

This unit is designed for Year 9 students at *Random High School*, located in Random, New South Wales. The subject focus is on Industrial Technology – specifically, metalwork – where students are introduced to practical skills in metalworking with an emphasis on safety, precision, and effective project planning. The unit aligns with *NESA* Industrial Technology outcomes, focusing on developing core competencies in Work Health and Safety (WHS), tool handling, and hands-on project-based learning. Throughout the term, students will engage in a series of lessons designed to build their skills progressively, culminating in the construction of a toolbox, where they will apply techniques in measuring, cutting, shaping, and joining metal materials to produce a functional final project.

Student Profiles

Student A: Sarah

Sarah is a student with dyslexia, which impacts her reading, writing, and processing speed. She finds it challenging to interpret written instructions and can feel overwhelmed by complex language. To support her learning, Sarah benefits from visual aids, hands-on guidance, and simplified, concise language. Adjustments for Sarah will include visual resources, step-by-step instruction cards, and extended time for tasks. These supports will help her fully engage in the practical aspects of metalwork, especially in activities requiring detailed, sequential instructions.

Student B: James

James is a student with ADHD, which affects his ability to focus, organise tasks, and manage time effectively. He thrives on short, interactive tasks and benefits from frequent check-ins and positive reinforcement. To help James stay engaged and organised, tasks will be broken down into smaller, manageable steps, with opportunities for movement-based activities and regular feedback. These adjustments will be essential for James to maintain focus and successfully participate in the workshop setting, where careful, sequential actions are required.



By incorporating these tailored adjustments for Sarah and James, this unit aims to create an inclusive and supportive learning environment. Addressing diverse learning needs within the classroom ensures that all students are provided with the resources and guidance needed to succeed in the hands-on, skill-based learning central to Industrial Technology.



Course: Industrial Technology Metal	Teaching Period: Term 2
Subject Area: Core Module Metal 1.	Unit Length: 8 weeks 4hr/wk
<p>Unit Overview:</p> <p>This unit is designed to expose students to a range of practical experiences using sheet metal, while addressing the content from the Core Module Metal 1. The focus throughout the unit is accuracy, quality and safety. This should be emphasised at all stages of program delivery in both practical and theory components. It should be noted that the delivering teacher has the capacity to change projects and experiences to cater for school and student need within the school context</p>	
<p>Rationale:</p> <p>The course is designed to progressively build students' competencies through structured projects—beginning with tool safety and basic exercises (such as the Soft Jaws project) and advancing to a more complex Toolbox project. Weekly breakdowns specify learning outcomes aligned with practical and theoretical tasks, allowing students to gain familiarity with tools and processes while meeting specific standards. Differentiated learning strategies are also integrated to accommodate individual student needs, ensuring inclusivity and support.</p> <p>In summary, this unit seeks to enhance students' metalworking skills in a safe environment, encourage precision, foster teamwork, and apply new knowledge in various projects. The gradual progression and practical assessments are geared toward building a solid foundation in metalworking skills and WHS best practices.</p>	
<p>Learning Outcomes:</p> <ul style="list-style-type: none"> • IND5-1 identifies, assesses, applies and manages the risks and WHS issues associated with the use of a range of tools, equipment, materials, processes and technologies • IND5-3 identifies, selects and uses a range of hand and machine tools, equipment and processes to produce quality practical projects • IND5-4 selects, justifies and uses a range of relevant and associated materials for specific applications • IND5-6 identifies and participates in collaborative work practices in the learning environment • IND5-7 applies and transfers skills, processes and materials to a variety of contexts and projects • IND5-8 evaluates products in terms of functional, economic, aesthetic and environmental qualities and quality of construction • IND5-9 describes, analyses and uses a range of current, new and emerging technologies and their various applications <p>(NESA, 2022)</p>	




