

OSHA
Susan Harwood
Training and Educational Material
Development Grant
FY 2011

Developing Fall Protection Training Materials
for Non-English Speaking and Illiterate
Construction Workers

English

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A. Long description

(Excerpt¹ from FACE website (case 98WA08601))

The incident occurred at a small county museum The building was to be enlarged by constructing a twenty by ninety-foot extension identical to the existing structure. The building was designed to store and exhibit large pieces of farm machinery in separated, but open, equipment stalls.... A local painting contractor (the victim in this incident) won the contract to construct the extension.

...The victim was the owner/operator of a small painting/contracting company based in the area. It is unknown how much experience the deceased had in the painting/construction industry.

...On April 21, 1998, a Tuesday morning, the victim went to work at the county museum....

...The victim was using an extension ladder to do touch up painting and install roof tie downs along the structural beams and support posts inside the open front of the building. The ceiling/roof sloped substantially from the back of the building up to the open front. The slope went from 10 feet high at the back of the building, to 16 feet high at the open front, a pitch of approximately 4/12...

...The ladder had been positioned at a very steep unstable angle. The ladder had been set up near one of the roof support posts just inside the front of the building. The ladder and victim fell backwards toward the interior of the building, landing close to one of the interior support posts...

...Sometime around 2:20 -2:30 PM, the victim's employees were driving past the museum and attempted to spot their boss working on the farm equipment building.

One of the employees saw the victim lying on the concrete floor of the new building extension... They rushed to the victim to investigate the situation and found him face up on the concrete floor under the ladder....He died two days later from his injuries.

B. Learning objectives

- a. By the time the trainee completes the training, he/she should be able to understand how unsafe working conditions might lead to a ladder fall fatality similar to case #4. "Each employer -- shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees" (OSH Act Section 5(a)(1)).

¹ Italic text at section a (long description) represents excerpts from FACE website.

- b. “The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury” (1926.21(b)(2)). The second goal of the training for this case is to raise the workers’ awareness about the causes of the ladder fall incident and about the safe way to perform a work task which involves the selection of a proper ladder, in order to avoid falling off the ladder.

C. Lesson plan

The trainee will be shown the figures, which are to be narrated by the trainer, to understand completely the situation leading to the fall, and how to avoid it. Proper selection and positioning of the ladder (angle, distance to support, etc.), suitable supports for a ladder, etc. are the items that should be addressed during the training. The trainee should also be trained to inform his/her supervisor and other employees in the company of the place and type of his/her job. Worker’s rights to (1) having a safe and healthful work environment and (2) filing a complaint free from discrimination are other objectives of this case which should be addressed. It is recommended that copies of the OSHA safety and health complaint form be distributed to the trainees to show the required elements in a valid complaint. The trainer should emphasize that if the worker request anonymity, the worker’s identity would remain anonymous after filling a complaint form.

Finally, the workers’ knowledge will be assessed through two major questions which address: a) the cause of the ladder fall incident presented during the training, and b) the alternative safe actions that could be taken to avoid similar incidents.

D. Assumptions

- i. **Activity:** Doing touch up painting and installing roof tie-downs
- ii. **Location:** On an extension ladder against the roof support post. (Building area: 20*90 feet; roof slope: 4/12 (18.5 degrees); height of the back wall: 10 ft; height of front part of the roof: 16.7 ft)
- iii. **Work expectation:** Doing a good safe job in a reasonable amount of time
- iv. **Scenario:** The victim was working on the top of an unstable steep extension ladder doing touch up paintings and installing metal roof tie-downs when the ladder, tips over backward. As a result, the worker struck his head on the concrete floor and died due to injuries.

E. Questions

- i. Ask what unsafe action(s) caused the incident.
 - a. Items to discuss:
 - Ladder selection/choices – The worker was using the wrong ladder for the task. ([1926.1053\(b\)\(10\)](#) - The top of a non-self-supporting ladder shall be placed with the two rails supported equally unless it is equipped with a single support attachment)

- Training – Proper training could have led the worker to select the correct ladder for the task. Employers must ensure workers are trained ([1926.21\(b\)\(2\)](#) and [1926.1060\(a\)](#)).
 - Ladder positioning and other safety issues of work on a ladder
- ii. Ask what action(s) can be taken to avoid the incident. (Which is the correct, or safe, way of performing the task? **The answer is A**)

