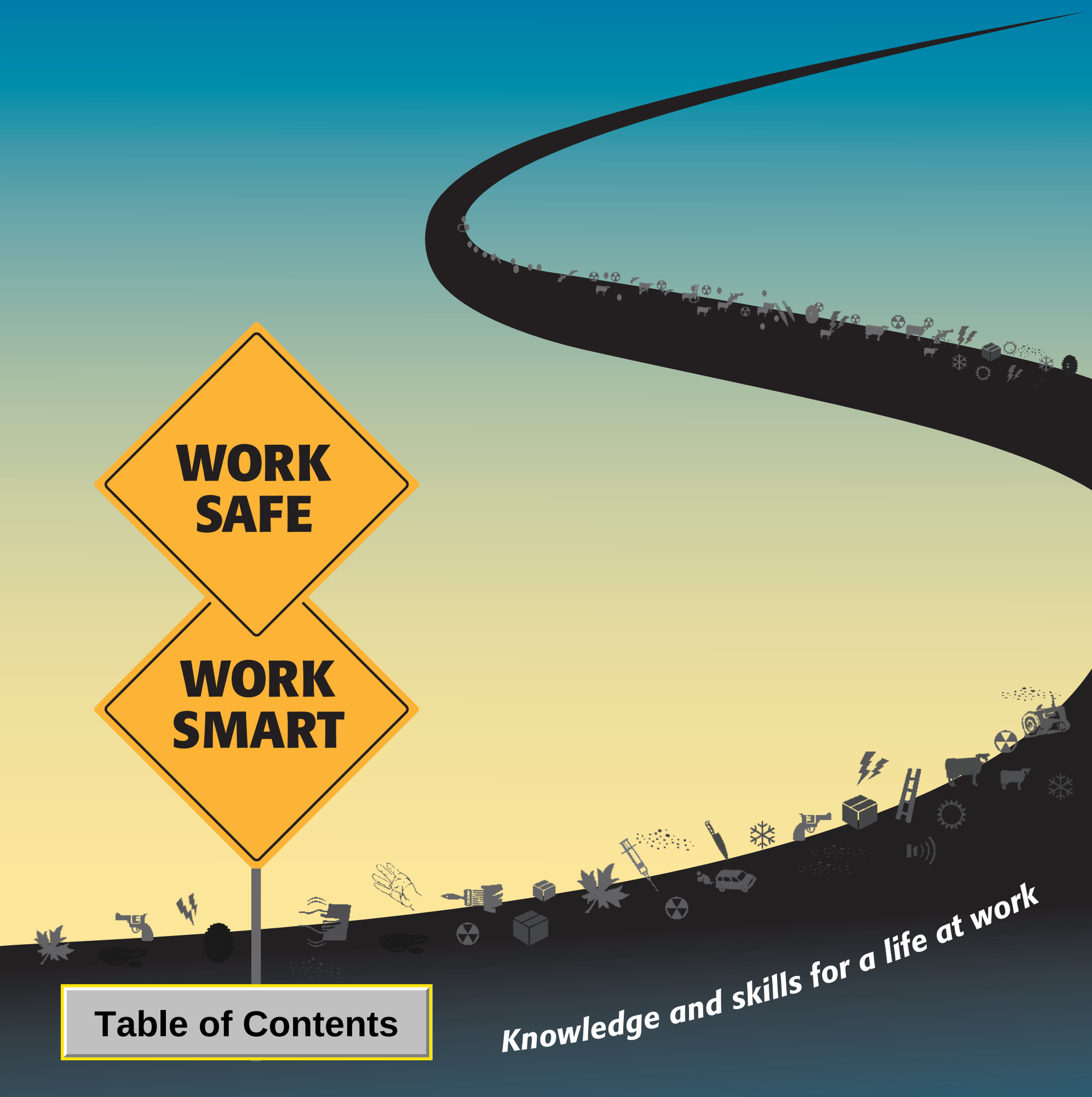

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Knowledge and skills for a life at work

Credits

This curriculum was developed by the Minnesota Department of Health with a grant from the National Institute for Occupational Safety and Health (NIOSH).

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Dassel-Cokato Public School
Buffalo Lake-Hector Public School
Norwood-Young America Public School
McLeod-West Public School
Hutchinson Public School
Kimball Public School

Other Credits
Portions of this curriculum were adapted from materials developed by the Center for Occupational and Environmental Health, University of California, Berkeley.

Thanks to the Minnesota Department of Health, Fatality Assessment and Control Evaluation (FACE) program and the Sentinel Event Notification Systems For Occupational Risks (SENSOR) program for contributions to this curriculum.

Special thanks to the following people, who also assisted in the development and review of these curriculum materials: Deborah Merchant, Margee Brown, Paul Schiermeier, and George Wahl, all of the Minnesota Department of Health, and Lee Engfer.

Special Message To Teachers
Each day, countless numbers of teens work in jobs, at which they could potentially be injured or killed due to unsafe work conditions. This curriculum is designed to address this issue by raising student awareness of workplace hazards and of the steps one can take to prevent these hazards from causing injuries. Ultimately, the curriculum's goal is to reduce the number of work injuries occurring among youth.

In designing this curriculum, we brought together experts from the field of occupational health and safety, skilled educators from Minnesota classrooms, and other individuals concerned about worker safety issues. Many people gave a great deal of their time and expertise to create this **"Work Safe Work Smart"** curriculum. The "Teacher Tip" sections of this curriculum were provided by classroom teachers.

The **"Work Safe Work Smart"** curriculum is not industry specific. The skills gained in this program are relevant and transferable to a variety of today's workplace settings. "W**ork Safe Work Smart"** is focused on changing teens' knowledge and attitudes. Students are empowered with knowledge about worker safety laws, equipped with tools to recognize safety hazards, and introduced to skills necessary to effectively advocate for safe working conditions.

For some of you this information may be new; for others, familiar. This curriculum is designed to support whatever your knowledge and experience level may be. If you want to learn more about work safety issues, refer to the list of additional resources at the end of this curriculum. This list includes resources on worker safety and health education, child labor laws, worker safety organizations, and Internet resources.

We encourage you to have fun and exercise creativity while using this curriculum. Together, we can help keep our students working safe and working smart.

For additional copies of this curriculum, contact the Minnesota Department of Health, Center for Occupational Health and Safety at (612) 676-5216 or send an e-mail to workerhealth@health.state.mn.us. You can also visit our web site at http://www.health.state.mn.us/divs/dpc/cdee/cdee.htm.

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Introductory Materials

The Lessons

Additional Materials

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About This Curriculum

Goals of the Curriculum

The goals of this curriculum are as follows:

- Raise students' awareness of workplace hazards that could cause injuries or illnesses.
- Equip students with prevention strategies that will protect them from injuries or illnesses in a variety of workplace settings.
- Raise students' awareness of their rights in the workplace and the laws and resources available to help maintain those rights.
- Encourage students to be active participants in creating safe and healthy work environments.

Intended Audience

The lessons in this curriculum target students in **grades 9-12.** With some adaptation, these lessons could also be used with a younger audience.

Key Components of the Curriculum

- The lessons were designed and developed to integrate into existing coursework in **social studies, health, agriculture, career exploration,** and **school-to-work**. This curriculum also could be taught as an interdisciplinary unit that combines several of these subject areas.
- This curriculum could be enhanced by combining it with field trips to a variety of workplace settings. These field trips could involve interviews with workers and evaluations of workplace hazards and safety measures.
- The lessons focus on **higher-order thinking skills,** such as **decision-making** and **evaluation,** as well as skills in **cooperative learning** and **oral communication.**

Lesson Format

This curriculum consists of **nine lessons of varying length.** Most lessons can be completed during a 50-minute time period. Some may require more time but can be extended over several class periods, if desired.

Lessons 1 through 5 explore the health-related issues of workplace hazards and their prevention. Each lesson deals with the following:

Lesson 1: Students are introduced to the issue of worker safety through a disability exercise and a discussion about workplace injuries and hazards.

Lesson 2: Students discuss the effect of potential workplace injuries on their lives, brainstorm a list of different types of workplace hazards, and then map out potential hazards in a work environment.

Lesson 3: Students brainstorm ways to apply the ABC prevention strategies to example hazards. They also discuss the reasons workers choose to take risks in the workplace, even when they know hazards are present.

Lesson 4: Students create a workplace safety plan for a simulated work environment, including developing a hazard map and safety action steps.

Lesson 5: Students present their workplace safety action plans for a simulated work environment, and unit content is briefly reviewed.

Lessons 6 through 9 explore the legal rights and communication skills related to addressing workplace safety issues. Each lesson deals with the following:

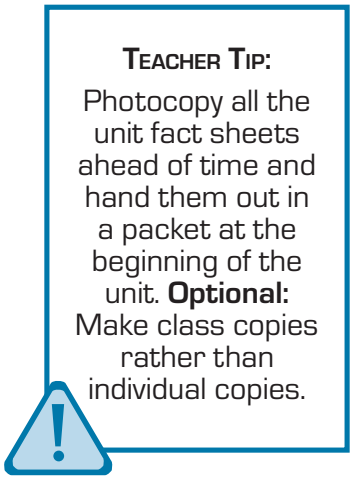
Lesson 6: Students are introduced to the importance of worker safety laws through a presentation of their history and by creating laws for simulated case studies.

Lesson 7: Students review current worker safety laws by playing a game and discussing some present-day scenarios.

Lesson 8: Students debate the benefits and limitations of worker safety laws and are taught the basic steps needed to address workplace safety issues.

Lesson 9: Students practice, through a role-play exercise, the basic skills needed to address workplace safety issues. They also identify unsafe situations at work or other places in which they could use these skills.

Each lesson includes the following components:



- **Fact:** Interesting fact that helps put a particular lesson into perspective.
- **Description:** Brief description of lesson activities.
- **Learner Outcomes:** Intended cognitive, attitudinal, and behavioral outcomes for the lesson.
- **Key Concepts:** Key ideas presented in the lesson.
- **Materials Needed:** Necessary materials for presenting the lesson, including handouts and overheads.
- **Preparation Needed:** Necessary steps to prepare for the lesson.
- **Directions:** Step-by-step instructions for completing the lesson, including a lesson script in bold type.
- **Taking It Home:** Homework assignments to be completed in preparation for the next class lesson.

Resources

A glossary and a list of educational resources on worker safety and health issues are included at the end of the curriculum.

Introduction to Worker Safety Issues

This introduction will help prepare you to discuss worker safety issues with your students. You may wish to use some of this information in your lessons or reproduce parts of it for interested students.

Why Is Worker Safety an Important Issue?

Most of us will spend almost one-third of our lives working. Although we work to earn money to live, work can also be rewarding in many ways. It can be very satisfying to do a job well, to contribute to society, and to be independent and productive. Work is a big part of most teens' lives, too. By 12th grade, at least 90% of Minnesota teens have held at least one job.[1]

90% of Minnesota teens have at least one job.

But work also can be dangerous. Every week in Minnesota, on average, one to two people die at work, eight to ten people lose fingers, 10 to 20 develop work-related cancers, and 3,000 sustain other kinds of injuries.[2] A personal story lies behind each statistic.

Joshua's Story

Joshua, a seventeen-year-old, enjoyed playing basketball on the local high school team and helping his father on their family farm. Joshua was operating the combine one summer day, when he noticed that it was clogged. Because it was getting late and Joshua was tired, he didn't bother turning off the combine before he opened the side of the machine to investigate the clog. Inside the combine, Joshua saw some jammed weeds and decided to reach his arm in and pull them out. As he began pulling out the weeds, Joshua's hand slipped and became entangled in the combine's moving belt.

As a result of the accident, Joshua lost the thumb and two fingers of his right hand, his dominant hand. Joshua spent the rest of the summer in hospitals and therapy. He had to learn again how to write, eat, dress, and tie his shoes. Joshua has been feeling depressed and self-conscious about his injury. He doesn't know if he'll be able to play basketball again. Joshua also wonders how his injury will affect his ability to take over his family's farming operation.

Maria's Story

Maria, a sixteen-year-old, works as a nursing assistant in a local nursing home. Due to her age, Maria was told in her employee orientation training not to lift any of the residents. As she arrived for her evening shift one day, she learned that the nursing home was short-staffed. Due to the shortage, a fellow nursing assistant asked Maria to help transfer a large gentleman from his wheelchair to his bed. Maria didn't want to disappoint her co-worker, so she agreed to help.

As they were transferring the man, he became anxious and started flinging his arms in all directions. Maria lost her grip, and the man began to fall to the floor. She tried to grab him to break his fall. As she did, Maria felt a strain in her lower back. As she stood up, her back muscles began to spasm. Maria was sent home and went to a doctor for treatment.

Maria is now worried about the long-term effects of her injury. Maria enjoys dancing and had planned to become a dance teacher. She now worries that her back injury may prevent her from taking the advanced jazz dance lessons she'd need to become a teacher. Her back also gets sore if she sits too long, and sometimes, at night, she wakes up in pain.

Injuries and illnesses have a variety of causes and can occur in every type of workplace. As Joshua's and Maria's stories show, work-related injuries and illnesses can be permanently damaging — physically, emotionally, and financially.

The solution to the problem of workplace injuries and illnesses lies in prevention. Each of us can become more aware of health and safety issues in the workplace. By learning all we can about our responsibilities as employers and employees, we can help keep ourselves and our coworkers safe.

Evaluating the health and safety of our work environment is as important as doing quality work and getting paid well. Our health and the health of those we work with depend on it.

Approximately 70 workers under 18 die every year.

Why Teach Adolescents about Worker Safety?

Many students begin working at a regular job at the age of 14 or 15. Even before their first regular paying jobs, however, many students work for a neighbor or on a family farm. The number of adolescents working in the United States today is estimated to be approximately 4 million.[3] A more meaningful number to you may be the number of responses you get when you ask your students, "How many of you work at either paid or unpaid jobs?"

The vast majority of your students have had or will soon have some work experience. Students who live on farms probably already have worked for years in a very hazardous work environment. Most students work at temporary or intermittent jobs that require little technical skill and likely provide little or no safety training.

Although laws are in place to protect adolescent workers, law enforcement alone cannot keep teens safe. As teachers, you are in a unique position to teach students about work safety, advocate for them in their current jobs, and prepare them for safe work experiences in the future.

Adolescent workers have about the same risk of being fatally injured at work as adult workers.[4] Even though federal law prohibits people under

age 18 from working in the most hazardous professions, their injury rate is as high as that of adults.

Nationally, approximately 70 workers under 18 die every year as a result of work injuries. Each year, approximately 200,000 adolescents are injured at work and 64,000 are treated in emergency rooms.[5] In other words, in a class of 20 teenagers, one or two students are likely to be injured at work this year.

Over two-thirds of 14- to 16-year-olds who are injured at work are limited in their normal activities for at least one day (with, for example, burned hands or strained backs). One-fourth are limited for a week or more (with, for example, broken arms or cuts requiring stitches). Most of these adolescents never received safety training on how to prevent the injury they suffered.[6]

Work-related injuries are predictable, preventable events.

But Don't Accidents Just Happen?

When someone is injured at work, people often say "accidents happen." But do accidents just happen? If you were to review the events leading up to an injury, you would find that the injury likely could have been predicted and, therefore, prevented.

Work-related injuries are predictable, preventable events. This curriculum challenges students to work backwards from injury events to the hazards that caused them and then to the possible strategies that could have prevented the injury from occurring in the first place.

By proactively implementing prevention strategies, most, if not all, work-related injuries and illnesses can be prevented. Addressing potential worker safety issues **before** they occur is the best way to keep workers safe. Fixing the problem after an injury happens is often costly and results in unnecessary disability.

How Does Worker Safety Relate to Other Adolescent Health Issues?

As you read through this curriculum, you may notice similarities between decision-making skills used to deal with work-related injury or illness issues and other health-related issues, such as smoking, drug use, diet, and physical activity. Realizing the consequences of risk-taking behavior, recognizing the dangers to health, and learning ways to avoid or minimize these dangers are part of most health maintenance and disease prevention strategies.

In this curriculum, students use their own and other students' personal experiences to discuss the risks of work-related hazards and the best ways to prevent injury and illness from those hazards.

Injury prevention is complicated, because unhealthy or unsafe behaviors often happen in the context of socially positive goals, such as completing tasks on time, working quickly, or simply getting the job done. Although these goals are admirable and often necessary, a problem arises when they conflict with safety. These goals then become dangerous. Worker safety

must become as important to teen workers as working fast or getting paid. Teaching this curriculum to your students is an important step in preparing them for their future work lives.

Footnotes:

1 Parker, David L., et al. "Nature and Incidence of Self-Reported Adolescent Work Injury in Minnesota." American Journal of Industrial Medicine 26 (1994): 529-541.

2 Parker, David L. "Occupational Epidemiology in Minnesota." Minnesota Medicine 81 (5) (1998): 58-59.

3 Pollack, S.H., et al. "Child Labor in 1990: Prevalence and Health Hazards." Annual Review of Public Health 11 (1990): 359-375.

4 Castillo, D.N., et al. "Occupational Injury Deaths of 16 and 17-year-olds in the United States." American Journal of Public Health 84(4) (1994): 646-649.

5 Layne, L.A., et al. "Adolescent Occupational Injuries Requiring Hospital Emergency Department Treatment: A Nationally Representative Sample." American Journal of Public Health 84(4) (1994): 657-660.

6 Knight, E.B., et al. "A Detailed Analysis of Work-Related Injury Among Youth Treated in Emergency Departments." American Journal of Industrial Medicine 27 (1995): 793-805.

Unit Framework

Key Concepts	Corresponding Learner Outcomes			Activities
	Cognitive	**Attitudinal**	**Behavioral**	
Day 1: An Introduction To Worker Safety 1. Worker safety is an important issue for all workers. 2. Workers may become permanently impaired by workplace injuries or illnesses. 3. A workplace hazard is anything at work that can harm a person — physically or mentally.	**Students will:** 1. Define the term "workplace hazard." 2. Give examples of workplace injuries and illnesses.	**Students will:** 1. Perceive that worker safety is an important issue for adolescents because many are working or soon will work. 2. Perceive that workplace injuries or illnesses could affect them personally or those close to them.	**Students will:** 1. Participate in daily activities while simulating a disability.	1. Experience "simulated" disabilities caused by workplace hazards. 2. Discuss students' experiences with workplace injuries or illnesses.
Day 2: Recognizing Workplace Hazards 1. Workplace hazards can be divided into three categories: biological; chemical; and physical. 2. Hazards may cause both temporary and permanent injuries and illnesses. 3. Hazards may cause immediate injuries or illnesses. Other hazards may not cause injuries or illnesses until much later in life.	**Students will:** 1. Identify the effects serious injuries or illnesses could have on their lives. 2. Give examples of different types of workplace hazards. 3. Recognize hazards in the workplace.	**Students will:** 1. Perceive the importance of evaluating potential hazards in their workplaces.	**Students will:** 1. Actively participate in class discussions of workplace hazards. 2. Create hazard maps for simulated workplaces.	1. Discuss students' experiences with simulated disabilities. 2. Create hazard maps of different workplaces. 3. Identify hazards associated with students' experience with workplace injuries or illnesses.

Unit Framework (continued)

Key Concepts	Corresponding Learner Outcomes			Activities
	Cognitive	**Attitudinal**	**Behavioral**	
Day 3: Preventing Workplace Injuries and Illnesses 1. Most workplace injuries and illnesses can be avoided by taking the right preventative steps. 2. Three main ways to prevent workplace injuries and illnesses are **A**dministration, **B**uilding barriers, and **C**ommunication. 3. The best prevention strategies usually are engineering controls (part of Building barriers), because they don't depend on people making safe choices every time.	**Students will:** 1. Describe three strategies used to prevent workplace injuries or illnesses. 2. List examples within each prevention strategy. 3. Identify the pros and cons of taking risks in the workplace.	**Students will:** 1. Perceive that all workplace injuries or illnesses can be prevented. 2. Identify the attitudes that help a person remain safe in the workplace.	**Students will:** 1. List specific practices within each prevention strategy. 2. Actively participate in class discussions about risk and its role in workplace safety.	1. Discuss the worker safety attitude survey. 2. Review ABC prevention strategies. 3. Discuss the concept of risk and its effect on personal safety in the workplace.
Day 4: Applying Prevention Strategies in the Workplace—Part I 1. Each workplace has potential hazards that should be identified. 2. Each person can take proactive steps to prevent injuries and illnesses in the workplace. 3. Once prevention strategies are identified, they can be used to make the workplace safer.	**Students will:** 1. Identify hazards within a workplace environment. 2. Select appropriate prevention strategies for workplace hazards. 3. Create a plan by prioritizing the order in which these prevention strategies will be implemented.	**Students will:** 1. Demonstrate a positive problem-solving attitude toward workplace hazards. 2. Perceive that they can personally take steps to make a workplace safer.	**Students will:** 1. Create written prevention plans for simulated workplaces.	1. Cooperate in a group to identify the hazards and prevention strategies in a workplace. 2. Create a plan to implement these prevention strategies.

Unit Framework (continued)

Key Concepts	Corresponding Learner Outcomes			Activities
	Cognitive	**Attitudinal**	**Behavioral**	
Day 5: Applying Prevention Strategies in the Workplace—Part II 1. Each workplace has potential hazards that should be identified. 2. Prevention strategies can make a workplace safer by reducing the possibility of injuries or illnesses. 3. Employers must provide a safe workplace for employees. Workers should communicate any safety concerns to their employers.	**Students will:** 1. Summarize their prevention plans in the form of presentations. 2. Evaluate the plans presented by others.	**Students will:** 1. Communicate safety information effectively.	**Students will:** 1. Effectively communicate the rationale for the prevention strategies they selected. 2. Evaluate their current work situations using the ABC's of prevention.	1. Cooperate in groups to complete their case studies and present their plans to the class. 2. Review cards with key prevention steps. 3. Review information learned up to this point.
Day 6: The Importance of Worker Safety Laws 1. Before worker safety laws, working conditions for many young people were dangerous and unhealthy. 2. Child labor laws were made to protect young workers.	**Students will:** 1. Describe the state of worker safety before laws were enacted. 2. Recognize the need for worker safety and child labor laws.	**Students will:** 1. Perceive that worker safety laws are important in protecting the health of young workers. 2. Perceive that everyone has a right to a safe workplace.	**Students will:** 1. Actively participate in the new law development exercise.	1. Review photographs and stories of young workers. 2. Develop laws that would protect these young workers.

Unit Framework (continued)

Key Concepts	Corresponding Learner Outcomes			Activities
	Cognitive	**Attitudinal**	**Behavioral**	
Day 7: Worker Safety Laws and You 1. Every employer should follow worker safety laws. 2. Worker safety laws are made to protect workers, not to limit their opportunities for employment.	**Students will:** 1. Describe current worker safety laws. 2. Apply these laws to specific work situations.	**Students will:** 1. Perceive that workers have the right to expect a safe work environment. 2. Perceive that employers have a right to expect employees to behave safely.	**Students will:** 1. Stop any work practices that are illegal for them to perform.	1. Play a game to review worker safety laws. 2. Read case studies of workplace safety situations and apply current laws to these situations.
Day 8: Addressing Unsafe Workplace Conditions 1. Worker safety laws are meant to protect workers, not to limit their opportunities for employment. 2. Each employee can take basic steps to address unsafe work conditions. 3. Every worker has the right and responsibility to address safety concerns in the workplace.	**Students will:** 1. Describe the benefits and drawbacks of worker safety laws. 2. Give examples of helpful steps to resolve workplace safety issues. 3. Apply these steps to a worker safety issue.	**Students will:** 1. Perceive that worker safety laws are important, even though they may be restrictive.	**Students will:** 1. Discuss appropriate safety communication skills in different situations.	1. Discuss the benefits and drawbacks of worker safety laws. 2. Discuss the steps to take in addressing a workplace safety issue.

Unit Framework (continued)

Key Concepts	Corresponding Learner Outcomes			Activities
	Cognitive	**Attitudinal**	**Behavioral**	
Day 9: Putting Work Safety Into Practice 1. Every worker has the right and responsibility to address safety concerns in the workplace. 2. An employer does not have the legal right to fire an employee, if the employee refuses to work in a situation in which danger is imminent. 3. Employees can take basic steps to address unsafe work conditions 4. Workplace safety can be achieved through cooperative problem-solving.	**Students will:** 1. Describe steps to help resolve workplace safety issues. 2. Apply these steps to real-life work situations.	**Students will:** 1. Perceive the importance of addressing unsafe work issues with their employers.	**Students will:** 1. Demonstrate the steps used in resolving workplace safety issues. 2. Adopt safe and lawful practices at their workplaces or homes.	1. Role-play scenarios in which students must confront employers with worker safety issues. 2. Discuss real-life workplace safety situations.

Related National Education Standards and Goals

This chart shows which national education standards or goals are related to each lesson in this curriculum.

Education Standards	**Curriculum Lessons**								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
National Health Education Standards									
Comprehend concepts related to health promotion and disease prevention.	•	•	•	•	•	•	•	•	•
Demonstrate the ability to access valid health information and health-promoting products and services.							•		
Demonstrate the ability to practice health-enhancing behaviors and reduce health risks.		•	•	•	•			•	•
Demonstrate the ability to use interpersonal communication skills to enhance health.	•	•	•	•	•	•	•	•	•
Demonstrate the ability to use goal-setting and decision-making skills to enhance health.		•	•	•	•	•			•
Demonstrate the ability to advocate for personal, family, and community health.								•	•
National Social Studies Goals									
Time and History						•			
Individuals, Groups, and Institutions						•	•	•	•
Economic Processes and Organization							•	•	
Citizenship						•	•	•	•

Go To

Lesson Description and Preparation

Lesson Title	Lesson Description	Preparation Needed
1. An Introduction to Worker Safety	Students are introduced to the issue of worker safety through a disability exercise and a discussion of workplace injuries and hazards.	• Send letter regarding disability exercise to parents and teachers, if desired. • Prepare disability materials (ear plugs, tape, face make-up, arm slings, crutches). • Make Overhead 1.1—one for each class period. • Photocopy handouts and sets of fact sheets. • Read through the hazard fact sheets.
2. Recognizing Workplace Hazards	Students discuss the effect of potential workplace injuries on their lives, brainstorm lists of different types of workplace hazards, and then map out potential hazards in work environments.	• Familiarize yourself with the example hazard maps. • Make Overheads 2.1, 2.2, 2.3, 2.4,and 2.5. • Photocopy one handout.
3. Preventing Workplace Injuries and Illnesses	Students brainstorm ways to apply the ABC prevention strategies to example hazards. They also discuss the reasons workers choose to take risks in the workplace, even when they know hazards are present.	• Review the fact sheets. • Review the attitude survey. • Think through the costs and benefits of different safety measures. • Use Overhead 1.1 completed in Lesson 1—one per class. • Photocopy handouts. • Make Overheads 3.1, 3.2, 3.3, 3.4, and 3.5.
4. Applying Prevention Strategies in the Workplace—Part I	Students create workplace safety plans, including hazard maps and safety action steps, for simulated work environments.	• Photocopy workplace scenario descriptions and maps—one set for each group member assigned the scenario. • Photocopy the other two handouts. • Make sets of overheads of workplace maps—one set for each class. • Make Overhead 4.1.

Lesson Description and Preparation

Lesson Title	Lesson Description	Preparation Needed
5. Applying Prevention Strategies in the Workplace—Part II	Students present their workplace safety plans for simulated work environments. Content of the last five lessons also is reviewed.	• Photocopy one handout. • Laminate and cut out the game cards.
6. The Importance of Worker Safety Laws	Students are introduced to the importance of worker safety laws through a presentation of their history and a discussion of the rights of young workers.	• Read through the child labor script a few times. • Review the photos. • Photocopy handouts.
7. Worker Safety Laws and You	Students review current worker safety laws by playing a game and discussing scenarios.	• Set up the game show. • Photocopy two handouts.
8. Addressing Unsafe Workplace Conditions	Students discuss the benefits and drawbacks of worker safety laws and learn the basic steps for addressing workplace safety issues.	• Review the list of benefits and drawbacks for each law. • Make Overheads 8.1 and 8.2. • Photocopy one handout.
9. Putting Work Safety into Practice	Students practice, through a role-play exercise, the basic skills needed to address workplace safety issues. They also identify barriers and solutions to overcoming challenges when addressing safety concerns in the workplace.	• Use Overhead 8.2. • Think through the S.A.F.E. steps in role-plays. • Think through possible responses by an employer. • Photocopy and cut out the role-play scenarios. • Photocopy handouts.

LESSON 1

An Introduction to Worker Safety

Description:

Students are introduced to the issue of worker safety through a discussion about workplace injuries and hazards and a disability exercise.

Learner Outcomes:

Students will be able to do the following:

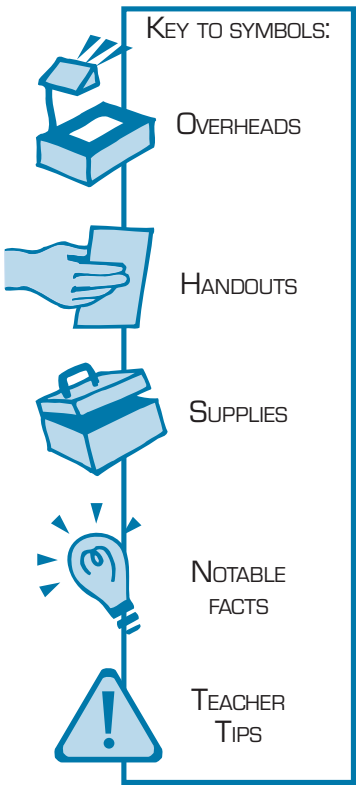
1. Give examples of workplace injuries and illnesses.
2. Define the term "workplace hazard."
3. Perceive that worker safety is an important issue for adolescents, because many of them are or soon will be working.
4. Perceive that workplace injuries or illnesses could affect them personally or those close to them.
5. Perceive that worker safety is important, because they could become injured or ill from workplace hazards and because some of those injuries or illnesses could cause permanent impairments.

Key Concepts:

1. Workplace safety is an important issue for all workers.
2. Workers may become **permanently** impaired by workplace injuries or illnesses.
3. A workplace hazard is anything at work that can harm a person — physically or mentally.

