

PROBLEM SOLVING FOR SAFETY

Teaching activities for Career Technical Education (CTE)
and other workforce development programs.

Building Critical
Thinking and
Communication
Skills for Safety on
the Job

These four lessons focus on the skills every worker needs to participate effectively in any worksite health and safety program—the ability to a) recognize the hazards and underlying factors that lead to injury and illness; b) identify the best ways to set up the workplace or task to protect workers; c) understand basic workplace rights and protections; and d) think strategically and communicate effectively to address problems on the job. These lessons are designed to complement other health and safety training you may provide, such as OSHA-10 or other task-specific procedures.

Portions of these training activities are adapted from:

- The OSHA's 11 curriculum, <http://youngworkers.org/our-materials/teachers/#osha8217s-11-curriculum-2009>
- Youth @ Work—Talking Safety, National Institute for Occupational Safety and Health, <https://www.cdc.gov/niosh/talkingsafety/>
- Training materials from the Worker Occupational Safety and Health Training and Education Program (WOSHTEP), administered by the Commission on Health and Safety and Workers' Compensation in the Department of Industrial Relations, <https://www.dir.ca.gov/chswc/woshtep.html>

These lessons and the accompanying PowerPoint presentation can be downloaded here:

<http://youngworkers.org/our-materials/teachers/>

For More Information

- LOHP, UC Berkeley:
 - Website: www.lohp.org and www.youngworkers.org
 - Facebook: www.facebook.com/LaborOccupationalHealthProgram/
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- Occupational Health Branch, CDPH
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Problem Solving for Safety:

Building Critical Thinking and Communication Skills for Safety on the Job

(4 lessons, 45-60 min each)

Overview

Lesson/Activities	Materials & Resources
Lesson 1: Systems of Safety A. Intro: Importance of systems of safety (5 min) B. Activity: Understanding underlying causes of injury (case study) (15 min) C. Quiz: Know your Rights (20+ min) D. Wrap-Up: Being involved in the safety system (5 min)	<ul style="list-style-type: none">• Slides #1-9• Board and markers• Factsheet A: Worker Health & Safety Rights & Responsibilities• Factsheet B: The IIPP Standard• Worksheet #1: Quiz
Lesson 2: Understanding Hazard Control A. Hazard ID: quick review of hazards in your industry (10 min) B. Activity: Safety Bull's Eye Game (35 min)	<ul style="list-style-type: none">• Slides #10-24• Board and markers• Pads of post-it notes, a different color for each team• Prizes (optional)• Factsheet C: Controlling Hazards (optional)
Lesson 3: Practice: Job Hazard Analysis A. Intro: What is a JHA? (15 min) B. Practice in small groups/report back (30 min)	<ul style="list-style-type: none">• Board and markers• Worksheet #2: JHA
Lesson 4: Communicating about Safety on the Job A. Intro: Steps in Problem Solving (10 min) B. Small group activity: role play (30+ min) C. Wrap-up discussion (5+ min)	<ul style="list-style-type: none">• Slides #25-28• Board and markers• Factsheet B: Worker Health & Safety Rights & Responsibilities• Worksheet #3: Problem on the Job

Lesson 1: Systems of Safety

Learning Objectives

By the end of this lesson, students will be able to:

- Identify the underlying factors that contribute to workplace injuries and illnesses.
- Describe five health and safety rights or protections that all employees have.
- Discuss the benefits of an effective safety and health program (IIPP), including roles for employee involvement.

Time Needed: 45-50 minutes

Materials Needed

- Slides #1-10
- Board and markers
- *Factsheet A: Worker Health & Safety Rights & Responsibilities*
- *Factsheet B: The IIPP Standard*
- *Worksheet #1: Quiz*

Detailed Instructor's Notes

A. Overview: Systems of Safety (5 minutes)

1. **Introduce the topic.** (Show **Slide #3.**) Many of you have learned about specific health and safety issues as we've worked in this class; for some, this may be a new topic. With these next few lessons, we are going to focus on the overall programs and systems that need to be in place to ensure that you are safe on the job. You'll learn about your most basic protections as an employee in California as well as the important role workers can play in ensuring that hazards are identified and fixed.

First, let's talk about all the things that can contribute to an injury happening.

B. Underlying Causes of Workplace Injuries and Illnesses (20 minutes)

1. **Discussion:** Why do injuries and illnesses occur in the workplace?

Show **Slide #4**, *Agree or Disagree?* and read aloud:

"Most injuries and illnesses on the job happen because workers make mistakes or are careless."

Ask everyone to discuss this statement with their neighbor. They should talk about whether they agree or disagree, and why they think incidents happen. Give people five minutes for discussion.

Ask the class:

How many of you agree with the statement? How many disagree? Why do you think most job injuries and illnesses happen?

2. **Have people brainstorm** a list of possible answers. List responses on a flipchart page. Add or ask about some examples if needed. Responses may include:

Possible Causes of Injuries

- Being careless
- Making mistakes
- Lack of training
- Being in a hurry or taking shortcuts
- Repetitiveness of the job
- Understaffing
- The work area not set up right
- Not having the right tools or equipment
- Working overtime or working too many hours without sleeping
- Not following proper procedures

Explain that you will come back to this list.

3. Show **Slide #5, Accidents in the News.**

Talking points:

- Often, when incidents are investigated there can be a tendency to blame the worker for his or her own injury. If we are injured, sometimes we even blame ourselves. This focus on individual behavior emphasizes what the worker did wrong. People say he or she was careless or not following the right procedures. This approach leads to a prevention strategy that tries to change the individual behavior of workers to get them to work more safely.
- But often, if you look at a particular incident more closely, it becomes clear that multiple factors contributed to it. Even when a worker **did** make a mistake, we need to ask **why** that error was made. We should ask:
 - Are there conditions in the workplace that caused that mistake or made it very likely? What is it about these conditions that allowed a mistake to occur?
 - If procedures weren't being followed, **why** weren't they followed?
 - Is there something wrong with the systems, policies, or conditions in the workplace that should be changed?

4. Show **Slide #6 (Iceberg)**

- This slide shows one way of thinking about this. The top of the iceberg – the part you can see – represents the **direct cause** of the injury. This is **what** happened. But often there is a lot happening below the surface that contributed to the incident and made it likely the incident would occur. This part of the iceberg represents the **underlying causes**. Remember that most of the iceberg is hidden below the surface.
- Human error may be a factor in the cause of an incident, but often it is not the primary cause. In studying incidents, people often just describe “**what** happened” – the **direct cause** of an event. It may include a technical failure (a ladder broke or a seal failed) or an unsafe act (pushing the wrong button or failing to follow procedures). Instead of just asking **what** happened, we need to ask **why** it happened.
- This is called finding the **underlying**, or **root**, cause of an incident. Underlying causes are the primary reasons for a workplace injury or “near miss.” They are the hidden safety problems that play a role in an incident and might contribute to the next one. They are conditions that make it harder for people to do their jobs, and make worker mistakes more likely. When investigating an injury or illness at work, you need to look at the underlying causes.

5. Show **Slide #7**, *Tom’s Story*.

Explain:

Let’s look at a story that illustrates this point. We will see what happened to one worker and try to find the underlying causes of this injury. Read the story aloud.

Read the story aloud:

Tom works in a warehouse transporting boxes to different locations using a cart. When things are busy workers need to keep the carts completely loaded so they can make as few trips as possible. When full, the cart weighs several hundred pounds.

Workers are told to push (not pull) their carts to put less strain on the back. When the carts are full, Tom can’t see around his cart when he pushes and worries about hitting people. It’s also hard to push the heavy cart over the uneven surface of the warehouse floor.

Because he had to twist his body to pull the cart, Tom suffered a lower back injury. He was reprimanded by his supervisor for not following proper procedures.

Ask the class:

Why did the supervisor think Tom got injured?

- The supervisor said he didn’t follow procedures because he pulled the cart rather than pushed. [Tell the class that this would be the **direct cause** of the incident.]
- What was the supervisor’s solution to this problem?
- He reprimanded Tom for not following procedures, believing this would change his behavior in the future.

Did this solve the problem?

- No.

Why not?

- It didn't address the underlying causes of the injury.

What are some possible underlying reasons why Tom didn't follow the procedures?

- The cart was loaded so high with boxes that he couldn't see ahead of it while pushing.
- It was hard to push the fully loaded cart over uneven floor.
- The workload was too heavy. Tom needed to fill his cart as high as possible, rather than make extra trips.
- He didn't speak up about his concerns.

What are some possible solutions to these underlying issues?

- Create a policy that limits the number of boxes than be loaded on the cart.
- Use smaller, lighter carts.
- Get casters that roll more easily over the uneven surface. [or fix the walking area.]
- Have more workers available to transport boxes, so the carts don't need to be overloaded.
- Give workers enough time to take more trips.
- Encourage workers to speak up when there is a problem.

Why do you think Tom didn't speak up?

- Fear of retaliation.

What steps can be taken to ensure that workers can speak up without fear?

- Suggestion box/system for anonymous reporting
- Safety culture that values workers' speaking up.

Explain:

It is against the law in California for workers to be retaliated against for speaking up about a safety issue or getting injured on the job.

Solutions that deal with underlying causes are likely to be more effective in reducing injuries and illnesses. Just reprimanding Tom will not keep others from having the same injury. To prevent injuries, it is important to look not only at individual actions but also at the policies, job tasks, procedures, and conditions that allowed that incident to occur.

In Tom's case, these included:

- Procedures that didn't account for real-life conditions. For example, it was impossible for Tom to push, not pull, because he couldn't see ahead.
- The work environment wasn't set up properly. For example, the floor was broken and uneven.
- The work pace and workload led to the need to load up the cart higher than was safe.
- Training was inadequate. For example, Tom might not have had training that let him know who to talk to if there was a problem or encouraged him to speak up.

Of course, people make mistakes. But when mistakes happen, you always want to ask why. Focusing only on an individual worker's actions may prevent that particular worker from making the same mistake again, but will do nothing to prevent similar problems by others in the future.

In contrast, the best way to prevent injuries is to fix the underlying policies, procedures, and conditions that contribute to them.

6. **Go back to the list, *Possible Causes of Injuries***, that you made earlier on a flipchart page. If participants included worker behaviors (such as not following procedures, being careless, or being in a hurry), ask them to think about **why** workers might behave that way. Let people respond, and then add to the list yourself:
 - Not enough training
 - A push for production that encourages shortcuts
 - Procedures that don't make sense or don't match the reality of the job
 - Fatigue after working long hours
 - Increased workload (more job duties or faster pace)
 - Fear of complaining.

The most important question to ask is "Why?"

C. Quiz: Know Your Health and Safety Rights on the Job (20 minutes)

1. Hand out **Worksheet #1, *Know Your Health and Safety Rights on the Job***.

Introduce the activity:

In this next section, we're going to review what you know about your health and safety rights and responsibilities. This is not a test. You won't be turning in your answer sheet. Don't use the information in the fact sheet to answer the questions.

Work with your neighbor to complete the worksheet. Decide together whether you think each statement is true or false. Later we will discuss the answers together.

2. **Let people work on the quiz for 5 minutes.** Then bring everyone back together and read each statement to the class. For each statement, ask how many people believe the statement is true and how many believe it's false.

Ask participants to explain why they think the statements are true or false. Make sure the information below is provided through the participants' answers or your own.

Talking Points for the Quiz (*Know your health and safety rights on the job*):

1. ***The employer, the workers, and the union, if there is one, are all legally responsible for providing a safe and healthful workplace.***

False. Under both the federal and the state Occupational Safety and Health Acts, only the employer is legally responsible for providing a safe and healthful workplace.

Add the following information:

Your employer is responsible for having an effective health and safety program that includes systems for identifying and fixing hazards, investigating incidents and providing health and safety

training. These requirements are found in the Injury and Illness Prevention Program (IIPP) regulation which we will be discussing later in the class.

Workers and unions do still have a role to play in promoting safe and healthy workplaces. For example, workers have the responsibility to follow safety rules.

