

## Fire Prevention and Safety Practices

### Course

Health Science

### Unit V

Safety and  
Governmental  
Regulations

### Essential Question

What is required  
to prevent or  
respond to a fire  
in a health care  
facility?

### TEKS

130.204 (c) 8A,  
11A, 11B, 11C

### Prior Student Learning

Prior scientific  
study of  
chemicals and  
fire safety.

### Estimated time

3-4 hours

### Rationale

Fires may occur at any time, as a result of overloaded wiring, smoking, improper chemical storage and various emergencies. Health care providers must recognize and respond to fire risk situations and use caution in protecting clients, families, other workers, as well as safeguarding hospital property and oneself.

### Objectives

Upon completion of this lesson, the student will be able to:

- Recognize fire safety hazards and the meaning of the acronym RACE
- Assess fire prevention and safety practices according to facility protocol
- Propose an emergency action plan

### Engage

Do you have a fire escape plan for your home? Do all your family members know where the fire extinguishers are? Do you have smoke alarms installed, and are they functioning properly? Does the fire department know where water can be obtained near your home?

Or

Invite a representative from the local fire department to implement the lesson.

### Key Points

Fire safety in health care facilities—hospitals, nursing homes, clinics—presents a specialized response. Many patients have special needs that make them especially vulnerable in a fire emergency, thus increasing the risk of fire-casualties. Healthcare staff must therefore make every effort to prevent fires from starting and must be prepared to respond if a fire breaks outs.

#### I. Fire Hazards

- A. The most common cause of fire in health care facilities is from smoking materials. If smoking is permitted in your facility, all staff should know the smoking rules and be ready to enforce them.
  1. If smoking is allowed, large, deep, non-tip ashtrays should be used. Ashtrays should be emptied often into metal containers.
  2. Smoking should never be allowed where oxygen is in use or is stored.

- B. Another major fire hazard is faulty or improperly used equipment. All equipment should be checked on a routine schedule. Be especially attentive to the following equipment hazards:
  - 1. Cracked or split cords or plugs on electrical equipment.
  - 2. Overloaded extension cords or cords placed where they may be stepped on.
  - 3. Dirty or greasy kitchen equipment.
  - 4. Full laundry lint screens.
  - 5. Any indicated malfunction of an oxygen machine or gas compressor.
  - 6. Improperly lubricated fan motors and worn drive belts
  - 7. Lights in close proximity to paper or fabric
  - 8. In use but unattended cooking equipment
  - 9. Improperly maintained or malfunctioning heating, ventilating, and cooling equipment
  - 10. Office equipment left running continuously
- II. Fire Response - Know the following:
  - A. Facility's emergency plan.
  - B. Location of fire alarms and how to operate them.
  - C. How to shut off oxygen machines and other compressed gas systems.
  - D. Location of fire extinguishers and how to use them.
  - E. How to move patients safely and quickly if necessary.
- III. Remember the RACE Against Fire
  - A. RESCUE any individual directly threatened by fire. Patient safety is the primary consideration, so move patients who are in immediate danger away from smoke and flames. Place the patient in a nearby room, behind a closed door.
  - B. ACTIVATE the alarm if you discover a fire or respond immediately to the alarm if you hear it sound.
  - C. CONFINE the fire by closing doors to slow the spread of smoke and flame. Close the doors of patients' rooms. In general, residents are safer in a closed room than in a smoke-filled hallway.
  - D. EXTINGUISH the fire only if the fire is small, and if you know how to operate a fire extinguisher. Be sure the area has been cleared and the fire department called.
- IV. Appropriate equipment for extinguishing fires:
  - A. Class ABC fire extinguishers are used for any type fires
  - B. Class B fire extinguishers are used on grease fires
  - C. Class C fire extinguishers are used on electrical fires
- V. Appropriate guidelines for practicing client and personal safety during a fire.
  - A. Remain calm.

- B. Remove any clients or co-workers who are in immediate danger.
  - C. Activate the fire alarm to notify proper authority of emergency.
  - D. Effectively use fire extinguishers.
- VI. OSHA (Occupational Safety and Health Administration) is a regulatory agency for fire safety.

### **Activity**

- I. Develop and role play emergency scenarios that could occur in a health care facility.
- II. Interview a health care provider concerning health care facilities disaster plans.
- III. Develop a disaster plan for the school utilizing multimedia technology and present to class. See guidelines.

