H
A
J
S
A

Hazard Assessment and Job Safety Analysis

Facilitator's Guide

A Port of San Diego Ship Repair Association
Course for Shipyard Workers

P.O. Box 131068 • San Diego, CA 92170-1068

This material was produced under grant SH-29629-SH16 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products or organizations imply endorsement by the U.S. Government.

EX FLIP TARGET WER Ke /QUIZ

Use the s above as a g to support yo acilitating yo

INTRODUCTION – Identify yourself and explain that this class is to support them in understanding and using both a Hazard Assessment and Job Safety Analysis.

Read the bottom of Page 1 of the Training Manual

Ask for examples of hazards. Ask for examples of risks.

Handout Pre/Post Test and explain by completing this test they will have a good ur ng of the material being covered.

H circle “Pre” at the top of the test. Have them write the date in the ap space. Explain that they will not need to write their names on the pre-test.

Allow 5-10 minutes to complete the pre-test and collect the tests. Grade during the remainder of class. Facilitator to provide pre- and post-test results to Project Director.

Course Objectives

3

Review the Course Objectives

Explain that this class is being subsidized by an OSHA grant called Susan Harwood.

Ask if there are questions.

OSHA and You!

Review OSHA origin and purpose.

Employee's Responsibilities and Rights

Ask participants to rate themselves on how they fulfill their responsibilities regarding OSHA compliance in the blank space provided.

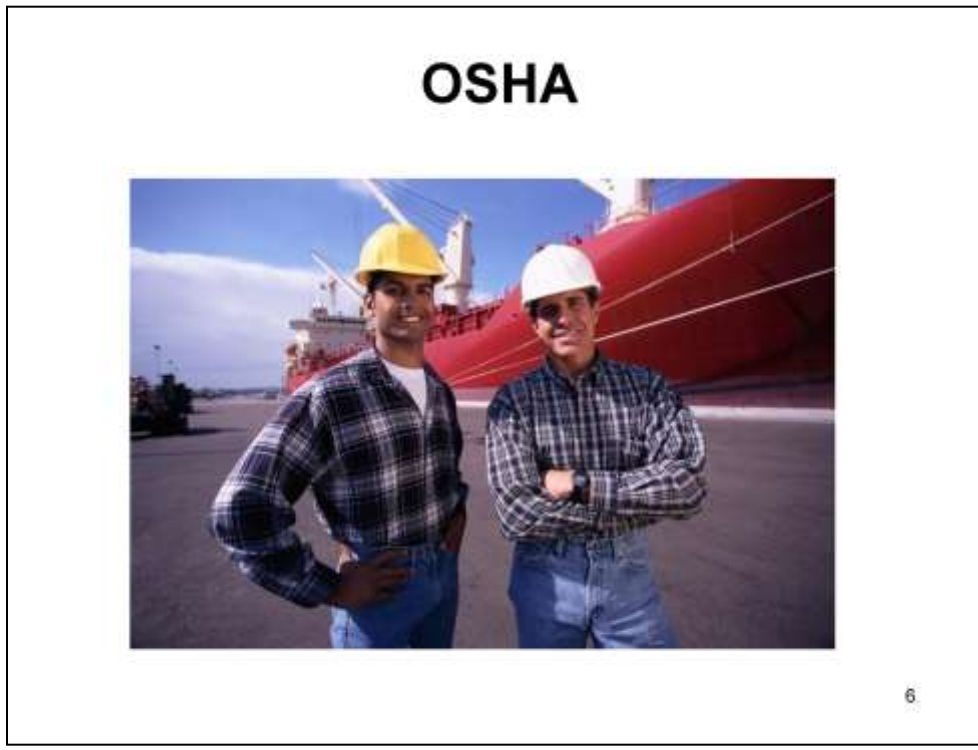
1 = less than 50% of the time

2 = 50% - 75% of the time

3 = 75% - 100% of the time

Ask the question -- How might your scores impact your risk of injury?

Read and review the rights.



Employer's Responsibility

Read and review page.

(Recommend trainer/participant mix of reading aloud.)

Ask if questions or comments.

Ask why the first 5 bullets are bolded?

To meet these Employer Responsibilities Hazard Assessments and Job Safety [illegible]is should be conducted.

More Employer's Responsibility

Say – "Ahhhh, more employer responsibilities."

Explain that there are additional responsibilities each employer must follow.

Ask for volunteer to read page 6.

Thank the volunteer.

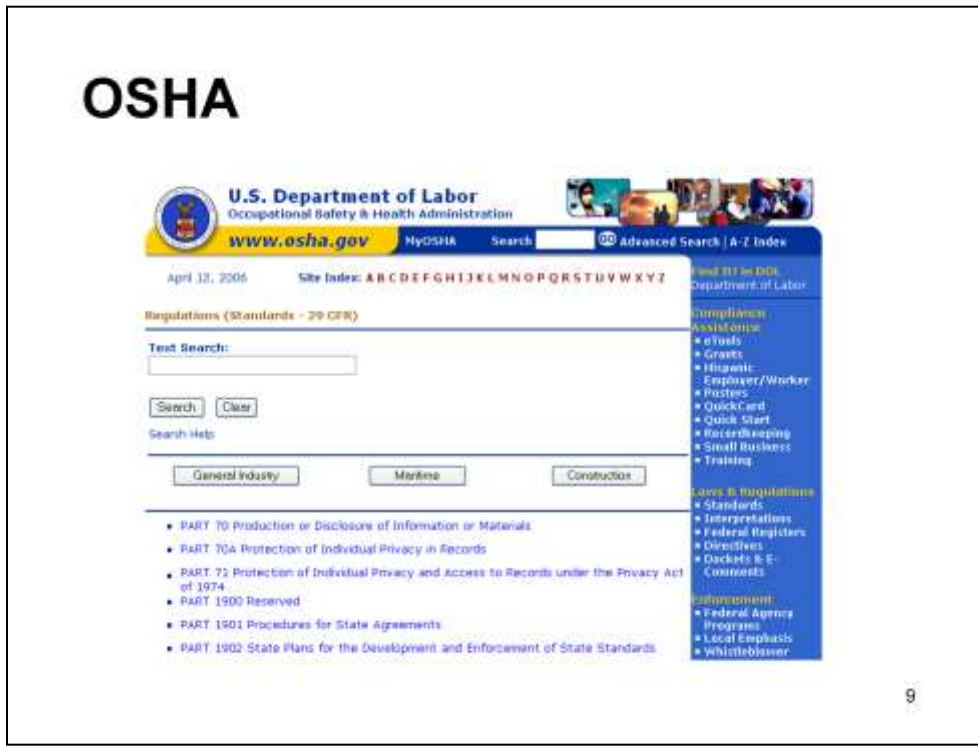
Ask if questions.