Items to discuss:

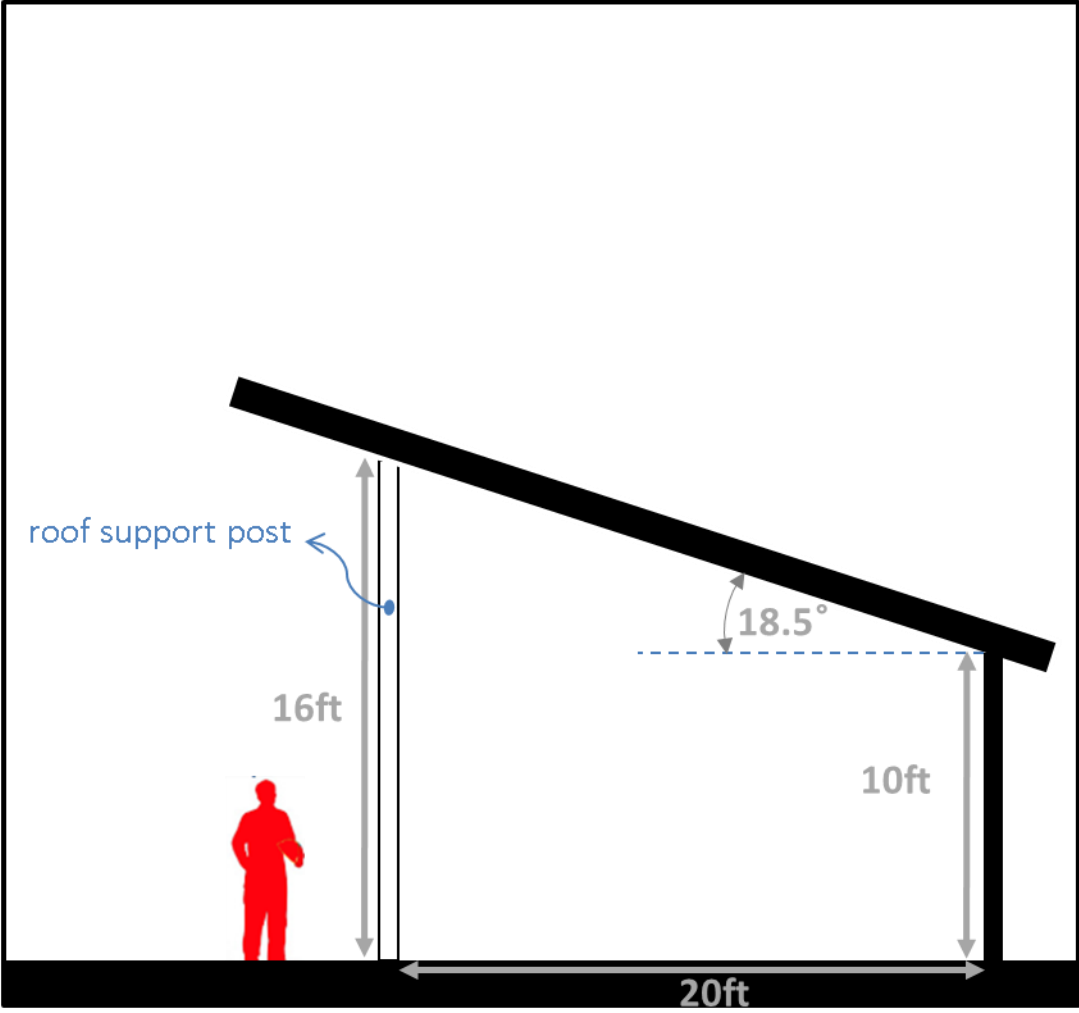
- Choose the right ladder for the job – Options B and C in this question include pictures of non-self-supporting ladders with the top rung of the ladder resting on the support column. This violates the requirements of the standard to have both side rails supported equally ([1926.1053\(b\)\(10\)](#)). This would make these options unsafe from the start.
- Training.
- Maintain three points of contact.
- Place the ladder on level footing.
- Always face the ladder.
- Secure the ladder.
- Don't overreach.
- Don't walk the ladder.

F. Short description

The victim was working on the top of an unstable steep extension ladder doing touch up paintings and installing metal roof tie-downs when the ladder tipped over backward. As a result, the worker struck his head on the concrete floor and died due to injuries.

