



MIG Welding

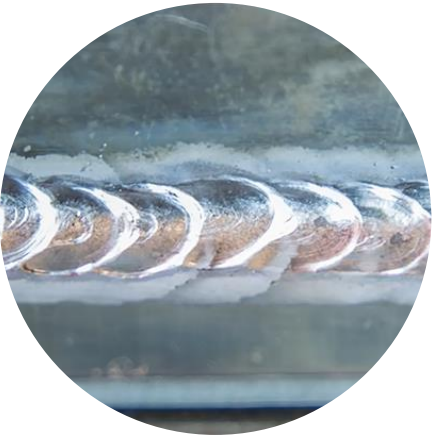
INTRODUCTION

Next 3 lessons



Lesson 1

MIG welding basics



Lesson 2

- - Half class welding
- - Half class designing
- their sculpture



Lesson 3

- Half class welding
- - Half class designing
- their sculpture

Lesson 1 - MIG welding basics

3 expectations I have of you today:

1. offer something to the discussion - participate
2. Show respect for yourself and others
3. Complete the revision sheet (it's easy)

3 expectations from me to you:

1. You will be treated as a young tradesman
2. You will be treated with respect
3. This is a supportive classroom

Reward and rules

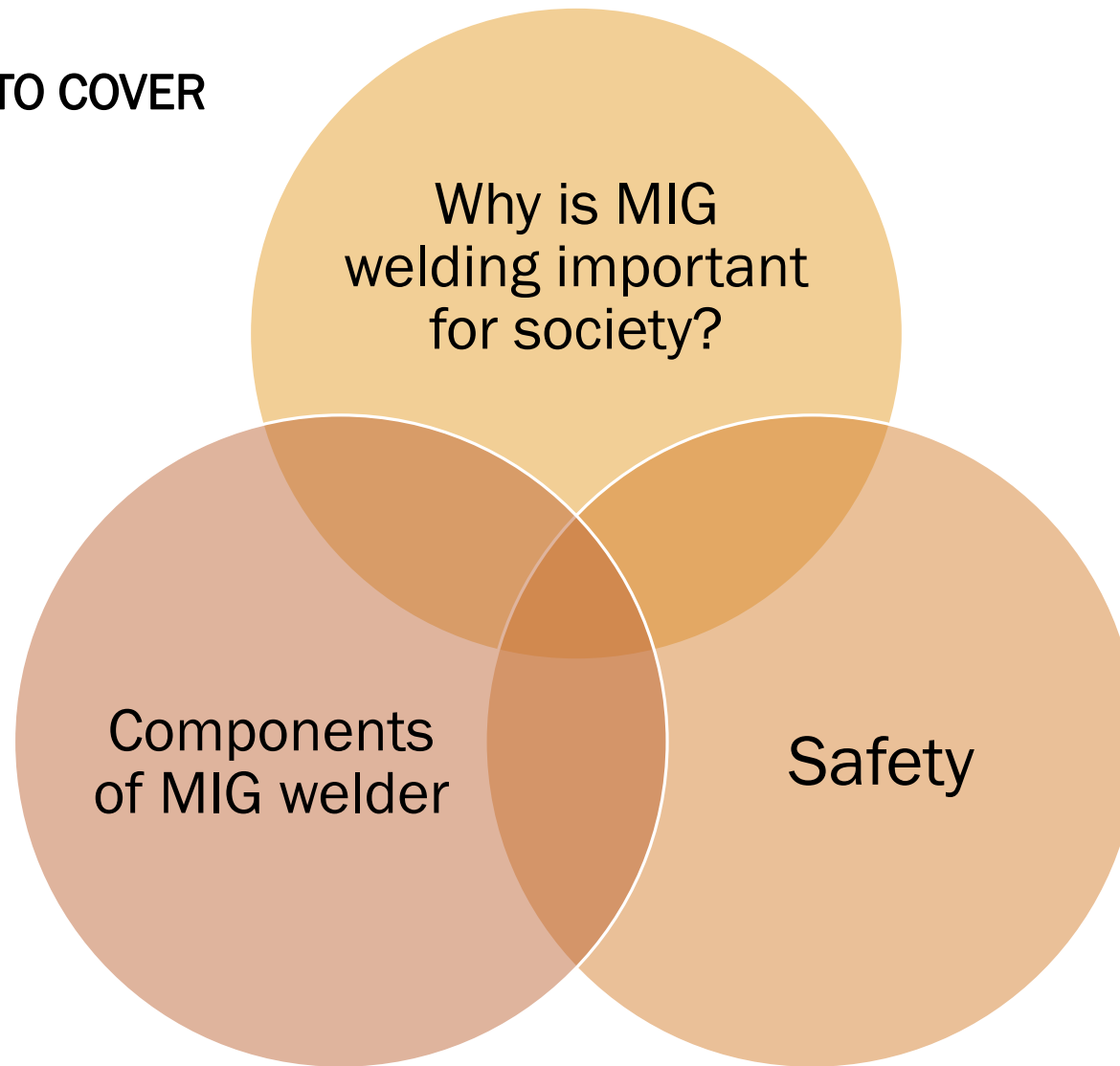
- Revision sheet must be completed i.e. exit ticket
- A perfect score (15/15) is a 'wild card' i.e. choose where you want to go in the running order for lesson 2.
- The revision sheet must be handed back with your name on it. If it **doesn't have your name**, you start in the no.1 position for lesson 2.
- The lower the marks, the higher in the running order you go. See below.



