

Introduction to Surgical Technology

SECTION B: Safety

Module 1-B: Environmental Safety

Introduction to Surgical Technology
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Suggested Activities

**INSTRUCTIONAL
PLAN**

The following is a step-by-step instructional plan (preparation, delivery/application, and evaluation) to assist you in preparing for group instruction or to assist you in modifying the Learning Activities Sheet provided in the student edition for this module.

PREPARATION

- Review the module in the student edition carefully and plan for instruction.
 - Review the “Teaching Suggestions.” Plan for classroom activities.
 - Develop your instructional plan. Adjust your instructional plan for different learning styles and for students with special needs.
 - Prepare classroom. Put up posters and charts and display articles and other references related to this module.
 - Gather the following equipment and materials to aid you in illustrating and demonstrating your classroom presentation:
 - Enough copies of the organization’s accident report form for each student in the class
 - Set of standard and surgical PPE (gloves, eye protection, head cover, booties, etc.)
 - Organization’s Policies and Procedures manual
 - Examples of the organization’s lockout devices and tag-out tags
 - An example of—or the location of—an NFPA hazard diamond
 - Full-color sheet illustrating DOT hazardous material placards
 - Enough copies of one of the organization’s MSDSs for each student in the class
 - Large carton of books or other heavy object for lifting demonstration
 - Telephone for role-playing the receipt of a bomb threat
 - Organization’s emergency disaster supply kit
 - Organization’s posted fire and evacuation routes
 - Variety of portable fire extinguishers
- ✓ **NOTE:** Job Sheet 2 should be taught/supervised by a representative from the fire department. This person will probably be able to supply you with a variety of portable extinguishers.
- Examples of—or the location of—various plugs, extension cords, electrical outlets, junction boxes, and electrical panels
- Review and obtain films, videotapes, and other resources you may want to use to supplement the instruction of this module. See “Resources Used in Developing This Module,” “Suggested Supplemental Resources,” and “Suggested Web Sites” for more information.

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DELIVERY AND APPLICATION

- Make transparencies from the transparency masters.
- Review Learning Activities Sheet in the student edition. Modify as appropriate to include additional activities and/or resources available in your classroom.
- Select Web sites to be inserted on the Learning Activities Sheet in the student edition.
- Prepare supplemental resources for use by your students.
- Provide the students with the module of instruction in the student edition.
- Discuss the specific objectives on the Module Objective Sheet.
- Discuss the Information Sheet. Implement your instructional plan to localize, supplement, and personalize the objectives presented in this portion of the module. Reinforce the basic academic and workplace skills when applicable.
- Discuss the assignment sheets. Review with students the criteria for evaluation of these activities.
- Discuss and demonstrate the job sheets. Make sure all required tools, equipment, and materials are available. Review with students the criteria for evaluation of these activities and the rating scale that will be used to indicate job performance.

EVALUATION

- Make copies of the Written Test. Add or modify test items as needed. The Written Test serves as both a pretest and posttest to assist in measuring each student's competency gains.
- Give and evaluate pretest. Modify lesson plan to include additional instruction for those areas where students were deficient.
- Evaluate the assignment sheets. Rate the student using the criteria listed on each assignment sheet. See Answers to Assignment Sheets for correct answers where applicable. If the student's performance is unacceptable, have the student review the appropriate materials and complete the assignment again.
- Evaluate the job sheets. When the student is ready to perform a specific task, obtain a copy of the job sheet which may be found in the student edition. Then observe the student performing the procedure.

Process evaluation—Place a mark in the box to the left of each designated checkpoint if the student has satisfactorily completed the process step(s) for each checkpoint area. If the student is unable to complete the procedure correctly, have the student review the materials and try again.

Product evaluation—Once the student has satisfactorily completed the procedure, rate the student product (outcome) using the criteria that are provided as part of the job sheet. If the student's product is unacceptable, have the student review the materials and submit another product for evaluation.

Two sample performance evaluation keys have been provided on the next page. Many other keys are available. Select one rating (grading scale) that best fits your program needs.

Sample A

4—**Skilled**—Can perform job with no additional training.

3—**Moderately skilled**—Has performed job during training program; limited additional training may be required.

2—**Limited skill**—Has performed job during training program; additional training is required to develop skill.

1—**Unskilled**—Is familiar with process, but is unable to perform job.

0—**No exposure**—No information or practice provided during training program.

Sample B

Yes—Can perform job with no additional training.

No—Is unable to perform job satisfactorily.

**TEACHING
SUGGESTIONS**

- Give and evaluate the posttest.
- Make copies of, give, and evaluate the Module Review.
- Compile the Written Test, assignment-sheet, job-sheet, and Module Review scores, and include any additional assignments or supplemental activities you have selected as part of your instructional plan.
- Meet individually with students to evaluate their progress through this module of instruction and indicate to them possible areas of improvement.
- Reteach and retest as required.
- Have students and parents/guardians complete the safety pledge in Assignment Sheet 1.
- Objective 1 and Objective 2 focus on developing good safety habits. Discuss ways of developing a good safety attitude. Ask students to provide you with specific examples of times in which their unsafe attitude caused an injury or accident. Through your discussion, elicit from the students the specific causes for these injuries and accidents.
- Read aloud or have students read aloud each of the safety guidelines in Objective 2. After you or the students read each guideline, provide the school/organization information required in the guideline.
 - Ask students if they know the area numbers for fire, police, poison control, ambulance service, etc. Review these numbers with the students and show students these numbers posted near the telephone.
 - Show the students the location of all posted safety rules and signs. Read and explain these signs.
 - Take students on a brief tour of the building or floor, showing them the location of fire alarms, fire extinguishers, and first-aid equipment.
 - Have available a complete set of standard and surgical PPE (various eye protection, gloves, respirators, booties, head cover, etc.). Show students the correct way to don each article of PPE, and allow them to return your demonstration.
 - Ensure that each student has a copy of the organization's policies and procedures manual. Review the specific safety guidelines in it.
 - Assign Assignment Sheet 2 to be completed in class or by a specified date. Provide students with copies of your facility's accident reporting form.

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- When teaching Objective 3, show students examples of the organization's lockout devices and tag-out tags. Explain where these materials are located and the organization's policies on their use. Demonstrate how to complete the tags and how to use the lockout locks and keys. Allow each student to demonstrate competency in completing a tag and locking out a piece of equipment.
- Objective 4 lists expectations for a safe environment at school or work. Have the class objectively review the list and analyze their school or work environment to see whether it meets these expectations. Does their school or place of work provide adequate lighting, clean air, clearly identified hazardous materials, lighted, open parking, and so forth?
- Objective 5 through Objective 9 cover hazardous materials symbols, labeling, and MSDS. Before covering these objectives, provide students with copies of one of the organization's MSDSs and refer them to Student Supplement 1 in their student editions.
 - Review the purposes of an MSDS listed in Objective 5.
 - Review the typical sections of an MSDS listed in Objective 6. Explain that while each MSDS differs in format from organization to organization, each must contain the eight basic sections listed in Objective 6.
 - Have students compare their organization's MSDS with the sample MSDS in Student Supplement 1.
 - Ensure that students are familiar with and understand the terms *flashpoint*, *combustible*, *flammable*, and *reactivity*, found on MSDSs.
 - When teaching Objective 7, review the symbols on various hazard placards. Use Transparency Master 1, DOT Hazard Placards, to illustrate your discussion.
 - Take students on a tour of the organization, pointing out the symbols on various posted hazardous materials safety signs and placards. Have students note the color and design of the placard as well as the hazard symbol on it. Storage and power generating areas are good places to find such placards, as well as hospital labs, morgues, pharmacies, and x-ray departments. If you do not have access to such areas, show students full-color illustrations of the placards.
 - When teaching Objective 8, use Transparency Master 2 to illustrate your explanation. Stress the importance of the colors and numbers on the NFPA 704 hazard diamond. Try to find a posted NFPA 704 hazard diamond so that students can practice decoding it. Use also the NFPA 704 diamond on the Industrial Formula Drano MSDS in Assignment Sheet 3.
 - In teaching Objective 9, discuss the methods by which hazardous materials can enter the body, providing specific examples and reviewing the Health Hazards section on the organization's MSDS. Ask students to volunteer incidents in which they or someone they know of has accidentally ingested, absorbed, or inhaled a hazardous material. Discuss the first-aid steps that were taken, and provide again the telephone number of the poison control agency.
 - Assign Assignment Sheet 3 to be completed in class so that you can walk through the class providing help and guidance where necessary. You may want to assign the students to three small groups to complete this assignment, each group analyzing, recording the results, and reporting on one of the sample MSDSs.

- Objective 10 covers the principles of body mechanics. Students enjoy demonstrating the safe standing, sitting, lying, and moving postures illustrated in this section of the Information Sheet. You may inspire them to correct posture by noting that studies have revealed that individuals with erect, alert posture were repeatedly chosen by the opposite sex as more attractive than those with poor posture.
 - Show students examples of ergonomic furniture and appliances.
 - Have students analyze their usual seated posture when using a computer and compare this posture to correct seated posture. Does their seated posture cause backache? Shoulder tension? Eye fatigue? Why? Do the same with their standing and moving postures.
 - Have students practice walking across the room with a book on their head until they can cross the room naturally without the book falling off.
 - Demonstrate the correct postures in Job Sheet 1 and have each student demonstrate each of the postures illustrated.
 - Review the safe lifting techniques outlined in Objective 10. Use Transparency Masters 3 and 4 to illustrate your explanation.
 - Demonstrate the safe lifting technique outlined in Job Sheet 1. Have each student return your demonstration. Inform students of the date on which they will be evaluated in performing Job Sheet 1.
- Objective 11 through Objective 22 deal with basic types of emergencies. Provide students with relevant examples of each of the basic types of emergencies.
- Objective 12 provides general guidelines for what to do in the event of a severe weather warning.
 - Make sure that students have a copy of and understand the organization's specific severe weather plan.
 - Tell or show students the location of the organization's emergency disaster supply kit.
 - Have students examine and test the materials in the organization's emergency disaster kit to ensure that they are usable and operable. Have them replace batteries, canned goods, and other nonfunctioning, outdated or unusable items.
 - Refer students to Student Supplement 2, Tornado Tips, in their student materials. Review the supplement, stressing the difference between the meaning of *watch* and *warning*. If earthquakes, hurricanes, or floods are prevalent in your area, provide students with and review emergency guidelines for these severe weather phenomena, also.
 - Have the class role-play the organization's severe weather drill.
 - Assign Assignment Sheet 4 to be completed in class or by an assigned date.
- When teaching Objective 13, have students practice eliciting information from an individual calling in a bomb threat. Provide students with and review the organization's building evacuation plan and standard operating procedures for handling a bomb threat.