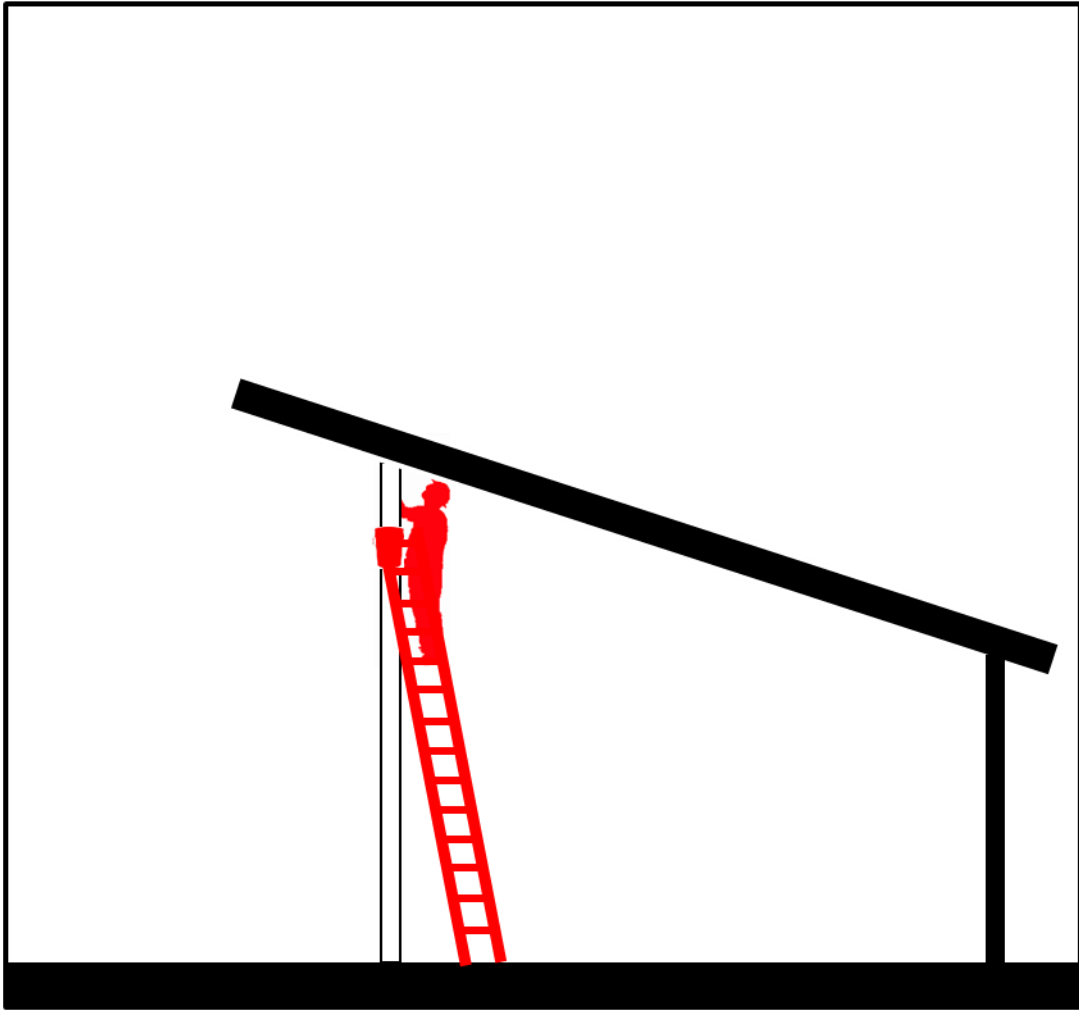
G. Pictorial Prototype

1



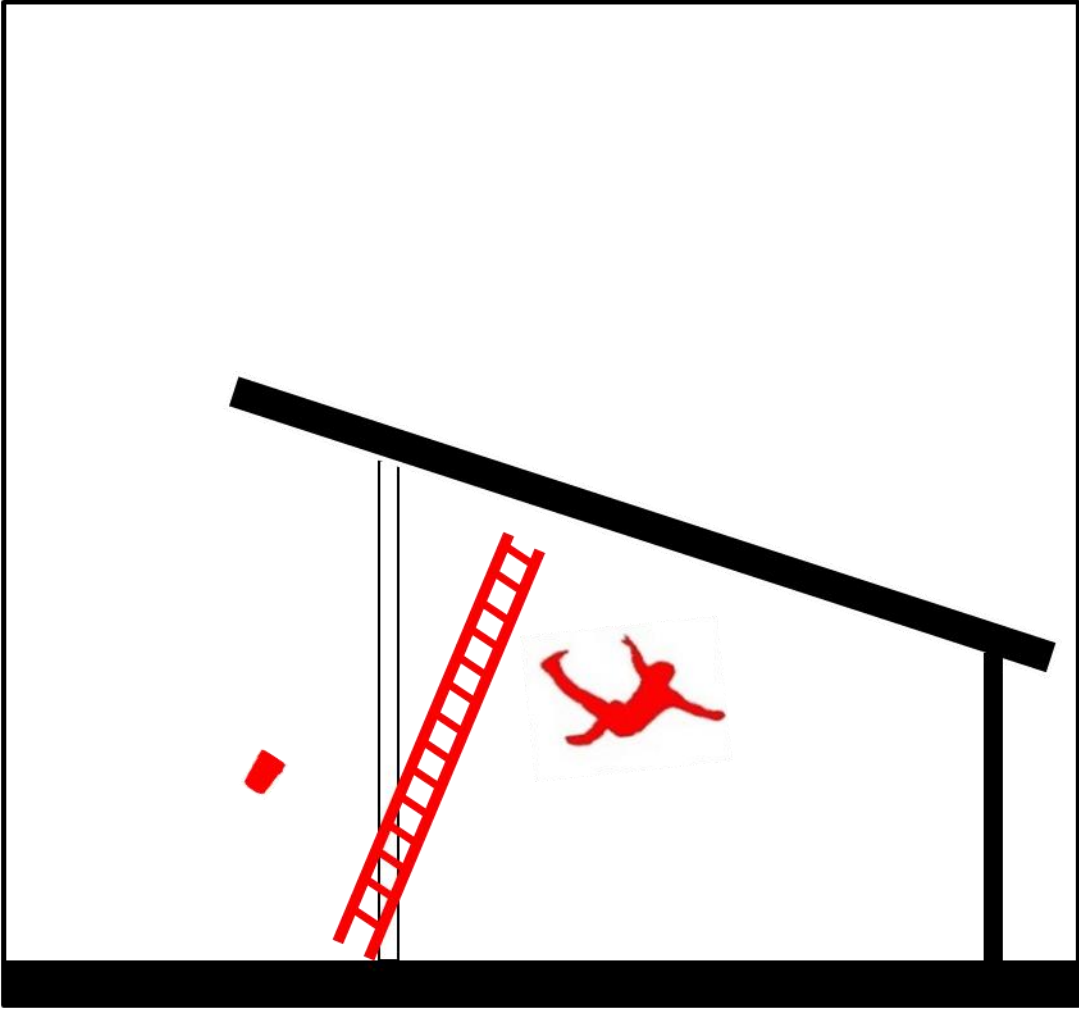
“Do touch up paintings and install roof tie-downs.”