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15th wild card Revision mark

1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th 15th Welding order

3 AREAS WE NEED TO COVER



But first.....

MIG stands for **M**etal **I**nert **G**as welding.

M I G

It is a process where a continuous solid wire electrode is fed through the welding gun and shielded by an inert gas to prevent contamination.

Extra points A.K.A. **G**as **M**etal **A**rc **W**elding

G M A W

MIG Welding Setup

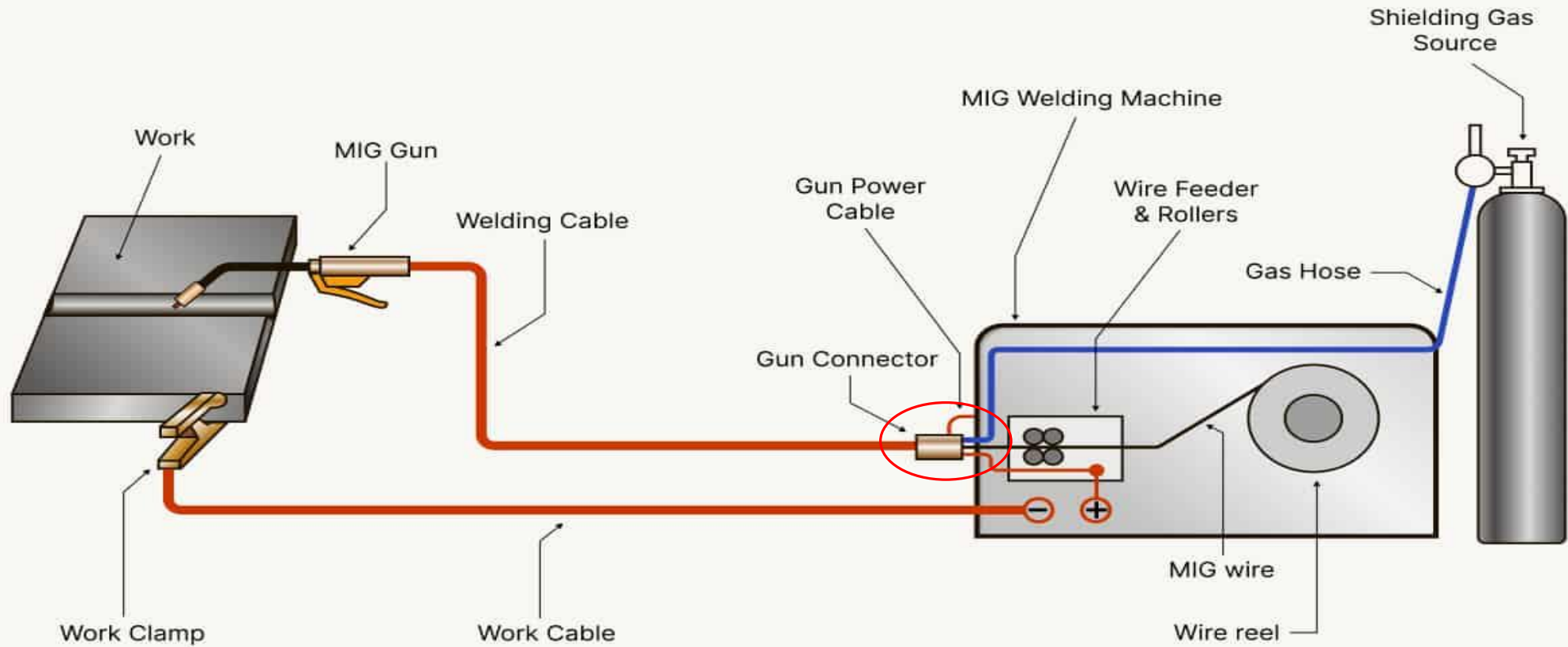


Diagram by weldguru.com





Why is MIG welding important?

