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AUTHOR Higa, Floyd
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ABSTRACT

Designed for a 110-hour general metals course, this lesson plan presents an introduction to eye safety, including a brief guided imagery prelude, an overview of the lesson, an overview of Occupational Safety and Health Administration (OSHA) and Department of Occupational Safety and Health (DCSH) rules and regulations regarding eye and face protection, and a discussion of different types of eyewear. By the end of the lesson, the student should be able to: (1) explain what OSHA and DOSH stand for, and identify what level of government each belongs to; (2) in their own words, define OSHA's standing on eye safety; and (3) identify the different types of protective eyewear. The lesson begins with information on the course for which the plan was developed; equipment and audiovisual aids needed; requirements for student materials; course objectives; bibliographic references; and special remarks for the instructor. Next, a step-by-step outline of the instructor's presentation is provided in a format indicating the length of time and the equipment or other aids needed for each step of the lesson. Course handouts, transparency masters, DOSH and OSHA safety standards, pre- and post-tests, and answer keys are included. (EJV)

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An Introduction to Eye Safety
General Metals I, Lesson Plan No. 1

Floyd Higa
Kailua High School

Western Curriculum Coordination Center
Honolulu, HI

1987

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LESSON PLAN

LESSON PLAN NO. 1	INSTITUTION / AGENCY: Kailua High School	PAGE 1 OF 19 PAGES	
COURSE OF INSTRUCTION AND COURSE NUMBER: GENERAL METALS I PI20		TOTAL HOURS: 110 HOURS	LESSON TITLE: AN INTRODUCTION TO EYE SAFETY
DAY AND DATE OF INSTRUCTION: NOV. 12, 1987		HOURS 50 MIN.	PLACE: METAL SHOP
NO. OF STUDENTS: 100	REHEARSAL: NOV. 2, 1987	INSTRUCTOR AND ASSISTANTS: FLOYD HIGA	STUDENT MATERIALS AND DRESS: CASUAL ATTIRE, COVERED SHOES PENCIL/PEN
REFERENCES: 1. State of Hawaii. <u>Occupational Safety and Health Standards, Rules and Regulations.</u> Promulgated under the Occupational Safety and Health Law, Act 57, Session Laws of Hawaii of 1972.		EQUIPMENT AND AUDIO-VISUAL AIDS: 1. BLACKBOARD 2. CHALK 3. OVERHEAD PROJECTOR 4. SCREEN 5. TRANSPARENCIES 6. HAND-OUTS 7. OCCUPATIONAL SAFETY AND HEALTH STANDARDS RULES AND REGULATIONS HANDBOOK 8. EYE PROTECTORS THAT YOU HAVE AVAILABLE ON HAND	
OBJECTIVES: BY THE END OF THIS LESSON, THE STUDENT SHOULD BE ABLE TO... 1. EXPLAIN WHAT O.S.H.A. AND D.O.S.H. STANDS FOR, AND IDENTIFY WHAT GOVERNMENT EACH BELONG TO. (100%) 2. IN THEIR OWN WORDS, DEFINE O.S.H.A.'S STANDING ON EYE SAFETY. 3. IDENTIFY THE DIFFERENT TYPES OF PROTECTIVE EYEWEAR. (100%)		SPECIAL REMARKS: 4.	

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
<p>I. <u>PRELUDE</u></p> <p>I want you all to close your eyes and relax. Take a few deep breaths and clear your minds of your other subjects. Now I want you to imagine it's a beautiful day in Hawaii and you are at the beach. The sun is out and the sky is blue. You look up and you see a few fluffy white clouds drifting by. Wow, you guys, look at her. Talk about a string bikini. (Wolf whistle). For you girls, there he is, Mr. Atlas.</p> <p>Now you are at the Pali Lookout* to see the sunrise. You see the sun coming over Waimanalo and Kailua with all its different colors, red, yellow, and orange. You start to see the rays of light reaching down toward the earth like finger tips.</p> <p>Now I want you to imagine that you are blind. You can no longer see these things I just described to you, it is just images in your memory. I want you to think how your lives would change. Maybe some of you have part-time jobs. Could you still keep your job, or does your job require you to be a sighted person? How about your hobbies, does it require you to be a sighted person also? Maybe some of you got your drivers license, well guess what? You won't be making much use of it anymore. The worst part of it all is that you lost your eyesight do to carelessness, it could have been prevented, you lost your eyesight for no reason at all. Losing your eyesight had no meaning whatsoever.</p> <p>I want you to open your eyes now. If you got a little shook up, GOOD! That means you probably won't be making careless errors. If you did not get shaken up, then you are foolish, and a foolish person often winds up a stupid person.</p> <p>* Hawaiian Landmarks</p>	5 min.	

