SLIPS, TRIPS, FALLS AND LADDER SAFETY

SLIPS, TRIPS AND FALLS

Learning Objectives

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

- Identify at least five slip, trip and fall hazards
- Discuss at least five strategies that can be used to control hazards in floors, holes, cluttered work spaces, stairways, and ladders
- Describe/demonstrate the proper way to set up and climb a ladder.

Time Needed: 45 Minutes

Materials Needed

- DVD: *Don't Fall for It, f*rom the CPWR - The Center for Construction Research and Training
- DVD player and TV or LCD projector (with speakers)
- Handouts: Checklist: *Slips, Trips, and Falls* (A)
  Ladder Safety Tips (B)
- 6-foot ladder for demonstration

Preparing To Teach This Lesson

Before you present this lesson:

1. Locate DVD *Don't Fall For It* on your CD and watch it yourself before showing it to students. Identify places to pause the video to elicit class discussion.
2. Make photocopies of handouts for the students.
3. Locate a ladder to bring into classroom.

Detailed Instructor's Notes

A. Introduction: Why is this subject important? (10 minutes)

1. Ask the following questions to lead into the discussion points below.
   Have any of you had a serious fall, or known someone who has?
   How did the fall affect this person?
   Why do people laugh at falls?
2. In this class we will talk about why it's important to prevent falls, and how we can do that.
   - Often in our society falls are not taken seriously. In cartoons and on television, falls are often seen as funny and as entertainment. But in real life falls can be serious, even fatal.
   - Over 250,000 workers in the US are seriously injured each year from falls.
   - Falls are second only to motor vehicles as the cause of accidental deaths.

- You don't have to fall far to get hurt; most ladder injuries result from falls under 10 feet.
- Good housekeeping and keeping clutter off the floor are key to preventing falls.

3. Remind the class that several examples of slip and fall hazards were discussed in the Safety Pyramid game. Explain that the class will begin with a review of those hazards, followed by a video and ladder safety activities. Ladders are commonly used both at home and at work, so ladder safety is relevant to everyone.

B. Discuss slip, trip, and fall hazards and how to prevent them. (10 minutes)

1. Ask students to brainstorm what kinds of hazards are the most likely to cause falls. You may want to break it down into two categories of hazards (slipping and tripping hazards and falling from heights).

What are the main causes of slipping or tripping?

- Ice, wet spots, grease, polished floors
- Loose flooring or carpeting
- Uneven walking surfaces
- Clutter (tools and materials lying around, boxes, blocked passageways)
- Electrical cords

What are the some of main causes of falls from heights?

- Working at heights (platforms, roofs, ladders, chairs)
- Damaged or improperly set up ladder
- Ladders that slip or move
- Unguarded floor openings
- Stairs or platforms with no guard rails

[Note: If you have extra time, have students use the checklist found in Handout (A) to conduct a walk-through in the classroom or another nearby location to identify specific hazards. Use the discussion to identify policies or procedures that would address or prevent these hazards.]

2. Discuss what employers and workers can do to prevent slips, trips, and falls in a work setting.

- Make sure that any workers under 18 are not allowed to work on or near a roof. For those workers who do work at heights, the employer is required to set up the work so that it is safe, including providing fall protection harnesses if needed. (Note: This unit is not designed to cover fall protection. It focuses on slip and trip hazards, and working on ladders.)
- Floors, walkways, stairs, and other passageways should be kept clear and free of tools, scrap, debris, or other tripping hazards.
- Storage areas and walkways should be kept free of holes, ruts, clutter, and obstructions.
- Spills of grease, oil, water, and other liquids should be cleaned up immediately or, if that's not possible, covered with sand or some other absorbent material until they can be cleaned up.

- Extension cords and hoses should be coiled up and stored when not in use.
- Electrical cords should never be placed in or across walkways.
- Burned out lights should be reported immediately and replaced as soon as possible.

3. Give students Handout (A). They can use this checklist to identify hazards and possible prevention strategies on their own or as homework.

C. Video and Discussion (15 minutes)

1. Explain that the class will now watch an 11-minute DVD, *Don't Fall for It.*
   Ask students to keep in mind these questions while they watch the DVD:
   What are the most important ladder safety tips?
   Have you ever taken any ladder shortcuts? What were the reasons?