Weekly Content Organisation


Week	Learning Outcomes	Topic Focus & Brief Description
1	IND5-1 IND5-3	Week 1: Introduction to WHS, Toolbox Project Overview, and Safety Safety, Project Introduction, and Tool Familiarisation – This week establishes the safety foundation, introduces the Toolbox Project, and familiarises students with the workshop’s tools and WHS practices.
2	IND5-3 IND5-7	Week 2: Soft Jaws Project – Application of Skills Skill Practice and Project Simulation – The Soft Jaws project serves as a preliminary activity to practice cutting, shaping, and marking techniques, preparing students for the larger Toolbox Project.
3	IND5-4 IND5-3	Week 3: Flat Patterns, Measurement, and Toolbox Preparation Drawing Flat Patterns and Accurate Measurement – Students develop skills in drafting flat patterns, precise measurement, and material preparation for toolbox construction.
4	IND5-4 IND5-3 IND5-8	Week 4: Toolbox Project Construction Begins Toolbox Project Construction and Assessment Introduction – Students begin the construction phase of the toolbox, applying cutting, shaping, and joining techniques learned in prior weeks.




(NESA, 2022)



1	Week 1: Introduction to WHS, Toolbox Project Overview, and Safety			
	Students learn about:	Students learn to:	Integrated Teaching and Learning Activities	Assessment
	Lesson 1: Project requirements and design goals for the toolbox, with a focus on accuracy and craftsmanship. The timeline and milestones for completing the project. 	Understand the scope of the project, sequence of tasks, and the skills required for successful completion.	Teacher introduces the Toolbox Project, outlining goals, assessment criteria, and skills students will develop. Students participate in a project brainstorming session, discussing potential challenges and strategies for success. Collaborative creation of a project timeline on the board to ensure everyone understands milestones.	Teacher questions students on project requirements and milestones to check understanding.
	Lesson 2: WHS protocols, including the purpose of PPE, WHS signage, and safe behaviour in the workshop. 	Identify and interpret WHS signage, understand the need for PPE, and demonstrate safe conduct.	Teacher leads a workshop tour to introduce WHS signage, safety zones, and PPE requirements. “Safety Role Play”: In pairs, students role-play scenarios where they must identify safety risks and apply PPE correctly, allowing them to practice situational WHS awareness.	Teacher observes student engagement during the tour and role-play, ensuring they understand safety rules.
	Lesson 3: Important terminology in	Define terms accurately and	Students start a glossary of key metalworking terms related to WHS and project work.	Teacher reviews glossary entries


2	metalworking and safety. 	apply them in relevant contexts.	“Glossary Relay”: Students work in small groups, racing to add glossary definitions for terms as the teacher calls them out, encouraging quick recall and teamwork.	for accuracy and completeness.
	Lesson 4: The basic function of tools essential for the toolbox project. 	Recognise tools, handle them safely, and explain their purposes.	Teacher demonstrates marking, cutting, and shaping tools. “Tool Identification Stations”: Tools are placed at different stations, and students rotate to each station to handle tools and record their functions and safety guidelines.	Teacher observes tool handling and checks students’ notes at each station.
	Differentiation (TWO Focus Students and Class group)	Student A (Sarah): <ul style="list-style-type: none">○ Provide visual aids and pictorial symbols next to key WHS terms in her glossary to aid comprehension.○ Simplify written instructions with bullet points and color-coded steps in her project overview handouts.○ Allow Sarah extra time to complete glossary tasks and WHS safety role-play activities.○ Provide a peer buddy to support her during the safety walk-through, helping her take notes and ask questions. Student B (James): <ul style="list-style-type: none">○ Use a checklist for WHS tasks, with each step marked off after completion to keep James on track.○ Allow James to participate in a movement-based WHS role-play activity, where he can physically act out safety scenarios to maintain focus.○ Pair him with a partner who can help keep him engaged during the “Safety Role Play” and glossary relay, and set small rewards for completing tasks.○ Provide frequent positive reinforcement to help him stay focused during tool handling demonstrations.		
2	Week 2: Soft Jaws Project – Technique Practice			
	Students learn about:	Students learn to:	Integrated Teaching and Learning Activities	Assessment

