Unit 2 – A Culture of Safety

Objective

Each student will understand what a culture of safety is, the concept of stewardship for your own safety and for the safety of others, and the role of OSHA in industry.

Skills

Each student will gain the following skills from this unit:

a. Accept the stewardship for themselves and others on site.
b. Demonstrate shop safety rules/ OSHA regulations.
c. Demonstrate safe use of ladders and scaffolding.
d. Identify fall hazards and corrective measures.

Instructor Preparation

Study Unit 2 – A Culture of Safety and be prepared to discuss the specific principles covered in this unit. Consider what additional information may be required for the particular trades and skills that your students are learning. Be prepared to provide practical examples for the use of fall protection and proper use of ladders.

Materials & Equipment

It is suggested that each classroom be equipped with the following:

a. Various harnesses used for fall protection.
b. Various types of ladders, (if accessible).
c. 1926 OSHA Construction Industry Regulations or specific OSHA regulations for the appropriate trade your students are learning.
Suggested Unit Development

Read aloud or have a student read aloud the introduction and each paragraph. Briefly discuss each section as you read through as a class. Prepare searching questions which help you determine whether your students understand the principles of safety being taught.

1.2.0 Introduction

A worksite is much like a beehive of activity, with many workers performing many different tasks simultaneously. Each worker has a specific skill set and trade to perform. This environment is constantly changing. As a result, workplace hazards are constantly emerging which can jeopardize your safety and the safety of those you work with. Your actions can jeopardize the safety of others. Your employer will make every effort to plan a safe job and workplace. Accidents cost money, time, and lost productivity. But safety is in your own hands, you have to know what can happen and how accidents can be prevented. Often the work is repetitive and this can dull your alertness level thus increasing the chance of an accident. Safety training will be an ongoing part of your career and begins now with looking at how to be safe in the classroom and laboratory.

You are responsible to ensure that everyone around you is working in a safe manner. This is part of your stewardship. Stewardship is the careful and responsible management of something entrusted to one’s care. If there is an accident or you see something that appears to present a hazard, immediately call it to the supervisor’s attention.

Discuss the idea of our stewardship for our own safety and the safety of others on the job.

1.2.1 Safety Culture

Companies are usually proud of their safety records and often the number of accident-free days is posted at the worksite. Why is this important? Safety is a learned behavior and an attitude. It is a way of working that must be integrated into the company as part of its culture. The entire company, every employee, and subcontractor must see the value of a safe work environment. It’s about attitude. Everyone is responsible to make the work environment safe. A safety culture is one that is valued by every member, from management to laborers and each member takes responsibility.

Discuss why every employee should value a safety culture.

Companies with strong safety cultures usually have:

- Fewer at-risk behaviors
- Lower accident rates
- Less turnover
- Lower absenteeism
- Higher productivity
Fewer accidents can lead to lower insurance rates, faster job turnaround, more winning bids and more work for you, the employee. Safety needs to be seen as a core value of the company and requires strong leadership to instill in everyone. Everyone is responsible for establishing and enforcing a high standard of safety and everyone should question practices they perceive as unsafe.

Learning a new skill is fun and you should enjoy your classroom/laboratory experience and your future employment. We all enjoy a good laugh, but there is an appropriate time and place. Horse-play and practical jokes cannot be tolerated by anyone. Stop and think, “What could happen?” A safety culture will not allow for behavior which can cause someone harm.

What is the main point?

1.2.2 Fall Hazards

The workplace is hazardous and it’s up to you to make it safe. Falls are common and they often result in injury. You can expect to be working at both heights and on rough surfaces. Serious falls can be the cause of death.

In this picture you can see various harnesses that can protect workers at heights from falls. Slips, trips and rough surfaces cause just as many accidents each year as falls.

One of the main causes of falls is poor housekeeping at the job site. Often, people don’t put things away and they don’t keep walkways clear, so others (or themselves) might trip and fall.