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- Combine Objective 14 and Objective 15 to describe general procedures for evacuating a building in a fire emergency for both able-bodied and disabled individuals.
 - Provide students with and review the organization’s fire evacuation plan and standard operating procedures for handling oneself when fire is discovered or the fire alarm sounds.
 - Show students the location of the organization’s posted fire evacuation plan and standard operating procedures for handling oneself when fire is discovered or the fire alarm sounds.
 - Explain the disabled person’s fire evacuation responsibilities as outlined in Objective 15. Assign two or three students in the class the following disabilities: lower extremity paralysis and wheelchair bound, legal blindness, deafness. Assign one student the role of visitor who does not know the organization’s fire escape routes or procedures. Assign four remaining students the responsibility of assisting the visitor and each of the “disabled” individuals. Have all students role-play their responsibilities and actions in responding to a fire alarm from various locations and situations in the organization.
- Objective 16 through Objective 22 deal with fire components, classes, and portable fire extinguisher markings and use. When teaching these objectives, use Transparency Masters 5 through 7 to assist you in illustrating this information.
 - Show students actual markings on fire extinguishers. Have a variety of extinguishers on display and quiz the students about the class(es) of fire for which each is suitable.
 - Stress that not all fires can or should be extinguished with a portable extinguisher. Stress the characteristics of fires appropriate for handling with a portable extinguisher outlined in Objective 20.
 - Assign Assignment Sheet 5 to be completed in class. Discuss student responses.
 - When teaching Objective 21, allow each student to come to the front of the class and “walk through” the general steps for using a fire extinguisher. Use an empty extinguisher for demonstration purposes.
 - Introduce the fire department representative and allow him or her to introduce Job Sheet 2 and to answer student questions regarding fire and extinguisher use.
 - Have students tour the organization, locating alarm boxes, extinguishers, fire exits, and escape routes, and evaluating the organization for its adherence to the fire prevention guidelines listed in Objective 22. Or, have the fire department representative lead an “inspection” tour in which these aspects are noted and explained.
- Objective 23 and Objective 24 cover electrical and basic equipment safety.
 - Review the statements concerning electrical safety in Objective 23.
 - Show students examples of and explain the following electrical equipment: plugs, fuses, outlets, electrical panels, junction boxes.
 - Explain the basic equipment safety statements in Objective 24, providing the students with the reasons for adhering to each guideline and the consequences of not following the guidelines.

<p>RESOURCES USED IN DEVELOPING THIS MODULE</p>	<ul style="list-style-type: none"> • Have students complete Assignment Sheet 6 as a general review of the module. You may want to assign it to be completed by small groups in class and use discussion of it as a springboard to summarizing the lesson. • <i>American Red Cross Community First Aid and Safety</i>. St. Louis, MO: Mosby Lifeline, 1993. • Bledsoe, Brian E., Robert S. Porter, and Richard A. Cherry. <i>Paramedic Care: Principles & Practice: Vol. 4: Trauma Emergencies</i>. Upper Saddle River, NJ: Brady/Prentice Hall, 2001. • <i>Cleaning Services</i>, “Module One: Safety, First Aid, Hazard Communications.” Stillwater, OK: Curriculum and Instructional Materials Center, Oklahoma Department of Vocational and Technical Education, 1996. • Colonna, Guy R., Ed. <i>Introduction to Employee Fire and Life Safety</i>. Quincy, MA: National Fire Protection Association, 2001. • Hall, Richard and Barbara Adams, Eds. <i>Essentials of Fire Fighting</i>. 4th ed. Stillwater, OK: Oklahoma State University Fire Protection Publications, 1998. • <i>Power Product Equipment Technician: Theory and Principles of Engine Operation</i>. “Basic Workplace Safety and First-Aid Skills.” Stillwater, OK: The Multistate Academic and Vocational Curriculum Consortium, Inc., 1996.
<p>SUGGESTED SUPPLEMENTAL RESOURCES</p>	<p>Print</p> <ul style="list-style-type: none"> • Finch, William H., III. <i>Pocket Digest of OSHA Standards</i>. OSC Training Group. <p>✓ NOTE: Order current copy online from http://www.oshadigest.com/</p> <ul style="list-style-type: none"> • American Red Cross Community Disaster Education Materials. <p>✓ NOTE: Find a subject index, lists of video titles, and materials available for teachers, schools, and presenters, and order online at http://www.redcross.org/pubs/dspubs/cde.html</p> <p>Videos</p> <ul style="list-style-type: none"> • <i>Safety Orientation—Nursing</i>. 14-minute video includes safe lifting techniques, needle stick prevention, basic infection control procedures, electrical safety and other important topics. (Item no. 14001A) • <i>Accident Causes and Prevention</i>. 10-minute video targets the cause of most accidents, unsafe acts. Explains how employees can reduce and eliminate accidents and injuries through safety awareness and attention to the job, job procedures and safety rules. (Item no. 14007A) • <i>Back Safety for Health Care Providers</i>. 9-minute video that explains how the back works, body mechanics and how each employee can make the proper decision when lifting anything, even in awkward or unusual situations. (Item no. 14010A) • <i>Lifting Patients From Beds</i>. 12-minute video designed for anyone required to lift patients from beds and the prone position. Explains proper body mechanics, procedures, and tips to help prevent back injuries. (Item no. 14008A)

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- *Lifting Patients From Chairs*. 8-minute video designed for anyone required to lift patients from chairs or the sitting position. Explains proper body mechanics, procedures and tips to help prevent back injuries. (Item no. 14009A)
- *Fire Extinguisher Training and Use 2000*. 17-minute video that explains the various classes of fires, different types of fire extinguishers, the key word PASS, and other tips for emergency use of fire extinguishers. (Item no. 1044F)
- *Fire Protection/Electrical Safety*. 9-minute video that supplements OSHA requirements for emergency preparedness training. This program covers extinguishers, sprinklers, housekeeping, chemicals, cords, receptacles, and electrical safety. (Item no. 9014A)
- *Hazardous Energy Source (Lockout-Tagout)*. 10-minute program designed to meet new OSHA standards for locking-tagging equipment during maintenance and servicing of equipment. Designed primarily for engineering personnel, however, to meet the new OSHA rules, employees who use equipment must be properly trained in lockout-tagout procedures. (Item no. 14011A)

Available from:

MAVCC
1500 West Seventh Avenue
Stillwater, OK 74074
800-654-3988
www.mavcc.com

- *Fire Safety in the Perioperative Setting*. 20-minute video identifies areas of potential fire hazards and methods to eliminate those hazards.

Available from:

Ciné-Med, Inc.
127 Main Street North
Woodbury, CT 06798
800-253-7657
www.cine-med.com

SUGGESTED WEB SITES*

- <http://www.parlay.com>

Instructors may order a safety training Kopy Kit® from this Web site. A Kopy Kit is a collection of reproducible resources: one-page handouts on a variety of topics related to a theme. They are sold in three-ring binders and CD-ROMs so that licensees can easily print, copy, and download the pages onto Intranet and Internet sites. Separate licenses are sold for electronic posting rights. The basic product lines focus on the following three areas:

- **Health Education**—Patient education and wellness promotion, stress, fitness, nutrition, chronic conditions, weight management, heart health, back care, pregnancy, self-care, life skills, substance abuse and more.
- **Safety Training**—OSHA compliance and environmental compliance training material on safety awareness, confined spaces, slips and falls, hazcom, PPE, lifting, fire safety, electrical safety, construction safety, warehouse safety, and more.

- **Productivity Training**—Training and communication resources on teamwork, supervision, customer service, time management, workplace violence, managing work and family, sexual harassment, and more.

Click on “General Safety,” and scroll down to a kit titled *The 10 Commandments of Safety*. This mini-kit offers clear, concise advice on topics such as recognizing hazards, preventing back injury, PPE, and lockout/tag-out.

- <http://www.crossroads.nsc.org/index.cfm>

The National Safety Council’s *Crossroads* Web site is a safety, health, and environment search engine and news network that uses subject area experts to answer questions and guide users to information and resources on the Web.

- <http://www.okstate.edu/ehs/links/index.htm>

Oklahoma State University’s online safety library contains fact sheets covering the following areas related to the content of this module:

- Back Safety
- Chemical Safety (includes MSDS and PPE fact sheets)
- Fire Extinguishers (use and identification)
- Fire Safety
- Flammable and Combustible Liquids

- www.nsc.org/library/facts.htm

This National Safety Council Fact Sheet Library contains facts sheets on severe weather preparedness, including hurricanes and coastal storms and floods, among others. Simply click on the fact sheet of interest.

- <http://www.worldsafety.com>

This Web site contains an easy-to-use online search for the MSDS on many products. Just input the product name and other pertinent information and then read the MSDS. A complete OSHA search is also possible at this site.

- <http://www.redcross.org/pubs/dspubs/cde.html>

This Web site contains a listing of all the Red Cross community disaster materials from videos, to door hang-tags, to fact sheets, booklets, and other publications.

- <http://ergoweb.com/index.cfm>

Ergoweb presents a guide to ergonomic products and services, articles on ergonomic practices, OSHA rules on MSDSs (musculoskeletal disorders), and defines an ergonomics injury.

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- http://www.osha-slc.gov/OshDoc/toc_fact.html

✓ **NOTE:** OSHA web addresses are case sensitive (notice some of the capital letters in the address) and must be input exactly or you will receive an error message. The address above will take you to OSHA's fact sheet table of contents. Among others, you can find fact sheets on the following topics:

- Back Injuries
- Eye Protection
- General OSHA Record Keeping Requirements
- Protecting Yourself with PPE
- And Workplace Fire Safety

- <http://www.ou.edu/oupd/fireprim.htm>

This University of Oklahoma Web site has much to recommend it. It contains a quiz that would make an excellent pretest to introduce fire safety Titled "Everything You Ever Wanted to Know About Fire Safety (But Were Afraid to Ask)," it covers and illustrates the following information and procedures:

- How Fires Start
- How Fires are Classified
- How to Prevent Fires
- When Not to Fight a Fire
- How to Identify the Proper Fire Extinguisher
- How to Use a Portable Fire Extinguisher
- How to Extinguish Small Fires
- How to Inspect Your Fire Extinguishers
- How to Create an Emergency Action Plan
- How to Evacuate a Burning Building
- What to Do if Trapped in a Burning Building
- What to Do if Someone Catches Fire

- <http://siri.uvm.edu/msds/>

The developers of this Web site state: "Our objective is to make critical safety information as immediately and universally accessible as possible. In the case of material safety data sheets, this and similar archives can benefit both safety and productivity by replacing tens of thousands of paper MSDS indexes at individual work sites with a few universal online archives. Electronic archives provide a single source where any MSDS can be instantly located; it is essential that information from all manufacturers be accessible in a single index because it is often difficult in an emergency to identify the manufacturer." This site also provides chemical toxicity data.