Fact:

Virtually all Americans have held regular jobs by the time they reach 20 years of age. Work is the leading cause of injury for teens age 17 or older.[1] *Injuries are common; almost 10% of working teenagers are injured at work each year.*



Materials Needed:

- ❑ Overhead 1.1 (one overhead per class; class examples will be used in Lessons 2 and 3)
- ❑ Letter to parents/ teachers
- ❑ Disability props (e.g., ear plugs, athletic tape, face make-up or nose and scar wax, arm slings, crutches, or wheelchair)
- ❑ Scissors
- ❑ "Performance Criteria and Checklist" handout (one per student)
- ❑ "Injury Scenarios" sheet
- ❑ "My Experience With A Workplace Disability" handout (one per student)
- ❑ Workplace hazard fact sheets (one set per student)

Preparation Needed:

1. Read through the "Introduction To Worker Safety Issues" section on pages vii-x in this curriculum. **You may want to share the information in this introduction with students during your class discussion.**

2. Make copies of the handouts (one per student).

3. Make copies of the workplace hazard fact sheets (one set per student). You may want to make classroom sets rather than individual sets.

4. Read through the workplace hazard fact sheets, so you are familiar with the categories of hazards and the examples within each category.

5. Set up the overhead projector and overhead.

6. Inform school staff of the disability exercise, since it may impact them in other classes. A prepared letter of explanation is included in this lesson. It can be distributed to other teachers, sent home with students to describe the exercise to their parents, or both.

7. Prepare the disability exercise materials, including cutting the tape into pieces of the correct size. You can order athletic tape and inexpensive ear plugs from school supply catalogs. Ask your school nurse for arm slings, crutches, or wheelchairs. Ask your drama department for the face makeup.

Directions:

Life After An Injury — Part I: Simulated Disability Experience (10 minutes)

Begin this exercise right after the students enter the classroom to allow students in-class time to experience their disabilities. As with any newly disabled person, it may take the students time to adjust to their disabilities. To mirror life, students should not choose what disabilities they are given.

Teacher Tip:

Assign disabilities to students the day before. Then set up stations at which students can pick up their disabilities when they first arrive at school.

1. Explain:

   In order to help you understand what it might feel like to experience a serious and permanent work injury, I would like each of you to participate in a little experiment.

   I am going to give each of you a simulated disability. It may be a loss of hearing. It may be an amputated thumb on your dominant hand. It may be an amputated arm, a broken leg, or a scar on your face.

I want to challenge each of you to wear this "disability" until you go to sleep tonight. Your parents and other teachers know what we are doing.

During the day, be aware of what you can and cannot do, what you think or feel about the situation, how you might need to adapt your activities, and how people react to you. We will discuss your experiences in our next class. It may seem uncomfortable or embarrassing, but imagine if you really did have this disability. You would be experiencing the very same feelings.

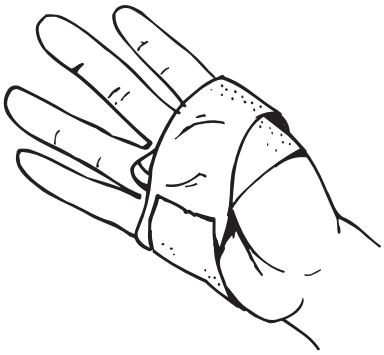
EAR PLUGS, TAPE, MAKE-UP, OTHER ITEMS

2. Give each student in the room one of the following: ear plugs; a piece of 12-inch athletic tape to tape down the thumb of their dominant hand; face make-up (scar and nose wax) to mold a disfigurement or make a scar on their face; or other items you may be able to borrow from your school nurse, such as arm slings, crutches, or wheelchairs.

3. Explain:
I have given something to each of you.

a. **For those with ear plugs,** squish each ear plug so the end going in your ear is smaller. Pull the ear backward and gently insert one ear plug into each ear. The ear plug should be lodged in place without hurting.

b. **For those with thumb tape,** tape the thumb on your dominant hand (the hand you write or eat with). Stretch the thumb toward your palm. Tape your thumb in place so that it cannot move but is still comfortable.



c. **For those with arm slings, crutches, or wheelchairs,** please see me for special instructions.

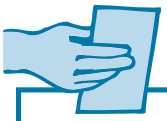
(Consult with your school nurse for specialized instructions and safeguards.)

d. **For the facial disfigurement,** make a scar or some kind of mark on your face with a portion of the nose and scar wax or the face make-up.

Have only one or two people per class do this example. Other kinds of scar-making material can be substituted for the scar and nose wax, if you are unable to obtain this product. You may choose to buy a ready-made scar, or you might have another idea about how to construct a facial disfigurement. Creativity is encouraged in this exercise.

Add any other disabilities you can think of. Make sure you do not ask students to do anything that could put them at risk of injury.

Injury in the Workplace Discussion (30 minutes)



"Performance Criteria and Checklist" handout

1. Give each student a copy of the "Performance Criteria and Checklist." Explain to the students that their participation in the next five class sessions will be graded using the criteria outlined on this form. Read through the form and answer any questions students may have about the tasks or the quality of work expected.

   Students can keep track of their progress by placing an X in the left-hand column as they complete each task. **Take time at the end of each class period to have students check off tasks they completed that day.** At the end of the unit, teachers should review each student's work and place an X or grade next to each task that he or she has completed.

2. Have each student get out a piece of paper and a pencil or pen. Say:
   Write down three careers you are interested in and three things you enjoy doing in your free time.

3. Ask a few students to share what they wrote. After each student shares, ask him or her what would happen to their career aspirations or free time pursuits, if they were seriously and permanently injured. For example, if they broke their back and were paralyzed or lost an arm, leg, or thumb on their dominant hand.

   Students may say they would continue pursuing these things. Briefly discuss the hurdles they would have to overcome to be able to continue pursuing these things.

4. Explain:
   None of us ever expects to be injured in this way. But if we were, it could change our lives. We might still pursue our dreams and past times, but the pursuit would be much more difficult.

   For the next five (or nine) class periods, we are going to be talking about a very important topic—staying safe at work. Believe it or not, it is fairly common for people to be injured at work. In fact, one out of ten teenagers gets hurt at work every year. If our whole class were working, that would mean _____ *(insert a number representing 10% of your class)* of you could get hurt this year.

   That percentage is high. Some of those injuries are really serious. Some teens even die. For those of you who are working, this is an important topic for you now. For those of you who aren't working yet, these classes will provide you with information to be safer at work in the future. What

we are going to be learning could protect you from being seriously hurt or killed!

Most of you have career goals. Each of you enjoys doing a lot of fun things in your free time. A serious work injury could put an end to those pursuits or make them extremely difficult to pursue. We want to do all we can to make sure that doesn't happen.

5. Explain:
   Let's spend a few minutes talking about the work experiences you or others you know have had.

   - How many of you have ever worked?
   - What jobs have you had?
   - How many of you plan to work in the near future?
   - How many of you have brothers or sisters who work?
   - Do you know someone who became injured or ill because of work?

OVERHEAD 1.1

6. Write students' examples of workplace injuries or illnesses in the left column on Overhead 1.1. Cover up the right column for now. Make a separate overhead for each class period. The following are questions you can ask to promote more discussion of the injury events, if necessary:

   - How did the injury or illness happen?
   - What was the result of this injury or illness?
   - Was the injury or illness temporary or permanent?
   - How did this person's life change (even temporarily)?
   - How would you feel, if you were in the same situation?
   - Do you think an injury or illness such as this one is common?
   - Do you think an injury or illness such as this one could happen to you?

7. The goal of this discussion and your questions is to help students realize that worker safety is an important issue for them personally. Take enough class time to allow your students to talk about as many examples as possible.

   Your role is to draw as many students as possible into the discussion. This discussion sets the stage for students developing a personal interest in worker safety and health.

   If students do not have examples of their own, use the scenarios provided at the end of this lesson or news stories involving teen work injuries. You do not need to use both the scenarios and student examples.

8. Ask:
   Based on these examples, do you think worker safety is an important issue? Why? Why not?

   Allow two or three students to express their view.

A workplace hazard is anything at work that can harm us—physically or mentally.

9. Explain:
   Some people may think workplace injuries and illnesses happen because people do "stupid" things. They are sure they would never do the same. The fact is, we ***all*** make mistakes. All of us, no matter how intelligent we are, make mistakes. We ***all*** could get injured at work.

   To prevent injuries, we need to make the workplace safe, not rely on people to always act safely. The first step in making the workplace safe is to identify the hazards that are there.

Introduction to Workplace Hazards (10 minutes)

1. Explain:
   The examples of workplace injuries or illnesses we just discussed all involved "workplace hazards."

   Write the following definition on the board:

   - *A workplace hazard is anything at work that can harm us—physically or mentally.*

   A workplace hazard is the thing that ***caused an injury, not the injury itself.*** For example, a burn on your arm is not the hazard. It is the hot oil or hot oven that caused the burn. A broken arm is not the hazard. It is the elevation or height from which you fell.

WORKPLACE HAZARD FACTS HANDOUTS

   Special Note: Students have a tendency to identify the hazard as the event. They may state that the "fall" is the hazard instead of the "height," which is the real hazard. Reviewing these examples before the class session will help you feel prepared and comfortable discussing the hazard situations with your students.

2. Give each student a set of the workplace hazard fact sheets.

   Say:
   Here are some examples of different types of hazards. Take a few minutes to read through them.

Allow students five minutes to read through the fact sheets. You may want to discuss some of the "Did You Know??" examples with your students. Additional information about these hazards can be found in the educational resources listed in the back portion of this curriculum.

3. Explain:
   Hazards exist in most jobs. To prevent injuries, it is very important that we know what hazards to look for in the workplace. Next session, we will talk more about how to identify hazards in a workplace.

4. Have students read through their "Performance Criteria and Checklist" and check those Lesson 1 activities they completed today.

"Performance Criteria and Checklist"
and
"My Experience With A Workplace Disability"
Handouts

Taking It Home:

Have students complete the following homework assignment. Give each student a copy of the "My Experience With A Workplace Disability" handout or write the assignment on a chalkboard.

Explain:
Write a two- to three-paragraph essay discussing your experience wearing the ear plugs, arm sling, taped down thumb, crutches, wheelchair, or scar on your face. Focus on how you felt, what you thought, and what you could and could not do.

Also, describe how this disability would affect the three careers and three free time activities you listed at the beginning of the class period. Be prepared to discuss and hand in your essay during the next session.

Footnotes:

1 Brooks, D.R., Davis, L.K., and S.S. Gallagher. "Work-related Injuries Among Massachusetts Children: A Study Based On Emergency Department Data." *American Journal of Industrial Medicine* 24 (1993): 313-324.

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Workplace Injury Or Illness Examples	Hazards Causing The Injury/Illness

Class Period: _____

Date

Dear Parent/Teacher:

Students in my class are learning about the importance of worker safety. Most teenagers are or soon will be involved in the working world. Unfortunately, work-related injuries are common among adolescents. Some of these injuries can result in permanent injury, disfigurement, or even death.

We are teaching students about worker safety to help them become more aware of hazards in the workplace and how injuries or illnesses from those hazards can be prevented.

To increase students' appreciation for worker safety, they are being asked to participate in a day-long exercise that will simulate the experience of living with a physical impairment due to a work injury. These simulated impairments include: hearing loss (wearing earplugs); arm amputations (wearing arm slings); thumb amputations (immobilizing thumbs with tape); or facial disfigurements (wearing fake scars).

Students will be asked to "wear" these physical impairments throughout the whole day on _____(Add date here)_____ so as to gain an appreciation for the long-term impact work-related injuries may have on their lives.

This exercise may limit students' participation somewhat in other classes or duties at home. We are asking for your cooperation in this exercise. We hope this day of inconvenience will provide long-term benefits of increased student awareness of the consequences of work-related injury.

We appreciate your willingness to allow your student(s) to participate in this exercise. Discussion of students' feelings and the personal challenges associated with having a disability is encouraged. If you have any concerns or questions, please contact me.

Sincerely,

Name
Teaching Position
School
Phone Number

Name: _____ Class Period: _____

Performance Criteria and Checklist

Place a check mark in the appropriate box when the criterion is met. Corresponding lessons are listed in ( ).

Student Checklist	Performance Criteria	Teacher Checklist
	1. Accurately defines what a hazard is. (1 and 2)	
	2. Identifies common hazards found in the workplace. (1, 2, 4)	
	3. Creates a hazard map that is accurate and thorough. (2 and 4)	
	4. Writes clearly and in an organized and thorough manner. (1, 3, 4)	
	5. Participates fully in class discussions. (1, 2, 3, 4,and 5)	
	6. Participates fully in small group projects. Completes equal amounts of work and interacts respectfully with other group members. (2 and 4)	
	7. Prepares thorough, organized, and creative class presentations. (5)	
	The following decision-making criteria should be met when developing safety action plans:	
	8. Accurately identifies the major hazards in a simulated workplace. (1, 2, and 4)	
	9. Develops a logical list of preventative steps to deal with at least four of these hazards. (3 and 4)	
	10. Identifies and prioritizes a logical list of criteria for choosing these preventative steps. (4)	
	11. Clearly explains how criteria were used to select the order of preventative steps. (4 and 5)	

Injury Scenarios

To be used if students do not come up with examples. These events actually took place in Minnesota.

Case # 1: A 12-year-old farm boy was injured when he came in contact with the shaft of an auger while loading corn. His arm was broken and his right thumb was severed, resulting in amputation and extensive blood loss. He was hospitalized for eleven days and had three surgeries in an attempt to save his thumb. He is back in school, but, because he is right-handed, has had to adapt to writing with four fingers.

Case # 2: A 17-year-old was working at a construction site. He was riding on the side of a bulldozer being driven by another 17-year-old. As the equipment was going over an old railroad bridge, the bridge collapsed. The bulldozer fell into the creek below and the 17-year-old passenger, who was caught beneath it, drowned. The driver watched helplessly as his friend died. It is illegal for 17-year-olds to be working at construction sites.

Case # 3: A 16-year-old girl was working at a local grocery store. After packing an especially heavy order, she was asked to carry the groceries out to the car. As she was lifting the bags from the carrying cart into the trunk of the car, she felt a pull in her lower back. When she stood up she realized she had strained her back.

Case # 4: An 18-year-old boy was snowblowing the church driveway when the snowblower became clogged with wet snow. He was using his right hand to unclog it when the blade caught his glove and pulled his hand in. His index and middle fingers were amputated to the first joint.

Case # 5: A 13-year-old was killed while helping his father remove corn from a grain bin. The boy climbed to the roof of the bin and opened the cover. He sat on the roof ladder watching the corn being removed.

After fifteen minutes, the boy's father noticed his son was no longer on the ladder. He climbed the ladder to look in the bin but did not see his son. When he returned to the ground, he saw a tennis shoe come out the discharge opening. He stopped the auger and went for help. The boy was removed from the bin but later died.

Case # 6: An 18-year-old girl was cleaning the blade of a meat slicer. The scrubbing pad slipped, and her hand went under the blade. She severely cut her right thumb.

Case # 7: A 17-year-old boy was helping paint the barn on his family's farm. He was on a ladder 12 feet above the ground. As he was reaching to paint a spot, his foot slipped and he fell to the ground. The boy severed his spine and was paralyzed from the waist down. He is now learning to adjust to life in a wheelchair.

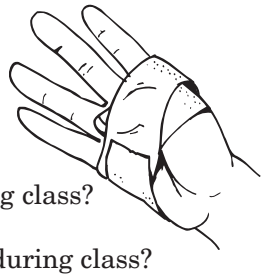
Case # 8: A 16-year-old girl was working at a fast food restaurant. She was asked to filter some hot oil. She was carrying it outside, when her foot slipped on the greasy floor and the oil spilled, burning her right arm and leg.

Name: _____ Class Period: _____

My Experience With A Workplace Disability

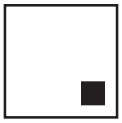
Write a two- to three-paragraph essay below discussing your experience with a simulated disability. Focus on answering the following questions:

- How did you feel having the disability?
- What couldn't you do?
- What could you do but differently than usual?
- How would this disability affect the three career choices you listed during class?
- How would this disability affect the three free time activities you listed during class?



Workplace Physical Hazard Facts

Workplace physical hazards cause injuries or illnesses by transferring energy between objects and workers.

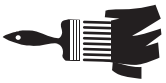
	Type of Physical Hazard	Examples	Did You Know??
	**Elevations or Heights—**Any situation in which a person may fall or have objects fall on them.	Ladder Elevated walkway Walkway over a pit Stairs Boxes on a high shelf	If you fall three feet and hit your head, it will cause injuries similar to running as fast as you can into a brick wall.
	**Slippery Surfaces—** Wet or oily surfaces can cause falls.	Wet floor Waxed floor Oily/greasy floor	Strains and sprains are some of the most common injuries among construction workers. Falls due to unstable footing, holes, and falls from scaffolding and ladders are very common.
	**Electricity**—Electrocution can result when a person comes in contact with an electrical current, either indoors or outdoors.	Electrical wire Electrical outlet Lightning Batteries Electrical equipment	Electrical injuries may not look immediately serious. However, as the electricity passes through a person's body, it causes extensive internal injuries. These injuries gradually may get worse after the electrocution.
	**Confined Spaces**—Any space with limited openings and poor ventilation may cause harm due to toxic gases or lack of oxygen.	Grain bin Manure pit Underground pipe	You can lose consciousness in a manure pit within a few breaths and have brain damage within two minutes. One of the most common ways for more than one worker to be killed at a time is when someone tries to rescue another person from a confined space without using proper protective equipment.
	**Noise**—Loud noises can damage a person's hearing suddenly or gradually over time.	Tractor engine Explosives Loud music Machinery Power tools	At first, loud noises may cause only a temporary loss in hearing. This effect may last up to a full day. Continued exposure to loud noises can result in permanent hearing loss.
	**Sharp Objects—**Any sharp object that is operated or held in the hand(s) can cause cuts or even amputations.	Power saw Meat slicer Box cutter Knife	Each year, almost 15,000 American workers lose at least one finger.
	**Moving Parts**—Moving parts, both slow and fast, can cause bodily harm, such as amputation or crushing.	Power takeoff Engine parts Drill Auger	If you become entangled in a power takeoff rotating at 1000 rpm, over five feet of clothing can become entangled in less than one second!

Workplace Physical Hazard Facts (continued)

	Type of Physical Hazard	Examples	Did You Know???
	**Repetitive Motions**—Work that requires doing the same actions over and over again may cause injury over time.	Computer keyboard Assembly lines	Physical injuries, such as carpal tunnel syndrome, may develop as a result of repetitive motions, even though the motions seem easy.
	**Heavy Loads—**Loads that are too heavy or that are lifted improperly may cause back or neck injuries.	Boxes Hay bales People	Back strains are the most common work injury. However, many workers also have chronic knee or shoulder problems.
	**Heavy Machinery—**A person can be run over, rolled on, or crushed by large machinery.	Tractors Circular baler Skid loader Trucks	An average of six to nine Minnesota farmers die each year in accidents involving large machinery.
	**Heat—**Any hot surface or overexposure to sunlight may cause burns and dehydration.	Sun exposure Furnace Fryer, grill, or oven Running engine	A healthy worker can lose over 16 pounds of sweat in an eight-hour workday. This sweating can easily cause heat stress.
	**Cold—**Overexposure to cold or being trapped in a cold place may cause frostbite, hypothermia, and, potentially, death.	Outdoors in winter Refrigerator/freezer	When you are cold, your body automatically decreases the amount of blood going to your skin. This decrease in blood flow to the skin keeps your inner body temperature higher by limiting heat loss. An inner body temperature of 95 degrees or less is a true emergency.
	**Weapons**—Weapons may be misused, causing injury to self and others. Workplaces may be robbed by people using weapons.	Guns Knives	The United States leads the industrialized world in rates of firearm deaths among children. In 1997, the Federal Centers for Disease Control and Prevention reported that 86 percent of firearm deaths among children less than 15 years old occurred in the U.S.
	**Miscellaneous**—Any other physical objects that can cause injury or illness.	Ill-fitting equipment X-ray machines Radiation	Accidental exposures to x-rays are numerous and often involve extremely high exposures to small portions of the body. Most accidental exposures happen during non-routine uses, such as when equipment is partially disassembled or shield covers had been removed.

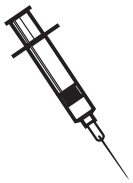
Workplace Chemical Hazard Facts

Workplace chemical hazards are chemicals that may cause injury or illness to workers if they are inhaled, swallowed, or absorbed through the skin. Chemicals may also cause explosions.

	Form of Chemical Hazard	Examples	Did You Know??
	**Solid**—Any chemical found in a solid form.	Dry Paint	Dry paint may contain lead. It tastes sweet and is sometimes eaten by small children. Ingestion of lead paint may cause brain damage.
	**Dusts**—Dusts are tiny particles of solids. You may be exposed to dust from materials that are already in dust form, or from work processes that create dust.	Bags of cement Glass fibers Asbestos Some herbicides	Under certain conditions, dusts can explode (for example, in a silo or flour mill). During the 1960's, asbestos had over 3,000 uses. Today, asbestos is known to cause lung cancer.
	**Liquid**—Any chemical found in a liquid form at room temperature. Liquid chemicals may cause poisoning by ingestion, inhalation, or absorption.	Fertilizers Herbicides Pesticides Paints Cleaners	Pesticides are used to kill animals, and, so, can be very poisonous to humans.
	**Vapors**—Vapors are tiny drops of liquid that are suspended in the air. Vapors from some chemicals may irritate the eyes and skin.	Cleaners Paints Pesticides	Some paints may contain lead or mercury. Both of these may affect small children more than adults. Both may cause brain damage.
	**Gases**—Some chemicals are in gas form when they are at room temperature. Other solid or liquid chemicals become gases when they are heated.	Aerosols Carbon monoxide Vehicle fumes Grain silo gases Hydrogen sulfide	Hydrogen sulfide gas from manure pits may cause a person to become unconscious in as few as two breaths. A few breaths more will cause death. Never enter a manure pit without proper protective equipment!

Workplace Biological Hazard Facts

Workplace biological hazards are living things or their byproducts that may cause injury or illness to workers.

	Type of Biological Hazard	Examples	Did You Know???
	**Animals—**A variety of injuries and illnesses can be caused by physical contact with an animal or its byproducts (such as its wastes).	Bites Skin contact Dander Manure Manure pits	An estimated 10-20% of individuals working with rodents, rabbits, cats, and other animals may eventually develop allergies and asthma.
	**Humans**—A variety of illnesses may be passed from one person to another through contact with the infected person's bodily fluids.	Blood Saliva Mucus Human waste	One drop of HIV- or hepatitis-infected blood in a needle, if it pricks a health care worker, may transmit disease.
	**Plants**—A variety of illnesses may be caused by contact with plants or portions of plants.	Grain dust Moldy hay Pollen	Dusts from moldy hay or other types of mold may cause an acute illness that acts like the flu. This illness may last several weeks.

LESSON 2

Recognizing Workplace Hazards

Description:

Students discuss the effect of potential workplace injuries on their lives, brainstorm lists of different types of workplace hazards, and then map potential hazards in work environments.

Learner Outcomes:

Students will be able to do the following:

1. Identify the range of effects serious injuries or illnesses could have on their lives.
2. Give examples of different types of workplace hazards — biological, chemical, and physical.
3. Recognize hazards in a workplace environment.
4. Perceive the importance of evaluating potential hazards in their workplaces.

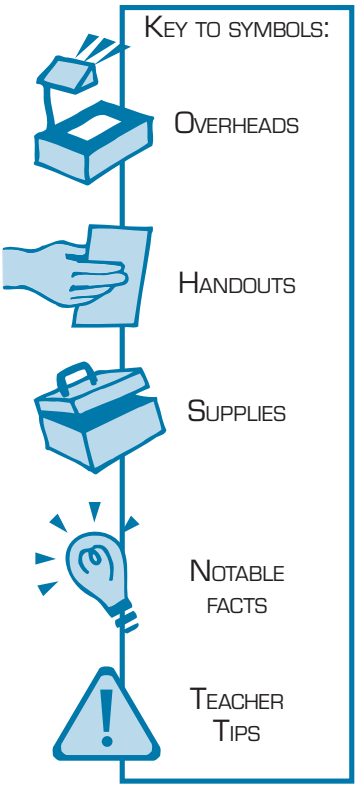
Key Concepts:

1. The many kinds of workplace hazards are divided into three categories:
   - **Physical**—hazards due to a transfer of energy between an object and a worker (e.g., falling from a height, a burn from a hot oven, or the loss of an arm in a power takeoff).
   - **Chemical**—hazards due to contact with chemicals (e.g., cleaners, pesticides, fertilizers).
   - **Biological**—hazards due to contact with living organisms or their by-products (e.g., molds, bacteria, HIV, grain dust).

   These categories are not mutually exclusive; they are important only in that they give structure to a broad topic.
2. Hazards may cause both **temporary** and **permanent** injuries and illnesses.
3. Some hazards will create an injury or illness **right away.** Other hazards may not cause an injury or illness until **much later in life.** For this reason, workers should take all hazards seriously, even if they do not experience problems right away.
4. It is important for all workers to be aware of potential hazards when they enter a workplace.

Fact:

In a New York state study, agriculture, which employs only 3% of working adolescents, was the second most dangerous occupation for teens, accounting for the highest number of injuries among 16- and 17-year-old workers.[1] Farming consistently has been identified as Minnesota's most hazardous occupation.



Materials Needed:

- ❑ Overheads 2.1, 2.2, 2.3, 2.4, and 2.5
- ❑ Chalkboard or blank overhead
- ❑ Large sheets of butcher paper
- ❑ Markers (at least one per group of four students)
- ❑ "Teacher's Key: Possible Hazards Identified on Student Hazard Maps"
- ❑ "Workplace Safety Attitude Survey" handout

Preparation Needed:

1. Set up the overhead projector. Place the overheads in order according to the lesson outline.

2. Draw the three hazard categories (Physical, Chemical, and Biological) on the chalkboard or overhead before class begins.

3. Familiarize yourself with the example hazard maps (Overhead 2.4 and 2.5), so you can explain them to the class.

4. Make copies of the "Workplace Safety Attitude Survey" (one per student).

Optional Activity: You may want to invite a guest speaker to class who has experienced a workplace injury or permanent disability. The individual may have suffered a sudden injury such as a loss of a limb or finger or paralysis due to a fall. Or perhaps the individual has experienced an injury or illness that developed gradually over time, such as a loss of hearing due to working with loud machinery or lung-related conditions due to working in dusty or hazardous environments.

Hearing the story of someone who has a workplace injury may help make the material "real" to students and reinforce the concepts presented in this lesson. Perhaps one of your students may have suffered a serious workplace injury and may be willing to share his or her own experience with the rest of the class.

If you are not sure where to find a speaker for your class, local organizations who serve people with disabilities may have suggestions.

Directions:

You may want to extend this lesson over a two-day period to allow more time for discussion and completion of the hazard maps.

Life After An Injury — Part II (10 minutes)

Optional: You may want to allow students time to complete their "My Experience With A Workplace Disability" essays at the beginning of class, if they were not able to complete them as homework assignments.

1. Have one or two students from each disability group describe their experiences with the simulated disabilities during the previous class day. Ask other students from the same group, if they would like to add anything about their experiences.

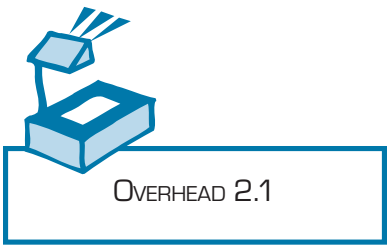
If students do not include the following information, ask them:

- What was your experience like?
- What activities did you have to change, because you could not use your thumb, arm, legs, or hearing?
- For those with the disfigurement, what did you experience?
- How might your life be different, if this situation was permanent for you?

2. Explain:
   You experienced what it was like to be injured at work, to lose a thumb, an arm, a leg, your hearing, or to have scarring on your face. Most of you found it difficult. People who are really injured at work in these ways do not have the option to go back to life before the injury.

   People often are injured at work. It is not uncommon for a person to lose their hearing, if they work in a noisy workplace for a long period of time. It is not uncommon for a person to lose a limb or finger while working around large, moving machinery.

3. Show Overhead 2.1. Explain:
   Some workplace injuries or illnesses affect us only for a short time. Getting a burn that heals in a week or feeling nauseous for a few hours after using a strong chemical cleaner are examples of temporary injuries or illnesses.



   Ask:
   What are some other examples of temporary work injuries or illnesses?
   (Example answers: small cuts; bruises; strains; sunburns)

   Explain:
   Other injuries or illnesses affect us for a long period of time, maybe even for the rest of our lives. Losing an arm in a power takeoff or losing the ability to walk after breaking your back in a fall are two examples of **permanent** injuries or illnesses. Having a scar on your face is also a permanent injury.

   Ask:
   What are some other examples of **permanent** work injuries or illnesses?
   (Example answers: losing a finger; losing your eyesight; developing work-related asthma)

4. Explain:
   You can also look at workplace injuries or illnesses in another way. Some hazards create an injury or illness **immediately.** For example, if you touch a hot grill, you get a severe burn right away.

5. Ask:
   What are some other examples of immediate work injuries or illnesses?
   (Example answers: cutting your finger in a meat slicer; hurting your back when you fall)

6. Explain:
   Other hazards may not cause an injury or illness until **later in life.** For example, a person who works in a very dusty workplace may have no problems right away but may develop lung problems after years of exposure.

7. Ask:
   What are some other examples of work injuries or illnesses that show up later in life?
   (Example answers: loss of hearing gradually over time; carpel tunnel caused by repetitive motions over time; back problems caused by repeated lifting; cancer or lung disease caused by prolonged exposure to harmful chemicals).

   Note: Spend some time talking about injuries or illnesses that show up later in life. Students may not always be aware of or concerned with these hazards. Future health problems may not seem as important as getting a job done quickly now. Discuss the problem with this short-sighted view on work safety.

   Explain:
   When we think of workplace injuries or illnesses, we often think of those that happen immediately, but the hazards that cause injuries or illnesses later in life are just as serious. For this reason, workers should take all hazards seriously, even if they do not experience problems right away.

Identifying and Defining Hazards (20 minutes)

1. Ask:
   All workplace injuries or illnesses are caused by hazards. What was the definition of a "workplace hazard"?
   (Answer: A workplace hazard is anything at work that can harm a person—physically or mentally.)

Explain:
Remember, the hazard is what **caused** the injury or illness, not the injury or illness itself. For example, hot oil is the hazard, not the burn the hot oil caused.

The hazard is also not the action that was taking place at the time of the injury. For example, painting is not the hazard, it is the height the painter fell from that is the hazard. Of course, painting may cause muscle strain or repetitive stress injuries.

OVERHEAD 2.2

2. Show Overhead 2.2. Explain:
You may be exposed to hazards at work in a number of ways. You may be exposed to a physical hazard whenever a transfer of energy between you and an object is possible. How many of you have studied physical science? Can you explain what a transfer of energy involves?

A difference of temperature between an object and a person creates the potential for heat energy to be transferred, if the person and object come in contact. For example, if your bare hand touches a hot oven, the heat energy of the oven is transferred to you through touch, causing a burn.