No Retribution

Explain that you suggest that before reporting a hazard to OSHA, you follow the “chain of command” and allow your organization or the host yard to rectify the situation.

Also point out that when you report a hazard to OSHA, you are NOT “telling on an organization”, **you are reporting a hazard!**

Read the slide and ask if there are any questions.



Resolve With Your Company –

Have the participants read this page to themselves.

Point out that when reporting a hazard, whether on-line or on the telephone, the information can be confidential.

Ask if there are any questions.

OSHA Exercise

Stump the class!

- With a partner, write two questions from this section that you believe the rest of the class will be challenged in answering correctly. (Questions must be reasonable! If your instructor can't answer, it doesn't count!)

10

Review instructions on the page 9.

Explain that the purpose of this exercise is to know the material that was just covered well enough to ask pertinent questions. Another purpose is to do a review of the material in this section.

Reinforce that questions must come from the material found in pages 4 – 8.

Allow up to 5 minutes.

Ask volunteers to "stump the class". To be time appropriate, ask each team for one question only. Allow 4 questions before you call an end to the exercise.

Acknowledge all participants.

Introduction

Read page 10.

Definitions

- The following pages contain definitions associated with hazard assessment and controls used in shipyards.
- As we go through each lesson, look for these terms being used!

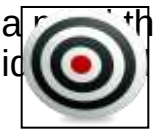
12

Definitions

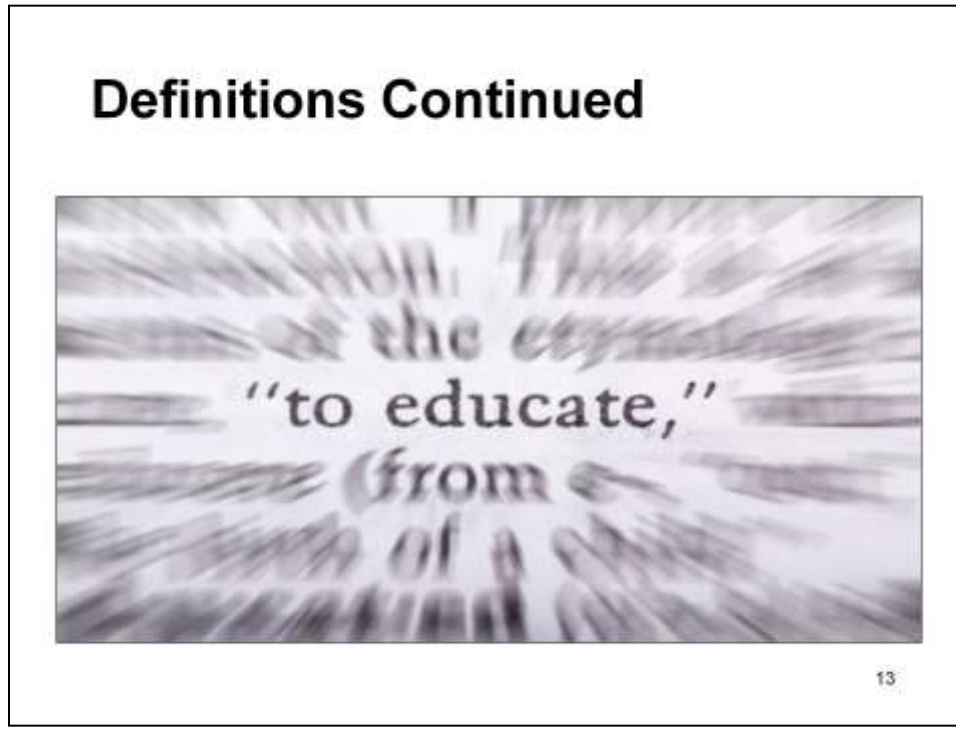
Read the definitions on page 11.

Ask if companies should have acceptable risk?

Yes. If we didn't live with acceptable risk we would not get out of bed in the morning! Every time we drive, work around the house or cook a meal there is risk of injury. The important thing is that the risk is identified and controls are put in place to abate the risk.



Put out that acceptable risk is the same as tolerated risk which is a quiz question!



More definitions –

Ask a participant to volunteer to read the definitions on page 12.

Discuss the fact that “Risk” is the combination of likelihood of injury and the severity of injury (LxS = Risk) – and emphasize the importance of preventing injury.

Hazards and Risk

14

Hazard

Read Hazard portion of page 13.

Pause

Read Risk portion of page 13.

Ask participants to answer the question.

Ask if questions.

Hazards and Risk Exercise

A. Situation/Act	B. Hazards	C. Severity	D. Likelihood	E. Risk
Crossing country road				
Crossing street from shipyard to your car				
Crossing freeway				
Crossing bike path				
Crossing shipyard vehicle lane				

15

Read instructions for this exercise.

Have participant complete the grid on page 14 and remove this page from the book.

Allow 2-3 minutes.

Focus on the fact that they are to multiply the number in column C by the number in D and place the total in Column E for each Situation/Act (column A).

Complete the grid on the flip chart while participants are completing this first portion.

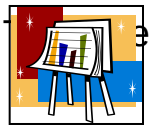
Severity

A. Situation/Act	B. Hazards	C. Severity	D. Likelihood	E. Risk
Crossing country road				
Crossing street from shipyard to your car				
Crossing freeway				
Crossing bike path				
Crossing shipyard vehicle lane				

16

Read the instruction statement above the grid on the lower half page 15.

Have participants complete grid on page 14, the one they removed from their book.



to only do column C

Refer to grid on flip chart.

Ask if questions.

