

# TIG WELDING

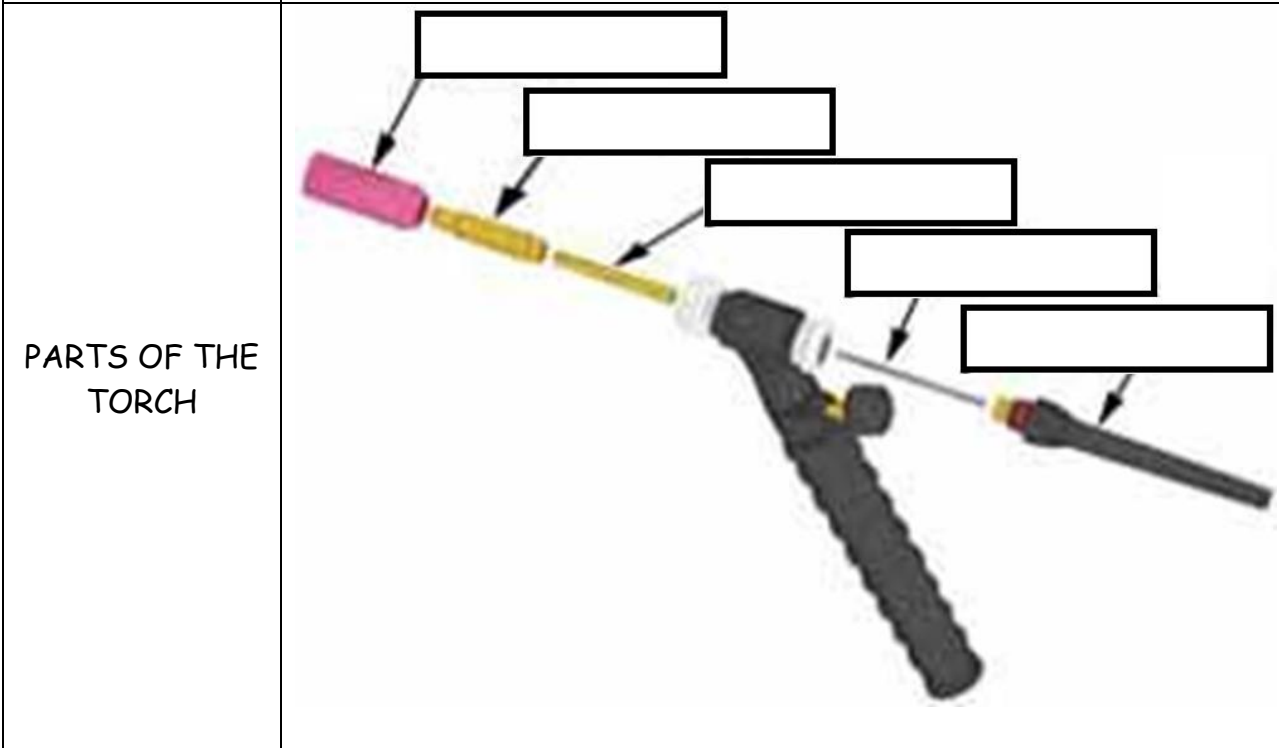
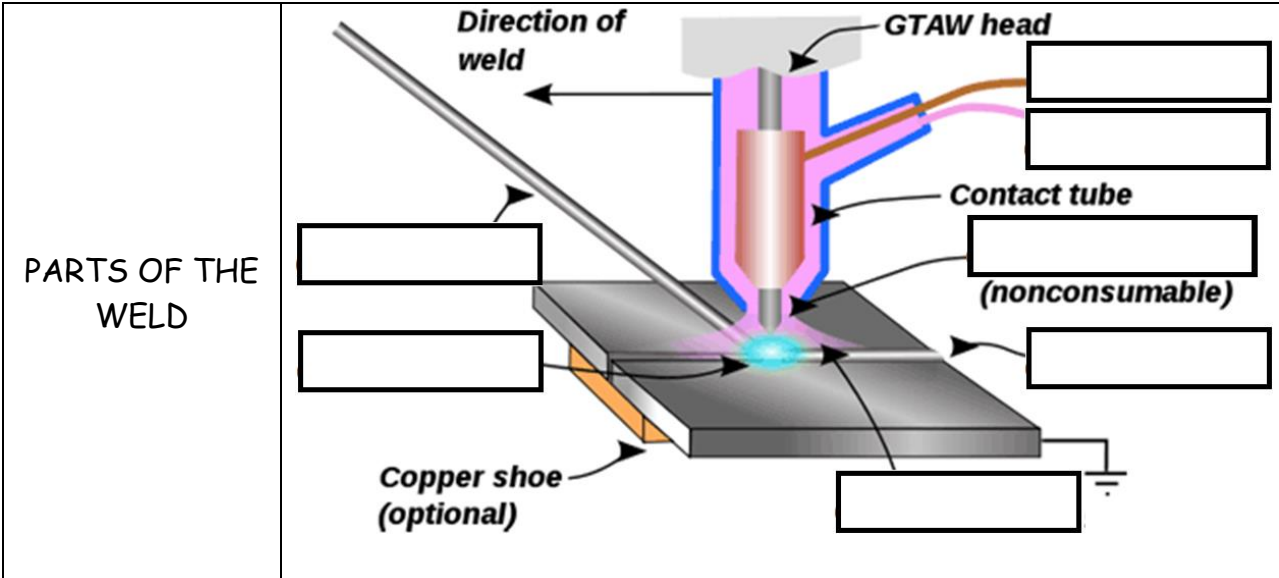
The Basics