- <http://www.the-phoenixgroup.com/>

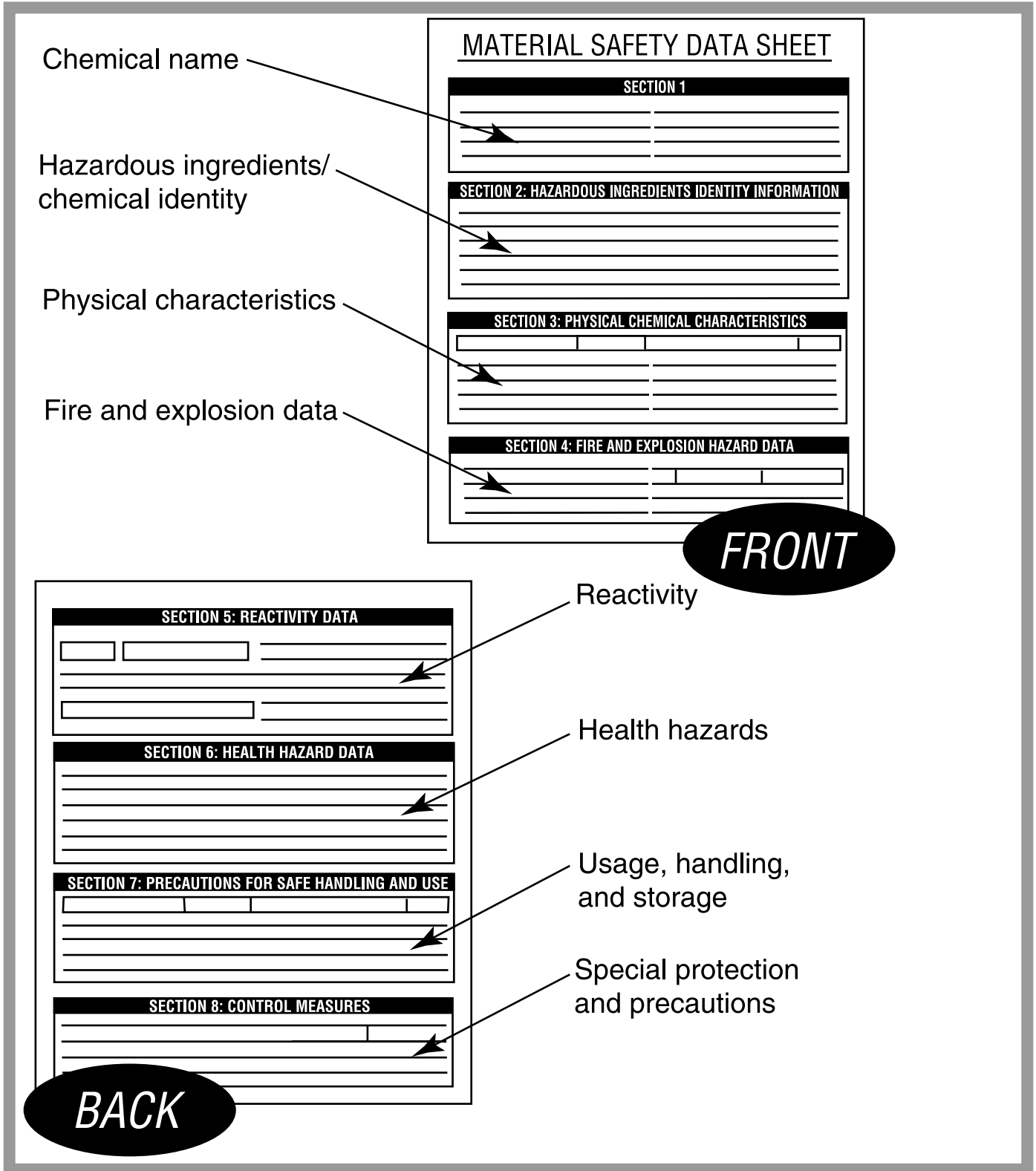
Provides health care and hospital employee OSHA and JCAHO safety manuals.

- <http://www.fema.gov/library/tornadof.htm>

On the Federal Emergency Management Agency (FEMA) Web site you will find a downloadable PDF file containing tornado information such as tornado facts, how to prepare for a tornado, danger signs, safety rules, and what to do after a tornado.

*Web-site addresses were accurate and all content on referenced Web sites was appropriate during development and production of this product. However, Web sites sometimes change; MAVCC takes no responsibility for a site's content. The inclusion of a Web site does not constitute an endorsement of that site's other pages, products, or owners. You are encouraged to verify all Web sites prior to use.

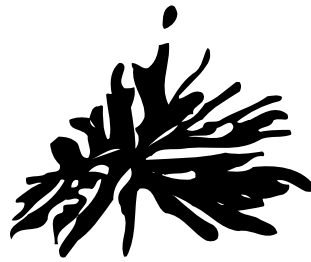
MSDS Example



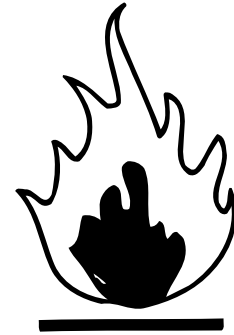
DOT Hazard Placards



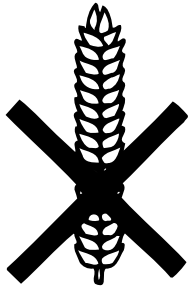
Corrosive



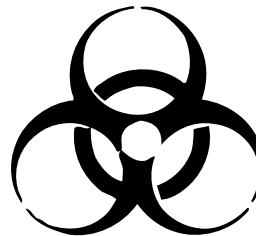
Explosive



Flammable



**Harmful to
Foodstuffs**



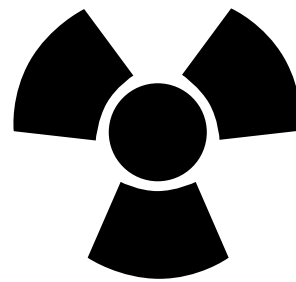
Infectious



Oxidizing

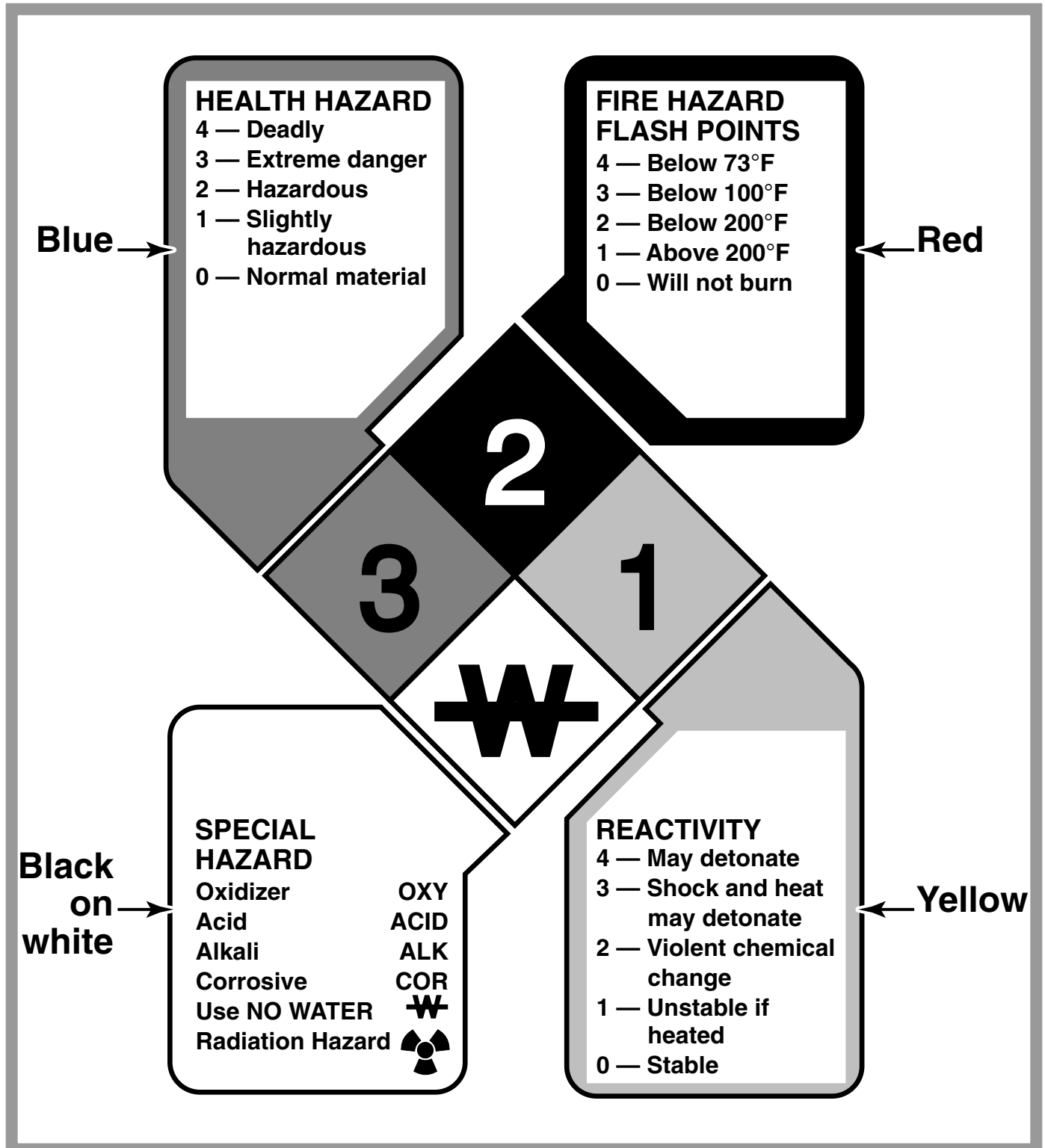


Poisonous



Radioactive

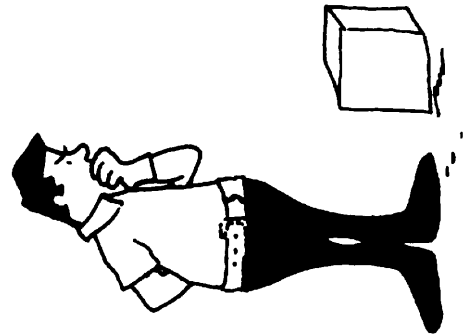
NFPA 704 Hazard Diamond



How to Lift Safely

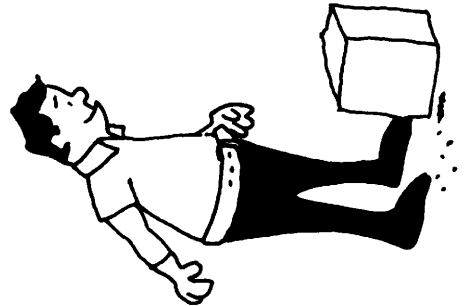
1

Approach the load and size it up as to weight, size, and shape. Consider your physical ability to handle the load.



