Fire & Burn Prevention Home, Farm and School



Fire

Did you know?

• Fire is **FAST**. In minutes a house or barn can be filled with smoke and flames.

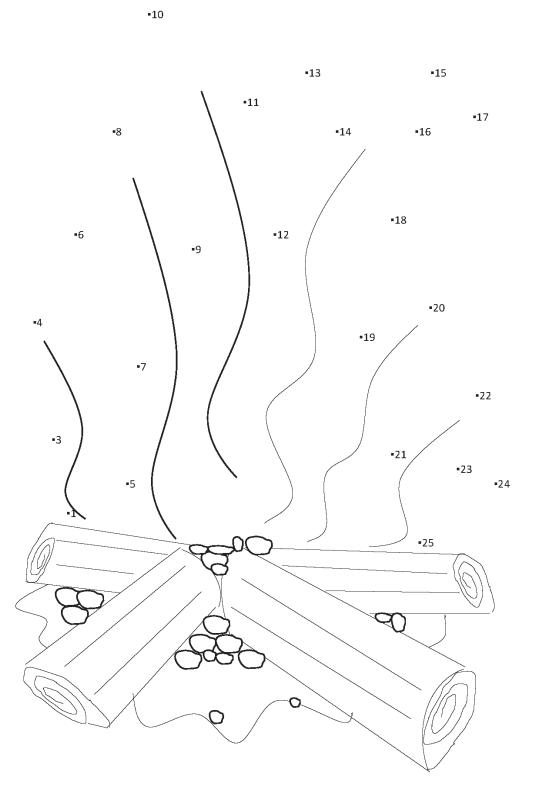
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- A fire doubles in size every 30 seconds.
- A "flashover" is when everything in the room is so hot it bursts into flames. A "flashover" can occur in as little as three minutes.
- Fire is smoke and gas.
 Fire consumes the oxygen we need to breathe and creates smoke and gases.
- Fire is **HOT**. The heat on the floor can be 100 degrees, but at eye level it can be more than 600 degrees.
- Fire is DARK. Fire starts bright, but quickly becomes black smoke. It's best to crawl low on the floor, below the smoke and heat.
- Fire is an

 EMERGENCY.

 Know two ways out of every room (a door or window). If the door is warm, go out another way. Then go to your meeting place.
- Call 9-1-1 at a neighbor's, with a cell phone or from a phone in another building.
- After getting outside, never go back into a burning building.

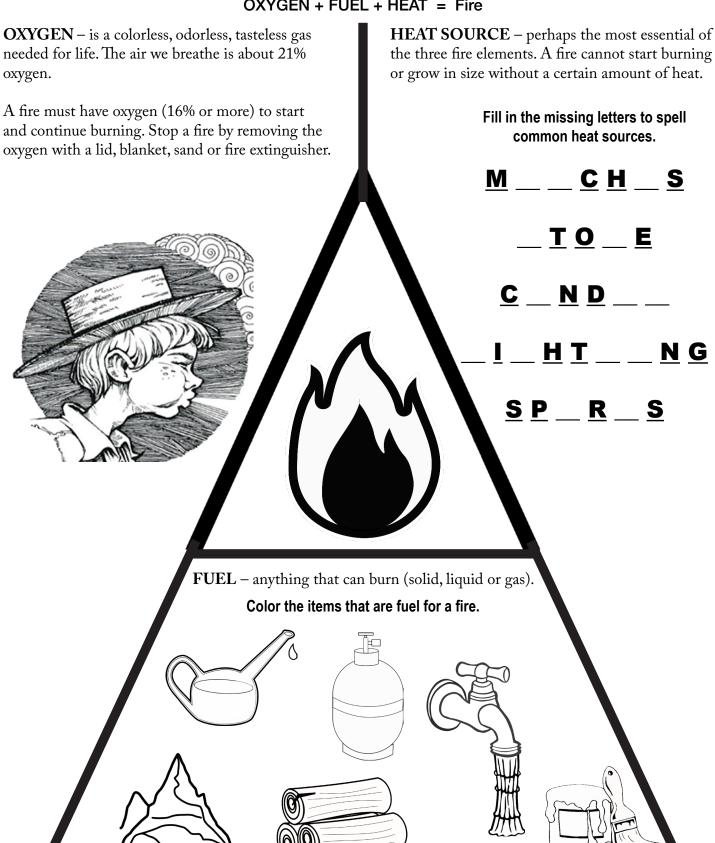
Connect the dots to see the fire grow.



Fire

Three Parts of a Fire Triangle

OXYGEN + FUEL + HEAT = Fire



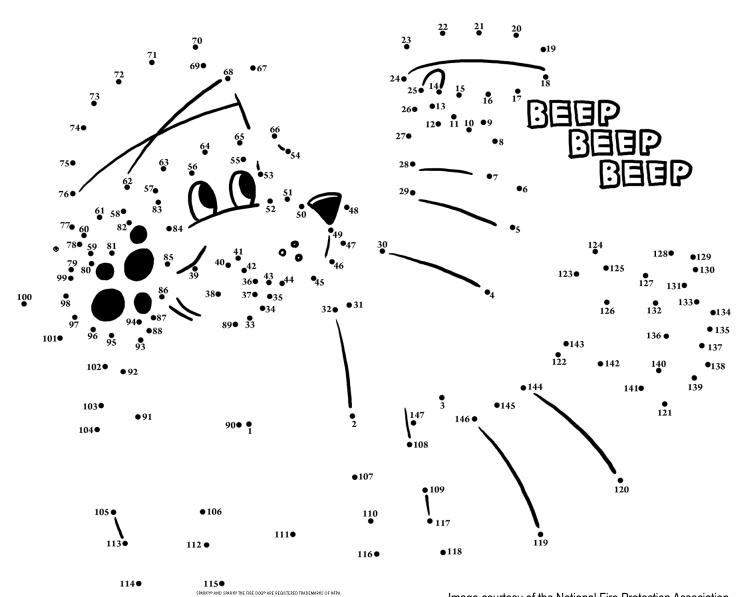
Smoke Alarms

Smoke alarms warn you there is a fire before you can see or smell it. Smoke alarms give you time to get out of the building.