Lesson 1: The purpose of practicing techniques and quality control on smaller projects. 	Outline and follow a project plan, with attention to precision and detail.	Teacher explains the Soft Jaws project as a preparatory exercise for toolbox construction. Class discussion on the project’s relevance to toolbox construction, with students identifying specific skills they will practice.	Teacher checks understanding through Q&A on project requirements.
Lesson 2: How to measure, mark, and cut metal accurately. 	Apply techniques to measure, mark, and cut materials according to specifications.	Students mark and cut sheet metal for the soft jaws under supervision. “Step-by-Step Guided Practice”: The teacher models each step, then students replicate it, with teacher feedback after each step. This structured approach builds student confidence and accuracy.	Teacher checks measurements and cuts for precision.
Lesson 3: The importance of fine shaping for safety and project quality. 	Shape materials to achieve a smooth, safe edge.	Students practice filing and shaping to achieve smooth edges. “Peer Check-In”: Students partner up to inspect each other’s work, ensuring smooth edges and safe handling, and providing feedback for improvement.	Observation of accuracy and finish on the soft jaws.
Lesson 4:	Identify areas for improvement and articulate adjustments needed.	Students complete a rubric-based peer review and self-assessment. “Reflection Circle”: Students gather in a circle to discuss one thing they did well and one area they could improve. This encourages self-reflection and accountability.	Completion of peer review and self-assessment rubric.

	<p>The role of feedback and self-assessment in improving craftsmanship.</p> 			
	<p>Differentiation (TWO Focus Students and Class group)</p>	<p>Student A (Sarah):</p> <ul style="list-style-type: none">▪ Break down each project step into numbered and color-coded instructions for easy understanding.▪ Provide a sample completed soft jaw for Sarah to use as a reference throughout the project.▪ Use a visual checklist for each step of marking, cutting, and filing, allowing her to self-monitor and check off as she completes each stage.▪ Pair her with a peer for the “Reflection Circle,” helping her express her strengths and identify areas for improvement. <p>Student B (James):</p> <ul style="list-style-type: none">▪ Use a time-based task rotation where James spends a set amount of time on marking, then cutting, and finally filing, to help him focus without getting overwhelmed.▪ Incorporate short breaks for James between tasks to help him manage focus and prevent frustration.▪ Allow him to work on the “Peer Check-In” activity first, to give and receive feedback in a way that promotes his social engagement and focuses on positive reinforcement.▪ Use a behaviour chart with small rewards after completing each stage of the project to keep him motivated and on task.		
3	Week 3: Flat Patterns, Measurement, and Toolbox Preparation			
	<p>Students learn about:</p>	<p>Students learn to:</p>	<p>Integrated Teaching and Learning Activities</p>	<p>Assessment</p>

Lesson 1: How flat patterns are used to plan and design metal projects. 	Draft simple flat patterns and accurately measure for project layouts.	Teacher explains the use of flat patterns in project planning and demonstrates basic layout and measurement techniques. “Group Pattern Drawing”: In small groups, students draft a simple flat pattern based on a toolbox template, with each student responsible for one part of the pattern.	Teacher checks patterns for accuracy and technique.
Lesson 2: The relationship between accurate measurements and successful project outcomes. 	Measure and draw patterns accurately to match project specifications.	Students practice drawing flat patterns for toolbox parts. Students work in pairs to measure and draw toolbox components accurately within a set timeframe, encouraging precision under mild time pressure.	Teacher reviews patterns for completeness and adherence to dimensions.
Lesson 3: The sequence of steps for starting a larger project. 	Organise and prepare materials for efficient project workflow.	Teacher reviews initial project steps for toolbox construction, including layout and marking. “Hands-On Layout Practice”: Students begin marking and laying out components on the metal sheet, with peer check-ins for accuracy.	Teacher verifies layout accuracy and correct marking.
Differentiation (TWO Focus Students and Class group)	<p>Student A (Sarah):</p> <ul style="list-style-type: none"> Provide a tactile, physical model of a flat pattern to help Sarah visualise the shape and dimensions. Break down measurement activities into simple steps with images, labels, and colour coding to clarify the layout. Pair Sarah with a peer who can assist with double-checking her measurements and provide constructive feedback. Offer extended time to allow Sarah to carefully draw and check her measurements without feeling rushed. <p>Student B (James):</p>		

