

HEALTH AND SAFETY AT WORK

Curriculum For The Roofing Industry

Trainer's Guide

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Agenda

Part 1: A healthy and safe workplace

1. Agenda, Introduction and Attendance
2. Hazards in the Roofing Industry
3. Your Rights to Safe and Healthy Work
4. Fall Hazards and Protection

BREAK

Part 2: What can we do to protect ourselves at work?

1. Personal Protective Equipment
2. Correct Usage of Tools
3. Ergonomics for Roofers
4. Negotiating for Better Working Conditions

EVALUATION

Class Goals:

Part 1: Workers learn they have the right to be free from hazards at work and about the laws that protect their safety at work.

Part 2: Workers learn to identify their capacity to exercise their rights to safe and healthy work and practice how to protect themselves in their work environment.

Materials for the Class:

Part 1:

- Attendance sheet
- Large paper
- Markers

Part 2:

- Large paper
- Markers
- Evaluation Survey
- Personal Protective Equipment (Gloves, face mask, safety glasses, harness, hard hat, protective clothing, ear plugs)

Handouts:

Part 1:

- Your rights to healthy and safe work
- How To Keep Your Day-Laborer Safe Flyer for Employers

Part 2:

- Tools and Appropriate PPE
- Key-ring safety reference booklet

Part 1: A Healthy and Safe Workplace

1. Agenda, Introduction, and Attendance

Introduce the trainers. Explain the class agenda. Take class attendance.

2. Hazards in the Roofing Industry

Body map activity. Read Fernando's testimony. Hazard map activity.

Overview For the Instructor:

The following activities will provide students with the basic tools to recognize common roofing injuries and workplace hazards.

ACTIVITY

Body Map

Have a large diagram of a human body on the whiteboard or flip-chart in front of the classroom.

Ask students to come forward and mark an "X" on body parts that they think are being affected by their work.

Explain to students that they can talk to you individually if they do not want to share their injury or illness with the group.

Ask students to explain why they put those marks on the body.

List the injuries and illnesses that are common among workers in the roofing industry.

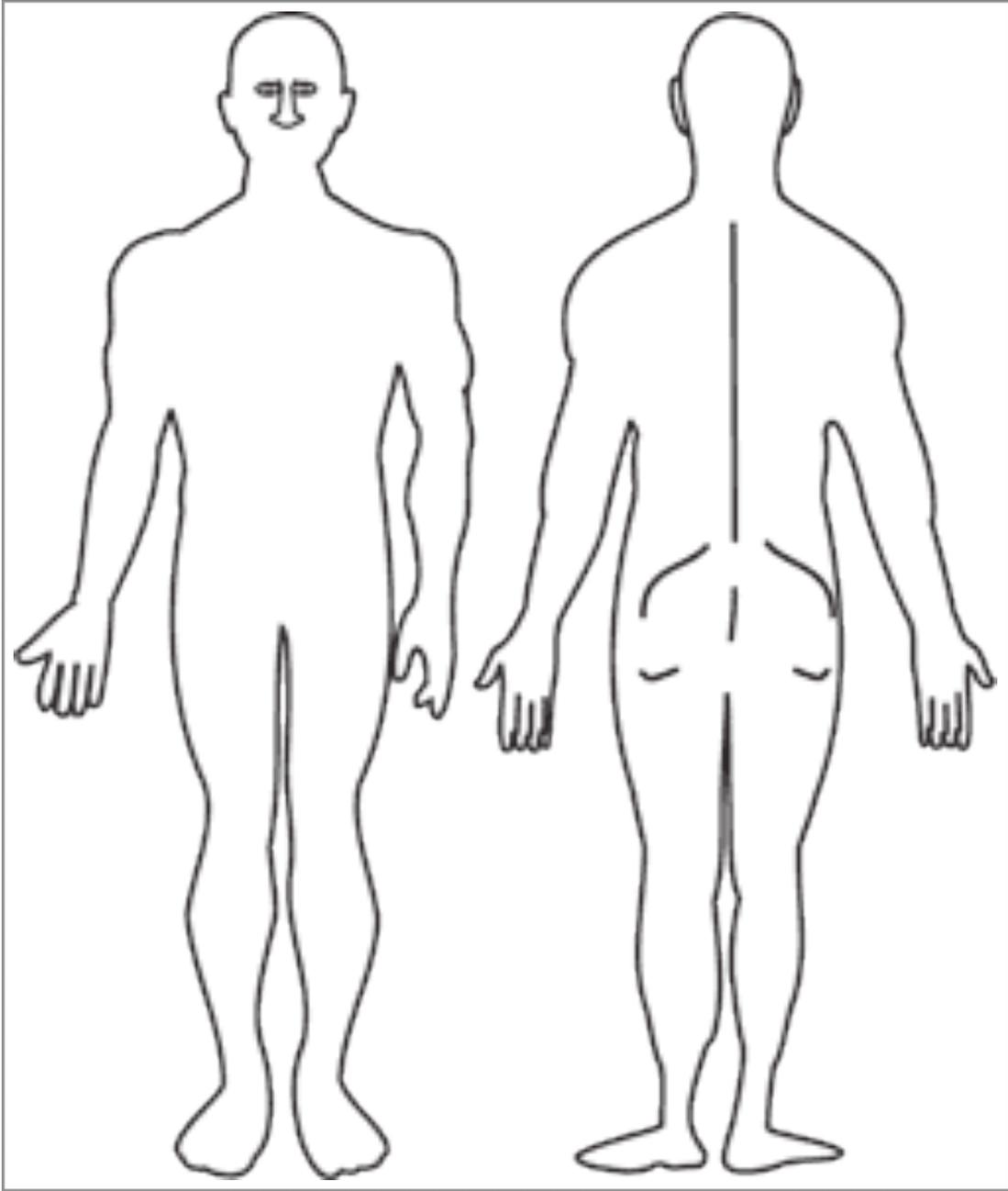
Ask the class to participate in a discussion about this with questions such as:

