



Fire Safety for Texans

Fire and Burn Prevention
Curriculum Guide Developed by
Texas State Fire Marshal's Office
Texas Department of Insurance

Fourth Grade

Fire Safety: Stop the Heat

Fire Safety for Texans

The complete series from the State Fire Marshal's Office

Kindergarten

Fire Safe Together

First Grade

Fire Safety: Any Time, Any Place

Second Grade

Making Me Fire Safe

Third Grade

Positively Fire Safe

Fourth Grade

Fire Safety: Stop the Heat

Fifth Grade

Charged Up For Fire Safety

Sixth Grade

Fire Safety Power

Seventh Grade

Responsible For Fire Safety

Eighth Grade

Fire Safety's My Job

Health (High School)

A Lifetime For Fire Safety

Economics (High School)

Fire Safety For Consumers

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Introduction

Introduction

Why teach fire and burn prevention?

Each year during the past decade, about 300 Texans have died in fires. The State Fire Marshal's Office is committed to reducing this alarming statistic. Analysis of fire statistics shows that the vast majority of fires — and the resulting fire deaths — could have been prevented. Regretfully, most people do not know or practice even simple actions that can prevent fires and burns.

The State Fire Marshal's Office believes the key to reducing fires and fire deaths is education. Fire safety education has traditionally been concentrated in elementary school observances of Fire Prevention Week. While these observances can produce effective results, thoughtful analysis of the fire problem and fire safety educational programs shows that a more comprehensive, age-appropriate approach to fire safety education can multiply its benefits.

Recognizing the limits of classroom instruction time, the State Fire Marshal's Office has examined the Texas essential elements of instruction to determine the most appropriate topics with which to integrate fire prevention and fire safety. Teachers from across the state have provided feedback on topics appropriate for each grade level.

The result of this extensive research is "Fire Safety for Texans," a series of curriculum guides teaching fire and burn prevention. Each grade-level program has been coordinated with essential elements in that grade and with the unique specific fire safety needs of that age group. The lesson plans have been field tested in classrooms across the state. On average, students who have been taught using these materials score 26 percent higher than students in control groups.

As you use this guide, you and teachers in other grade levels will be part of a continuum of fire safety education spanning all grades. The State Fire Marshal's Office believes this continuum will help create a generation of Texans who will be fire-safety aware. In turn, all Texans can benefit from a decrease in the number of needless fire deaths and an increase in safer homes and worksites — a benefit we all deserve.

This Booklet

This booklet, "**Fire Safety: Stop the Heat**," is specifically designed for fourth-grade students. The following sections give specific information on the essential elements applicable to fire and burn prevention and on the age-specific needs of fourth-grade students

related to fires and burns. You will also find additional information on the format and materials found in this booklet.

This booklet has three sections:

- **Lesson Plans.** This section includes all steps in the lesson cycle.
- **Teacher Materials.** This section includes all teaching aids and tests.
- **Student Materials — Duplicating Masters.** This section includes master copies of materials to be used by students.



General Objectives: To understand principles of extinguishing fires

To investigate issues related to peer pressure related to fire setting

To develop self-motivation to effect changes with family involvement

To explore the role of the fire service in the community

Essential Elements: The student will be provided opportunities to:

§75.26 (e) 3B. recognize interdependence of people and the environment, and recognize personal responsibility for protecting the environment.

§75.29 (e) 1A. accept the responsibilities of membership in various groups.

§75.25 (e) 4B. describe objects, organisms, and events from the environment.

§75.25 (e) 6A. predict the outcomes of actions based on experience or data.

§75.25 (e) 7B. relate classroom objects, science principles, and activities to daily life.

§75.25 (e) 8B. state relationships among objects, organisms, and events using operational definitions.

§75.26 (e) 1F. practice general emergency procedures.

§75.26 (e) 1G. recognize hazards in the environment, and acquire knowledge and skills needed to avoid injury and to prevent accidents.

§75.26 (e) 2A. recognize benefits and limits of advertising as it relates to selection of health ... products.