2. Show the DVD.
   What are the "costs" of a fall injury? (both personal and financial)

   - Loss of work time and income
   - Pain and suffering
   - Permanent injury or death
   - It may affect family, non-work activities
   - Retraining costs for employer.

   What are the most important ladder safety tips?
   - See Handout (B), *Ladder Safety*
   - The technique a person uses to climb the ladder
   - Making sure the ladder is set up at the proper angle has been found to be an important factor for preventing falls.
   - Other important factors include securing the ladder (at top and bottom), using the belt-buckle rule described in the video, and carrying no loads.

   Have any of you ever taken any of these shortcuts? What were the reasons?
   - In a hurry
   - Couldn't find the right equipment
   - Had a bad surface to set the ladder on
   - Saw other people doing it like that
   - Others:

   What would you do if you were asked to use faulty equipment, or a ladder not appropriate for the job?"
   - Tell the supervisor the ladder is damaged and request a new ladder
   - Point out what appropriate type of ladder will be required to do the work safely.

D. Practice Ladder Safety (10 minutes)

1. Give students Handout (B) *Ladder Safety*.
2. Ask for two volunteers to come up and demonstrate safe use of a 6-foot folding ladder. You may want to have them do a specific task, such as change a light bulb or hang something. Have the rest of the class review the volunteers' technique, using the ladder safety handout, and make suggestions. Point out the things that are done correctly and incorrectly.

Ideas for Additional Activities and Resources

- Have students use the checklist in Handout (A) to identify hazards in the classroom or another location you identify. This could be done in groups, as homework, or as a competition (the team of students that finds the most hazards wins a prize.)
- Contact your local fire department to come and demonstrate safe ladder use.

The following OSHA and State of Washington L&I-DOSH-WISHA codes correspond to information in this unit:

OSHA 29 CFR 1910.21, Walking and Working Surfaces

L & I DOSH WISHA WAC 296-24—750 Floor and Wall Openings & Holes, Guarding

Checklist: Slips, Trips, and Falls

Use the following checklist to look for slip, trip, and fall hazards in a work space. Note that each "no" answer may indicate a problem where you will need to identify what is needed. If you see hazards that are not listed, write them in at the end of each section under "Other."

Floors and Walkways	**Yes**	**No**	**What's needed:**
1. Are walkways and stairways wide enough?	___	___	_____
2. Are walkways and stairways kept clear?	___	___	_____
3. Are buckets and mops available to clean up so no one will slip?	___	___	_____
4. Are non-slip mats, grates, or slip-free coatings used in wet areas to prevent falls?	___	___	_____
5. Do stairways have handrails?	___	___	_____
6. Are furniture and equipment secured against earthquakes?	___	___	_____

7. Other: _____

8. Other: _____

Ladders and Fall Protection			
1. Are ladders in good condition?	___	___	_____
2. Do ladders have safety feet?	___	___	_____
3. Are non-metal ladders used when there is a chance of electric shock?	___	___	_____
4. Have workers been trained in ladder safety?	___	___	_____
5. Is there a fall protection plan in place?	___	___	_____
6. If work is done at heights, is fall protection used (e.g., a lifeline and harness)?	___	___	_____

Handout A

Training and Work Policies	**Yes**	**No**	**What's needed:**
1. Are there work policies or rules to prevent slips and falls? What are they?	___	___	_____
• _____			
• _____			
• _____			
2. Have workers received training about these policies?	___	___	_____
3. Have workers been trained in ladder safety?	___	___	_____
4. If work is done at heights, is there a fall protection plan in place?	___	___	_____

Ladder Safety Tips

If you have to use a ladder for work, your employer must train you how to use it safely.