- **It appears that a lot of you experience very similar injuries.* Why do you think that is?**
- **Why do you think that these injuries occur?**
- **What do you think can be done to reduce the likelihood of injury?**

Make sure to point out close groupings of marks so they can see that many workers experience similar pains and injuries.

See an example of a Body Map on the following page.

Example Body Map



Trainer reads the following:

Fernando's Testimony

"I have roofed entire 4 story buildings without any protective equipment. I've had employers who will not even give me gloves, fall protection or eye protection to protect myself from laying shingles and using nail guns. The safety hazards don't effect the employer because they hire us to do the dangerous jobs so they feel it's okay. Do they think day laborers are a workforce that doesn't need to be safe? They pay us very little. But the little money we make we use to help our family. So the job is good because we can help our family, but from the security point of view it's not right. If I have an accident there will be no insurance or anything to help my family. And all this is caused by the employer's desire to save money. Often day laborers will work under many risks that other workers would not. And that happens because of money. "

Questions for discussion on the testimony of Fernando:

- What do you think about the dangerous conditions at Fernando's work?**
- Can you relate to Fernando's story of working in a dangerous situation because someone has to do the job and because he needs the money for his family?**
- Do you agree with Fernando that there are many hazards in the roofing industry?**
- What are some of the risks to health and safety in the roofing industry?**
(Answer: Cut fingers, muscle strains, fall hazards, back problems, heat stress, cuts, eye injury, etc.)

Trainer puts the answers on the wall with pictures.

Overview For the Instructor:

These are just some of the dangers. El Centro's recent surveys indicate that day laborers are working some of the most dangerous jobs in the state. The goal of this next activity is to identify hazards at work when roofing.

ACTIVITY Hazard Map

Students work in small groups to create maps of different types of workplaces. They can use plain paper and markers. To begin, students must draw a floor plan of a workplace in the roofing industry. The plan must show work areas, equipment, rooms, etc. Maps can be basic.

When finished, students will decide where hazards are located in their workplaces and mark them. Using the data sheets as a reference, students should mark these places on the floor plan. Use the following codes:

- **Red for safety hazards and physical hazards.**
- **Blue for chemical and biological hazards.**
- **Green for additional hazards.**

You can use color codes or other symbols to indicate hazards. You can, for example, use a different color for safety hazards, physical hazards, chemical hazards and biological hazards.

Remember that the most important objective of this exercise is for the students to identify hazards in their workplaces so don't worry too much that the category is correct.