NAME: \_\_\_\_\_

Complete the following table neatly:


NAME	PURPOSE, TIPS, SAFETY, & THINGS TO LOOK OUT FOR
<p>WHAT IT'S ABOUT</p>	<ul style="list-style-type: none"> <li>• The most _____ to learn</li> <li>• Could be " _____ " welding process</li> <li>• Pinpoint _____ and heat control</li> <li>• Can weld:               <ul style="list-style-type: none"> <li>○ _____ (TIG is the best!)</li> <li>○ Steel</li> <li>○ Stainless Steel</li> </ul> </li> <li>• It can Braze &amp; _____</li> </ul>
<p>WHAT TIG IS ABOUT</p>	<ul style="list-style-type: none"> <li>• Electric _____ melts the base metal through a _____ Electrode</li> <li>• FILLER metal is added by _____</li> <li>• Weld bead is protected by an _____ _____</li> </ul>
<p>VIDEO - 10 MINUTE TIG WELDING JOBS</p>	

<p>CLEANLINESS &amp; GROUNDS</p>	<ul style="list-style-type: none"> <li>• TIG is FUSSY about _____</li> <li>• Bare &amp; _____ metal</li> <li>• Use _____ wire brush</li> <li>• Wash in _____ or _____ thinner</li> <li>• A good _____ is important</li> <li>• Clamp the ground cable as _____ as you can to the weld</li> </ul>
<p>SHIELDING</p>	<ul style="list-style-type: none"> <li>• Molten metal absorbs _____ = BAD</li> <li>• Shield the weld with an Inert Gas:</li> <li>• "Inert" = " _____ "</li> <li>• 100% _____</li> <li>• About _____ cfh</li> <li>• Shielding gas will continue to flow _____ the welding is stopped</li> <li>• About 1sec per 10amps</li> <li>• Keep bead _____</li> </ul>



**SAFETY**

- Wear a full-face \_\_\_\_\_  
\_\_\_\_\_



SKIN  
PROTECTION

- Um..... I TIG in a long sleeve T-shirt. Shhhhh....
- There are:
  - No \_\_\_\_\_
  - No \_\_\_\_\_
  - No \_\_\_\_\_
  - It's very clean and quiet
- Cover \_\_\_\_\_ ! (Use Leather)
- 15 minutes welding exposure = 10 hours sun exposure.