2

Place feet close to the object to be lifted and 8 to 12 inches apart for good balance.



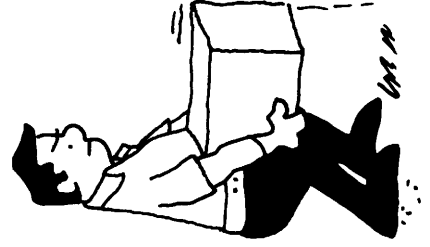
3

Bend the knees to the degree that is comfortable and get a good handhold. Then using both leg and back muscles...



4

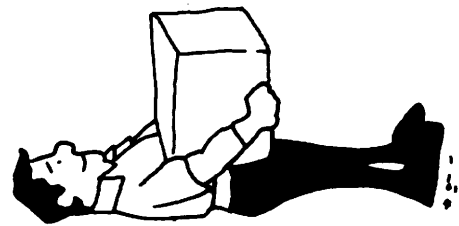
Lift the load straight up smoothly and evenly. Push with your legs, and keep the load close to your body.



How to Lift Safely (cont.)

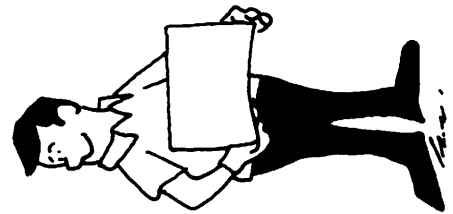
5

Lift the object into carrying position, making no turning or twisting movements until the lift is completed.



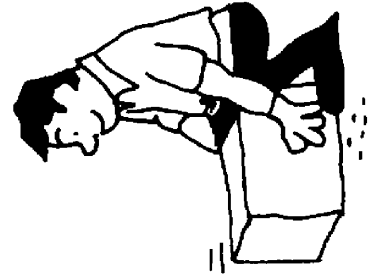
6

Turn your body with changes of foot position after looking over your path of travel, making sure it is clear.

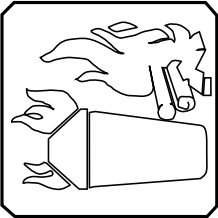
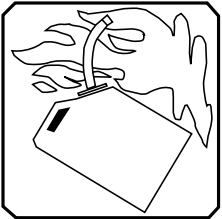
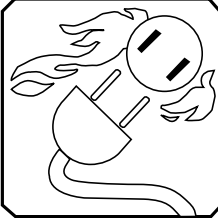
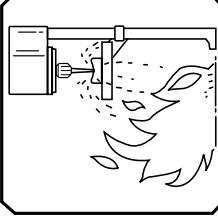


7

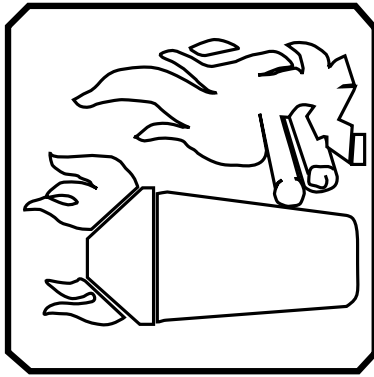
Setting the load down is just as important as picking it up. Using leg and back muscles, comfortably lower load by bending your knees. When load is securely positioned, release your grip.



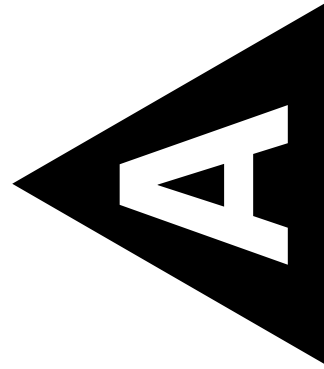
Classes of Fuel or Fires

<p>(Green)</p> <p>A</p> <p>Class A</p> <ul style="list-style-type: none">• Ordinary combustibles 	<p>(Red)</p> <p>B</p> <p>Class B</p> <ul style="list-style-type: none">• Flammable liquids and gases 
<p>(Blue)</p> <p>C</p> <p>Class C</p> <ul style="list-style-type: none">• Live electrical equipment 	<p>(Yellow)</p> <p>D</p> <p>Class D</p> <ul style="list-style-type: none">• Combustible metals 

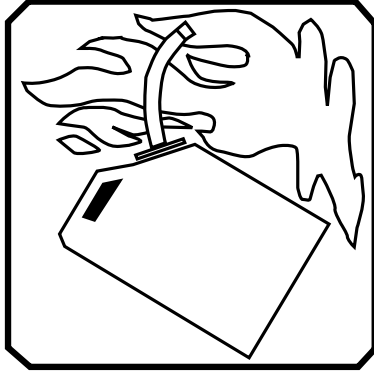
Extinguisher Markings



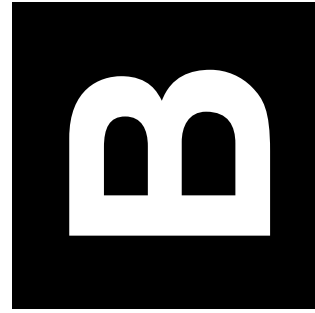
Ordinary



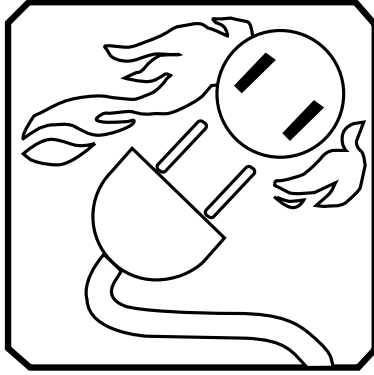
Combustibles
(Green)



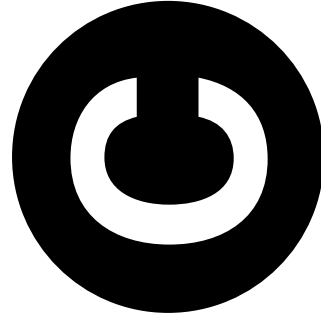
Flammable



Liquids
(Red)

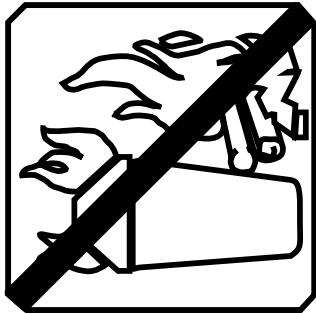


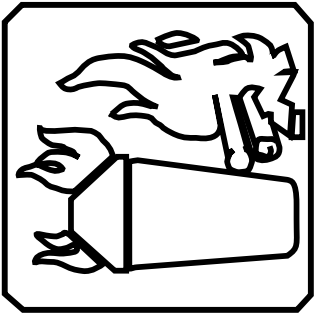

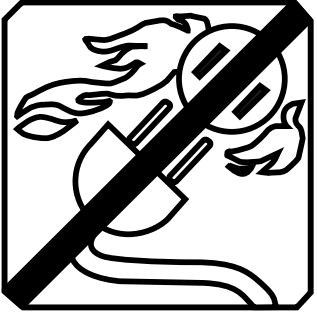
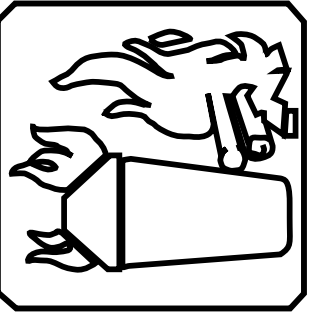
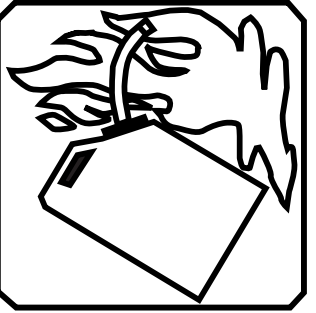
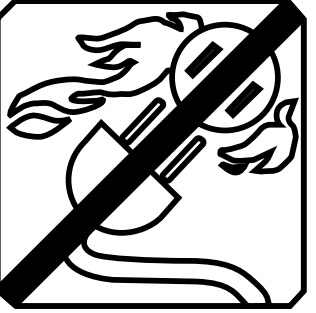


Electrical



Equipment
(Blue)

Extinguisher Picture Symbols

			Picture symbols for extinguishers suitable for Class B and C fires, but NOT for Class A fires.
			Picture symbols for extinguishers suitable for Class A fires, but NOT for Class B and C fires.
			Picture symbols for extinguishers suitable for Class A and B fires, but NOT for Class C fires.

Introduction to Surgical Technology
Section B: Safety
Module 1-B: Environmental Safety

Written Test

Name _____

Date _____ Score _____

OBJECTIVE 1

Discuss four ways of developing a good safety attitude. Write your answers on the blank lines provided below.

- a. _____

- b. _____

- c. _____

- d. _____

OBJECTIVE 2

Complete statements concerning personal safety guidelines. Write your answers on the blank lines provided in the statements below and on the next page.