It's used everywhere because it can be used on variety of metals

- Mild steel
- Stainless steel
- aluminium / aluminium alloys
- Magnesium
- other non-ferrous metals

Why is MIG welding important?

Automotive Industry

Construction and
Infrastructure

Fabrication and
Metal Workshops

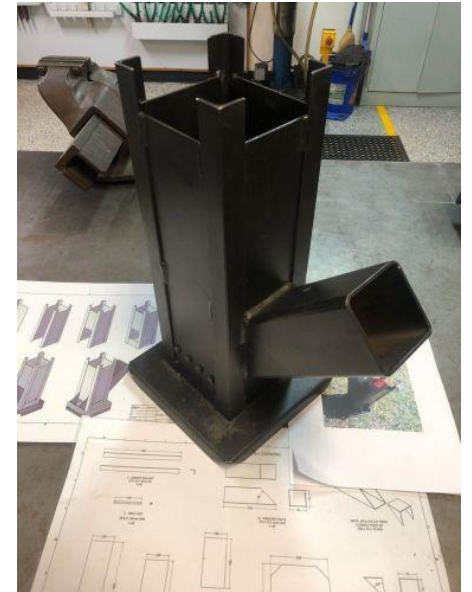
Shipbuilding and
Marine Industry

Aerospace
Industry

Manufacturing
Industry

Agricultural
Equipment

Home and DIY
Projects



Why is MIG welding important?

Construction and
Infrastructure



Home and DIY
Projects

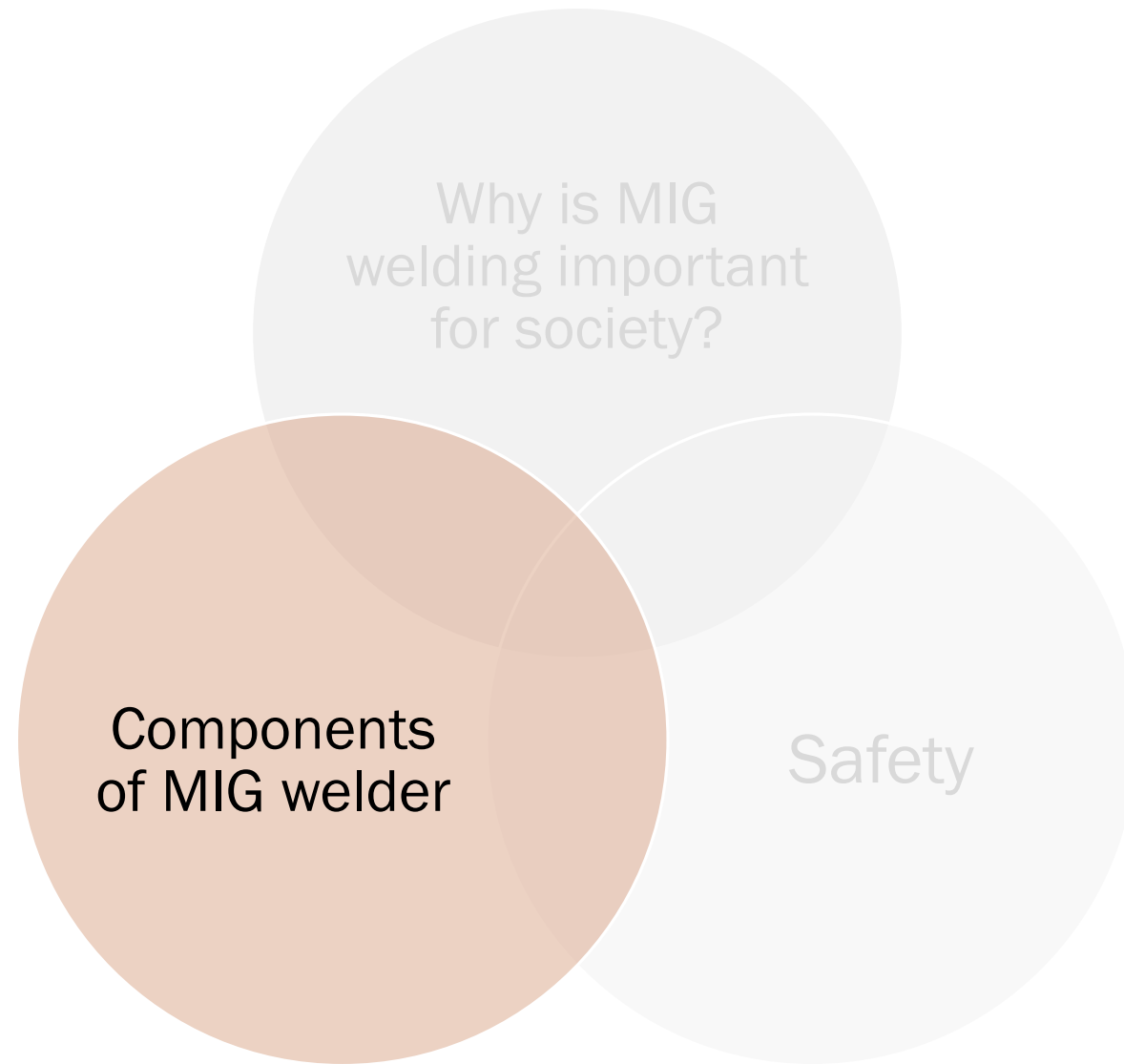
Why is MIG welding important?