Here are a few tips for avoiding falls, slips, and trips on the jobsite:

- Keep all walkways free of clutter, tools and materials.
- Keep all walkways clean of debris.
- Watch where you place extension cords and hoses to ensure that they do not cause a trip hazard.
- Do not run.
- Use appropriate safety equipment when necessary.
- Ask for safety equipment when you recognize a hazard.
1.2.3 Ladders

Ladders are used to work at heights above what you can reach from the ground. The hazard with a ladder is that they become so common to you that you forget you’re standing on one and you fall. Ladders are inherently unstable. You cannot extend your reach too far to the right, to the left, or backwards without causing the ladder to slip. *Any time you are working above ground level there is a risk of injury.*

Ladders are designed to support a maximum load. If the weight on the ladder exceeds the limit it will fail. The structural failure of a ladder can result in a fall, potentially injuring you or your co-workers. The maximum listed load includes not only you, but also your tools and the load you are carrying. Working at a height is dangerous and no place for horseplay. Never have more than one person on a ladder at a time.

Check the ladder’s maximum load before you set it up. Read the manufacturer’s safety instructions on the side rails of the ladder. The heavier the material the ladder is made of, the more it will weigh and cost. If this is something you will use every day you need to buy the appropriate ladder which will last and support your work.

Ladders are rated as:

<table>
<thead>
<tr>
<th>Ladder Ratings</th>
<th>Load Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type IAA</td>
<td>375 lbs extra heavy duty</td>
</tr>
<tr>
<td>Type IA</td>
<td>300 lbs heavy duty professional use</td>
</tr>
<tr>
<td>Type I</td>
<td>250 lbs heavy duty industrial use</td>
</tr>
<tr>
<td>Type II</td>
<td>225 lbs medium duty commercial use</td>
</tr>
<tr>
<td>Type III</td>
<td>200 lbs light duty home use</td>
</tr>
</tbody>
</table>

1.2.4 Types of Ladders

Ladders are made of aluminum, wood, or fiberglass and each has specific uses. Metal ladders (aluminum) are usually light to carry, but they conduct electricity and should never be used when there is a risk of electric hazard. Fiberglass ladders are heavier and are ideal for electrical work. A wet wooden ladder will also conduct electricity. Be alert and use the proper type. Aluminum ladders are the lightest in weight and can withstand the elements outside better than wood or fiberglass. Fiberglass ladders are durable and can take the rough treatment of daily use at a job site. Lastly, wood ladders are heavy, but can often withstand higher loads than the other two varieties. You must still refer to the ladder rating regardless of the material that it is made of. Wood ladders are more difficult to clean.
1.2.5 Step Ladders

Step ladders are the most common type of ladder used; they come in a variety of heights up to 16 feet. The ladders are hinged at the top and held apart by metal bars called spreaders. When you position a step ladder make sure all four feet are on the ground and flush with the surface. All ladders are intended to be used only on hard, flat surfaces. A ladder set up in mud will fall with you aboard! Step ladders are made and are usually labeled that you should never stand on the top step. They all become unstable when your body is above the combined center of gravity of you and the ladder. The braces on the back of a step ladder are not designed for climbing, never use them as such and never have two people on the ladder at the same time. Never sit on the top rung either as this also makes the ladder unstable. Make sure the rungs are clean, step ladders can become slick when wet. A step ladder often has flat rungs made for standing longer periods of time such as when painting.

1.2.6 Extension Ladders

Extension ladders allow you to work at even greater heights. An extension ladder is two straight ladders bound together in a manner you can “extend” the inner one and lock in place with the rung lock.

Extension ladders have safety feet. Safety feet help prevent slipping on hard flat surfaces. Extension ladders should never be used as scaffolding. The rungs are not designed to carry weight in this way.

To set up an extension ladder remember the 1:4 rule. If the height of the wall is 16 feet, the base of the ladder should be placed 4 feet from the base of the wall. Setting the ladder closer to the wall will cause the ladder to fall back as you climb it. Setting the ladder too far will cause it to slide down the wall or bend in the center.