Unions also play a role in supporting health and safety prevention efforts. For example, a union can add language to the contract about health and safety issues, bring in outside health and safety experts, and request and analyze various employer records.

Workforce development programs can also play a role in supporting health and safety prevention efforts. A program can work jointly with employers and industry experts to identify and resolve hazards within a specific industry and develop safety guidelines that are stronger than required regulations.

However, while workers, unions, and workforce development programs can make important contributions, they are not legally responsible for making the workplace safe. This is the responsibility of the employer.

2. Employers must provide you with training and information on chemicals and other hazards on the job.

True. Under the Illness and Injury Prevention Program Standard (IIPP) (CA Code of Regulations Title 8, Sec. 3203 and 1509) the employer must train you on any hazard you are likely to encounter in your workplace. This includes safety hazards, chemical hazards, biological hazards, ergonomic hazards, or workplace violence.

In addition, under the Hazard Communication Standard (CCR Title 8, Sec. 5194) if you work with chemicals, all chemicals must be labeled, your employer must keep Safety Data Sheets (SDSs) and give you access to them, and your employer must provide training on those chemicals—what they are, what health effects they may cause, and how you should protect yourself against them.

3. The law says your employer must provide you with the required personal protective equipment and clothing free of charge.

True. In most cases, if protective equipment is required to do the job safely, the employer must provide that equipment. If it is clothing that can be worn outside of work (such as non-slip shoes), the employer is not required to provide it, but many do. (CCR Title 8, Sec. 3380.1).

4. Workers in California may refuse to do work that poses an immediate and serious threat to their health or safety.

True. Under the California Labor Code (Title 8, Section 6311), workers have the right to refuse to do work that is likely to create a “real and apparent” hazard that could cause serious injury or death. This is called the “right to refuse.”

Add the following information:

Successfully exercising the “right to refuse” is difficult. In California, the right applies only if the worker has a “reasonable belief” that there is a serious danger of injury or illness and that the work would violate a Cal/OSHA standard or state law. Examples include working in a confined space with dangerous vapors and no protective equipment, training, or rescue apparatus available, or working at heights with an unstable scaffold and no fall protection devices.

In these cases, it is illegal for the employer to retaliate against a worker for exercising his/her right to refuse hazardous work.

Ask:

Can someone describe the steps you should take if you think you might face a serious and immediate risk to your health and safety?

- 1) The worker should inform the employer of the hazard and try to get it corrected.
- 2) If it is not corrected, explain why he/she is refusing to do the hazardous task, and
- 3) Agree to do other work while the hazard is addressed.

If not comfortable doing this, he/she could talk to a union representative (if there is a union) or a trusted co-worker before refusing. Workers might want to consider presenting the problem to the employer as a group.

The worker should document the problem in writing and keep a record of any efforts made to resolve it with the employer. He/she should always involve co-workers. Alert them to the problem and get their confirmation that a hazard exists.

5. *It is illegal for a California employer to fire a worker because he/she complains about unsafe conditions on the job.*

True. Under the California Labor Code (Title 8, Section 6310), employers may not retaliate against workers who complain about job safety or health hazards or who file Cal/OSHA complaints. If you feel you have been discriminated against, you may file a complaint with the Division of Labor Standards Enforcement (Labor Commissioner) within six months after action was taken against you.

Add the following information:

It is often hard to prove that workers have been discriminated against because they tried to exercise their health and safety rights. Whenever possible, involve co-workers or others who can support you, and serve as witnesses if necessary. This may make it less likely for the employer to retaliate. It is important that workers who believe they have been retaliated against keep careful records of what happened and get the support of witnesses.

6. *If you suspect that something is hazardous in your workplace, the best course of action is always to call Cal/OSHA right away.*

False. Although it depends on the nature and the severity of the hazard, there may be other methods for addressing it than to call Cal/OSHA.

If possible, try to resolve problems with the employer first. Steps for resolving problems include:

- Gathering information
- Documenting the problem
- Involving co-workers
- Coming up with ideas for solutions
- Approaching management and/or supervisors to propose solutions
- Talking to the workplace health and safety committee, or union, if there is one.

You **should** call your Cal/OSHA district office right away if there is a hazard that is likely to cause a serious injury or death if not corrected, and if the employer does not take immediate action to protect the workers.

7. *You are not entitled to workers' compensation benefits if it was your fault you got hurt at work.*

False. California's workers' compensation system is a no-fault insurance system established by the State of California to provide workers with benefits when they suffer work-related injuries or illnesses. "No-fault" means injured workers are entitled to benefits regardless of whose fault it is that they got injured. The trade-off is that, in most cases, workers can't sue their employers if they are hurt at work. All employers in California are required to have workers' comp insurance.

D. Wrap-up: Worker Involvement in Safety System (5 minutes)

Show **Slide #8, Cal/OSHA Standards**. Explain that Cal/OSHA regulations are called "standards", and include many of the rights and protections we have been talking about. Some standards are general and apply to most workplaces, like the Injury and Illness Prevention Program regulation, which requires that every California workplace has an effective health and safety program. Others are specific to particular types of work or hazards and set out specific protections that need to be in place when exposed to a particular hazard, e.g. noise, heat, forklifts, etc.

Pass out **Fact sheet A**, which has more information about some of these rights.

Show **Slide #9, Cal/OSHA's IIPP Standard**. This important California regulation sets out your employer's responsibility to provide a safe and healthy workplace and describes what every employer must include in their health and safety program, called an Injury and Illness Prevention Program (IIPP). This includes

- having a plan for regularly identifying and correct hazards on the job,
- providing health and safety training to employees on all job hazards, and
- having ways for employees to actively participate in the health and safety program.

Pass out **Factsheet B, The IIPP Standard**.

Ask:

Why is it important for workers to be involved in the safety program?

- Workers have firsthand experience with what the problems might be and may have ideas about the best ways to address them.

What are ways that you, as the employee, should be involved in the safety system/IIPP in your program or workplace?

- Hazard Identification (*For example, are you involved in inspections? How else can hazards be identified in a workplace?*)
 - Inspections
 - Reporting systems for workers to report hazards they see
- Hazard control (*Are there ways for you to make suggestions?*)
 - Talking to your supervisor
 - Suggestion box
 - Safety meetings where you are asked for ideas
- Communicating/speaking up about safety issues (*What opportunities are there to communicate about safety?*)
 - Safety meetings where you are asked for ideas
 - Suggestion box
 - Environment feels safe to make suggestions

Wrap up:

Although it is the employer's legal responsibility to provide a safe and healthy workplace, you also need skills to participate actively in the employer's health and safety program. You need to be able to recognize hazards, help think of solutions to address these problems, and know how to problem-solve and communicate about these issues on the job. These problem-solving skills can help you be a leader in helping to create a safe and healthful workplace for all employees.

Lesson 2: Understanding Hazard Control

Learning Objectives

By the end of this lesson, students will be able to:

- Describe the different ways hazards can be controlled, recognizing that some solutions to workplace hazards are more protective than others.
- Explain that the best way to address a hazard is to eliminate it, if at all possible.
- Brainstorm ideas for controlling hazards in a specific workplace.

Time Needed: 45-50 minutes

Materials Needed

- Slides #10-24
- Safety Bull's Eye Scenarios – Select 3 from pages 17-24
- Board and markers
- Pads of post-it notes, a different color for each team
- Prizes (optional)
- *Factsheet C: Controlling Hazards* (optional)

Detailed Instructor's Notes

A. Hazard ID: Quick review of hazards in your industry (10 minutes)

1. Introduce the topic.

Remember, the first step in an effective health and safety program is for the employer and workers to know what the hazards are in the workplace. A job hazard is anything at work with the potential to harm you either physically or mentally. Some job hazards are very obvious, but others are not. We are going to spend just a few minutes reviewing the key hazards you face in your industry, before talking about ways to think about “controlling” or addressing those hazards.

2. Write these categories across the top of a piece of flipchart paper:

Safety Hazards Chemical Hazards Biological Hazards Other Health Hazards

3. Explain that job hazards can be divided into the following categories:

- **Safety hazards** can cause immediate incidents and injuries. Examples are hot surfaces, broken ladders, and slippery floors. Safety hazards can result in burns, cuts, broken bones, electric shock, or death.

- **Chemical hazards** are gases, vapors, liquids, fumes, or dusts that can result in poisoning, lung disease, skin irritation, or damage to other parts of the body. Examples include cleaning products, asbestos, and pesticides.
- **Biological hazards** are living organisms that can cause infectious diseases and allergies. They include viruses, bacteria, and molds.
- **Other health hazards** are additional workplace conditions that can make you sick. Examples are noise, heat, repetitive motions, and stress. For the purpose of this discussion we will group these together as “other health hazards.”

Explain:

Some hazards harm you right away, like safety hazards or chemicals that cause rashes. But sometimes the symptoms of illness appear months or years later. These long-term effects, for example, might include wear and tear on the body from repetitive motion, or lung disease from asbestos exposure.

4. **Brainstorm possible job hazards** people face in your industry. As participants answer, list each hazard in the matching column on the flipchart paper. If they call out an injury or illness (for example, a cut) rather than what causes the cut (knives), ask them to give the cause instead. This will help later when participants discuss how to eliminate the hazard.

Ask the class:

What kind of hazards do you and your co-workers face in your industry? Let’s make a list of these hazards and put them in the categories. Your completed chart may have some of these examples:

Safety Hazards	Chemical Hazards	Biological hazards:	Other Health Hazards
<ul style="list-style-type: none"> • hot surfaces • slippery floors • working at heights • machines • knives • hot grease • electricity • lack of fire exits • cluttered work areas • violence • heavy lifting • inadequate lighting 	<ul style="list-style-type: none"> • cleaning products • pesticides • solvents • acids • asbestos • carbon monoxide • coolants • paint 	<ul style="list-style-type: none"> • molds • HIV, Hepatitis, other viruses • bacteria • animals • insects 	<ul style="list-style-type: none"> • noise • radiation • heat or cold extremes • ergonomic hazards including repetitive motion, awkward posture, lifting • stressors such as fast pace of work, working with the public

5. Summarize this section.

Explain:

Remember, the Cal/OSHA IIPP standard requires that employers have a system to identify the hazards that could harm employees. When workplace health and safety hazards are investigated, it is important to think about the whole range of hazards – those that are visible, like a broken piece of equipment, and those that may be hidden, like stress, repetitive motions, or chemicals.

Remember that some chemicals, like carbon monoxide, have no taste or odor so you may not even know you are being exposed to them.

Having systems for identifying hazards in a workplace, and involving employees in that process, is a required part of the IIPP standard. *What are ways that you are involved in that in your class, or worksites?*

- Workers can participate in walk-through inspections (with checklist). These can be scheduled on a regular basis or randomly.
- Workers can report hazards to their supervisor or safety committee.

B. Controlling Hazards in the Workplace: Safety Bull's Eye or Hierarchy of Controls (35 min)

1. Introduce the topic:

Once hazards are identified, they need to be addressed and controlled. This is another important area where you, as an employee, can play an important role in your employer's safety program (IIPP). It's important for you to understand the all the ways that a workplace or specific job tasks can be set up safely, to prevent employees from being injured.

2. Show Slide #10, *Understanding the Hierarchy of Controls*.

Explain:

There are many different ways to set up a workplace or job tasks to prevent employee exposure. We can think in terms of a "hierarchy" of possible solutions, with the most effective kind of solutions at the top. The best way to protect workers is to remove the hazard—eliminating, substituting or "engineering out" the hazard—the top three categories you see on the slide. Cal/OSHA regulations require that the employer's first priority is to remove the hazard if possible. Some examples of this are:

- **Elimination:** Using machines to lift heavy loads eliminating the lifting hazard.
- **Substitution:** Substituting safer chemical products, such as water-based products, for more toxic ones.
- **Engineering:** Installing ventilation to remove chemicals from the air workers breathe, engineering out that hazard.
- **Engineering:** Putting guards on machines to prevent injuries.