2



“Let’s get started with an extension ladder.”

3



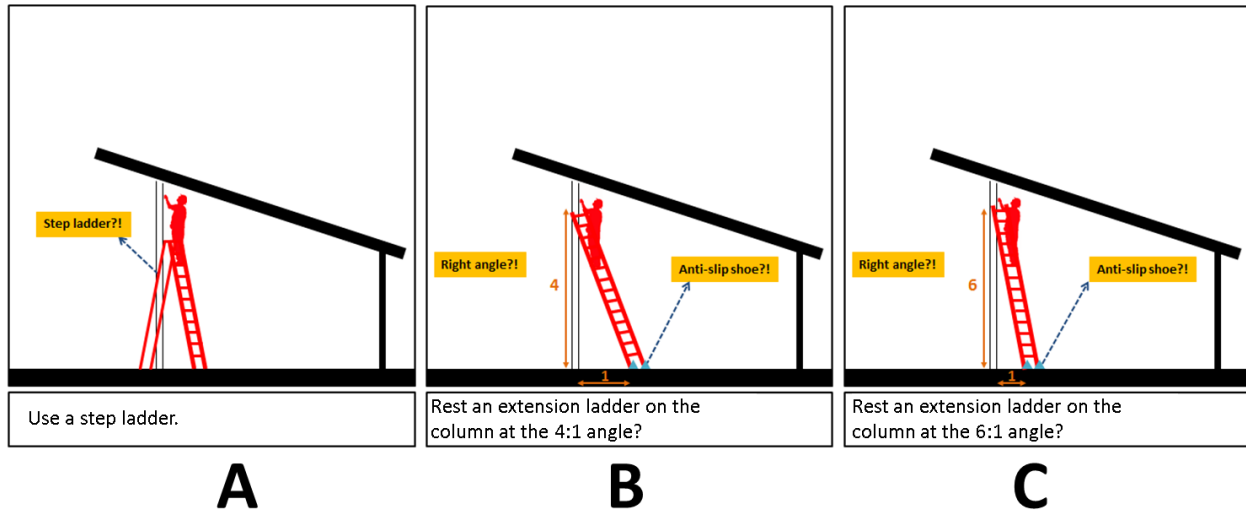
“Oops! The ladder tipped over.”