REMEMBER

- Change the smoke alarm batteries once a year (on your birthday, a holiday or when you turn the clocks back).
- If your smoke alarm is making a **chirping noise**, the **battery needs replaced**. The chirping only lasts a few days before the battery goes dead.
- Smoke rises and travels across the ceiling. Install smoke alarms near the ceiling or no more than 8 to 10 inches from the ceiling.

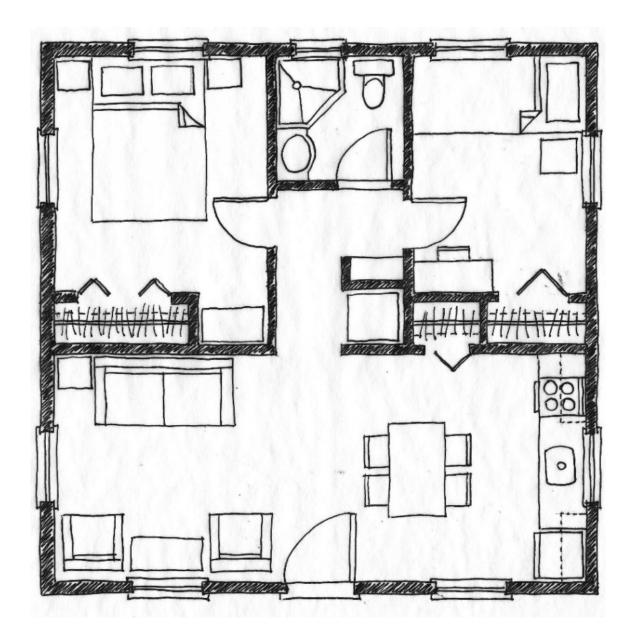
Connect the dots to see what is going on in the picture.



When a smoke detector sounds, go to your family meeting place.

Know two ways out of each room in your house. Feel the door with the back of your hand before opening it. If the door is warm, go out another door or window.

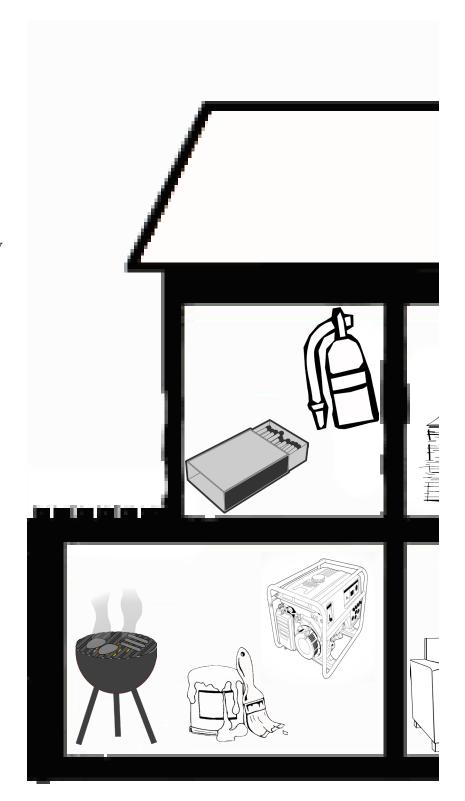
Draw two ways out of each room to get to the family meeting place.



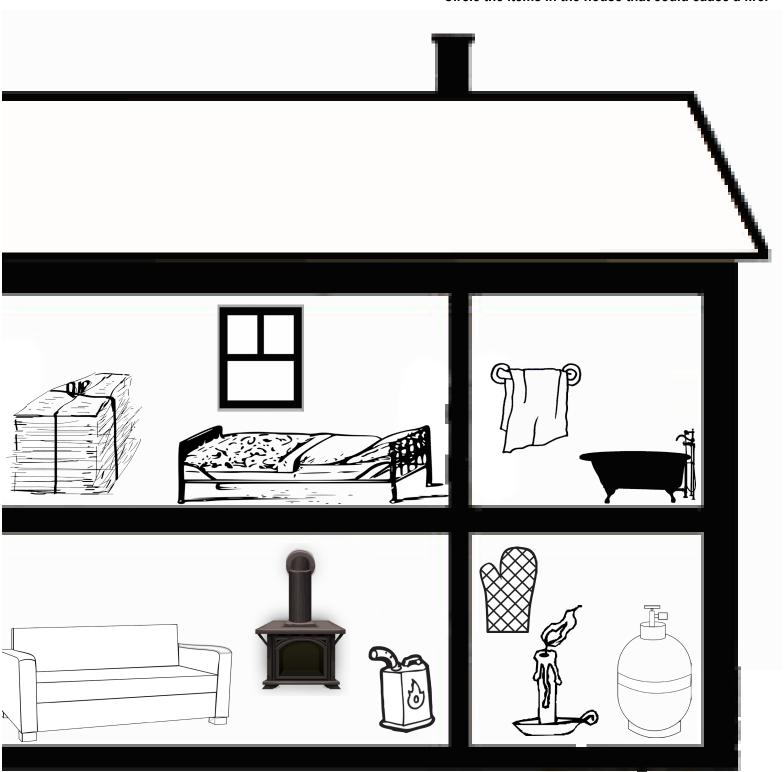


Preventing a House Fire

- Don't store flammable liquids, like gasoline, in the house.
- Clean out storage areas. Don't let trash/ newspapers accumulate.
- Don't use a generator in a garage, the house or near open windows.
- Don't put wood/coal too close to a stove.
- Keep matches/lighters out of reach of children.
 If you find matches or lighters, give them to an adult.
- Don't use a grill in the house or on a porch.
- Put hot ashes in metal containers and store away from anything that can burn.



Circle the items in the house that could cause a fire.