§75.26 (e) 2C. recognize the health of the family depends upon contributions of each of its members.

§75.26 (e) 3A. recognize scope of services provided by community health agencies.

§75.29 (e) 1C. explain how groups influence individual behavior.

Science Content: Content from the sciences that shall be emphasized at the grade level shall include:

Life Sciences

- 1.4 structure and function of the human body.
- 1.6 ecology ... interdependence of living things.
- 1.7 application of life science to careers and everyday life.
- 1.8 human responsibility regarding life science phenomena.

Background: Age Profile

Stage of industry vs. inferiority, which means the child needs to stay constructively busy. Because many differences in abilities are becoming more evident, comparisons among children should be avoided.

Areas of development include neuromuscular and social. The child is developing many new physical skills, both gross and fine motor skills. He is making a social move from the home into peer groups and school. He is developing his own self-attitudes and seeks significant human relationships.

Operating under the morality of cooperation, the child sees rules as mutual agreements made by those affected and involved in the situation. She tends to obey rules out of respect. The child can understand causes and consequences of actions.

The child is capable of concrete operations, which means he can solve a variety of problems using concrete objects, and may be capable of formal operations, in which concrete objects are no longer needed for problem solving. He must be active in the instructional process, and activities and materials must be relevant to the child's life or environment. Instruction will be more effective if it involves both the affective and cognitive domains.

Fourth-graders are interested in social, occupational and civic matters and are becoming able to move from the simple to complex, concrete to abstract, undifferentiated to differentiated, discrete to organized.

Fire And Burn Hazards

Curiosity about fires — playing with matches, lighters, candles, fireplace, heaters, other locations where a flame can be observed; overconfidence in dealing with fires.

Scalds — cooking; tap water; hot foods, especially heated sweet foods.

Appliances — cooking at stoves or with microwave ovens, especially unsupervised; overconfidence in using appliances, such as irons, toasters, etc.

Clothing ignition — playing with matches; flammable clothing and costumes; walking or sleeping too close to heater or other open flame; knowing how to reduce injury.

Outdoor hazards — campfires and barbecues; mini-bikes and lawn mowers; fireworks; high-tension wires.

Other — flammable liquids; fires caused by parents' smoking; injury from smoke and fire gases; knowing how to escape from fire.

Teacher's Note On Materials: Illustrations and activity sheets in this booklet are intended to serve as masters. Photocopy them and use as directed.

Pre-Test and Post-Test: conduct pre-test prior to presenting first lesson and post-test following fifth lesson.

Teacher's Note on Closure Activities: Some activities included in the closure phase of the lesson cycle may be effectively used in the next lesson's focus activity.

Key To Icons: The following icons can be used to easily identify activities in the lesson plans:



Lesson objectives



Focus and closure



Creative group activity, including role playing



Lecture



Group problem-solving activity



Answering questions



Guest presenter



Investigation or research



Creative writing activity



Cut-and-paste activity



Group discussion



Drawing, artwork or illustration

Lesson Plans

Ask students to define inspection. (Checking or looking for problems.)

Teacher: "During a fire inspection, the inspector searches for problems that could cause a fire. By conducting inspections, the fire department can help prevent fires.

"The second responsibility is suppression. The dictionary defines 'suppression' as the act of stopping or putting down. Fire suppression means to control or put out the fire.

"The third responsibility is rescue. How are fire departments involved in rescues?"

(Getting people from fires and other accidents, but only when it is safe for the fire fighter; accept additional reasonable answers.)

"The fourth responsibility is investigation. What does 'investigation' mean? (Looking closely for facts.) The fire department investigates most fires to determine how they started. Investigating a fire is very important, especially if the fire department thinks it might have been started on purpose."



Guided Practice: Distribute "Emergency Answers" activity sheet, and display "Emergency Answers" overhead transparency. Direct student attention to the word list. Have students complete the puzzle, working in small groups. Option: Complete the puzzle as a whole-class activity.