These are called **Elimination, Substitution, or Engineering Controls**. They are considered most effective because they get rid of the hazard at the source, they don't rely on people to follow procedures, and they don't allow for shortcuts.

Ask the class:

What are some examples of removing the hazard—elimination, substitution, or engineering controls—in the work you do?

Explain:

Another way to protect workers is to set up work policies and procedures that cut down exposure to hazards by changing how the job is done. Examples are:

- Providing breaks.
- Requiring that two people always lift heavy objects.
- Training workers in safe work practices.

These are called **Administrative Controls**.

Ask:

What are some examples in the work you do?

Explain:

Personal protective equipment, or PPE, is worn on the body and protects you from exposure to a hazard. It includes gloves, goggles, respirators, earplugs, hard hats, coveralls, safety shoes, etc.

Ask:

Why is PPE usually considered less effective than the other methods?

Talking points:

- It doesn't get rid of the hazard itself.
- Workers may not want to wear it because it is uncomfortable, hot, and may make it hard to communicate.
- It has to fit properly to work, and in many cases must be cleaned and inspected often.
- It has to be the right type for the particular hazard, such as the right respirator cartridge or glove for the chemical being used.
- Workers must know and remember how to use it properly.
- Some PPE creates its own hazards, such as heat, heavy weight, reduced visibility and hearing, and restricted movement.

Explain:

Wear PPE when other methods of controlling hazards aren't possible or don't give enough protection. The hazard should be eliminated or work policies or procedures changed first, if possible.

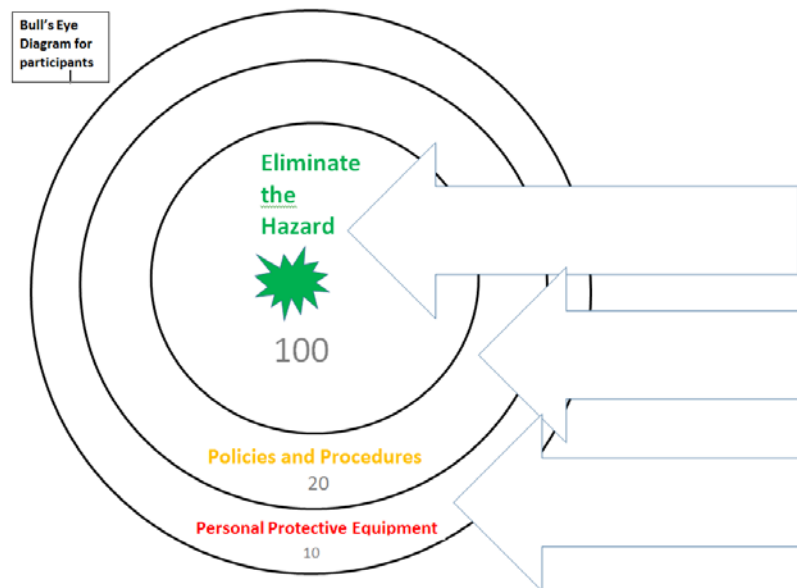
3. Summarize key points about the different control methods.**Explain:**

Sometimes you may need a combination of methods to control a hazard. Even when engineering controls (eliminate the hazard) are used, you usually need training programs and other workplace policies and procedures as well. There may also be situations where PPE is essential because the hazard can't be eliminated, like wearing a hard hat on a construction site or using gloves when working with chemicals.

4. Set-up the Safety Bull's Eye Game (Slide #11).

Alternatively, if you do not want to teach this as a game, you can discuss the stories as a class, or divide the class into groups of 4 and have them discuss and then report back on potential controls for each story. Assign one or more story to each group.

For the activity, draw a large Bull's Eye on the whiteboard or a flipchart page, with a large center. Divide the Bull's Eye into three sections as shown below.



For the game, explain:

We will learn more about these control methods during the next activity. We will use this bull's eye target to aim for the best controls:

- Write "Eliminate the Hazard" in the middle circle. Explain that ideas that eliminate the hazard will be worth 100 points.
- Write "Policies and Procedures" in the next circle. These ideas will be worth 20 points.
- Write "Personal Protective Equipment" in the outer circle. These ideas will be worth 10 points.

You will work in teams to play the **Safety Bull's Eye game**. You will work in teams to practice finding solutions for hazards.

During each round of the game, I will read aloud a story about someone who got hurt, killed, or sick on the job. Each team will have **one minute** to come up with ways this injury or illness could have been prevented. Each team will have a pad of Post-it notes on which to write its solutions. Only one person from each team may be the writer for that team.

For each story, your team may propose as many solutions as you can think of. Your team will pick **one person** to write **each solution on a separate Post-it note**. When the time is up, someone

from your team should come up and post all your Post-it notes in the appropriate categories on the bull's eye chart—in the “Eliminate the Hazard” circle, the “Policies and Procedures” circle, or the “PPE” circle.

Explain how points are calculated. To be valid, a solution must:

- Relate to the story
- Be realistic
- Be specific (for example, not just PPE, but what kind of PPE)

Each valid “Eliminate the Hazard” solution is worth 100 points, because this is the most effective approach. Each valid “Policies and Procedures” solution is worth 20 points. And each valid “Personal Protective Equipment” solution is worth 10 points.

If a team puts a good solution in the wrong category, I will move it to the correct category and give the team the appropriate number of points for that category. However, sometimes a solution may fall in more than one category.

5. Divide the class into 3-4 teams.

Distribute a different colored Post-it note pad to each team. Have teams come up with team names. Write the team names across the top of a sheet of flipchart paper, where you will record the points. Have a timer available to keep track of the one-minute time limit for teams to write down their solutions.

6. Tell each team to select one person to write the solutions the team comes up with on the Post-it notes. Also tell each team to select one person who will go up to the game board to post the team's solutions in the appropriate categories on the board.

7. Go through one practice round. Read the selected scenario. Ask the class to provide answers. Demonstrate how each answer will go on a different post-it paper, placed in the appropriate circle on the bull's eye chart.

8. Begin the game. Play three rounds, using the three scenarios you have selected from the “Safety Bull's Eye Scenarios.” At the end of each round, review the solutions teams have posted and total the points for valid answers. Review all the solutions from one team before going to another team's solutions so you can catch any duplicate answers. You can identify a team's solutions by the color of its Post-it notes. Enter each team's points on the flipchart page where you write the team names.

To speed up the process, have a student help keep track of points. Remember that sometimes a solution may fall in more than one category. Decide which category you will put it in, and then be consistent with all teams.

Mention any solutions the teams missed once the round has ended. When a team wins, award prizes to all its members. Or award everyone in class prizes for playing the game.

Safety Bull's Eye Activity Scenarios

Warehouse and Logistics

1. David (fall from a ladder)
2. Jenna (indoor heat exposure)
3. Stephen (back injury/lifting)
4. Joe (struck by falling object)
5. Jackie (foot crushed by forklift)
6. Maria (driving/ergo injury)

Agricultural (Ag Mechanics, Landscaping)

7. Dani (arc flash/welding)
8. Arnaldo (pesticide poisoning)
9. Emily (back injury/lifting)
10. James (outdoor heat)

Automotive/ Auto body Repair

11. Mike (chemical exposure)
12. Jose (crushed under vehicle)
13. JD (electrical hazard)

Note to Instructor: You can find a link to other stories from the *NIOSH Youth @ Work—Talking Safety* curriculum here: <http://youngworkers.org/our-materials/teachers/>

Warehouse & Logistics

1. David's Story.

(Working on ladders.) David worked the night shift stocking shelves at a large warehouse. One evening, while standing on the second rung from the top of a ladder, he leaned way over to place a large box on the top shelf. He lost his balance, falling ten feet to the concrete floor below, and broke his leg.

Ask the groups: *What might have prevented this injury?*

Possible Solutions

Remove the Hazard

- Use a mechanical lift that raises up the worker (like a cherry picker/order picker).
- Use a portable warehouse ladder with handrails.

Policies and Procedures

- Train workers in the safe use of ladders, including using the right ladder for the job, and the requirement to have 3 points of contact.
- Prohibit work that requires standing on the top rungs.
- Make sure ladders are in good working condition.
- Require good ladder safety practices such as maintaining balance and not reaching out too far.

PPE

- Possibly: personal fall arrest system (harness or lanyard). NOTE: Fall protection of some

kind (guardrails, personal fall arrest systems, or safety nets) is required for workers exposed to a vertical drop of 4 feet in general industry, and 6 feet in construction. However, fall protection is not required for portable ladder use in either general industry or construction work.

2. Jenna's Story.

(Indoor heat exposure.) On her second day of work at a warehouse, Jenna was helping to stock shelves in a big warehouse. It was the middle of the summer and temperatures had been over 100° F for several days. She worked for four hours before taking a break. Around 1:00 PM, the temperature inside the warehouse reached almost 100 degrees. After a quick lunch, Jenna continued working, even though she complained of feeling weak and a little dizzy. Later a co-worker found her lying on the floor unconscious. Jenna died from heat-related illness at the hospital.

Ask the groups: *What might have prevented this fatality?*

Possible Solutions

Remove the Hazard

- Provide air conditioning inside the warehouse whenever the temperature goes above 85 degrees

Policies and Procedures

- Make sure workers are removed from heat as soon as they complain of symptoms.
- Set up a buddy system to watch for symptoms in co-workers.
- Provide training about symptoms of heat-related illnesses, ways to protect workers from getting overheated, and how to provide first aid for heat related illnesses.
- Provide frequent, enforced breaks in cool areas and plenty of cool drinking water.

PPE

- Cooling vests, cooling wraps, and/or or water cooled garments.

3. Stephen's Story.

(Back Injury/Lifting.) Stephen worked in a warehouse. One day while unloading heavy boxes from a truck onto a wooden pallet, he felt a sharp pain in his lower back. It kept bothering him, so he finally went to the doctor. He had to stay out of work for a week to recover. His back still hurts sometimes.

Ask the groups: *What might have prevented this injury?*

Possible Solutions

Remove the Hazard

- Use a mechanical lifting device.
- Pack boxes with less weight.

Policies and Procedures

- Assign two people to do the job as a team.

- Train workers how to use safe lifting techniques.

PPE

- None---While workers are often given/use back belts, occupational health research studies have shown that back belts do not prevent back injuries.

4. Joe's Story.

(Struck by falling object.) Joe worked in a warehouse. One day, he was collecting product for an order. While getting ready to move the pallet jack that he was using to the location of the next item to be picked, he was struck by metal grates that fell from their top shelf storage location. A co-worker was in an adjacent aisle accessing the top section of a rack with a forklift. He heard the crash and then found the victim underneath the metal grates. Joe was transported to a local hospital where he was pronounced dead.

Ask the groups: *What might have prevented this fatality?*

Possible solutions

Remove the hazard

- Ensure that infrequently accessed materials stored within rack systems are secure by using supplemental cables or netting.
- Install guards on the rear of racks in back-to-back setups to reduce the chance of disrupting materials in adjacent racks.

Policies and Procedures

- Develop, implement, and enforce a comprehensive written safety and health program that includes topics related to warehouse operations such as safe storage of items, retrieval of stuck items, and safe operation of forklifts/powered industrial trucks.
- Provide training on safe storage, retrieval of stuck items, and safe operation of forklifts/industrial trucks.
- Ensure that all federal and state required trainings and licenses for forklift operators are valid and up-to-date.

PPE

- None.

5. Jackie's Story.

(Foot run over by forklift.) One day while Mark was operating a sit-down counterbalance forklift, Jackie called out to him to ask a question. When Mark stopped the forklift, he did not put it in neutral and set the brake. Jackie walked up to the forklift. While they were talking, Mark accidentally hit the accelerator and the front tire ran over Jackie's foot. Jackie was rushed to the hospital because her foot was broken in several places.

Ask the groups: *What might have prevented this injury?*

Possible solutions

Remove the hazard

- None.