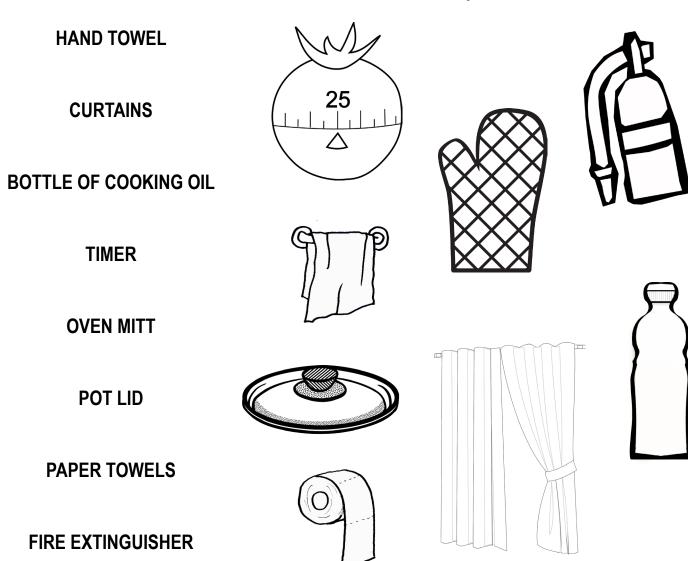


The Leading Cause of House Fires? Cooking and Heating

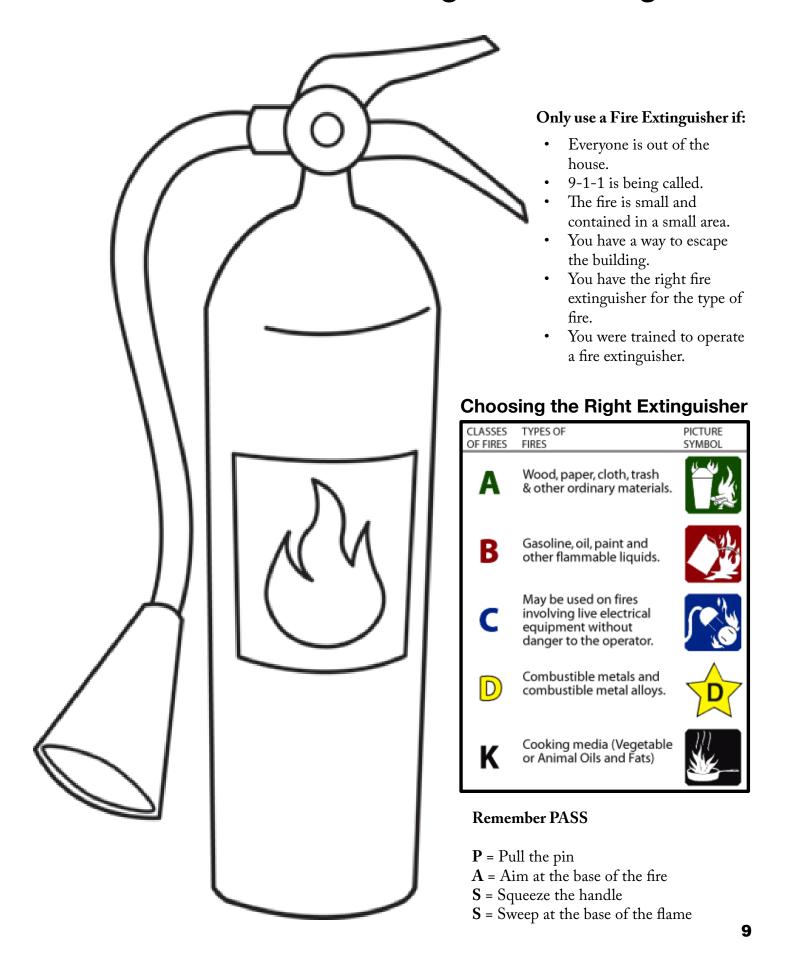
- Use a timer to remind you the stove/oven is on.
- Install a fire extinguisher near an exit door so you have an escape route. Never hang a fire extinguisher over the stove because most fires occur at the stove.
- Keep a lid or baking soda handy to put out a grease fire.
- Keep anything that can burn (pot holders, paper towels and curtains) away from your stove and oven.

- Never put water on a grease fire; it only spreads the fire.
- Never leave the kitchen when frying, grilling or broiling food.
- If you do leave, turn off the stove.
- Enforce a "Child–Free–Zone." No children should be within three feet of the stove.
- Have an older child play with small children in a safe area.

Draw a line to match the kitchen fire hazard or safety item to its name.



Using a Fire Extinguisher



Prevent, Plan, Prepare and Practice

- 1. Teach everyone how to call 9-1-1 and put emergency information at every phone.
- 2. Create a Family Emergency Plan. Choose a meeting place and practice fire drills. In an emergency, send someone to call 9-1-1 from a cell phone or another building, and have another person at the end of the lane to direct responders.
- 3. Put fire extinguishers in the barn, workshop, chicken house, chemical storage shed, lift truck and in the house.
- 4. Teach everyone how to use a fire extinguisher. Check with your local fire company for a demonstration.
- 5. Teach everyone how to turn off electrical power, water, propane, generators and other machinery.

My Family Emergency Plan				
FAMILY MEETING PLACE:				
THER PLAN NOTES:				
Drow your bouse in the boy Dut on "Y" at your meeting place				
Draw your house in the box. Put an "X" at your meeting place.				
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Draw your nouse in the box. Put an "A" at your meeting place.				
Draw your nouse in the box. Put an "A" at your meeting place.				