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
<p>II. <u>INTRODUCTION</u></p> <p>A. STATEMENT By now some of you have figured out that today's topic is on eye safety. For the past week or so, I've been telling you when you should be wearing safety goggles when working in the shop. Today I will be telling you why.</p> <p>B. OBJECTIVES</p> <ol style="list-style-type: none"> 1. By the end of this lesson, the students should be able to... <ol style="list-style-type: none"> a. Explain what the acronym O.S.H.A. stands for, and identify what level of government it belongs to. b. Explain what the acronym D.O.S.H. stands for, and identify what level of government it belongs to. c. Define, in their own words, O.S.H.A.'s standing on eye safety. d. Identify the different types of protective eyewear. <p>C. REASON</p> <ol style="list-style-type: none"> 1. The reason why we should learn about eye safety is so that we can prevent premature eye loss or vision loss. Some of you may have heard about people who had eye transplants to restore their vision, but this will probably not happen to you. I want all of you to face reality. If you lose your eyesight, be prepared to be blind the rest of your life. 	5 min.	

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
<p>2. SENSES</p> <p>QUESTION: What are your five (5) senses?</p> <p>ANSWER: Sight, Hearing, Smell, Touch, and Taste.</p>		<p>If I had to pick a favorite, it would probably be sight.</p> <p>QUESTION: What is your favorite sense?</p>
<p>III. <u>EXPLANATION AND/OR DEMONSTRATION</u></p> <p>A. STATEMENT</p> <p>1. Before we can tell how much your knowledge has improved, we must first find out how much you know now.</p> <p>a. Pretest</p> <p>1. Take a few minutes and try to do this pretest.</p>	2 min.	<p>Hand-out pretest to students Pretest 1 (P.T. 1)</p> <p>After the pretest, continue with lesson. Questions to the pretest will be cleared up as the lesson continues.</p>
<p>B. O.S.H.A.</p> <p>QUESTION: What does O.S.H.A. stand for?</p> <p>ANSWER: Occupational Safety and Health Administration</p> <p>1. O.S.H.A. stands for Occupational Safety and Health</p>	2 min.	<p>Display top half of transparency 1 (T.M. 1)</p>

PRESENTATION

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<p>sure you address them as D.O.S.H. They don't like it when you call them O.S.H.A.</p> <p>REVIEW</p> <p>QUESTION: What does O.S.H.A. stand for?</p> <p>ANSWER: Occupational Safety and Health Administration.</p> <p>QUESTION: What level of government does O.S.H.A. belong to?</p> <p>ANSWER: Federal Government.</p> <p>QUESTION: What does D.O.S.H. stand for?</p> <p>ANSWER: Department of Occupational Safety and Health.</p> <p>QUESTION: What level of government does D.O.S.H. belong to?</p> <p>ANSWER: State Government.</p>	2 min.	<p>Department of Occupational Safety and Health 830 Punchbowl P.h.# 548-4155</p>
<p>D. 205.4 EYE AND FACE PROTECTION.</p> <p>1. 205.4-1 GENERAL</p> <p>a. Reasonable probability of injury. Murrphy's Law, "anything that can go wrong will will go wrong."</p> <p>b. Emphasis "employers shall make conveniently available a type of protector suitable for the work to be performed."</p>	3 min.	<p>Distribute Handout 1 (H.O. 1) to students. (3 pages) Display part A of transparency 2 (T.M. 2) Read and go over the definition on eye safety with the class.</p>