A moving object also has energy that can be transferred. A box sitting on a high shelf gains a lot of momentum as it falls. If the box hits you, that energy is transferred to you, causing an injury. In the same way, if you fall from a height, your body gains a lot of momentum, causing it to be injured when you hit the floor.

OVERHEAD 2.3

3. Show Overhead 2.3. Explain:
You may also be exposed to biological and chemical hazards by breathing them in (inhalation), absorbing them through the skin (absorption) or through breaks in the skin, or swallowing them (ingestion).

To prevent injuries, it is important to think about how your body comes into contact with hazards. For example, if you work with chemicals in the workplace and forget to wash your hands before lunch, you may ingest the chemical while you eat without realizing it. Even if the chemical causes no immediate discomfort, why could ingesting it be a problem?
(Answer: Illnesses may occur later due to repetitive actions over time.)

4. Draw a three-column table on the chalkboard or blank overhead. Label one column "Physical Hazard," one column "Chemical Hazard," and one column "Biological Hazard."

   Say:
   Now without using the fact sheets, just using your memories or personal experiences, give me some examples of workplace hazards.

5. As students list the hazards, decide as a class which category they fit under and write them in the appropriate column.

   Again, make sure students are mentioning hazards, not injuries or illnesses. Students may be somewhat confused with the difference between categories. Biological hazards deal with any fluid or product from an animal. A person's blood, if infected with HIV, is a biological hazard. Lifting a person, though the same object, is a physical hazard.

   Refer to the workplace hazards fact sheets for more examples. Your completed chart may look like the following:

Physical	**Chemical**	**Biological**
Loud noises Ladders, staircases Hot ovens Power takeoff Tractor Freezer, cold places Very hot or cold weather	Pesticides Cleaning products Paints Fertilizers	Grain dust Human blood Large animals Manure pits

6. Ask:
   Looking at these lists of hazards we just created, which ones can be found on a farm?

   Star the agricultural hazards.

Mapping Hazards (30 minutes)

Note: You may not have enough time to complete this activity during this class period. You may want to extend this activity to your next class session. Students will map hazards again in Lesson 4 as part of designing a prevention plan. Mapping hazards here will prepare students to complete the activities in Lesson 4 in less time and give them an opportunity to use workplaces that are familiar to them.

Teacher Tip:

If you want to save time in class, give this exercise as a homework assignment.

1. Explain:

   Once you know the basic kinds of hazards, you can begin to identify them in the workplace. When you walk into a workplace, use what you know about hazards to identify them.

   Although each workplace is unique, the types of dangers in each are not. In any workplace you may find physical hazards such as noise, moving machine parts, or other dangerous equipment. Chemical hazards, such as pesticides or cleaning products, or biological hazards, such as human blood, grain dust, or manure pits, also may be present. If you remember the basic hazard categories, it will be easier to see them in many different workplaces.

   Hazards at a workplace may change from day to day. If, for example, a large shipment of supplies comes in and needs lifting and carrying, a new physical hazard is created. You will want to be aware of new hazards that come into your work environment each day. We are going to practice analyzing work environments for hazards by developing hazard maps.

Although each workplace is unique, the types of dangers in each are not.

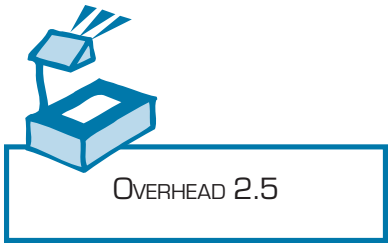
2. Show the class Overhead 2.4. Explain:

   This simple map shows the basic layout of a grocery store. You will be working in small groups to create maps like this of different types of workplaces. Work together using the butcher paper and markers. You do not need to draw fancy maps.

Overhead 2.4

3. Explain:

   To begin the map, draw a rough floor plan of the workplace you are studying. The floor plan should show rooms, work areas, major fixtures and equipment, doors, and windows.



4. Show Overhead 2.5. Explain:
   Once your floor plan is drawn, decide where the hazards are located. Mark these locations on the floor plan using the markers. Label the type of hazards you find with this code:

   - **P** to show physical hazards.
   - **C** to show chemical hazards.
   - **B** to show biological hazards.

   You may want to write this code on the board so students can refer to it. Label a few of the hazards on the overhead using this coding system.

   Explain:
   If you are not sure whether something is a hazard, mark it anyway. It is always better to ask if something is a hazard than to ignore it and find out later that it was a hazard, because you or someone else became injured or ill.

It is always better to ask if something is a hazard than to ignore it and find out later.

5. Divide the class into small groups of three or four students. Have each group select a type of workplace to study. It would be best, if they choose one of their own workplaces, but they could also use one of the following:

   - Farm (barn, machine shop, feedlot, or cropland)
   - Restaurant
   - Nursing home
   - Movie theater
   - Office

   The same workplace can be assigned to more than one group. If possible, each group should include some students who have worked in, or are familiar with, that type of workplace.

   Note: If you are short on time, provide the workplace maps for students. Have them fill in the hazards found there.

6. Give each group a set of markers and a large sheet of butcher paper.

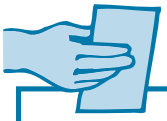
7. Allow the groups at least 15 minutes to complete their maps. If some groups get done with their maps before others do, encourage them to go back and read their hazard fact sheets to see if any hazards were missed.

8. Then have each group choose one person to report to the class. Each group's spokesperson will have one or two minutes to explain their map. Have at least four groups report. If groups begin to repeat the same hazards, ask them to focus on hazards that have not yet been mentioned.

   Note: Possible hazards for each workplace are listed in the teacher's key included in this lesson.

9. Explain:
   Whenever you are in a workplace, make a mental map of where the hazards are, just as you did today. Tomorrow, we will talk about what can be done to reduce the risk of workplace hazards, once they have been identified.

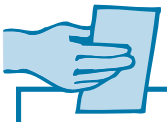
10. Have students fill out their "Performance Criteria and Checklist" for today's work.



"Performance Criteria and Checklist" handout

Taking It Home:

Have students do the following assignment:



"Workplace Safety Attitude Survey"

Give each student a copy of the "Workplace Safety Attitude Survey." Explain:
This is a survey about workplace safety attitudes. I would like you to fill this survey out as honestly as you can.

Read each statement and ask yourself whether you agree or disagree with it. Think about your current or past work situations. Does this statement describe your attitude in that workplace?

Take your time reading and considering each statement. No answers are right or wrong. I am looking for your opinions. You will not be graded on your answers, but you will get credit for completing the survey.

Again, be as honest as you can. If you have not worked, think about what your attitudes are **right now** as you think about working in the future. You will hand in this survey during our next class session.

Footnotes:

1 Belville, R., et al. "Occupational Injuries Among Working Adolescents in New York State." *Journal of the American Medical Association* 269 (1993): 2754-2759.

Note: Portions of this lesson are adapted from the "Teen, Work, and Safety" curriculum distributed by the Labor Occupational Health Program, Center for Occupational and Environmental Health, University of California, Berkeley.

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Overhead 2.1

A Body's Response To Hazards

Temporary

versus

Permanent

Immediate

versus

Later in Life

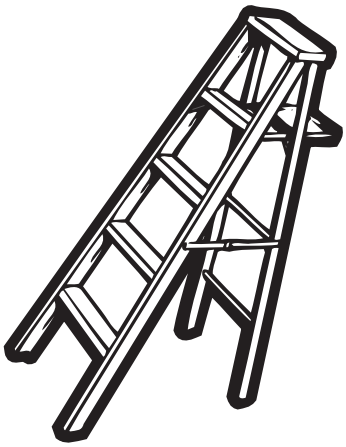
Pathways of Exposure

Physical Hazards

Energy is transferred to a worker in a variety of ways:

Heat (burns)

Falling objects



Falling from heights

Pathways of Exposure

Biological and Chemical Hazards

Workers are exposed to these hazards by the following means:

Inhalation (breathing in)

Absorption (passing through skin)

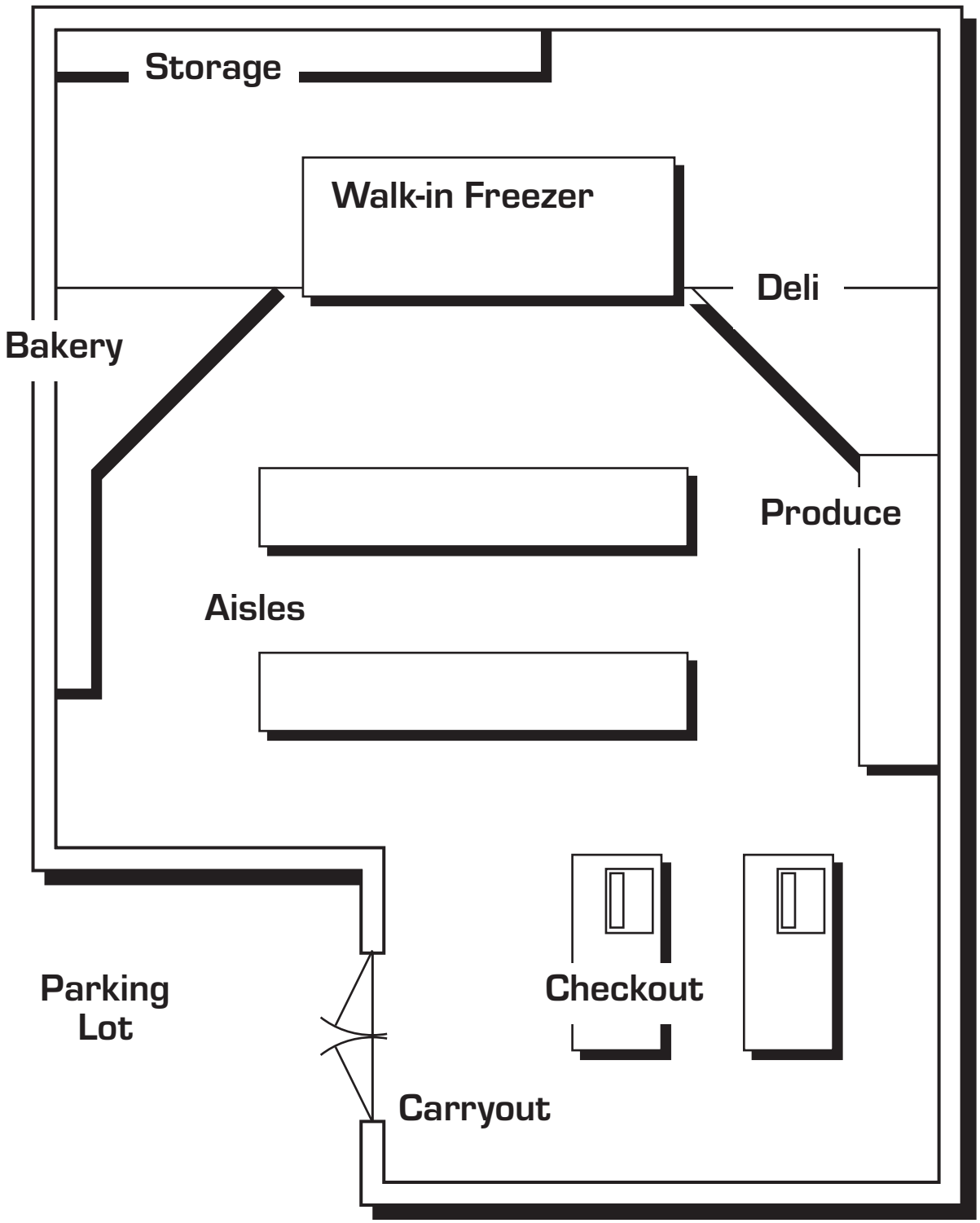
Entrance through cuts or abrasions

Ingestion (swallowing)

Overhead 2.4

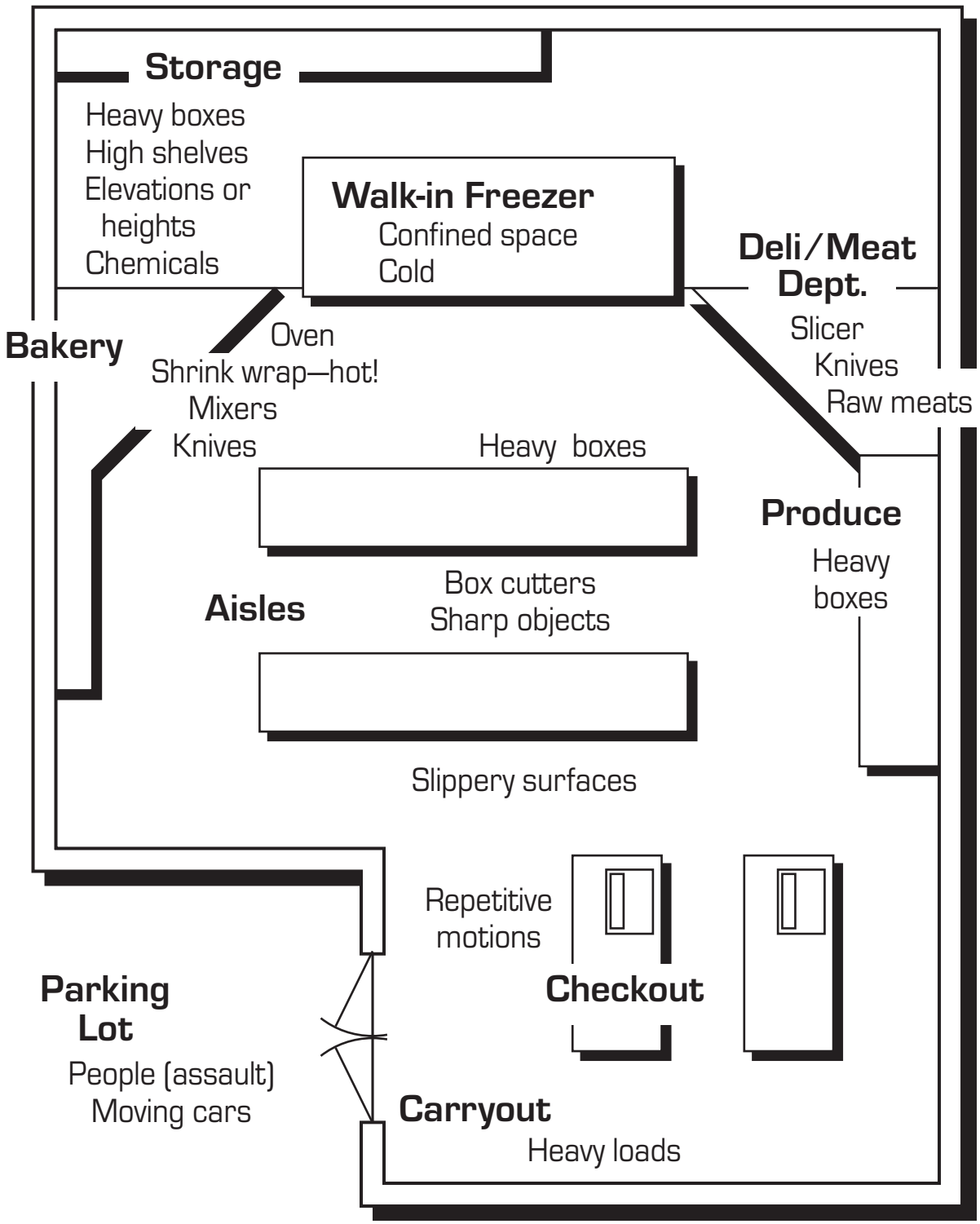
Example Hazard Map:

A Grocery Store



Example Hazard Map:

A Grocery Store



Teacher's Key: Possible Hazards Identified on Student Hazard Maps

On a Farm

In and around a barn:
Ladders or hay loft (falling)
Animals
Dust, molds
Chemicals (milking barns)
Conveyor belts
Manure pits
Silos or other enclosed bins
Tractors

In a machine shop:
Chemicals
Power tools (cuts, electrocution)
Truck or car jack
Dust
Moving parts in motors
Noise
Toxic gases

In and around a feedlot:
Animals
Manure pits (toxic gases)
Silos or other enclosed bins
Grain wagons
Tractor rollovers and runovers
Electric fencing
Barbed wire fencing
Insect bites
Noise

On cropland:
Tractors
Power takeoff
Moving parts (chopping, cutting)
Pesticides and other chemicals
Holes
Sun and heat
Dust, molds, pollen
Noise
Insects

Fast Food Restaurant

Cooking equipment (burns, electrocution)
Sharp knives
Slippery floors
Money (robbery)
Standing for long periods of time
Hot grease
Slicers/meat cutters
Chemicals (cleaners, pesticides)
Heavy objects

Nursing Home

Heavy objects (people)
Chemicals (disinfectants, cleaners)
Needles
Cooking equipment
Moveable beds
Physical violence
Human bodily fluids
Standing for long periods of time
Medicines
Slippery floors
Physical therapy equipment

Movie Theater

Popcorn, hot dog and coffee machines (burns)
Ladders
Money (robbery)
Dark environments (falls)
Slippery floors
Cleaning products
Standing for long periods

Office

Cords or loose carpeting
Poor indoor air quality
Computer monitors
Repetitive work
Electric circuits
Computer keyboards/mouse
Sitting for long periods of time

Name: _____ Class Period: _____

Workplace Safety Attitude Survey

For each of the following statements, check the response that best fits what you think or believe ***right now.*** Be as honest as possible. This survey will not be graded.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. My health is very important to me.	❑	❑	❑	❑
2. A workplace injury or illness will never happen to me.	❑	❑	❑	❑
3. If I do not watch out for my own health, I can't assume anyone else will.	❑	❑	❑	❑
4. Workplace injuries or illnesses just happen. I can't do anything about them.	❑	❑	❑	❑
5. It is worth the inconvenience to take the necessary precautions to be safe at work.	❑	❑	❑	❑
6. I do not worry about workplace injuries or illnesses.	❑	❑	❑	❑
7. People may think I am strange if I am concerned about safety at work.	❑	❑	❑	❑
8. I am more careful than other people, so I do not think I will get injured at work.	❑	❑	❑	❑
9. If I had to choose between completing my job quickly and being safe, I would choose to be safe.	❑	❑	❑	❑
10. If I get injured at work, it will most likely be minor.	❑	❑	❑	❑
11. A person could get fired by questioning safety on the job.	❑	❑	❑	❑
12. If someone gets injured at work, it is their own fault.	❑	❑	❑	❑
13. I do not care what other people think. I would rather be safe than sorry.	❑	❑	❑	❑
14. You really cannot predict how or when people are going to get hurt.	❑	❑	❑	❑
15. If it would make my job faster, I would remove protective equipment on machinery.	❑	❑	❑	❑
16. Some jobs, like office work, are totally safe.	❑	❑	❑	❑
17. I would give up a high-paying job if I thought it was unsafe.	❑	❑	❑	❑
18. Even if protective clothing was uncomfortable or seemed unnecessary for the job, I would still wear it.	❑	❑	❑	❑
19. I do not pay much attention to written safety warnings. Most of them are unnecessary.	❑	❑	❑	❑
20. If I worked at a job for a long time and never got hurt, I would still be concerned about injuries or illnesses.	❑	❑	❑	❑

LESSON 3

Preventing Workplace Injuries and Illnesses

Description:

Students are introduced to the ABC's of preventing workplace injuries or illnesses. They then brainstorm ways to apply the ABC prevention strategies to example hazards. They also discuss the reasons workers choose to take risks in the workplace, even when they know hazards are present.

Learner Outcomes:

Students will be able to do the following:

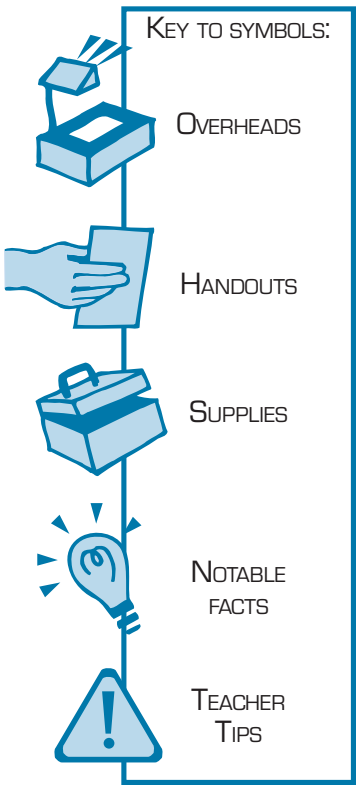
1. Describe three strategies used to prevent workplace injuries or illnesses.
2. List examples within each prevention strategy.
3. Identify the pros and cons of taking risks in the workplace.
4. Perceive that workplace injuries or illnesses can be prevented.
5. Identify the attitudes that help a person remain safe in the workplace.

Key Concepts:

1. Most workplace injuries and illnesses can be avoided by taking the right preventative steps.
2. Three main ways to prevent workplace injuries or illnesses are represented by the letters ABC:
   - **A**dministration
   - **B**uilding barriers
   - **C**ommunication
3. The **best** way to prevent workplace injuries is to design engineering controls (part of **Building barriers**), such as shields, guards, etc. This strategy is the best prevention strategy because it does not depend on people making safe choices every time. You change the environment, which is easier to control and more reliable than people.

Fact:

Of those 14- to 16- year olds who were injured in the workplace, more than half reported they had not received any training on how to prevent the injury. A supervisor was present at the time of the injury in only about 20% of the cases.[1]



Materials Needed:

- ❑ Overhead 1.1 (from each class period, Lesson 1 and 2)
- ❑ Overheads 3.1-3.5
- ❑ "ABC Prevention Strategies" fact sheet
- ❑ "Hazard Prevention Worksheet"
- ❑ Chalkboard or easel
- ❑ "Material Safety Data Sheet"
- ❑ "Material Safety Data Sheet Questions and Key"
- ❑ Bottle of ammonia cleaner

"ABC Prevention Strategies" handout

Overheads 3.1-3.4

Preparation Needed:

1. Review the "ABC Prevention Strategies" fact sheet, so you are familiar with the three main prevention strategies and the examples of each. You may want to make class sets of these fact sheets rather than individual sets.

2. Review the "Workplace Safety Attitude Survey" (distributed to students at the end of Lesson 2), so you are familiar with these attitude statements.

3. Think through the costs and benefits of different safety measures.

4. Make copies of the "Material Safety Data Sheet" (MSDS). You may want to make class copies or put this form on an overhead. The ammonia cleaner is a concrete example of a chemical with an MSDS.

Directions:

The ABC's of Injury Prevention (25 minutes)

1. Give each student a copy of the "ABC Prevention Strategies" fact sheet. Explain:
   This fact sheet outlines three basic ways to prevent injuries or illnesses in the workplace. These three ways are represented by the letters A, B, and C.

   Allow students about five minutes to read through the fact sheet.

2. Show Overhead 3.1. Review each strategy using Overheads 3.2, 3.3, and 3.4.

3. Explain:
   Since it is easier and more reliable to change the workplace than the worker, the most important prevention strategies will be those that involve engineering controls (part of **Building barriers**). Employers should apply these strategies first.

   For example, if workers often get burns when making french fries in a hot oil fryer, you could teach workers a different way to handle the equipment. To prevent burns, however, people would have to apply this training every time they worked with the fryer.

It would be better to build a barrier, like a shield that prevents oil from splattering on workers. The shield would always be in place, so you wouldn't have to depend on workers doing something correctly to keep themselves safe. The shield does the work. The workers don't have to. That method is the **safest** way to design a workplace.

HAZARD PREVENTION WORKSHEET

Distribute the "Hazard Prevention Worksheet" to the students. Allow students time to read the handout. Select several of the hazards listed to review with the students. Allow the opportunity for students to practice the ABC's of prevention by talking through the classification process.

4. In order to further practice the ABC's of prevention, draw three columns on the chalkboard or easel. Label them "Administration," "Building Barriers," and "Communication." Say:
   Let's work through some hazard situations to show how we may apply the three ways of preventing injuries or illnesses.

OVERHEAD 1.1

5. Show Overhead 1.1, which partially was filled out by this class during Lesson 1. Say:
   Let's take one of the injuries or illnesses we identified during our first session. First, what are the hazards that caused each of these injuries or illnesses?

   Write students' answers in the right-hand column on the overhead. Select one of the hazards from the right-hand column. Ask:
   Using the ABC's of prevention, how could we prevent injuries or illnesses from this hazard? Since building barriers is the best prevention, let's begin with "Building barriers." What kind of engineering controls could be built to protect workers?

   Write barrier strategies for this hazard on the chalkboard. A variety of hazards are used as examples below. The following are some possible answers:

Building barriers:

Engineering Controls

- Build a shield on application equipment to reduce exposure to fertilizer.
- Purchase equipment with guards around moving parts.
- Install seat belts and rollover protection equipment (ROPS) on tractors.
- Install nonslip flooring.
- Store chemicals in a locked cabinet.
- Install vents to get rid of smoke.

Personal Protective Equipment

- Use protective gear such as gloves, respirators, and safety clothing.
- Wear gloves when using cleaning products.

7. Fill in the "Administration" and the "Communication" examples as well. The following are some possible answers for each column:

   Administration:

   Administration involves the rules and procedures put in place to protect workers. Most administrative activities will be done by your employer or supervisor.

   - Set up procedures stating where and how cleaning products should be stored.
   - Require that everyone working in a noisy area wear earplugs.
   - Limit the amount of time each person spends typing.
   - Allow no food in the work area.
   - Set a time limit for how long workers must wait before going into a field after it has been sprayed with pesticides.
   - Set an age limit for working with an auger.

   Communication:

   - Train workers to apply pesticides safely.
   - Teach people about the potential health problems caused by contact with human blood.
   - Train people to store and dispose of cleaning products safely.
   - Post safety reminders on bulletin boards and in hallways and areas frequented by the workers.

8. Go through a number of hazards discussed by students in the first lesson using this ABC process.

9. Explain:

   Last session we identified hazards in a workplace. Once a hazard has been identified, we can take steps to prevent it from injuring someone by using the ABC's.

   Some preventative actions, such as setting up rules and procedures, are your employer's responsibility. But if you see a hazard in the workplace, you can bring the hazard to the attention of your employer.

   Most employers encourage their workers to identify workplace hazards. Some even offer bonuses for employees who come up with good safety ideas. Be aware that some employers try to save money or time by allowing their employees to work in unsafe situations. All workers have the right to a safe workplace.

Understanding A Material Safety Data Sheet (10 minutes)

1. Hold up a bottle of ammonia. Ask:
   How many of you use ammonia or some type of cleaner at work? What are the potential hazards of using a product such as this? How can you find out?

2. Explain:
   Your employer should always tell you the hazards in your workplace. If you are working with chemicals such as ammonia, they should also provide you with a form called a Material Safety Data Sheet.

   Give each student a "Material Safety Data Sheet" or display the overhead.

   An MSDS form, as they are called, lists all the hazards related to using a particular chemical. This MSDS form is for an ammonia cleaner. This form tells you what the chemical is made of, what the health effects from being exposed to this chemical could be, and how to store and dispose of the chemical.

   You can see, just by looking at this form, that it's not easy to read. But if you read carefully, it tells you what the health concerns are with using ammonia.

3. Read questions from the "Material Safety Data Sheet Questions and Key" out loud to the group. Then have students locate the answers on the MSDS form. Use the key to check students' answers. Ask as many questions as time or interest permits.

4. Explain:
   If you are ever in a work situation in which you are using chemicals, be sure to ask for an MSDS form and have your employer explain it to you.

   Working around hazardous chemicals is very serious. You may not feel the effects right away. Health problems may present themselves later in life. Some of the immediate effects of working with hazardous chemicals are fatigue, headaches, and sleep disturbances. Some effects that show up later may be cancers, memory problems, birth defects, and sterility.

"Material Safety Data Sheet"

"Material Safety Data Sheet Questions and Key"

Teacher Tip:

Ask your school custodian for examples of MSDS forms for chemical products used at your school. Share these forms with students.

5. Explain:
   Information on an MSDS may be complicated. If you have any questions, be sure to ask your employer. Your employer is required by law to share this information with you.

Analyzing Workplace Attitudes (15 minutes)

Note: The purpose of this discussion is not to persuade students to your point of view but to help them discover for themselves what their own level of acceptable risk in the workplace is.

Even if students come to a conclusion that you do not agree with, it is important to give students that freedom in this discussion. Do not take an argumentative stance. Your role is to facilitate discussion.

1. Ask:
   Even if an employer does everything they can to prevent work injuries and illnesses, people still become injured while working. Why do you think that is?

   (Possible answers: A worker may not recognize that something is a hazard; even if workers recognize a hazard, they may still continue working around that hazard without using the prevention strategies.)

2. Ask:
   Why might a person work around hazards without setting up prevention measures?

   Look over the workplace safety attitude survey from Lesson 2 you filled out before class. Discuss some of the attitude statements and how those attitudes may affect health.

   (Possible answers: Prevention is uncomfortable; busyness and rushing; concern over what the boss or other workers may think; underestimating the danger; not knowing how to fix the danger; habit.)

3. Ask:
   People sometimes take risks with things they know are hazards. Can you name some things you or other people do, even though they may be risky?

   (Possible answers: Drive fast; smoke; boat without wearing a life jacket; ride a motorcycle without a helmet; drink and drive.)

4. Ask:
   Can you name some things you or other people would not do, because they are too risky?

   (Possible answers: Jumping out of a plane without a parachute; racing across railroad tracks right in front of a train.)

How do you decide how much of a risk you are willing to take? How do you know where to draw the line?

5. Explain:
   Each of us has to weigh the costs and benefits of being safe or taking a risk. We have to decide what balance between these two things is acceptable to us.

   Let's take the situation of whether to install a guard on a piece of equipment. A guard is a device that prevents you (usually your hand) from getting caught in moving equipment. What are the benefits **for you** of taking this safety measure?

6. Show Overhead 3.5. Write "machine guard" in the "Safety Measures" column. Write the benefits that students describe in the second column.

Overhead 3.5

   (Possible answers: Won't lose an arm or finger; won't lose your job due to injury; you can work fast without worrying; don't feel as stressed.)

7. Ask:
   What are the costs **to you** in having the machine guard in place? Write these in the third column.

   (Possible answers: It may be inconvenient; it may slow you down; it may take more effort to work around it; the chances of you getting hurt may seem so small, it seems like a waste of time.)

   Looking at these benefits and costs, how would you weigh the two? Would you leave the machine guard on or take it off? Would you be willing to risk losing your arm, for example, if you thought you could work faster?

   (Again, allow students to give an honest, serious answer. Do not try to argue with them.)

8. Work through several examples of safety measures. Discuss the benefits and costs of each measure. Other possible examples could include not wearing hearing protection or not using gloves while using cleaning products.