- a. Know the correct emergency _____ in your area; be sure that they are posted near the _____.
- b. Comply with all _____ and posted signs.
- c. Be familiar with the location of _____ and _____ equipment.
- d. Use the _____ tool or equipment for the job, and use it properly.
- e. Follow _____ when performing a task.
- f. Wear _____ (safety glasses, gloves, etc.) as required.
- g. Use and store potentially hazardous materials and products strictly according to the _____ instructions and cautions.

Module 1-B: Environmental Safety

- h. Never transfer the contents of a container from the original container to another _____ container.
- i. Never operate, adjust, modify, or repair equipment without _____ and proper training.
- j. Tag and report _____ equipment immediately.
- k. Correct or report all _____ conditions immediately.
- l. Keep your work area _____ and _____.

OBJECTIVE 3

List three general steps/guidelines for reporting defective equipment. Write your answers on the blank lines provided below.

- a. _____
- b. _____
- c. _____

OBJECTIVE 4

List six expectations for a safe environment at school or work. Write your answers on the blank lines provided below.

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

OBJECTIVE 5

State three of the purposes of a material safety data sheet (MSDS). Write your answers on the blank lines provided below.

- a. _____
- b. _____
- c. _____

OBJECTIVE 6

Match the MSDS sections to the information each contains. Write the corresponding numbers on the blanks provided.

- | | | |
|-------|---|--|
| _____ | a. Explains special personal protective equipment to use when working with the chemical, and provides extra health and safety information not covered in other sections | 1. Chemical name |
| _____ | b. Identifies the substance and lists the date the MSDS was prepared, the name and address of the manufacturer, and usually a phone number for emergencies | 2. Fire and explosion data |
| _____ | c. Describes what happens if this chemical comes in contact with certain conditions or chemicals | 3. Hazardous ingredients/chemical identity |
| _____ | d. Describes how to clean up an accidental spill, leak, or release, including special precautions; tells how to handle, store, and dispose of the chemical safely | 4. Health hazards |
| _____ | e. Identifies flashpoint, flammability, combustibility, and the best way to put out fire involving that chemical | 5. Physical characteristics |
| _____ | f. Names the substances in the chemical that may be dangerous, provides safe exposure limits and common names for the chemical | 6. Reactivity |
| _____ | g. Describes usual or safe physical qualities such as how it looks or smells, boiling and melting temperatures, evaporation rates, how easily it dissolves, and how heavy it is compared to water | 7. Special protection and precautions |
| _____ | h. Lists ways the chemical may enter your body, symptoms of overexposure, and emergency first aid procedures | 8. Usage, handling, and storage |

OBJECTIVE 7

Match hazard placard and label symbols to their correct hazards. Write the corresponding numbers on the blanks provided below and on the next page.

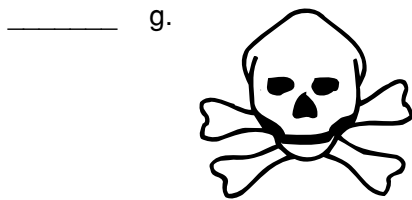
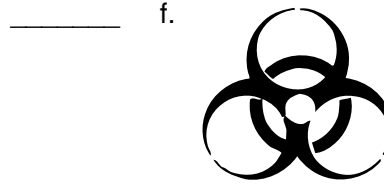
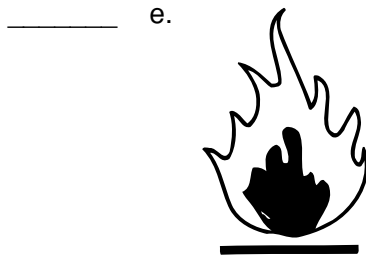
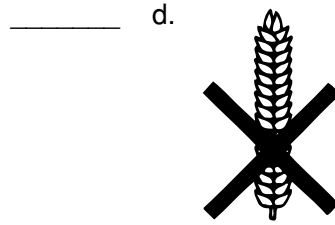
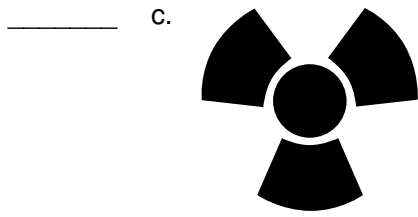
- | | | |
|--------------|--------------------------|----------------|
| 1. Corrosive | 4. Harmful to foodstuffs | 7. Poisonous |
| 2. Explosive | 5. Infectious | 8. Radioactive |
| 3. Flammable | 6. Oxidizing | |

_____ a.



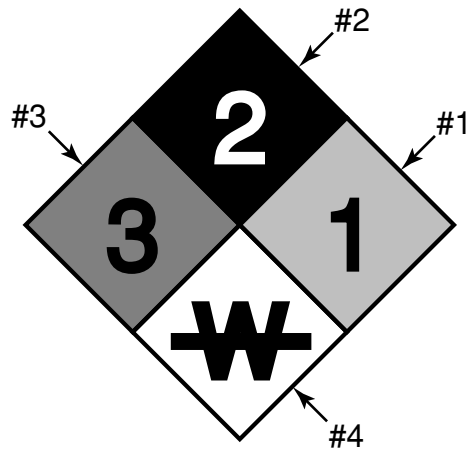
_____ b.





OBJECTIVE 8

Identify hazards using the NFPA 704 hazard triangle. Write your answers on the blank lines provided below and on the next page.



a. What color is the #1 diamond and what hazard does it represent?

_____, _____

b. What color is the #2 diamond and what hazard does it represent?

_____, _____

- c. What color is the #3 diamond and what hazard does it represent?
_____ , _____
- d. For the #4 diamond, what color would the letters or symbols be?

- e. What does a health hazard rating of 4 mean? _____
- f. What does a fire rating of 0 mean? _____

OBJECTIVE 9

Match the method by which hazardous materials can enter the body to their correct descriptions. Write the corresponding numbers on the blanks provided.

- | | | |
|-------|--|---------------|
| _____ | a. By breathing in gases, vapors, fumes, and other forms of a material | 1. Absorption |
| _____ | b. By mouth | 2. Ingestion |
| _____ | c. Through the skin | 3. Inhalation |

OBJECTIVE 10

Complete statements concerning the principles of body mechanics. Write your answers on the blank lines provided in the statements below and on the next page.

- a. Using the body correctly results in _____ and endurance.
- b. Good body mechanics prevent _____ and _____, especially to the back.
- c. Correct standing posture
 - Align _____, _____, _____, knees, and ankles.
 - Keep _____ relaxed and _____ slightly bent.
 - Place feet slightly apart to improve balance.
 - Rest one foot on a footstool or rail to ease strain on your back when standing for an extended period.
 - Stand as close to the work area as possible to prevent reaching.
- d. Correct sitting posture
 - Align _____ over shoulders and shoulders over _____.

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- Place a _____ roll or rolled up towel between your lower back and the back of nonadjustable chairs.
 - Adjust chair height and seat back firmness and angle as necessary.
 - Rest your buttocks against the _____ and keep your feet on the floor or footstool.
 - Place your computer screen at eye height and at a comfortable distance from your eyes.
 - Adjust the height of the work area as necessary.
- e. Correct lying (or sleeping) posture
- Rest on your _____ with your knees slightly bent toward your chest.
 - Rest on your _____ with a pillow placed under your knees.
 - Sleep with only one pillow under your head.
 - Choose a _____ mattress.
- f. Moving correctly
- Walk with your head _____ and your shoulders _____.
 - Cushion and support your wrist and arm when using a computer keyboard and mouse.
 - Occasionally move and stretch your joints freely through entire range of motion.
 - Use carts, wheelchairs, bed sheets, or other devices to lift and carry objects whenever possible.
 - _____, roll, or slide the object when a lifting or carrying device is not available.
 - Ask for help when you must carry a large object, and then ensure that you and your helper coordinate movements and carry the object on the same side of the body and at the same level.
 - Use _____ rather than chairs or boxes to reach high objects.
 - Avoid over-reaching or stretching to reach high objects.

OBJECTIVE 11

List four basic types of emergencies. Write your answers on the blank lines provided below.

- a. _____
- b. _____
- c. _____
- d. _____

OBJECTIVE 12

Discuss severe weather safety guidelines. Write your answers on the blank lines provided below.

Before severe weather occurs

- a. _____

- b. _____

- c. _____

- d. _____

- e. _____

During severe weather

- a. _____

- b. _____

- c. _____

- d. _____

Module 1-B: Environmental Safety

OBJECTIVE 13

Arrange in order the steps to follow on receiving a bomb threat. Place a "1" next to the first step, a "2" next to the second step, and so on.

- _____ a. Follow your building evacuation plan.
- _____ b. Alert your instructor, supervisor, or building administrator of the bomb threat.
- _____ c. When you answer the call, obtain as much information as you can about the caller, recording the call if possible.
- _____ d. Do not return to the building until the "all clear" signal is given.

OBJECTIVE 14

Complete guidelines for general evacuation procedures in a fire emergency. Write your answers on the blank lines provided in the statements below and on the next page.

Upon discovery of fire or smoke or upon activation of a smoke detector—

- a. _____ the doors around the fire to _____ it, if doing so does not compromise your safety.
- b. Do not attempt to _____ or _____ the fire unless you have been trained to do so.
- c. Pull the nearest _____.
- d. _____ the building immediately according to evacuation plans.
- e. Proceed to your _____ and answer to roll call.
- f. _____ or local fire department phone number if in a rural area to notify the fire department of the fire and its exact location.
- g. Notify the building administrator of the _____ of the fire.

At the sound of a fire alarm—

- h. _____ any machinery or processes in your area of responsibility.
- i. Carefully feel several areas of any closed doors; if the door is _____; do not open it.
- j. Check the exit path for _____ or fire.
- k. If the exit path is clear of _____ and _____, remain calm and immediately walk—do not run—to the nearest exit, and leave the building.

- l. If you can smell but not see smoke, place a wet towel over your _____ and hold a wet cloth to your _____ and _____ when exiting if possible.
- m. To limit fire or smoke damage, _____ all doors and windows when leaving the room, if doing so does not compromise your own safety.
- n. _____ all hallway doors as you leave, if doing so does not compromise your own safety.
- o. Assist _____ persons to a secure area—such as a stairwell—and inform responding fire department personnel of their location.
- p. Use the _____, not the _____.
- q. Leave the building in an orderly manner, and proceed to the _____.

OBJECTIVE 15

Describe the disabled person's fire evacuation responsibilities. Write your answer on the blanks provided.

