Lesson Focus	Introduction to MIG (Metal Inert Gas) Welding		**Learning Area (Curriculum)**	Industrial Design and Technology	
Year Level	10	**Implementation Date**	28/10/24	**Lesson duration**	70 mins

Prior knowledge of learners (What do they already know about this concept/topic/skill?)

Students are familiar with MIG welding setups, safety procedures, and have begun practical welding applications. They have been introduced to the DAM acronym for welding technique and demonstrated readiness and enthusiasm for hands-on projects.

Links to Curriculum (identify relevant Strands and Content Descriptors)

- *Apply knowledge of materials, components, and techniques to creatively solve design problems (**ACTDEK043**).*
- *Develop skills in using tools and equipment to create works that communicate ideas (**ACTDEK049**).*

Learning objectives (Declarative - knowledge)

1. *Design and plan a sculpture using nuts and bolts to reinforce the application of MIG welding skills.*
2. *Demonstrate MIG welding techniques by constructing sculptures.*
3. *Strengthen understanding of safety protocols through continued application during complex tasks.*

Learning objectives (Procedural – skills)

1. *Demonstrate the setup of a MIG welding station.*
2. *Perform safety checks before starting the welding process.*
3. *Apply correct techniques for welding metal pieces together.*

Key Resources

- *MIG welders*
- *Personal protective equipment (PPE)*
- *Assorted nuts and bolts for sculpture*
- *Sketch pads and pencils for design phase*

1. Lesson Introduction *(introduce the topic and engage the learners)*

Timing	**What you will do (your teaching steps)**	
10 min	Recap of the previous lesson's key points, emphasising safety and technique.	• What are your expectations for the lesson? • What is your hook to engage the learners? • What are your key prompts? • What questions will you ask? • How will you check for understanding/learning?

2. Lesson Body *(Teaching the content through specific strategies)*		
Timing	**What you will do (your teaching steps)**	
50 min	**25 min: Round 1 & 2 welders (previous lesson)** Design phase, where students sketch their nut and bolt sculpture ideas. Discuss the importance of design in engineering with peers and the instructor. **25 min: Round 3 welders** Practical welding phase, round 3 welders try welding for the first time. Focus on technique refinement and creative expression. Rotate through stations for personalised coaching. **25 min:** All fabricating teams start putting their sculptures together.	• What strategies are you using to teach the content? • What are your key prompts? • What questions will you ask? • How will you check for understanding/learning?
3. Lesson Conclusion *(concluding activities, review, check for learning)*		
Timing	**What you will do (your teaching steps)**	
10 min	Pack up Group reflection on the day's work and discuss challenges and successes. Set expectations for the next steps in completing the sculpture project in upcoming classes.	• How will you summarise the key learnings? • How do you wrap up the lesson? • How will you check for understanding/learning?

Lesson Reflection

What worked well or was successful? *(The What)*

What did not work well or could be improved? *(The What)*

Why do I think this occurred? *(The So What)*

What does this mean for your teaching practice and decision-making next time? *(The What Next)*