   (Possible answers: Benefits of hearing protection: don't lose hearing; protect ears from having reduced hearing. Costs of hearing protection: can't hear other people; can't listen for other hazards or machinery that sounds wrong; they are hot; they hurt your ears.)

   (Possible answers: Benefits of wearing gloves with cleaning products: protect skin from chemicals; hands don't dry out, get chapped, or dirty; can work with a chemical longer; can clean harder. Costs of wearing gloves with cleaning products: hard to grab objects with them; hot; work may take longer; other people may think you are overly concerned.)

9. Explain:
   When you enter the work world, you take on a new level of responsibility for yourself and your coworkers.

   We are often tempted to go for the short-term convenience of taking a risk rather than the long-term benefits of being safe. But that choice can sometimes lead to long-term injuries or illnesses.

   Preventing injuries or illnesses is a two-step process. First, identify the hazard. Second, apply the ABC's to reduce risk and prevent injury. Tomorrow, we will have the opportunity to further practice this two-step process.

10. Have each student turn in their completed "Workplace Safety Attitude Survey." They will be graded on turning in the survey and not on their answers, since the answers are students' opinions.

11. Say (only if students have individual copies of fact sheets):
    Remember to bring all your fact sheets to class next time, including the one you received today.

12. Before the session is over, have students check off tasks on their "Performance Criteria and Checklist."

Taking It Home:

No homework assigned for this class session. Remind students to bring all their fact sheets to the next class session (unless you have provided only classroom sets).

Footnote:

1 Centers for Disease Control, NIOSH. *Preventing Deaths and Injuries of Adolescent Workers,* May 1995.

Overhead 3.1

The ABC's of Injury and Illness Prevention

Administration

Building barriers

Communication

Administration

Rules and procedures put in place by an employer to limit workers' exposures to hazards

- Require people to rotate jobs
- Regulate people's workloads and exposure
- Require protective gear or practices

Building barriers

- **Engineering Controls**
  Protecting an employee by putting a barrier between a person and the hazard
  - —Shields
  - —Guards
  - —Ventilation
  - —Removal of the hazard
  - —Locked cabinets
- **Protective equipment**
  - —Earplugs
  - —Masks
  - —Gloves
  - —Respirators
  - —Boots

Communication

Training and information provided to workers, so they understand what hazards are in the work-place and how to avoid them

- Teach people about potential hazards
- Train them to do their jobs safely
- Tell people who to talk to when they have questions about worker safety

Safety

Measures	Benefits	Costs

ABC Prevention Strategies

Once workplace hazards have been identified, strategies can be used to prevent these hazards from causing injuries or illnesses. Three main prevention strategies are listed below. They are easily remembered by thinking of the letters ABC. Most often, the employer will use these strategies to make the workplace safe. Workers can also suggest these strategies to their employers. Once these strategies are in place, workers should use them.

Prevention Strategies	Examples
Administration Definition: The rules and procedures put in place by an employer to limit workers' exposures to hazards.	• Establishing a rule that requires workers to wear personal protective equipment, such as gloves, goggles, or respirators. • Requiring people to rotate jobs, so a worker is only exposed to a hazard for a short time. • Disciplining workers, if they remove protective guards on machinery. • Setting a rule that workers should not lift more than a certain weight. • Establishing a rule that requires workers to wash their hands after working with hospital patients.
Building barriers Definition: Creating a physical barrier between a hazard and a worker by the following means: • Removing the hazard. • Putting space between the worker and the hazard. • Putting a physical object between the hazard and the worker.	**Engineering Controls** (removing the hazard or changing equipment to eliminate the hazard): • Using less toxic cleaners or pesticides (removing the hazard from the workplace). • Installing ventilation to remove toxic gases or smoke. • Using machines that require two hands to start, so both hands are out of the way. • Properly storing hazardous chemicals in a locked cabinet. • Keeping controls a safe distance from the hazard (e.g., x-ray machines). **Guards and Shields:** • Putting shields or guards in front of dangerous equipment (e.g., saws or augers). **Personal Protective Equipment:** • Wearing personal protective equipment such as hard hats, steel-toed boots, gloves, hearing protection, respirators, goggles, and face shields.
Communication Definition: Training and information provided to workers, so they understand what hazards are found in the workplace and how to avoid them.	• Requiring safety training for all workers. • Providing each employee with a written safety manual. • Giving copies of Material Safety Data Sheets to workers. These sheets give hazard information about chemicals that workers may be using. • Notifying an employer when equipment is not functioning properly. • Establishing a safety committee which includes workers.

Hazard Prevention Worksheet

The following are examples of ways the ABC's of prevention may be used to prevent injuries or illnesses from different hazards.

Hazard	Administration	Building Barriers	Communication
Heavy Boxes	1. Require heavy boxes to be stored on middle shelves. 2. Limit the amount of weight a person is allowed to carry.	1. Store boxes close to where they need to be carried. 2. Move heavy boxes with a forklift. 3. Replace heavy boxes with smaller, lighter boxes.	1. Train workers to carry heavy objects correctly.
Cash Register	1. Require at least two employees to be in the store at all times.	1. Install bulletproof glass around the cash register. 2. Store most of the money in a safe, for which only security (and not even the manager) knows the combination.	1. Show workers how to transfer money from the cash register to a safe. 2. Teach workers what to do in emergencies.
Cleaning Products	1. Develop cleaning procedures that protect the worker.	1. Use the least toxic cleaning products possible. 2. Use protective equipment (e.g., gloves, mask). 3. Store cleaning products in a cabinet away from workers.	1. Train employees to use cleaning products correctly.
Lawn-mower	1. Set procedures for using the mower.	1. Use machines that automatically turn off when the handle grip is released. 2. Install guards on all rotating equipment, with which employees may come into contact. 3. Provide protective equipment (e.g., steel-toed shoes, earplugs, gloves).	1. Train employees to recognize and avoid unsafe conditions associated with operating lawn mowers.
Indoor Paint	1. Rotate work whenever possible, so workers spend less time around toxic fumes. 2. Require workers to take breaks.	1. Open windows and doors to allow ventilation. 2. Use the least toxic paints possible. 3. Provide protective equipment (e.g., respirators).	1. Train workers to work with paints in the safest way possible.

Hazard Prevention Worksheet (continued)

Hazard	Administration	Building Barriers	Communication
Outdoor Work	1. Provide shaded rest areas. 2. Rotate workers to minimize exposure to sun.	1. Wear protective creams to avoid exposure to ultraviolet light. 2. Wear broad-brimmed hats that shade head, neck, face, and ears. 3. Provide drinking water.	1. Teach workers about the hazards associated with sun exposure.
Deep Fryer	1. Require employees to allow oil to cool before cleaning the fryer. 2. Require employee training before use.	1. Set up shields, so workers do not come into contact with splattered hot oil. 2. Provide protective equipment for workers. 3. Purchase a fryer that is easier to use and clean.	1. Train workers to properly use and clean the fryer.
Human Infections	1. Require workers to wash their hands after contacting contaminated materials. 2. Set up procedures for proper disposal of contaminated materials.	1. Use needles that do not require recapping. 2. Provide protective equipment (e.g., gloves, masks). 3. Provide infectious waste containers. 4. Provide clothing different from regular street clothes. 5. Provide proper ventilation and disinfection of work areas.	1. Train workers to properly work with infected persons and waste products.
Power Auger	1. Require use of safety guards whenever the machine is operated. 2. Set up procedures for proper use of a power auger.	1. Provide protective guards on the power auger. 2. Set controls at a distance from the power auger. 3. Set up controls so a person has to use both hands to start the auger.	1. Train workers to properly use the auger.

Material Safety Data Sheet

24 Hour Emergency Telephone:
ACME Chemical: 1-800-XXX-XXXX

Ammonia Solution, Strong

MSDS Number: A5472 --- Effective Date: 10/01/97

1. Product Identification

Synonyms: Ammonia Aqueous; Aqua Ammonia.
CAS No.: Not applicable to mixtures.
Molecular Weight: Not applicable to mixtures.
Chemical Formula: Not applicable to mixtures.
Product Codes: 9724, 9726

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2. Composition/Information on Ingredients

Ingredient	CAS No.	Percent	Hazardous
Ammonia	7664-41-7	27 - 31%	Yes
Water	7732-18-5	69 - 73%	No

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3. Hazards Identification

Emergency Overview
POISON! DANGER! CORROSIVE ALKALINE SOLUTION. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.

J. T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)
Flammability Rating: 1 - Slight
Reactivity Rating: 2 - Moderate
Contact Rating: 3 - Severe (Corrosive)
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: White Stripe (Store Separately)

Potential Health Effects

Ammonia is very alkaline and reacts corrosively with all body tissues.

Inhalation:

Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Inhalation may be fatal as a result of

spasm inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Ingestion:

Corrosive. Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, diarrhea.

Skin Contact:

Dermal contact with alkaline corrosives may produce pain, redness, severe irritation or full thickness burns. May be absorbed through the skin with possible systemic effects.

Eye Contact:

Corrosive. Can cause blurred vision, redness, pain, severe tissue burns and eye damage. Eye exposure may result in temporary or permanent blindness.

Chronic Exposure:

Prolonged or repeated skin exposure may cause dermatitis. Prolonged or repeated exposure may cause eye, liver, kidney, or lung damage.

Aggravation of Pre-existing Conditions:

No information found.

---

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:

DO NOT induce emesis, perform gastric lavage or attempt neutralization after ingestion. Dilution with milk or water may be of benefit. Endoscopic evaluation may be required.

(Material Safety Data Sheet, continued)

5. Exposure Controls/Personal Protection

Airborne Exposure Limits:
For Ammonia:
—OSHA Permissible Exposure Limit (PEL) - 50 ppm (TWA)
—ACGIH Threshold Limit Value (TLV) - 25 ppm (TWA), 35 ppm (STEL).

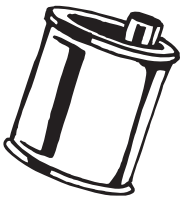
Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded, a full facepiece respirator with an ammonia/methylamine cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Material Safety Data Sheet Questions and Key



1. What chemical is this MSDS for?

   Strong Ammonia Solution
   This chemical is common ammonia cleaner found in most grocery stores.

2. What are the ingredients that make up this chemical?

   Ammonia and water

3. What "warning words" would you find on the chemical's label (see Section 3 of the MSDS)?

   POISON! DANGER! CORROSIVE ALKALINE SOLUTION. CAUSES BURNS TO ANY AREA OF CONTACT. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.

4. Is this chemical . . . (Fill in the words listed in the MSDS Section 3)

   Flammable: *slightly*
   Corrosive: *severely*
   Reactive when mixed with other chemicals: *moderately*

5. What protective equipment should you wear when using this chemical?

   Goggles and shield; lab coat & apron; vent hood; proper gloves

6. What would happen to you if you ingested this chemical?

   Swallowing could cause severe burns of the mouth, throat, and stomach, leading to death. Ingestion could also cause sore throat, vomiting, and diarrhea.

7. What would happen if this chemical came into contact with your skin or eyes?

   May produce pain, redness, severe irritation or full thickness burns. May be absorbed through the skin with possible systemic effects. May cause blurred vision, redness, pain, severe tissue burns and eye damage. Eye exposure may result in temporary or permanent blindness.

8. What would happen to you if you were exposed to this chemical over a long period of time (chronic exposure)?

   Prolonged exposure may cause dermatitis. Prolonged or repeated exposure may also cause eye, liver, kidney, or lung damage.

9. What are some first aid measures you should take if the chemical is inhaled?

   Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

10. What do you think is the purpose of a MSDS?

LESSON 4

Applying Prevention Strategies in the Workplace - Part I

Description:

Students create workplace safety plans for simulated work environments. The plans include hazard maps and safety action plans.

Learner Outcomes:

Students will be able to do the following:

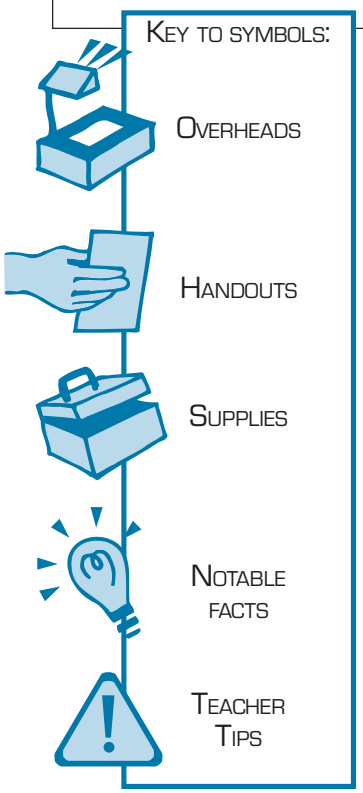
1. Identify hazards within a workplace environment.
2. Select appropriate prevention strategies to address workplace hazards.
3. Create a plan by prioritizing the order in which these prevention strategies will be implemented.
4. Demonstrate a positive problem-solving attitude toward workplace hazards.
5. Perceive that they can personally take steps to make a workplace safer.

Key Concepts:

1. Each workplace has potential hazards (physical, chemical, biological) that should be identified.
2. Each person can take proactive steps to prevent injuries or illnesses in his or her workplace.
3. Once prevention strategies are identified, they can be used to make the workplace safer.

Fact:

In 1996, workplace injuries and illnesses cost the nation $121 billion. These costs included losses in wages and productivity, medical costs, and administrative expenses. During that year, workers lost 125 million hours due to injuries.[1]



Materials Needed:

- ❑ Overhead 4.1
- ❑ "Safety Team Assignment" sheet
- ❑ Workplace scenario descriptions and maps (one copy for each student assigned that workplace)
- ❑ One set of overheads of workplace maps for each class
- ❑ Overhead markers
- ❑ Chalkboard or easel
- ❑ "Teacher's Key: Hazard Checklists for Workplace Scenarios"
- ❑ "Workplace Safety Action Plan" sheet
- ❑ "ABC Prevention Strategies" fact sheet from Lesson 3

Preparation Needed:

1. Make copies of the workplace scenario description and map for each workplace (each student in a group should get both the description and the map of their workplace).
2. Photocopy a set of overheads by copying each workplace map onto a blank overhead. Make one set for every class.
3. Make copies of the "Safety Team Assignment" sheet (one per student).
4. Make copies of the "Workplace Safety Action Plan" sheet (copies for each group of students).
5. Set up the overhead projector and overhead.
6. Be sure students bring their fact sheets from past lessons to class or provide class copies of the fact sheets.

Directions:

Note: This activity may take longer than 50 minutes. You may want to extend it over a two-day period or assign parts of it as a take-home assignment.

Safety Team Assignments (10 minutes)

1. Explain:
   In the last three class sessions, we have been talking about workplace hazards, injuries or illnesses those hazards may cause, and ways to prevent injuries and illnesses. During the next two sessions, we are going to have the opportunity to apply all we have learned.

2. Explain:
   In some companies, a safety team of employees is assigned to review the work and layout of the company for any potential hazards. Once the hazards have been identified, the safety team develops a safety action plan designed to make the workplace safer. The company then implements this plan to promote safety and health in the workplace. The plan may also save the company money by decreasing injuries and keeping production at high levels.

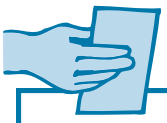
   We are going to work through a similar process. Each of you is going to work on a safety team to analyze a business or workplace setting and come up with a safety action plan.

During this class, you will be mapping the hazards in your workplaces, developing prevention plans for those hazards, and preparing to present your plans to your employers. Your fellow students will act as employers, during our next class session.

3. Divide students into groups of four. You may want to divide the students into groups based on their interest in or knowledge of the specific work environments. Give each student a copy of the "Safety Team Assignment" sheet. Students may read along as you give the instructions for this project, or the sheet may be distributed to the students once they are in their small groups.

4. Give each person on a team a workplace scenario description and map for one business. Also give each team the overhead map for their business or workplace and an overhead marker. Have each person silently read the description of their workplace.

5. When the students are done, say:
   Team members are all employees of the same company and are developing the plan at work.



WORKPLACE SCENARIO DESCRIPTIONS AND MAPS

"SAFETY TEAM ASSIGNMENT"

APPROPRIATE OVERHEAD MAP

OVERHEAD MARKER

Mapping The Hazards (20 minutes)

1. Explain:
   The first step is to identify the potential hazards in this workplace. The map you have gives you a basic layout of the work area. From this map, identify the hazards there. Write these hazards on your overhead map using the overhead marker.

   Have groups assign one person to write these hazards on the overhead map. The rest of the group members can study their individual paper copy of the map to brainstorm ideas.

   The person writing on the overhead should write clearly. Groups will be presenting this version of their map to the rest of the class, so it should be easy to read.

2. Say:
   Label the different types of hazards using the following code:
   - **P** to show physical hazards.
   - **C** to show chemical hazards.
   - **B** to show biological hazards.

   You may want to write these codes on the chalkboard or easel.

3. Explain:
   Remember to include hazards that could cause injuries or

In most cases, the best preventions require a change in the workplace, not a change in worker behavior.

OVERHEAD 4.1

illnesses right away and those that could cause injuries or illnesses later in life.

If you are not sure what the hazards are, make your best guess based on what you know about the types of hazards and this type of workplace. Use your fact sheets from past classes as a guide. Carefully read the description of your workplace and look at the workplace map.

The quality of your safety action plans will be determined by how thoroughly you analyze your workplace. You also will be presenting your plans to the rest of the class next session, so the map should clearly identify as many hazards as possible.

4. Allow teams about 15 minutes to identify the hazards in their worksite. Make sure they do not rush through this part of the project, even though they may have created hazard maps before.

Developing the Prevention Plan (20 minutes)

1. Explain:
   Now that you have identified the hazards in your workplace, you need to develop plans to prevent injuries or illnesses that could be caused by these hazards. We will use a "Workplace Safety Action Plan" to complete this step.

2. Show Overhead 4.1 as an example of a completed "Workplace Safety Action Plan." Read through the completed form using the following narrative, so students get an idea of how to fill it out:

   First write the name of your company or organization at the top of the sheet. Then fill in the left-hand column with the hazards you identified. You should have only one hazard in each row. You will be filling in more than one sheet.

   Then, using the ABC formula (Administration, Building Barriers, Communication), identify possible prevention steps for each hazard. Try to identify two or three preventative steps for each ABC category. Write them in the space provided.

FACT SHEETS

"WORKPLACE SAFETY ACTION PLAN" FORM

Fill out "Workplace Safety Action Plan" forms for **at least four** of the hazards you identified on your map (one hazard per group member).

Possible hazards and corresponding prevention strategies have been included with each scenario. These checklists are only for the teacher's use in grading student projects.

5. When groups are done listing prevention strategies, ask:
   How do you decide which prevention strategies to use? In most cases, the best preventions are those that require a change in the workplace, not a change in worker behavior. In most cases, changing the workplace will involve building barriers of some type.

TEACHER TIP:

You may want students to debate and then vote on which hazards to address first.

6. Explain:
   After you have filled in forms for a number of hazards, decide as a group which two hazards you will address first. Which hazards seem the most serious? Write a paragraph describing the two hazards and why you chose to address them first. Also describe which prevention strategy you will use for each hazard and why. Thoroughly explain your choices.

7. Explain:
   You have been requested by your employers to produce top notch safety plans and present the plans to them during our next class session. Your safety action plans and presentations will be graded on the following criteria:

   a. You demonstrate that you followed a clear decision-making process.

   b. Your plan and presentation are well-organized.

   c. Your plan and presentation are thorough.

   d. You demonstrate creativity by, for example, coming up with unique solutions.

8. Save some time at the end of the class period to prepare for next session's presentation. The "Safety Team Assignment" sheet has a detailed description of what is to be included in the presentations. Here are some main points to go over with the class:

   Each team should follow these presentation guidelines:

   a. Each team will have approximately five minutes to present their plan.

   b. The presentation should include information about the workplace.

   c. Select up to four hazards and describe the safety action plan for those four hazards.

   d. Each person in the group should have a speaking role in the presentation. Perhaps each team member could describe the safety plan for one hazard.

   e. The presentation should include some visuals, such as the hazard maps, and any other creative techniques the team may come up with to make their presentation interesting.

   f. Teams will be graded on the product they turn in (their map, "Workplace Safety Action Plan" forms, and two-paragraph narrative) as well as the presentation they give.

9. Before class is over, have students check off tasks on their "Performance Criteria and Checklist."

Taking It Home:

Have students finish preparations for their presentations, if they did not get them done in class.

Footnote:

[1] National Safety Council. Accident Facts. Itasca, IL: 1997 Edition.

Overhead 4.1

Workplace Safety Action Plan (Example)

Company/Organization Name:_____

Hazard	Administration	Building Barriers	Communication
Cleaning Products	1. Require workers to wear rubber gloves when cleaning.	1. Use the least toxic cleaning products available. 2. Use protective equipment (e.g., gloves, mask). 3. Store cleaning products in locked cabinets away from workers.	1. Train employees to use cleaning products correctly. 2. Give copies of Material Safety Data Sheets to workers.
Walk-in Freezer (Confined Space, Cold)	1. Require workers to inform another employee before entering the freezer area.	1. Install a two-way lock to prevent employees from becoming trapped inside the freezer. 2. Install an emergency call button in the freezer that rings throughout the store. 3. Have winter coats, gloves, and hats available outside of the freezer for workers to wear while working in the freezer area.	1. Provide safety training to workers regarding dangers of freezer area. 2. Post visible safety reminder signs on the outside of the freezer.
Meat slicer	1. Require training in the use of the meat slicer prior to working in the deli. 2. Require use of a guard whenever meat slicer is in operation.	1. Install machine guards or shields on the meat slicer.	1. Train employers to use the slicer and knives properly. 2. Provide ongoing supervision to spot-check safety techniques.
Heavy Loads	1. Establish a weight limit that can be lifted by workers. 2. Rotate workers between stocking and other jobs that don't require lifting.	1. Use carts and lifting aids for heavy boxes. 2. Lift boxes with the help of a coworker.	1. Train employees in safe lifting techniques.

Name: _____ Class Period: _____

Workplace Safety Action Plan

Company/Organization Name:_____

Hazard	Administration	Building Barriers	Communication

Safety Team Assignment

1. Read through the description of your business or workplace.

2. Identify all the possible hazards in your workplace using the description and map.

3. Write these hazards on the overhead map using an overhead marker. Write clearly, so the whole class will be able to read your writing.

4. Label the different types of hazards using this code:

   P to show physical hazards
   C to show chemical hazards
   B to show biological hazards

5. Fill out at least one "Workplace Safety Action Plan" form.
   a. List one hazard in each box in the left-hand column.
   b. Brainstorm at least two prevention strategies for this hazard in each of the three categories—**A**dministration, **B**uilding barriers, and **C**ommunication.

6. For each hazard, decide which prevention strategy you will use. Building barriers is usually the best choice.

7. Decide which two hazards seem the most serious. You will want the company to take care of these hazards first.

8. As a group, write a paragraph describing these two hazards and why you chose to take care of them first. Explain your choices thoroughly.

9. Plan a five minute presentation of your "Workplace Safety Action Plan" and map. You will be graded on the following:
   a. Your plan demonstrates a clear decision-making process.
   b. Your plan and presentation are well-organized.
   c. Your plan and presentation are thorough.
   d. Your group demonstrates creativity in finding unique solutions.

10. Your group presentation should include the following:
    a. Description of the workplace.
    b. Description of the major hazards found in this workplace.
    c. Description, by each group member, of one hazard and the prevention strategies the group came up with for that hazard.
    d. Description of which hazards your group is going to take care of first and why you chose those hazards.

Green Thumb Landscaping

Green Thumb Landscaping is a medium-sized, family-owned, landscape business that employs ten workers. They specialize in landscaping local businesses and expensive homes. Until recently, family members have handled all the work. Now they are starting to hire outside help and feel the need to make safety precautions clear to all workers. The company is concerned about the welfare of their workers, as well as the welfare of its clients. Green Thumb Landscaping would like you to develop a safety action plan for their company.

Much of Green Thumb Landscaping's work involves the use of vehicles such as forklifts, small dozers, skid loaders, pickup trucks and trailers, and other light duty vehicles. Power equipment and tools that are used include lawn mowers and trimming equipment, tillers, chain saws, and other carpentry power tools. Hand tools used include lopping sheers, wheelbarrows and pushcarts, shovels, rakes, post hole diggers, and ladders.

Workers are involved in all of these tasks:

Preparing lawn areas—Prior to laying sod, black dirt is hauled in and spread with a skid steer loader and small dozer. Shovels and rakes are also used.

Removing trees—Trees need to be cut down and removed. Chain saws and other trimming equipment are used. All debris is loaded onto a trailer and hauled away.

Planting shrubs and flower beds—Designated areas need to have shrubs and flowers planted. Digging of holes and preparation of soil is necessary. Proper fertilizers and pesticides need to be applied.

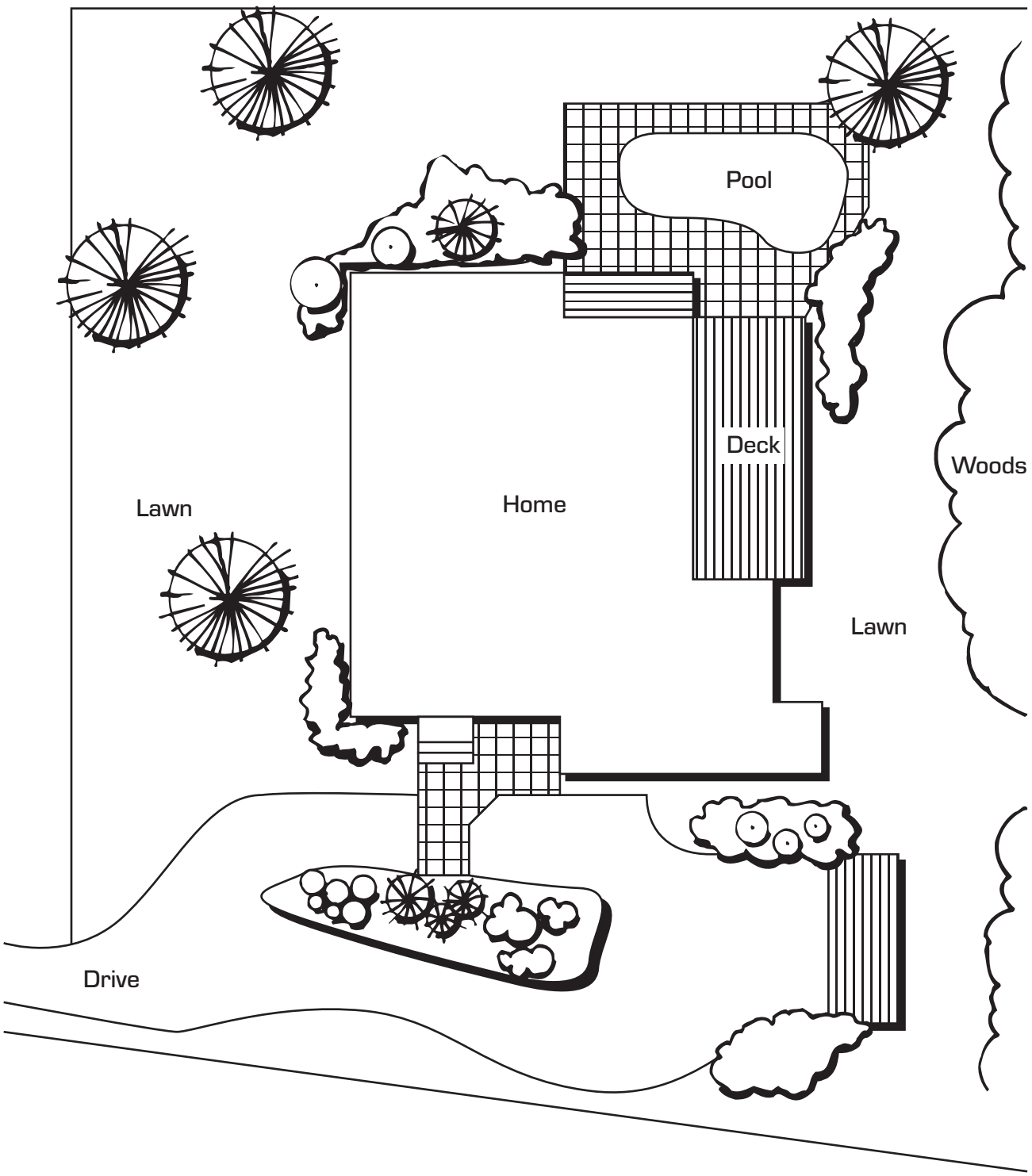
Building retaining walls—Areas need to be prepared for retaining walls by placing and installing timbers. Power drills, saws, and other related equipment are needed to complete these tasks.

Paving stone patios—Patio areas need to be prepared and paving brick installed. Sand needs to be hauled in with a truck and trailer. Leveling is accomplished with other hand tools.

Note: There are many jobs that are illegal for teens to do. It is illegal for employers to make teens do some of the tasks listed above.

Next Overhead

Workplace Scenario Map—Green Thumb Landscaping



Burger Express

Burger Express is a chain of fast food restaurants. Five years ago, the first restaurant opened. Today there are twenty, and the chain is growing at a rate of one new restaurant a month. The stores are very busy from the time they open at 11:00 a.m. until 11:00 p.m. The restaurants close at 1:00 a.m.

The menu consists of hamburgers, roast beef and chicken sandwiches, and salads. French fries or onion rings are included with every sandwich. All the meats and vegetables are chopped and prepared in the restaurant. The vegetables and meats are restocked from boxes in the freezer/refrigerator. Clean-up begins at 11:00 p.m., when the floors, bathrooms, and all non-cooking surfaces are cleaned. The deep fryer is also turned off at closing and immediately emptied, so it can be filled with fresh oil the next morning. One person remains after 1:00 a.m. to close out the register.

An employee usually works at one job for the entire shift. Employees receive thirty minutes of training on that particular job when they are hired. However, when someone calls in sick or there is a backup in one of the work areas, an employee may be asked to work at another station on the spur of the moment. Not many procedures are set for clean-up during the day. Workers do what they have time to do during slow periods.