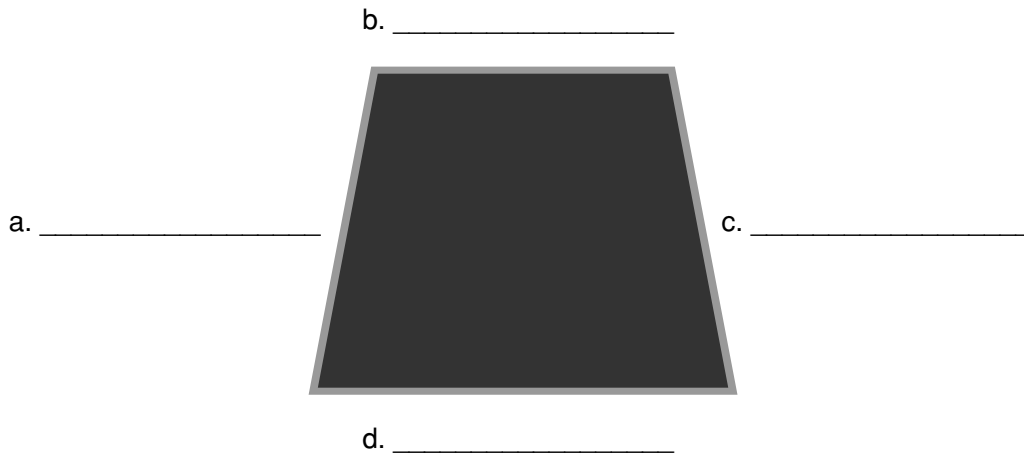
Pre-emergency responsibilities

Evacuation responsibilities

Module 1-B: Environmental Safety

OBJECTIVE 16

Identify the components of fire by labeling the sides of a fire tetrahedron.



OBJECTIVE 17

Match the fire classifications to their fuel sources. Write the corresponding numbers on the blanks provided.

- | | | |
|-------|---|------------|
| _____ | a. Live electrical equipment, wiring, appliances, motors | 1. Class A |
| _____ | b. Wood, paper, rubber, plastic, trash, cotton bedding | 2. Class B |
| _____ | c. Combustible metals | 3. Class C |
| _____ | d. Gasoline, oil, grease, gases (oxygen), paints, anesthetic agents | 4. Class D |

OBJECTIVE 18

Match fire extinguisher symbol shapes to fire classification letters. Write the corresponding numbers on the blanks provided.

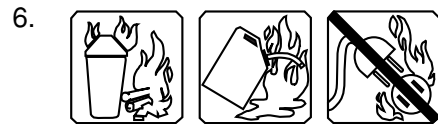
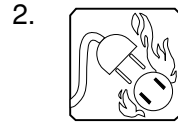
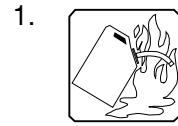


- _____ a. Class A
- _____ b. Class B
- _____ c. Class C
- _____ d. Class D

OBJECTIVE 19

Match fire extinguisher pictographs to the extinguisher's intended purposes Write the corresponding numbers on the blanks provided below.

- _____ a. Class A
- _____ b. Class B
- _____ c. Class C
- _____ d. Class A fires but not Class B or C
- _____ e. Class A and B fires but not Class C
- _____ f. Class B and C fires but not Class A



OBJECTIVE 20

List four characteristics of fires appropriate for handling with a portable fire extinguisher. Write your answers on the blank lines provided below.

- a. _____

- b. _____

- c. _____

- d. _____

Module 1-B: Environmental Safety

OBJECTIVE 21

Arrange in order the general steps in using a fire extinguisher. Place a "1" next to the first step, a "2" next to the second step, and so on. Write your answers on the blanks provided.

- _____ a. Pull the pin to break the inspection band.
- _____ b. Sweep the nozzle from side to side until the fire appears to be out, repeating the process if fire breaks out again.
- _____ c. Aim the extinguisher nozzle or horn at the base of the fire.
- _____ d. Squeeze the handle to release the extinguishing agent.
- _____ e. Identify the fire class and then check the extinguisher label to make sure that the extinguisher is coded to put out that type of fire.

OBJECTIVE 22

List eight fire prevention guidelines. Write your answers on the blank lines provided below.

- a. _____

- b. _____

- c. _____

- d. _____

- e. _____

- f. _____

- g. _____

- h. _____

OBJECTIVE 23

Complete statements concerning electrical safety. Write your answers on the blank lines provided in the statements below and on the next page.

- a. Do not use any electrical appliance or equipment while you are touching _____ or _____.

- b. _____ electrical equipment before cleaning, inspecting, repairing, or removing anything from it.
- c. Keep electrical equipment and work areas _____ to prevent electrical fires.
- d. Know that electrical _____ can ignite nearby flammable materials.
- e. Keep access to electrical panels and junction boxes _____.
- f. Keep flammable materials away from electrical heat sources, including _____.
- g. Know the location of fuses and _____.
- h. Make sure all electrical equipment is properly _____.
- i. Plug power tools into grounded outlets equipped with _____.
- j. Never use _____ on electrical fires.

OBJECTIVE 24

Select true statements concerning basic equipment safety. Write an "X" on the blanks next to the true statements.

- _____ a. Rings and other jewelry may be worn when operating power equipment.
- _____ b. Secure long hair and loose clothing when working with or near power equipment.
- _____ c. Wear personal protective equipment as required.
- _____ d. Use equipment and tools only for their intended purposes.
- _____ e. Never use any equipment unless you are trained to do so.
- _____ f. Inspect equipment once a week; replace it or have it repaired by a qualified individual if parts are worn or damaged.
- _____ g. Connect the power to equipment before performing any maintenance tasks.
- _____ h. Make sure the power switches are turned to ON before plugging or unplugging equipment.
- _____ i. Never disconnect the power by pulling on the cord; instead, remove the plug from the outlet.
- _____ j. Make sure your hands are wet before disconnecting equipment from its power source.
- _____ k. Keep electrical cords out of traffic areas.
- _____ l. Do not leave or store equipment in aisles or traffic lanes that could present a tripping hazard.

*Permission to duplicate this test is granted.

Introduction to Surgical Technology
Section B: Safety
Module 1-B: Environmental Safety

Answers to Written Test

- OBJECTIVE 1** Answers should include any four of the following. Answers may appear in any order.
- a. Focus on the task at hand.
 - b. Stay alert; accidents happen easily when you are tired or bored.
 - c. Take time to do the job right; do not take shortcuts.
 - d. Determine your priorities—what needs to be done first, second, and so on—so that you do not run out of time to complete high-priority tasks.
 - e. Use your head; think before you act.
 - f. Do not fool around or let emotions such as anger or frustration get in the way of your doing a job safely.
 - g. Take responsibility for your actions and for those of your team.
 - h. Avoid unnecessary risks.
- OBJECTIVE 2**
- a. telephone numbers; telephone
 - b. safety rules
 - c. fire-fighting; first-aid
 - d. right
 - e. instructions
 - f. personal protective equipment
 - g. label
 - h. unauthorized
 - i. permission
 - j. defective
 - k. unsafe
 - l. clean; neat
- OBJECTIVE 3** Answers should include any three of the following. Answers may appear in any order.
- a. Visually inspect all electrical equipment before and after each use for any signs of defects or malfunctions.
 - b. Immediately notify your instructor if you discover a defective piece of equipment.
 - c. Lockout the equipment per the organization's SOPs.
 - d. Tag-out the equipment per the organization's SOPs.
 - e. Remove the piece of equipment from the operations area if possible.
 - f. Do not use the lockout lock and key for any other purpose.

Module 1-B: Environmental Safety

OBJECTIVE 4

Answers should include any six of the following. Answers may appear in any order.

- a. Adequate lighting to prevent eyestrain and to allow performance of required duties
- b. Clean air
- c. Comfortable, ergonomic seating and equipment that encourages good body mechanics
- d. Working emergency alarm and lighting systems
- e. Clearly marked, unlocked, and accessible emergency exits
- f. Clear, barrier-free walkways accessible to all
- g. Posted safety rules
- h. Posted evacuation routes and rules
- i. Mandatory safety training available to all
- j. Available personal protective equipment
- k. Designated smoking and nonsmoking areas
- l. Clearly identified hazardous materials
- m. Available material safety data sheets on all hazardous materials in the organization
- n. Lighted, open parking and entrance areas
- o. Up-to-date, operable fire extinguishers

OBJECTIVE 5

Answers should include any three of the following. Answers may appear in any order.

- a. To inform the user of the material's physical properties or fast-acting health effects that make it dangerous to handle
- b. To tell the user the level of protective gear needed
- c. To tell the user the first-aid treatment necessary if exposed to the product or its hazards
- d. To tell management and the user the preplanning needed for safely handling spills, fires, and day-to-day operations
- e. To tell the user how to respond to accidents

OBJECTIVE 6

- | | | |
|------|------|------|
| a. 7 | d. 8 | g. 5 |
| b. 1 | e. 2 | h. 4 |
| c. 6 | f. 3 | |

- OBJECTIVE 7**
- | | | |
|------|------|------|
| a. 6 | d. 4 | g. 7 |
| b. 2 | e. 3 | h. 1 |
| c. 8 | f. 5 | |

- OBJECTIVE 8**
- yellow; reactivity
 - red; fire
 - blue; health
 - black
 - deadly
 - will not burn

- OBJECTIVE 9**
- 3
 - 2
 - 1

- OBJECTIVE 10**
- coordination
 - fatigue; injury
 - ears; shoulders; hips
 - shoulders; knees
 - ears; hips
 - lumbar
 - chair back
 - side
 - back
 - firm
 - up; back
 - Pivot
 - ladders

OBJECTIVE 11 Answers should include any four of the following. Answers may appear in any order.

- Fires
- Mechanical failures
- Bomb and bomb threats
- Severe weather
- Natural disasters
- Accidents
- Health problems

Module 1-B: Environmental Safety

OBJECTIVE 12

Discussion should include the following in the student's own words.

Before severe weather occurs:

- a. Know your organization's severe weather plan and your role in it.
- b. Make sure that you know where to go in the event of severe weather.
- c. Take part in the organization's periodic severe weather drills.
- d. Know the location of the organization's emergency disaster supply kit, which should include a first-aid kit, battery-powered radio and flashlight with extra batteries, a canned food and can opener, and bottled water.
- e. Learn where to get weather information, and the meaning of "watch" and "warning."

