a county fairground. Practice loading your animals into trailers well before an emergency strikes, as animals can sense panic and may refuse to load during a fire.



EVACUATION PROTOCOL

READY, SET, GO!

To streamline evacuations and save lives, fire agencies across the country utilize the "Ready, Set, Go!" model.

1. READY (YEAR-ROUND PREPARATION)

This is the work you do before a fire ever sparks. It includes creating defensible space, hardening your home, and assembling your Go-Bags.

2. SET (SITUATIONAL AWARENESS)

This phase is triggered during periods of high fire danger (such as Red Flag Warnings issued by the National Weather Service) or when a wildfire is burning in your general region.

- Load your Go-Bags into your vehicle.
- Back your car into the driveway or garage (leaving the garage door unlocked) so you can drive out quickly.
- Sign up for your local alert system ahead of time, so you are prepared in an emergency.

3. GO! (EVACUATE IMMEDIATELY)

When an evacuation order is issued, or if you simply feel unsafe, leave immediately. Leaving early gets you out of the path of the fire and keeps the roads clear for incoming fire engines.

WARNINGS VS. ORDERS

Evacuation Warning: The threat is plausible. Be packed and ready to leave at a moment's notice. Those who need extra time should leave now.

Evacuation Order: The threat is imminent and life-threatening. You must leave immediately.

NAVIGATING THE THREAT

The Two-Route Rule: Always map out and physically drive at least two distinct evacuation routes from your neighborhood. Wildfires are unpredictable; your primary route may be blocked.

IF YOU ARE TRAPPED IN YOUR HOME

If evacuation is no longer possible, take the following steps

- Call 911
- Stay indoors and away from windows
- Move to the room farthest from the fire
- Close all interior doors to slow the spread of the fire
- Keep doors unlocked so firefighters can enter to rescue you or defend the home
- Fill sinks and bathtubs with water to use for extinguishing small spot fires inside
- Turn on all exterior and interior lights to make your home visible through the heavy smoke

RETURNING HOME AFTER A FIRE

Do not return until officials say it is safe. Even after the flames are gone, a fire-damaged area remains dangerous for days. Re-enter only when your local fire department or emergency management agency has officially declared your area open. Returning too early puts you in the path of flare-ups and interferes with crews still working to secure the area.

WATCH FOR HIDDEN HOT SPOTS

A wildfire is not "out" just because the visible flames are gone. Stumps, root systems, and buried debris can smolder underground for days and reignite without warning.

- **Watch for smoke, embers, and ash pits.** The ground may be deceptively hot, and ash pits can hide glowing coals deep enough to cause severe burns.
- **Be ready to douse embers.** Keep a shovel and water source on hand, and re-check your property for several days after returning.
- **Never assume a downed, blackened tree is stable.** Fire weakens root systems, and burned trees can fall without warning.

HANDLE ASH AND DEBRIS SAFELY

Wildfire ash is not ordinary dirt. It can contain caustic, toxic, and irritating materials from burned household products, electronics, and building materials.

- **Protect yourself:** Wear an N95 or P100 respirator, gloves, long sleeves, long pants, and closed shoes whenever you handle ash or debris.
- **Keep it down:** Mist ash lightly with water before sweeping to keep particles from becoming airborne. Do not use leaf blowers, and avoid dry sweeping.
- **Protect children and pets.** Keep them away from ash and debris until cleanup is complete.

CHECK UTILITIES BEFORE USING THEM

Gas, electric, and water systems in your home can be damaged in a fire. Check with your local utilities before attempting to use these systems.

- **Gas:** If you smell gas or hear a hissing sound, leave immediately and call your gas company or 911 from a safe distance. Do not turn utilities back on yourself.
- **Electrical:** Treat all downed power lines as live and dangerous. Do not touch them or anything in contact with them, and report them immediately.
- **Water:** Do not drink, cook, or brush your teeth with tap water until officials confirm it is safe. Wildfires can compromise water systems and contaminate supplies. Use bottled water until you receive an all-clear.

INSPECT FOOD AND MEDICINE

Throw away any food, beverages, or medicine exposed to heat, smoke, or soot, including items in the refrigerator. When in doubt, throw it out. Assume all food in the refrigerator is unsafe if the power was out for an extended period.

CARE FOR YOURSELF AND YOUR FAMILY

Returning to a damaged home is physically and emotionally exhausting. Pace yourself, stay hydrated, and recognize that recovery takes time. Lingering smoke can keep air quality hazardous, so continue to monitor local conditions and wear your respirator outdoors when needed. Reach out to family, neighbors, and local support services, and don't hesitate to ask for help.

DOCUMENT EVERYTHING

Before you clean up or discard anything, photograph and video all damage for your insurance claim. Contact your insurance company as soon as possible to begin the process.

HOME PROTECTION: DEFENSIBLE SPACE

While you prioritize your family's safe evacuation, you can take steps year-round to ensure your home survives. Defensible space is the physical buffer you create between the buildings on your property and the grass, trees, shrubs, or wildland area that surrounds them. This space slows or stops the spread of wildfire toward your home, and it provides a safe, cleared area for firefighters to actively defend your property.