		<ul style="list-style-type: none">▪ Provide a mini timer so James can time himself for each measurement task, creating a fun challenge for him to stay focused on each step.▪ Allow him to alternate between active measurement tasks and short reflective check-ins to break up periods of concentration.▪ Use a “Measurement Relay” with additional movement-based tasks that allow him to periodically step away, reinforcing engagement with physical activity.▪ Pair James with a peer mentor who can help keep him on track and use positive reinforcement to celebrate each correctly completed measurement.		
4	Week 4: Beginning the Toolbox Project (Construction and Assessment)			
	Students learn about:	Students learn to:	Integrated Teaching and Learning Activities	Assessment
	Lesson 1: The process and safety precautions needed for toolbox construction. 	Follow project instructions accurately and prepare materials.	Teacher reviews toolbox requirements, focusing on safety and accuracy. “Project Planning Discussion”: Students work in pairs to discuss the construction steps, helping them visualise the assembly sequence and share their plans.	Teacher checks student understanding through questioning.
	Lesson 2: Accurate cutting and shaping techniques for complex projects. 	Apply cutting techniques with precision to match project specifications.	Students begin measuring, marking, and cutting metal for the toolbox base, sides or handle. “Guided Assembly Stations”: Teacher sets up stations for cutting, shaping, and filing; students rotate through each station to work on different aspects, fostering peer feedback and focused practice.	Teacher reviews measurements and cuts for accuracy.

<p>Lesson 3: Different joining methods and their specific applications in metalworking.</p> 	<p>Begin assembling the toolbox parts using appropriate joining methods.</p>	<p>Teacher demonstrates safety edge techniques</p> <p>“Bend and Check”: Students practice safety edges for the toolbox on scrap metal, then perform a “Quality Check” with a partner to ensure edges are smooth</p>	<p>Teacher observes methods and evaluates safety.</p>
<p>Differentiation (TWO Focus Students and Class group)</p>	<p>Student A (Sarah):</p> <ul style="list-style-type: none"> ▪ Provide visual, step-by-step construction instructions with photos or diagrams showing each stage of the toolbox assembly. ▪ Use color-coded templates and outline important areas on her materials to help her line up measurements accurately and follow cutting guidelines. ▪ Allow Sarah extra time to cut and assemble parts, with a focus on careful, accurate work rather than speed. ▪ Pair her with a peer for “Project Planning Discussion” to help her discuss the steps and sequence aloud, reinforcing her understanding. <p>Student B (James):</p> <ul style="list-style-type: none"> ▪ Break down the toolbox assembly into small, achievable tasks, with each step checked off on his project checklist. ▪ Use station rotations for cutting, shaping, and joining to provide him with movement and engagement throughout the construction process. ▪ Allow James to participate in “Join and Check” with a partner who can help him stay organised and check his work. ▪ Set up a visual progress tracker where James can see his completed steps and set small goals to complete each component, using positive reinforcement as he achieves each stage. 		