4



What could I have done differently before my death?

1. Why was the method used to perform the task in this example unsafe?
2. Which is the correct, or safe, way of performing the task?



You have the **RIGHT** to:

1. Ask OSHA to inspect your workplace. (1-800-321-OSHA)
2. Exercise your rights under the law without retaliation and discrimination.
3. Receive information and training about hazards, methods to prevent the harm, and OSHA standards that apply to your workplace. The training must be in a language you can understand.
4. Get copies of test results done to find hazards in your workplace.
5. Review records of work-related injuries and illnesses.
6. Get copies of your medical records.

U. S. Department of Labor
Occupational Safety and Health Administration

Notice of Alleged Safety or Health Hazards

For the General Public:

This form is provided for the assistance of any complainant and is not intended to constitute the exclusive means by which a complaint may be registered with the U.S. Department of Labor.

Sec 8(f)(1) of the Williams-Steiger Occupational Safety and Health Act, 29 U.S.C. 651, provides as follows: Any employees or representative of employees who believe that a violation of a safety or health standard exists that threatens physical harm, or that an imminent danger exists, may request an inspection by giving notice to the Secretary or his authorized representative of such violation or danger. Any such notice shall be reduced to writing, shall set forth with reasonable particularity the grounds for the notice, and shall be signed by the employee or representative of employees, and a copy shall be provided the employer or his agent no later than at the time of inspection, except that, upon request of the person giving such notice, his name and the names of individual employees referred to therein shall not appear in such copy or on any record published, released, or made available pursuant to subsection (g) of this section. If upon receipt of such notification the Secretary determines there are reasonable grounds to believe that such violation or danger exists, he shall make a special inspection in accordance with the provisions of this section as soon as practicable to determine if such violation or danger exists. If the Secretary determines there are no reasonable grounds to believe that a violation or danger exists, he shall notify the employees or representative of the employees in writing of such determination.

NOTE: Section 11(c) of the Act provides explicit protection for employees exercising their rights, including making safety and health complaints.

For Federal Employees:

This report format is provided to assist Federal employees or authorized representatives in registering a report of unsafe or unhealthful working conditions with the U.S. Department of Labor.

The Secretary of Labor may conduct unannounced inspection of agency workplaces when deemed necessary if an agency does not have occupational safety and health committees established in accordance with Subpart F, 29 CFR 1960; or in response to the reports of unsafe or unhealthful working conditions upon request of such agency committees under Sec. 1-3, Executive Order 12196; or in the case of a report of imminent danger when such a committee has not responded to the report as required in Sec. 1-201(h).

INSTRUCTIONS:

Open the form and complete the front page as accurately and completely as possible. Describe each hazard you think exists in as much detail as you can. If the hazards described in your complaint are not all in the same area, please identify where each hazard can be found at the worksite. If there is any particular evidence that supports your suspicion that a hazard exists (for instance, a recent accident or physical symptoms of employees at your site) include the information in your description. If you need more space than is provided on the form, continue on any other sheet of paper.

After you have completed the form, return it to your local OSHA office.