Hazard Assessment

A. Situation/Act	B. Hazards	C. Severity	D. Likelihood	E. Risk
Crossing country road				
Crossing street from shipyard to your car				
Crossing freeway				
Crossing bike path				
Crossing shipyard vehicle lane				

17

Read the statement –

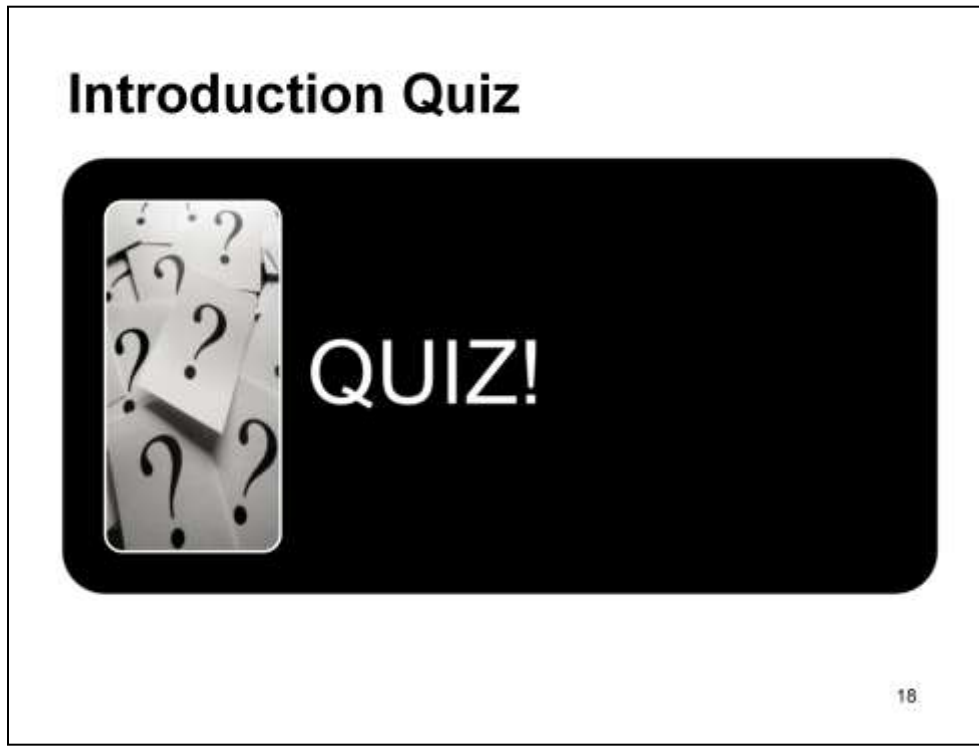
Step 4. To assess the risk, multiply the number in the “Severity” column (“C”) by the number in the “Likelihood” column (“D”) and put the answer in the column labeled “Risk” (“E”).

Refer to grid on flip chart.

As  h has the highest risk?”

Crossing Freeway

Crossing street from shipyard to car



H ticipant complete the quiz on page 17.

E ge them to work in teams of two or three.

Al minute.

R answers one at a time with volunteers to answer.

T	F	An incident is always an accident
T	F	Another way to describe “Acceptable Risk” is “Tolerated Risk”
T	F	A hazard always results in an accident
T	F	Risk is determined by Severity divided by Likelihood.

Hazards and Hazard Controls

Review topics to be covered in this section by reading page 18.

Hazards Found in the Shipyard

Read the instructions and introduction statement on page 19.

For E left column only (Physical Hazard)

Target answers are unique to individual employees, however, most participants will circle multiple physical hazards validating the hazards within the shipyard are great.

Elimination

Ask for a volunteer to read the section and example on Elimination.

Ask if questions.

Substitution

Ask for a volunteer to read the section and example on Substitution.

Ask of questions.

Thank volunteers.

Ask if there are questions.

Engineering Controls

Read page 21.

Ask if participants have any other examples.

Optional – provide another example from your personal knowledge and/or experience.

Administrative Controls

Ask for a volunteer to read page 22.

Ask if questions.

Personal Protective Equipment (PPE)

Read page 23.

Emphasize additional PPE may be required when performing specific types of work.

OSHA'S Hierarchy of Controls

Read page 24

Hazard Control Exercise

26

Read the instructions for the exercise on page 25.

Refer back to pages 14 – 16 in training manual.

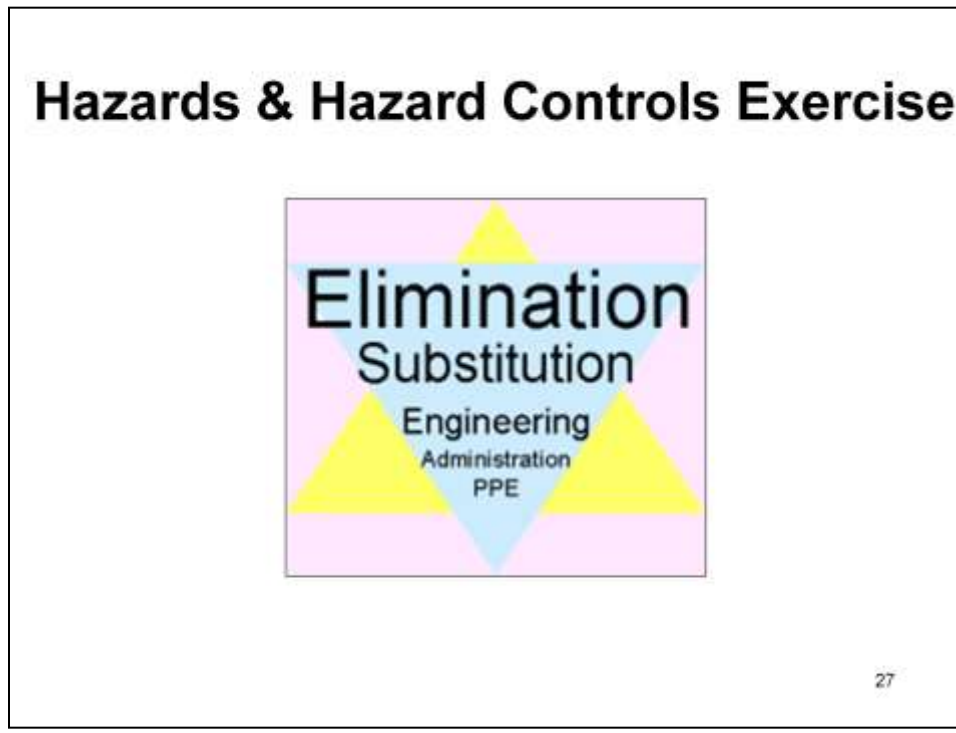
Have participants indicate responses. If needed based on time constraints ask participants to do just tow of the “Situation/Acts” (Column “A”).

Allow 3-5 minutes.

Using a different colored marker, lead discussion and chart answers from the group.

Ask which control is most effective?

Target answers should be under the Elimination/Substitution or Engineering control column.



F e instructions from page 26.

H ch participant select one of the hazards from page 19 and, write it in on the “Hazard” line. After complete, ask participants to complete the controls to abate the hazard.