General tips:

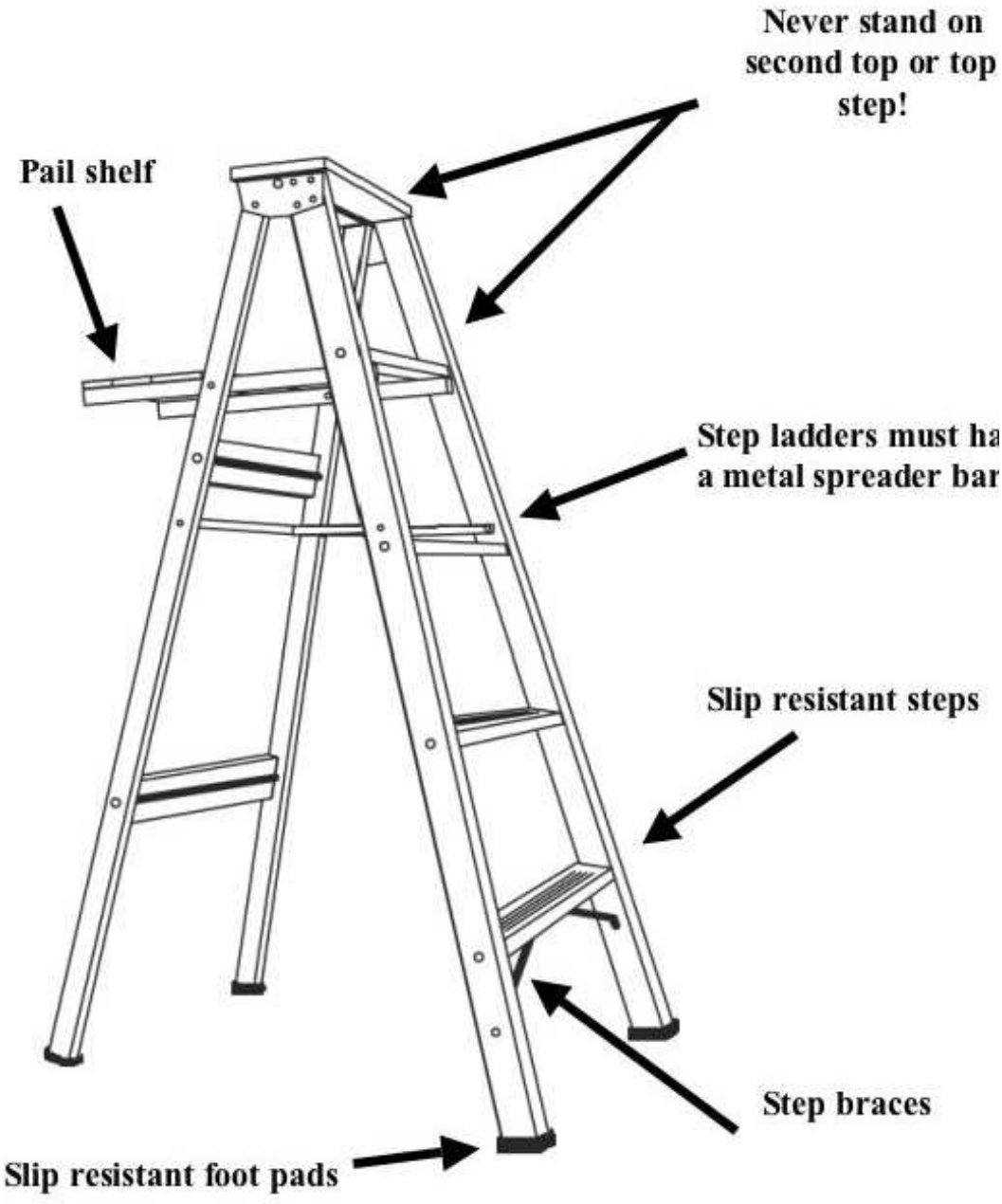
1. Hold on with both hands when going up or down a ladder. Always use at least one hand to hold on.
2. If material must be moved, hoist it up and lower it using a rope, don't carry it up the ladder.
3. Always face the ladder when climbing up or down.
4. Be sure your shoes are not greasy, muddy, or slippery before climbing.
5. Do not use a metal ladder near overhead electrical lines.
6. Take special precautions when erecting or climbing a ladder on a windy day.
7. Allow only one person at a time on a ladder unless the ladder is made for more than one person.
8. Do not place ladders in front of doors unless the doors are blocked off, locked, or guarded.
9. Do not place ladders on boxes, barrels, or other unstable bases.
10. Do not climb higher than the second rung from the top on stepladders.