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<p>c. Emphasis "employees shall use such protectors." d. Go over the fact that eye protectors should be worn when operation present the hazard of "flying objects, glare, liquids, injurious radiation, or any combination of these hazards."</p> <p>2. MINIMUM REQUIREMENTS</p> <p>a. Ask students if they know or can come up with any of the requirements regarding protective eyewear. The first one has been provided for them.</p>	5 min.	<p>Display part B of transparency 2 (T.M. 2)</p> <p>AS the students come up with the correct requirement, reveal it on the overhead so that the students may copy down the answer on their handout.</p> <p>Note; Each requirement has a flap covering it so that each requirement may be revealed out of order.</p>
<p>3. CORRECTIVE LENSES</p> <p>a. Spectacles whose protective lenses provide optical correction.</p> <p>b. Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles.</p> <p>c. Goggles that incorporate corrective lenses mounted behind the protective lenses.</p>	1 min.	<p>Transparency 3 part C (T.M. 3) Go over the rules (3 rules) for the students that require the use of corrective lenses.</p>
<p>4. MANUFACTURER'S IDENTIFICATION</p> <p>a. Manufacturer's name (not required)</p> <p>b. Manufacturer's logo</p> <p>1. The name, symbol, or trademark of a company.</p>	1 min.	<p>Transparency 3 part D (T.M. 3)</p> <p>Show an example of a manufacturer's logo. Pinpoint the logo on one of the protective eyewear.</p>

PRESENTATION

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5. LIMITATIONS OR PRECAUTIONS a. Go over a few limitations.	2 min.	Transparency 3 part E (T.M. 3)
6. SAFETY CODE a. American National Standard for Occupational and Educational Eye and Face Protection, Z87.1-1968.	1 min.	
E. TYPES OF PROTECTIVE EYEWEAR 1. Display different types of protective eyewear. ie. Safety glasses, safety goggles, tinted safety glasses, welder's goggles, welding helmet. 2. Go over the different types of protective eyewear with the students. Make sure they know the different names to each one. F. REVIEW 1. Drill the students on the different types of protective eyewear.	5 min.	
QUESTION: What does O.S.H.A. stand for, and what level of government does it belong to?		
ANSWER: Occupational Safety and Health Administration. Federal Government.		
QUESTION: What does D.O.S.H. stand for, and what level of government does it belong to?		
ANSWER: Department of Occupational Safety and Health. State Government.		

PRESENTATION

OUTLINE OF INSTRUCTION	TIME	METHODS OF INSTRUCTION AND AIDS
<p>QUESTION: What are some of the minimum requirements that eye protectors must meet?</p> <p>ANSWER: See T.M. 2 part B.</p> <p>QUESTION: What is the basic definition on eye and face protection?</p> <p>ANSWER: See T.M. 2 part A.</p>		
<p>IV. <u>SUMMARY</u></p> <ol style="list-style-type: none"> 1. Ask students if they have any questions that they want to ask or have. 2. Summarize the lesson. <ol style="list-style-type: none"> a. O.S.H.A. b. D.O.S.H. c. Definition of eye protection d. Minimum requirements e. Types of eyewear. 	2 min.	
<p>V. <u>EXAMINATION</u></p> <ol style="list-style-type: none"> 1. Written test 	6 min.	Handout test to students.
<ol style="list-style-type: none"> 2. Closing statement <ol style="list-style-type: none"> a. Remember in the beginning of class when I asked you to imagine that you were blind. That was all pretend, make believe. However, if you have no regard for your eyes and work without the proper protective eyewear you just might wind-up blind, no pretend, no make believe. 	1 min.	

O. S. H. A.

OCCUPATIONAL

SAFETY AND

HEALTH

ADMINISTRATION

D. O. S. H.

DEPARTMENT OF

OCCUPATIONAL

SAFETY AND

HEALTH

205.4 EYE AND FACE PROTECTION.

205.4-1 General.