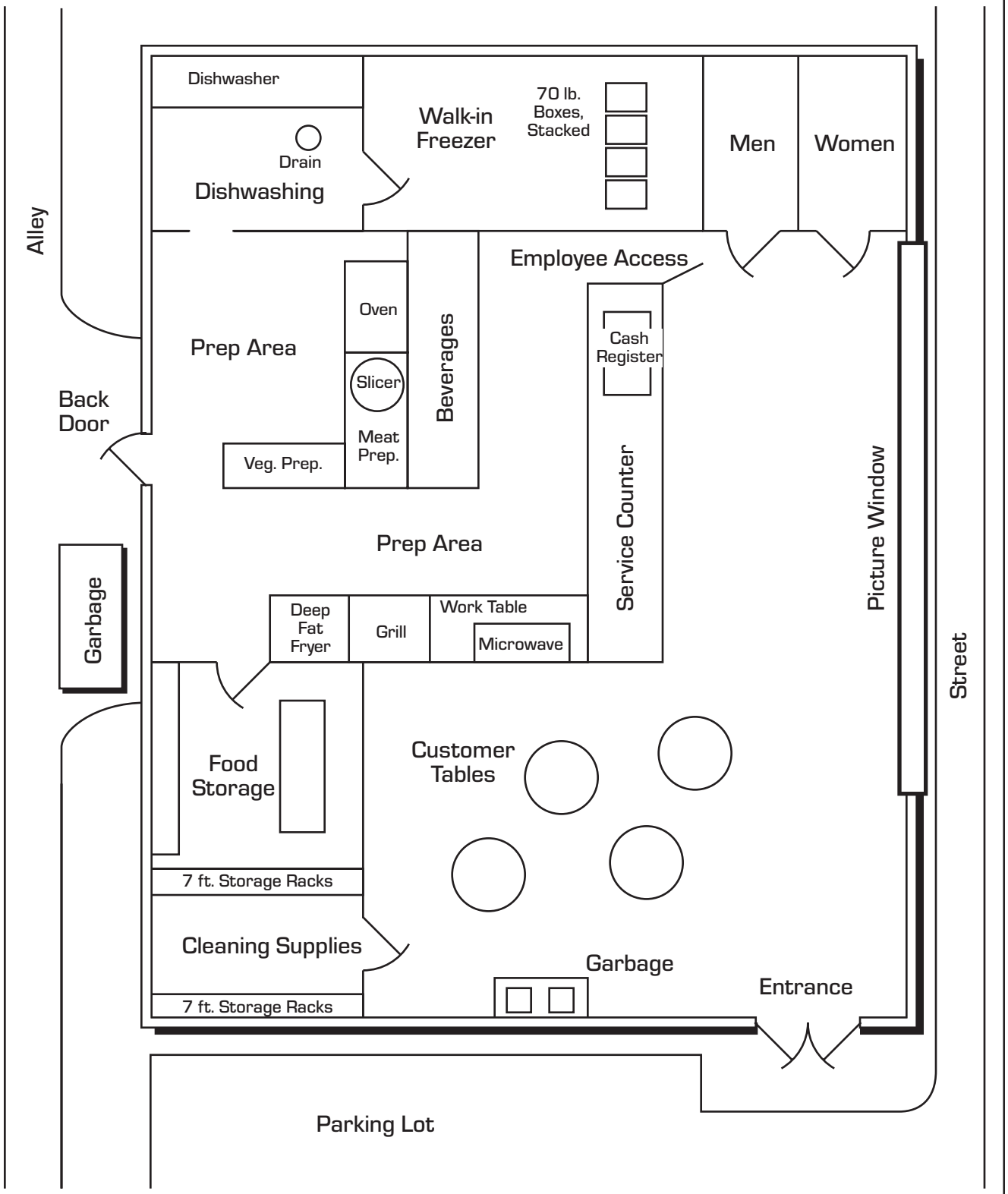
Recently, Burger Express has had a number of worker injuries. Many of them have been minor, such as bruises from slipping on the floor by the deep fryer and soda machines. The company recognizes the potential for more serious injuries, however, as the business expands and more employees are hired.

Due to the fast growth, the owners have not had time to put a safety action plan together for their restaurants. Each restaurant is built exactly the same, so a single plan will work at all restaurants. They are interested in safety ideas related to the design of the building and work procedures.

Note: There are many jobs that are illegal for teens to do. It is illegal for employers to make teens do some of the tasks listed above.

Next Overhead

Workplace Scenario Map—Burger Express



DairyLand Dairy Farms

DairyLand Dairy Farms is a large dairy operation. They have just built a new barn west of town. The building will house 300 cows and is equipped with milking equipment, a small veterinary office with some basic medical supplies, an automated feeding system, and an earthen storage basin.

The facility has eight staff people working in rotating shifts. The four main jobs on the farm are milker, barn manager, feeder, and herd manager.

The milker is in charge of milking the cows in the parlor. When the cows walk into the parlor, they step onto a rotating platform. The milker stands down in a pit, from which he or she can put the milking units onto the cows. Most of the milkers have to reach in order to put the milking units on the cows. It takes approximately four hours to milk the 300 cows.

The milker then has to wash down the parlor with a sprayer and clean the pipeline using an automatic washer. It is the milker's responsibility to put the chemicals in the automatic washer. The chemicals come in 100-gallon drums. The milker adds the chemical to the automatic washer by dipping a hand-held cup into the drum.

The barn manager's responsibility is to move cows from their pens to the holding area for milking and then back to their pens. The barn manager also moves the manure to the earthen lagoon.

The feeder's job is to mix the feed using a tractor and auger wagon. The mix may consist of haylage, silage, cottonseed, and corn. After the feed is mixed, it is put into the feed alley using the tractor and auger wagon. The feed is mixed twice a day. The feeder also pushes up the feed using a bobcat.

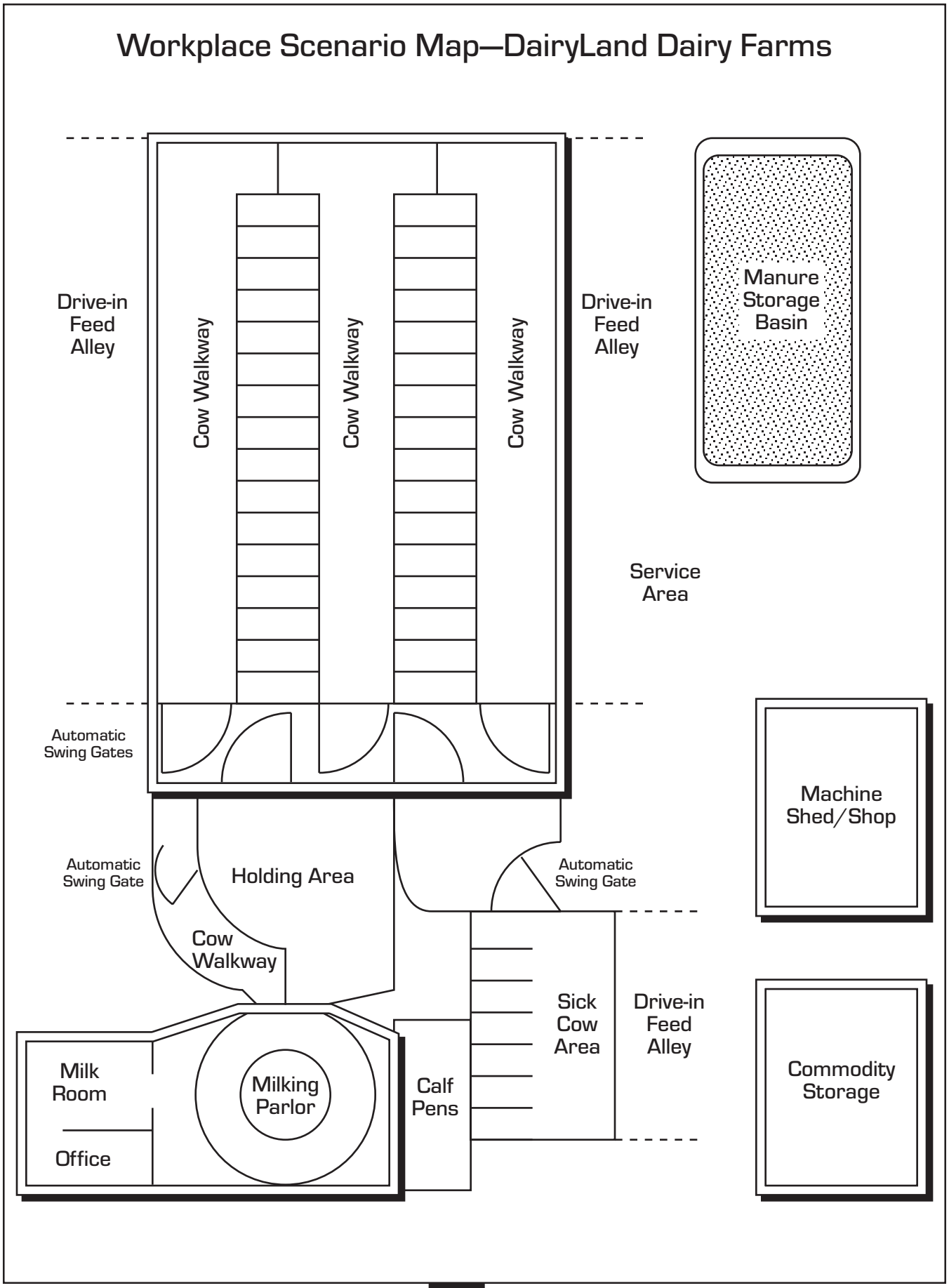
The herd manager is responsible for the care of the herd, including any health care. He or she may treat cows for various ailments using syringes, needles, and pill givers that are inserted down the animals' throats. The herd manager also assists animals when they are calving and treats sick calves.

DairyLand Dairy Farms is often short of help on the weekends, so workers often work shifts that are longer than eight hours. The earthen storage basin does not have a fence around it, and several animals have fallen into it. DairyLand Dairy Farms wants you to develop a safety action plan for this new facility. They want safety measures to be in place within three months.

Note: There are many jobs that are illegal for teens to do. It is illegal for employers to make teens do some of the tasks listed above.

Next Overhead

Workplace Scenario Map—DairyLand Dairy Farms



Pleasant Meadow Nursing Home

Pleasant Meadow Nursing Home is a 100-bed facility for acute and long-term care. The facility provides recreation, social programs, and rehabilitation for all residents. It also provides physical therapy and treatment for patients recovering from hospitalizations.

A majority of the nursing home's certified nursing assistants are still attending high school. The students generally work the late afternoon or early evening shifts. Each nursing assistant is usually responsible for 8 to 10 patients. The assistant's duties are to provide direct patient care, such as grooming, helping people to the bathroom, dressing, feeding, and lifting, and to transfer patients to and from their beds and wheelchairs.

The high school nursing assistants sometimes work from 6 p.m. to 1 a.m. Staff shortages are common, which means the caseload could jump to 14 or 15 patients per assistant. The typical patient is bedridden and requires two people to transfer him or her from bed to chair. The nursing home also receives patients who are recovering from surgery. These patients require more nursing time.

Patients commonly have behavior problems such as biting, kicking, scratching, hitting, swearing, or sexual harassment.

The nursing assistants use transfer belts to move patients from bed to chair. The mechanical lift is not available due to needed repairs.

Patients usually take afternoon naps. Often the nursing assistants find patients incontinent. The linen carts are often depleted by the afternoon, so the nursing assistants have to walk down the hall to obtain new linen and dispose of soiled linen. If the patient needs a shower to finish cleaning, the assistants must take the patient to the shower room. The shower room is small, and the floor is slippery when wet.

Nursing assistants also help feed patients in the dining room. Feeding is time-consuming and often very frustrating. The nearest handwashing facility in the dining room is in the hallway. It is difficult to wash hands between patients in the dining room.

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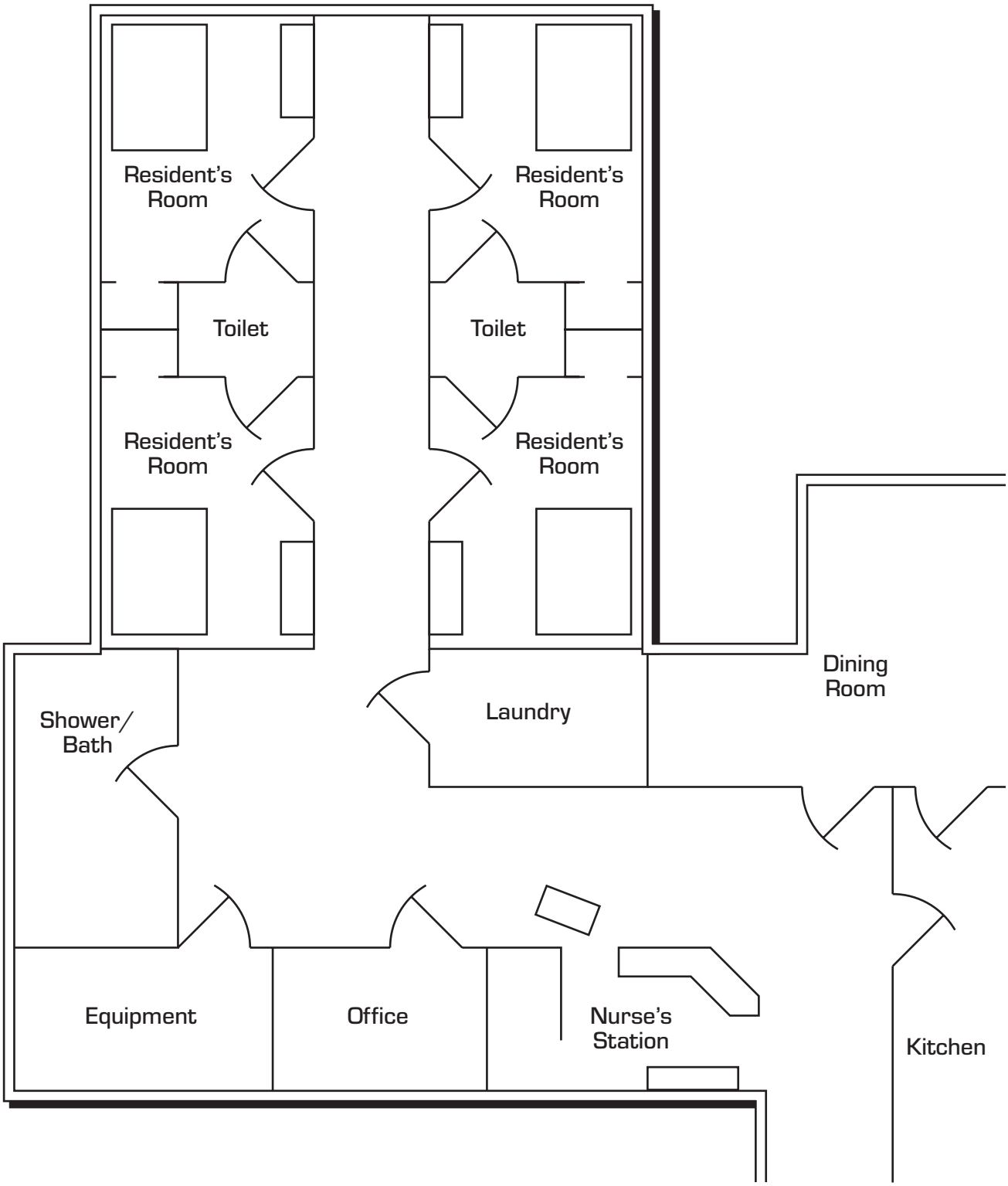
Next Overhead

Workplace Scenario Map—Pleasant Meadow Nursing Home



Prairie View Meat Processors

Prairie View Meat Processors is a large processor of beef, pork, lamb, venison, ostrich, and buffalo meat for direct customer order and over-the-counter sales.

The company handles all aspects of processing, from receiving live animals to packaging the meats for direct shipment to larger supermarkets or sale at the plant. Some steps in the process include handling the live animals, killing the animals, cutting the carcasses into retail cuts, using a smoker to flavor some cuts, packaging the product, stacking and sorting packages, and selling and delivering meats to stores and customers.

The company would like to set up a safety plan for workers. A major concern is that English is not the first language for many workers.

The demand for processed meats is great, and workers are required to work rapidly for long periods of time. Some workers must handle the livestock. Once the animals are killed, the meat is cut up using meat-cutting machines and knives.

The meat is wrapped and sealed in plastic using hot machinery. The processed meats are then carried in large boxes to walk-in freezers for storage. Once sufficiently frozen, they are loaded onto refrigerated trucks.

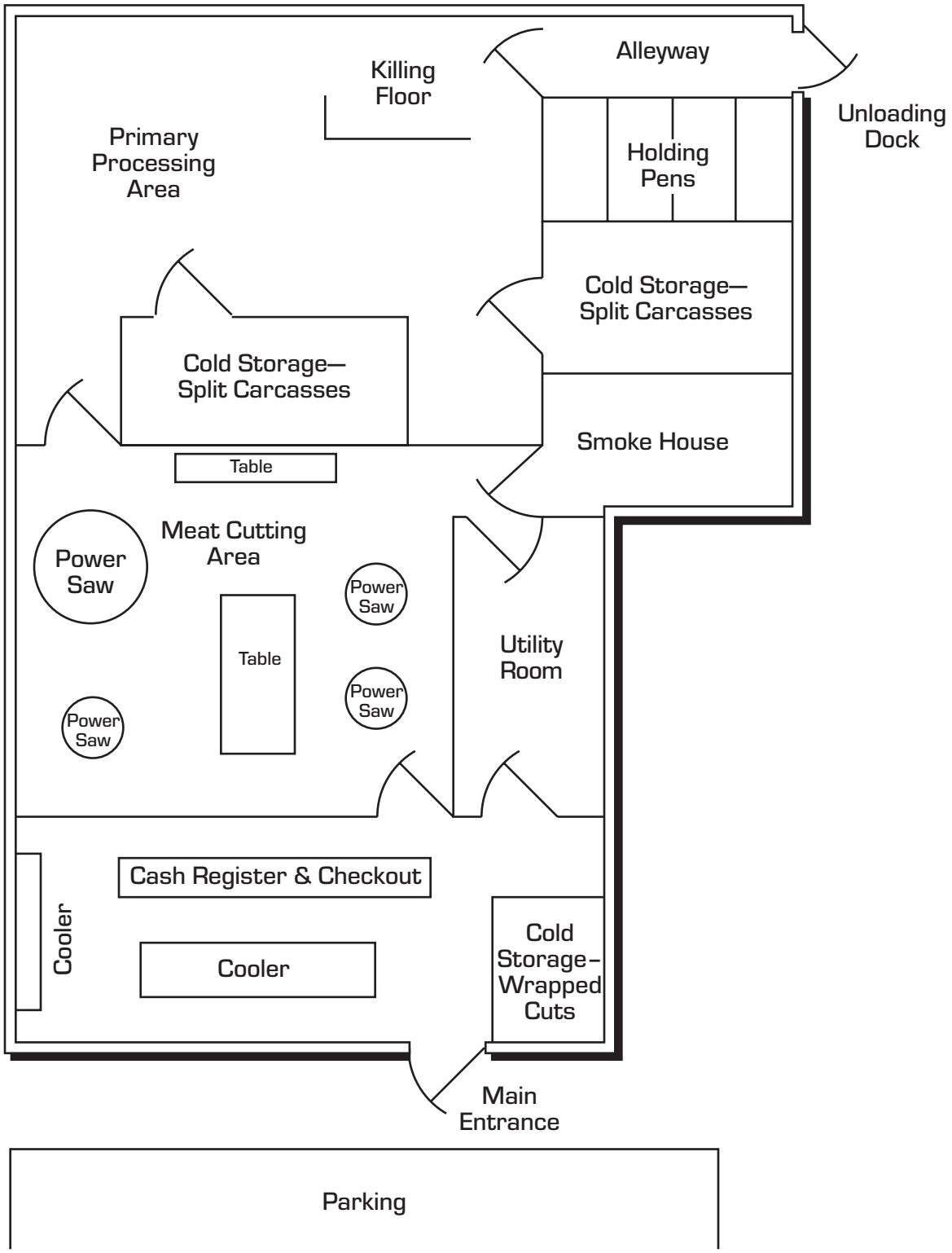
Workers have been complaining that the environment is noisy due to the many meat-cutting machines running in close proximity to each other. Slippery floors are another concern, since fat from the meat falls onto the floors.

The company is looking for your help to address these or other concerns that may be uncovered during the development of a safety action plan.

Note: There are many jobs that are illegal for teens to do. It is illegal for employers to make teens do some of the tasks listed above.

Next Overhead

Workplace Scenario Map—Prairie View Meat Processors



Washington High School

Washington High School has had teens working as janitors for over ten years. Recently, a number of student workers have been injured. School staff would like to set up safety precautions and procedures to eliminate further injuries. They have requested your help in setting up a safety action plan.

The areas of the school in which most injuries have occurred are as follows:

Science Lab: The science lab is used to teach a variety of science courses, including biology and chemistry. Some of the hazards that need to be addressed in this area include the storage and disposal of chemicals, the keeping of live animals, and the storage of sharp objects, such as scalpels.

Cafeteria Kitchen: The kitchen prepares and serves meals to the student body. Hazards to be addressed in this area include cleaning products, heavy boxes on high shelves, a walk-in freezer, sharp objects such as knives and meat slicers, and slippery floors.

Boiler Room: The boiler furnace and main offices for the janitors are located in this room. Hazards in this area include metal steps, hot objects (such as the boiler itself), slippery floors, and electrical shock, as the school power lines enter the building in this area. Dust and some asbestos might also be found in this area.

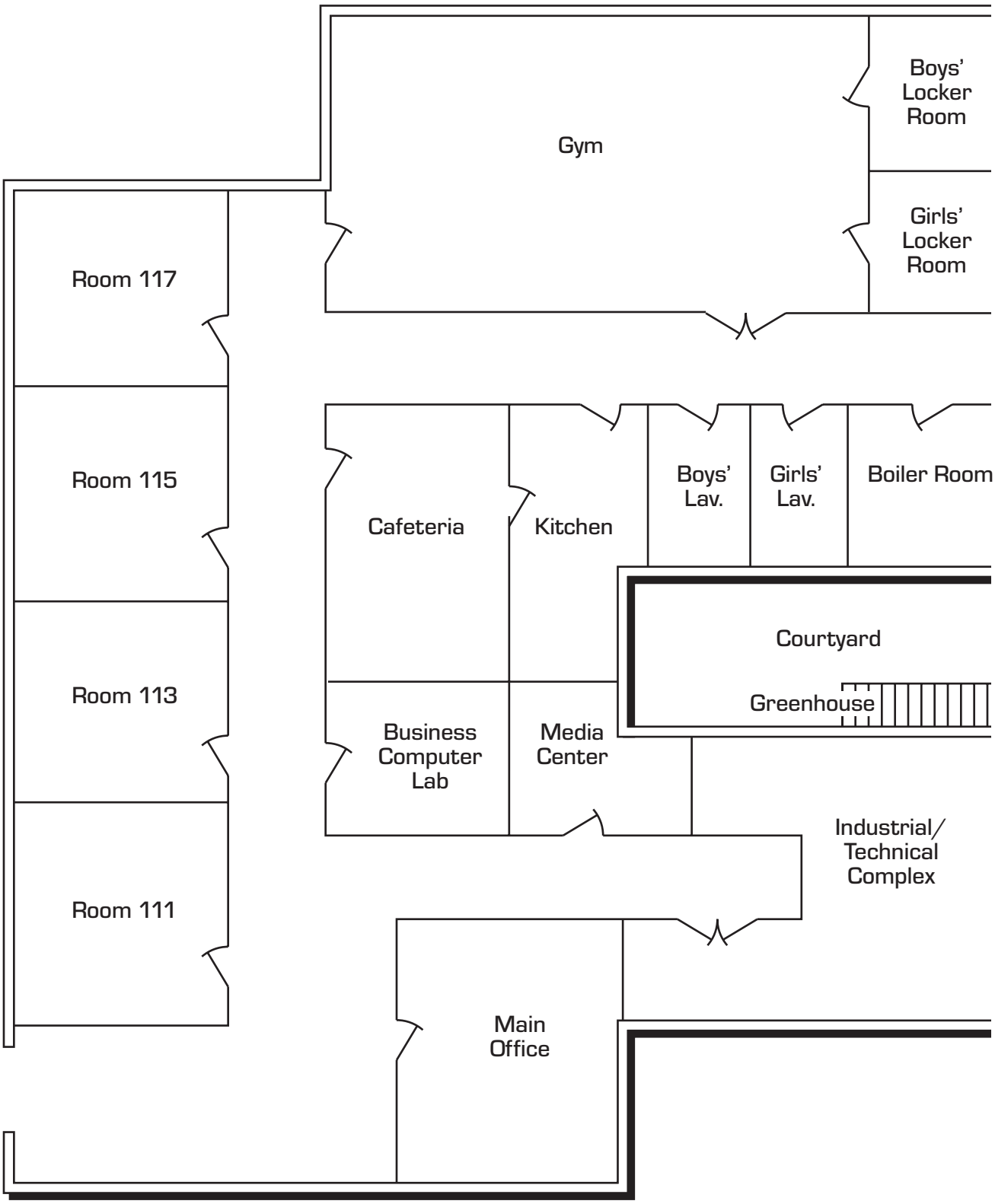
Locker Rooms: Cleaning the locker rooms involves working around chemicals, slippery floors, hot water, and bacterial matter. The janitors may also contact bloody objects that have not been disposed of properly.

Technical Education Room: This room contains a lot of chemicals and power tools (such as saws and welders).

Note: There are many jobs that are illegal for teens to do. It is illegal for employers to make teens do some of the tasks listed above.

Next Overhead

Workplace Scenario Map—Washington High School



Quick-Stop Convenience Store

Quick-Stop Convenience Store is a service station, grocery store, and deli under one roof. The station offers basic car service, such as gas pumping, oil changes, tire rotation, tune-ups, and simple repairs. In addition, there is an automatic car wash.

The grocery store and deli offer a variety of food products. Quick-Stop hires a number of high school students to work as clerks in the grocery store/deli and as assistants in the auto service center.

Employees in the grocery store/deli are responsible for food preparation, including slicing deli meats and cheeses, filling hot display racks with pizzas and egg rolls, and restocking shelves and coolers. Restocking involves lifting and carrying boxes to and from the storage room and freezer/refrigerator.

The grocery store/deli portion of the business is open 24 hours a day. Usually, only one or two people are working in the store in the evenings. Employees clean during the evenings when store traffic is low. Usually, no adult employees are in the store at this time.

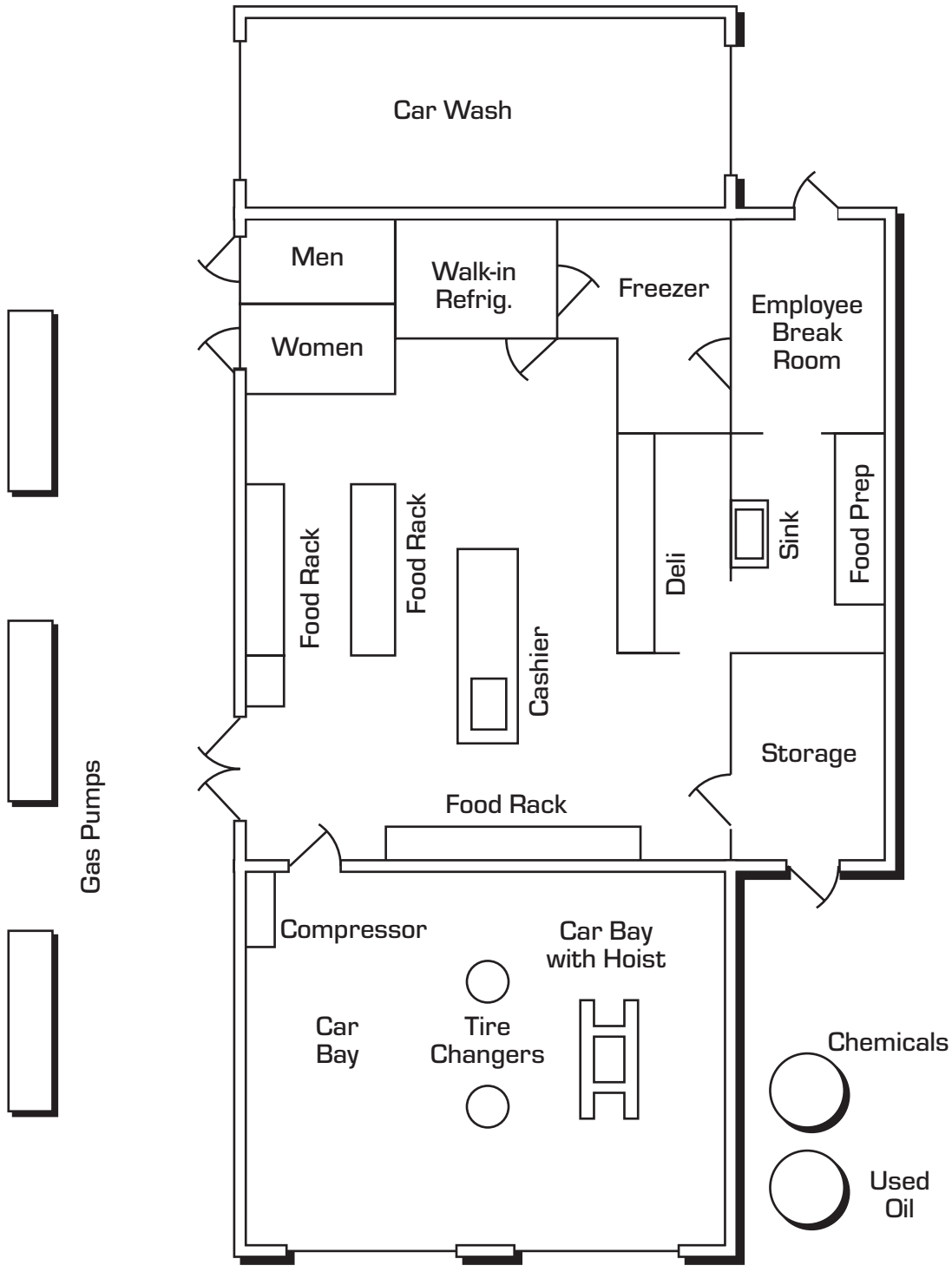
High school employees who work in the auto service center help with general auto maintenance. They are often asked to help raise cars using the hoist. When the cars are elevated, an open bay which is about six feet deep, is exposed beneath the car. Employees are asked to carry auto wastes and chemicals to storage bins out back.

Some customers have complained about the noise in the building. Several workers have complained of injuries due to lifting objects and slipping on floors. During the winter, air quality is an issue, since the service center is attached to the grocery store and the gas pumps are only eight feet from the doors.

The owners are planning to build a new store in a nearby town, and they want to address all safety concerns in the existing store before they build a new one. The owners are looking for your help in developing a safety plan for their existing store and service center.

Note: There are many jobs that are illegal for teens to do. It is illegal for employers to make teens do some of the tasks listed above.

Workplace Scenario Map—Quick-Stop Convenience Store



Teacher's Key: Hazard Checklists for Workplace Scenarios

FOR TEACHER USE ONLY

Prevention examples are listed after each possible hazard.

