

Basic Welding Curriculum Design

Power Standards

Students will be able to:

1. Utilize hand tools in their proper application in a safe manner.
2. Set up and troubleshoot welding parameters.
3. Complete welds in the major processes: SMAW, GMAW, GTAW.
4. Operate efficiently in a full functioning manufacturing environment

Power Benchmarks

1. Demonstrate the proper set-up and procedures for arc welding in four different positions.
2. Identify basic welding joints.
3. Describe basic blueprinting concepts and be able to draw a simple blueprint.
4. Demonstrate the proper set-up and procedures for GMAW welding.
5. Demonstrates appropriate measuring techniques.
6. Demonstrates appropriate ox-ace cutting equipment usage and cutting techniques.
7. Demonstrates appropriate plasma equipment usage and cutting techniques.
8. Demonstrate the proper use of power tools.
9. Demonstrates emergency and safety rules.
10. Identify and troubleshoot weld defects.

Basic Welding Curriculum Design

Students will be able to:

1. Utilize hand tools in their proper application in a safe manner.
 - Demonstrates appropriate measuring techniques. (3)
 - Demonstrate the proper use of power tools. (8)

2. Set up and troubleshoot welding parameters.
 - Demonstrate the proper set-up and procedures for arc welding in four different positions. (1)
 - Identify basic welding joints. (2)
 - Demonstrate the proper set-up and procedures for GMAW welding. (4)
 - Identify and troubleshoot weld defects. (10)

3. Complete welds in the major processes: SMAW, GMAW, GTAW.
 - Demonstrates appropriate ox-ace equipment usage and cutting techniques. (6)
 - Demonstrates appropriate plasma equipment usage and cutting techniques. (7)

4. Operate efficiently in a full functioning manufacturing environment.
 - Describe basic blueprinting concepts and be able to draw a simple blueprint. (3)
 - Demonstrates emergency and safety rules. (9)
 - Demonstrates appropriate measuring techniques. (5)

Basic Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 2: Set up and troubleshoot welding parameters.</p> <p>Power Benchmark/Competency #1: Describe legal terms, codes, permits, insurance, licenser, bonding, and workman’s comp.</p> <p>Estimated Timeline: 9 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #ffffcc;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <td style="padding: 5px;">Math</td> <td style="padding: 5px;">Science</td> <td style="padding: 5px;">Language Arts</td> <td style="padding: 5px;">Social Studies</td> <td style="padding: 5px;">Fine/Visual Arts</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X				X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings (Standards & Benchmarks): <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Stick welding is relevant in today’s pipe welding world. ➤ Arc welding is viable way to join two pieces of metal. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What is arc welding? ➤ When are arc welding procedures applicable? ➤ What are the five essentials to arc welding? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ The proper methods to set-up arc welding equipment. ➤ The proper techniques used to produce quality stick welds. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Routinely produce quality stick welds in all positions. ➤ Analyze completed welds for quality. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Series of welds completed to display proficiency in examination. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Scores based on a 10 point scale with acceptance only allowed on welds scored 7 and above.
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Basic Welding Curriculum Design

Stage 3 – Learning Plan:

Describe legal terms, codes, permits, insurance, licenser, bonding, and workman's comp.

Power Benchmark/Competency: #1

Learning Activities:	Resources:
Daily welding activities. All welds to be completed utilizing the stick procedure.	

Stage 3
Work in Progress

Basic Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 2: Set up and troubleshoot welding parameters.</p> <p>Power Benchmark /Competency #2: Identify basic welding joints.</p> <p>Estimated Timeline: 1 week</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr style="background-color: #ffff00;"> <th style="padding: 2px;">Career</th> <th style="padding: 2px;">Technology</th> <th style="padding: 2px;">Critical Thinking</th> <th style="padding: 2px;">Global</th> <th style="padding: 2px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr style="background-color: #ffff00;"> <th style="padding: 2px;">Math</th> <th style="padding: 2px;">Science</th> <th style="padding: 2px;">Language Arts</th> <th style="padding: 2px;">Social Studies</th> <th style="padding: 2px;">Fine/Visual Arts</th> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility			X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings: <i>Students will understand that::</i></p> <ul style="list-style-type: none"> ➤ There are 5 basic welding joints used in industry today. ➤ The 5 basic welding joints will be applied to a final project in future courses 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What are the 5 basic types of weld joint configuration? ➤ What type of joint construction is considered the strongest? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ How to construct the five basic welding joints. ➤ The appropriate circumstances in which a specific type of weld joint is selected over another. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Assemble and weld the 5 basic joints. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Series of welds completed to display proficiency. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Scores based on a 10 point scale with acceptance only allowed on welds scored 7 and above.
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Basic Welding Curriculum Design

Stage 3 – Learning Plan:

Identify basic welding joints.