Hazard _____

Eliminate/Substitute	Engineering	Administrative

Sample Form

Stage of Construction/Department: Maintenance
Process Equipment: Yard Wide

Assessment Date: 2/3/14 Prepared By: T. Smith
Reviewed by SOC Department Mgr. S. Smith Date 2/7/14 Hazloc # 1234
Reviewed by Safety Department B. Smith Date 2/8/14 Hazloc # 2008

Severity of Consequence: (3) Fatality; injury with 30 days lost work time in trade; property damage $100,000; (2) 7 days lost time injury in trade, permanent injury; property damage$10,000; (1) Minor injury, negligible lost production time; damage $1,000.

Likelihood: (3) Likely to occur in next year; (2) Likely to occur in next 2-3 years; (1) Unlikely to occur (When stipulated safeguards / precautionary measures are effectively implemented.)

Tolerable Risk when stipulated controls are in effect: 1-3 Severity x Likelihood = Risk Recommendation required when risk exceeds 3

(H) Activity	(M) Identified Hazard	(K) Hazard Effects	(L) Current Controls	(M) Severity	(N) Likelihood	(O) Risk	(P) Recommended Additional Action
Inspecting underground transformer vaults	Poor Air Quality	1. Asphyxiation 2. Death	1. Space tested by competent person prior to entry 2. Working in pairs, with one person above 3. Only Maintenance Department personnel enter space	**Without Controls** 3	3	9	Maintain log of tests and post when appropriate.
				With Existing Controls 3	1	3	
Inspecting underground transformer vaults	Exposed to high voltage	1. Electrocution 2. Death	1. Only trained personnel in High Voltage to conduct inspections. 2. Secure power Off. Utilize appropriate PPE while working near live connections: • Rubber gloves with leather covering • High voltage blankets • Rubber sleeves	**Without Controls** 3	3	9	
				With Existing Controls 3	1	3	
Erecting High Reach equipment to access cranes	Slips, falls	1. Bodily injury 2. Death	Crane activity through Safety JSA Process.	**Without Controls** 3	3	9	
				With Existing Controls 3	1	3	

This material was produced under grant SH-20529-12-60-F-36 from the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products or organizations imply endorsement by the U.S. Government.

28

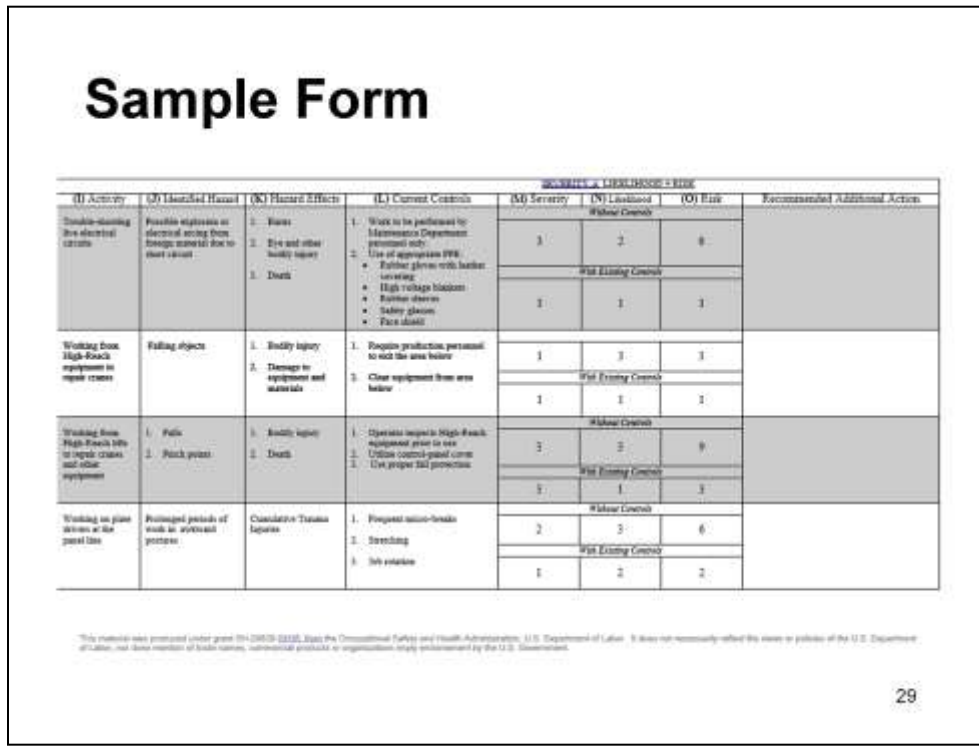
Sample Form

Say – “On the screen and in your books you see a sample Hazard Assessment Form.”

Review and explain the form.

Look it over and be prepared to explain each box. Allow 5 minutes.

Ask: For any of the hazards in the assessment, what could an additional recommendation be and what Hazard Control would it be ?



Sample Form Continued

Say – “On the screen and in your books you see the continuation of the sample Hazard Assessment Form.”

Say – “Look this over and be prepared to explain each box.” Allow 1 minute.

Any of the hazards in the assessment, what could an appropriate recommendation be and what Hazard Control would it be classified?

Hazards and Hazard Controls Quiz

30

Have each  **ant complete the quiz. Allow 1-2 minutes.**

1. Elimination/Substitution is a type of:
a) Method used to calculate Risk
b) Administrative Control
c) Hazard Control
d) None of the above
2. Ventilation is a type of:
a) Engineering Control
b) Administrative Control
c) PPE
3. PPE is:
a) First in OSHA's hierarchy of control
b) Last in OSHA's hierarchy of control
c) Not in OSHA's hierarchy of control
d) Not a Hazard Control at all

Ask for volunteers to read page 30.

Thank participants.

Refer to the first bullet and reread it to the class:

“Provide a workplace free from serious recognized hazards and comply with standards, rules and regulations issued under the OSH Act”……

Emphasize this IS NOT A SUGGESTION. It is part of the Employer’s Responsibilities.

Job Safety Analysis (JSA)

Read page 31.

Ask if questions.

When To Conduct a Job Safety Analysis

Ask participants to read page 32.

Refer to first statement to emphasize by saying:
"Ultimately, a JSA should be conducted on all work processes. The list on this page will serve as a guide as you begin."

NAVSEA Std. Item 009-74, 3.1.3

Say – This slide references a NAVSEA Std Item.

Read the slide, including the numbers preceding each of the statements.

Emphasize the importance of the detail and requirements from the US Navy.

Ask if questions.

KEY POINT– Emphasize to meet 2nd bullet – 3.1.3.1 , you would have to conduct a JSA when starting a new job in <u>any space.</u>

The Benefits of a JSA

Say to entire class – “as we move forward, on page 34 of your m[illegible]list any benefits of conducting a Job Safety Analysis.”

Write answers from the group on the flip chart.