During severe weather:

- f. When alarms, sirens, or warnings are issued by the local civil defense or national weather center, follow your severe weather plan.
- g. Move quickly and quietly to your planned shelter:
 - In nursing homes, hospitals, schools: seek shelter on the lowest level and in the interior of the building, away from glass and outside openings.
 - In high-rise buildings: you may not have time to go to the lowest floor, so seek shelter in a hallway or small room in the interior of the building away from windows; do not use or seek shelter in an elevator.
- h. Do not seek shelter in dining halls, gyms, or other large rooms with wide-span roofs.
- i. Make yourself as small as possible by crouching down.
- j. Put your head down and cover it and your face with your arms.
- k. Answer to roll call if at school.
- l. Remain in designated area until the signal is given to return.

OBJECTIVE 13

- a. 3
- b. 2
- c. 1
- d. 4

OBJECTIVE 14

Upon discovery of fire or smoke or upon activation of a smoke detector—

- a. Close; contain
- b. extinguish; fight
- c. fire alarm
- d. Exit
- e. designated meeting area
- f. Dial 911
- g. location

At the sound of a fire alarm—

- h. Shut down
- i. hot
- j. smoke
- k. smoke; fire
- l. head; nose; mouth
- m. close
- n. Close
- o. disabled
- p. stairs; elevator
- q. designated meeting area

OBJECTIVE 15

Discussion should include the following in the student's own words.

Pre-emergency responsibilities—

- a. Be familiar with your workplace buildings and their exits.
- b. Know and share the safest method to use to assist you.
- c. Know how many people you need to provide you with assistance.
- d. Whenever possible, try to have a designated person or persons assist you during the evacuation.
- e. Be prepared to explain how and where you need to be supported.
- f. Practice instructions beforehand.

Evacuation responsibilities—

- g. Check the hallway for smoke and fire.
- h. If the hallway is clear of smoke and fire—
 - Go to the nearest stairwell.
 - Remain as close to the stairs as possible, without hindering the exit of others.
 - Do not use the elevators.
 - Have a previously designated person contact fire personnel for assistance.

Module 1-B: Environmental Safety

OBJECTIVE 15
(CONT.)

- i. If there is smoke or flames in the hallway—
 - Stay in the room with the doors closed.
 - Place wet clothing or towels at the bottom of the door if possible.
 - Call 911 and give the operator your exact location.
 - Place a wet cloth over your mouth and nose, if possible, and wait until someone arrives to assist you.

OBJECTIVE 16

Answers may appear in any order.

- a. Oxygen
- b. Fuel
- c. Heat
- d. Chemical reaction

OBJECTIVE 17

- a. 3
- b. 1
- c. 4
- d. 2

OBJECTIVE 18

- a. 1
- b. 3
- c. 2
- d. 4

OBJECTIVE 19

- | | | |
|------|------|------|
| a. 3 | c. 2 | e. 6 |
| b. 1 | d. 5 | f. 4 |

OBJECTIVE 20

Answers should include any four of the following. Answers may appear in any order.

- a. The fire is contained, as in a trash can, and is not spreading beyond the spot where it started.
- b. The flames are not higher than the employee's head.
- c. The heat from the fire does not prevent the employee from getting close enough to discharge the extinguisher within its effective range.
- d. The size of the fire allows the employee to stand upright without experiencing radiated heat while discharging the extinguisher.
- e. The fire cannot block the employee's only means of escape.
- f. The employee can fight the fire with his or her back to an escape exit.
- g. The fire is not producing a lot of smoke.
- h. The fire is not near other fuels or hazardous materials that would cause it to grow suddenly or create an explosion.

OBJECTIVE 21	a. 2 b. 5 c. 3 d. 4 e. 1
OBJECTIVE 22	<p>Answers should include any eight of the following. Answers may appear in any order.</p> <ul style="list-style-type: none">a. Keep equipment clean and in good operating condition.b. Never overload electrical outlets.c. Store flammables/combustibles in appropriate containers away from heat sources.d. Keep heat sources away from flammables/combustibles.e. Keep work and trash areas clean and free of debris.f. Dispose of flammables according to established safety guidelines.g. Never leave open flames unattended.h. Use caution when using spark-producing equipment.i. Report suspicious persons (possible arsonists) to security or supervisory personnel.j. Keep fire exits unlocked.k. Keep escape routes clear and well marked.l. Know where fire alarm boxes are located.m. Know where fire extinguishers are located and how to use them.n. Always be on the lookout for fires or conditions that could cause fires or hinder escape and report them immediately.o. Properly dispose of cigarettes and matches.p. Smoke only on designated breaks and in designated areas.
OBJECTIVE 23	<ul style="list-style-type: none">a. metal; waterb. Unplugc. cleand. sparkse. clearf. lightsg. circuit breakersh. groundedi. ground fault circuit interrupters (GFCI)j. water
OBJECTIVE 24	b, c, d, e, i, k, l

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Answers to Assignment Sheets

Assignment Sheet 1

Completed to the satisfaction of the instructor

Assignment Sheet 2

1. No. Both you and June are at risk of infection from a bloodborne pathogen.
2. No. You must attend to June's injuries and interview her for information needed for the accident report.
3. Immediately notify your supervisor and follow his or her instructions. File an accident report.

Assignment Sheet 3

MSDS 1—Hydrogen Peroxide (45%-59%)

1. It is an oxidizer and corrosive
2. Sterilization
3. Johnson & Johnson
4. It is corrosive to the skin and eyes, nose, throat, and lungs. It may cause irreversible tissue damage to the eyes, including blindness.
5. Wash with large amounts of water. If irritation occurs, see a physician.
6. Hydrogen peroxide should be stored only in vented containers in cool areas out of direct sunlight and away from combustibles.
7. No. It is not combustible or explosive.
8. No. The International Agency for Research on Cancer concluded that hydrogen peroxide could not be classified as to its carcinogenicity to humans (Group III carcinogen).
9. 5.1 (oxidizer)
10. Aseptic packaging, drinking water treatment, metal treatment, semiconductor wafer etching and cleaning, pharmaceutical and/or cosmetic applications

MSDS 2—CIDEX® OPA Solution

1. High-level disinfectant

2. Advanced Sterilization Products
3. Because it contains less than 1% active ingredients (it is 99.45% inactive) and is not a carcinogen
4. Minimal hazard; negligible
5. Double gloves, latex covered by nitrile rubber
6. Clear, light blue
7. Preexisting asthma, bronchitis, dermatitis, and other skin disorders

MSDS 3—Institutional Formula Drano

1. Sodium hydroxide and water
2. Corrosive. Can cause permanent damage to the skin and eyes, including blindness, if contacted directly; may cause irritation and corrosive effects to the nose, throat, and respiratory tract if inhaled; may cause burns to the mouth, throat, and stomach if ingested
3. Do not induce vomiting. Immediately drink plenty of water. Get medical attention immediately.
4. Eyes, chemical splash goggles; hands, chemical resistant gloves, including rubber and neoprene gloves; respiratory, adequate ventilation
5. Ammonia

Assignment Sheet 4

Scenario 1

1. Know that a tornado watch means that conditions favor tornado development but that you are not in immediate danger.
2. Make plans for taking shelter.
 - Locate your organization's severe weather plan
 - Locate your organization's emergency disaster supply kit
 - Think about where you will go to take shelter
3. Continue to watch for threatening conditions.

Scenario 2

1. Know that a tornado warning means that a tornado has been spotted or reported on the ground in your area or indicated by Doppler radar, and that you must take shelter immediately.
2. Follow your organization's severe weather plan.

3. Since you are on the fifth floor of the building, you may not have time to go to the lowest floor, so take shelter in a hallway or small room in the interior of the building away from windows.
4. Do not seek shelter in the elevators.
5. Once in the sheltering area, crouch down and cover your face with your arms.
6. Remain in the sheltered area until the signal is given to return.

Assignment Sheet 5

Scenario 1

1. Immediately shut the door to the storage room.
2. Inform Almed in calm, simple terms that there is a fire in the storage room and that you and he must evacuate the building immediately; take his hand or tell him to stay close to you.
3. Do not attempt to fight the fire with a portable fire extinguisher (it is not contained and is spreading rapidly in a room full of combustibles).
4. Grab several lab coats and exit the lab, closing the door behind you.
5. Pull the nearest fire alarm.
6. Exit the building immediately.
 - Follow the building's evacuation route.
 - Do not use the elevators.
 - Close hallway doors as you leave if this does not compromise your safety.
7. Donning the lab coats to provide some protection against the cold and rain outside, lead Almed out of the building, proceed to your designated meeting place, and answer to roll call.
8. Using a cell phone or a nearby public phone, dial 911 to notify the fire department of the fire and its exact location.
9. Notify the building administrator or your supervisor of the location of the fire.

Scenario 2

1. Press the button that holds the elevator doors open.
2. Exit the elevator immediately.
3. Tell the visitors that you will lead them out of the building via the hospital's evacuation route.
4. Reassure Jean, your nonambulatory patient, of the hospital's patient evacuation plan, and wheel her to the stairwell or another secure area, cautioning her to stay there so that fire and hospital personnel will know her exact location for rescue.

5. Check the evacuation route for smoke or fire; do not enter smoke.
6. Close all doors along the evacuation corridors, unless so doing will compromise your safety.
7. Assisting the visitors, leave the building in an orderly manner, proceed to the designated meeting area, and answer to roll call.

Assignment Sheet 6

Personal Protective Equipment and Attire

1. Answer will vary and must be evaluated to the satisfaction of the instructor.
2. Answer will vary and must be evaluated to the satisfaction of the instructor.

Safety Procedures

1. Answer will vary and must be evaluated to the satisfaction of the instructor.
2. In both facilities, tag the equipment and report it as defective per the guidelines in Objective 3 and the organization's standard policies and procedures.
3. In both facilities, consult the organization's MSDS, as explained in Objectives 5, 6, and 26, and follow the recommended safety steps and the organization's standard policies and procedures.
4. Answer is appropriate per guidelines in Objective 11 and the organization's standard bomb threat policies and procedures.

Severe Weather

1. Take shelter per guidelines in Objective 10 for school and high-rise structures and the organization's standard severe weather policies and procedures.
2. In both facilities, keep in touch with the latest weather reports and prepare to take immediate shelter should the watch change to a warning.