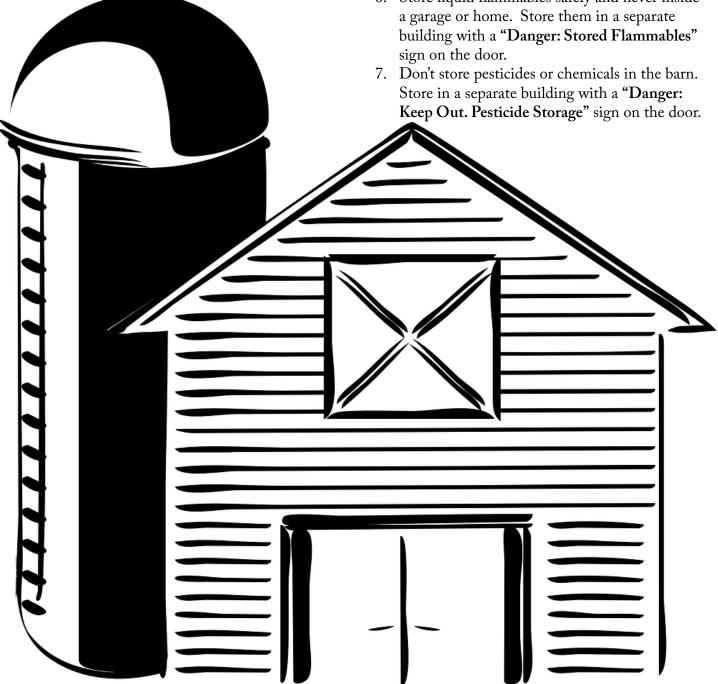
Preventing Barn Fires

Barn Fire Causes:

- Heat lamps
- Electrical equipment
- Lighting equipment
- Spontaneous combustion
- Chemical reaction

Prevention Tips:

- 1. Don't drive or park hot machinery over tall grass. Hot engines can cause fires in fields.
- 2. Practice good housekeeping. Clean cob webs and sweep up clutter, loose hay and straw.
- 3. Limit storage of combustibles in the barn. Store more in another building.
- 4. Don't store wet hay or straw in the barn. It could spontaneously combust.
- 5. Don't allow anyone to smoke near or in the barn.
- 6. Store liquid flammables safely and never inside a garage or home. Store them in a separate building with a "Danger: Stored Flammables" sign on the door.



Fire Safety at School

Prevent:

- Be careful when burning trash. Don't burn on windy days.
- Be careful when burning candles and keep matches out of reach. If you find matches, give them to your teacher.
- Be careful using propane lights.

Prepare:

- Install carbon monoxide and smoke detectors.
- Install a fire extinguisher at one exit door. Check gauge often.
- Teach students how to use the fire extinguisher.

• Post emergency phone information at the phone or near a door.

 Teach students how to call 9-1-1, what township the school is in and the nearest two intersecting roads.

Plan:

- Discuss and decide on a safe meeting place.
- Teach students to leave by the nearest safe exit.
- Teach students to go immediately to their meeting place.
- Shut off any propane or gas stoves.
- Send an older youth to the end of the lane to meet responders.

Practice:

- Have a fire drill two times a year.
- Teach students not to run.
- Have an older student partner with a younger

student and together go to the meeting place.



Where is your school meeting place?

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Prevent Fire in the Work Shop

Safety Tips:

• Use good housekeeping practices. Clean up and sweep often.

• Don't accumulate trash, oily rags or metal turnings.

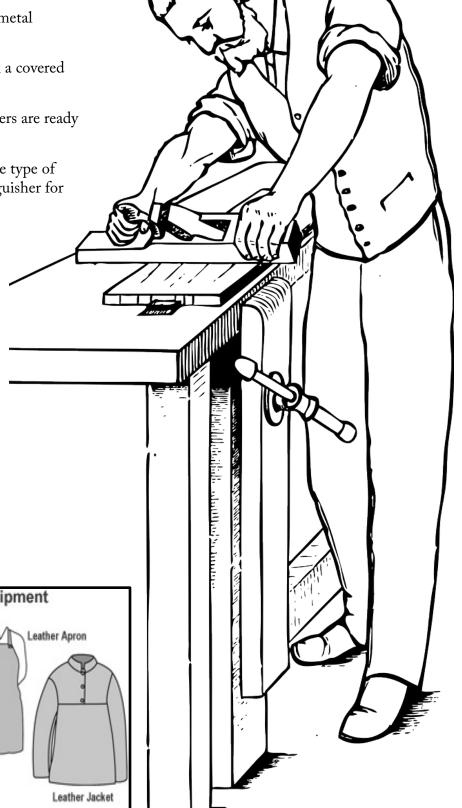
• Store oily rags and metal turnings in a covered metal drum.

• Install and make sure fire extinguishers are ready for use.

 Use the right fire extinguisher for the type of fire. Use a CLASS D (yellow) extinguisher for combustible metal fires.

Safety Tips When Grinding/Welding:

- Sparks can cause fires up to 35-feet away.
- Keep work areas free of combustibles. A spark can smolder and burst into flames later.
- Welding and grinding sparks can burn skin and damage eyes.
- Wear protective equipment: face shield, long sleeves and eye protection.



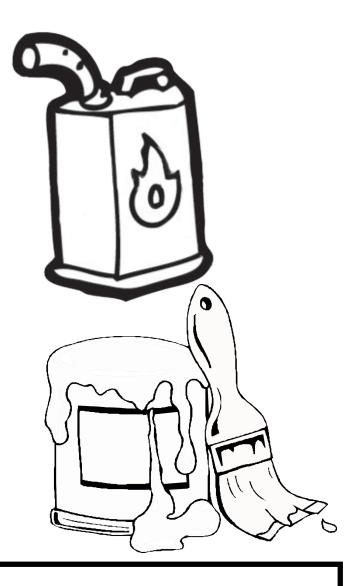
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Flammable Liquid Fuels

Safety Tips:

- Liquid fuels used on a farm include gasoline, diesel and propane.
- Store flammable liquids in appropriate containers.
- Gas fumes can't be seen with your eyes.
- Gas fumes can explode and cause a fire.
- Don't refill gas-powered motors when the motor is hot or running.
- It's never safe to start fires with gasoline.
- Never smoke, cause a spark or light a match near liquid fuels.
- Store flammable liquids in a separate building, but never in the house or garage.



Flammable Liquids Quiz:

- 1. T or F Gasoline has invisible (too small to see) vapors that can cause a fire or explode if you strike a match.
- 2. T or F It is safe to use gasoline to start a fire.
- 3. T or F Don't refuel any gas-powered equipment, like a lawnmower, when the motor is running or hot.
- 4. T or F Always store gasoline in approved safety containers; never in a glass jug.
- 5. T or F It is OK to store gasoline in the house or garage if you have enough air circulation.
- 6. T or F Water should not be used on flammable liquid fires, such as propane and gasoline. Water may spread the fuel. Use an ABC fire extinguisher to put the fire out.