T[illegible] answers --

Identify hazards, increase job knowledge, safety awareness, health aw[illegible]ess, communication, improved communication, safe work p[illegible]es promoted, teaching tool, written procedure, assist in investigations.

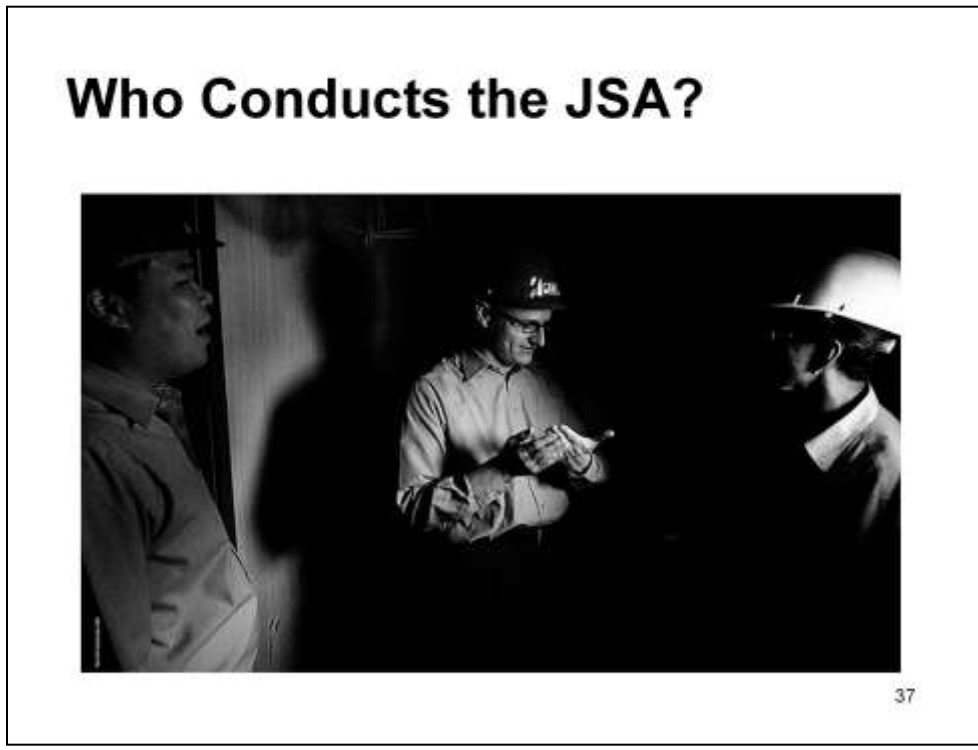
The Benefits of a JSA

Read page 35 or ask for volunteer from the class.

Thank volunteer if appropriate.

Say – “As you can see from our answers on the flip chart, we have identified many benefits of a JSA.”

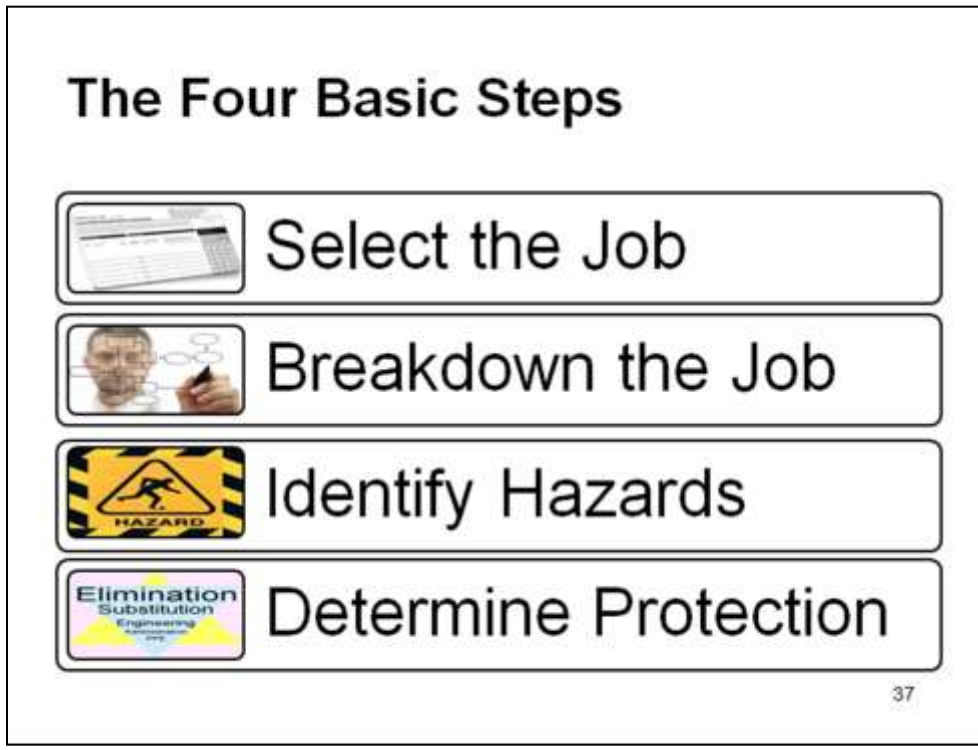
Ask if any questions.



Who Should Conduct the JSA

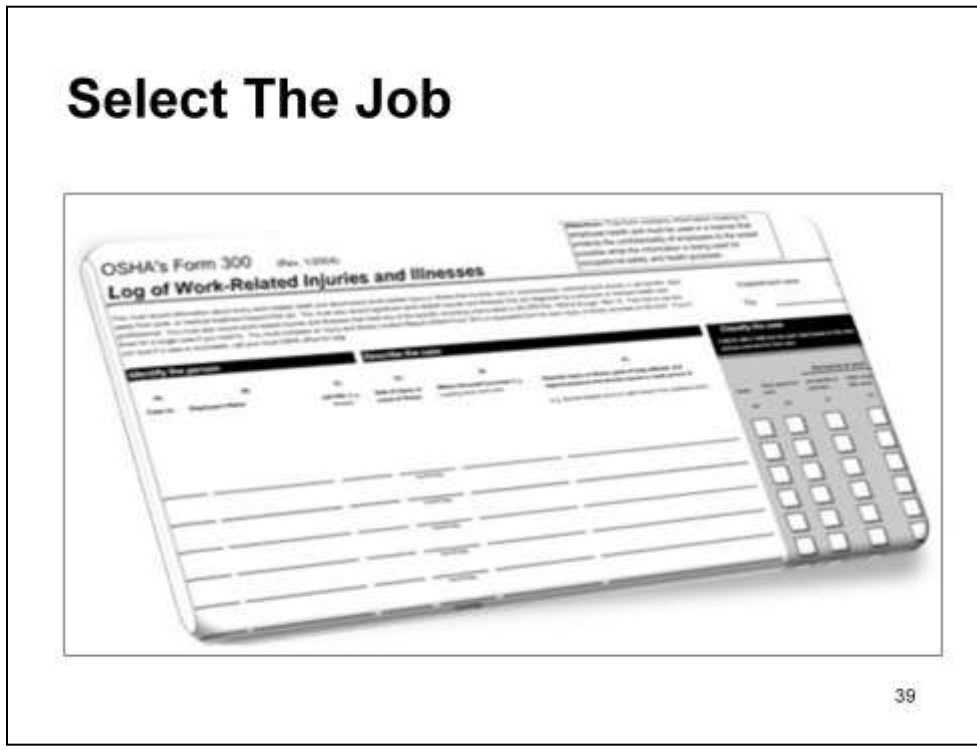
Read page 36.