Policies and Procedures

- Provide training on the safe operation of forklifts/industrial trucks.
- Policy requiring that when employees stop the forklift, they position it properly out of the way of people, lower the forks onto the ground and set the parking break.
- Develop, implement, and enforce a comprehensive written policy that states that safety/steel-toed shoes are required while working in the warehouse.
- Ensure that all federal and state required trainings and licenses for forklift operators are valid and up-to-date.

PPE

- Safety/steel-toed shoes for all workers in the warehouse.

6. Maria's Story.

(Ergonomic Injury/Driving.) Maria has been working for around six months as a truck driver for a transportation/logistics company. The driver seat is worn and has lost a lot of its cushioning. She has also noticed that she feels every bump when driving over rough terrain. The truck controls are designed in a way that she needs to reach for the controls for shifting. After 2 months on the job she developed back pain that gets worse after each driving shift.

Ask the groups: *What might have prevented this injury?*

Possible solutions

Remove the hazard

- Replace the seat: Provide a well cushioned, adjustable seat for the driver.
- Redesign driving controls so they are easier to reach.
- Ensure that the truck shocks are in working order.

Policies and Procedures

- Have regular inspections for suspension wear, springs, shock absorbers, proper tire pressure.
- Ensure that the work schedule allows adequate breaks with opportunity to move around.
- Provide training on how to properly adjust the seat and other controls.

PPE

- Provide back support cushions if needed.

7. Dani's Story

(Arc flash eye injury from welding) Dani worked on a farm in the Central Valley. She was working in the shop near one of her co-workers who was welding, repairing a piece of equipment. Dani was not wearing a welding mask, and got "second hand" arc flash from being nearby, damaging her retina and causing pain in both eyes.

Ask the groups: *What might have prevented this injury?*

Possible Solutions

Remove the Hazard

- Designated welding area where no other workers are allowed.

Policies and Procedures

- Train and review with workers how to weld safely.
- Get input from workers and jointly create a prevention checklist with 5 steps for safe welding.
- Ensure that welding masks are easily available.
- NOTE: While some teams may note the need for first aid and emergency procedures, which are important, these will not prevent the injury in the first place.

PPE

- Welding face mask with UV protection or coated safety goggles designed for specific welding job.

8. Arnaldo's Story

(Pesticide Exposure.) Arnaldo was leaving work from his job at a small farm in the Central Valley when his eyes started burning and itching. He noticed that most of the workers nearby harvesting the garlic crop were coughing loudly and holding their stomachs. Earlier in the day he'd seen a truck injecting something into the soil but he hadn't paid attention. He had a chronic cough for a week. Over 90 workers nearby had serious health effects from the pesticide exposure.

Ask the groups: *What might have prevented these injuries?*

Possible Solutions

Remove the Hazard

- Research and identify a safer product to treat the soil (if treatment is needed).
- Use alternative agricultural methods (crop rotation, organic growing) to avoid using harmful chemicals.

Policies and Procedures

- Use bilingual signs in the fields to inform workers and communities of entry restrictions if pesticide or chemical products are being used in the area.
- Provide training about safe use of chemicals and pesticides, emergency procedures,

and how to report an exposure.

- Develop clear training and written policies for protecting workers who apply pesticides.

PPE

- Be sure that the right kind of PPE is used. Check the SDS (Safety Data Sheet) for the chemical being used to find the information about the kind of PPE needed.
- Neoprene or nitrile gloves
- Long sleeve shirt and pants
- Tyvek/protective clothing, boots, and air purifying respirator.

9. Emily's Story

(Back Injury/lifting.) Emily was moving several heavy loads of large concrete pavers and laying the pavers for a commercial landscaping project. While laying two pavers she had dragged into place, she felt a sharp pain in her back. It kept bothering her so she missed several days of work and went to the doctor later that week. Her back still bothers her.

Ask the groups: *What might have prevented these injuries?*

Possible Solutions

Remove the Hazard

- Use smaller concrete pavers or a lighter material.
- Redesign where pavers are stored for easier access.
- Use a wheelbarrow or other equipment to move pavers from one area to another.

Policies and Procedures

- Assign two people to do the job as a team.
- Develop a policy about only lifting loads that can be handled safely.
- Train workers on how to use safe lifting techniques.
- Avoid repetitive lifting--alternate with other tasks.

PPE

- None---While workers are often given/use back belts, occupational health research studies have shown that back belts do not prevent back injuries.

10. James' Story

(Heat illness.) On his second day of work on a large industrial farm, James was helping to repair the irrigation system. It was the middle of the summer and temperatures had been over 100° F for several days. He ended up digging out pipe in different areas for four hours before taking a break. Around 1:00 PM, the temperature reached 112° F. After a quick lunch, James continued working, even though he complained of feeling weak and a little dizzy. Later a co-worker found him lying on the ground unconscious. James died from heat-related illness at the hospital.

Ask the groups: *What might have prevented this fatality?*

Possible Solutions

Remove the Hazard.

- Prohibit work in high temperatures (for example, over 92° F). Provide shade.

Policies and Procedures.

- Make sure workers are removed from heat as soon as they complain of symptoms.
- Set up a buddy system to watch for symptoms in co-workers.
- Provide a period of time to get used to the heat (acclimatization).
- Provide training about symptoms of heat-related illnesses, ways to protect workers from getting overheated, and how to provide first aid for heat related illnesses.
- Provide frequent, enforced breaks in cool areas and plenty of cool drinking water.

PPE.

- Cooling vests

Automotive Repair

11. Mike's Story.

(Chemical exposure.) Mike's responsibilities at the City's Fleet Services Department include cleaning parts in the shop with a degreaser every day. After a few weeks, he developed an itchy rash on his hands and arms as well as irritation to his respiratory system.

Ask the groups: *What might have prevented this injury?*

Possible Solutions

Remove the Hazard

- Substitute with a safer product.
- Install local ventilation.

Policies and Procedures

- Provide training about hazardous chemicals, reading labels and SDSs.
- Limit the use of hazardous products so that workers aren't using them for too long during the day.

PPE

- Gloves
- Safety glasses
- Respirator if required

12. Jose's Story.

(Crushed under vehicle.) Jose was a 35-year-old apprentice bus mechanic at Nebraska Transit. He was killed when a full-size bus he was working on fell on him. He had raised the bus with a 12-ton bottle jack and had crawled under the bus to work on the suspension. The bus slid off the bottle jack and the differential on the bus came to rest on Jose's chest and stomach, causing fatal injuries.

Ask the groups: *What might have prevented this fatality?*

Possible Solutions:

Remove the Hazard

- Ensure all equipment with a potential to fall is properly jacked/blocked up prior to getting under it. Using a jack stand is essential.
- Ensure equipment is lifted and secured in accordance with the manufacturer's instructions. While bottle jacks are designed to raise and lower loads, these jacks are not designed to keep the loads in the raised position without other support.

Policies and Procedures

- Provide proper supervision to ensure that employees never place any portion of their body under a load ONLY supported by a jack.
- Ensure equipment is lifted and secured in accordance with manufacturers' instructions.
- Policy to ensure that lifting equipment is visually inspected prior to each use.
- Develop, implement, and enforce a comprehensive safety program that includes, but is not limited to, training in all hazard recognition and abatement.
- Encourage workers to speak up when there is a problem.

PPE

- None.

13. JD's Story

(Electrical.) JD worked doing auto body repair on vintage Chevys, Mustangs, and Corvettes at a local shop. One day she was using an electric grinder that was not connected to a ground fault circuit interrupter (GFCI). Another worker had received a minor shock while using the grinder earlier in the day. JD received a significant shock while using the tool, putting her in the hospital for two days.

Ask the groups: *What might have prevented this injury?*

Possible Solutions

Remove the Hazard

- Use only double insulated or grounded tools. Provide portable GFCIs for all power tools. These turn off the power if there is a short circuit.

Policies and Procedures

- Always inspect tools before using them.
- If a tool has shocked someone, require workers to turn the tool in.
- Discard any damaged or defective tools.
- Have a system to inform all workers of incidents and injuries that have occurred.
- Encourage workers to speak up when there is a problem.

PPE

- Shoes that provide electrical insulation, such as rubber-soled shoes. Regular shoes are not adequate.

END OF SCENARIOS

9. **Summarize solutions for addressing the major hazards in your industry.** Remember, the best way to address hazards is to remove them completely. If they can't be eliminated, use policies and procedures to reduce exposure, and be sure to use PPE if needed. Explain that it has to be the right PPE for the job and has to fit properly and that co-workers should encourage each other to wear their PPE. [Optional: Share ***WOSHTEP Fact Sheet C: Controlling Hazards.***]

Lesson 3: Hazard ID and Control Practice: Job Hazard Analysis

Learning Objectives

By the end of this lesson, students will be able to:

- Conduct a simple job hazard analysis. This encompasses the ability to:
 - Analyze a specific job task to identify hazards throughout the task.
 - Describe the best ways to control specific hazards and recommend safe practices or other controls.
 - Communicate with others about recommended hazard controls for specific job tasks.

Time Needed: 45-50 minutes

Materials Needed

- Flipchart paper or whiteboard and markers
- Worksheet #2: JHA
- Detailed Instructor's Notes

Detailed Instructor's Notes

A. What is a Job Hazard Analysis? (15 minutes)

1. Introduce the topic.

Remind the class that identifying hazards is a key element of the IIPP standard, as we discussed earlier. The best way to understand the health and safety problems in a workplace is to use multiple methods so you get the full picture. This should always include getting input from employees. Informing supervisors when a hazard is identified is important so that the hazard can be addressed.

2. Explain what a Job Hazard Analysis (JHA) is.

One way to identify hazards is to do a Job Hazard Analysis, sometimes called a Job Safety Analysis (JSA).

Ask: Who has done a JHA or JSA? What are the steps?

The JHA is a structured analysis and improvement process that can help uncover and plan for ways to address specific causes of workplace injury and illness. Workers and supervisors can do this with a form like the one we're going to use in this activity, or you can also go through this thinking process on your own, especially for any task that is new to you. Here are the three basic steps:

Step 1: Observe the job task (if possible) and write down the specific steps involved in doing that job.

Step 2: Think about the hazards involved in each step.

Step 3: Develop recommended safe procedures for doing that task safely—including recommendations for employer-controlled fixes, like engineering or administrative controls.

3. Walk participants through **Worksheet #2**, using an example (e.g., changing a light bulb in a ceiling light, 11-foot ceilings). Make a chart on a flipchart paper with three columns. See sample below.

Step 1: What are the steps involved in this task?

Step 2: What are hazards involved in each step? (think about the hazard mapping categories)

Step 3: Describe preventive measures/recommended safe procedures for each step (think about categories from Safety Bull's Eye game.) Is there any long term prevention planning that would reduce exposure to hazard?

Job Steps	Potential Hazards	Recommended Safe Procedures
1. Get the new light bulb.	None.	NA
2. Find and set up a ladder.	Lifting ladder. Hitting other workers with ladder.	Select the right size and type of ladder for the job.
3. Turn off light switch.	None.	NA
4. Climb the ladder.	Fall hazard.	Depending on situation, get help with ladder. Don't climb above second step from top.
5. Take out old bulb.	Electrical hazard. Fall hazard. Cut—from broken bulb if it drops.	See above re ladder safety. Have a plan for where to put old bulb—get help if necessary.
6. Screw in new bulb.	Electrical hazard. Fall hazard.	See above re ladder safety.
7. Climb down.	Fall hazard.	See above re ladder safety.
8. Dispose of old bulb.	Environmental?	Purchase long lasting bulbs. Be informed about disposal issues.

B. Small group practice (30 minutes)

1. **Brainstorm activities** that participants might analyze in their current work. Write on a flip chart.

2. **Explain the small group activity.**

Divide into groups of 3-5. Have each group select a different task to analyze. Tell the class: You will have about 10 minutes to use the worksheet to analyze that task, and write down the steps and recommended safe procedures. Be prepared to report back, as if you were explaining the recommended steps and safety procedures to a new employee. Be sure to think about potential engineering controls that you might recommend to the employer.