Power Benchmark/Competency: # 2

Learning Activities:	Resources:
Daily welding activities. All welds to consist of the 5 basic joint constructions.	
Identify through lecture and demonstration procedures the correct weld joint for a given application.	

Basic Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 1: Utilize hand tools in their proper application in a safe manner.</p> <p>Power Benchmark /Competency #3: Describe basic blueprinting concepts and be able to draw a simple blueprint.</p> <p>Estimated Timeline: 1 week</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr style="background-color: #ffffcc;"> <th style="padding: 2px;">Career</th> <th style="padding: 2px;">Technology</th> <th style="padding: 2px;">Critical Thinking</th> <th style="padding: 2px;">Global</th> <th style="padding: 2px;">Personal Responsibility</th> </tr> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <th style="padding: 2px;">Math</th> <th style="padding: 2px;">Science</th> <th style="padding: 2px;">Language Arts</th> <th style="padding: 2px;">Social Studies</th> <th style="padding: 2px;">Fine/Visual Arts</th> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X				X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings: <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Blueprinting is the most important aspect of fabrication. ➤ Blueprint reading is the first step to becoming a successful welder. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ Why are blueprints important? ➤ What are the common aspects found in all blueprints? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ How to read a simple blueprint. ➤ How to design a simple blueprint. ➤ How to apply a simple blueprint to fabricate a small welded project. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Produce a fabricated part from a blueprint. ➤ Complete a blueprint examination. 																				
<h2 style="margin: 0;">Stage 2 – Assessment Evidence</h2>																					
<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Follow simple blueprints to complete a fabricated weld joint. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Scores based on a 10 point scale with acceptance only allowed on welds scored 7 and above. 																				

Basic Welding Curriculum Design

Stage 3 – Learning Plan:

Describe basic blueprinting concepts and be able to draw a simple blueprint.

Power Benchmark/Competency: #3

Learning Activities:	Resources:
Reading blueprints to complete welds in conjunction with other course competencies.	

Basic Welding Curriculum Design

Stage 1 – Desired Results:

Power Standard 2: Set up and troubleshoot welding parameters.

Power Benchmark/Competency #4:

Demonstrate the proper set-up and procedures for GMAW welding.

Estimated Timeline: 9 weeks

Place 'X' in square if goal addresses Essential/Content Standard(s).

Career	Technology	Critical Thinking	Global	Personal Responsibility
X				X
Math	Science	Language Arts	Social Studies	Fine/Visual Arts

Understandings:

Students will understand that...

- GMAW is the most widely used form of arc welding found in industry today.
- The skills attained in GMAW training will provide them the basics to pursuing a career as a welder.

Essential Questions:

- What is the difference between SMAW and GMAW welding.
- What are the five essentials of GMAW welding.

Students will know...

- How to operate a GMAW welding power supply.
- How to point out weld defects found in GMAW welds.
- How to modify machine settings to create the desired weld characteristics.

Students will be able to (i.e. do)...

- Demonstrate the ability to complete quality GMAW welds in the flat position and evaluate the welds for quality.

Stage 2 – Assessment Evidence

Performance Tasks: (i.e. Assessment used to determine proficiency on competency)

- Series of welds completed which utilize the GMAW process.

Key Criteria: (Rubric)

- Scores based on a 10 point scale with acceptance only allowed on welds scored 7 and above.

Basic Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrate the proper set-up and procedures for GMAW welding.

Power Benchmark/Competency: # 4

Learning Activities:	Resources:
Daily welding activities. All welds to be completed utilizing GMAW process.	

Basic Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 4: Operate efficiently in a full functioning manufacturing environment.</p> <p>Power Benchmark/Competency #5: Demonstrates appropriate measuring techniques.</p> <p>Estimated Timeline: 1 week</p>	<p>Place 'X' in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr style="background-color: #ffff00;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffff00;"> <th style="padding: 5px;">Math</th> <th style="padding: 5px;">Science</th> <th style="padding: 5px;">Language Arts</th> <th style="padding: 5px;">Social Studies</th> <th style="padding: 5px;">Fine/Visual Arts</th> </tr> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts	X				
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<p>Understandings: <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Measurement is an essential part of project completion and mandatory in the industrial world. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ Why is proper measurement such an essential part of the day to day activities of the working industrial world. 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ The correct techniques to measure using a tape measure and ruler. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Demonstrate through the use of daily activities the ability to measure correctly. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Measurement exam completed prior to beginning shop activities. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Complete with 100% accuracy an accepted measurement exam.
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Basic Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrates appropriate measuring techniques.