NOTE: It is unlawful to make any false statement, representation or certification in any document filed pursuant to the Occupational Safety and Health Act of 1970. Violations can be punished by a fine of not more than \$10,000, or by imprisonment of not more than six months, or by both. (Section 17(g))

Public reporting burden for this voluntary collection of information is estimated to vary from 15 to 25 minutes per response with an average of 17 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An Agency may not conduct or sponsor, and persons are not required to respond to the collection of information unless it displays a valid OMB Control Number. Send comment regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to the Directorate of Enforcement Programs, Department of Labor, Room N-3119, 200 Constitution Ave., NW, Washington, DC; 20210.

OMB Approval# 1218-0064; Expires: 05-31-2014

Do not send the completed form to this Office.

U. S. Department of Labor
Occupational Safety and Health Administration

Notice of Alleged Safety or Health Hazards

	Complaint Number		
Establishment Name			
Site Address			
	Site Phone		Site FAX
Mailing Address			
	Mail Phone		Mail FAX
Management Official			Telephone
Type of Business			
HAZARD DESCRIPTION/LOCATION. Describe briefly the hazard(s) which you believe exist. Include the approximate number of employees exposed to or threatened by each hazard. Specify the particular building or worksite where the alleged violation exists.			
Has this condition been brought to the attention of:	<input type="checkbox"/> Employer <input type="checkbox"/> Other Government Agency(specify)		
Please Indicate Your Desire:	<input type="checkbox"/> Do NOT reveal my name to my Employer <input type="checkbox"/> My name may be revealed to the Employer		
The Undersigned believes that a violation of an Occupational Safety or Health standard exists which is a job safety or health hazard at the establishment named on this form.	(Mark "X" in ONE box) <input type="checkbox"/> Employee <input type="checkbox"/> Federal Safety and Health Committee <input type="checkbox"/> Representative of Employees <input type="checkbox"/> Other (specify)		
Complainant Name			Telephone
Address(Street, City, State, Zip)			
Signature			Date
If you are an authorized representative of employees affected by this complaint, please state the name of the organization that you represent and your title:			
Organization Name:	Your Title:		

1. Click on the link below or copy/paste it onto your browser:

<http://cm.be.washington.edu/Research/SHARE/2011OSHA/>

SHARE LAB University of Washington
Laboratory for Safety and Health Advancement through
Research and Education in Construction Management [En Español](#)

FALLS FROM LADDERS, SCAFFOLDS AND ROOFS CAN BE PREVENTED!

Construction has been one of the most dangerous industries, with fall being the most common type of hazards.

In 2011, the Department of Construction Management at the University of Washington received a Susan Harwood Grant from OSHA to develop six 3D visualized and scenario-based training cases on the topic of fall protection. The cases use minimum amount of text descriptions and intend to maximize the benefits of visualization. We hope our 3D simulated training scenarios will reduce the language and literacy barriers for potential trainees, and increase trainees understanding as well as learning interests on the topic of fall protection.

The suite is not intended for self-guided learning and will work the best with experienced and knowledgeable trainers who can interact and guide the trainees to explore the case scenarios presented in the training suite.

If you have any comments or questions, please contact the project supervisor: **Dr. Ken-Yu Lin** (206-616-1915 or kenyulin@uw.edu).

Click the links below to access the training documentation and 3D suite online!

Disclaimer, copyright and other important information...

Trainer's manual
(All Cases in ZIP format: MS Word / PDF) (Case 1: MS Word / PDF) (Case 2: MS Word / PDF) (Case 3: MS Word / PDF) (Case 4: MS Word / PDF) (Case 5: MS Word / PDF) (Case 6: MS Word / PDF)

Trainee's handouts
(All Cases in ZIP format: MS Powerpoint / PDF) (OSHA Rights: PDF)

Post-training assessment tool
(MS Powerpoint / PDF: The MS Powerpoint version has been pre-configured to work nicely with TurningPoint clickers. The MS Powerpoint slides will still work even without the use of clickers.)

3D training suite
The training suite was developed on the Unity platform. When you access the suite for the first time, the web browser will ask you to download a software component from Unity before the suite can be correctly displayed on your screen. Please follow the browser's recommendation. To access the online training suite, please click [here](#).

2. Click on "here"

FALLS FROM LADDERS, SCAFFOLDS AND ROOFS CAN BE PREVENTED!
Fall Protection Safety Training Suite
Department of Construction Management, University of Washington

3. Make sure that “English”
is selected (in bold)



English **Español**

About

« created with Unity »

4. Click on “Case 4”