Independent Practice: Have students select from the following two activities:

- Talk with a fire fighter about his or her job, and write a short report.
- Write a short paper on how you would help the community by being a fire fighter.

Both activities should include references to information presented during this unit. Encourage students to include information on the three elements of fire, how fire byproducts can hurt the body, and the importance of fire-safety equipment.



Reteaching: Invite a fire fighter, fire inspector or fire investigator to tell the students why his or her job is important. Ask the guest to emphasize how the fire department helps the community stay safe and healthy.



Enrichment: Have students check local newspapers for articles about fire department

activities. Have them classify the fire department's activities into the four categories of services.



Closure: Briefly review concepts presented during the unit. Discuss how students used what they had learned during the unit in writing their papers or reports. Ask students if they are going to change any of their actions or work more with their family to prevent fires.

Administer post-test.

Teacher Supplemental Materials

ANSWER KEY-1

Name _____

Fourth Grade: Fire Safety: Stop the Heat PRE-TEST POST-TEST

Complete the sentences:

- Fire has (how many?) three elements.
- "Fire prevention" means keeping heat, fuel and oxygen apart so a fire can't start.

What could you do to prevent a fire in the following? Accept reasonable answers.

- Someone asks you to play with matches. Say "no" and tell an adult.
- You are shooting fireworks outdoors. Stay away from grass and trees.
- A dishtowel is on the stove. Remove the dishtowel.

Circle the correct answer:

- A fire makes only smoke and heat. True False
- A fire can be stopped by taking away oxygen (air). True False
- A liquid cannot catch on fire. True False
- A family can work together to prevent fires in the home. True False

10: List four major jobs of the fire department: (Accept student terms)
 A inspection C rescue
 B suppression D investigation

The picture shows six fire safety items. Write the letter of the item by the correct name.

- E fire alarm pull station
- C EXIT sign
- B smoke alarm
- A fire sprinkler
- D EXIT directional sign
- F fire exitway

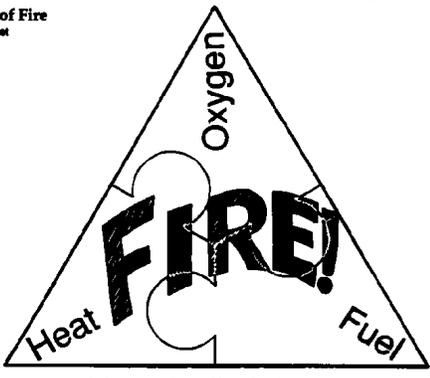


Teacher: Use prior to beginning Lesson One, Page 8. Duplicate for student use.

Fourth Grade: Fire Safety: Stop the Heat

Name _____

Science of Fire Activity Sheet



Three elements are needed to start a fire and keep it going.

For each word, write a sentence that describes its role in starting a fire.

Heat is one of the three elements of fire that, combined with fuel and oxygen, can cause a fire.

Fuel is one of the three elements of fire that, combined with heat and oxygen, can cause a fire.

Oxygen is one of the three elements of fire that, combined with heat and fuel, can cause a fire.

Fire can be prevented by keeping these three elements from combining.

Write a sentence that describes

Fire prevention is keeping heat, fuel and oxygen from coming together to keep fire from starting.

Teacher: Use with Lesson One, Page 8. Duplicate for student use.

Fourth Grade: Fire Safety: Stop the Heat

Name _____

You're Out Activity Sheet

Read the first box, then answer the question in the second box. Circle the element of fire that was removed. Accept other reasonable answers.

