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CW High School
GMAW

1. **Gas Metal Arc Welding Theory (35.00%)**

Learning Targets

1.1 **I can identify all of the components of a GMAW system.**

Learning Target	Descriptor	Definition
4	Proficient	I can identify all of the components of a GMAW system.
3	Developing	I can identify most of the components of a GMAW system.
2	Basic	I can identify some of the components of a GMAW system.
1	Minimal	I can identify a GMAW machine as opposed to a SMAW machine.
0	No Evidence	No evidence shown.

1.2 **I can explain how the machine settings, equipment setup, and operator input affect the variables of Ohm's Law.**

Learning Target	Descriptor	Definition
4	Proficient	I can explain how the machine settings, equipment setup, and operator input affect the variables of Ohm's Law.
3	Developing	I can explain how most of the machine settings, equipment setup, and operator input affect the variables of Ohm's Law.
2	Basic	I can explain how some of the machine settings, equipment setup, and operator input affect the variables of Ohm's Law.
1	Minimal	I can explain how the machine settings, equipment setup, and operator input work together but I'm not sure how they relate to Ohm's law.
0	No Evidence	No evidence shown.

1.3 **I can describe in detail how a GMAW system operates.**

Learning Target	Descriptor	Definition
4	Proficient	I can describe in detail how a GMAW system operates.
3	Developing	I can describe how a GMAW system operates, but I am missing a few details.
2	Basic	I can describe how a GMAW system operates, but I am missing a few details and I am unsure on the proper terminology for some of the equipment.
1	Minimal	I can describe the parts of the machine, but I'm not sure how they all work together.
0	No Evidence	No evidence shown.

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1.4 I can compare and contrast the following welding gasses and their uses: 100% CO2, 75/25 Ar/CO2, 90/10 AR/CO2, and small editions of He or O2.

Learning Target	Descriptor	Definition
4	Proficient	I can compare and contrast the following welding gasses and their uses: 100% CO2, 75/25 Ar/CO2, 90/10 AR/CO2, and small editions of He or O2.
3	Developing	I can compare and contrast the most of the following welding gasses and their uses: 100% CO2, 75/25 Ar/CO2, 90/10 AR/CO2, and small editions of He or O2.
2	Basic	I can compare and contrast some of the welding gasses and their uses: 100% CO2, 75/25 Ar/CO2, 90/10 AR/CO2, and small editions of He or O2.
1	Minimal	I know that 75/25 and 100% CO2 are very common.
0	No Evidence	No evidence shown.

1.5 I can categorize electrode wire using the AWS system for plain carbon steel, stainless steel, and aluminum.

Learning Target	Descriptor	Definition
4	Proficient	I can categorize electrode wire using the AWS system for plain carbon steel, stainless steel, and aluminum.
3	Developing	I can categorize electrode wire using the AWS system for plain carbon steel, but I am a little unsure about stainless steel and aluminum.
2	Basic	I can categorize electrode wire using the AWS system for plain carbon steel, but not at all for stainless steel and aluminum.
1	Minimal	I can identify some of the AWS wire classification system for plain carbon steel, but not at all for stainless steel and aluminum.
0	No Evidence	No evidence shown.

1.6 I can compare and contrast the different transfer methods (short circuit, globular, spray, and pulse).

Learning Target	Descriptor	Definition
4	Proficient	I can compare and contrast the different transfer methods (short circuit, globular, spray, and pulse).
3	Developing	I can compare and contrast most of the different transfer methods (short circuit, globular, spray, and pulse).
2	Basic	I can compare and contrast some of the different transfer methods (short circuit, globular, spray, and pulse).
1	Minimal	I know what short circuit welding is, but I am unsure of the others.
0	No Evidence	No evidence shown.

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7 I can fully explain duty cycle as it relates to amperage and welding time within a GMAW system.

Learning Target	Descriptor	Definition
4	Proficient	I can fully explain duty cycle as it relates to amperage and welding time within a GMAW system.
3	Developing	I can explain duty cycle as it relates to amperage and welding time within a GMAW system, but I am missing some of the details or application.
2	Basic	I can explain duty cycle as it relates to amperage and welding time within a GMAW system, but I am missing several of the details or application.
1	Minimal	I know that duty cycle effects the time you can weld, but I am not sure how.
0	No Evidence	No evidence shown.

1.8 I can pass the AWS level I SENSE written test for GMAW.

Learning Target	Descriptor	Definition
4	Proficient	I can pass the AWS level I SENSE written test for GMAW.
3	Developing	I can pass the AWS level I SENSE written test for GMAW with 85% accuracy.
2	Basic	I can pass the AWS level I SENSE written test for GMAW with 65% accuracy.
1	Minimal	I can complete the AWS level I SENSE written test for GMAW with 50% accuracy.
0	No Evidence	No evidence shown.

2. GMAW Welds (65.00%)

Learning Targets

2.1 I can perform FILLET and SQUARE groove welds in the OVERHEAD position and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.

Learning Target	Descriptor	Definition
4	Proficient	I can perform FILLET and SQUARE groove welds in the OVERHEAD position and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.
3	Developing	I can perform the welds, but some of the welds have some minor discontinuities.
2	Basic	I can perform the welds, but most of the welds have some minor discontinuities.
1	Minimal	I can perform the welds, but most of the welds have some major discontinuities.
0	No Evidence	No evidence shown.

2.2 I can perform OPEN ROOT V groove welds in the HORIZONTAL position and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.

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Learning Target	Descriptor	Definition
4	Proficient	I can perform OPEN ROOT V groove welds in the HORIZONTAL position and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.
3	Developing	I can perform the weld, but there are some minor discontinuities.
2	Basic	I can perform the weld, but there are some major discontinuities.
1	Minimal	The weld is complete, but includes major discontinuities and lacs consistency.
0	No Evidence	No evidence shown.

2.3 I can pass a bend test on an OPEN ROOT V GROOVE weld on a BUTT joint in the HORIZONTAL position.

Learning Target	Descriptor	Definition
4	Proficient	I can pass a bend test on an OPEN ROOT V GROOVE weld on a BUTT joint in the HORIZONTAL position.
3	Developing	Both parts bend without breaking, but only one passes.
2	Basic	Both parts bend without breaking, but neither one passes or one part breaks and the other passes.
1	Minimal	Neither part passes, but at least one bends without breaking.
0	No Evidence	No evidence shown.

2.4 I can perform OPEN ROOT V groove welds in the Vertical position uphill progression and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.

Learning Target	Descriptor	Definition
4	Proficient	I can perform OPEN ROOT V groove welds in the Vertical position uphill progression and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.
3	Developing	I can perform the weld, but there are some minor discontinuities.
2	Basic	I can perform the weld, but there are some major discontinuities.
1	Minimal	The weld is complete, but includes major discontinuities and lacs consistency.
0	No Evidence	No evidence shown.

Submitted on 2/13/2019 by Linda Krans