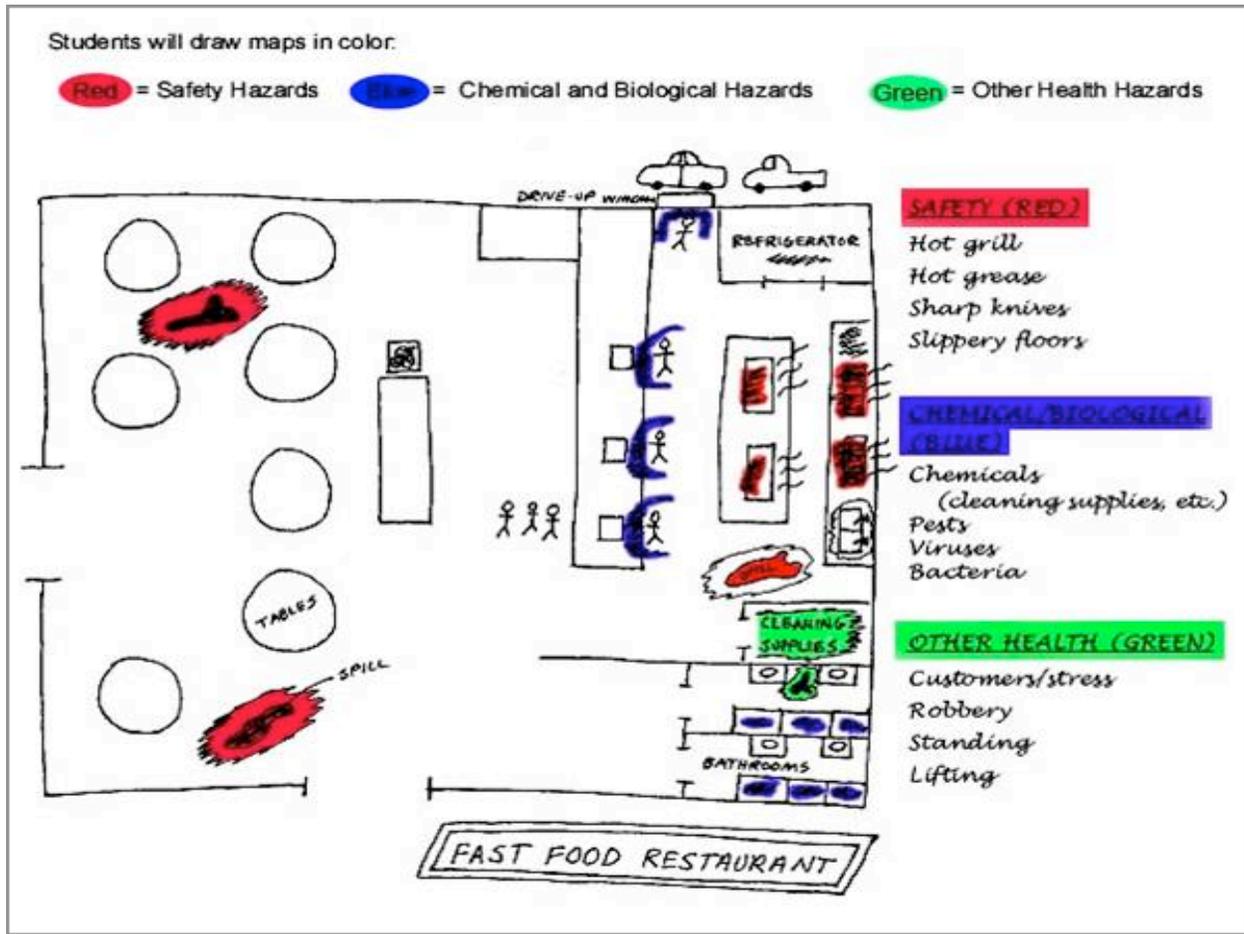
If the student is not sure whether something is dangerous, mark it as a danger and discuss it with the group.

Students should take about 15 minutes to prepare the maps, and then submit them to the group. Put the maps up on the wall. Ask the group to participate in a discussion about the maps with questions like:

- **Are there any comments about these maps?**
- **How can we better protect ourselves from injury at work?**
- **The law requires employers to protect employees. Is it practical to have the expectation that employers provide safety equipment for day laborers?**

See an example of a Hazard Map on the following page.

Example Hazard Map



3. Your Rights to Safe and Healthy Work

Your rights under OSHA activity. Pass out the “Know Your Rights” handout.

Overview For the Instructor:

The following activities will provide students with an introduction to OSHA, their basic rights under OSHA, and the responsibilities of employers to provide a safe and healthy workplace.

Activity **Your rights under OSHA**

[Now, all standing.]

On wall is a sign that says YES, on another wall is a sign that says NO.

Explain that as you read a series of questions. If they believe the answer is yes, they move to stand below the sign that says YES, if they think the answer is NO, they have to stand under the sign that says NO.