Power Benchmark/Competency: # 5

Learning Activities:	Resources:
Measurement exercises utilizing rulers and tape measures.	
Accountability for proper measurement in daily activities.	

Basic Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 3: Complete welds in the major processes: SMAW, GMAW, GTAW.</p> <p>Power Benchmark/Competency #6: Demonstrates appropriate ox-ace cutting equipment usage and welding techniques.</p> <p>Estimated Timeline: 9 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr style="background-color: #ffffcc;"> <th style="padding: 2px;">Career</th> <th style="padding: 2px;">Technology</th> <th style="padding: 2px;">Critical Thinking</th> <th style="padding: 2px;">Global</th> <th style="padding: 2px;">Personal Responsibility</th> </tr> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <th style="padding: 2px;">Math</th> <th style="padding: 2px;">Science</th> <th style="padding: 2px;">Language Arts</th> <th style="padding: 2px;">Social Studies</th> <th style="padding: 2px;">Fine/Visual Arts</th> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X				X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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X				X																	
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<p>Understandings: <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Gas welding is vital concept in weld training and important to the initial welding learning process. ➤ The understanding of gas welding leads to increased success in the process of GTAW welding taught in future courses. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What is the relevance of gas welding today? ➤ When will gas welding be a skill I will need to learn? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ The correct techniques to set-up and utilize ox-ace welding equipment. ➤ The appropriate circumstances in which ox-ace welding is necessitated. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Demonstrate through the use of daily activities the ability to weld utilizing the gas process. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Series of welds completed to display proficiency. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Scores based on a 10 point scale with acceptance only allowed on welds scored 7 and above.
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Basic Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrates appropriate ox-ace cutting equipment usage and welding techniques.

Power Benchmark/Competency: # 6

Learning Activities:	Resources:
Daily welds	
Ox-ace safety and set-up exam.	

Basic Welding Curriculum Design

Stage 1 – Desired Results:

Power Standard 3: Complete welds in the major processes: SMAW, GMAW, GTAW.

Power Benchmark/Competency #7:
Demonstrates appropriate plasma cutting equipment usage and cutting techniques.

Estimated Timeline: 9 weeks

Place 'X' in square if goal addresses Essential/Content Standard(s).

Career	Technology	Critical Thinking	Global	Personal Responsibility
X				X
Math	Science	Language Arts	Social Studies	Fine/Visual Arts

Understandings:
Students will understand that...

- Gas cutting is vital concept in weld training and important to the initial cutting learning process.
- The understanding of gas cutting leads to increased success in the process of plasma cutting taught in future courses.

Essential Questions:

- What is the relevance of gas cutting in today's industrial arena.
- When will gas cutting skills be essential?
- What techniques are replacing gas cutting as the industry standard?

Students will know...

- The correct techniques to set-up and utilize ox-ace cutting equipment.
- The appropriate circumstances in which ox-ace cutting is necessitated.

Students will be able to (i.e. do)...

- Demonstrate through the use of daily activities the ability to cut utilizing the gas process.

Stage 2 – Assessment Evidence

Performance Tasks: (i.e. Assessment used to determine proficiency on competency)

- Series of cuts completed to display proficiency.

Key Criteria: (Rubric)

- Scores based on a 10 point scale with acceptance only allowed on welds scored 7 and above.

Basic Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrates appropriate plasma cutting equipment usage and cutting techniques.

Power Benchmark/Competency: #7

Learning Activities:	Resources:
Inclusion of the cutting process on daily welds.	
Ox-ace cutting safety and set-up exam.	

