

**The Pennsylvania State University
Workforce Education and Development**

Lesson Plan Template

Name of Instructor: Larry Brown
Program Title: Welding Technology/ Welder
Course Title: Welding Assignment #2
Unit Title: Shielded Metal Arc Welding
Lesson Title: Shielded Metal Arc Welding Procedures Worksheet
Lesson Performance Objective: Given the information students will be able to research and answer the following questions on Shielded Metal Arc Welding remotely.
Time (length of lesson): 20-30 mins.
Equipment and Materials needed: Computer or textbook for information on Shielded Metal Arc Welding.
Technical Standard(s): CIP Shielded Metal Arc Welding (SMAW) 501, 502, 503.
Academic Standard(s):
Introduction By now students will have experienced basic Shielded Metal Arc Welding procedures. They will be able to research and answer the questions on the worksheet.

Body: Students will gain information to assist them with step by step welding procedures using shielded metal arc electrodes

Summary: Given the information in this worksheet students will be able to return to the shop and perform welding tasks with a higher proficiency level.

Student Assessment:

Formative Assessment(s)

Summative Assessment:

Universal Design for Learning (UDL)

Multiple Means of Engagement:

Multiple Means of Representation:

Multiple Means of Expression:

Welding Assignment #2

Shielded Metal Arc Welding

1. What is the function of the coating on an SMAW electrode? _____.
2. What does the first two numbers on an electrode mean _____.
3. What positions can an E-7018 electrode be used for _____.
4. What does DCEP mean _____.
5. An E-6010 electrode is designed to weld on A. AC, B. DCSP, C. DCRP, D. DCEN.
6. What does (HAZ) stand for _____.
7. Name the positions an E-7024 electrode is designed to weld in _____.
8. Some electrodes are classified as fill-freeze electrodes what does this mean _____.
9. Alternating Current goes from negative to positive how many times a second _____.
10. What does the term Arc Length mean _____.
11. Welding electrodes are measured by the _____.
12. What is the function of slag in the welding process _____.
13. What polarities can be used when welding with a E-6011 electrode _____.
14. E-7018 electrode are designed to weld in what positions _____.
15. What does the term slag inclusion mean _____.

10/13/2009

Student Name: _____

1.

$$\begin{array}{r} 123 \\ X \quad 117 \\ \hline \end{array}$$

2.

$$\begin{array}{r} 105 \\ X \quad 125 \\ \hline \end{array}$$

3.

$$\begin{array}{r} 58 \\ X \quad 84 \\ \hline \end{array}$$

4.

$$\begin{array}{r} 188 \\ X \quad 162 \\ \hline \end{array}$$

5.

$$\begin{array}{r} 73 \\ X \quad 80 \\ \hline \end{array}$$

6.

$$\begin{array}{r} 121 \\ X \quad 85 \\ \hline \end{array}$$

7.

$$\begin{array}{r} 39 \\ X \quad 118 \\ \hline \end{array}$$

8.

$$\begin{array}{r} 142 \\ X \quad 163 \\ \hline \end{array}$$

9.

$$\begin{array}{r} 189 \\ X \quad 65 \\ \hline \end{array}$$

10.

$$\begin{array}{r} 94 \\ X \quad 47 \\ \hline \end{array}$$

Name _____

Date _____

$$\begin{array}{r} \textcircled{1} \quad 3 \frac{7}{8} \\ + 5 \frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad 7 \frac{3}{8} \\ - 5 \frac{15}{16} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{3} \quad 12 \frac{13}{14} \\ + 2 \frac{7}{8} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{4} \quad 12 \frac{5}{8} \\ - 7 \frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{5} \quad 1 \frac{1}{8} \\ + \frac{1}{4} \\ + \frac{5}{8} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{6} \quad 1.0351 \\ + .1579 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{7} \quad 7,135 \\ - 986 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{8} \quad 437.97 \\ + 27.88 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{9} \quad 5280 \\ - 1768 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{10} \quad 4203 \\ - 659 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{11} \quad 12 \frac{5}{8} \\ - 9 \frac{15}{16} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{12} \quad 3 \frac{1}{2} \\ + 6 \frac{3}{8} \\ + \frac{15}{16} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{13} \quad 6 \frac{3}{8} \\ - 2 \frac{1}{2} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{14} \quad 8 \frac{3}{8} \\ - 4 \frac{5}{8} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{15} \quad 2 \frac{3}{16} \\ + \frac{7}{8} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{16} \quad .875 \\ + .626 \\ \hline + 1.125 \end{array}$$

$$\begin{array}{r} \textcircled{17} \quad 2 \frac{13}{16} \\ - 1 \frac{15}{16} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{18} \quad 7 \frac{1}{16} \\ + 8 \frac{3}{8} \\ + 1 \frac{1}{16} \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{19} \quad 3 \frac{7}{16} \\ - 1 \frac{1}{2} \\ \hline \end{array}$$

Write the ruler measurement on top of the line