To create an effective shield, fire agencies recommend organizing your landscaping into three distinct zones.

ZONE 0: THE EMBER-RESISTANT ZONE (0 TO 5 FEET)

This zone includes the footprint of the home itself and extends 5 feet outward. This is the most critical zone on your property. The goal here is to eliminate anything that could ignite if an ember lands on it.

- **Hardscaping is Key:** Use non-combustible materials like gravel, brick, concrete, or pavers in the area immediately adjacent to your home's foundation.
- **Clear the Dead:** Remove all dead plants, grass, weeds, and dry leaves from the yard, roof, and gutters.
- **No Combustible Mulch:** Replace wood chips or bark mulch with crushed stone or gravel. Embers can smolder in wood mulch for hours before igniting the side of your house.
- **Remove Flammable Items:** Do not store firewood, lumber, or garbage cans within 5 feet of your home. Keep this area completely clear of dead leaves and pine needles.

ZONE 1: LEAN, CLEAN, AND GREEN (5 TO 30 FEET)

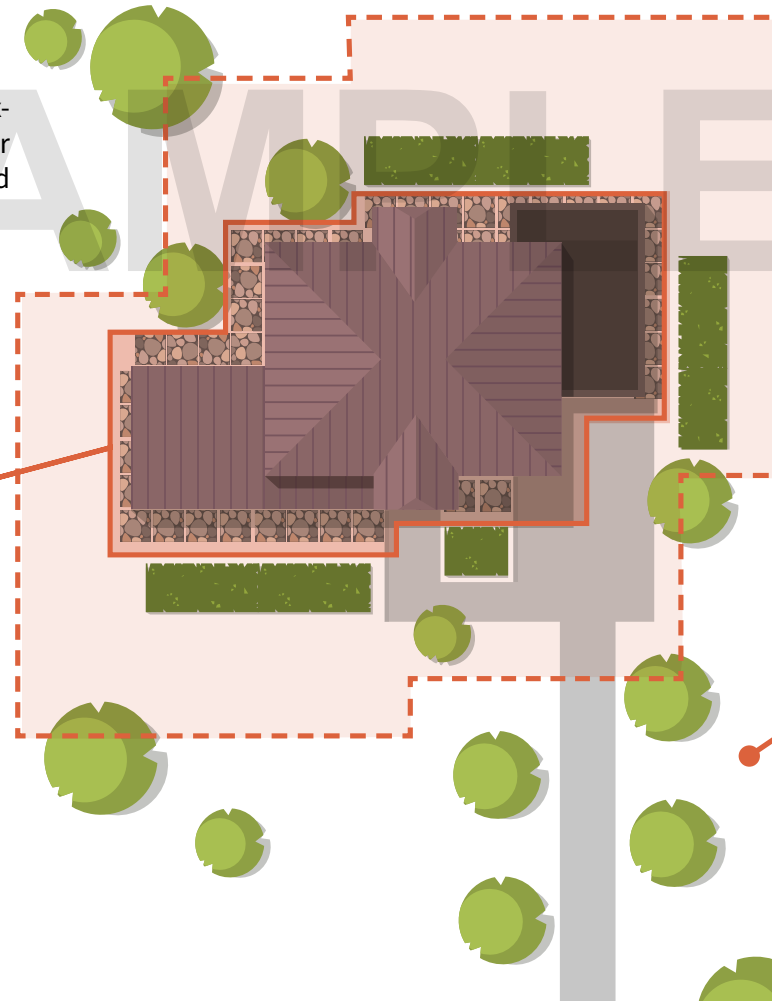
The objective in Zone 1 is to prevent fire from climbing into the tree canopy and to eliminate continuous paths of fuel.

- **Tree Trimming:** Trim tree branches so they are at least 10 feet of clearance between the outermost branches of adjacent trees and ensure no branches hang over your roof or within 10 feet of your chimney.
- **Break Up Fuel Paths:** Create spacing between shrubs and trees. Fire spreads quickly when plants are grouped tightly together.

ZONE 2: REDUCE FUEL ZONE (30 TO 100 FEET)

This zone is designed to interrupt the fire's path and keep flames lower to the ground.

- **Mow It Down:** Cut or mow annual grass down to a maximum height of 4 inches.
- **Eliminate Ladder Fuels:** "Ladder fuels" are low-growing plants that allow a ground fire to climb up into the branches of larger trees. Remove lower branches on large trees up to 6 feet from the ground, and clear the shrubs directly beneath them.



PROTECTION: HOME HARDENING

“Home hardening” refers to the use of specific building materials, architectural designs, and maintenance practices that make your house highly resistant to heat, flames, and flying embers. Even if you maintain flawless defensible space in your yard, a vulnerable, unhardened home can still be destroyed by a single ember finding a weak point.

Vents (The Hidden Gateway)

Embers blown by high winds can easily enter your home through vents in the eaves, attic, and foundation, igniting the house from the inside out. **The Upgrade:** Cover all exterior vents with 1/16-inch to 1/8-inch metal wire mesh. Do not use fiberglass or plastic mesh, as they will melt instantly.