Straight extension ladders:

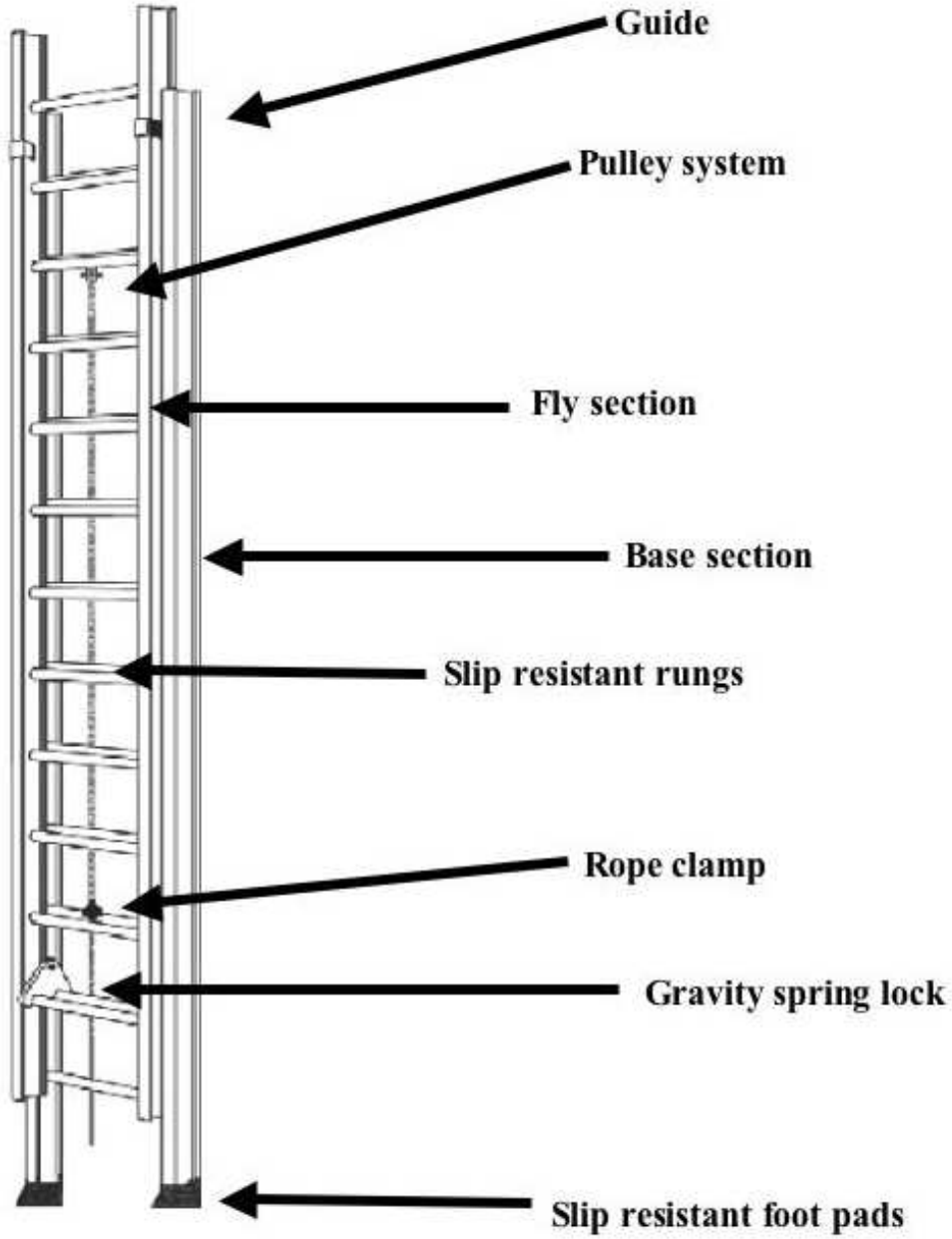
11. Do not climb higher than the third rung from the top on straight or extension ladders.
12. The horizontal distance between the ladder and the wall should be 1/4 of the height of the ladder. For example, if the top support point of a ladder is 20 feet high, the base of the ladder should be five feet from the wall.
13. When using a ladder to get onto a roof, make sure the top of the ladder extends at least three feet above the roof surface.
14. Do not lean your body to a point where your waist is beyond the side rails ("belt buckle" rule).