Answers: 1. True, 2. False, 3. True, 4. True, 5. False, 6. True.

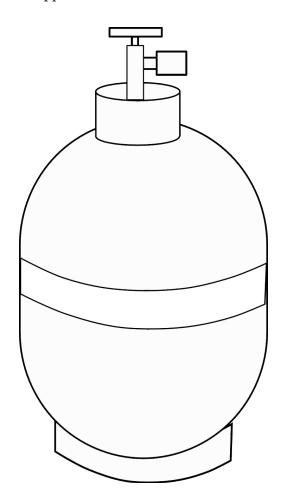
Propane Gas

Use Propane Safely:

- Handle propane-powered equipment cautiously and inspect frequently.
- Follow manufacturer's instructions to light a pilot light.
- Locate cylinder tanks 10-20 feet away from the building.
- Store propane in a separate building; not in the home or garage.
- Never operate a gas grill inside the home or on the porch.

If you Smell Gas:

- Put out candles and flames.
- Get everyone out of the building.
- Shut off the gas supply valve.
- Call 9-1-1/propane dealer on a cell phone or at a neighbor's house.
- Don't return until it's safe.
- Have appliances checked.



Did You Know?

- Propane is a cold liquid; it's minus 50 degrees Fahrenheit.
- Propane smells like a skunk or rotten eggs.
- Propane is 50% heavier than air and stays near the floor.
- Propane seeks a heat source when it escapes from a tank.
- Pilot lights are located near the bottom of gas appliances.
- Propane connecting with a heat source results in a fire/explosion.

Fill in the blanks using the words below.

Word Bank

floor heavier separate cold 15 skunk cold heat rotten eggs climb

1. Propane smells like a _____ or

	·	
2.	Store propane tanks in a building.	
3.	Never play or on propane tanks.	
4.	Fill a 20 lb. propane tank no more than pounds to prevent gas from escaping	

5.	Propane is 50%	 than air and
	stays near the floor.	

6.	Propane is a	_ liquid and when it
	escapes, it seeks a _	source.

7. Pilot lights on a gas hot water heater or a gas refrigerator are located near the _____.

Burns

First-degree burns:

- Red, non-blistered skin
- Top layer of skin is injured
- A sunburn is an example of a first degree burn



Second-degree burns:

- Fluid from the body causes blisters
- Some thickening of the skin
- Two layers of skin are injured



Third-degree burns:

- Skin is white or charcoal looking
- Several layers are damaged
- Less pain because nerve tissue has been damaged



Scald Burns

The most common cause of burns for children younger than five and those older than 65 are scald burns.

This type of burn is caused by a hot, boiling liquid or steam.

A second or third degree scald burn can happen in a matter of seconds, depending on how hot the steam or water is.

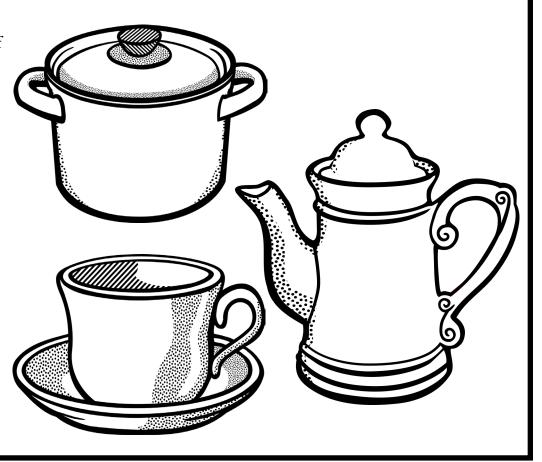
150 F - 1.8 seconds

140 F - 5 seconds

130 F - 30 seconds

120 F - 5 minutes

The steam from a pot of boiling water, a pot of coffee or even a cup of hot tea could all cause a burn.



Preventing a Scald Burn

- 1. Turn pot handles toward the middle of the stove; never allow handles to extend over the edge of the stove.
- 2. Keep small children away from pressure cookers, canning kettles and canning equipment.
- 3. Have an older child play with younger children in another room or another part of the kitchen when cooking.
- 4. Before carrying hot liquids, make sure there are no children or obstacles in your way.
- 5. Put hot foods in the center of the table, not on the edge. Avoid using a tablecloth with small children in the house.
- 6. Prevent a scald burn by turning the hot water heater down to 120 degrees Fahrenheit or less.
- 7. Always test bath water before getting in the bath.
- 8. Never hold children while drinking a hot liquid.



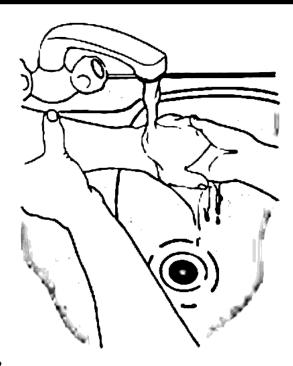
First Aid for Burns

Stop the Burning by:

- Moving away from the heat source.
- Remove any loose hot fabric (hot fabric continues to burn skin).
- Cool the burn with running water from the tap, shower or use bottled water.
- You can put a burn in a container of cool water, but never soak a CHEMICAL BURN in a bowl. The chemicals in the water can continue injuring the skin. Running water flushes the chemicals away.

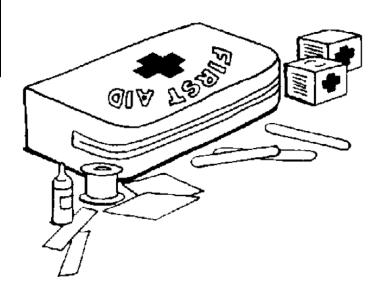
Seek Medical Care if:

- The burn has happened to a child. Children have thinner skin tissue, which can easily be damaged.
- The burn covers a large area. Small children have a large skin area for their body size and one arm or leg affected by a burn is serious.
- There is significant pain.
- The burn is more than three inches or wraps around a limb or involves the eyes/face.
- You have any questions about infections, fever or other concerns.