3. **Report back and discussion.** Have each group report back briefly. After everyone has reported back, **ask the class:**

How could you see using this in your current job or career training program? Discuss.

As we've mentioned, identifying and fixing hazards is the employer's responsibility. But workers have an important role to play. Workers can help identify hazards and solutions and speak up and advocate for needed changes.

Note to Instructor:

Oregon OSHA has a useful guide called "Tools and Techniques for Job Hazard Analysis" (<http://elcosh.org/record/document/4228/d001512.pdf>) that you can use to familiarize yourself further with JHAs.

Lesson 4: Communicating about Safety on the Job

Learning Objectives

By the end of this lesson, students will be able to:

- Apply safety rights and regulations to real-life situations
- List three ways to get information and help on health and safety problems
- Describe and apply critical thinking skills
- Practice working with others to solve a problem
- Demonstrate how to communicate effectively about a problem at work

Time Needed: 45-50 minutes

Materials Needed

- Slides #25-28
- Flipchart or whiteboard and markers
- *Factsheet B: Worker Health & Safety Rights & Responsibilities*
- *Worksheet #3: Problem on the Job* [Select from 3 possible stories: Auto Repair Shop, Warehouse, Nursery.]

Detailed Instructor's Notes

A. Introduction: Steps in problem solving (10 minutes)

1. **Introduce the topic.** Explain that the class will now learn and practice what to do when a safety problem comes up at work. They will also use some of the skills learned in earlier lessons, such as identifying hazards, controlling them to prevent injuries, understanding legal rights, and knowing where to go for help. It may be helpful to affirm to your students the importance of speaking up if they have questions, or haven't been trained. Most employers won't purposely put employees in danger, but they may make assumptions about what you know that can put you at risk.

2. **First, ask students the following question:**

*What skills do you think are helpful when you're trying to solve a problem, at work or elsewhere?
What makes someone a good problem solver?*

As students answer, make a list on the board of the skills they mention.

3. Show **Slide #25**, Problem-Solving Skills.

Explain:

There are five skills involved in problem solving.

- Asking questions
- Analyzing the problem: Gathering information and identifying possible solutions

- Being open-minded
- Being self-confident
- Collaborating with others.

4. Show **Slide #26, How to Approach a Workplace Problem**. It shows some of the steps involved in solving workplace problems (both safety problems and other kinds).

Discuss these steps with the class.

- Define the problem or problems: Being able to describe the problem clearly is the first step toward solving it.
- Get advice from a co-worker, teacher, or parent. If there is a union at the workplace, the student may also want to ask them to help. If you are in a workforce training program, you may want to talk to your instructor.
- Choose your goals: Students should think about what needs to happen to fix the problem; write down possible solutions.
- Know your rights: Students should become familiar with their safety rights and other relevant labor rights, such as laws relating to work hours, wages, and other protections if workers are under 18.
- Decide the best way to talk to the supervisor: What should be discussed? Who should go along? Think about ways to effectively communicate. Sometimes how you say something is as important as what you say.
- If necessary, contact an outside agency for help: If the student continues to have trouble after talking to the supervisor, the student may need to call the appropriate government agency. If the problem is a workplace safety or health problem, contact Cal/OSHA in California.

B. Role play: Problem on the Job (30 minutes)

1. Pass out copies of **Worksheet #3: Problem on the Job**, for the industry you've selected.
2. Ask for volunteers to play the roles in the story. Have the volunteers come to the front of the class and read their parts aloud to the class.
3. Ask students to listen for what laws were violated in the story. Suggest they look at **Factsheet B, Worker Health & Safety Rights & Responsibilities** if necessary. As volunteers answer, write their responses on flipchart paper.

[Discussion questions and talking points follow each role play scenario below.]

Problem on the Job: Chris's Story—The Auto Repair Shop

Scene: Chris and Rob work as auto mechanics in a mid-sized auto repair shop. Pat is their supervisor. Chris is new on the job.

Pat: Hey Chris. Can you go help Rob with that transmission removal? There's no jack available right now but we have to get going on that. The two of you should be able to get it out. Once it's out, if you need any degreaser, you can start with that stuff we have in the back, in the blue containers—we need to use that old stuff up. There should be a piece of tape that says "degreaser" on it on the container.

Chris: OK. I've never been trained on lifting a transmission without a jack. I'm worried about that.

Pat: Look, if you want to work here, you need to be able to pitch in where we need you. I hope that's not going to be a problem.

Chris goes over to help Rob.

Chris: I'm supposed to help you with getting that transmission out. At school we used a jack for that. I don't really know how you do it here.

Rob: Yeah, we should use a jack, but we only have one and it's being used. We're already behind schedule on this job—we'll just be careful. We should be able to lift it out with two of us.

Chris: OK. Pat also said to use up the degreaser that's in the blue containers—do you know what that stuff is?

Rob: I don't know the name of it, but it's a degreaser. Just be careful not to get it on your hands. You really should wear gloves if you can find any. Jay got a rash from that stuff last week.

Discuss:

What laws were broken? [Auto Repair Shop]

- Chris and Rob were asked to do dangerous lifting—they should have had a jack.
- Chris was not given information about the degreaser. According to the **Hazard**

Communication Standard:

- The chemical should have been labeled.
- The employees should know where to find the Safety Data Sheet (SDS).
- Employees should have been provided training on:
 - (i) What the chemical is
 - (ii) Its potential health effects
 - (iii) How employees can protect themselves if necessary
- The employer didn't give Chris protective clothing (gloves).
- Some students may interpret Pat's comments as a threat to fire Chris if she won't do the dangerous lifting. An employer may not threaten to fire someone because they won't do something illegal or unsafe.

4. Divide the class into groups of 3–6 students.
5. Explain that each group should come up with a new ending to the skit that shows how Chris could handle this situation. Assign each group one issue in the story to focus on (either the dangerous lifting, or working with chemicals.) Encourage groups to think about these questions:
 - *What solutions would Chris want?*
 - *How should Chris approach the supervisor about this problem?*
 - *What are the different ways the supervisor might respond?*
 - *Where else could Chris get help or information?*
6. Groups may refer to **Factsheet B, Worker Health & Safety Rights & Responsibilities**, if necessary. Explain to the students that they will be role-playing the skits they've come up with; they should assign parts, decide roughly what each person will say, and take notes if necessary.
7. After about 15 minutes, bring the class back together.
8. Ask several of the groups (or all, if there is time) to act out their alternate endings to the skit. Record on a flipchart the approaches used, so they can be discussed during the report back.

Possible endings that may be shown in the skit include the following [Auto Repair Shop]:

- Chris tells the supervisor she is uncomfortable with working with unknown chemicals or the dangerous lifting.
 - Chris asks a co-worker, friend, or teacher for advice, or for help talking to the supervisor. (For high school students, some may also mention parents as a resource.)
 - Chris explains to the employer how they are violating a law/requirement (see above). She is trying to help.
 - Chris asks a union or community organization for information on workers' rights.
 - Chris quits the job because of the unsafe requests.
 - Chris refuses to do the dangerous lifting or work with the unknown chemicals.
 - Chris files a complaint with Cal/OSHA.
9. Ask the class to comment on how effective each group's ending is. Questions to consider include the following:
 - *What resources were used?*
 - Co-workers, teacher (such as work-based learning coordinator), family members
 - Union
 - Information sources (Factsheet B; OSHA poster at work; SDSs, other?)
 - Agencies: Cal/OSHA, School
 - *Will any of these approaches endanger the worker's job? How can that be avoided?*
 - Involve co-worker or others when approaching the supervisor
 - Offer solutions; convey your interest in helping the employer
 - Keep records (notes about what happened)
 - *Which approaches will be most effective in solving the problem?*

- Get help from others.
 - Clear and respectful communication.
 - Get help from Cal/OSHA if other approaches don't work.
- *How serious is the problem? Is it urgent to get it corrected?*

10. Review the problem-solving steps from Activity A, step 3 of this lesson.

Problem on the Job: Melanie's Story—The Warehouse

Scene. Melanie works at a large warehouse. Sal is her supervisor. Melanie has been working on unloading boxes from a stack on a pallet and as she was reaching for a box, it fell. The box opened and bottles of chemicals inside broke and liquid spilled on the floor.

Sal: What happened here?!

Melanie: I'm so sorry! I was reaching and couldn't get a good grip on that box and it fell.

Sal: Well, clean it up right away!

Melanie: But, I don't know what was in those bottles. I'm afraid to get it on my hands. It also smells pretty bad. I don't want to aggravate my asthma. Are there gloves or a mask I should use?

Sal: We don't have time to search through the supply closet. People are walking all around here. Just grab a rag and bucket and clean it up. If you want to stay on here, you will have to learn to be more careful!

Discuss:

What laws were broken? [Warehouse Story]

- Melanie does not know what the chemicals are. According to the **Hazard Communication Standard**:
 - The chemical should have been labeled.
 - The employees should know where to find the Safety Data Sheet (SDS).
 - Employees should have been provided training on:
 - (iv) What the chemical is
 - (v) Its potential health effects
 - (vi) How employees can protect themselves if necessary
- The employer didn't give Melanie protective clothing (gloves).
- Some students may interpret Sal's comments as a threat to fire Melanie if she won't clean up the unknown chemicals, with no PPE. An employer may not threaten to fire someone because they won't do something illegal or unsafe.

4. Divide the class into groups of 3–6 students.

5. Explain that each group should come up with a new ending to the skit that shows how Melanie could handle this situation. Assign each group one issue in the story to focus on (either the dangerous lifting, or working with chemicals.) Encourage groups to think about these questions:

- *What solutions would Melanie want?*
- *How should Melanie approach the supervisor about this problem?*
- *What are the different ways the supervisor might respond?*
- *Where else could Melanie get help or information?*

6. Groups may refer to **Factsheet B, Worker Health & Safety Rights & Responsibilities**, if

necessary. Explain to the students that they will be role-playing the skits they've come up with; they should assign parts, decide roughly what each person will say, and take notes if necessary.

7. After about 15 minutes, bring the class back together.
8. Ask several of the groups (or all, if there is time) to act out their alternate endings to the skit. Record on a flipchart the approaches used, so they can be discussed during the report back.

Possible endings that may be shown in the skit include the following [Warehouse Story]:

- Melanie asks a co-worker, friend or teacher for advice, or for help talking to the supervisor. (For high school students, some may also mention parents as a resource.)
 - Melanie explains to the employer how they are violating a law/requirement (see above). She is trying to help.
 - Melanie tells the supervisor she is uncomfortable with working with unknown chemicals.
 - Melanie asks a union or community organization for information on workers' rights.
 - Melanie quits the job because of the unsafe requests.
 - Melanie refuses to work with the unknown chemicals.
 - Melanie files a complaint with Cal/OSHA.
9. Ask the class to comment on how effective each group's ending is. Questions to consider include the following:
 - *What resources were used?*
 - Co-workers, teacher (such as work-based learning coordinator), family members
 - Union
 - Information sources (Factsheet B; OSHA poster at work; SDSs, other?)
 - Agencies: Cal/OSHA, School
 - *Will any of these approaches endanger the worker's job? How can that be avoided?*
 - Involve co-worker or others when approaching the supervisor
 - Offer solutions; convey your interest in helping the employer
 - Keep records (notes about what happened)
 - *Which approaches will be most effective in solving the problem?*
 - Get help from others.
 - Clear and respectful communication.
 - Get help from Cal/OSHA if other approaches don't work.
 - *How serious is the problem? Is it urgent to get it corrected?*
 10. Review the problem-solving steps from Activity A, step 3 of this lesson.

Problem on the Job: Angel's Story—Working at the Nursery

Scene: Angel and Sara work are working in a local nursery as landscape assistants. Ricky is their supervisor. Angel is new on the job.

Ricky: Hey Angel. Can you go help Sara move 10 bags of compost for the customer waiting in the driveway---she's in a hurry to get going. The handle on the large cart is broken so you'll have to carry the bags. She also wants two containers of weed-killer.

Angel: OK. I've never been trained on how to lift heavy bags of compost. I'm a little worried about that.

