

FIRE SAFETY

Claiborne County 4-H
8th Grade Curriculum
November Lesson

OBJECTIVE:

Students will learn what must happen in order for a fire to burn.

Students will learn about the classes of fire and how they relate to fire extinguishers.

Students will learn the steps in using a fire extinguisher.

Students will learn that installing and maintaining a smoke detector in your home greatly increases your chances of survival in a fire emergency.

FIRE SAFETY

Why are we talking about this?

Every year about 4,000 Americans die in fire emergencies.

Every year about 25,000 Americans are injured in fire emergencies.

Can we reduce the number of fire-related deaths and injuries?

Yes!

If we understand fire and fire hazards, we can protect ourselves and our families.



THE LAST THING YOU WANT TO SEE!

Go over the statistics slowly. Many 8th graders couldn't care less about safety. These figures are from the United States Fire Administration. You may have someone in class that has lost a home due to fire (don't ask!).

The picture that comes up at the end is very typical on a fire scene. Ask the class to look at the picture and name at least two hazards to human life. Fire (or heat) obviously, smoke, and darkness (caused by the smoke).

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What is fire?

Very simply, fire is a chemical reaction.

This is illustrated by the fire triangle.



Remember:

- Oxygen and a fuel source must be combined in the presence of heat in order to get a fire.

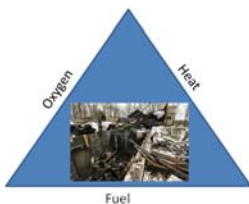
- What does this tell us about extinguishing a fire?

Ask the lead-in question. Be prepared for clueless or smart aleck answers. Tell the class that fire is simply a chemical reaction. That is: oxygen and fuel combining in the presence of heat.

The fire triangle should illustrate this well. Ask the class the last question. Give them time to come up with a few answers. (The answer is: take away any one of the fire triangle's sides and the fire goes out.)

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The fire triangle not only tells us what we need to make a fire, it can also show us how to put a fire out.



If you take away any one of the three sides of the fire triangle, the fire goes out!

So how do firefighters remove sides of the fire triangle?

This slides introduces how to extinguish a fire.

Remember, if you remove any side of the fire triangle (oxygen, heat, or fuel) the fire goes out.

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Spraying water on a fire removes.....

Heat



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Cutting a fire line removes

Fuel



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Using a fire extinguisher removes....



Oxygen

These three slides (above and left) illustrate the common methods firefighters use to extinguish fires.

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So, what is it about a structure fire that kills people?

(or is this a really stupid question)

HEAT – Room temperature at the floor can be 100° F, at eye level it can be 600° F, and at the ceiling temperatures can be 1000° F to 1400° F. All of this in a single room!

This is why firefighters wear Kevlar and Nomex turnout gear, hoods, etc.



This may sound like a very stupid question, but students need to understand that by the time flames reach a person trapped in house fire, that person is already dead. This and the following slides illustrate why.

Take your time in going over this slide. The picture at the end shows firefighters in turnout gear and breathing apparatus (SCBA's). Without the protective clothing and SCBA's, these firefighters could not be this close to this fire..

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Smoke – Fire not only uses up oxygen that we need to breathe but it also produces toxic gases.

Carbon monoxide and nitric acid are commonly produced gases. As little as 1% carbon monoxide can kill you.

Motor vehicle fires are even worse about producing toxic gases.

This is why firefighters wear SCBA's (self-contained breathing apparatus).



Please stress to the students that what we call smoke in a house fire contains a number of deadly gases. When natural fibers (wood, cotton, etc.) burn, the smoke can be harmful. When man-made objects (plastics, etc.) burn, it can be deadly!

The breathing apparatus that firefighters wear is absolutely essential to staying alive. If firefighters wear this much protective equipment to fight a fire, a homeowner returning to a burning house to save a person, pet, or property has no chance of surviving.

Point out in the picture that the smoke is about halfway up the walls. That is why we say stay low and crawl out of a burning building.

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Darkness – Fire will produce lots of thick black smoke very rapidly so that you cannot see how to get out.



Total darkness can confuse you enough so that you cannot crawl out of your own house.

Firefighters train in total darkness in order to prepare for the darkness in most structure fires.

This is not very apparent to most people. Being inside a structure on fire is very dark business. This is why escape plans must be practiced and is why firefighters train in darkness.

Point out in the picture that the sun is shining onto the porch, but the doorway and interior room are very dark. That means low flames, high heat, and lots of smoke.

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What is the #1 thing you can do to survive a house fire?

The single best thing you can do to survive a house fire is have a properly installed and maintained smoke detector.

Think about this: the US Fire Administration says that at least 50% of the 4,000 fire-related deaths each year could have been prevented by a smoke detector.

That is like the combined population of CHS, CGHS, and Midway Elem. that could have been saved.



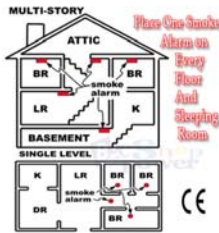
Ask the class how many have at least one smoke detector in their home. Then ask how many have a smoke detector on every floor (level) of their home.

This is the single best way to survive a house fire!

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Smoke detectors are inexpensive and available everywhere.

Once we get smoke detectors, where do we put them?



Point out that smoke detectors are cheap and are available everywhere. They last about ten years. Get them! Use them!

The diagram shows where smoke detectors should be placed in a home. Having one in every bedroom may be a bit excessive, but there should be one located near the bedrooms.

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Once smoke detectors are installed, how do we keep them working?