- Do you have the right to a safe and healthy workplace?**

YES

- Do you have the right to receive information?**

YES

- Do you have the right to receive training?**

YES

- Are OSHA employees the only ones who can ask employers to change a dangerous work situation?**

NO (You have the right to ask the employer to change the dangerous situation.)

- Do you have the right to make a complaint to OSHA and to participate in the process?**

YES

- Do you have the right to be protected against retaliation?**

YES

- Do you have the right to know which chemical products you used at work?**

YES

- Does your employer have the right to refuse your request to use Protective Personal Equipment at work?**

NO (You have the right to have Protective Personal Equipment at work)

Share a copy of the “Know Your Rights” and “How to Keep Your Day-Laborer Safe” handouts to the workers.

4. Fall Hazards and Protection

How can we protect ourselves from falling? Personal Fall Arrest System. Portable ladder safety.

How can we protect ourselves from falling?

OSHA says there are three main ways to protect workers from falls:

Guardrails, safety nets and personal fall arrest systems.

OSHA requires employers to provide these protections to workers when needed.

OSHA requires employers to do the following:

1. Identify potential fall hazards prior to each project and during daily inspection tours.
2. Ensure that the fall protection equipment is right for the job employees are doing, and that it is in good condition and is being properly used.
3. Conduct periodic trainings on fall hazards and on the required personal protective equipment.
4. When possible fall protection equipment should be set-up as a restraint system. (Employee can reach the fall hazard, but just not fall.)

Remember that employers need to provide safeguards to prevent falls from occurring in the workplace.

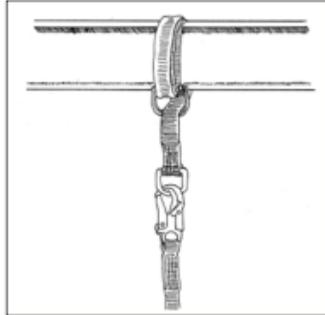
Personal Fall Arrest System

Personal fall arrest systems are a way to protect workers from falling. In general, workers must have fall protection whenever there is the possibility of falling 6 feet or more.

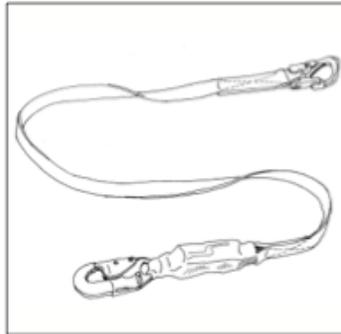
OSHA requires workers to wear a full body harness connected to an individual lifeline (which is a part of the personal fall arrest system) when they are working on a suspended scaffold of more than 10 feet above the ground. When they are working in an aerial lift, the employee must tie-off before moving the bucket. Employers may also choose to use a personal fall arrest system, instead of using a guardrail when workers are working on fixed scaffolding over 10 feet above the work surface.

There are three main components of a personal fall arrest system:

Anchorage and Anchorage Connector



Connecting Device (Ex: a safety rope or a self retracting lifeline)



Full body harness



Before starting to work while using your personal fall arrest system, you must be sure that all parts of your system are working well.

Introduction to portable ladder safety

Each year, about 50 workers die after falling off portable ladders. Ask these questions to the group.

QUESTIONS

1. What is more dangerous: going up or down a ladder?

ANSWER:

Falls occur twice as often going down the ladder, compared to climbing up the ladder.

2. What do you think is the main cause of falls from extension ladders?

ANSWER:

The base of the ladder line slipping.

3. For ladders that have their own support or stepladders, what is the main cause of falls?

ANSWER:

Sloping walkways.

4. What other injuries can occur when working with portable ladders?

ANSWER:

Hurting your back from carrying the ladder.

What is wrong with this picture?



When you are using a ladder:

1. Grab the ladder with both hands when climbing up or down. Always use at least one hand to hold onto the ladder.
2. If you need to use material, use a pulley to raise and lower the material.
3. Always face toward the ladder when going up or down.
4. Always grab the ladder side rails, never the steps.
5. Do not climb above the third rung from the top of the ladder when using an extension ladder.
6. Do not climb above the second step to the top when using a stepladder.
7. Do not reach with your body to a point where your waist is outside of the side rails.
8. Do not use portable metal ladders near electricity (stay at least 10 feet away).
9. Always use three points of contact at all times, always have one hand on the ladder.
10. Take special precautions when installing or climbing a ladder on a windy day.