Ricky: Look, if you want to work here, you need to be able to pitch in where we need you. I hope that's not going to be a problem.

Angel goes over to help Sara.

Angel: I'm supposed to help you move those 10 bags of compost in a hurry. At school we used a cart to move soil and compost.

Sara: Yeah, we should use the cart but the handle is broken. Plus, Ricky told us the customer wants it right away—so we'll just need to be careful.

Angel: OK. Ricky also said to grab two bags of some kind of weed killer on the second shelf.

Sara: I don't know the name of it, but it's got a blue label. Just be careful not to get it on your hands and wear gloves if you can find any. Jay got a rash from that stuff last week.

Discuss:

What laws are being broken? [Nursery Story]:

- Angel is being asked to do dangerous lifting—he should have a cart or other tool to move the compost
- Angel does not know what the chemicals are in the weed killer. According to the **Hazard Communication Standard**:
 - The chemical should have been labeled.
 - The employees should know where to find the Safety Data Sheet (SDS).
 - Employees should have been provided training on:
 - (vii) What the chemical is
 - (viii) Its potential health effects
 - (ix) How employees can protect themselves if necessary
- The employer didn't give Angel protective clothing for the weed killer (gloves).
- Some students may interpret the supervisor's comments as a threat to fire Angel if he won't clean up the unknown chemicals, with no PPE. An employer may not threaten to fire someone because they won't do something illegal or unsafe.

4. Divide the class into groups of 3–6 students.
5. Explain that each group should come up with a new ending to the skit that shows how Angel could handle this situation. Assign each group one issue in the story to focus on (either the dangerous lifting, or working with chemicals). Encourage groups to think about these questions:
 - *What solutions would Angel want?*
 - *How should Angel approach the supervisor about this problem?*
 - *What are the different ways the supervisor might respond?*
 - *Where else could Angel get help or information?*
6. Groups may refer to **Factsheet B, Worker Health & Safety Rights & Responsibilities**, if necessary. Explain to the students that they will be role-playing the skits they've come up with; they should assign parts, decide roughly what each person will say, and take notes if necessary.
7. After about 15 minutes, bring the class back together.
8. Ask several of the groups (or all, if there is time) to act out their alternate endings to the skit. Record on a flipchart the approaches used, so they can be discussed during the report back.

Possible endings that may be shown in the skit include the following [Nursery Story]:

- Angel asks a co-worker, friend or teacher for advice, or for help talking to the supervisor. (For high school students, some may also mention parents as a resource.)
 - Angel explains to the employer how they are violating a law/requirement (see above). He is trying to help.
 - Angel tells the supervisor he is uncomfortable with working with unknown chemicals or doing the dangerous lifting.
 - Angel asks a union or community organization for information on workers' rights.
 - Angel quits the job because of the unsafe requests.
 - Angel refuses to do the dangerous lifting or work with the unknown chemicals.
 - Angel files a complaint with Cal/OSHA.
9. Ask the class to comment on how effective each group's ending is. Questions to consider include the following:
 - *What resources were used?*
 - Co-workers, teacher (such as work-based learning coordinator), family members
 - Union
 - Information sources (Factsheet B; OSHA poster at work; SDSs, other?)
 - Agencies: Cal/OSHA, School
 - *Will any of these approaches endanger the worker's job? How can that be avoided?*
 - Involve co-worker or others when approaching the supervisor
 - Offer solutions; convey your interest in helping the employer
 - Keep records (notes about what happened)
 - *Which approaches will be most effective in solving the problem?*
 - Get help from others.

- Clear and respectful communication.
- Get help from Cal/OSHA if other approaches don't work.
- *How serious is the problem? Is it urgent to get it corrected?*

10. Review the problem-solving steps from Activity A, step 3 of this lesson.

C. Wrap-up (5 minutes)

1. This lesson has focused on how to speak up effectively at work when there is a problem. It's important for students to know their rights, but it's also important for them to think through how they want to approach a supervisor with a problem. It's usually helpful to talk the situation over first with teachers, co-workers, union representatives, your workforce training program, parents or family members, or another trusted person—and then plan out the conversation. If necessary, there are agencies that can help you, like Cal/OSHA.

2. Show **Slide #27**, *Summing it Up*.

Remember:

- Know your rights.
- Know your responsibilities.
- Know that your employer has a legal responsibility to keep your workplace safe.
- Know what steps to take to solve problems and how to advocate effectively for solutions that are needed.

Encourage students to ask their employers about the procedures for bringing up problems they run into at work—before the problems occur. If you are responsible for placing students in jobs, this may be a topic you want to raise with employers.

Remind students that their employers have a responsibility to provide them with a safe workplace and to give them specific training about hazards on their job.

Know Your Safety Rights on the Job

1. **True or False:** The employer, the workers, and the union are all legally responsible for providing a safe and healthful workplace.
2. **True or False:** Employers must provide you with training and information on chemicals and other hazards on the job.
3. **True or False:** The law says your employer must provide you with the required personal protective equipment and clothing free of charge.
4. **True or False:** Workers in California may refuse to do work that poses an immediate and serious threat to their health or safety.
5. **True or False:** It is illegal for a California employer to fire a worker because he/she complains about unsafe conditions on the job.
6. **True or False:** If you suspect that something is hazardous in your workplace, the best course of action is always to call Cal/OSHA right away.
7. **True or False:** You are not entitled to workers' compensation benefits if it was your fault you got hurt at work.

Job Hazard Analysis

Pick a job task that you are familiar with. Think about a job you have done or know about. Then, follow these steps to conduct your Job Hazard Analysis, using the form below:

Step 1: List the steps it takes to do that job.

Step 2: For each step, list the potential hazards. Think about all the hazard categories.

Step 3: For each step or hazard, think about and write down recommended safe procedures.

Think about the best ways to control the hazard (engineering controls, administrative controls, personal protective equipment, or temporary measures needed to protect workers while the problem is being fixed.)

Job Task you are analyzing: _____

Specific steps involved in this task:	Hazards identified in each step:	Suggestions for safe procedures or other protections:

Be prepared to report back, as if you were explaining the recommended steps and safety procedures to a new employee. Be sure to think about potential engineering controls that you might recommend to the employer.

Problem on the Job: Chris's Story—The Auto Repair Shop

Scene: Chris and Rob work as auto mechanics in a mid-sized auto repair shop. Pat is their supervisor. Chris is new on the job.

Pat: Hey Chris. Can you go help Rob with that transmission removal? There's no jack available right now but we have to get going on that. The two of you should be able to get it out. Once it's out, if you need any degreaser, you can start with that stuff we have in the back, in the blue containers—we need to use that old stuff up. There should be a piece of tape that says "degreaser" on it on the container.

Chris: OK. I've never been trained on lifting a transmission without a jack. I'm worried about that.

Pat: Look, if you want to work here, you need to be able to pitch in where we need you. I hope that's not going to be a problem.

Chris goes over to help Rob.

Chris: I'm supposed to help you with getting that transmission out. At school we used a jack for that. I don't really know how you do it here.

Rob: Yeah, we should use a jack, but we only have one and it's being used. We're already behind schedule on this job—we'll just be careful. We should be able to lift it out with two of us.

Chris: OK. Pat also said to use up the degreaser that's in the blue containers—do you know what that stuff is?

Rob: I don't know the name of it, but it's a degreaser. Just be careful not to get it on your hands. You really should wear gloves if you can find any. Jay got a rash from that stuff last week.

Developing Your Role Play

1. Discuss with the class what laws are being violated here.
2. Work in your small group to come up with a short skit to show how Chris might handle this situation. Think about these four questions:
 - *What solutions would Chris want?*
 - *How should Chris approach the supervisor about this problem?*
 - *What are the different ways the supervisor might respond?*
 - *Where else could Chris get help or information?*
3. Practice role-playing your ending with your group. You will perform for the class later.

Problem on the Job: Melanie's Story—The Warehouse

Scene. Melanie works at a large warehouse. Sal is her supervisor. Melanie has been working on unloading boxes from a stack on a pallet and as she was reaching for a box, it fell. The box opened and bottles of chemicals inside broke and liquid spilled on the floor.

Sal: What happened here?!

Melanie: I'm so sorry! I was reaching and couldn't get a good grip on that box and it fell.

Sal: Well, clean it up right away!

Melanie: But, I don't know what was in those bottles. I'm afraid to get it on my hands. It also smells pretty bad. I don't want to aggravate my asthma. Are there gloves or a mask I should use?

Sal: We don't have time to search through the supply closet. People are walking all around here. Just grab a rag and bucket and clean it up. If you want to stay on here, you will have to learn to be more careful!

Developing Your Role Play

1. Discuss with the class what laws are being violated here.
2. Work in your small group to come up with a different ending to the story. Choose one problem in the story to focus on. Think about these four questions:
 - *What solutions would Melanie want?*
 - *How should Melanie approach the supervisor about this problem?*
 - *What are the different ways the supervisor might respond?*
 - *Where else could Melanie get help or information?*
3. Practice role-playing your ending with your group. You will perform for the class later.

Problem on the Job: Angel's Story—Working at the Nursery

Scene: Angel and Sara work are working in a local nursery as landscape assistants. Ricky is their supervisor. Angel is new on the job.

Ricky: Hey Angel. Can you go help Sara move 10 bags of compost for the customer waiting in the driveway---she's in a hurry to get going. The handle on the large cart is broken so you'll have to carry the bags. She also wants two containers of weed-killer.

Angel: OK. I've never been trained on how to lift heavy bags of compost. I'm a little worried about that.

Ricky: Look, if you want to work here, you need to be able to pitch in where we need you. I hope that's not going to be a problem.

Angel goes over to help Sara.

Angel: I'm supposed to help you move those 10 bags of compost in a hurry. At school we used a cart to move soil and compost.

Sara: Yeah, we should use the cart but the handle is broken. Plus, Ricky told us the customer wants it right away—so we'll just need to be careful.

Angel: OK. Ricky also said to grab two bags of some kind of weed killer on the second shelf.

Sara: I don't know the name of it, but it's got a blue label. Just be careful not to get it on your hands and wear gloves if you can find any. Jay got a rash from that stuff last week.

Developing Your Role Play

1. Discuss with the class what laws are being violated here.
2. Work in your small group to come up with a different ending to the story. Choose one problem in the story to focus on. Think about these four questions:
 - *What solutions would Angel want?*
 - *How should Angel approach the supervisor about this problem?*
 - *What are the different ways the supervisor might respond?*
 - *Where else could Angel get help or information?*
3. Practice role-playing your ending with your group. You will perform for the class later.

Worker Health and Safety Rights and Responsibilities

Workers have the right to a safe workplace under both state and federal laws. In California, Cal/OSHA sets and enforces standards that spell out in detail what employers must do to keep the workplace safe. The health and safety rights workers have can be put into three categories:

- **The Right to Know** about workplace hazards
- The **Right to Protection** from exposure to hazards
- The **Right to Act** to improve health and safety conditions.

What Is the Right to Know?

This is the right to get specific information from your employer about the hazards found in your workplace. Several Cal/OSHA standards give you this right.

INJURY AND ILLNESS PREVENTION PROGRAM STANDARD (Title 8 CCR §3203 and §1509)

One important regulation that gives you the “right to know” is Cal/OSHA’s Injury and Illness Prevention Program (IIPP) standard.

This standard requires every California employer to have a written, effective Injury and Illness Prevention Program to promote health and safety in the workplace.

Every covered workplace must have the following measures in place to meet these requirements:

- Someone who is responsible for the program.
- A system for making sure workers comply with safety rules and procedures.
- A system to communicate with workers on health and safety matters, which must include a way for workers to report unsafe conditions without fear of reprisal.
- A system to identify unsafe or unhealthful conditions. This must include regular inspections of the worksite. Supervisors must be informed of any problems found.