A. Protective eye and face equipment shall be required where there is a reasonable probability of injury that can be prevented by such equipment. In such cases, employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors. No unprotected person shall knowingly be subjected to hazardous environmental condition. Suitable eye protectors shall be provided where machines or operations present the hazard of flying objects, glare, liquids, injurious radiation, or any combination of these hazards.

B. Protectors shall meet the following minimum requirements:

- (1) They shall provide adequate protection against the particular hazard for which they are designed.
- (2) They shall be reasonably comfortable when worn under the designated conditions.
- (3) They shall fit snugly and shall not unduly interfere with the movements of the wearer.
- (4) They shall be durable.
- (5) They shall be capable of being disinfected.
- (6) They shall be easily cleanable.
- (7) They shall be kept clean and in good repair.

C. Persons whose vision requires the use of corrective lenses in spectacles, and who are required by this standard to wear eye protection, shall wear goggles or spectacles of one of the following types:

- (1) Spectacles whose protective lenses provide optical correction.
- (2) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles.
- (3) Goggles that incorporate corrective lenses mounted behind the protective lenses.

D. Every protector shall be distinctly marked to facilitate identification of the manufacturer.

E. When limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed

F. Design, construction, testing, and use of devices for eye and face protection shall be in accordance with American National Standard for Occupational and Educational Eye and Face Protection, Z87.1-1968.

ANSWER KEY
TEACHERS COPY

1. Occupational Safety and Health Administration.
2. Department of Occupational Safety and Health.
3. Employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors when there is a reasonable probability of injury that can be prevented by such equipment.
4. Any two of the seven:
 1. They shall provide adequate protection against the particular hazard for which they are designed.
 2. They shall be reasonably comfortable when worn under the designated conditions.
 3. They shall fit snugly and shall not unduly interfere with the movements of the wearer.
 4. They shall be durable.
 5. They shall be capable of being disinfected.
 6. They shall be easily cleanable.
 7. They shall be kept clean and in good repair.

NAME: _____

DATE: _____

EYE SAFETY

O.S.H.A.

D.O.S.H.

205.4 EYE AND FACE PROTECTION.

205.4-1 General.

A. Protective eye and face equipment shall be required where there is reasonable probability of injury that can be prevented by such equipment. In such cases, employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors. No unprotected person shall knowingly be subjected to hazardous environmental condition. Suitable eye protectors shall be provided where machines or operations present the hazard of flying objects, glare, liquids, injurious radiation, or any combination of these hazards.

B. Protectors shall meet the following minimum requirements:

(1) They shall provide adequate protection against the particular hazard for which they are designed.

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

(7) _____

C. Persons whose vision requires the use of corrective lenses in spectacles, and who are required by this standard to wear eye protection, shall wear goggles or spectacles of one of the following types:

- (1) Spectacles whose protective lenses provide optical correction.
- (2) Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles.
- (3) Goggles that incorporate corrective lenses mounted behind the protective lenses.

D. Every protector shall be distinctly marked to facilitate identification of the manufacturer.

E. When limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed.

F. Design, construction, testing, and use of devices for eye and face protection shall be in accordance with American National Standard for Occupational and Educational Eye and Face Protection, Z87.1-1968.

ANSWER KEY
TEACHERS COPY

1. Occupational Safety and Health Administration.
Federal Government.

2. Department of Occupational Safety and Health.
State Government.

3. Anything to this effect:
Employers shall make conveniently available a type of protector suitable for the work to be performed, and employees shall use such protectors where there is a reasonable probability of injury that can be prevented by such equipment. No unprotected person shall knowingly be subjected to hazardous environmental condition.

4. Any four of the seven:
 1. They shall provide adequate protection against the particular hazard for which they are designed.
 2. They shall be reasonably comfortable when worn under the designated conditions.
 3. They shall fit snugly and shall not unduly interfere with the movements of the wearer.
 4. They shall be durable.
 5. They shall be capable of being disinfected.
 6. They shall be easily cleanable.
 7. They shall be kept clean and in good repair.

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