The Roof (The Largest Target)

Your roof is the most vulnerable part of your home simply because it is the largest horizontal surface where embers can land. Ensure you have a fire-resistant roof covering. Class A materials, such as composition shingle, metal, or tile, offer the highest resistance. Even a Class A roof will fail if embers land in a pile of dry leaves sitting in a valley of the roofline. Keep it swept clean.

Gutters

Gutters act as catch-basins for dry pine needles and leaves. If an ember ignites this debris, the fire will burn directly against the edge of your roof. **The Fix:** Install gutter guards and clean gutters regularly, especially before and during fire season.

Eaves

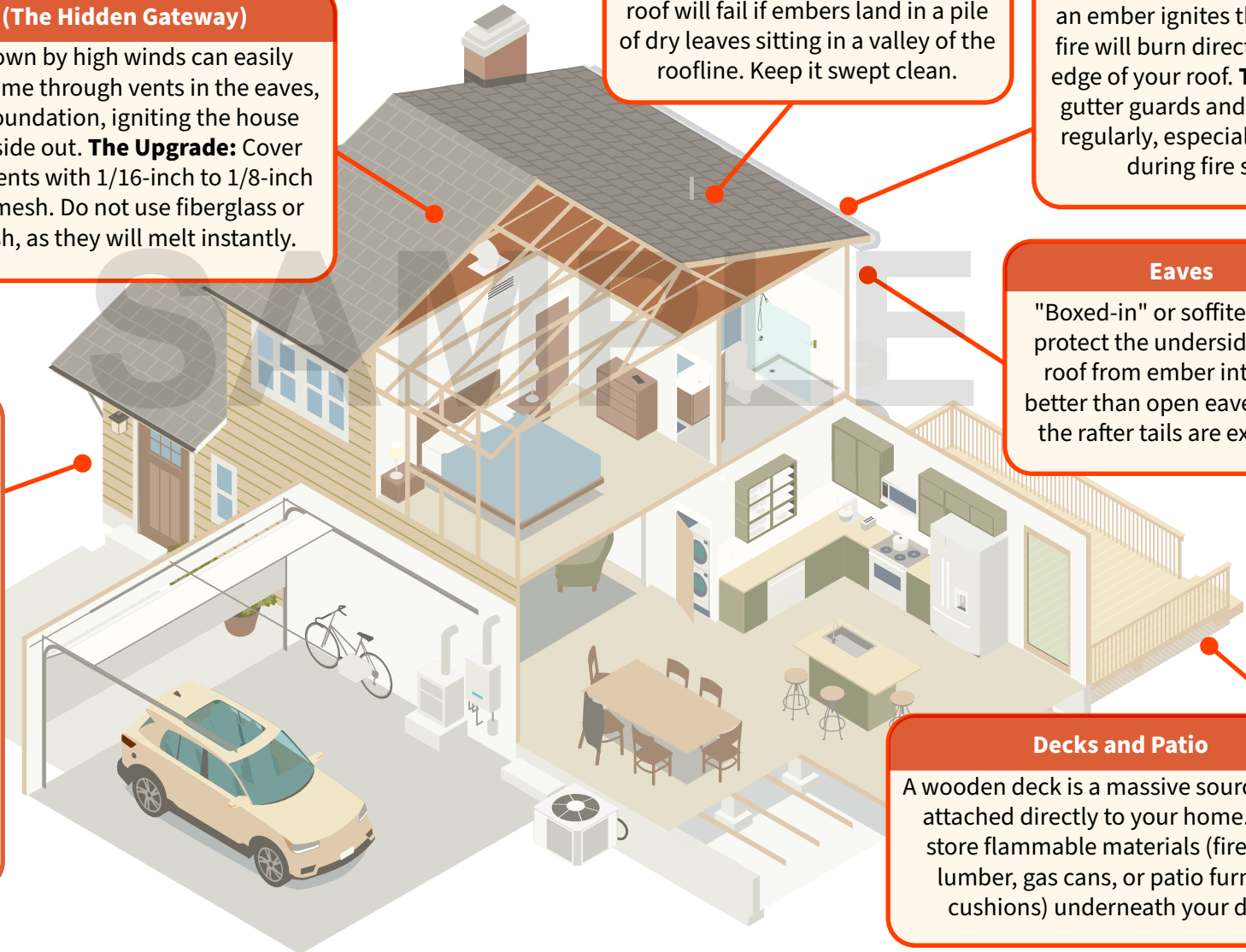
“Boxed-in” or soffited eaves protect the underside of the roof from ember intrusion better than open eaves where the rafter tails are exposed.

Windows and Doors

The radiant heat from a nearby wildfire or a burning shrub can cause standard window glass to crack and shatter, allowing flames and embers into the house. **The Upgrade:** Install dual-pane windows with at least one pane made of tempered glass. Ensure window screens are made of metal, not plastic.

Decks and Patio

A wooden deck is a massive source of fuel attached directly to your home. Never store flammable materials (firewood, lumber, gas cans, or patio furniture cushions) underneath your deck.



RESOURCES

Visit these sites for additional information:

READY.GOV/WILDFIRES

AIRNOW.GOV

NFPA.ORG

WEATHER.GOV

SAMPLE

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