INJURY AND ILLNESS PREVENTION PROGRAM STANDARD (Title 8 CCR §3203 and §1509)

(CONTINUED FROM PREVIOUS PAGE)

- A system to investigate any job-related injuries and illnesses that occur.
- A system to correct hazards in a timely manner.
- Training for workers about the specific hazards on their jobs, before they start work and every time a new hazard is introduced. Training must be in a form readily understandable by all workers.
- A written document describing the IIPP. Workplaces with fewer than 10 employees are exempt from some documentation requirements.

HAZARD COMMUNICATION STANDARD (Title 8 CCR § 5194)

This Cal/OSHA standard gives you the right to information about the chemicals and other hazardous substances you may be exposed to at work. It requires employers to provide Safety Data Sheets (SDSs), chemical labels, and training.

SDSs. Manufacturers of products containing hazardous ingredients must prepare Safety Data Sheets (SDSs) for those products and distribute them to purchasers (such as employers). The SDS identifies the manufacturer, contents, toxicity, and safety hazards of the chemical product. It describes routes of exposure (skin, inhalation, or ingestion) and explains how to prevent health problems. Employers must have an up-to-date SDS for each chemical product they use, and must make SDSs available to workers.

Chemical Labels. Employers must make sure that all products with hazardous ingredients are properly labeled. Labels must include the chemical names of any hazardous ingredients, hazard statements, short and long-term health effects, hazard pictograms (symbols), signal words, and the name and address of the manufacturer or importer.



HAZARD COMMUNICATION STANDARD (Title 8 CCR § 5194) (CONTINUED FROM PREVIOUS PAGE)

Training. Employers are required to train workers about the hazardous substances used at work, their health effects, and how to work safely with them. The training must also cover how accidental chemical releases are detected and what emergency procedures should be followed in case of a spill or leak.

Employers are required to describe in writing the elements of the workplace's hazard communication program and how the workplace will comply with this Cal/OSHA standard. This written program must be available at the worksite and communicated to all affected workers.

**ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS STANDARD
(Title 8 CCR §3204 and §340.1)**

This Cal/OSHA standard gives you the right to see and copy certain records kept by your employer. These include:

- Records of your workplace exposure to chemicals or other hazards (like personal air sampling results)
- Your own medical records if your employer has them.

This standard does not require your employer to do any air sampling or medical tests (although other Cal/OSHA standards, such as the Lead in Construction standard, do). But it does require your employer to give you access to these records if they exist.

Medical records are confidential. You are the only one who can obtain your records. However, you do have the right to sign a release so your doctor or union representative can get them. Doctors and union representatives also can request summaries of the medical records for a group of workers, without names, to look for trends in injuries and illnesses. Exposure records are not confidential. Doctors, union reps, and others can request them directly.

Employers must keep exposure and medical records for 30 years after the worker leaves the job. The records of people who worked for the employer less than one year do not need to be kept after they leave.



ACCESS TO EMPLOYEE EXPOSURE AND MEDICAL RECORDS STANDARD

(Title 8 CCR §3204 and §340.1) (CONTINUED FROM PREVIOUS PAGE)

A related Cal/OSHA standard requires that the employer notify workers and their representatives in advance of planned testing for workplace exposures if that testing is required by Cal/OSHA standards. The employer must provide them with the opportunity to observe the testing when it is done. The results must be provided to workers within five working days after the employer gets the results back from the lab.

LOG OF WORK-RELATED INJURIES AND ILLNESSES (Cal/OSHA Form 300) (Title 8 CCR §14.300)

This Cal/OSHA regulation requires employers with ten or more employees to record most occupational injuries and illnesses on a state form called the Cal/OSHA Form 300. A few industries are exempt from these requirements.

The Form 300 includes most types of job injuries as well as job-related illnesses. An employer must record any job injury that requires more than first aid treatment or that results in lost work time, restricted duties, or transfer to another job, or where the worker loses consciousness. **All** job-related illnesses must be recorded.

The Form 300 must state where the injury/illness occurred, the nature of the injury/illness, the name of the employee (except in certain “privacy” cases), and the number of workdays missed.

A summary of the Form 300 must be posted in the workplace for three months, from February 1 to April 30, each year. Workers have the right to get copies of both the Form 300 and the summary. These must be available at the local worksite.

This information can be helpful if you suspect there may be a pattern of injuries or illnesses at your job. For example, if you are having back problems and you think they might be related to your job, you might want to ask for your workplace’s Form 300 to see if there is a pattern of back injuries among co-workers doing similar work.



What Is the Right to Protection?

In California every employer is required to provide a safe and healthful workplace for employees. Your employer must try to reduce or eliminate hazards by all possible means. If a hazard can't be eliminated completely, then your employer must protect you from it by supplying special equipment like respirators, protective clothing, goggles, gloves, safety shoes, or fall protection devices.

Cal/OSHA has many standards that regulate specific hazards. These tell employers what steps they must take to minimize those hazards for workers. Examples include the Lead in Construction standard and the Bloodborne Pathogens standard. (See Factsheet C, *Cal/OSHA Standards*.)

What Is the Right to Act?

This is your right to speak up and take action to improve health and safety conditions at work. It includes the right to make a complaint to Cal/OSHA or other agencies, the right to discuss health and safety problems with your supervisor or manager without fear of discrimination, the right to refuse unsafe work, and the right to get health and safety information from the employer.



These rights are enforced by Cal/OSHA, the California Division of Labor Standards Enforcement (Labor Commissioner), or the National Labor Relations Board (NLRB), as explained below.

THE RIGHT TO PROTECTION FROM DISCRIMINATION (California Labor Code §6310)

Workers must be able to speak up for a safe work environment without fear of punishment. This benefits everyone—the employer and employees. It is also the law.

THE RIGHT TO PROTECTION FROM DISCRIMINATION (California Labor Code §6310)

(CONTINUED FROM PREVIOUS PAGE)

Under California's Labor Code, employers may not punish workers in any way for:

- Complaining to their employer, union, Cal/OSHA, or another agency about job safety and health problems
- Filing safety and health grievances
- Participating on safety and health committees
- Taking part in Cal/OSHA inspections and related activities.

If a worker is disciplined, transferred, fired, laid off, demoted, or discriminated against in any other way because of speaking up about health and safety, he or she may file a complaint with the state Labor Commissioner's office within six months. (The Labor Commissioner's office is within the Division of Labor Standards Enforcement.)

Workers may represent themselves, or a union representative or attorney can file a complaint on a worker's behalf. However, it can be difficult to prove discrimination, so careful documentation and witnesses are important.

THE RIGHT TO REFUSE HAZARDOUS WORK (California Labor Code §6311)

Ideally, a workplace will have a safety system to make sure that workers are never called on to perform an unsafe act. But, if workers are ever asked to do job tasks that they believe might lead to death or serious injury, they can and should refuse to do that work. However, Cal/OSHA only protects them against punishment if certain conditions are met:

- Doing the work could expose them to a "real and apparent" hazard that could result in injury or death.
- They first ask their employer or supervisor to eliminate the hazard.
- There is not enough time to correct the problem through normal Cal/OSHA enforcement procedures.
- They inform the employer that they are willing to perform other work until the hazard is eliminated.

If all of these conditions are met and workers are punished for refusing to do work they believe is especially dangerous, they can file a complaint with the Labor Commissioner.

UNION'S RIGHT TO HEALTH AND SAFETY INFORMATION

(Title 29 United States Code §8(a)(5))

If a union has been certified as the representative in a private sector workplace, the union has the right to get health and safety information from the employer. Unions can request a wide range of information including names of chemicals, SDSs, air sampling data, group summaries of blood tests and other medical tests, death and pension records, and written company health and safety policies. The National Labor Relations Act (NLRA) also gives unions the right to bring in their own industrial hygienist to inspect the workplace. Your union also has the right to negotiate health and safety contract language, which may give you additional rights and protections.

The National Labor Relations Board (NLRB) enforces the NLRA. You can file a complaint with the NLRB if the employer interferes with any of your rights under this law.

If you are a public employee, the NLRA does not cover you, but state laws may give you similar rights.

What Are Worker Responsibilities?

Along with your rights come responsibilities. While Cal/OSHA can't fine or cite a worker for failure to work safely, you still have a duty to do so. Employee responsibilities include:

- Comply with all state safety and health regulations.
- Report hazardous conditions to your employer immediately.
- Report any work-related injuries and illnesses to your employer.
- Notify co-workers immediately of any serious hazards.
- Turn in defective tools.
- Report defective equipment and machines.
- Follow the safety and health rules of your employer.

The Injury and Illness Prevention Program Standard

Cal/OSHA's Injury and Illness Prevention Program (IIPP) standard is found in Title 8 of the California Code of Regulations, sections 1509 and 3203. It requires every California employer to establish, implement, and maintain an effective Injury and Illness Prevention Program to promote health and safety in the workplace.

An IIPP must be a written plan that includes all of the following elements:

- **Management commitment and assignment of responsibilities.** Someone with the authority and responsibility for the program must be identified and given management's full support.
- **Safety communication system.** Employers must communicate with workers about safety in a language they can understand, and in a manner that does not depend on literacy skills. Communication systems may include safety meetings, written materials, health and safety committees, or other methods.



- **Hazard identification and control.** There must be specific procedures for identifying and evaluating hazards, including regular inspections of the workplace. Workers should be encouraged to participate in inspections and make safety suggestions without fear of reprisal. Hazards should be corrected as soon as they are found, or a target date for correction should be set.

- **Incident investigation.** There must be a process for investigating work-related injuries and illnesses. Written documentation of incidents should be kept, indicating why they occurred and what actions will be taken to prevent them in the future.
- **Safety planning, rules, and work procedures.** There must be a way to make sure that necessary safety rules and procedures exist and are followed.
- **Training.** Training must be provided to all workers when the IIPP is established, to all new employees when they start, and to anyone with a new job assignment. Whenever new substances, processes, procedures, or equipment are introduced in the workplace, workers must receive training about them.



The written IIPP must be made available to all workers. Records must be kept to document that there is an effective program in place. These records should include scheduled inspections, actions taken to correct problems, and types, dates, and providers of training. Employers with fewer than 10 employees are exempt from some of these documentation requirements.

Controlling Hazards

Once hazards are identified, there are various methods that can be used to protect workers. These are called hazard controls. Not all controls are equally effective. There is a “hierarchy” of possible solutions. The most effective solutions, at the top of the pyramid, are those that actually remove the hazard. Below are those solutions that only reduce or limit the worker’s exposure. Often a combination of methods is needed to get the best protection.



Remove the Hazard

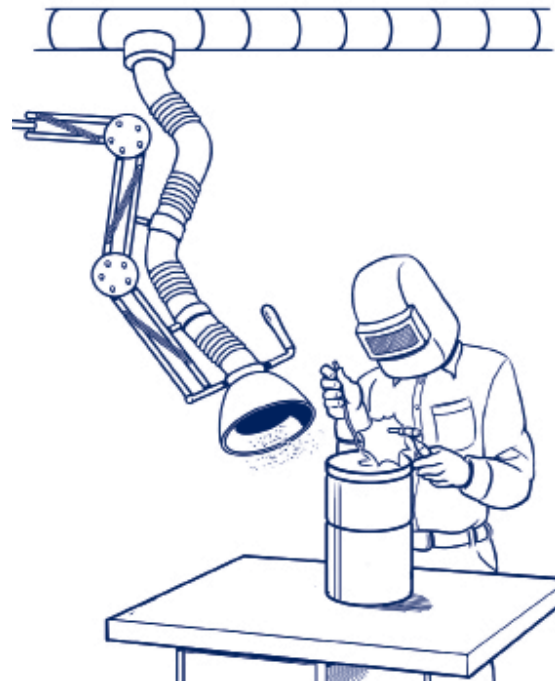
The best way to protect workers from hazards is to remove the hazards from the workplace altogether, or at least keep them away from workers. These methods are often called **engineering controls**. They directly address the hazard and do not depend on workers’ actions to be effective. Workers don’t have to wear special protective gear or take special precautions, because the hazard is gone.