Green Thumb Landscaping

PHYSICAL HAZARDS

Working around heavy machinery.
Install warning device that beeps when equipment is backing up.
Train staff to use equipment properly.
Require employees to wear bright-colored clothing.

Heavy lifting.
Provide machinery to lift bags of sand.
Buy smaller, lighter bags of sand.
Train staff in proper lifting techniques.

Underground electrical wiring.
Set up procedures that must be followed to authorize any digging.

Power hand tools.
Adequately guard tools.
Train staff on potential danger of each tool.

Repetitive motions (raking, shoveling).
Rotate jobs.
Train staff on the safe way to shovel.
Limit the number of hours working at these types of jobs.

CHEMICAL HAZARDS

Fertilizers, pesticides, dust.
Store chemicals in safe locations.
Give MSDS to employees.
Provide masks when workers are in dusty environments.
Train staff to use, store, and dispose of chemicals properly.

BIOLOGICAL HAZARDS

Contact with blood.
Provide gloves in first aid kit.
Train staff about ways to avoid infection.

Burger Express

PHYSICAL HAZARDS

Falling objects on high storage racks.
Replace racks with lower, wider racks.
Provide appropriate safety ladders to reach top shelves.
Store light objects (e.g., toilet paper, and paper towels) on top shelves.

Heavy boxes.
Use mechanical aids for lifting boxes.
Train employees on proper lifting techniques.

Walk in freezer.
Install latch on freezer door that can be opened from the inside.

Slippery floors near dishwasher, beverage machine, and deep fryer.
Use non-slip flooring.
Require mopping and drying of floor every hour.

Meat slicer.
Place guard on slicer.
Instruct all employees on correct use of slicer.
Require use of shield whenever slicer is in use.

Knives used for cutting.
Use food processor instead of knives.
Teach correct cutting techniques

Hot oven.
Provide rack puller.
Provide mitts for use with hot items.
Inspect mitts regularly for damage.

Hot oil.
Set a rule requiring the temperature of the oil to be below a certain temperature before it may be thrown away.
Create a spigot with a long handle that allows the oil to drain into an enclosed, spill-proof disposal unit.

Grill.
Use grill surface that changes color when hot.

(Burger Express continued next page)

CHEMICAL HAZARDS

Cleaning supplies for bathrooms, cooking surfaces, and floors.
Provide gloves.
Require glove use.
Provide Material Safety Data Sheets and train staff how to use MSDS.

BIOLOGIC HAZARDS

Bathrooms and raw meat.
Require hand washing.
Provide educational information on biologic hazards.

GENERAL

Train workers in all tasks they will ever be expected to do. Require refresher training.

DairyLand Dairy Farms

PHYSICAL HAZARDS

Movement of large animals.
Install gates to limit animal movement.
Make sure staff are trained in how to handle large animals.

Low floor in parlor. People constantly reaching could cause back injuries.
Have an adjustable platform for workers.

Cement floors are very slippery after being washed.
Install non-slip flooring.

Slips and falls when scraping down the barns.
Provide boots with adequate traction.

(DairyLand, continued)
Moving parts in the auger.
Provide guards.
Require all guards to be in place prior to operation of the auger.

Injury when treating sick animals.
Use restraining equipment.
Train staff on restraining method.
Provide biologic hazard containers for disposal of used needles.

CHEMICAL HAZARDS

Spills from chemical barrels.
Put drip guards on chemical containers.

Contact with harmful chemicals.
Use proper protective equipment.
Use less toxic chemicals.
Train employees to use caution and read labels when using chemicals.
Install a device to remove a chemical without placing a hand into the chemical barrel.

BIOLOGICAL HAZARDS

Injury from needles when giving animals treatments.
Provide needles that don't require recapping.
Train staff on appropriate procedures.

Come in contact with infectious diseases.
Provide protective equipment.
Require proper disposal methods.
Train staff on appropriate procedures.

Pleasant Meadow Nursing Home

PHYSICAL HAZARDS

Falls on slippery floors.
Install non-slip flooring.
Set up warning signs in slippery areas.

Heavy lifting.
Repair broken Hoyer lift.
Train staff in proper lifting techniques.

(Pleasant Meadow continued next page)

(Pleasant Meadow, continued)
Physical and verbal abuse; stress.
Limit careloads.
Hire more staff.
Set up protocol to alert supervisors to abusive patients.
Train staff to handle behavioral problems.
Assign senior staff to work with the most difficult cases.

CHEMICAL HAZARDS

Cleaning chemicals.
Purchase nontoxic cleaners.
Train staff to use, store, and dispose of chemicals properly.

Cleaners for patient care.
Provide rubber gloves.
Train staff on proper use.

BIOLOGICAL HAZARDS

Contact with blood, communicable diseases, and bacteria.
Teach staff how to clean patients properly.
Set up procedures for disposal of needles and syringes.
Provide disposal bins for soiled items.
Post signs for hand washing.
Require immunizations for Hepatitis B.
Require yearly tuberculosis screening.
Train staff about infectious diseases.

Prairie View Meat Processors

PHYSICAL HAZARDS

Noise concerns.
Provide hearing protection devices.
Insulate walls.

Slippery floors.
Install non-slip flooring.
Require custodians to clean in these areas at regular intervals.
Slippery floor surfaces.
Install non-slip flooring.

Smokehouse/curing of meat.
Provide proper breathing apparatus.

(Prairie View, continued)
Freezer/refrigerators.
Install latch on freezer door that can be opened from the inside.
Provide proper clothing.
Provide time out of cold areas on a regular basis.

Meat-cutting equipment.
Insure all guards are used and maintained.
Give proper instruction.
Use steel-mesh gloves to prevent cuts.
Rotate jobs to prevent repetitive motion injuries.

Live animal control and movement.
Design the facility with proper stalls and gates to insure safety.
Give safety instructions.

Sharp objects.
Provide steel-mesh gloves.
Train in proper cleaning precautions.
Set up procedures for safely storing objects.

BIOLOGICAL HAZARDS

Bloodborne pathogens contracted through handling of meat.
Use gloves in all meat handling.

GENERAL HAZARDS

Language barriers.
Post safety instructions in English and other languages as needed.
Color code machines and areas with tape or paint to indicate hazards.

Washington High School

PHYSICAL HAZARDS

Boxes on high shelves.
Store heavy items down low.
Train people in proper lifting.

Walk-in freezer.
Provide a door handle on the inside.
Provide protective clothing.

(Washington High School continued next page)

CHEMICAL HAZARDS

Chemicals and cleaning products.
Set up storage and disposal procedures.
Provide protective equipment.
Train staff in proper use.

BIOLOGICAL HAZARDS

Contact with blood.
Provide training in infectious diseases.
Provide protective equipment.
Set up proper disposal procedures.

Live animals.
Keep animals in cages so custodians do not come in contact with animals.

Quick Stop Convenience Store

PHYSICAL HAZARDS

Noise from air compressors and other auto repair equipment.
Wear hearing protection.

Car bays and hoists.
Train staff in their proper use.

Boxes on high shelves in storage areas.
Store heavier items on middle shelves.
Train staff in proper lifting techniques.

Walk-in freezer/refrigerator.
Install latch on freezer door that can be opened from the inside.

Car wash.
Train staff in its proper use.

Tire changer.
Train staff in its proper use.

(Quick Stop, continued)
CHEMICAL HAZARDS

Chemicals - auto repair, car wash, cleaning supplies.
Purchase nontoxic chemicals.
Set up rules about labeling and storage of chemicals.
Train staff in their proper use.
Provide gloves, masks, and respirators appropriate for the use of chemicals.

Batteries.
Train staff in how to remove and dispose of batteries properly.
Provide eye protection and gloves for employees working with batteries.

BIOLOGICAL HAZARDS

Food preparation and sink.
Provide gloves.
Require staff to wear gloves and wash their hands.

Cleaning restrooms.
Require staff to wear gloves and wash their hands.

GENERAL HAZARDS

Cash register - robbery.
Install video equipment.
Require at least two employees to be in the store at the same time.
Have a cash box with no key in the store.

LESSON 5

Applying Prevention Strategies in the Workplace - Part II

Description:

Students present their workplace safety plans for simulated work environments. Fellow classmates have the opportunity to evaluate the presentations, as if they were employers. Content of the first five lessons in this unit also is reviewed.

Learner Outcomes:

Students will be able to do the following:

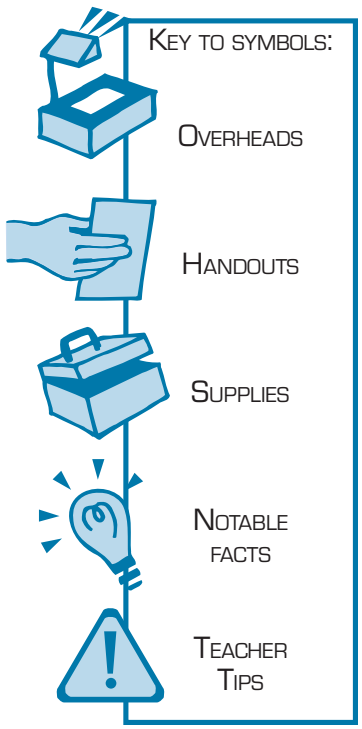
1. Summarize their prevention plans in the form of presentations.
2. Evaluate the plans presented by others.
3. Effectively communicate the rationale for the prevention strategies they selected.
4. Communicate safety information effectively.
5. Evaluate their current work situations using the ABC's of prevention.

Key Concepts:

1. Each workplace has potential hazards (physical, chemical, and biological) that should be identified.
2. Prevention strategies can make a workplace safer by reducing the possibility of injuries and illnesses.
3. Employers must provide a safe workplace for employees. Workers should communicate any safety concerns to their employers. Practicing communication strategies through role-playing allows students the opportunity to learn how to effectively advocate for safe working conditions.

Fact:

Over 50,000 synthetic chemicals are in use today. Some of these chemicals' health effects are unknown. The effects of multiple chemicals acting together in the body is also unknown. For example, studies suggest that children have increased susceptibility to pesticides, but little is known about the long-term effects of pesticides on older children and adolescents.



Materials Needed:

- ❑ "Presentation Evaluation Form" (one per person)
- ❑ "Worker Safety Action Plan" (groups will present their plans in class)
- ❑ "ABC's of Prevention Cards" sheet
- ❑ Heavy cardstock paper
- ❑ Lamination paper
- ❑ Scissors
- ❑ "Performance Criteria and Checklist" found in Lesson 1 (one for each student)

Preparation Needed:

1. Photocopy the "Presentation Evaluation Form." Review the qualities students will be looking for in these presentations.

2. Photocopy the "ABC's of Prevention Cards" sheet, so you will have one card per student. Laminate and cut out the "ABC's of Prevention Cards."

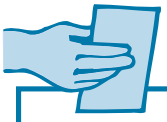
Directions:

Worker Safety Presentations (45 minutes)

1. Review again with students what should be covered in their class presentations. Group presentations should include the following:

   - Description of the workplace they studied.
   - Description of the major hazards found in their workplace.
   - Description, by each group member, of one hazard and the prevention strategies the group came up with for that hazard.
   - Description of the two hazards they are going to take care of first and why they chose those two hazards.

   If needed, allow each safety team about five minutes to get ready for their presentation.



"Presentation Evaluation Form" sheet

2. Hand out a copy of the "Presentation Evaluation Form" to each student. Explain:
   As each team is presenting their safety plans, I want you to evaluate their presentation and plans, as if you were their employers. It is very important to employers to keep their employees healthy.

   When you are presenting to employers, it is critical that you are able to list specific hazards, be clear and factual in your presentation, and be willing to offer creative suggestions to make the workplace safer for all employees. This exercise will give you the opportunity to practice these skills and also learn how it feels to be the employer faced with employee safety concerns.

You will evaluate each safety team in four areas:
(Have students read along on the bottom of their evaluation form. Discuss each of these categories further, so students understand what they are evaluating.)

- Decision-Making— Does the plan demonstrate a clear decision-making process with specific reasons for the prevention strategies chosen?
- Organization—Is the content of the plan and presentation organized? Does it have a clear flow? Does it make sense?
- Thoroughness—Did the presenters cover all the major hazards in this workplace? Did they identify an adequate number of prevention strategies? Did they adequately explain the reasons for prioritizing strategies?
- Creativity—Did the plan suggest any original solutions or creative prevention strategies?

Use the form to evaluate each of the above areas. Giving a score of 5 means you think the team did an excellent job, 4 = good, 3 = fair, 2 = poor, 1 = not sufficient.

Teacher Tip:

After each presentation, lead a discussion with the whole class. Example questions include:

1. What other hazards would you add to this group's list?

2. What other prevention strategies would you add to this group's list?

3. Ask:
   Are there any questions about this exercise or how you will evaluate your fellow classmates' presentations?

4. Begin the presentations. Allow each group approximately five to seven minutes to present their plan, depending upon the number of groups and amount of time you have. Try to keep teams to this time frame, so every group will have adequate time to present during the class period. After each presentation is finished, allow time for the student evaluators to fill out their evaluation forms.

5. After each presentation, you may want to ask further questions about the group's plan. Some possible questions include:
   a. Which additional hazards would you have talked about, if you hadn't been limited to two?
   b. Do you think the process of creating a worker safety action plan in this workplace would be different in real life? How so?
   c. Why do you think a plan like this would be helpful to this company?

6. When all the presentations are done, collect student evaluation forms. Have each group turn in their worker safety action presentation and plan materials. All these materials will be used during final grading.

Teacher Tip:

If you think you will be short on time, draw team names and have only a few teams present their plans, or plan to extend this activity over two days.

Worker Safety Unit — A Review (5 minutes)

1. Explain:
   Let's quickly review some of the key points we talked about in this unit:

   a. Workplace injuries and illnesses do happen to people, even high school students.

   b. Getting a workplace injury or illness could dramatically change your life forever. Some injuries are serious and some are permanent.

   c. Each worker should expect a safe work environment. If a workplace is not safe, you have the right to ask questions and take steps to make it so.

   d. Workplace injuries and illnesses can be prevented, but to accomplish this, some aspects of the workplace may need to be changed. You should follow the ABC's of prevention when looking to make the workplace safer.

2. Give each person one of the "ABC's of Prevention Cards." Explain:
   This card outlines the key safety steps you should take every time you enter a workplace. I suggest you keep this card with you to evaluate the safety of your current or future workplace.

   The card serves as a reminder to be alert to potential hazards in the workplace and to the key prevention steps you or your employer can take to make your job safer.

3. Before this session is over, have students check off tasks on their "Performance Criteria and Checklist."

4. After this session, fill out the teacher side of the "Performance Criteria and Checklist" (found in Lesson 1) for each student based on the quality of their work in completing the tasks outlined on the form. The tasks and criteria apply to student work during Lessons 1-5.

Taking It Home:

1. Encourage students to evaluate current work situations using the "ABC's of Prevention Cards."

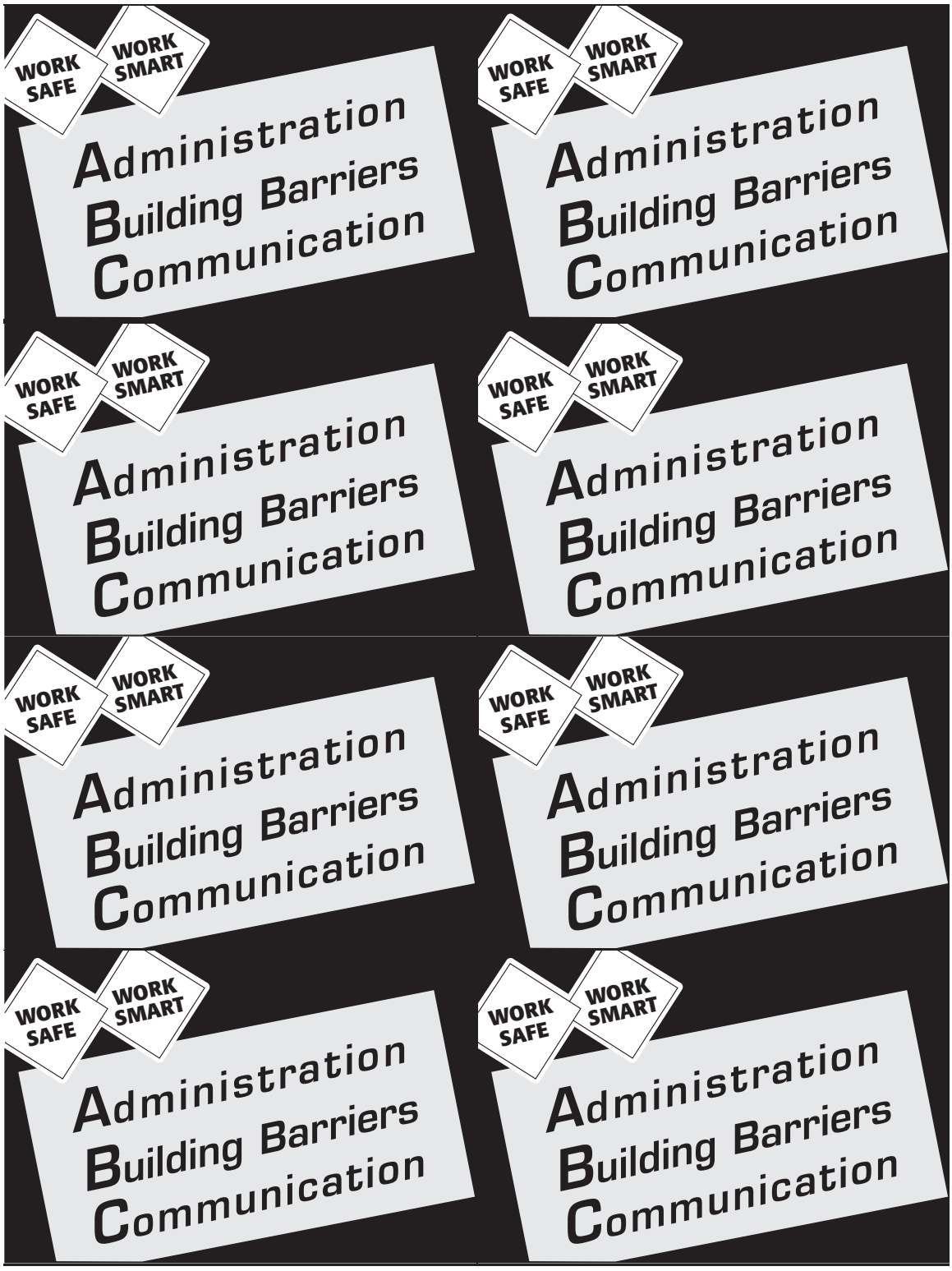
Presentation Evaluation Form

Fill in the scores for each team presenting a safety action plan. Give a 5 if you think the team did an excellent job of meeting the criteria, 4 = good, 3= fair, 2= poor, 1 = not sufficient. Total each team's scores.

Names of students on each safety team	Safety Action Plan and Presentation				
	Decision-Making	Organization	Thoroughness	Creativity	Total Score
Team #1					
Team #2					
Team #3					
Team #4					
Team #5					
Team #6					
Team #7					
Team #8					

Decision-Making—Does the plan demonstrate a clear decision-making process with specific reasons for the hazards to be addressed and the prevention strategies chosen?
Organization—Is the content of the plan and presentation organized? Does it have a clear flow? Does it make sense?
Thoroughness—Did the presenters cover all the major hazards in this workplace? Did they identify an adequate number of prevention strategies? Did they adequately explain the reasons for prioritizing strategies?
Creativity—Did the plan suggest any original solutions or creative prevention strategies?

ABC'S of Prevention Cards (fronts)



ABC'S of Prevention Cards (backs)

- Have you received safety training for this job?
- Do you know who to talk to in the company, if you have safety or health questions?
- What are the hazards at this job?
  –physical hazards? –chemical hazards?
  –biologic hazards?
- What prevention strategies are in place to protect you from these hazards?

Minnesota OSHA 1(877)470-6742
Minnesota Wages and Hours 1(800)342-5354

- Have you received safety training for this job?
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LESSON 6

The Importance of Worker Safety Laws

Description:

Students are introduced to the importance of worker safety laws through a presentation of their history, a review of child labor standards, and a discussion of the rights of young workers.

Learner Outcomes:

Students will be able to do the following:

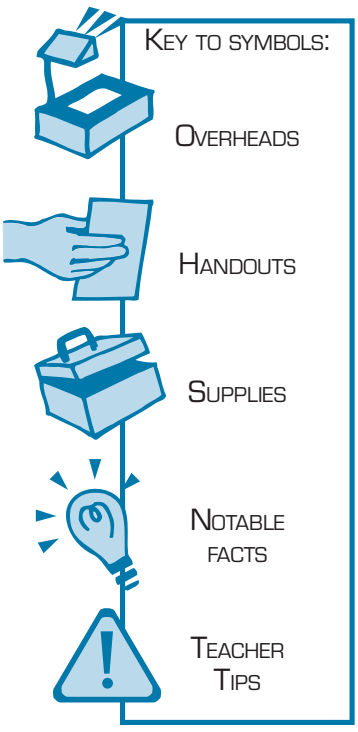
1. Describe the state of safety in the workplace before laws were enacted.
2. Perceive that worker safety laws are important in protecting the health of young workers.
3. Recognize the need for worker safety and child labor laws.
4. Perceive that everyone has the right to a safe workplace.

Key Concepts:

1. Before the enactment of worker safety laws, working conditions for many young people were dangerous and unhealthy. In some places, problems still exist.
2. Child labor laws were made to protect young workers.

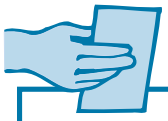
Fact:

In 1900, over two million American children under the age of 16 were employed in factories, mines, farms, and other workplaces.[1] At that time, children were three times as likely to get injured as were adults.[2] Even today, some American children continue to work long hours picking vegetables and doing other field work.



Materials Needed:

- ❑ "Performance Criteria and Checklist" (one per student)
- ❑ Photographs 1 through 6 (one set per student group)
- ❑ "Looking at the Lives of Child Laborers" script for teacher review
- ❑ "Child Labor Photo Assignment" (one per student)
- ❑ Chalkboard or easel
- ❑ "Workplace Safety Laws" fact sheet (one per student)
- ❑ "Examining Workplace Safety Laws" homework assignment (one per student)



"Performance Criteria and Checklist" handout

Preparation Needed:

1. Read through the "Looking at the Lives of Child Laborers" script a few times, so you can read it smoothly.

2. Review the photographs and their descriptions. Think about your own reactions to the images. How would you answer the questions outlined in the lesson? Remember, no answers are right or wrong.

3. Make copies (one per student) of the "Performance Criteria and Checklist," "Child Labor Photo Assignment," and "Workplace Safety Laws" fact sheet.

4. Make class copies of the "Examining Workplace Safety Laws" homework assignment.

5. The laws discussed in this lesson represent a summary of the child labor laws. If you want to review a more comprehensive list of child labor laws, please refer to the web sites listed in the back of the curriculum under "Worker Safety and Health Education Resources."

Directions:

A Brief History of Child Labor (20 minutes)

1. Give each student a copy of the "Performance Criteria and Checklist." Say:
   Your participation in the next four class sessions will be graded on the tasks outlined on this form.

   Read through the form and answer any questions students may have about the tasks or the quality of work you expect.

   Students can keep track of their progress by placing an X in the left-hand column as they complete each task. Take time at the end of each class period to have students check off tasks they completed that day. At the end of the unit, review each student's work and place an X or grade next to each task that he or she has completed.

2. Explain:
   Previously, you learned about hazards in the workplace and how workplace injuries and illnesses can be prevented. During the next two class sessions, we will focus on the role that worker safety laws play in protecting you in the workplace.

3. Ask:
   How many of you are currently working? How many think you will have a job before you finish high school? How many

of you are aware of the laws that govern safety at work and the work done by people under 18? Who can describe any of these laws?

Take a few minutes to allow students to share what they know about worker safety laws.

4. Explain:
   You may or may not know about the laws that are in place to keep you safe in the workplace. These laws address many issues, including how long you can work, what kind of work you may do, and the minimum amount you must be paid.

   Before we discuss these laws, I would like to talk about the working conditions of children in the United States before worker safety laws were in place. The child labor laws we are going to talk about today were created because of abusive child labor situations. During our country's earlier history, many children were exploited as a source of cheap labor with little regard for their health and well-being.

   We are also going to talk about the working conditions of children in other parts of the world. Even today, many of these children are not protected by any kind of worker safety laws.

Teacher Tip:
You may want to use only a few of the photographs and shorten the script, so you have more time for discussion.

5. Have students form pairs. Give each pair of students copies of photographs 1 through 6. Read the "Looking at the Lives of Child Laborers" script. The script indicates when to stop your presentation to discuss the corresponding pictures.

   Photographs 1-6

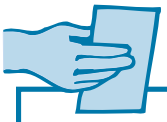
   "Looking at the Lives of Child Laborers" script

   Discuss the following questions as you look at each picture:
   - How would you describe the child in this picture? What do you notice about his or her face or expression?
   - What might this person be thinking? What might he or she be feeling?
   - How would you feel, if you were in the same situation?

Creating Laws to Protect Workers (30 minutes)

1. Ask:
   If you could do something about the tremendous hardships of these young workers, what would you do? Imagine for a few minutes that you work in the government and are in

charge of creating laws to protect the health and safety of these workers. You don't own or work at the companies they work at. You are in charge of making laws by which these companies must abide.



"Child Labor Photo Assignment"

2. Assign each pair of students one of the child labor photographs. More than one pair of students may be working on each photograph.
Give the "Child Labor Photo Assignment" handout to each student.
Each pair should discuss possible laws they would create to protect the young worker in the photograph and record their answers on the handout.
Encourage each pair to come up with at least 10 specific laws. Remind them that no answers are right or wrong. Collect the handout at the end of this activity.

3. Explain:
Discuss the situation and develop a list of reasonable laws you think would improve these childrens' lives. We will discuss each situation and your lists of laws when you are done. You will have ten minutes to develop your lists. Once you have completed this assignment, we will discuss each photograph. You will be turning in this assignment for a grade.

4. When done, discuss each photograph and the laws recommended for that worker. Have all the pairs assigned that photograph contribute some of the possible laws. If time allows, have the whole class add to each list, if they can.

Possible Laws For The Scenarios:

- Establish a minimum age for children to work.
- Limit hours and number of days children are allowed to work in a week.
- Require children to go to school.
- Require the minimum wage be based on hours children work and not on how much they do.
- Make the minimum wage the same for adults and children.
- Make it illegal for children to work around dangerous equipment or chemicals.
- Require employers to give adequate breaks, places to sit, and proper ventilation, heat, or shade.
- Make it illegal for children to work in dangerous occupations (e.g., on fishing platforms or in tanning drums).
- Require employers to provide proper protective equipment (e.g., shoes, gloves, hats).
- Limit the amount of weight children may carry.
- Make it mandatory for children to get vacation and sick time.
- Make it mandatory for children to get leave time for family emergencies, funerals, etc.
- Allow children to get workers' compensation if they are injured at work.
- Require frequent parental visits or leave to visit families.
- Make it illegal for parents to forge papers.
- Allow children to form a union.
- Require verification of children's ages.
- Require unannounced inspections on a regular basis.

5. Explain:
   Dangerous and unhealthy situations, such as those we discussed today, motivated people to create laws to protect young workers. Your right to work in a safe and healthy workplace is a direct result of these laws.

   We are going to spend the remainder of this unit looking more closely at the laws that protect you in the workplace. We will discuss what these laws are, how these laws work for you, and who can help you, if you are in a work situation in which these laws are not being followed.

6. Ask:
   Based on what you learned today, what would you say are the benefits of worker safety laws? List students' ideas on the chalkboard or easel.

   (Possible answers: These laws protect children from being exploited; children are encouraged to be in school so they can live better lives; children's health is improved; children can really enjoy their childhoods; the laws protect workers from injuries or illnesses.)

7. Give each student a copy of the "Workplace Safety Laws" fact sheet. Have students read through the fact sheet silently or read it together as a class. Students should be prepared to discuss and apply these laws during the next two class sessions.

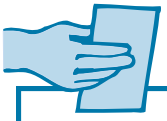
"Workplace Safety Laws" fact sheet

8. Have each pair of students hand in their list of laws at the end of class.

9. Have students read through their "Performance Criteria and Checklist" and check the Lesson 6 activities they participated in today.

Taking It Home:

Give each student a copy of the "Examining Workplace Safety Laws" homework assignment, or write the assignment on the chalkboard. Have each student complete this assignment before the next class session.



"Examining Workplace Safety Laws" homework assignment

Footnotes:

1 Saller, Carol. *Working Children*. Minneapolis: Carolrhoda Books, Inc., 1998.

2 Mofford, Judith H. *Child Labor in America.* Carlisle: Discovery Enterprises, Ltd., 1997.

Resources Consulted In Developing the Lesson Script and Scenarios:

Mofford, Judith, ed. *Child Labor in America.* Carlisle: Discovery Enterprises, Ltd., 1997.

Parker, David. *Stolen Dreams: Portraits of Working Children.* Minneapolis: Lerner Publications Company, 1998.

Saller, Carol. *Working Children*. Minneapolis: Carolrhoda Books, Inc., 1998.

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Name: _____ Class Period: _____

Performance Criteria and Checklist

Place a check mark in the appropriate box when the criteria is met. Corresponding lesson is listed in ( ).

Student Checklist	Performance Criteria	Teacher Checklist
	1. Recite the major laws that apply to students (hours, wages, types of jobs). (7)	
	2. Accurately apply those laws to new work safety situations. (7 and 9)	
	3. Participate as much as you can in a small group, without dominating the group. (6, 7, and 9)	
	4. During discussions, speak clearly and think through what you will say before you say it. (6 through 9)	

When applying the ten steps to resolve safety issues in the workplace, you do the following:

	5. Clearly identify the decision that needs to be made. (9)	
	6. Clearly identify and describe the choices you have in how you will resolve the problem. (9)	
	7. Apply specific criteria to help you select the best choice. (9)	
	8. Deal with the conflict in ways that are respectful. (9)	
	9. Deal with the conflict in ways that are persuasive. (9)	

Photograph 1:
They called them "newsies." Boys as young as four and five would sell newspapers on the street corners. Joe was often up late at night and early in the morning, peddling newspapers in all kinds of weather. Sometimes he stayed away from home for days at a time. Barefoot and bedraggled, Joe had to watch out for a variety of dangers: getting run over by a streetcar or a horse; or being robbed.

Joe was not paid an hourly wage. He was paid by the number of papers he sold. Because he had to pay for the papers he didn't sell, Joe had to work long into the night. Joe had to carry heavy loads while constantly walking up and down the streets. He received no overtime, no breaks, no vacations, and no raises. Joe was forced to turn all his wages over to his father, who was often drunk.

