

EDUCATIONAL RESOURCES FOR K-12 EDUCATORS

degrees that work.

Welding & Fabrication

Lesson Planning Guide:
Welding Careers / School Counselor



degrees that work. is a broadcast production of Pennsylvania College of Technology and WVIA public television.

More information is available at

www.pct.edu/degreesthatwork

or

www.wvia.org

This project is funded in part by the National Center for Welding Education and Training, a partnership of business and industry, community and technical colleges, universities, the American Welding Society and government that is doing business as Weld-Ed through funding support from the National Science Foundation under Grant No. 0703018.

More information is available at www.weld-ed.org.

Pennsylvania College of Technology

PENNSTATE



An affiliate of The Pennsylvania State University

Penn College operates on a nondiscriminatory basis.

‘degrees that work, Welding and Fabrication’
Lesson Planning Guide – School Counselor Version

Unit: High and Emerging Technology Careers

Competency: List and describe current characteristics of the field of welding.

PA Academic Standards Included: 13.1.8D

Approximate Time: Two 45-minute periods.

Prerequisite Skills

Reading, Writing, Speaking and Listening*

1.2.8 Reading Critically in All Content Areas

A. Read and understand essential content of informational texts and documents in all academic areas.

1.6.8 Speaking and Listening

D. Contribute to discussions.

E. Participate in small and large group discussions and presentations.

Mathematics*

None

Science and Technology*

None

Career Education and Work*

13.1.8 Career Awareness and Preparation

E. Analyze the economic factors that impact employment opportunities.

Performance Standards

Performance Standard	Suggested Evaluation Method
1. Describe, in your own words, the job of a welder with 100% accuracy on a written quiz.	Written Quiz
2. Name three items that you use every day that require welding with 98% accuracy on a written quiz.	Written Quiz

* Academic Standards, Pennsylvania Department of Education
<http://www.pde.state.pa.us>

3. Name at least two types of education one would need to become a welder with 90% accuracy on a written quiz.	Written Quiz
4. Describe the future growth pattern in the field of welding and explain why growth is expected with 90% accuracy on a written quiz.	Written Quiz

Suggested Projects

None

Multiple Intelligence Types

Verbal/Linguistic

Visual/Spatial

Interpersonal

Resources

1. Video: Degrees That Work: Welding and Fabrication
<http://www.pct.edu/degreesthatwork/>
2. Worksheet: Welding Worksheet
 See attached
3. Brochure: Your Career in Welding
 Free publication can be ordered through www.AWS.org
4. Worksheet: Your Career in Welding Scavenger Hunt
 See attached
5. Quiz: Welding Quiz
 See attached

Equipment/Materials/Software

1. Wipe board and markers
 Any supplier
2. Computer lab with Internet Access
 Any supplier

Suggested Learning Sequence

Strategy	Outline	Resources/Equipment
Performance Standard 1 & 2		
Introduction	Brainstorm with students the following questions about welding: <ul style="list-style-type: none"> • What does a welder do? • Do you know any welders, what do they do? • Give examples of items that need to be welded. 	Resource #1 Equipment #1

Activity/Discussion	<p>Explain to the class that you will be playing a video about careers in welding and then they will be answering questions about it. Display the questions and review them. Then play the video for the class.</p> <p>In groups of three or four have students work on the answers to the worksheet.</p> <p>Discuss the answers to the worksheet as a class. Related Academic Skills: 1.6.8D, E</p>	<p>Resource #1 Resource #2 Equipment #2</p>
Performance Standard 3 & 4		
Assignment/Discussion	<p>Give each student a copy of the brochure and a copy of the scavenger hunt worksheet. Have them complete the worksheet on their own time.</p> <p>After a reasonable amount discuss the worksheet as a class. Related Academic Skills: 1.2.8A; 13.1.8E Related SCANS/Soft Skills: Information A</p>	<p>Resource #3 Resource #4</p>
Activity (Optional)	In this Lesson Planning Guide see the section on Related Worksite/Work-based Activities.	
Assessment	Give the students a quiz on all of the performance standards.	Resource #5

Related SCANS/Soft Skills

Resources

None

Interpersonal

None

Information

A. Acquires and Evaluates Information

Systems

None

Technology

None

Thinking Skills

None

Personal Qualities

None

Competency: List and describe current characteristics of the field of welding.

Related Worksite/Work Based Activities

Take the class to a business where welding is a primary service offered. Give them copies of the worksheet so they can complete them during the visit. As soon as possible review the answers as a class.

You could also invite a welder into the class to answer the questions on the worksheets. As soon as possible review the answers as a class.

Additional Resources

None

This planning guide was written by Noreen Wheeler, School Counselor, Liberty Junior/Senior High School, Tioga, PA.

Welding Worksheet

1. What types of jobs did the welders in the video have?

2. What type of interests do you think someone might have if they are interested in welding?

3. Give four examples of items that we use or have around us every day that are welded?

- a. _____
- b. _____
- c. _____
- d. _____

4. Are there a lot of female welders? Do you remember the percentage of female welders?

5. What type of training or education do you need to become a welder?

6. What type of classes would be helpful if you were considering a career in welding?

7. Name one type of welding technique that you heard about in the video?

8. Approximately what age are most of the welders in the U.S.?

9. What impact will their age have on the welding industry?

Your Career in Welding Scavenger Hunt

1. Find three different types of welding careers and explain a little bit about them.

a. _____

b. _____

c. _____

2. What is the definition of welding?

3. How much growth is expected in the field of welding?

4. Name the five types of further education one can receive to become a welder.

a. _____

b. _____

c. _____

d. _____

e. _____

5. True or False (circle one): 40% of companies have to turn away business due to lack of skilled workers?

6. What is the predicted need for welders in the future?

Welding Quiz

1. In your own words, please describe the job of a welder.

2. Please describe three items, that you see or use every day, that require welding?

a. _____

b. _____

c. _____

3. Please explain two types of education needed to become a welder.

a. _____

b. _____

4. Is growth expected in the field of welding? _____

Why or why not? _____