<https://www.youtube.com/watch?v=dX-6AKABw9k>

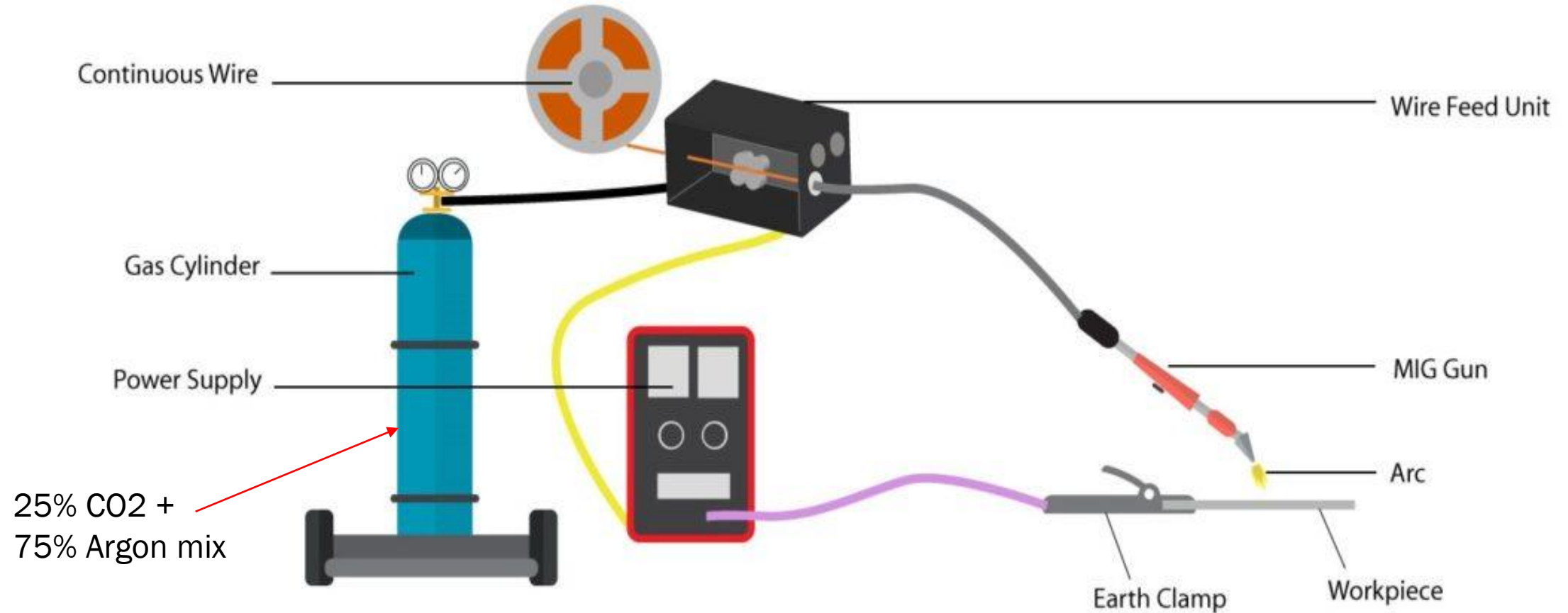
Why is MIG welding important?