Adapted from *South Carolina Curriculum Guide for Safety in Occupation-*

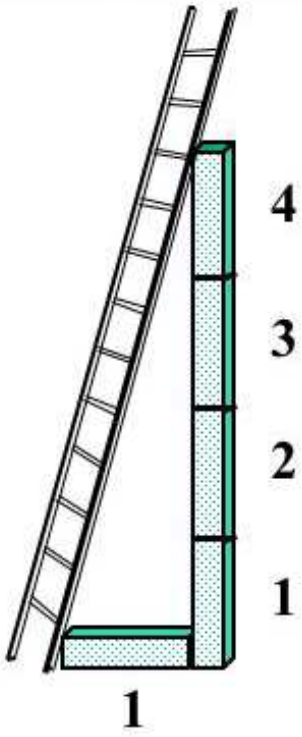
The parts of a step ladder



The parts of an extension ladder



Ladder placement

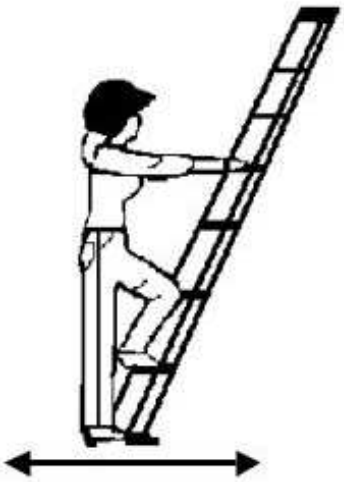


Place the base of non-self supporting ladders out away from the wall or edge of the upper level one foot for every four feet of vertical height (1:4).

An easy way to know if the ladder is at the correct angle:

Put one foot on the first step of the ladder. Hold your back straight. Extend your arm straight out in front of you. If the ladder is at the correct angle your hand will have a ladder rung on which to rest. See diagram.

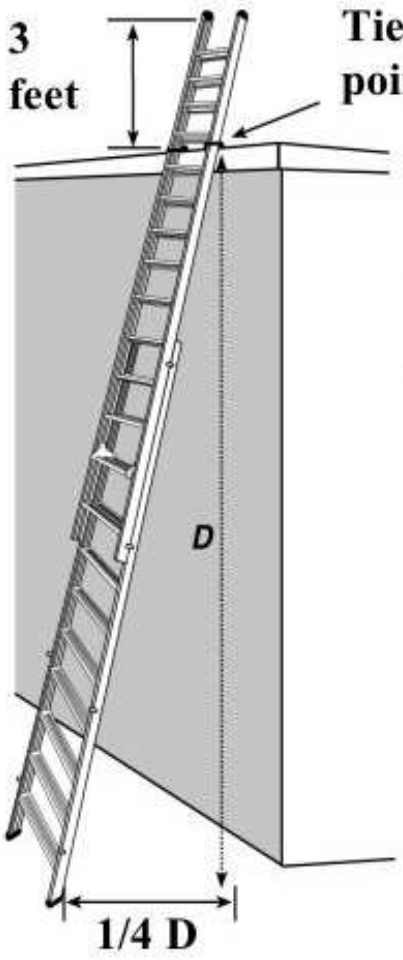
Move the base of the ladder away from you if the closest rung to your hand is below your hand. Move the base of the ladder toward you if the closest rung to your hand is above your hand.



For training purposes only 18 *Unicamente para adiestramiento*
OR-OSHA PESO - PORTABLE LADDERS *OR-OSHA PESO - ESCALERAS PORTATILES*

Ladder placement

Extend the ladder at least 36 inches (3 feet) above the surface served.



Secure ladder to prevent it from displacement.

Use slip resistant feet pads on slippery surfaces.

Ladder placement

Over half of all ladder accidents are caused by falls when the ladder tips over as a result of poor ladder placement.

Use a wood or plastic wedge or a ladder leveler leg when using ladders on unven surfaces.