A cloth dishtowel is laying on the stove. Mother turns on a burner to boil water.	What can you do to prevent a fire? <u>Remove the towel.</u>	Heat <input checked="" type="checkbox"/> Fuel <input type="checkbox"/> Oxygen
Grandfather uses an electric heater during the winter. To keep warm at night, he put the heater close to the bed.	What can you do to prevent a fire? <u>Keep the heater 3 feet from the bed.</u>	Heat <input checked="" type="checkbox"/> Fuel <input type="checkbox"/> Oxygen
A pan of hot oil is cooking on the stove. It catches fire.	What can you do to put out the fire? <u>Cover the pan with a large lid.</u>	Heat <input type="checkbox"/> Fuel <input checked="" type="checkbox"/> Oxygen
A cigarette is left burning in an ashtray. The ashtray is sitting on the arm of the sofa.	What can you do to prevent a fire? <u>Remove the cigarette.</u>	Heat <input checked="" type="checkbox"/> Fuel <input type="checkbox"/> Oxygen

Teacher: Use with Lesson One, Page 8. Duplicate for student use.

Fourth Grade: Fire Safety: Stop the Heat

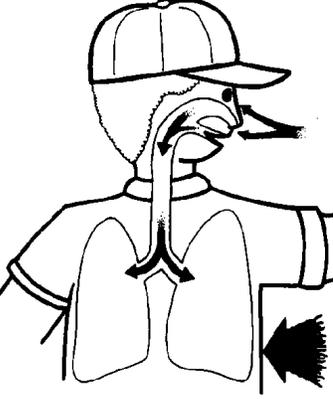
Name _____

How Fire Products Hurt the Body Activity Sheet

Read the words in the list of fire products (in the table below). Then write the correct words in the box at the bottom of the page.

Hint: Remember that oxygen must go through your lungs to get to your body.

Fire products	What they do
Carbon monoxide	Keeps blood from carrying oxygen
Smoke	Irritates eyes and lungs, blocks vision
Hydrogen cyanide (SIGH-uh-NICE)	Prevents cells from using oxygen
Lack of oxygen	Removes body's source of oxygen
Heat	Causes burns, raises body temperature



What can harm ...

Eyes? smoke

Nose? smoke

Mouth and throat? smoke

Lungs? carbon monoxide
hydrogen cyanide
lack of oxygen

Entire body? heat

Teacher: Use with Lesson Three, Page 11. Duplicate for student use.

Fourth Grade: Fire Safety: Stop the Heat

ANSWER KEY-2

Name _____

What Would Happen?
Activity Sheet

Teacher: Use with Lesson Three, Page 11. Duplicate for student use.

Fourth Grade: Fire Safety: Stop the Heat

Name _____

Fire Safety Features In Our Building
Investigation Activity

Look around your building. Can you find the fire safety features in the list below? Write what you find in the table below.

Fire sprinkler Smoke alarm EXIT sign
EXIT directional sign Fire alarm pull station Fire exitway

Accept reasonable answers. Following are possible responses		
EXIT sign	over a door	red or green lighted from inside
EXIT directional sign	in hallway	red or green has an arrow may be lighted
Fire alarm pull station	in hallway	red covered by glass has a small hammer

Teacher: Use with Lesson Four, Page 12. Duplicate for student use.

Fourth Grade: Fire Safety: Stop the Heat

Name _____

Emergency Answers
Crossword Puzzle Activity Sheet

Word List

before	prevention
caused	put fires out
check	rescue
clean up	safe
codes	service
correct	stop fires
healthy	suppression
inspect	teach

Across

- Putting out fires is called _____.
- Keeping fires from starting is called _____.
- _____ are rules that tell what to do to prevent fires.
- _____ means to take someone out of a fire.
- Fire fighters visit schools and clubs to _____ people how to prevent fires.
- To be _____ is to be away from fire dangers.
- Fire investigators look for what _____ the fire.

Down

- Preventing fires and burn helps us stay _____.
- The job of the fire service is to _____.
- Fire fighters also _____ after putting out the fire.
- To inspect is to _____ for fire dangers.
- After an inspection, fire inspectors tell the owner how to _____ fire dangers.
- Look for fire dangers _____ you have a fire.

Teacher: Use with Lesson Five, Page 13. Duplicate for student use.

Fourth Grade: Fire Safety: Stop the Heat

**Student Materials —
Duplicating Masters**