First Aid Tips to Remember:

- Remove only loose burned fabric. DO NOT remove any fabric that is stuck to a burn.
- Never use ice on a burn; you will increase tissue damage.
- If the burn involves a large area and requires medical treatment, do not apply any ointment.
- DO NOT apply creams or ointments to burned skin until all the heat is out of the burn; ointments seal in the heat.
- DO NOT break blisters or remove peeled skin; that will increase the chance of infection.
- After the heat is removed from a minor burn, cover the burn with a dry dressing, an antibiotic cream or "B & W" ointment.
- Seek medical care if there are any signs of infection (swelling, pain, redness).



Cool the burn first.

Get the heat out before applying first aid.

Mark's Scraped Knee and Germs

One day Mark was running and fell. He scraped open his right knee.

Mark knew his dad was hauling manure and his mother was busy picking beans in the garden. So he found a big Band-Aid™ and put it on his injured knee, just like his mother would do.

Everything was fine for a few days, but then his knee started to hurt. Mark told his mother what happened.

She took a look at his sore knee and said, "I think your knee hurts because it's infected. Let's wash it with soap and water and then I'll put some "B & W" ointment on and a new Band-Aid™."



As she cleaned his knee, Mark's mother explained, "Skin protects us from infections by keeping germs from getting inside. When you scraped the skin off your knee, germs from the soil and dirt were left on your knee and caused an infection."

Mark replied, "I thought a Band-Aid™ heals cuts?"

His mother answered, "A Band-Aid™ covers the cut and allows it to heal, but first we need to wash away germs with soap and water to prevent an infection."

Mark's mother added that there are several ways skin can be hurt, allowing germs to get inside. "If you touch something hot, like the stove, kettle, open flame from a candle or even hold your hand over very hot water, you could get a burn. A burn damages your skin and could let germs inside."

"How can I keep the germs out?" Mark asked.

"If you get a cut or scrape, always wash the cut with warm water and soap, then put on a Band-Aid™," his mother said. "And never play around or touch anything hot."

Roasting Marshmallows and 1st, 2nd and 3rd Degree Burns

David and Daniel ran into the house and put their school lunch boxes on the kitchen counter.

Their mother said, "Welcome home boys. How was school today?"



They both answered, "OK."

Their mother inquired, "David, how did health class go?"

"It was good. We talked about burns. Teacher said that there are three levels of burns. I think it was first, second andoh! I can't remember," replied David.

"Do you mean first, second and third degree burns?" his mother asked.

"Oh! Yes, that's it. But it's hard to remember," said David.

"I know what you mean. It was difficult for me to remember when I went to school," said mother. "Then one day our teacher compared burns to the three ways people like their marshmallows roasted."

Daniel said, "Tell us more."

"Well David, you roast your marshmallows slowly so they only get a little brown, isn't that right?" asked his mother.



David agreed and said, "That's when they taste the best."

His mother added, "A first degree burn is when our skin turns red. When you get sun burn, that is a first degree burn."

"Daniel, you roast your marshmallows longer, until they are golden brown with dark bumps," mother said. "You see, a second degree burn will have blisters much like the marshmallow bumps since several layers of skin are burned. Fluids inside our body

ooze out and form blisters."

David quickly added, "I remember teacher telling us that a third degree burn means several layers of our skin are damaged. The skin may even look dark like charcoal, like how Dad roasts his marshmallows, all black on the outside and gooey on the inside. Thanks mom. Now I get it."



Sadie Learns what to do when Someone is Burned

One morning, Sadie Mae and her mother were almost finished freezing the last of the green beans. Sadie put the beans into the boiling water, then set the timer for three minutes. As the beans were cooking she asked, "Mom, why do we cook the beans for only a few minutes and then put them into cold running water?"

Her mother answered, "Well, we want to cook them only long enough to destroy any germs or bacteria that might be on the beans, but we don't want them to cook too much and get mushy. You see, cold water stops the cooking."

Sadie thought a few minutes and then remarked, "Oh! That's why when I burned my fingers on the soup kettle last week, you told me to put my hand into the cold water under the faucet. I thought the cold water was to help the pain, not stop the cooking."

"Cold water does help the pain but it also prevents more tissue from burning," explained her mother.

"So putting my burned hand in cool water for 20 minutes removed the heat?" asked Sadie.

Her mother answered, "Yes, now you got it."

Sadie replied, "I remember you telling me how in the old days they would use butter or lard on a burn."

Her mother said, "Don't use butter or lard. That will seal in the heat. For a minor burn like your fingers, it's best to get the heat out and then put on a dry dressing, an antibiotic cream or "B & W" ointment."





"What if the burn covers a large area of skin? What should we do?" asked Sadie.

"Any burn on the face, neck, hands or a burn that is larger than three inches should be seen by a doctor for medical care, fluid replacement and to prevent infection," said her mother.

"Thanks Mom. I learned a lot. I better write this down in my vocational journal before I forget," remarked Sadie.

Carbon Monoxide Gas: Why is it Dangerous?

Carbon monoxide (CO) gas is dangerous because the carbon monoxide molecules keep riding around, never giving up their seat to oxygen.

Our bodies have no use for carbon monoxide. If oxygen can't get into the hemoglobin "little seats" because that space is occupied with carbon monoxide, then the brain, heart, muscles and all the cells that need oxygen will be starved and can't live.

Without oxygen, the brain will die in four to six minutes. Our body uses oxygen to burn the food we eat to produce energy. Each cell needs oxygen to complete their specific job to keep us healthy.

The air we breathe contains about 21% oxygen. We need to breathe air that contains 19% or higher amounts of oxygen or we go unconscious.

Oxygen is absorbed from your lungs and travels on the hemoglobin molecules to your cells.