Say – “Now we’re ready to move on to the Four Basic Steps.”



The Four Basic Steps

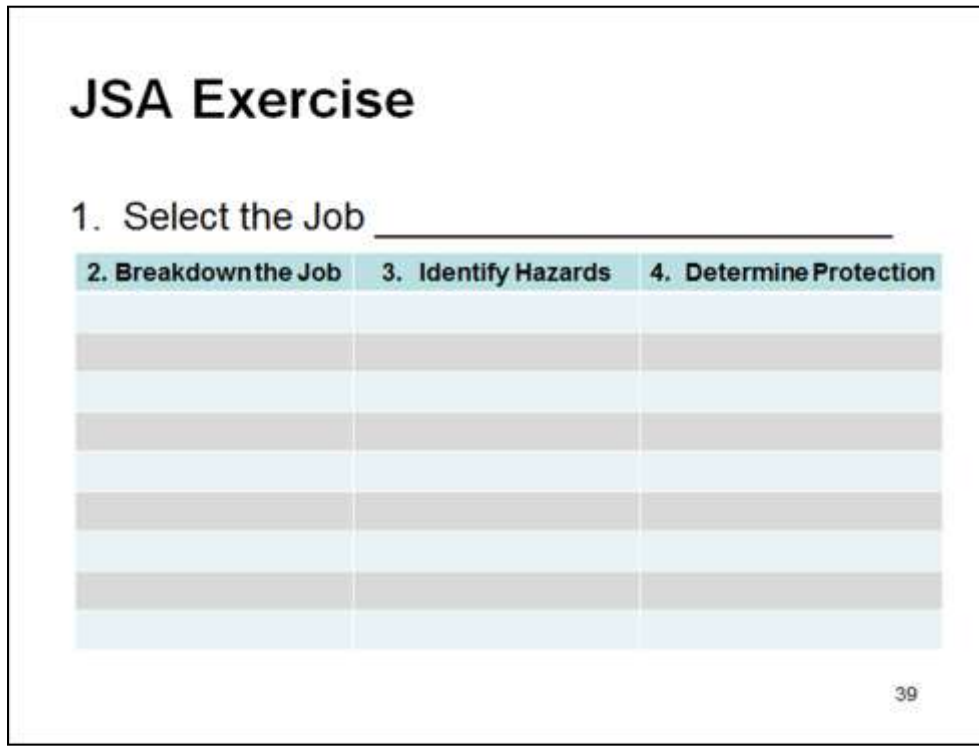
Read page 37.



Selecting the Job to Be Analyzed

Say – “ok, first a job is selected.”

Ask a participant to read the slide or trainer reads aloud.

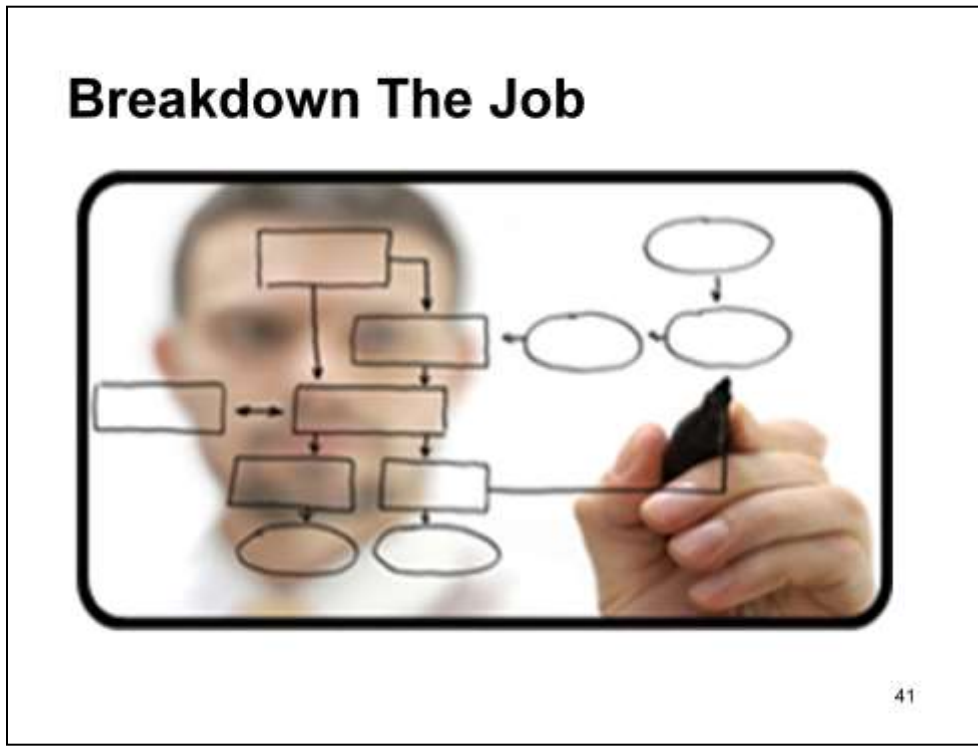


Y A!

R tructions on page 39.