Basic Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 1: Utilize hand tools in their proper application in a safe manner.</p> <p>Power Benchmark/Competency #8: Demonstrate the proper use of power tools.</p> <p>Estimated Timeline: 18 weeks</p>	<p>Place ‘X’ in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #ffffcc;"> <th style="padding: 2px;">Career</th> <th style="padding: 2px;">Technology</th> <th style="padding: 2px;">Critical Thinking</th> <th style="padding: 2px;">Global</th> <th style="padding: 2px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <th style="padding: 2px;">Math</th> <th style="padding: 2px;">Science</th> <th style="padding: 2px;">Language Arts</th> <th style="padding: 2px;">Social Studies</th> <th style="padding: 2px;">Fine/Visual Arts</th> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X				X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings: <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Power tools are an efficient way to effectively cut raw material to a given dimension. ➤ Power tools are necessary to a full service fabrication atmosphere. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What is the benefit of power tool usage? ➤ How does a chop saw work? ➤ How do hand grinders work?
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<p>Students will know...</p> <ul style="list-style-type: none"> ➤ The role power tools play in speeding up the work completed in a shop environment. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Routinely utilize the chop saw and angle grinders and aid in material acquisition for weld completion.
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Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Series of welds completed which incorporate power tool usage for completion. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Scores based on a 10 point scale with acceptance only allowed on welds scored 7 and above.
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Basic Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 4: Operate efficiently in a full functioning manufacturing environment.</p> <p>Power Benchmark/Competency #9: Demonstrates emergency and safety rules.</p> <p>Estimated Timeline: 18 weeks</p>	<p>Place 'X' in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr style="background-color: #ffffcc;"> <th style="padding: 2px;">Career</th> <th style="padding: 2px;">Technology</th> <th style="padding: 2px;">Critical Thinking</th> <th style="padding: 2px;">Global</th> <th style="padding: 2px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <th style="padding: 2px;">Math</th> <th style="padding: 2px;">Science</th> <th style="padding: 2px;">Language Arts</th> <th style="padding: 2px;">Social Studies</th> <th style="padding: 2px;">Fine/Visual Arts</th> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> <td style="padding: 2px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings : <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ Safety is a life skill important in all aspects of the working world. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What are the realistic consequences for unsafe behaviors in an industrial setting. 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ The expected behaviors associated with an industrial setting. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Demonstrate through classroom activities the proper safety attitudes. 																				

Stage 2 – Assessment Evidence

<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Safety exam to be completed prior to industrial shop work. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Complete with 100% accuracy an accepted safety exam. ➤ Analyze safety incidents to determine causation.
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Basic Welding Curriculum Design

Stage 3 – Learning Plan:

Demonstrates emergency and safety rules.

Power Benchmark/Competency: # 9

Learning Activities:	Resources:
Safety lecture complete with equipment demonstrations and safety concerns	

Basic Welding Curriculum Design

Stage 1 – Desired Results:

<p>Power Standard 2: Set up and troubleshoot welding parameters.</p> <p>Power Benchmark/Competency #10: Identify and troubleshoot weld defects.</p> <p>Estimated Timeline: 9 weeks</p>	<p>Place 'X' in square if goal addresses Essential/Content Standard(s).</p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <thead> <tr style="background-color: #ffffcc;"> <th style="padding: 5px;">Career</th> <th style="padding: 5px;">Technology</th> <th style="padding: 5px;">Critical Thinking</th> <th style="padding: 5px;">Global</th> <th style="padding: 5px;">Personal Responsibility</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> <td style="padding: 5px;"></td> <td style="padding: 5px;">X</td> </tr> <tr style="background-color: #ffffcc;"> <td style="padding: 5px;">Math</td> <td style="padding: 5px;">Science</td> <td style="padding: 5px;">Language Arts</td> <td style="padding: 5px;">Social Studies</td> <td style="padding: 5px;">Fine/Visual Arts</td> </tr> <tr> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> <td style="padding: 5px;"></td> </tr> </tbody> </table>	Career	Technology	Critical Thinking	Global	Personal Responsibility	X		X		X	Math	Science	Language Arts	Social Studies	Fine/Visual Arts					
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<p>Understandings: <i>Students will understand that...</i></p> <ul style="list-style-type: none"> ➤ There is a difference between an acceptable and unacceptable weld. ➤ Welding defects need to be addressed and corrected. 	<p>Essential Questions:</p> <ul style="list-style-type: none"> ➤ What is a weld defect? ➤ How do weld defects occur? 																				
<p>Students will know...</p> <ul style="list-style-type: none"> ➤ What causes weld defects. ➤ How to properly adjust weld essentials to eliminate weld defects. 	<p>Students will be able to (i.e. do)...</p> <ul style="list-style-type: none"> ➤ Examine completed welds and ascertain the reasons for specific outcomes. 																				
<h3 style="margin: 0;">Stage 2 – Assessment Evidence</h3>																					
<p>Performance Tasks: (i.e. Assessment used to determine proficiency on competency)</p> <ul style="list-style-type: none"> ➤ Series of welds completed to display proficiency in examination. 	<p>Key Criteria: (Rubric)</p> <ul style="list-style-type: none"> ➤ Scores based on a 10 point scale with acceptance only allowed on welds scored 7 and above. 																				