BREAK

Part 2: What can we do to protect ourselves at work?

Overview For the Instructor:

In the following activities, students will learn to identify their capacity to exercise their rights to safe and healthy work and practice how to protect themselves in their work environment.

Activity **Hazard Control**

Using the hazard maps the students created in the previous exercise, work with these groups to choose a danger on their maps they think is important.

Students should then take 5-10 minutes to prepare a brief scenario where they as workers confront their employer to discuss ways the employer can control this risk at work. Discuss with the students the different hazard control methods.

Depending on the needs and size of the classroom, some students may act as employers and others as employees or instructors and employers can act as facilitators. If possible, each student must have a part in who is speaking.

Hazard Control Methods:

Listed by effectiveness

Elimination (Most Effective)

The best way to control a hazard is to eliminate it completely. An example of elimination: Cover holes on the roof.

Substitution

The use of alternative cleaning products that have no toxic chemicals. Products made with natural or non-toxic ingredients.

Engineering

Engineering controls are another way in which technology can be used to change the work environment, machine, or equipment to reduce the danger.

Work /Administrative Controls

A change of administrative controls or work practices means changing the way and the structure of how work gets done. Example: Rather than have an employee exposed to danger for eight hours a day, the employer may be assigned to four workers to work for two hours each. This could be used for repetitive tasks or to any exposure to a chemical hazard.

Personal Protective Equipment (Least effective)

Personal Protective Equipment (PPE) may include, but is not limited to, respirators and protective equipment for eyes, and gloves. PPE is the least effective way to protect workers because it does not eliminate the dangerous situation. If the equipment fails the workers are still exposed to danger.

1. Personal Protective Equipment

Personal Protective Equipment race.

Activity

Personal Protective Equipment Race

Set multiple sets of Personal Protective Equipment (PPE) on a table in front of the group. (Gloves, face masks, safety glasses, hard hats, protective clothing, ear plugs., etc) Divide the class into two teams and have them line up against the wall. The first two students at the front of their lines will be the first to compete against each other in a race.

The instructor will then hold up a tool and ask the first two students which types of personal protective equipment they think they would need for protection when using that tool.

The students will then race to the table to select the appropriate PPE and then back to their team. Each member on their team will then one at a time put on the PPE correctly and say the name of the equipment in English as fast as they can. Whichever team completes these tasks the fastest correctly wins that round.

The game will repeat until each student has a chance to race.

Example of Personal Protective Equipment



2. Correct Usage of Tools

Tool Safety Activity.

Activity Tool Safety

Pass out the “Tools and PPE” handouts to the class. Have students use the handouts as a reference. Ask the Students:

What types of tools and/or types of Personal Protective Equipment (PPE) are used for the following:

- **To nail shingles onto a roof?**

(Nail Gun: Answer on handouts)

- **To cut tar paper?**

(Knife: Answer on handout)

- **To operate a saw?**

(Answer on handout)

- **To operate a power stapler?**

(Answer on handout)

- **To hammer in nails?**

(Hammer: Answer on handout)

- **To operate a blow torch?**

(Answer on handout)

3. Ergonomics for Roofers

What is ergonomics? Ergonomics and Work Conditions. Practice Safe Lifting Activity.

What is ergonomics?

Ergonomics is the science of designing jobs to accommodate the needs of the worker, rather than making the worker fit the job requirements.

For many workers, ergonomics may not be high on their list of priorities, but the injuries caused by poorly designed work conditions can lead to serious injuries over time. These injuries can occur in the hands, wrists, joints, back, or other body parts. These injuries are called musculoskeletal disorders.

For employers, building a well-designed job can be expensive at first because they may need to spend money on equipment or training. However, injuries resulting from poor working conditions can end up costing more money to the employer in the long run. Employers lose money when employees miss work because of pain or injury, and is expensive for employers to have to hire and train new workers when other workers quit due to injury or illness.

Activity

Ergonomics and Work Conditions

Ask students for examples of working conditions that can cause injury. Write answers on the board. Emphasize the following points:

- **Tools and tasks that require you to twist your hands or joints**
- **Tasks that require applying too much pressure on parts of the hand, back, wrists or joints**
- **Tasks that require working with arms outstretched or overhead**
- **Tasks that require working with back arched**
- **Tasks that require lifting or pushing heavy loads**

Activity
Practice Lifting Safely

Have students practice lifting objects safely in small groups.