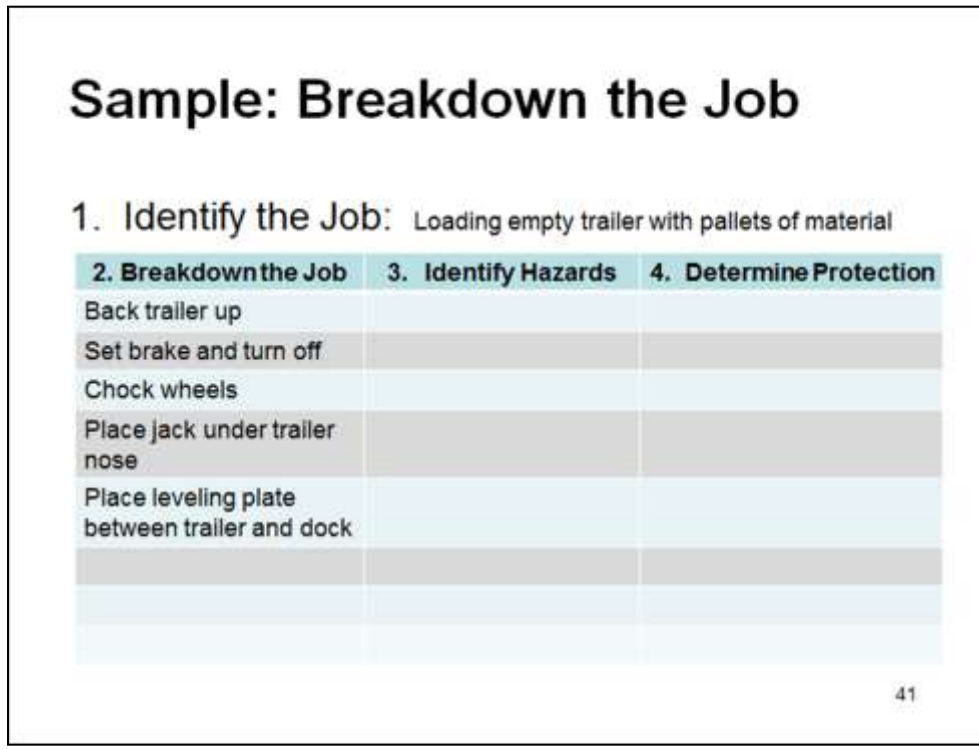
Ask participants to complete the form by selecting a job they commonly perform and write it in the blank in their training manual next to 1. Select a Job.

Ask participants to remove this page from their training manual for use in remainder of activity.



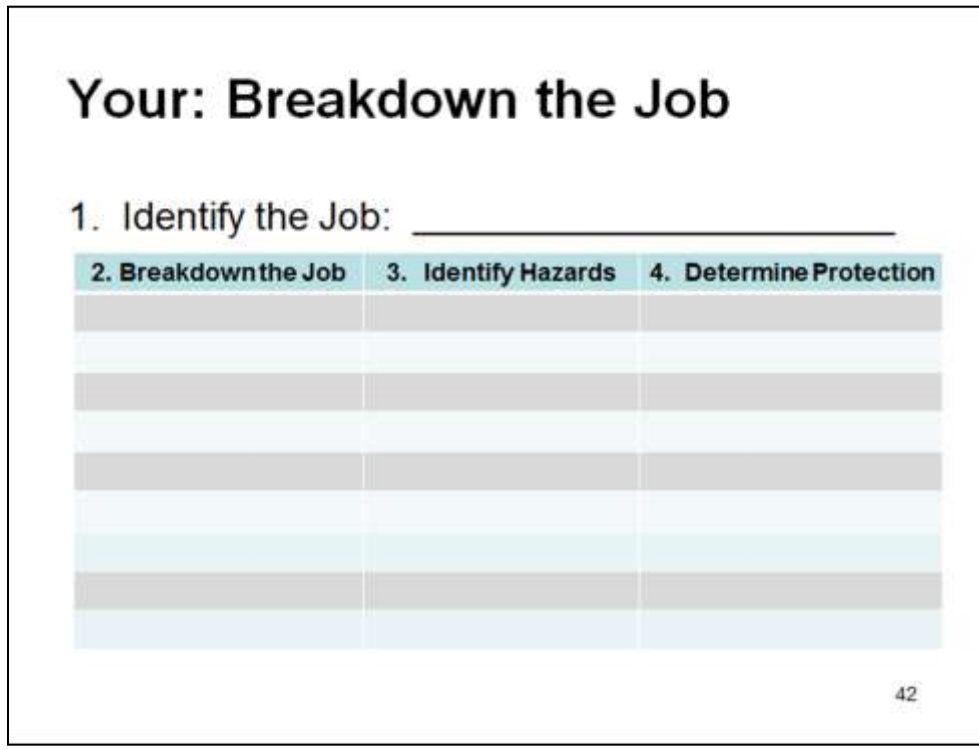
Breakdown the Job

Read the page.



Breakdown the Job

Say – “On the screen and in your training manual, you see an example of the detailed steps, in order, for this job or task.”



Breakdown the Job

Read the instructions on page 42.

Say – “Using your page 39 from the training manual, please breakdown your job like in the example on page 41.

Allow 4-5 minutes.

Say – “Ready to move on?”

Identify Hazards

Ask a volunteer to read page 43.

(Perhaps by now you have identified a participant in your class that is a good reader and projects loud enough that you could select him/her by name.)

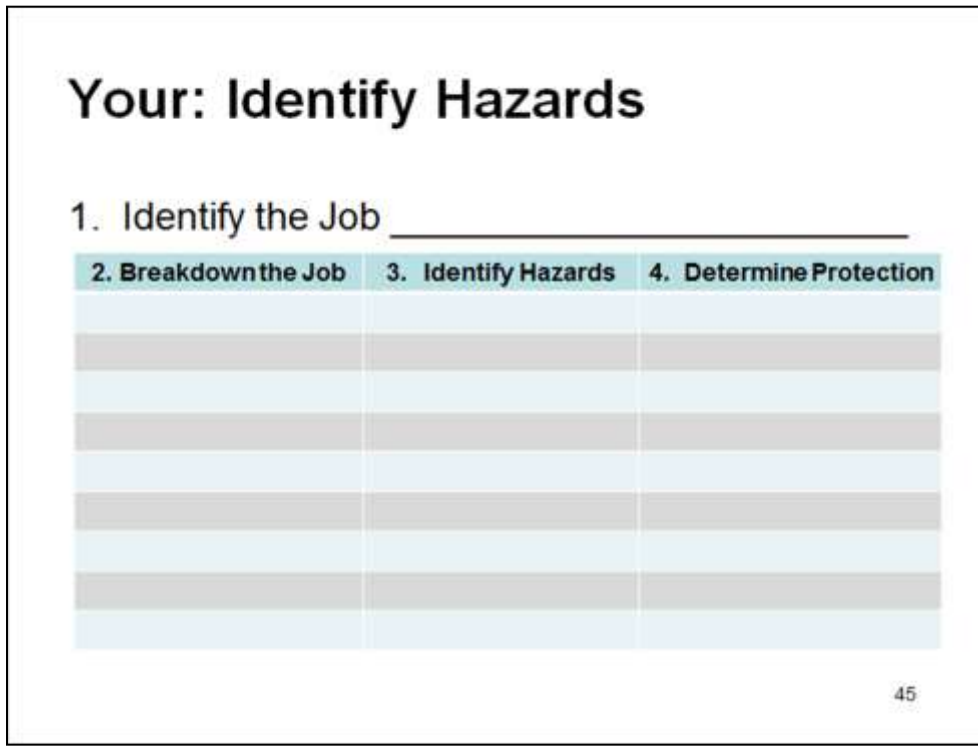
Thank participant by name.