Take a minute and discuss the 1:4 rule. You may want to take this opportunity to discuss ratios. This is a ratio that deals with slope. Explain that for every one foot the base of the ladder is placed away from the vertical surface, the ladder may extend four feet vertically.
The ladder needs to be long enough to extend 3 feet above the surface of the wall. Notice the proper way to climb the ladder up to the roof, and exit standing up. Crawling onto the roof causes you to kick your leg free and knock the ladder backwards and to the ground. The photo to the left shows the rung locked in place. Before you climb make sure these are locked.

Your instructor will demonstrate the proper 3 point contact technique for climbing a ladder. Remember always have 3 of your 4 (feet and hands) on the ladder at any point in time while you climb. Move one foot or one hand at a time. Never carry objects with you up an extension ladder. Use a hand line to bring them up after you have reached the work height. Many workers have been stranded on buildings when their extension ladder has fallen after they moved onto the roof. Secure the top of the ladder before you exit to ensure it doesn’t slide down when your weight is removed. You can also secure the bottom of a ladder to prevent it from slipping.

1.2.7 Do’s and Don’ts with Ladders

- Never stand on the top two rungs of the ladder and keep your body balanced.
- Never lean further than your normal reach. You can tip the ladder as your center of gravity shifts right or left.
- Always face the ladder.
- Never climb up or down the ladder backwards.
- Never jump from the ladder. The sudden movement may cause the ladder to fall, injuring you or someone else or causing damage.
- Remain alert. Remember the main hazard of ladders is that you become used to working on one, that you forget and an accident happens.
- Ladders can be dangerous, treat them with caution.

What is the main point?
How many hazards can you identify in this picture?

1.2.8 OSHA Regulations

In 1970 the Occupational Safety and Health Administration (OSHA) was passed to prevent workers from being killed or seriously injured at work. The law requires that employers provide their employees with working conditions that are free of known dangers. OSHA sets and enforces protective workplace safety and health standards. OSHA also provides information, training and assistance to workers and employers. Workers may file a complaint to have OSHA inspect their workplace if they believe that their employer is not following OSHA standards or there are serious hazards.

The workplace is full of conditions which can instantly become hazardous. It is up to you and your employer to do whatever it takes to make this a safe environment for you to work in.
OSHA makes it the employer’s responsibility to ensure a safe work environment. OSHA makes it your responsibility to follow the established safety rules. You can be fired for not doing so. OSHA also requires both you and your employer to keep accurate records when you recognize a work hazard and what efforts were taken to minimize the threat. You must report all work-related injuries, accidents, and incidents to your supervisor, no matter how minor.

OSHA has a rule called “right to know” or officially the Hazard Communication Standard (HazCom) which requires employers to educate their employees about hazardous chemicals. Other regulations require signs to be posted, safety equipment to be worn and work sites to be inspected.

OSHA has found 82% of all accidents fall into four categories:

1) Falls from elevations
2) Struck-by accidents
3) Caught-in or caught-between accidents
4) Electrical shock
Assessment

Use the following questions to assess how well the students understand the material from this unit.

1. This reading seems to imply:
   a. In industry the risks are well known.
   b. In industry the risks change with the situation.
   c. Your boss will be able to outline all the hazards to you.
   d. Your boss is ultimately responsible for your safety.

2. In your own words answer the question, “what is a safety culture?”
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

3. True or False
   ____ Companies with a culture of safety pay more.
   ____ Companies with a culture of safety have less sick days per employee.
   ____ Companies with a culture of safety have workers that are more industrious.

4. What does OSHA stand for and what year was the OSHA act passed by congress?
   __________________________________________________________________________
   __________________________________________________________________________

   Your boss and who else are ultimately responsible for providing a safe workplace?
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

5. Historically, job sites have been a safe environment. T / F

6. In your own words, describe what is meant by stewardship.
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   __________________________________________________________________________
   __________________________________________________________________________