Why is it used everywhere?

1. Versatility and Wide Application
2. Efficiency and Speed
3. Strong and Reliable Welds
4. Ease of Use
5. Reduced Costs
6. Automation Capability



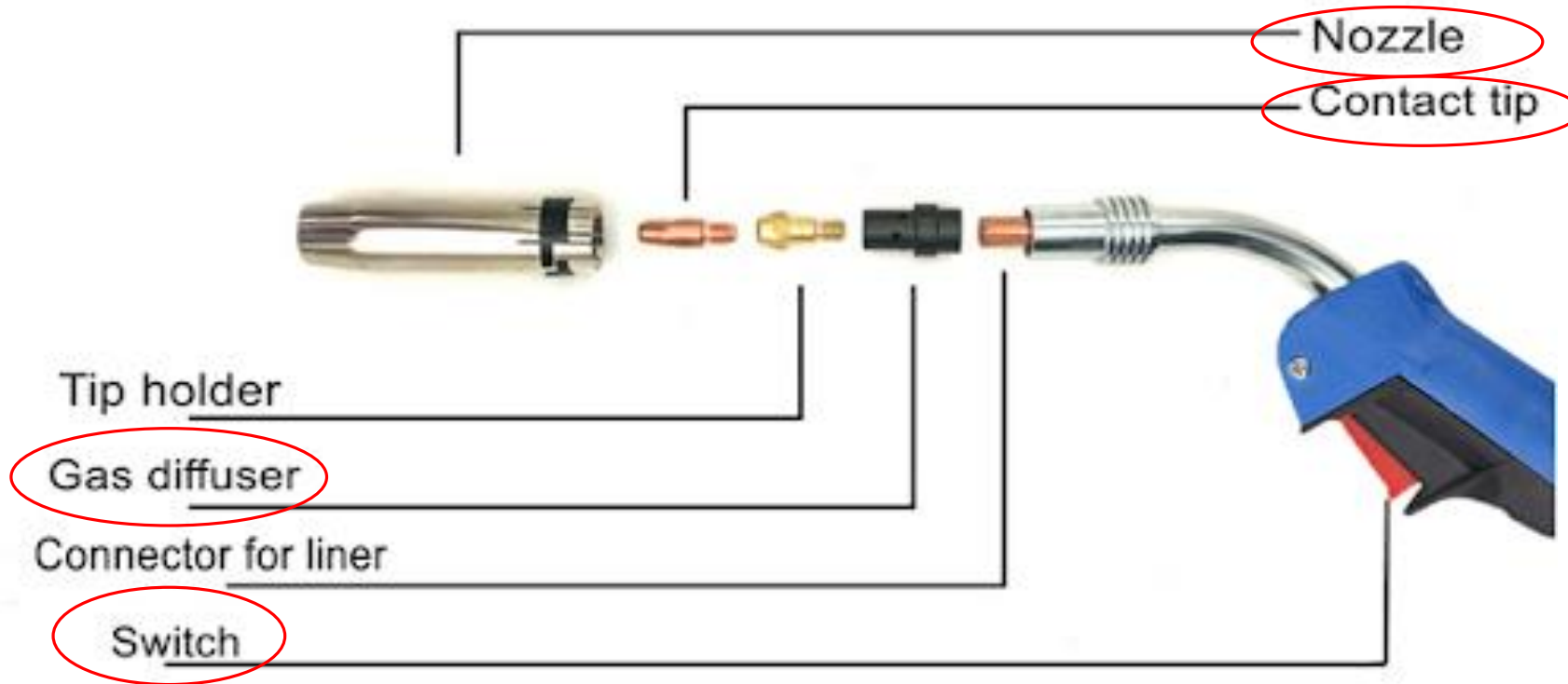
Components of MIG welder

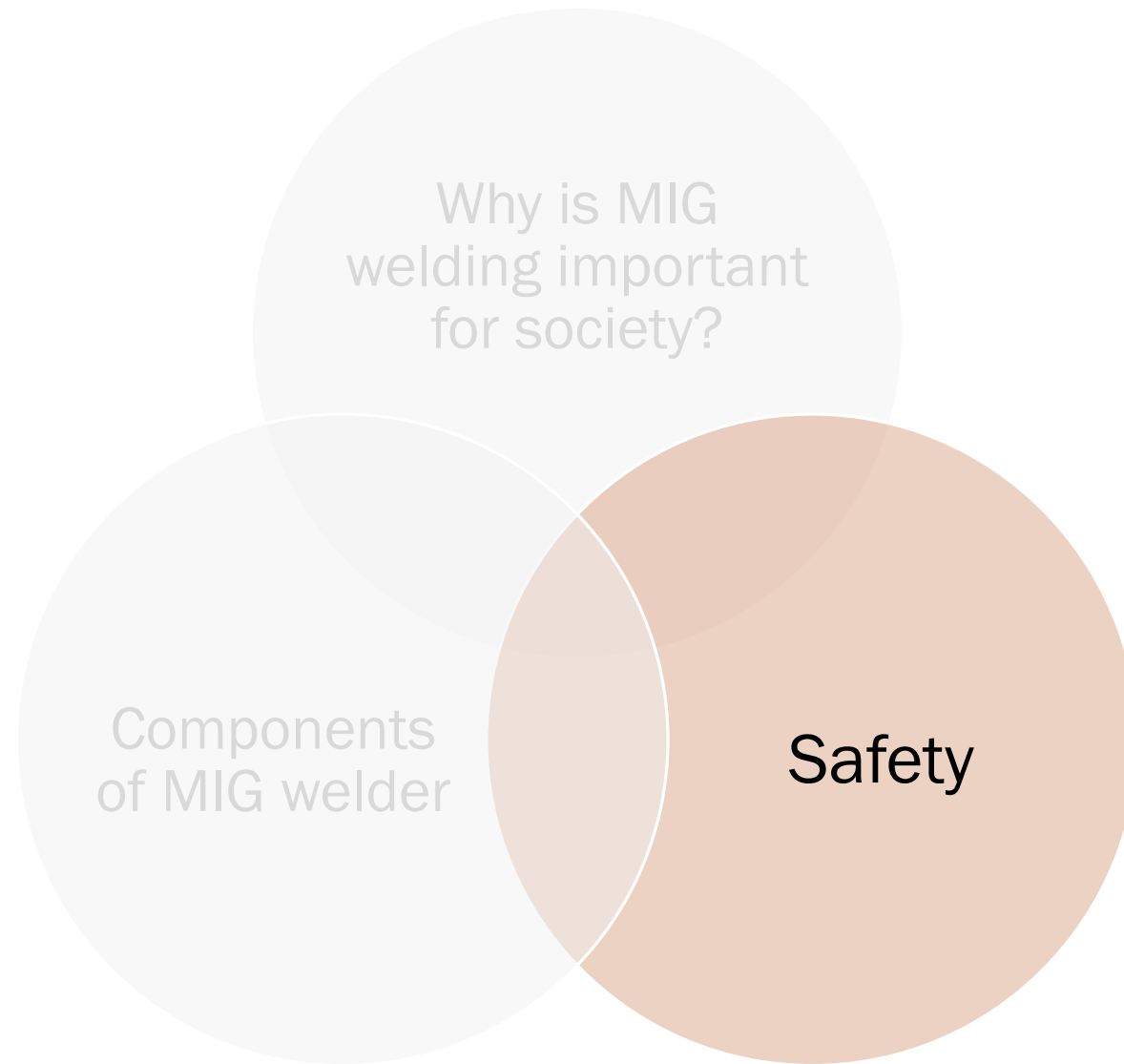




What is
MIG

Components of MIG welding torch







Safety

Safety

- **Safety Glasses:** Even under the welding helmet, safety glasses are required to protect from flying debris when the helmet is lifted as well as protect from UV exposure.
- **Closed-Toe Shoes and Spats:** Steel-toed boots or other closed-toe footwear should be worn to protect feet from falling objects and sparks. Spats protect the shoes from spatter.
- **Ear Protection:** In cases where the work environment is noisy, earplugs or earmuffs should be used.