Questions to Support Identifying Potential Hazards

Read page 44.

Say – “As you can see, this is a very detailed and orderly process to ensure the efficiency and effectiveness of the JSA. Using these questions as a checklist could also be another form of a JSA.”

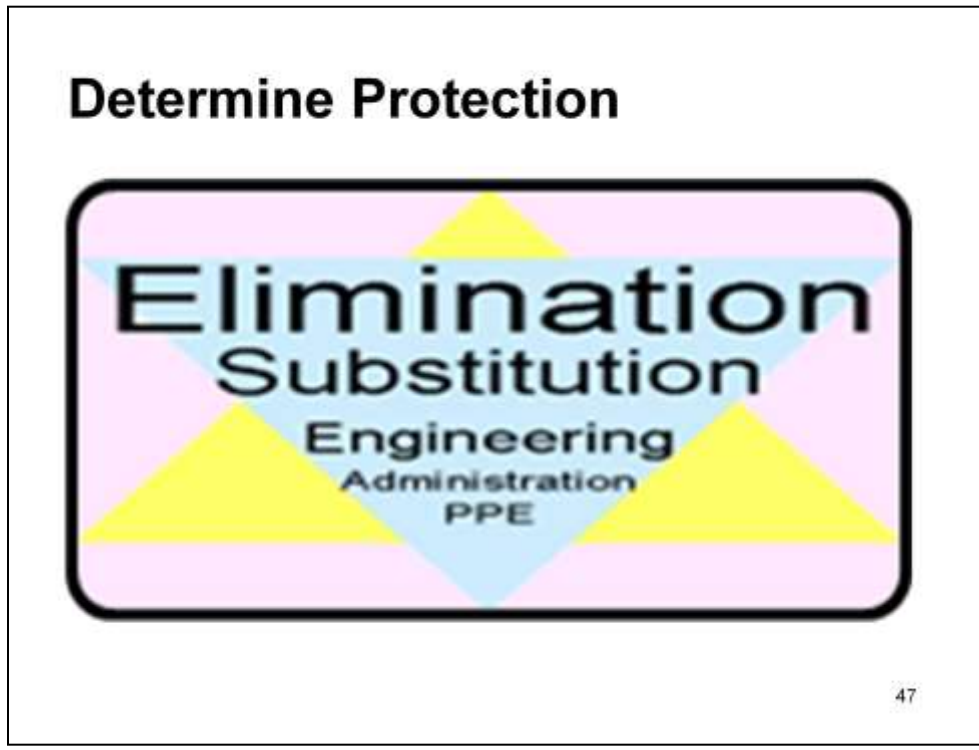
Ask if any questions.



Moving on to page 45, using your page 39 continue to identify hazards of the job you selected by asking the questions on page 44.

Allow 3-4 minutes.

Say – “How you all doing? Just one more step!!”

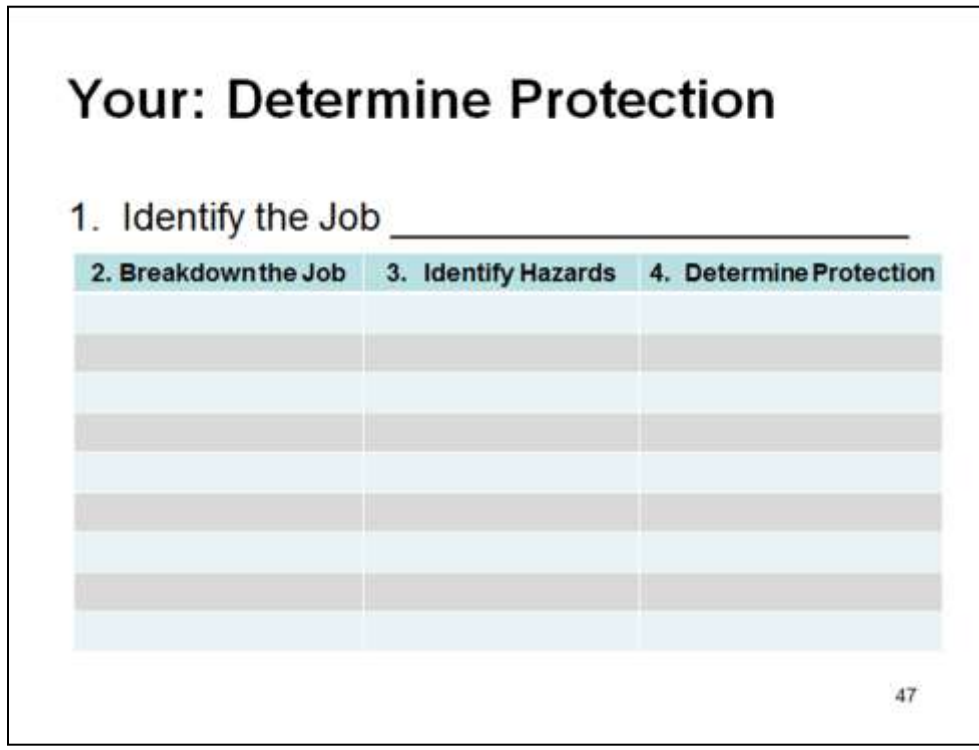


Determining Preventive Measures to Overcome These Hazards

Say – “The last step is to determine protection or prevention methods.”

Read the 4 bullets on page 46.

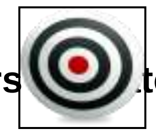
Any if there are questions.



Read page 47.

e participants to complete column 4 as instructed on their page 39.

Say – “Congratulations -- now you have all completed a JSA!!
Well done!”

Tar  nswers  ted.

Go over quiz together

Conduct Feedback Form

Complete Post-Test

	There are 4 basic steps to conducting a Job Safety Analysis. Put those steps in the proper order by placing a 1 in the blank of the first step of the process, a 2 in the second step and so on.
1	__3__Identify hazards
2	__4__Determine protection
3	__1_Identify the job
4	__2_Breakdown the job