Blood contains hemoglobin which looks like sunken in doughnuts. Hemoglobin is a protein that is found in our red blood cells. Each hemoglobin molecule is like a little oxygen carrier with four seats to carry oxygen to our cells and organs.

CO gas causes weakness and confusion. The very young and very old are most sensitive to the effects of carbon monoxide.

The early symptoms of CO poisoning (headache, dizziness and nausea) can be mistaken for symptoms of a cold, flu or food poisoning.

Remember that flu and cold viruses are passed from one person to another (everyone does not feel sick at the same time).

CO poisoning causes everyone to feel sick at the same time. It does not cause fever and people do not get better by taking medications for colds.

Did You Know?

- CO is colorless, odorless, tasteless and nonirritating. It can overcome a person without warning.
- CO is produced when there is a fire.
- CO is the result of incomplete burning and/or malfunctioning of an appliance.
- CO is produced by a car, truck, lift truck, skid loader, tractor or machinery running inside a building with little air movement.
- CO is produced by gas powered engines or tools, even in partly open buildings.
- At least 200 people die every year in the United States from CO poisoning.

Signs of Carbon Monoxide Poisoning Wheadaches Nausea Dizziness Loss of Consciousness

Carbon Monoxide Gas: Why is it Dangerous?

The best way to know if carbon monoxide gas is in your home, workshop, garage, greenhouse, machine shed or in a school building is to install a carbon monoxide detector on every level (especially outside bedrooms).

If a Carbon Monoxide Detector Sounds:

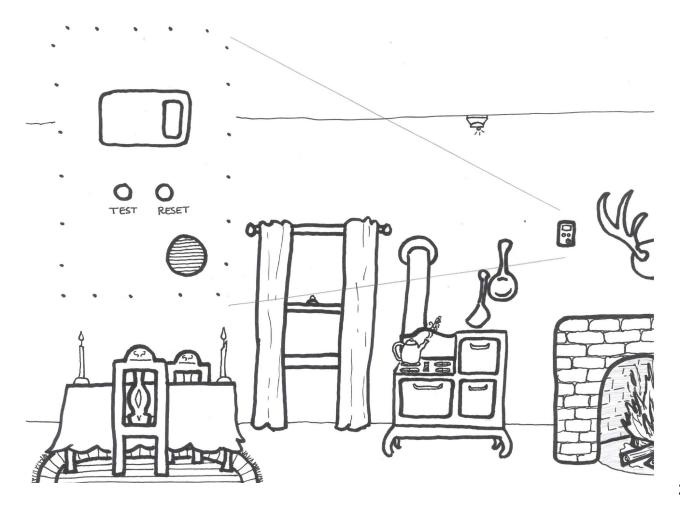
- Make sure everyone leaves the building.
- Ventilate the building; open the doors and windows.
- Have your stove or appliance serviced by a professional.

Carbon Monoxide Poisoning Quiz

- 1. T or F You can't see carbon monoxide, but you can smell it.
- 2. T or F A working carbon monoxide detector can save lives.
- 3. T or F Carbon monoxide gas is produced when there is a fire.
- 4. T or F Carbon monoxide gas is produced when fuels don't burn completely or an appliance malfunctions.
- 5. T or F The symptoms of carbon monoxide poisoning are similar to being ill with a cold or flu.
- 6. T or F When you hear a carbon monoxide detector sound, it's important to get everyone out of the building.

Answers: 1: F 2: T 3: T 4: T 5: T 6: T

Connect the dots to finish the picture.

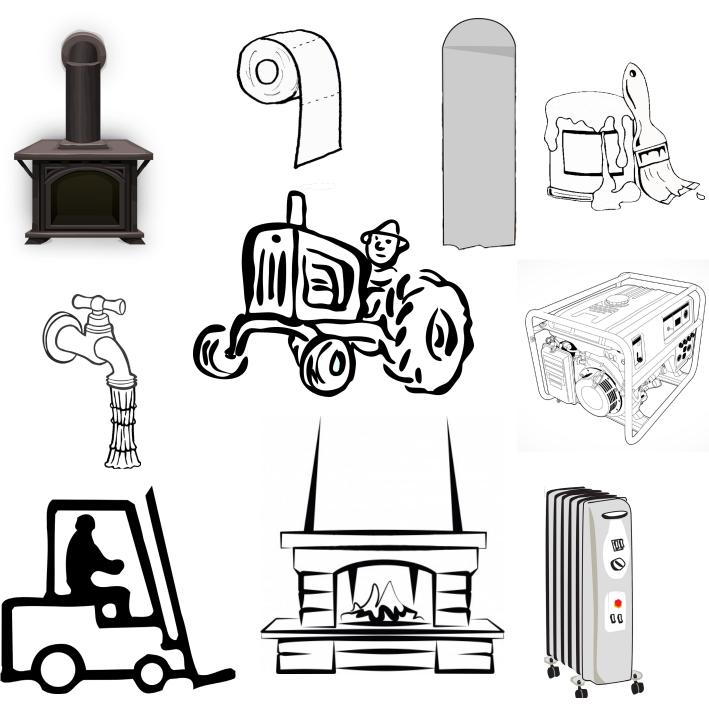


Other Gases can Cause Illness or Death

Manure Pit Gas contains hydrogen sulfite, which is heavier than air and is dangerous. It is best to stay away from a manure pit, especially when it is being emptied.

Silo Gas is formed when silage (chopped corn) ferments. Nitrogen dioxide (silo gas) is heavier than air and travels down the silo shoot. The first three days are the most dangerous, but stay away for several weeks. This gas can cause a lot of trouble breathing.

Put an X on any picture below that can cause gas.



Lightning

Lightning is a buildup and release of electrical energy.

It can strike the earth 100 times a second and causes fires, property damage, burns and deaths. Thunder is caused by lightning. If you hear the sound of thunder, then you are in danger from lightning. **Get inside a building if you hear thunder.**

Lightning takes the shortest path to the ground and strikes the tallest object.