### **Assessment**

Multimedia Rubric  
Project Rubric

### **Materials**

<http://www.cdc.gov/nasd/docs/d000801-d000900/d000820/d000820.html>  
[http://www.osha.gov/OshDoc/data\\_General\\_Facts/fire-safety-factsheet.html](http://www.osha.gov/OshDoc/data_General_Facts/fire-safety-factsheet.html)  
<http://www.cdc.gov/niosh/topics/healthcare/>  
Fire codes  
ABC fire extinguishers if possible.

### **Accommodations for Learning Differences**

For reinforcement, students will demonstrate appropriate responses to fires in poster or display format, or prepared electronically.

For enrichment, students will research various fire codes within the community and compare and contrast the fire codes in an essay.

### **National and State Education Standards**

National Health Science Cluster Standards

HLC06.01 Health care workers will understand the existing and potential hazards to clients, co-workers, and self. They will prevent injury or illness through safe work practices and follow health and safety policies and procedures.

### **TEKS**

130.204 (c)(8)(A) comply with specific industry standards related to safety and substance abuse;  
130.204 (c)(11)(A) conform to governmental regulations and guidelines from

entities such as the World Health Organization, Centers for Disease Control, Occupational Safety and Health Administration, Food and Drug Administration, and National Institute for Occupational Safety and Health; 130.204 (c)(11)(B) explain protocol related to hazardous materials and situations such as material safety data sheets; and 130.204 (c)(11)(C) observe and report unsafe conditions.

Texas College and Career Readiness Standards  
English Language Arts

I. A. 2. Generate ideas and gather information relevant to the topic and purpose, keeping careful records of outside sources.

II. A. 4. Draw and support complex inferences from text to summarize, draw conclusions, and distinguish facts from simple assertions and opinions.

III. B. Develop effective speaking styles for both group and one on one situations.

IV. A. Apply listening skills as an individual and as a member of a group in a variety of settings.

V. A. 2. Explore a research topic.

V. B. 3. Synthesize and organize information effectively.

Science

I. A. 1. utilize skepticism, logic and professional ethics in science.

Social Studies

I. E. 4. Identify and evaluate the sources and consequences and social conflict.

# Emergency Plan Guidelines

Develop an emergency plan for your school utilizing the following guidelines:

- Describe the routes for students and teachers to use and procedures to follow.
- Account for all evacuated students and teachers.
- Include procedures for evacuating disabled students and teachers.
- Include preferred means of alerting students and teachers to a fire emergency.
- Provide for an alarm system throughout the school.
- Require an alarm system that includes voice communication or sound signals such as bells, whistles, or horns.
- Make the evacuation signal known to students and teachers.
- Ensure emergency training.
- Require review of the plan with new students and teachers and with all students and teachers whenever the plan is changed.

# Project Rubric

Student: \_\_\_\_\_

Course: \_\_\_\_\_

Date: \_\_\_\_\_

Scoring criteria	4. Excellent	3. Good	2. Needs Some Improvement	1. Needs Much Improvement	N/A
<b>Clearly/effectively communicates the main idea or theme.</b>					
<b>Information clearly provided.</b>					
<b>Strong examples used to describe the theme or objective.</b>					
<b>Illustrations follow a logical reasoning.</b>					
<b>Each image and font size is legible to entire audience.</b>					

NOTE: N/A represents a response to the performance which is "not appropriate."

Scale:

22-25 - A Excellent

18-21 - B Good

14-17 - C Needs Some Improvement

10-13 - D Needs Much Improvement

5-9 - F Not Appropriate

TOTAL =

# Multimedia Rubric

Student: \_\_\_\_\_ Class: \_\_\_\_\_  
 Title: \_\_\_\_\_ Date: \_\_\_\_\_  
 Other Group Members: \_\_\_\_\_

Scoring criteria	5 Excellent	4 Good	3 Needs Some Improvement	2 Needs Much Improvement	1 N/A
<b>Clearly and effectively communicates an introduction of the theme/objective of the project.</b>					
<b>Clearly and effectively communicates the content throughout the presentation.</b>					
<b>Integrated a variety of multimedia resources to create a professional presentation (transition, graphics).</b>					
<b>Presentation holds audience attention and relates a clear message.</b>					
<b>Timing between slides is beneficial for the viewer to read or observe content.</b>					
<b>Each image and font size is legible to entire audience.</b>					

Scale:  
 26-30 A Excellent  
 21-25 B Good  
 16-20 C Needs Some Improvement  
 11-15 D Needs Much Improvement  
 6-10 F Not Appropriate

TOTAL=

Comments