WAYS OF LIFTING SAFELY

- Keep your body close to the object.
- Bend at the hips and knees. Gloves can improve your grip.
- Lift smoothly and slowly, keeping the object close to your body. Keep the position between the knees and shoulders.
- If you have to turn, turn with your feet instead of bending over.



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4. Negotiating for better working conditions

During the rest of the class, we practice exercising our rights to a safe and healthy working environment.

Activity

Let's examine a common situation

Trainer reads the following story

The employer goes to a worker at a roofing job and says "I need you to go cut the drip-edge on the roof. The problem is that the worker is unable to reach the drip-edge and other workers are using the taller ladders. In order to reach the roof he would need to stand on the top rung of the ladder and all this while while cutting above his head. The employer says, "You'll be fine. It's a bit unstable, so just be careful. It's already 4pm and I need you to finish by 5pm. Just get the job done. Thanks, I can always count on you!" The worker hesitates because he feels that the job is unsafe...

•**What rights does the worker have?**

•**What can the worker do to help the employer get the job done safely and in a timely manner?** (Answer: Workers can work together using safe ladders, etc.)

•**Why is it important for the worker to communicate and negotiate with the employer?**

(Answers may include: clarifying expectations, understanding the risks they'll be exposed to and minimizing such risks, to talk about the issues, determine their own limits, understanding the employer's interest.)

•**Why is it difficult to negotiate with the employer?**

(Answers may include: fear of losing my job, I think we know what the employer will say, my coworkers are not going to say anything to support me, the solution will cost money and I know my employer will not want to pay.)

In order to negotiate, it's important to remember these values:

As a human being, as a worker, I have value. *Trainer comment:* We must first start valuing ourselves. If we demand better safety and health protections, we must put great importance on our own well-being.

I do not have to remain silent/quiet. *Trainer comment:* We often think that to keep our jobs or for our employers, we must accept its conditions without objection or discussion. We reject that idea, and believe that dialogue leads to new solutions.

There are other options other than just accept or leave. *Trainer comment:* This is similar to the last value. As workers we have more choices than to either remain silent or leave our jobs.

Activity

Steps, Planning, and Tips for Better Negotiation

The Steps of Negotiation:

1. Identify the problem (What is the root of the problem and what you want?)
2. Planning
3. Start the negotiation (There is no perfect time!)
4. Come to an agreement
5. Monitoring and evaluation
6. The struggle continues ...

How do we plan to negotiate?

1. Choose what you want to negotiate and what you're going to ask for
2. Think of why you're asking. Plan your message and look for the objective (Ex: I want to pay \$ x.00 for x thing)
3. Analyze the perspectives and interests of the opposing party
4. Know the minimum you could accept.
5. Start negotiating!

Tips for negotiating:

- Separate the problem from the person
- Use an attitude of confidence, firmness and respect
- Think about what you are saying with your face and body
- Look for a solution together
- Say what you want to happen - specifically
- Do not attack the person, do not return insults with insults
- Say, "I feel that ..."
- Talk to the interests of the party, "I'm sure you would want someone who does quality work and with whom you can trust."
- Instead of being resolute and locked in your position, look for options
- Ask questions
- Talk about the value of your work
- Listen to the person and relate it back to what you're saying, "I hear you saying _____"
- Use "objective criteria" if possible
- Look forward, not back

Activity
Play- Practicing Rights

Choose two people to act in the play. One will play the role of Juan, the employer who is roofing a large house and needs to hire a day-laborer for a week. Ricardo will play the role of a day-laborer who will be hired by Juan. Juan asks Ricardo to use a ladder balanced on top of an upside down bucket to reach the roof. Ricardo knows that the ladder is unsafe on top of the bucket. Ricardo believes that the job requested of him is not safe and wants access to an extension ladder to reach the roof and complete the job.

Ask students:

- What should Ricardo do?**
- What other methods can be used to gain what he needs?**
- What other solutions could be used to rectify this dangerous situation?**

Write their answers on the wall (in general terms/pictures).

Summarize all the tactics discussed in class:

- 1) Know your rights to a healthy and safe work environment
- 2) Learn a few common words and useful phrases in English to help communicate your needs.
- 3) Know the work and dangers, and learn methods of protection.
- 4) Learn about resources that help employers meet their responsibilities, such as low cost methods to protect workers.
- 5) Learn how to negotiate with your employer.
- 6) Learn how healthy and safe working is beneficial to the employer and the employee.

EVALUATION

Double Check Attendance Sheet for Accuracy

Assist Students in Completing the Evaluation Survey