Once inside the house:

- Keep away from windows
- Don't shower, take a bath, wash clothes or dishes
- Don't use a phone unless it's an emergency
- If you are swimming or boating, get out and go for shelter

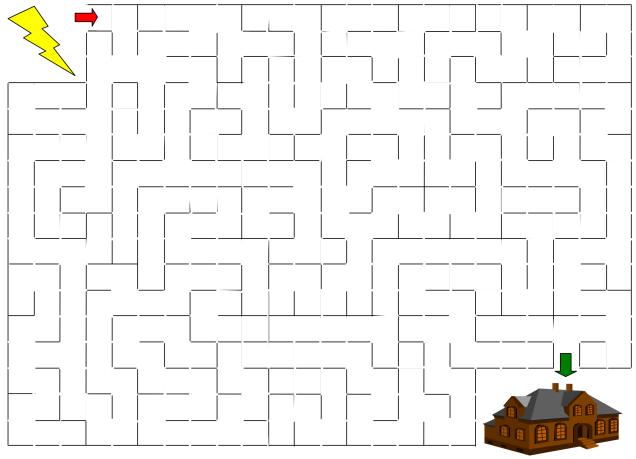
If no shelter is close by, get inside a hard top vehicle and keep all doors and windows shut, but don't touch the steering wheel, door handles or any metal. A building is always the safest place to be in a lightning storm.

You can tell how far away a storm is by counting the number of seconds between seeing lightning and hearing the thunder.

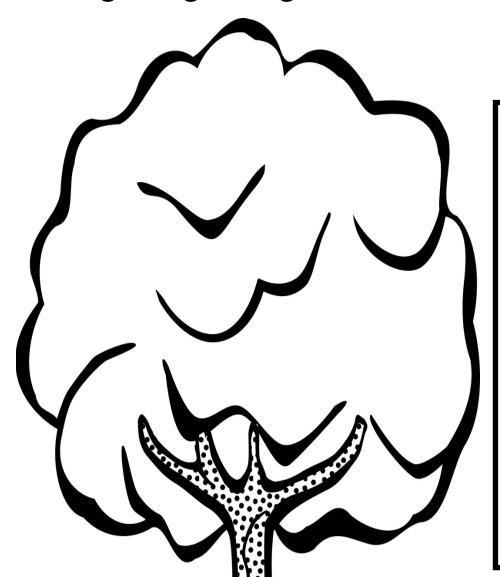
Divide the number of seconds by 5 and you will know how far away the storm is in miles.

For example: 10 divided by 5 = 2 Miles.

Flee From The Dangerous Lightning Bolt. Run To Safety Through The Maze To Good Lightning Shelter.



Tips if Caught Outside During a Lightning Storm





Don'ts

- Don't go under a tree (lightning hits the tallest object).
- Don't touch metal; metal draws electricity.
- Don't stand near electric fences.
- Don't touch the ground with your hands (put hands on your head).

Dos

- Do get off farm equipment, lawn mowers, ATVs and other equipment.
- Do crouch down close to the ground.
- Do put your head between your knees.
- Do keep the heels of your feet together and stay on the tips of your toes.

Lightning First Aid:

- Provide CPR and first aid if needed.
- Call 9-1-1.
- Seek medical care.
 Lightning strikes can cause burn damage both inside and outside the body.

Lightning Quiz

Use the words below to complete each sentence.

Out Phone Tallest Shelter Windows Tree

- 1. Lightning hits the _____object.
- 2. Don't use a _____unless there is an emergency.
- 3. If you are outside when there is lightning, don't go under a .
- 4. If you are swimming or boating, get _____ of the water and take _____.
- 5. When there is a thunderstorm, go inside but don't stand or sit near the ______.

Power Lines

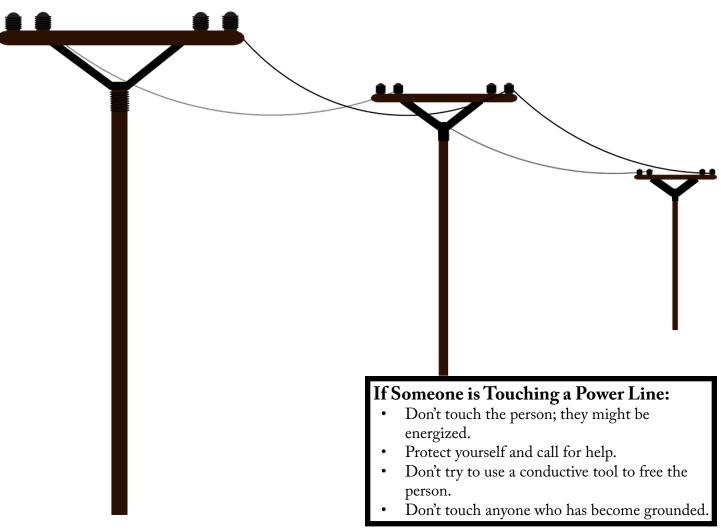
A downed power line has the highest voltage where it touches the ground. The electricity will lessen as it travels through the ground up to 35 feet.

People inside a vehicle that a power line touches should stay inside the vehicle until help arrives and the electric power is turned off by the electric company.

If your vehicle is on fire, **hop to safety**, keeping your feet together.

Prevent Injuries from Electricity

- Electricity always seeks the easiest way to the ground.
- Electricity is dangerous if you become part of the path to the ground.
- Electricity causes pain and damage to our bodies including our heart, kidneys and organs.
- Don't touch anything an electrical wire may be touching.
- Don't walk or drive over a downed power line. Walk away, tell an adult and call 9-1-1.
- Don't fly a kite near power lines.
- Don't use metal ladders near electric wires or in any trees with power lines.
- Keep trucks and farm equipment at least 10-feet from a power line.





American Trauma Society

Pennsylvania Division 2 Flowers Drive Mechanicsburg, PA 17050 Phone: (717) 766-1616 www.atspa.org

Produced in partnership with

Penn State Extension Lancaster County 1382 Arcadia Rd., Room 140 Lancaster, PA 17601 Phone: (717) 394-6851

PENNSTATE



Pennsylvania Department of Health Health and Welfare Building 8th Floor West 625 Forster Street Harrisburg, PA 17120