Joe had no time for school or play. He sold newspapers all day long. If he complained about his work conditions, he would be replaced by another worker. If Joe had a family emergency, he could not leave his job or he would be replaced.

Photograph 2:
This photograph, taken in 1907, is a picture of a boy named David, whose right arm was cut off by an unguarded saw in a box factory. Factory children as young as six or seven often worked 10- to 12-hour days. David dropped out of school and began working when he was ten.

David was forced to work quickly around dangerous equipment, with very few breaks or rests. Some children worked through the night, sleeping on the floor between shifts. David, like other children, was provided no protective gear or equipment, and the factories had very little ventilation in summer and little heat in the winter.

Children such as David worked for very low wages with no hope of a better future. They had no time for school, play, or vacations. If David complained about the conditions or was sick one day, he was immediately replaced by another worker.

The government never inspected these workplaces, and the factory owners had little regard for their young workers. No one was looking out for the welfare of these children. Without going to school, David had little chance to better his life. Children like David usually ended up working in the same factory for their entire lives.

Photograph 3:
Haji, an Indonesian boy of 12, works on a fishing platform off the coast of Indonesia. Wood platforms on stilts stand anywhere from one-half mile to several miles out to sea.

Boys are taken from their homes to the platforms to help fish for krill. They must stay there for up to six months, away from their families and friends. Each day, they live only on rice and fish. Fresh fruit and vegetables are a rare treat. Fresh water is scarce. Three to six children sleep on the floor of a shelter that may be no larger than six feet by ten feet.

Haji has no protection from falling into the ocean, and often children like Haji do not know how to swim. The platforms have many holes, and it is easy for children to slip through the floor. Even if the children know how to swim, waves and the force of the current make it difficult for them to get to safety. If a child is killed or injured, he is merely replaced by another worker.

He receives no sick time, vacation, or medical care. He does not attend school. He has no way to better his life. Fishing for krill is all he will know.

Photograph 4:
Amine, a 5-year-old weaver from Nepal, works 10 to 12 hours per day. Her small little hands, like those of many carpet weavers, are bruised, and she suffers from severe skin problems due to the rough course wool. When children knot the carpets, they often cut their hands, and the cuts never have a chance to heal. Amine often has open cuts on her hands, which become sore as she works.

Each knot must be pulled tightly, and the process is repeated up to 100 times or more per square inch in a fine carpet. Amine is pressured to work quickly for long periods of time. Wages are only 30 cents per day.

Amine lives at the factory, sleeping on the floor. She has not seen her family in over a year. She gets outside once a day for only a few minutes; otherwise, she is working at her loom. She is given very little food. No bathroom facilities are in the factory. If Amine, or any other weaver, gets sick or injured, she is replaced by another worker and is thrown out into the street with no place to go and no medical help. If Amine complains about her situation, she will be replaced as well, which would make her family very angry with her.

Amine will never have the opportunity to go to school. She does not know how to read or write and has not learned any other skills. Amine will be weaving carpets for the rest of her life, if her hands can tolerate the work.

Photograph 5:
In Nepal, as in much of the world, bricks are made by hand. After being fired in huge kilns, the bricks are carried to large stacks by children such as Krishna. Even a small brick factory may produce as many as 500,000 bricks a year. Each brick weighs 2 to 4 pounds. Each day, a small child may haul over 1,000 bricks (2,000 pounds) on his or her head or back.

The work is dusty and dangerous. As bricks are removed from the kiln, they may fall several feet onto a worker's unprotected feet. Because of the large amount of dust, the children often get lung diseases that lead to early death. No one inspects the working conditions of these factories. No medical care is available, if the children get injured. If a child, such as Krishna, becomes sick or permanently disabled, he or she is sent away, and a new child worker is brought in to work.

Children as young as five years old are required to work in these factories by their parents. They are given few breaks and very little food during the day. Children work through extreme weather conditions. Children live at the factory and sleep on dirty, dusty floors. They have no time for school or play. They work seven days a week, 10 to 12 hours per day, for no wages other than food and minimum shelter.

Photograph 6:
Mohamed, from Bangladesh, works in a tannery making leather from animal hides. Some of the children in this factory actually work inside the tanning drums, standing barefoot in hazardous chemicals, such as chromic acid and formaldehyde. The chemicals burn their skin and their lungs when they breathe in the fumes, but they are required to keep working.

Some of the children, like Mohamed, must cart animal waste from the tanning process to a waste dump down the road. No sanitation is provided. Workers are given no protection for their hands, and animal parts such as intestines touch their skin. Diseases from the decaying animal waste may infect the children, causing them to become sick.

Mohamed, along with the other children, works very long hours, seven days a week. He gets no breaks, vacation, or sick time. The wages he earns are very low. If a child gets sick from working at this factory, he or she is simply replaced by someone else. No medical help is available.

Looking at the Lives of Child Laborers

A Script to Assist You

Young people are much the same in every country and time period. They have feelings, hopes, and dreams. They want a life that is happy and filled with good things. Unfortunately, the lives of some young people have not always been easy, because they worked in places or lived during times in which worker safety laws did not protect them. Young workers were, and still are, at the mercy of adults to protect them from being abused and exploited.

Child Labor In The United States

1700s

In our country's early history, it was not uncommon for children to work long hours in hard or dangerous situations. From the time the first colonists arrived in what was to become the United States, children were working. Many served as apprentices to older workers. They worked for those people for several years for no pay, sometimes living away from their families. In some instances, they learned a trade, such as blacksmithing or carpentry. In others, they learned nothing and were just a source of free labor.

After the Civil War, the nation became more industrialized, with large factories turning out textiles, pottery, and other products. Factories were in desperate need of workers, so they hired children as well as adults. Children were not required to go to school, and no labor laws were in place. Children as young as five and six worked 12 hours a day, six days a week.

1800s

Children worked in very dangerous situations, around large machines, sharp knives, and coal cars. Since employers were not required to provide safety equipment, many children were permanently disabled or killed. Injured or sick employees were simply replaced. No compensation was given, if they were injured and could no longer do their jobs.

Life for child laborers was very difficult. They had no childhood. They had no future. Because they did not go to school, all they would know for the rest of their lives was hard work.

Have students look at photographs 1 and 2. These are photographs of child laborers earlier in our country's history. Discuss the photographs using the questions suggested in the lesson.

Gradually, child labor in the United States became regulated. In 1938, most of the Fair Labor Standards Act was passed, protecting the health and well-being of young workers. This act set standards for child labor and established the laws that govern child labor today. The act regulated how many hours a child could work, how old a child had to be to work, and what jobs were too dangerous for children.

Thanks to these laws, if you are under 18 and working today, your workplace is relatively safe, and your health and welfare are protected. Health and safety laws have greatly improved the working conditions of young people in the United States. However, this is not true for migrant workers, who still spend long hours in fields picking vegetables and being exposed to dangerous chemicals.

Child Labor In Other Countries

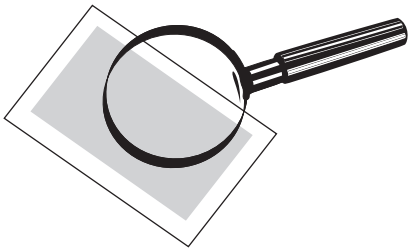
Unfortunately, workplace health and safety laws do not exist and are not enforced today for 250,000,000 children around the world. In many countries, children still work in very dangerous and unhealthy situations. They are often forced to work at a very young age, sometimes being removed completely from their families.

In some instances, no laws regulate how much or how long a child may work. No laws prohibit children from working around dangerous machinery without protective equipment. No laws require that children receive a fair wage. In some instances, adults doing the same job will earn more money. No sick time, vacation time, or medical insurance is provided. In other instances, laws exist but are not enforced.

Like children in the early history of the United States, these children have no childhood and no future. They are destined to spend their whole lives working for very low wages. They have no time to attend school, so the children end up working in the same job for the rest of their lives. Worker safety laws are not in place to protect them. These same conditions still exist for some American migrant families as well.

Look at photographs 3 through 6. Complete the student learning activity provided in the lesson. Discuss as many of the photographs as time allows.

Name: _____ Class Period: _____



Child Labor Photo Assignment

1. Describe the photo situation you are writing about.

2. What laws would you create to protect the young worker pictured in this photo? Be specific.

   A.

   B.

   C.

   D.

   Are there any other laws you would add?

Workplace Safety Laws

Protect Your Health. Know Your Rights.

By law, your employer must provide the following:
- A safe and healthy workplace.
- Training about health and safety, including information on chemicals that could be harmful to your health.
- Protective clothing and equipment.
- Payment for medical care, if you get hurt or sick because of your job. You may also be entitled to lost wages.
- At least the minimum wage, which is generally $5.15 per hour.

You have a right to do the following:
- Report safety problems.
- Work without racial or sexual harassment.
- Refuse to work, if the job is immediately dangerous to your life or health.
- Join or organize a union.
- Get paid overtime, if you work more than 40 or 48 hours per week, depending on the size of the company. Check with your supervisor.

What are my safety responsibilities on the job?
- Follow all safety rules and procedures.
- Use safety equipment and protective clothing when needed.
- Look out for coworkers.
- Keep work areas clean and neat.
- Know what to do in an emergency.
- Report any health or safety hazards to your supervisor.

Should I be working this late or this long?
Child labor laws protect teens from working too long, too late, or too early. This table shows the hours teens may work. Exceptions exist for students in work experience programs.

Work Hours For Teens

Under 14	Ages 14 and 15	Ages 16 and 17
A person under 14 years of age cannot be employed, except as follows: • newspaper carrier. • agriculture worker.* • actor, actress, or model.	**Between Labor Day and June 1st:** • Not before 7 a.m. or after 7 p.m. • Not over 3 hours/day on a school day, and not over 18 hours/week • Not during school hours. • No more than 8 hours on a non-school day. **From June 1st to Labor Day:** • 7 a.m. to 9 p.m. • Not over 8 hours in any 24-hour period. • Not more than 40 hours per week.	• Not before 5 a.m. or after 11 p.m. on school nights (no restrictions on weekends or holidays).

* Children must be at least 14 to work outside school hours in any agricultural job. Twelve- and 13-year-olds may work, if parental consent is given and if they are working on the same farm as their parent. No age restrictions exist for children who work on their family's farm.

Required Breaks:
Employers should give bathroom breaks for every four hours worked and meal breaks for every eight hours worked.

Workplace Safety Laws (continued)

No worker under 18 may do the following:
Laws protect teens from doing dangerous work. For example, in Minnesota, no worker under age 18 may do the following:

- Work over 12 feet above the ground.
- Work near or with explosives.
- Work in the logging industry or in a sawmill.
- Drive a forklift.
- Use power equipment, such as a saw or punch press.
- Work on a construction site.
- Work with meat slicers or bakery machines.
- Drive as a regular part of their duties.
- Load or unload power-driven paper balers/ compactors.

These are just a few examples. There are other dangerous jobs teens are not allowed to do.

No worker under 16 may do the following:

- Work with any type of power-driven machinery.
- Work in a laundry or dry cleaner.
- Work with power snowblowers or lawn mowers.
- Work on a ladder or scaffolding.
- Cook or bake.
- Lift or carry patients in hospitals or nursing homes.
- Work in walk-in meat freezers or coolers.

No one under 16 is allowed to do the following agricultural work, except on family farms:

- Drive a tractor with greater than 20 horsepower.
- Operate large farm machinery, such as corn pickers, grain combines, hay mowers, or auger conveyors.
- Work with bulls, boars, stud horses, sows with suckling pigs, or cows with calves.
- Ride on a tractor as a passenger or helper.
- Work inside a storage bin, silo, or manure pit.
- Apply agricultural chemicals.
- Transport or apply anhydrous ammonia.

What if I need help?

- Talk to your supervisor about the problem.
- Talk to your parents or teachers.
- If necessary, contact one of these Minnesota government agencies:
  - **Minnesota Occupational Safety and Health Administration** (for any health and safety issues): 1-(877) 470-6742.
  - **Minnesota Department of Labor and Industry (Wage and Hour Division and Labor Standards)** (for any wage, hour, or labor issues): 1-(800) 342-5354.
- Call your safety representative or labor union.

> **You have a RIGHT to speak up!** It is illegal for your employer to fire or punish you for reporting a workplace problem. Workers also have the right to form unions.

This fact sheet includes both federal and state laws. Employers who fail to comply with the Minnesota Child Labor Act are subject to monetary penalties.

Name: _____ Class Period: _____

Examining Workplace Safety Laws
Homework Assignment

Think about the photographs you saw in class today. Think about your own work or the work you want to do in the future. After reviewing the handout titled "Workplace Safety Laws," do the following:

1. Choose three labor laws from the handout.

2. Think about why you agree or disagree with the laws you choose and describe your reasons in the space below. No answers are right or wrong.

3. Include any suggestions you may have for rewriting these laws or changing them in any way.

4. Your assignment should be at least three paragraphs long, one paragraph for each law you choose.

We will discuss the homework assignment during the next class session.

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LESSON 7

Worker Safety Laws and You

Description:

Students review current worker safety laws by playing a game and discussing present-day scenarios.

Learner Outcomes:

Students will be able to do the following:

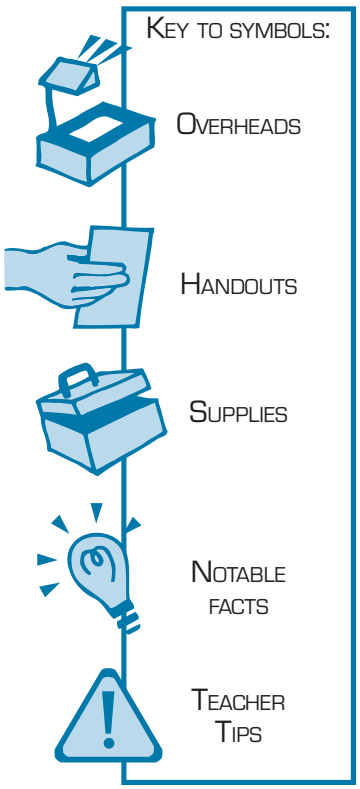
1. Describe current worker safety laws.
2. Apply these laws to specific work situations.
3. Perceive that workers have the right to expect a safe work environment.
4. Perceive that employers have a right to expect employees to behave in a safe manner.
5. Stop any work practices that are illegal for them to perform.

Key Concepts:

1. Worker safety laws exist and every employer should follow them.
2. Worker safety laws are made to protect workers from injury and permanent disability, not to limit their opportunities for employment.

Fact:

Passage of the Fair Labor Standards Act of 1938 placed, for the first time in U.S. history, federal limitations on the types of nonagricultural work permitted for children and adolescents under the age of 18.



Materials Needed:

- ❑ "Looking at the Laws" cards
- ❑ Heavy cardstock paper
- ❑ Scissors
- ❑ Masking tape
- ❑ Coin
- ❑ "Workplace Safety Situations" sheet, one per student
- ❑ "Additional Worker Safety Resources" fact sheet (one per student)

Preparation Needed:

1. Photocopy the "Looking at the Laws" cards onto heavy cardstock paper (two-sided). Cut each sheet of paper in the middle to separate the cards. Tape the "Looking at the Laws" cards to the chalkboard or wall with the questions facing the chalkboard or wall.

2. Make copies of the "Workplace Safety Situations" (one two-sided sheet per student).

3. Make copies of the "Additional Worker Safety Resources" fact sheet (one per student).

Directions:

"Looking at the Laws" Game Show (25-35 minutes)

"Looking at the Laws" game show cards

1. Divide the class into two teams. Make sure students put their "Worker Safety Laws" fact sheets away during this game. Pick a player from each team to start the game. Have these two players flip a coin to see which team will start first.

2. Have the first player call out the number of one of the cards on the chalkboard. Say:
   I will read the question on this card. You will have ten seconds in which to answer the question. If you cannot answer the question correctly, the other team will be given ten seconds in which to answer the question. The team that answers the question correctly will get one point. The team with the most points at the end of the game wins.

3. At the end of the game, say:
   This game has helped us review some of the main child labor laws. Let's try to apply these laws to actual work situations.

"Workplace Safety Situations" sheets

Worker Safety Situations (15 minutes)

1. Give each student one of the "Worker Safety Situations" sheets. Explain:
   Read through each situation and decide which worker safety laws apply to that situation. Write the laws in the space provided below each situation.

2. After about five minutes, have the whole class come back together. Read through each situation and discuss it. Ask:
   Which laws are being broken in this situation? Of which laws should the worker be aware?

Answers To Situations:

1: No one under 18 years of age is allowed to work over 12 feet above the ground.

2: A 15-year-old must not work more than 18 hours per week during the school year.

3: No one under 18 years of age is allowed to work on a construction site.

4: A 15-year-old must not work after 7 p.m. on a school night.

5: No one under 18 years of age is allowed to operate a meat slicer.

6: No one under 18 years of age is allowed to drive a forklift.

7: A 15-year-old must not work more than 40 hours per week during the summer.

8: No one under 16 years of age is allowed to lift or carry people in a nursing facility.

3. Ask:
   How many of you have had your employer go over child labor laws with you?

4. Explain:
   It is your employers' responsibility to ensure they are not breaking any laws by what they ask you to do. As workers, however, it is important that you also know the laws.

5. Spend a few minutes talking about the rationale behind these laws. Many of these laws were put in place to specifically address issues that were causing unsafe work conditions for teens in the past. During Lesson 6, you talked about a number of these conditions, including long hours, few breaks, and dangerous jobs.

   Many of the jobs that teens are prohibited from doing are considered to be dangerous or risky. The laws are meant to protect teens from working in these dangerous or risky situations. Many of the industries that employ large numbers of children and adolescents (such as agriculture) have higher-than-average injury rates for workers of all ages.

It's the responsibility of employers to ensure they are not breaking any worker safety laws.

Taking It Home:

No homework for this lesson.

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Name: _____ Class Period: _____

Workplace Safety Situations

Situation # 1:
Ryan is 17 years old. His friend has just offered him a summer job painting houses. Ryan is really excited about the chance to work. The first day at work, Ryan is asked to climb a 20-foot ladder to paint the eaves on a large house. Ryan agrees to do it, even though he is afraid of heights.

Situation # 2:
Fifteen-year-old Angela has been working at the local fast food restaurant for the past six months. She really likes her job. Lately, several workers have quit to go on to college. Due to the shortage of employees, Angela's supervisor has asked her to work every night this week and until closing on Friday. If she does, she will have worked 30 hours during a school week.

Situation # 3:
Fourteen-year-old Mario has been hired to work at a construction site. He will be sweeping and picking up supplies for other workers. The foreman said he cannot drive any heavy equipment.

Situation # 4:
Heather, who is 15, is cashiering at an all-night drugstore. Her manager is short-staffed and asks Heather to work from 6 p.m. until 11:00 p.m. It is a Tuesday night during the school year.

Workplace Safety Situations (continued)

Situation # 5:
Josh, who is 16, just started his new job with the local grocery store. They have asked him to work in different departments. They start him in the deli department slicing luncheon meats. His supervisor trains him to use the equipment and watches him several times to make sure he is doing it right.

Situation # 6:
Stacy, a 17-year-old, is still in high school. She landed a great weekend job working at a large warehouse in town. Most of her job involves inventorying and filling orders. Occasionally, she is asked to drive the forklift to move supplies. She really likes that part of her job.

Situation # 7:
Julie, who just turned 15, got a summer job at the local convenience store. She is working many hours to save up money for college. She is scheduled to work both Saturday and Sunday, so she will have worked almost 65 hours this week.

Situation # 8:
Trevor, who is 15, is working part-time at the nursing home in town. He is often asked to help move patients from their beds to their wheelchairs.

CARD NO. 2

CARD NO. 1

Question # 2:

How many hours a day can 14- and 15-year-olds work on a school day?

Answer: 3 hours

Question # 1:

How late can 16- and 17-year-olds work on school nights?

Answer: 11 p.m.

CARD NO. 4

CARD NO. 3

Question # 4:

How late can 14- and 15-year-olds work during the school year?

Answer: 7 p.m.

Question # 3:

How many hours a day can 14- and 15-year-olds work on non-school days?

Answer: 8 hours

CARD NO. 6

CARD NO. 5

Question # 6:

How many hours a week can 14- and 15-year-olds work during the school year?

Answer: 18 hours

Question # 5:

How early in the day can 14- and 15-year-olds start working?

Answer: 7 a.m.

CARD NO. 8

CARD NO. 7

Question # 8:

How old must a worker be to operate a meat slicer or bakery machine?

Answer: 18

Question # 7:

How old must a worker be to operate a tractor with greater than 20 horsepower?

Answer: 16

CARD NO. 10

CARD NO. 9

Question # 10:

A person under 14 years old may not work at which of these jobs—fast food restaurant, newspaper carrier, or actor/actress?

Answer: Fast food restaurant

Question # 9:

What is the minimum wage that workers must receive?

Answer: Generally $ 5.15 per hour

CARD NO. 12

CARD NO. 11

Question # 12:

How old must you be before you can apply agricultural chemicals?

Answer: 16

Question # 11:

A 17-year-old may not work on a ladder higher than _____ feet?

Answer: 12 feet

CARD NO. 14

CARD NO. 13

Question # 14:

You must be 18 to do which of these jobs—logger, meat slicer, or nursing assistant?

Answer: Logger and meat slicer

Question # 13:

15-year-olds may work at which of these jobs—cashier, dishwasher, or dry cleaner?

Answer: Cashier and dishwasher

CARD NO. 16

CARD NO. 15

Question # 16:

How old must you be to operate power equipment, such as a saw or punch press?

Answer: 18

Question # 15:

After how many hours per week must an employer pay a worker overtime pay?

Answer: 40 or 48, depending on the size of the company

CARD NO. 18

CARD NO. 17

Question # 18:

How old must you be to work in walk-in freezers or coolers?

Answer: 16

Question # 17:

14- and 15-year-olds can work how many hours per week during the summer?

Answer: 40 hours

CARD NO. 20

CARD NO. 19

Question # 20:

How old must a worker be to drive a forklift?

Answer: 18

Question # 19:

How many hours a week can 16- and 17-year-olds work?

Answer: No restrictions

CARD NO. 22

CARD NO. 21

Question # 22:

Name one government agency you can call for help with worker safety issues.

Answer: MN Occupational Safety and Health Administration or MN Department of Labor and Industry

Question # 21:

How old must workers be to ride as passengers on a tractor, if they are not on their family farm?

Answer: 16

CARD NO. 24

CARD NO. 23

Question # 24:

How early may 16- and 17-year-olds work on a school day?

Answer: 5 a.m.

Question # 23:

How old do you have to be to work on your family's farm?

Answer: No lower age limit

CARD NO. 26

CARD NO. 25

Question # 26:

How old must you be to work at a job at which you lift or carry patients in a hospital or nursing home?

Answer: 16

Question # 25:

By law, how often should you be allowed a bathroom break on a job?

Answer: Every four hours

CARD NO. 28

CARD NO. 27

Question # 28:

How old must you be to work at a job that involves using explosives?

Answer: 18

Question # 27:

What can an employer do to you if you refuse to work in a job that is immediately dangerous to your life or health?

Answer: Nothing

CARD NO. 30

CARD NO. 29

Question # 30:

What hours can 16- and 17-year-olds work on weekends and holidays?

Answer:
No restrictions

Question # 29:

How old must workers be to work outside school hours in any agricultural job (if not on their family farm or working with a parent)?

Answer: 14

Additional Worker Safety Resources

If you want more information about worker safety, these resources can help you.

U.S. Department of Labor
http://www.dol.gov/dol/esa/public/youth/index.htm

This website has a wealth of information about teen work safety. Learn about worker safety laws and how to be safe in the workplace.

U.S. Department of Labor
Wage and Hour Division
331 Second Avenue South, Suite 920
Minneapolis, MN 55401
Phone: (612) 370-3371 Toll-free: 1-866-487-9243

Minnesota Department of Labor and Industry
443 Lafayette Road, St. Paul, MN 55155
Phone: (651) 296-2282 Toll-free: 1-800-342-5354
http://www.doli.state.mn.us

This organization provides up-to-date information on Minnesota's worker safety laws. Visit this location on their website for information specific to teen labor laws: http://www.doli.state.mn.us/laborlaw.html#Child

Farm Safety and Health Information Clearinghouse
Department of Biosystems and Agricultural Engineering, 219 Biosystems & Ag. Engr., 1390 Eckles Avenue, St. Paul, MN 55108-6005.
Phone: (612) 624-7444
http://www.bae.umn.edu/~fs/

This organization provides a wealth of information about farm safety. This website is an excellent place to start learning about safety issues to be aware of on a farm.

National Farm Medicine Center
http://www.marshfieldclinic.org/nfmc/

This website provides information on farm safety issues. By going to the following address on their website, you can find additional links to other resources:
http://www.marshfieldclinic.org/nfmc/resource/default.htm

Minnesota Extension Service — County Offices
University of Minnesota, 240 Coffey Hall, 1420 Eckles Avenue, St. Paul, MN 55108-6070.
Phone: (612) 625-1915
http://www.extension.umn.edu/offices/

Your county extension office can provide you with farm safety information. Look up your local extension office address and phone number at this website location.

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LESSON 8

Addressing Unsafe Workplace Conditions

Description:

Students discuss the benefits and drawbacks of worker safety laws and learn the basic steps for addressing workplace safety issues.

Learner Outcomes:

Students will be able to do the following:

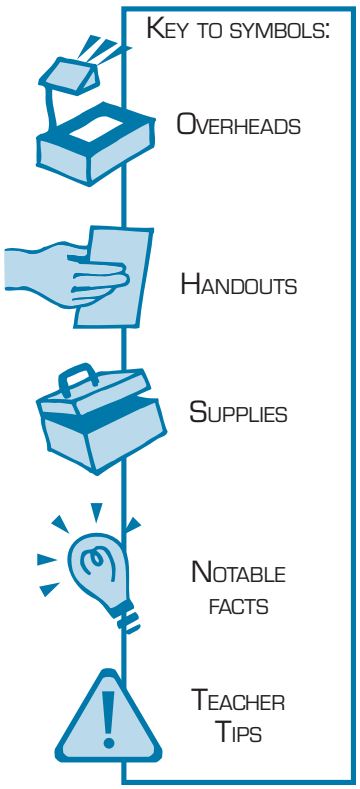
1. Describe the benefits and drawbacks of worker safety laws.
2. Perceive that worker safety laws are important, even though they may be restrictive.
3. Give examples of helpful steps in resolving workplace safety issues.
4. Apply these steps to a worker safety issue.

Key Concepts:

1. Worker safety laws are meant to protect workers, not to limit their opportunities for employment.
2. Employees can take basic steps to address unsafe work conditions.
3. Every worker has the right and responsibility to address safety concerns in the workplace.

Fact:

Most injuries are preventable and, with the right prevention steps, can be avoided.



Materials Needed:

- ❑ Overheads 8.1 and 8.2
- ❑ Optional: Photographs used in Lesson 6
- ❑ "Teacher's Key: The Benefits and Drawbacks of Worker Safety Laws"
- ❑ "Keep Your Workplace S.A.F.E." handout (one per student)
- ❑ "Teacher's Key: S.A.F.E. Communication Skills Worksheet"

Preparation Needed:

1. Review the "Teacher's Key: The Benefits and Drawbacks of Worker Safety Laws" provided in this lesson. Make sure you are familiar with both the possible benefits and the drawbacks of each law, so you can effectively lead the discussion.

2. Think through how you will apply each of the S.A.F.E. concepts to the role-play suggested in the lesson. Prepare how you would discuss the issue with an employer.

3. Review the "S.A.F.E. Communication Skills Worksheet" and accompanying teacher's key. Practice transforming the negative statements into positive ones, so you can assist your students, if they have difficulty.

4. Set up the overhead projector and overheads.

5. Photocopy the "S.A.F.E. Communication Skills Worksheet."

Directions:

The Benefits and Drawbacks of Worker Safety Laws (30 minutes)

The purpose of the following discussion is to help students understand that, even though they may not agree with a law, it may have an important purpose—to protect them.

As a society, we have decided people under 18 should be protected from working in hazardous jobs or under difficult conditions (e.g., long hours). Many laws have been put in place for these reasons.

As you discuss these laws, refer to your earlier discussions of working conditions before worker safety laws were in place. You may want to show the photographs from Lesson 6 as a reminder to students. How have the working conditions for people under 18 improved with these laws? Use the list of laws and suggested benefits and drawbacks provided in this lesson as a guide for this discussion.

In this exercise, it is important to allow students to form their own opinions, rather than telling them what to think or believe. It is not your role to defend these laws but to facilitate an open discussion.

1. Explain:

   During our last class, we discussed worker safety laws. I would like to talk about the benefits and drawbacks of these laws. Laws are usually made to benefit society, but at the same time, they usually put limitations on some or all of society. In our next group activity, we will examine the benefits and drawbacks of some of these worker safety laws.

   Divide the class into groups of four. Assign one law to two groups. One group will focus on the benefits of the law. The other group will focus on the drawbacks of the law.

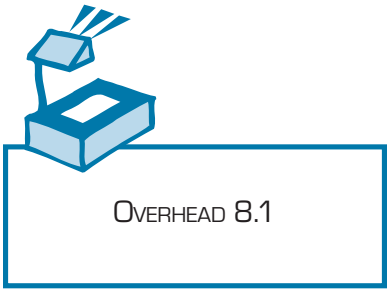
   Choose laws that deal with work time, minimum wage, dangerous equipment, or break time. Information about these laws is provided in the "Teacher's Key: The Benefits and Drawbacks of Workers Safety Laws" or the "Workplace Safety Laws" handout from Lesson 6.

2. Explain:

   We're going to debate the benefits and drawbacks of several laws. One group of four will present the benefits of a particular law to the class, while another group of four will present the drawbacks of the same law. After hearing the presentations, you'll vote on whether you think the benefits of this law outweigh the drawbacks.

   You'll have five minutes to develop your lists, and then each group will present their viewpoint to the class. After each group has presented their side, you'll have a chance to further discuss the law and vote. I will record the answers on the overhead.

   A chalkboard or easel may also be used to record the votes. If an odd number of foursomes results, have more than one group of four present the benefits or drawbacks of a particular law. Encourage students to think through what ***they see*** as the benefits and drawbacks of the law. No answers are right or wrong.



3. Show Overhead 8.1. Write one of the assigned laws in the left column. Ask the two groups assigned that law to present their opposing viewpoints. Write in the "benefits" and "drawbacks" of each law as they are mentioned.

4. After the "benefit" and "drawback" groups have finished presenting their sides for a particular law, ask the whole group the following questions:

   a. What other benefits would you add to the list?

   b. What other drawbacks would you add to the list?

c. Why do you think this law was enacted?
(Refer to the working conditions talked about in Lesson 6.)

d. Do you think the benefits of this law outweigh the drawbacks?

e. Why? Why not? How would working conditions be different without this law?