Fire Safety

1. If you have been trained to do so, extinguish the fire with a portable extinguisher per the guidelines and steps in Objectives 19 and 30.
2. The fire is too large to fight. Do not attempt to extinguish the fire with a portable extinguisher. Instead, immediately pull the fire alarm and evacuate the building per guidelines for both school and high-rise structures in Objective 12.

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Module Review

Name _____

Date _____ Score _____

DIRECTIONS

Read each of the items below. From the choices given, select the response that most correctly provides the required information. Circle the letter of the most-correct response.

Objective 4

1. Which of the following would NOT be an expectation for a safe school or work environment?
- a. designated smoking area
 - b. covered parking
 - c. mandatory safety training
 - d. MSDSs on all hazardous materials in the organization

Objective 7

2. What type of hazard does the placard symbol below indicate?
- a. corrosive
 - b. infectious
 - c. explosive
 - d. radioactive



Objective 10

3. Which of the following is NOT a guideline for good sitting posture?
- a. Keep your feet on the floor or a footstool.
 - b. Align ears, shoulders, and hips.
 - c. Rest your buttocks on the edge of the seat.
 - d. Place a lumbar roll or rolled up towel between your lower back and the back of nonadjustable chairs.

Objective 5

4. The purposes of an MSDS are to inform the substance user of all of the following except the _____.
- a. substance's physical properties
 - b. degree of injury inflicted
 - c. first-aid treatment necessary
 - d. accident response

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| Objective 13 | 5. Which of the following is NOT a step to follow on receiving a bomb threat? <ol style="list-style-type: none">Obtain as much information as you can about the caller.Record the call if possible.Transfer the call to the local police department.Alert your instructor, supervisor, or building administrator. |
| Objective 2 | 6. Which of the following unsafe conditions does NOT need to be reported immediately? <ol style="list-style-type: none">defective equipmentspillsboxes piled in a hallwaya co-worker's unclean, sloppy work area |
| Objective 14 | 7. What is the first thing you should do upon discovering a spreading fire? <ol style="list-style-type: none">Pull the nearest fire alarm.Dial 911.Locate the proper portable extinguisher and extinguish the fire.Close the doors around the fire to contain it. |
| Objective 10 | 8. What should you do when you must lift a heavy object, and a lifting or carrying device is unavailable? <ol style="list-style-type: none">Lift and carry the object in series of short distances.Pivot, roll, or slide the object.Push the object with your feet and leg muscles.Alternate carrying and pushing the object. |
| Objective 7 | 9. What type of hazard does the placard symbol below indicate? <ol style="list-style-type: none">corrosiveinfectiousexplosiveradioactive |



Objective 15	<p>10. Which of the following is NOT one of a disabled person's pre-fire emergency evacuation responsibilities?</p> <ul style="list-style-type: none">a. being familiar with the workplace buildings and exitsb. knowing and sharing the safest method to use to assist youc. practicing self-evacuation using the building's elevator systemd. knowing who is designated to assist you during the evacuation
Objective 3	<p>11. What procedure is defined as: <i>"a procedure ensuring that all hazardous energy sources to a defective tool or machine are locked in the OFF position before maintenance is performed"</i>?</p> <ul style="list-style-type: none">a. lockoutb. tag-outc. code-outd. mark out
Objective 23	<p>12. In accordance with electrical safety guidelines, you should not use any electrical appliance or equipment while you are touching metal or _____.</p> <ul style="list-style-type: none">a. plasticb. woodc. waterd. rubber
Objective 12	<p>13. What item(s) below would NOT generally be found in an emergency disaster supply kit?</p> <ul style="list-style-type: none">a. drinking waterb. battery powered radio and flashlightc. extra batteriesd. cell phone
Objective 6	<p>14. Which section of an MSDS describes what happens if the chemical comes in contact with certain conditions or other chemicals?</p> <ul style="list-style-type: none">a. hazardous ingredientsb. reactivityc. usage, handling, and storaged. special protection and precautions

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| Objective 1 | 15. In developing a good safety attitude, you must learn to _____ the task at hand.
a. complete
b. focus on
c. practice
d. vocalize the steps of |
| Objective 22 | 16. In accordance with fire prevention guidelines, fire exits/doors should be kept _____.
a. locked
b. unlocked
c. open
d. closed |
| Objective 8 | 17. What color is the Reactivity quadrant of the NFPA 704 diamond?
a. yellow
b. white
c. blue
d. red |
| Objective 24 | 18. Which of the following is a violation of basic equipment safety procedures?
a. disconnecting the power from equipment before performing maintenance tasks
b. turning power switches to OFF before plugging or unplugging equipment
c. removing the plug from an outlet by pulling on the cord
d. making sure that your hands are dry before disconnecting power equipment |
| Objective 16 | 19. The four parts of the fire tetrahedron (those components that must be in place for fire to occur) are fuel, heat, chemical chain reaction, and _____.
a. combustion
b. hydrogen
c. ignition
d. oxygen |

Objective 20	20. What fire below should/could you attempt to fight with a portable fire extinguisher? a. fire between you and the only exit b. smoky fire c. fire near other combustibles d. confined fire with chest-level flames
Objective 23	21. What type of outlet should you use when using power tools? a. three-hole grounded outlet with ground fault circuit interrupter b. two-hole outlet c. three-hole grounded outlet d. heavy-duty 220 outlet
Objective 10	22. What muscles should be used primarily for lifting? a. leg b. back c. arm d. shoulder
Objective 1	23. Who is responsible for an individual's safety? a. the individual b. the administration c. the instructor d. everyone involved
Objective 6	24. What is meant by the term <i>combustible</i> ? a. capable of igniting easily and burning or spreading rapidly b. capable of bursting into flames at temperatures above 100°F c. capable of igniting at very low temperatures d. capable of exploding on contact with certain conditions or chemicals

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| Objective 8 | 25. What color is the Special Hazard quadrant of the NFPA 704 diamond?
a. white
b. yellow
c. blue
d. red |
| Objective 12 | 26. Where should you take shelter from severe weather if you are in a high rise building?
a. basement or lowest floor
b. small interior room or elevator
c. interior hallway
d. dining hall, gym, or room with wide span roof |
| Objective 18 | 27. What shape is the flammable liquids symbol on a portable fire extinguisher?
a. triangle
b. circle
c. star
d. square |
| Objective 20 | 28. In which of the situations below should you NOT attempt to fight the fire with a portable fire extinguisher?
a. You can get close enough to discharge the extinguisher within its effective range.
b. The size of the fire allows you to stand upright without feeling radiated heat while discharging the extinguisher.
c. The fire is blocking your only means of escape.
d. You can fight the fire with your back to an escape exit. |
| Objective 23 | 29. Where are GFCI most commonly used?
a. bedroom
b. kitchen and bathroom
c. living room
d. family room |

Objective 17	30. Into what fuel class do gases, such as oxygen, belong? a. ordinary combustibles b. flammable liquids c. electrical equipment d. combustible metals
Objective 21	31. The first letters in the general steps for using a portable fire extinguisher spell "PASS." What do these letters stand for? a. Interpret, Push, Aim, Spray, Spread b. Inform, Pry, Aim, Stroke, Shower c. Identify, Pull, Aim, Squeeze, Sweep d. Implement, Press, Aim, Start, Swing
Objective 9	32. The process of a hazardous material entering the body via the mouth is called _____. a. <i>digestion</i> b. <i>absorption</i> c. <i>inhalation</i> d. <i>ingestion</i>
Objective 6	33. What term is defined as: " <i>the lowest temperature at which a substance when heated will ignite</i> "? a. flammability b. combustibility c. ignition point d. flashpoint
Objective 15	34. Assume that you are disabled or that your exit path is blocked by smoke. What action below should you NOT take? a. Crawl low under the smoke to the exit, staying close to a wall. b. Stay in a room with the doors closed. c. Place wet clothing or towels at the bottom of the door if possible. d. Call 911 and give the operator your exact location.

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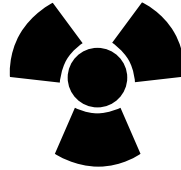
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| Objective 3 | 35. Which of the statements below illustrates unsafe behavior? <ul style="list-style-type: none">a. A surg-tech uses the hospital's lockout lock and key on her employee locker.b. A surg-tech uses the tag-out rather than the lockout procedure on defective equipment.c. A piece of defective equipment is removed from the operations area.d. The surg-tech follows the organization's lockout procedures. |
| Objective 18 | 36. What shape is the ordinary combustibles symbol on a fire extinguisher? <ul style="list-style-type: none">a. triangleb. circlec. stard. square |
| Objective 8 | 37. If the health quadrant of the NFPA 704 diamond contained a "4," what would this tell you about the degree of health hazard present? <ul style="list-style-type: none">a. lowest hazardb. highest hazardc. moderate hazardd. no hazard |
| Objective 17 | 38. Into what fire class do the following fuels belong: live electrical equipment, wiring, appliances, and motors? <ul style="list-style-type: none">a. Class Ab. Class Bc. Class Cd. Class D |
| Objective 12 | 39. What should you do if a severe weather watch is announced? <ul style="list-style-type: none">a. Evacuate the building.b. Immediately take shelter.c. Prepare to take shelter.d. Pull the nearest fire alarm. |

Objective 4

40. Which of the following is an example of ergonomics?
- a. body mechanics
 - b. good posture
 - c. an adjustable desk chair
 - d. an MSDS

Objective 7

41. What type of hazard does the placard symbol below indicate?
- a. corrosive
 - b. infectious
 - c. explosive
 - d. radioactive



Objective 19

42. According to the portable extinguisher pictographs below, what class fire may this extinguisher be used on?
- a. Class A but not Classes B or C
 - b. Class B but not Classes C or A
 - c. Classes B and C but not Class B
 - d. Classes B and C but not Class A



*Permission to duplicate this module review is granted.

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Answers to Module Review

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|------|-------|-------|-------|-------|
| 1. b | 10. c | 19. d | 28. c | 37. b |
| 2. b | 11. a | 20. d | 29. b | 38. c |
| 3. c | 12. c | 21. a | 30. b | 39. c |
| 4. b | 13. d | 22. a | 31. c | 40. c |
| 5. c | 14. b | 23. d | 32. d | 41. d |
| 6. d | 15. b | 24. b | 33. d | 42. d |
| 7. d | 16. b | 25. a | 34. a | |
| 8. b | 17. a | 26. c | 35. a | |
| 9. c | 18. c | 27. d | 36. a | |

