



Republic of the Philippines  
**Department of Education**  
National Capital Region  
Schools Division Office – Muntinlupa City

**SPECIAL PROGRAM IN TECHNICAL VOCATIONAL EDUCATION (SPTVE)**  
**SHIELDED METAL ARC WELDING 10 Quarter 3: Week 2 Module**

- I. Topic: Safety and Health of Welders
- II. Objectives:
  1. identify different hazards related to welding,
  2. explain welding hazards and its causes, and
  3. enumerate the safety precautions.
- III. Brief Introduction of the Lesson

Welder's safety and health is extremely important. All workers engaged in production and construction are continually exposed to potential hazards. There are a number of safety and health problems associated with welding. When correct precautionary measures are followed, welding is a safe occupation. Health officials state that welding, as an occupation, is no more hazardous or injurious to health than other metalworking operations.

**WELDING WORKPLACE SAFETY**

The welding shop management and its supervisors are responsible for providing training for workers in the safe conduct of their day-to-day activities. Employees must be informed and trained to detect hazards as well as protect themselves.

**PROTECTIVE CLOTHING**

Welders should wear appropriate work clothes without openings or gaps to prevent the arc rays from contacting skin. If the arc rays contact the skin for a period of time, it will result to painful "sunburn" or "arc burns". Wool fabric is much more satisfactory than cotton since it will not disintegrate from arc radiation.

Activities:

Activity 1.

**Direction:** A. Identify the causes of hazards in the workplace. Write your answers on a box.

Example of Hazards and Their Effects		
Types of Hazards	Example of Hazards	Harm Caused
1. Electric shock	touch two metal objects that have a voltage. Cable damage	
2. Fire and explosion	danger is not from the arc itself, but rather the intense near the arc and the heat, sparks and spatter created by the arc.	





Republic of the Philippines  
**Department of Education**  
National Capital Region  
Schools Division Office – Muntinlupa City

---

3. Fumes and gases	head in of the fumes and not enough ventilation and/or exhaust to control your exposure to substances in the fume.	
4. Burns	No arm protection, Insuffient PPE during welding operation.	
5.Arc radiation	No face protection, by stander expose to arc.	

B. **Direction:** There are **5** possible welding hazards in the illustration below. Identify them and briefly explain the reason why it is considered as an example of hazard. Write your answers on a separate sheet on your answer sheet.





Republic of the Philippines  
**Department of Education**  
National Capital Region  
Schools Division Office – Muntinlupa City

---

Activity 2

**Direction:** List down at least 5 safety precautions for welding.

1.
2.
3.
4.
5.

Activity 3

**Direction:** Read the statements carefully. Write TRUE if the statement is correct and FALSE if it is incorrect. Write it on your answer sheet.

1. You have to check if the welding machine and its cable are in good working condition.
2. Do not use the oxy-acetylene equipment unless you know the safety procedures in operating it.
3. Hazards may be encountered when using portable grinder.
4. Biological hazards are related to a mental health and behavioral disorder.
5. Poor workplace design and awkward body posture are examples of ergonomic hazard.
6. Working near an electrical hazard is not dangerous and cannot be fatal.
7. Welding fumes can result to major health hazards.
8. Arc welding is a safe occupation when proper precautions are taken.
9. The most common welding injury are burns and exposure to arc rays.
10. Chip off the slag away from your body.





Republic of the Philippines  
**Department of Education**  
National Capital Region  
Schools Division Office – Muntinlupa City

---

V. Assessment:

**Directions:** Encircle the letter of the correct answer.

- To prevent arc rays from skin contact, welders should wear clothes without.  
A. Buttons                      C. Collar  
B. Opening gap                D. Sleeves
- Here are safety devices that welding workplace must have except.  
A. Circuit breaker            C. Fire extinguisher  
B. First aid                      D. Life saving support
- The type of clothing that will not disintegrate from arc radiation or will not catch fire quickly is.  
A. Cotton                        C. Leather  
B. Linen                         D. Woolen
- These are precautionary measures related to welding, except.  
A. Do not touch live electrical parts  
B. Insufficient PPE during welding  
C. Use enough ventilation, exhaust at the arc.  
B. Wear correct eye, ear, and body protection
- These are hazards related to welding, except  
A. Arc radiation                C. Fire and explosion  
B. Electric shock               D. Water contamination

VI. Reflection:

Direction: Answer the following questions.

- What are the safety precautions used in welding?
- Why is safety important in welding?

References:

- [twi-global.com](https://www.twi-global.com/technical-knowledge/job-knowledge/health-safety-and-accident-prevention-arc-welding-029), The contrast between good and bad practice in arc welding, 9537 gif.170x262, September 21, 2020  
<https://www.twi-global.com/technical-knowledge/job-knowledge/health-safety-and-accident-prevention-arc-welding-029>
- <https://www.welding.org/wp-content/uploads/2014/08/363.pdf>
- [SMAW final check and verified](#)

Writer: Albert B. Sierra

Validator/s Gerry V. Domalanta



Centennial Ave., Brgy. Tunasan, Muntinlupa City  
Telephone No: 805-9935 / 805-9938  
[www.depedmuntinlupa.edu.ph](http://www.depedmuntinlupa.edu.ph); [sdo.muntinlupa@gmail.com](mailto:sdo.muntinlupa@gmail.com)





Republic of the Philippines  
**Department of Education**  
National Capital Region  
Schools Division Office – Muntinlupa City

---



Centennial Ave., Brgy. Tunasan, Muntinlupa City  
Telephone No: 805-9935 / 805-9938  
[www.depedmuntinlupa.iedu.ph](http://www.depedmuntinlupa.iedu.ph); [sdo.muntinlupa@gmail.com](mailto:sdo.muntinlupa@gmail.com)