Teacher Tip:
These are open-ended questions. You do not need to reach a group consensus or have all students agree that these laws are good.

5. Discuss the rest of the assigned laws. Use the teacher's key as a guide. Continue to focus your discussion on weighing the benefits and drawbacks of each example.

   Students may not agree with all of the laws. You do not need to convince them otherwise. The goal is to help students see that laws, despite their drawbacks, are in place for good reasons. We cannot reap the benefits of a healthy, safe workplace without giving up something. No matter what the drawbacks are, today's working conditions are much better than they were 100 years ago, because of the laws.

6. Explain:
   Safety laws do benefit us in the workplace. They protect us from being asked to do things that are unsafe. If you feel you are being asked to do something unsafe in the workplace, you can address the issue with your employer. Let's talk about how you might address a safety issue with your employer.

Unsafe Workplace Communication Skills (20 minutes)

1. Ask:
   Have you, or has anyone you know, ever been in a work situation in which you felt you were being asked to do something unsafe? In what situation were you? What did you do about it?

2. Have a few students share their stories. Some students may have gone along, others may have tried to address the issue.

3. Ask:
   How did you ***feel*** in that situation?

4. Explain:
   These situations can be very difficult to handle. It's hard to question an employer about what you are asked to do or about the safety of the work environment. You may be

afraid of losing your job or appearing uncooperative. The situation may involve your parents, who have always done something the same, perhaps unsafe, way.

At some time in your working career, you may be asked by your employer or another employee to do something that appears unsafe to you. What should you do in these situations?

One of the most important things you can do is work to keep your workplace safe. Let's use the acronym **S.A.F.E.** to help us remember how to address safety issues in the workplace.

OVERHEAD 8.2

5. Display Overhead 8.2 on the overhead projector. Using the information below, discuss each concept represented by the letters S.A.F.E.

***S: SEE** the safety issue.*

The first step is to clearly identify what the safety issue is. Why do you feel uncomfortable? What is unsafe about this situation?

Sometimes we feel uncomfortable about something, but do not really acknowledge it until it is too late. It is good to stop and ask yourself why you feel unsafe or uncomfortable. Try to state your concerns in concrete language.

Whether or not a safety law is being broken, if you feel unsafe or uncomfortable, you should address the issue.

***A: ASK** the right person or person(s) for help.*

Who is responsible for safety in your workplace? Who should be made aware of the situation? The workplace safety situation cannot be corrected, if no one knows the unsafe situation exists.

It may help to tell coworkers, parents, people at school, or union representatives about the problem. They can support you in your efforts to find a solution. It may also be helpful to have someone go with you when you approach your employer.

If your immediate supervisor is unwilling to make a change, talk to his or her supervisor. If you still do not get an adequate response, talk with the organization's personnel or human resource manager. If you do not get an adequate response within the organization, contact the following agencies:

Minnesota Occupational Safety and Health Administration (for any health and safety issues): 1-(877) 470-6742.

Minnesota Department of Labor and Industry (Wage and Hour Division) (for any legal issues): 1-(800) 342-5354.

***F: FIND** a solution.*

You may not always know what the best solution is, but, if you have ideas, it always helps to present them to someone who can solve the problem. Even if you don't have a solution, address the issue. Your employer can find the solution. When you present your ideas, be open to listening to others.

***E: EMPHASIZE** the positive.*

Whenever you address a workplace issue, do it in a positive manner, so your supervisor or employer does not get defensive. The following are a few guidelines to help you in your communication:

a. When presenting a safety problem to an employer or coworker, focus on what you see and what you are concerned about. For example,

   "I am working around an unshielded power takeoff. I am uncomfortable in this situation."

   Rather than...
   "You are making me work too close to the power takeoff. You do not seem very concerned. You should be doing something about it."

b. Focus the conversation on a solution, rather than on who is at fault.

Focusing on fault may only lead to a defensive response. Focusing on solutions will more likely lead to cooperation and agreement. For example,

"I think we should put signs up on the floor after we have mopped it, so no one will slip and fall again."

Rather than...
"It is your fault Joe got hurt when he fell. You mopped the floor and did not tell anyone about it. You really messed up."

c. Help the employer or employee see that by implementing a solution, you will be reaching the same positive goal. For example,

"If we put a guard on that piece of equipment, we can get the work done in almost the same amount of time but much more safely. In the long run, the company will save time and money by keeping workers safe."

Thank those who have implemented the changes. It may have taken extra time and money to make the safety changes.

6. Say:
Let's work on these positive approaches a little more. I am going to give you a statement. Please tell me whether it is done in the positive manner described above. If not, how could it be improved?

7. Read the following statements. Have students respond after each statement:

a. I would be happy to help, but I have already worked 18 hours this week and I can't legally work any more hours. (Positive)

b. You told me to use the meat slicer. Do you want to make me cut my finger off?
(Negative—how could you change this statement into a positive?)

One example of a positive response:
I'm not comfortable using this meat slicer until I have some training. Can you give me more training?

or
I'm only 17. Legally, I'm not supposed to use meat slicers.

c. Thanks for ordering more rubber gloves. It really helps when we use cleaning products. (Positive)

8. Explain:
Now we're going to work through some more examples.

Pass out the "S.A.F.E. Communication Skills" handout. Have students work individually to complete the handout. Refer to the teacher's key for suggestions regarding each statement on the handout. Once students have completed the worksheet, ask them to share their sentences with the rest of the class. You can record their answers on a chalkboard or easel.

"S.A.F.E. Communication Skills" handout

You may have to assist some students in turning the negative statements into positive ones. Talking through the examples and hearing other people's responses may also help those who are having difficulty.

9. Ask:
Do you have any questions about using the S.A.F.E. guidelines when addressing work safety issues? Hopefully, you can remember the word S.A.F.E., whenever you are trying to address a safety issue at work.

10. Say:
Let's apply S.A.F.E. to a workplace situation.

Use the following workplace scenario to walk the class through the acronym S.A.F.E., as you think about how to address the situation. Make a brief presentation of what you would actually say to the employer.

Scenario:

You work at a local golf course mowing the fairways. Your supervisor is hardly ever around. You received no training and no hearing protection equipment. You notice the trac-

tor you are using has nothing to protect you from getting hit by golf balls. It also has no seatbelt or rollbar, and some of the hills are steep.

11. Discuss how you handled the scenario. Ask students if they have any questions.

12. Ask:
    How would you use the S.A.F.E. approach, if you saw a family member doing something unsafe on your family farm?

13. Have students read through their "Performance Criteria and Checklist" and check the Lesson 8 activities they participated in today.

Taking It Home:

No homework assignment.

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Worker Safety Laws	Benefits	Drawbacks

Keep Your Workplace S.A.F.E. . .

SEE the safety issue.

ASK the right person for help.

FIND a solution.

EMPHASIZE the positive.

Teacher's Key: The Benefits and Drawbacks of Worker Safety Laws

Worker Safety Laws	Benefits	Drawbacks
Limiting *how much* teens may work.	• Protects teens from being overworked. • Prevents work from interfering with school. • Keeps teens from becoming overly tired. • Prevents teens from being taken advantage of by employers or parents. • Allows teens more time for extracurricular activities that promote their growth.	• Limits amount of money earned. • Limits ability to compete with older workers who can work more. • Limits teens' independence and control of their schedules. • Limits those who are bored and want to work more.
Restricting *when* teens may work.	• Protects teens from having to work instead of going to school. • Prevents teens from having to work late and get up early for school. • Protects teens' health. • Protects teens from being at work late, when crimes are most likely to happen.	• Limits ability to compete with older people who can work more hours. • Limits choice to work late or early.
Limiting the age at which a person may start working.	• Protects children from child labor and abuse. • Ensures that children will most likely be in school. • Allows children to enjoy their childhoods. • Allows children to learn and better themselves. • Protects children from jobs that may injure them.	• Keeps children from earning money sooner. • Limits freedom and choice. • Limits children who are capable and desire to work. • Limits families who need the extra income.
Prohibiting jobs that involve driving or other high-risk tasks.	• Prevents teens from being in situations in which they may hurt themselves or others. • Protects teens from being given the worst jobs because they are young or new. • Protects teens from being hurt by other careless workers.	• Limits the type of jobs teens can have. • Limits independence and freedom to choose jobs.

Name: _____ Class Period: _____

S.A.F.E. Communication Skills Worksheet

Directions: Read each statement carefully. Using the S.A.F.E. communication skills, decide if this statement is written in a positive or negative manner. If the statement is negative, rewrite it to address this issue with your employer in a positive way.

1. **All you care about is making money. You won't spend the money for the right equipment. No wonder people are getting hurt.**

   Positive or Negative Statement?_____
   Rewrite?:

2. **If we trained people on how to use the hot oil fryer, less people would be burned. The restaurant would save money, and your workers would be happier.**

   Positive or Negative Statement?_____
   Rewrite?:

3. **I don't feel comfortable climbing this ladder and working from this height. Could I do another job that doesn't involve working high above the ground?**

   Positive or Negative Statement?_____
   Rewrite?:

4. **You can't make me work any more hours. If you do, I'll quit.**

   Positive or Negative Statement?_____
   Rewrite?:

5. **I'm just 15, and I'm not getting paid enough money in this nursing home to lift that person.**

   Positive or Negative Statement?_____
   Rewrite?:

Teacher's Key: S.A.F.E. Communication Skills Worksheet

Directions: Read each statement carefully. Using the S.A.F.E. communication skills, decide if this statement is written in a positive or negative manner. If the statement is negative, rewrite it so that it addresses this issue with your employer in a positive way.

1. **All you care about is making money. You won't spend the money for the right equipment. No wonder people are getting hurt.**

   Positive or Negative Statement? ***Negative***

   Suggestion: *It seems we could reduce the number of people getting hurt here, if we spent some money for safety equipment. If less people got hurt, we could be more productive and serve our customers better.*

2. **If we trained people on how to use the hot oil fryer, less people would be burned. The restaurant would save money, and your workers would be happier.**

   Positive or Negative Statement? ***Positive***

3. **I don't feel comfortable climbing this ladder and working from this height. Could I do another job that doesn't involve working high above the ground?**

   Positive or Negative Statement? ***Positive***

4. **You can't make me work any more hours. If you do, I'll quit.**

   Positive or Negative Statement? ***Negative***

   Suggestion: I've already worked the maximum number of hours I'm allowed to by law. Working any more hours today would be against the law.

5. **I'm just 15, and I'm not getting paid enough money in this nursing home to lift that person.**

   Positive or Negative Statement? ***Negative***

   Suggestion: In my orientation, I was told that I'm too young to lift residents in the nursing home. I could find another aide to help you lift this person.

LESSON 9

Putting Work Safety into Practice

Description:

Students practice the basic skills needed to address workplace safety issues through a role-play exercise. They also identify barriers and solutions to overcoming challenges when addressing safety concerns in the workplace.

Learner Outcomes:

Students will be able to do the following:

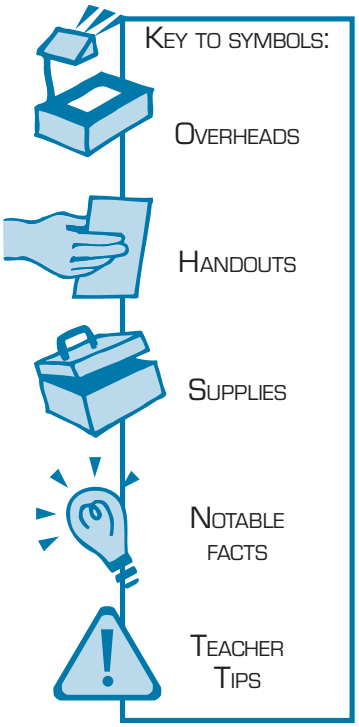
1. Describe the steps that are helpful in resolving workplace safety issues.
2. Demonstrate these steps effectively in resolving workplace safety issues.
3. Perceive the importance of addressing unsafe work issues with their employers.
4. Apply these steps to real-life work situations.

Key Concepts:

1. Every worker has the right and responsibility to address safety concerns in the workplace.
2. An employer does not have the legal right to fire an employee, if the employee refuses to work in a situation in which danger is imminent.
3. Employees can take basic steps to address unsafe work conditions.
4. Workplace safety can be achieved through cooperative problem-solving.

Fact:

Sixty percent of people suffer from back pain over the course of their lifetime. At least 4% are incapacitated for at least six months. According to the National Safety Council, lower back pain accounts for 400,000 work-related injuries each year in the United States.[1]



Materials Needed:

- ❑ Overhead 8.2
- ❑ "Role-play Scenarios"
- ❑ Scissors
- ❑ "Role-play Scenarios Worksheet" (one per student)
- ❑ "Performance Criteria and Checklist" found in Lesson 6 (one per student)
- ❑ "Putting Work Safety Into Practice, In-Class Assignment" (one per student)

Preparation Needed:

1. Read through the S.A.F.E. steps (from Lesson 8) again, so you can discuss each step briefly. These steps help workers when addressing workplace safety issues.

2. Think through the responses you will give as the employer in each role-play.

3. Copy the role-play scenarios and cut them apart. Make copies of the "Role-play Scenarios Worksheet."

4. Make some extra copies of the role-play scenarios, in case students need to use them for their in-class writing assignment.

Directions:

Workplace Safety Role-play (35 minutes)

1. Explain:
   During our last class, we talked about the S.A.F.E. steps you can take to address workplace safety issues. What were these steps?

OVERHEAD 8.2

2. Place overhead 8.2 on the overhead projector but keep it covered with a sheet of paper as you begin this review. As students list the steps, uncover them on the overhead. Briefly discuss each step as it is mentioned. The steps are as follows:

   S = SEE the safety issue.

   A = ASK the right person for help.

   F = FIND a solution.

   E = EMPHASIZE the positive.

   Briefly review some examples of positive responses to workplace problems.

"ROLE-PLAY SCENARIOS" AND "ROLE-PLAY SCENARIOS WORKSHEET"

3. Say:
   Today we are going to practice putting these S.A.F.E. steps into practice.

4. Divide the class into pairs. Give each pair one of the "Role-play Scenarios." Some pairs may end up with the same scenario, depending upon the size of your class. Also give each person a copy of the "Role-play Scenarios Worksheet."

5. Explain:

   I would like each pair to imagine you are coworkers. You are both trying to figure out how to deal with an unsafe work situation. Begin your discussion of the situation by filling out this worksheet. Decide what the safety issue is and the various options you have for dealing with the situation.

   Then think through how you will choose an option. Maybe you would suggest a solution that would be the safest choice. Maybe you would suggest the least expensive solution. Decide for yourself how you will pick one option over another. For this exercise, the only option you ***cannot*** pick is to quit. Each of you will hand in your worksheet at the end of the class period. Discuss the situation together, but fill out your sheet individually.

   Once you have decided what you should do about the situation, walk through the S.A.F.E. steps and talk about how you would address the problem with your employer. Practice a brief conversation you both would have with your employer to resolve the issue. Each pair will act out their role-play, while I or other students play the role of your employer. As the employer, I or we may be concerned, unconcerned, angry, or annoyed. Do your best to deal with the situation as it arises.

Teacher Tip:

Other ways to do this exercise:

1. Have one pair act out their role-play with you in front of the whole class.

2. Have two pairs take turns role-playing for each other. Do the role-plays a couple of times with different employer responses.

6. Allow groups about seven minutes to discuss their scenarios, fill in their worksheets, and come up with conversations.

7. Explain:

   While you are waiting to do your role-play with me, I want you to do an in-class assignment that is due at the end of the class period.

   Pass out the homework assignment handout. Read through the handout and answer any questions students may have.

   Students can chose to write about a real life example, if they have one, or use information from situations discussed in the class sessions. The student essays should thoroughly describe the safety situation and how the student would apply the S.A.F.E. steps to that situation. The essays should also describe the type of opposition being faced, and how they would deal with this opposition.

"Putting Work Safety Into Practice, In-Class Assignment"

8. When all the pairs are ready, ask each pair to meet with you one at a time. Set up chairs at the front of the room, so the three of you can meet. You will be playing the role of their employer, while they play the role of your employees. Each pair should **briefly** role-play their conversation with you. As the employer, you will be responding to the pair's concerns. After each pair is done, have a brief discussion about how they handled the situation.

9. After all the groups are done, briefly discuss students' experiences with this exercise. Possible discussion questions:
   - Was this exercise easy or difficult? Remind students that all such conflicts may be difficult.
   - Would you do anything differently next time?

Real-Life Workplace Safety Issues (15 minutes)

1. Explain:
   If you had to address an unsafe workplace situation, how would you use the S.A.F.E. steps and material from the previous class lessons? I would like you to talk about specific work situations you have experienced.

2. Ask for volunteers to discuss specific work situations they have experienced. If you assigned the in-class assignment, have students read their essays. Talk about each situation and how they could have used the S.A.F.E. steps. Discuss any barriers the students must address to resolve the unsafe working conditions. Go through as many examples as time allows. Have students turn in their in-class assignments, if you had them do this exercise in writing.

3. Explain:
   Every worker has the right and responsibility to address safety concerns in the workplace. In most cases, your employer will respond positively to your suggestions. Employers benefit when employees are safe too. Less injuries mean less time lost on the job and less money spent for medical expenses.

   It is important to remember that an employer does not have the legal right to fire you, if you bring up safety issues at work. You have the right to work in a safe workplace.

   You are also responsible for being safe at work. I hope you will put all you have learned about worker safety into practice. I hope you will all do as much as you can to work safe and work smart.

4. After this session, fill out the "Performance Criteria and Checklist" (found in Lesson 6) for each student based on the quality of their work in completing the tasks outlined on the form. These tasks and criteria apply to most activities in Lessons 6 through 9.

Role-play Scenarios

Scenario # 1:

You work in a fast-food restaurant, and your employer asks you to stay until closing on many nights. You do not get home until midnight and must get up for school by 6 a.m. the next day. You are very tired at school and work.

Yesterday, another employee at work was tired and in a hurry to go home. Because of this, he did not let the hot oil cool down enough before removing it, and he was burned. Other coworkers are also concerned about the hours they are asked to work.

Scenario # 2:

You work for a grain elevator in town. It is a very dusty work environment. You usually wear a respirator while you work, but today when you arrive, all the respirators are gone. Your supervisor asks you to work anyway, because the workload is really backed up. The job must get done today and cannot wait for the new order of respirators to arrive. Respirators can be purchased at a hardware store but are more expensive than when the company buys them in bulk.

Scenario # 3:

You work for a landscaping firm and often ride from site to site in a company truck. One of your coworkers, who is old enough to drive on the job, drives the truck. He is a very reckless driver and takes many chances when out of view of your supervisor. You feel very unsafe when riding with him.

Scenario # 4:

You are working on a local farm. The farmer has just started spraying pesticides on his fields, and he has asked you to handle the pesticide containers and sprayers. Neither of you received gloves or respirators or had any training.

The farmer is in a hurry to get the job done before it rains. Rain is expected throughout the remainder of the week. If you ask for gloves and respirators, the farmer will have to go buy these supplies. You could lose several hours of work time.

Scenario # 5:

Both of you work at a local convenience store. Your supervisor has just decided to make each of you take turns working alone in the store in the evenings. This decision makes both of you very nervous. Someone could rob you or assault you, and no one would know. Since your employer trusts you, she specifically wants you both to work the evening shift but doesn't want to have more than one employee working at one time.

Scenario # 6:

You are working as health assistants at a local hospital. You work closely with one of the nursing staff there. She is always in a hurry and asks you to take a lot of risks when working with patients, such as not wearing gloves and handling used needles very carelessly.

Whenever you make suggestions or question her judgment, she brushes you both off and says you do not know anything. You are only teenagers.

Scenario # 7:

You just got summer jobs mowing alongside county roads. Your supervisor asks you both to mow a hillside with a very steep embankment. You notice the tractors have no rollover protection.

Several teenagers applied for these jobs, because they pay very well. Your supervisor chose you both on a trial basis to see if you could handle the job.

Scenario # 8:

You got a job detasseling corn. You work very long hours. On some days, it is incredibly hot work. Your employer is not around very much. She has not supplied you with water or shade, bathroom facilities, or a vehicle to ride in, if someone should get sick or injured.

Name: _____ Class Period: _____

Role-play Scenarios Worksheet

Question # 1: What is the safety hazard in this situation?
Question # 2: Who should you talk to about this situation?
Question # 3: Are there any laws that would protect you in this situation?
Question # 4: List at least three options for handling this situation?
Question # 5: What do you think is the best option?
Question # 6: Who else might help you deal with this safety or health concern?

Now use the S.A.F.E. steps on the overhead to help you prepare for your role-play presentation.

Name: _____ Class Period: _____

Putting Work Safety Into Practice
In-Class Assignment

Write a one- to two-page essay about a safety hazard you've experienced at work or learned about in one of the previous lessons. How would you argue for correction of the hazard, if your employer voiced one of the following objections?

1. I can't afford to make the safety changes.

2. The safety changes will make the job go slower and time is money.

3. We've always done it that way here and nobody has ever gotten hurt. Why should we change?

Use the S.A.F.E. strategies and materials from prior lessons to make your case.

Glossary

Absorption: To take a substance into the body, usually through the skin.

Acute injury or illness: An illness or injury that happens immediately after exposure to a hazard. Acute illnesses and injuries are usually short-term.

Administrative controls: Rules, regulations, or procedures to control or limit employees' exposures to potential hazards.

Benefits: Positive contribution to a person's life; advantages.

Cardboard compactor: A machine that crushes cardboard boxes and ties them into bundles. Bundles are then more easily recycled.

Child labor laws: Laws that protect children's rights in the workplace.

Chronic injury or illness: An illness or injury that persists over time.

Combine: A machine used for harvesting and threshing grain.

Confined space: Any space with limited openings and poor ventilation that can cause harm due to toxic gases or lack of oxygen.

Decibels: The units by which the intensity of sound is measured.

Dust: Tiny particles of solids.

Ear protection: Hearing protection, usually earplugs or earmuffs.

Engineering controls: Protective measures taken to prevent exposure to a hazard by changing the equipment or instruments that are used to do a job.

Ergonomics: Practices that make a job fit the worker instead of force the worker to fit the job.

Fair Labor Standards Act: Enacted in 1938, this act protects the rights of all workers, including children. The act played an important role in making the workplace safer for children.

Grain bin: A container in which grain is stored.

Hazard: Anything that can harm a person—physically or mentally.

Hazard map: A map showing the location of hazards in a workplace.

Hypothermia: An illness caused by loss of heat in the body.

Illness: The condition of being in poor health; sickness; disease.

Ingestion: Taking a substance into the body through the mouth; swallowing.

Inhalation: To breathe a substance into one's lungs. Substances that are inhaled may then spread to the bloodstream.

Injury: Harm or damage done to a person's body.

Limitations: Restrictions or negative results of an action, such as the enactment of a law.

Material Safety Data Sheet (MSDS): Detailed information sheet on chemicals and their ingredients, safety precautions, and use. MSDS generally are prepared and made available by chemical manufacturers.

Microorganisms: Microscopic organisms such as bacteria, viruses, and molds.

Permanent injuries or illnesses: Injuries or illnesses that remain with a person for the rest of his or her life.

Personal protective equipment: Equipment workers wear to act as barriers between themselves and hazards.

Power takeoff: A rotating shaft that powers a moving piece of equipment, often seen on a farm.

Prevention strategy: A variety of actions that can be taken to prevent injuries or illnesses from happening in the workplace. Administrative controls, building barriers, and communication are three main categories of prevention strategies.

Risk: The chance that an injury or illness will happen given certain workplace conditions.

Routes of entry: The different ways hazardous substances can get into the body.

Safety action plan: A guide that is used to implement safety changes in the workplace.

Safety team: A group of people, either employees or outside consultants, who work to create a safer workplace for a particular business or organization.

Temporary injuries or illnesses: Injuries or illnesses that last a short period of time.

Vapors: Tiny drops of liquid suspended in the air.

Worker safety laws: Laws that protect the health and safety of workers, including children.

Workplace hazard: Anything in the workplace that can harm a person—physically or mentally.

Workplace biological hazard: Hazards in the workplace caused by contact with living things or their byproducts.

Workplace chemical hazard: Any chemical in the workplace that can cause injuries or illnesses.

Workplace physical hazard: Hazards in the workplace caused by the transfer of energy from one object to another.

Worker Safety and Health Education Resources

General Worker Safety Information

- **United States Department of Health and Human Services, Centers for Disease Control and Prevention. *Preventing Deaths and Injuries of Adolescent Workers*. May, 1995.** (NIOSH 95-125)

  An 11-page report on adolescent injury statistics and worker safety regulations.

- **U.S. Department of Labor, Occupational Safety and Health Administration. *Personal Protective Equipment.* (OSHA 3077), 1998. Chicago Office: (312) 353-2220. http://www.osha.gov**

  A 30-page booklet covering the various regulations related to the use of protective equipment in the workplace.

- **United States Environmental Protection Agency. *A Guide to Heat Stress in Agriculture*. (EPA-750-b-92-001), 1993. Chicago Office: (312) 886-6006.**

  A 44-page booklet describing the various safety measures that can be taken to prevent heat stress in agricultural occupations.

- **National Research Council Institute of Medicine. *Protecting Youth at Work: Health, Safety, and Development of Working Children and Adolescents in the United States*. Washington, D.C.: National Academy Press, 1998.**

  A general report on health and safety issues of working teens.

Child Labor Information

- **American Federation of Teachers. *Child Labor: A Selection of Materials on Children in the Workplace*. American Federation of Teachers, International Affairs Department, 555 New Jersey Avenue, N.W., Washington, DC 20001-2079, 1994. http://www.aft.org**

  A compilation of journal articles and reports on the current status of child labor around the world. Appropriate as background reading for a teacher.

- **Mofford, Judith, ed. *Child Labor in America.* Carlisle: Discovery Enterprises, Ltd., 1997.**

  A collection of stories and photographs depicting the history of child labor in the United States.

- **Parker, David. *Stolen Dreams: Portraits of Working Children.* Minneapolis: Lerner Publications Company, 1998.**

  With vivid pictures, the author describes the current state of child labor in developing countries. This book provides timely information at a level appropriate for high school students.

- **Saller, Carol. *Working Children*. Minneapolis: Carolrhoda Books, Inc., 1998.**

  Using historical photographs, the author recounts the history of child labor in this country. Geared to students with a lower reading level.

- **Weiner, Myron. *The Child and the State in India*. Princeton: Princeton University Press, 1991.**

  This book reviews both the state of child labor in India, as well as the history of child labor in the United States and other countries. This book would be helpful as background reading on the topic.

Worker Safety Curricula

- ***Teens, Work and Safety: A Curriculum for High School Students*. Labor Occupational Health Program, Center for Occupational and Environmental Health, University of California, Berkeley, 1997.**

  A comprehensive curriculum providing lesson materials geared to English, science, U.S. government and social studies content areas.

  This same organization has developed a series of booklets on workplace safety. Titles include the following:

  "Worker's Guide To Toxics On The Job"
  "Welder's Guide To Toxics On The Job"
  "Construction Worker's Guide To Toxics On The Job"
  "Machinist's Guide To Toxics On The Job"
  "Collision Repair Workers' Guide To Toxics On The Job"

Worker Safety Organizations

- ***Farm Safety 4 Just Kids*, 110 South Chestnut Avenue, P.O. Box 458, Earlham, IA 50072-0458. Phone: 1-800-423-5437 or (515) 758-2827. http://www.fs4jk.org**

  An organization whose sole purpose is to provide educational resources on farm safety for children. Many of their products are geared to elementary age children, but some could be adapted to a teen audience.

- ***Minnesota Department of Labor and Industry*, 443 Lafayette Road, St. Paul, MN 55155. Phone: (651) 284-5005-messaging system; (651) 284-5000-Front Desk. Toll-free: 1-800-342-5354. Email: workerhealth@health.state.mn.us**

  This organization provides up-to-date information on Minnesota's worker safety laws and legal issues in the workplace.

- ***Farm Safety and Health Information Clearinghouse,* Department of Biosystems and Agricultural Engineering, 219 Biosystems & Ag. Engr., 1390 Eckles Avenue, St. Paul, MN 55108-6005. Phone: (612) 624-7444**

  This organization provides curriculum materials and general information on farm safety.

- ***Minnesota Extension Service,* University of Minnesota, 240 Coffey Hall, 1420 Eckles Avenue, St. Paul, MN 55108-6070. Phone: (612) 625-1915**

  Your local county extension office can give you more information about farm safety. Look in your local phone book for your county office phone number or call this general number for information.

Internet Resources

- **Minnesota Department of Health Center for Occupational Health and Safety**
  http://www.health.state.mn.us/divs/dpc/cdee/occhlh.htm

  This website provides information on the programs and activities within the MDH Center for Occupational Health and Safety.

- **U.S. Department of Labor**
  http://www.youthrules.dol.gov **(*This website currently having problems*).**
  Try: http://www.dol.gov/dol./topic/youthlabor/index.htm

  This website has a wealth of information about teen work safety. Learn about worker safety laws and how to be safe in the workplace.

- **Minnesota Department of Labor and Industry**
  http://www.doli.state.mn.us/childlbr.html

  This website provides up-to-date information on Minnesota's worker safety laws. Visit this location on their website for information specific to teen labor laws: http://www.doli.state.mn.us/laborlaw.html#Child

- **Minnesota Safety Council**
  http://www.mnsafetycouncil.org/home.cfm

  This website provides general safety information.

- **Farm Safety and Health Information Clearinghouse**
  http://www.safety.coafes.umn.edu

  This website provides a wealth of information about farm safety. It is an excellent place to start learning about safety issues on a farm.

- **National Farm Medicine Center**
  http://www.marshfieldclinic.org/nfmc

  This website provides information on farm safety issues. By going to the following address on their website, you can find additional links to other resources: http://www.marshfieldclinic.org/nfmc/resource/default.htm

- **Minnesota Extension Service — County Offices**
  http://www.extension.umn.edu/offices/

  Your county extension office can provide you with farm safety information. Look up your local extension office address and phone number at this website location.

Related Minnesota Graduation Standards

This chart shows which Minnesota graduation standards are related to each lesson in this curriculum.

Minnesota Graduation Standards	Curriculum Lessons								
	1	2	3	4	5	6	7	8	9
Technical Reading and Listening	•	•	•	•					
Academic Writing	•		•	•			•	•	
Public Speaking					•				
Interpersonal Communication	•	•	•	•		•	•	•	•
Issue Analysis							•	•	
Social Science Process			•						
United States Citizenship						•	•	•	•
Institutions and Traditions In Society						•			
Individual and Community Health		•	•	•	•			•	•
Occupational Experience		•	•	•	•	•	•	•	•