Engineering controls include these methods:

- **Redesign the process.** For example:
 - Replace gasoline motors with electric motors to eliminate exhaust fumes.
 - Use wet methods when grinding, sanding, or using other tools to reduce dust levels.
 - Use conveyor belts to eliminate lifting and carrying.
 - Use mechanical hoists to move patients in hospitals and nursing homes.

Remove the Hazard (CONTINUED FROM PREVIOUS PAGE)

- **Substitute safer products for hazardous ones.** For example, use chemicals that are less toxic or dangerous.
- **Isolate the process, or isolate the worker from the process.** For example:
 - Install enclosures on noisy equipment, or move equipment away from workers.
 - Install guards on machines.
 - Use glove boxes when working with dangerous substances like radioactive material.
- **Install ventilation systems.** These remove chemicals from the air that workers breathe.
- **Redesign equipment.** For example:
 - Use adjustable computer workstations that fit workers' bodies comfortably.
 - Use retractable needles in healthcare to avoid needlestick injuries.
 - Replace old equipment with newer equipment that has built-in guards.

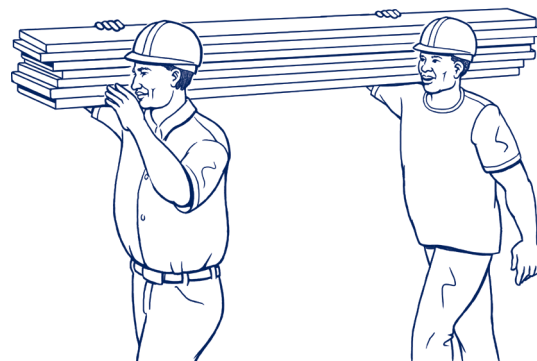


Improve Work Policies and Procedures

When the hazard cannot be eliminated altogether, another option is to set rules that will limit workers' exposure to the danger. These measures are often called **administrative controls**.

Administrative controls include:

- **Rotate workers** between a hazardous task and a non-hazardous task so that the length of exposure is reduced.
- **Increase the number of breaks** to reduce the time of exposure.
- **Change the work schedule.** For example, it may be possible to schedule tasks in very hot environments at night when temperatures are cooler.



Improve Work Policies and Procedures (CONTINUED FROM PREVIOUS PAGE)

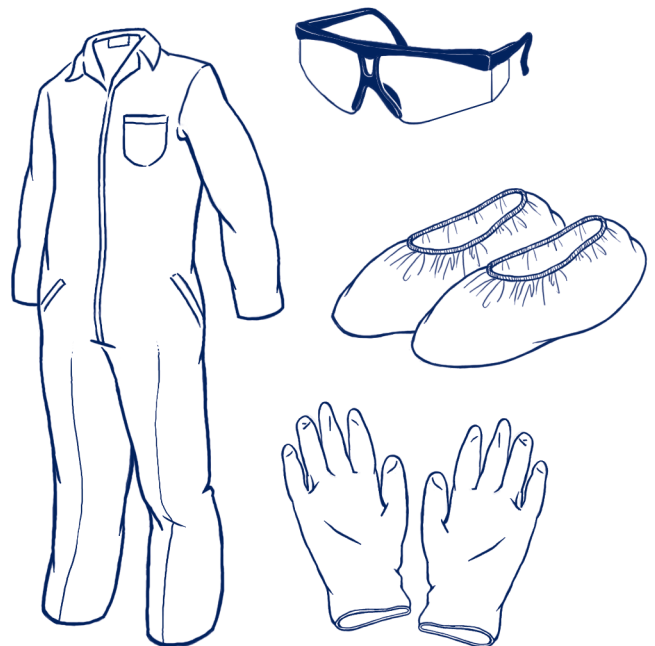
- **Keep work areas free of clutter and debris.** Require good housekeeping to reduce the chance of accidents and fires, to protect tools and equipment, to prevent build-up of toxic materials, and to prevent slips, trips, and falls.
- **Improve personal hygiene facilities and practices.** Provide a way for workers to wash their hands and faces before eating and drinking. Prohibit eating in work areas. Set up facilities for showering after the shift, and leaving contaminated clothes at the workplace.
- **Provide worker training programs.** Increase workers' ability to recognize and evaluate hazards, and to take action to protect themselves.
- **Assign enough people to do the job safely.**

Provide Personal Protective Equipment

A third method of reducing hazards is to use **personal protective equipment (PPE)**. PPE is worn on the body and protects workers from exposure to a hazard. It includes gloves, goggles, respirators, earplugs, hard hats, coveralls, safety shoes, etc. Wear PPE when other methods of hazard control aren't possible or don't give enough protection. Try to remove the hazard or change work procedures first.

PPE is usually considered less protective than the other methods because:

- It doesn't get rid of the hazard itself. It simply reduces the amount of exposure by placing a barrier between the hazard and the worker.
- Workers may not want to wear it because it can be uncomfortable and hot, and may make it hard to communicate.



Provide Personal Protective Equipment (CONTINUED FROM PREVIOUS PAGE)

- It has to fit properly to work, and in many cases must be cleaned and inspected often.
- It has to be the right type for the particular hazard, such as the right respirator cartridge or glove for the chemical being used.
- Workers must know and remember how to use it properly.
- Some PPE creates its own hazards, such as heat, heavy weight, reduced visibility and hearing, restricted movement, possible ear infections, and discomfort.
- PPE depends entirely on human action to be effective.

Remember that for PPE to be effective, workers must be given the correct PPE and trained in its use, care, and storage.

Use a Combination of Methods

Sometimes you may need a combination of methods to control a hazard. While engineering controls may be the most effective method, you also need to have training programs and good workplace policies to supplement them. There may also be situations where PPE is essential. For example, no matter what other controls exist, workers should always wear a hard hat on a construction site or use a lifeline and harness when working at heights.

It's important to generate and evaluate as many ideas for solutions as possible before settling on a strategy for controlling hazards.

Problem-Solving for Safety

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Acknowledgements

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 - ❖ The OSHA's 11 curriculum, <http://youngworkers.org/our-materials/teachers/#osha8217s-11-curriculum-2009>
 - ❖ Youth @ Work—Talking Safety, National Institute for Occupational Safety and Health, <https://www.cdc.gov/niosh/talkingsafety/>
 - ❖ Training Materials from the Worker Occupational Safety and Health Training and Education Program (WOSHTEP), administered by the Commission on Health and Safety and Workers' Compensation in the Department of Industrial Relations, <https://www.dir.ca.gov/chswc/woshtep.html>
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What you'll learn

- Discuss: Underlying Causes of Workplace Injuries
- Review: Rights on the Job
- Understanding Hazard Control
- Practice: Job Hazard Analysis
- Communicating about Safety on the Job

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Agree or Disagree?

"Most injuries and illnesses on the job happen because workers make mistakes or are careless."

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Accidents in the News

San Francisco Chronicle
Unocal Says Error Caused Blaze

San Francisco Examiner
PG&E punishing workers for Dec. 8 blackout

The New York Times
Disaster in Bhopal: Where Does Blame Lie?

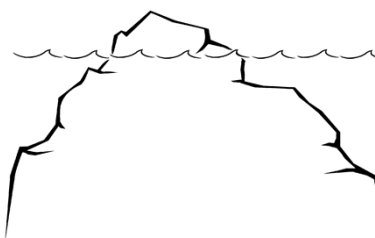
"He must have fallen in the hole. That's the only thing that makes sense. He knew not to go in there. He knew to stay two feet back. Those are the rules."

— Employer commenting on employee death in a trench while replacing a sewer line.

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Direct and Underlying Causes of Injuries and Illnesses

Direct Cause
(**"unsafe act"** or technical failure)



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Tom's Story



Cal/OSHA Standards

General Cal/OSHA standards:

- Injury and Illness Prevention Program standard
- Hazard Communication standard
- Access to Employee Exposure and Medical Records standard
- Log of Work-Related Injuries and Illnesses (Cal/OSHA Form 300).

Specific Cal/OSHA standards:

- Provide protection against specific hazards.
- Set out detailed rules that must be followed or minimum levels of protection that must be achieved.
- Cover a wide range of hazards, from toxic substances to specific operations such as roofing.

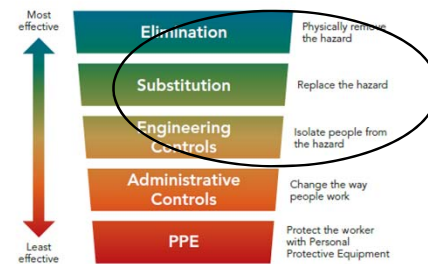
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Cal/OSHA's IIPP Standard

- Management commitment
- Incident investigations
- Hazard identification
- Hazard control
- Training of employees, supervisors, managers
- Communication with employees about health and safety
- Fair system for compliance with safety rules
- The IIPP must be written and implemented

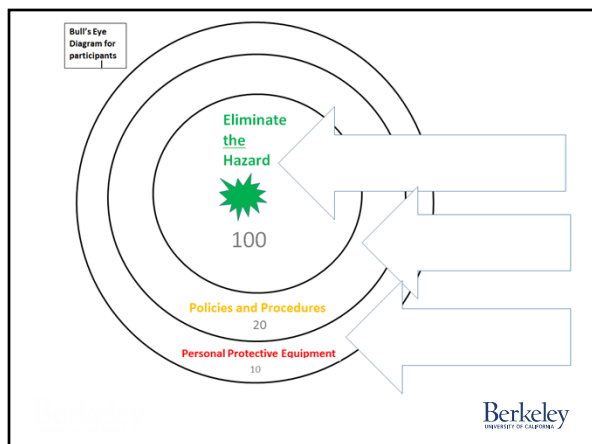
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Understanding the "hierarchy of controls"



Source: NIOSH (<https://www.cdc.gov/niosh/topics/hierarchy/default.html>)

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David's Story



Job: Stocking shelves
Injury: Broken leg due to fall from ladder

Jenna's Story



Job: Warehouse stocker
Injury: Killed by indoor heat exposure

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Stephen's Story



Job: Warehouse worker
Injury: Hurt back while loading boxes

14

Joe's Story



Job: Warehouse worker
Injury: Struck by falling object

15

Jackie's Story



Job: Warehouse logistics
Injury: Foot crushed by forklift

16

Maria's Story



Job: Truck Driver
Injury: Back pain from driving

17

Dani's Story



Job: Ag mechanic
Injury: Arc flash eye injury from welding

18

Arnaldo's Story



Job: Agricultural worker
Injury: Pesticide poisoning

19

Emily's Story



Job: Commercial landscaping
Injury: Hurt back while laying pavers

20

James' Story



Job: Laborer
Injury: Died due to heat

21

Mike's Story



Job: Auto mechanic
Injury: Rash and breathing problems from degreaser

22

Jose's Story



Job: Bus mechanic
Injury: Crushed under vehicle

23

JD's Story



Job: Auto body repair
Injury: Electric shock

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Problem-Solving Skills

- Asking questions
- Gathering information/analyzing the problem
- Being open-minded
- Being self-confident
- Collaborating with others

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How to Approach a Workplace Problem

- Define the problem.
- Get advice from a co-worker, teacher, family member.
- Choose your goals. Decide which solution is best.
- Know your rights.
- Decide the best way to talk to the supervisor.
- If necessary, contact an outside agency (like Cal/OSHA) for help.

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Summing It Up

- **Know your rights**
 - Fact sheet?
- **Know your responsibilities**
 - It's your responsibility to follow safety rules and to report any problems you see.
- **Know your employer's responsibilities**
 - Your employer must keep the workplace safe and give you safety training
- **Know the steps to take to solve problems**
 - Resources include co-workers, friends, teachers, and government agencies like Cal/OSHA

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For More Information

- LOHP, UC Berkeley Resource Center:
 - Website: www.lohp.org
 - Facebook: www.facebook.com/LaborOccupationalHealthProgram/
 - (510) 642-5507
- Occupational Health Branch, CDPH
 - Website: <https://www.cdph.ca.gov/OHB>
 - (510) 620-5757
- Contacts
 - Diane Bush, dbush@berkeley.edu
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