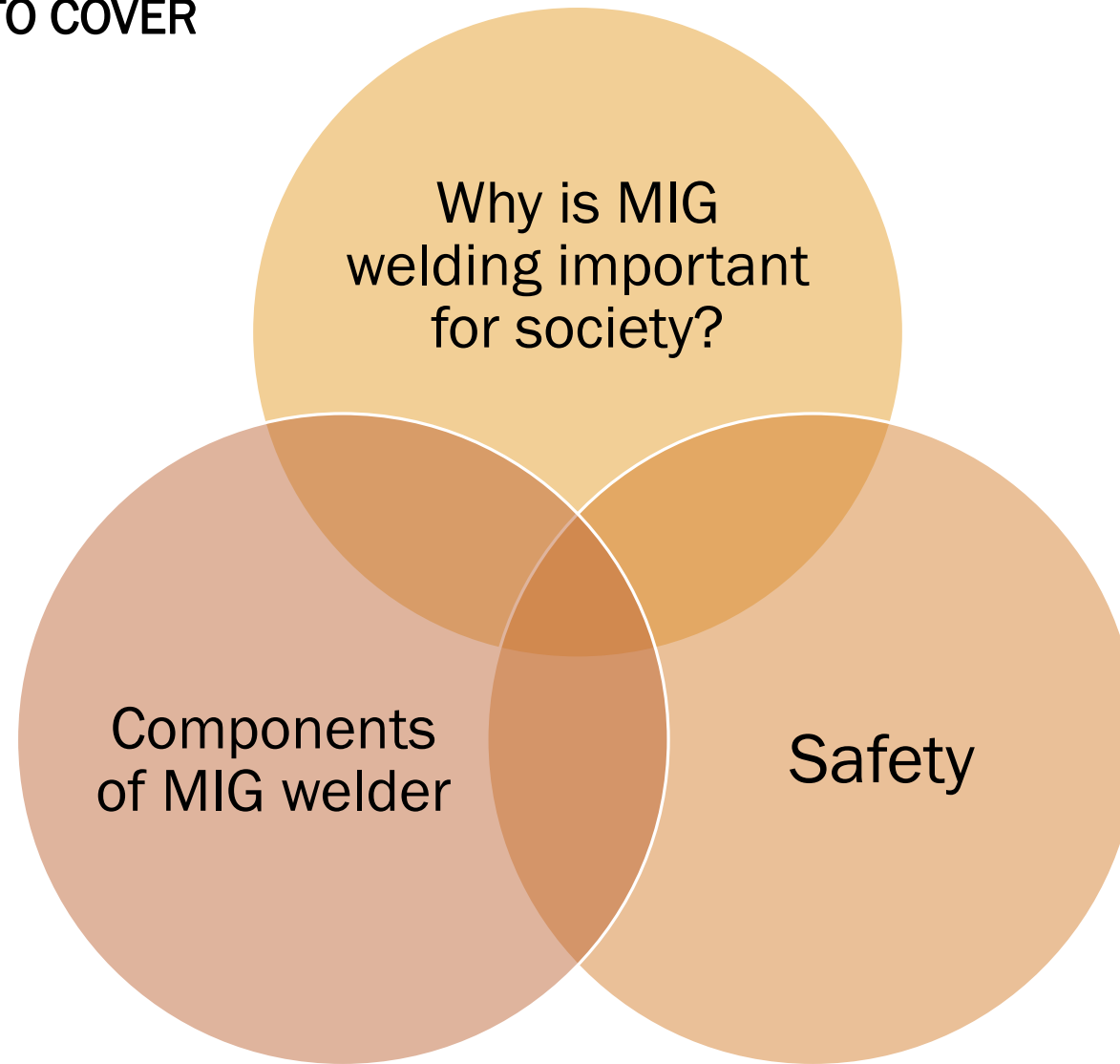


Safety

- **Welding Helmet:** Students must wear a welding helmet with the appropriate shade lens (typically a shade 10 or higher) to protect their eyes and face from UV and IR radiation.
- **Gloves:** Use flame-resistant welding gloves to protect hands from heat, sparks, and electrical shocks.
- **Welding Jacket or Apron:** Wear flame-resistant clothing or a welding jacket to protect the body from sparks and heat. Avoid synthetic fabrics that can melt.



3 AREAS WE NEEDED TO COVER



You have been shown everything you need to know for lessons 2 and 3.

ACTION STEPS

1. Complete your revision sheet and hand it in when done
2. Sort out your steel fabricating teams
3. Start researching your nuts and bolt sculpture design
4. One sculpture per team