First, the majority of home smoke detectors are battery powered. Batteries should be changed twice a year, the rule of thumb being when the time changes in spring and fall:
Change Your Smoke Detector Batteries!

Second, check to see if your smoke detector is working monthly. To do this, hold a lit candle near the unit to see if it detects the smoke.

Remember: pushing the test button only tells that the alarm is working, not that the unit is actually detecting smoke.

Go over when to change the batteries in your smoke detectors.

Stress that we need to check to see if they are working by actually seeing if they will detect smoke, not just punching the test button.

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Remember: get this one...



.....not this one.

Just a funny slide to lighten the mood.

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So, what do we do if we are in a building that is on fire?

ESCAPE!!!

Every family should have an escape plan so that each family member knows how they should get out of the house and where to meet once you are outside.

Escape plans should be practiced! The reason I haven't said 'Don't Panic' is that, if you find yourself in a burning house, you will panic. Having practiced your escape plan will allow you a better chance of getting out alive.

Read this slide slowly and carefully to the class. If it is underlined, stress it!

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This is what the US Fire Administration has to say on what you should do in the event of a fire:



- ★ Escape first, then call for help.
- ★ Develop a home fire escape plan and designate a meeting place outside.
- ★ Make sure everyone in the family knows two ways to escape from every room.
- ★ Practice feeling your way out with your eyes closed.
- ★ Never stand up in a fire, always crawl low under the smoke and try to keep your mouth covered.
- ★ Never return to a burning building for any reason; it may cost you your life.

Go over each of these points with the class. It is important. Stress that waiting until your house is on fire to practice your escape plan is too late. You may not make it out.

Point out that having every family member actually get down and crawl in practicing the escape plan may look silly, but it will save your life. Firefighters train by crawling. Always!

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Wake-Up Call:



At a house fire in Texas, a mother and father escaped to one side of their house while their two children escaped to the opposite side. The mother did not see the children and re-entered the house to search.

She did not make it out.

Please be sure that everyone in your family knows where to meet after escaping.

Just a little wake up call. This is a true story. This was Published by the US Fire Administration. Let this sink in on the class.

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Now that we know a little about fire prevention, let's talk about

Fire Suppression

What is the best thing to quickly put out a fire?



This slide introduces the fire extinguisher.

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Fire extinguishers are small, simple to use and inexpensive.

If you are on hand before the fire gets out of control an extinguisher is your best bet to put out a fire if....

you have the proper type of extinguisher and....

you know how to use it.



Ask the class how many of them have a fire extinguisher in their homes. Stress that in order to put out a fire, an extinguisher must be ready and close at hand. They are for small fires before they get out of control.

Point that extinguishers are simple and easy to operate. The picture shows a little old lady using an extinguisher.

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So, what the differences in fire extinguishers?

CLASSES OF FIRES	TYPES OF FIRES	PICTURE SYMBOL
A	Wood, paper, cloth, trash & other ordinary materials.	
B	Gasoline, oil, paint and other flammable liquids.	
C	May be used on fires involving live electrical equipment without danger to the operator.	
D	Combustible metals and combustible metal alloys.	
K	Cooking media (Vegetable or Animal Oils and Fats)	

ABC – type extinguishers are the most common and most useful for homeowners.

BC extinguishers are best to keep in vehicles.

Very specialized, only people who need one have these.

Usually found only in commercial kitchens.

Go over the types of fires and stress that an ABC-type extinguisher is the best to have at home. For cars, a BC-type extinguisher is best and should be in every vehicle.

Fire extinguishers are inexpensive and available everywhere. After enough time, extinguishers lose their 'charge' and should be replaced. There is a dial gauge on each extinguisher to tell you when it is no longer good. Check them whenever you change your smoke detector batteries.

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Now that we have an extinguisher, how do we use it?

We need to learn an acronym to learn how to use our extinguisher.

Pull the pin at the top of the extinguisher

Aim the nozzle at the base of the fire

Squeeze the handle to discharge the extinguisher

Sweep the nozzle back and forth at the base of the fire



Go over the steps to use a fire extinguisher. (Explain to the class what an acronym is)

Stress that you shoot the extinguisher at the base of the fire. That is where the chemical reaction is taking place. Shooting at the flames does little or no good.

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Keep in mind that most house fires that involve fatalities occur between the hours of Midnight and 6:00 a.m.

This is when humans are the least alert.

In conclusion, if we understand:

- the properties of fire
- how to prevent fires
- what to do if a fire starts
- how to put out a fire.....

life will be a bit safer for ourselves and our families.

Please stress the times that most house fires occur. This is very important. Go over the points in the conclusion and then tell them about the December contest.

December Contests

Happy Holidays!



Get in the Christmas spirit by participating in the 4-H Christmas Crafts Contest. Crafts divisions are as follows:

1. Recycled Christmas Craft
Any Christmas decoration made from recycled items.



You may bring one craft in each division, for a total of 5 crafts. (All crafts must be constructed by the 4-H member who enters them.)



2. Door or Wall Decoration
Examples: Wreath, Stockings, Bells

3. Table Decoration
Examples: Snowman, Holly Ring, Candle

4. Tree Decoration or Ornament
Examples: Clothes Pin Reindeer, Tin Punch Ornament



5. Other:
Examples: Holiday Bags, Stenciled Paper, Christmas T-Shirt or Sweat Shirt, Jewelry, Edible Decorations

Please label your entries.
Any craft not labeled will be placed in a category at the discretion of the leader or agent.



Go over the rules to the Christmas Craft contest.