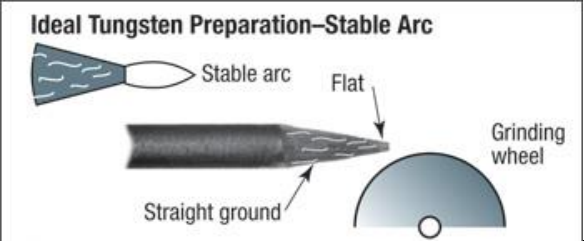



LUNG  
PROTECTION

- Well \_\_\_\_\_ Area
- Welding Fumes have been known to cause:
  - \_\_\_\_\_ Birth Defects
  - Lung damage
  - \_\_\_\_\_ damage
  - Eye Damage
  - \_\_\_\_\_ damage
  - \_\_\_\_\_

[http://www.ccohs.ca/oshanswers/safety\\_haz/welding/fumes.html](http://www.ccohs.ca/oshanswers/safety_haz/welding/fumes.html)

<p style="text-align: center;">SAFETY</p>	<ul style="list-style-type: none"> <li>• NO _____</li> <li>• Lots of stories of explosion</li> <li>• Lots of stories that this is false</li> <li>• Let's play it safe, and not become "that guy"</li> </ul>
<p style="text-align: center;">ON/OFF &amp; HEAT</p>	<ul style="list-style-type: none"> <li>• "Heat" (current output) is fine-tuned by the _____</li> <li>• _____ _____ for on/off and _____ _____ for current</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>• _____ _____ for both</li> </ul>
<p style="text-align: center;">AMPERAGE</p>	<ul style="list-style-type: none"> <li>• 1 Amp per _____"</li> <li>• 10A for 0.010"</li> <li>• _____ for 0.063"</li> <li>• 100A for _____"</li> <li>• Steel &amp; Stainless use _____ CURRENT</li> <li>• Aluminum use _____ CURRENT</li> </ul>

<p>TUNGSTEN</p>	<ul style="list-style-type: none"> <li>• Diameter selected by _____ <ul style="list-style-type: none"> <li>○ 1/16" (up to ~ _____ Amps)</li> <li>○ 3/32" (150 to ~ _____ Amps)</li> <li>○ 1/8" (200 to ~ _____ Amps)</li> </ul> </li> <li>• Many different types <ul style="list-style-type: none"> <li>○ Pure Tungsten</li> <li>○ 2% Thoriated (Radioactive)</li> <li>○ 2% _____ (we use this)</li> <li>○ 1.5% Lanthanated</li> <li>○ Zirconiated</li> </ul> </li> <li>• Point length is _____ times the Tung diameter</li> </ul> 
<p>MAINTAINING THE ELECTRODE</p>	<ul style="list-style-type: none"> <li>• The instant the tung touches the puddle or the rod, it's _____</li> <li>• Grind _____ to the grinding wheel.</li> <li>• Point length is 2-1/2 times the diameter</li> </ul> 

<p>FILLER ROD</p>	<ul style="list-style-type: none"> <li>• Many different types, all identified by number</li> <li>• Common: <ul style="list-style-type: none"> <li>○ Aluminum = _____</li> <li>○ Steel = _____</li> <li>○ Stainless = _____</li> </ul> </li> </ul> 
<p>TIG TIPS</p>	<ul style="list-style-type: none"> <li>• Do a "_____ " to see if you can actually complete the full weld length</li> <li>• _____ your hands on something</li> <li>• Filler rod should be applied _____ to the Tungsten</li> <li>• Watch the puddle _____ into the metal before you add filler</li> <li>• No matter how slow you think you are going, go _____</li> </ul>
<p>VIDEO - How To TIG Weld (Miller)</p>	