Week	Workbook/Templates and Teaching Resources	Software	Online Media (Videos)	Text	Excursion
1	<p>Safety Posters and WHS Signage: Visual aids around the workshop to remind students of safety rules, PPE, and safe zones.</p> <p>PPE (Personal Protective Equipment): Safety goggles, gloves, ear protection, and aprons for hands-on safety experience.</p> <p>Tool Diagrams and Charts: Visual charts that label and describe each tool's function, safety instructions, and proper handling.</p> <p>Interactive Safety Checklist: Digital or printed checklist for students to mark as they review each safety component.</p> <p>Project Handout: A guide with project goals, milestones, timeline, and WHS requirements.</p> <p>Example Toolbox Projects: Physical examples or images of completed toolboxes to inspire students and set quality standards.</p> <p>Customised Glossary Sheets: Worksheets with key terms and visual aids for students who need extra support.</p> <p>Collaborative Activities: Worksheets or tools for peer discussions and group work to foster social skills.</p>	On guard	<p>WHS Video Demonstrations: Short videos on workshop safety, PPE, and behaviour expectations.</p>		
2	<p>Metal Sheets and Tools for Practice: Materials for students to practice measuring, cutting, and shaping.</p> <p>Step-by-Step Instructional Cards: Cards with illustrated instructions for each step (measuring, marking, cutting, and filing).</p> <p>Peer Feedback Rubric: A simple rubric for students to assess each other's work on accuracy, smoothness, and safety.</p>				

	<p>Example Soft Jaw Piece: A completed piece that demonstrates expected quality and accuracy.</p> <p>Filing Tools and Metal Sanders: Various tools to help students practice smoothing edges.</p> <p>Visual Checklist for Each Step: For students who benefit from structured guidance.</p> <p>Timers and Task Trackers: Tools to help students stay on task, especially those who need regular breaks or structure.</p>				
3	<p>Pattern Templates and Sample Layouts: Templates for flat patterns that students can use as references.</p> <p>Graph Paper and Rules: Essential for precise drafting and measurement.</p> <p>Callipers: For students to practice accurate measurements on metal sheets.</p> <p>Marker Pens for Metal: Non-permanent markers to create layout designs directly on metal sheets.</p> <p>Visual Aids with Examples of Accurate Layouts: Step-by-step images to support students with visualisation.</p> <p>Peer Mentorship Activities: Assign more experienced students to assist peers in the pattern-making process.</p>	<p>Project Planning Software or Apps: Simple digital tools for students to visualise their layout and check measurements.</p>	<p>Online Video Tutorials: Instructional videos on measurement techniques and pattern drafting.</p>		
4	<p>Metal Cutting and Shaping Tools: Tools such as shears, snips, and bending machines.</p> <p>Assembly Guide Handouts: Illustrated or step-by-step guides for each stage of the toolbox assembly.</p>		<p>Instructional Videos on Joining Techniques: Videos that show joining and safety edging techniques for metalworking.</p>		

	<p>Self and Peer Assessment Checklists: To evaluate accuracy, alignment, and overall construction quality.</p> <p>Step-by-Step Visual Guides for Assembly: For students who benefit from extra visual aids.</p> <p>Progress Tracker Boards: Visual boards that track the stages of assembly, helping students see their progress.</p>				
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LESSON PLAN 1

Class/Grade/Stage: Year9 Metal Stage 5	Date: Monday 10/06/2025	Time: Start:9am Finish: 9.50am
Key Learning Area(s): Metalwork, Project Planning	Lesson Topic: Project Overview and Instructions for Toolbox Construction	
NESA Australian Professional Standards for Teachers <i>Identify the standard(s) and focus areas that align with this lesson:</i>	APST 4.4.1: Ensuring safety in practical activities. APST 3.3.1: Using teaching strategies to support student learning. (NESA, 2022)	

Recent Prior Experience (*formative assessment, summative assessment, specific relevant concepts, skills and values the school students have experienced prior to this lesson*):

Students have completed basic metalworking tasks, including measuring, marking, and cutting.

Syllabus/Syllabi Outcome(s):

IND5-4: *Selects, justifies, and uses relevant materials.*

IND5-3: *Demonstrates skills in producing quality practical projects.*

(NESA, 2022)

Indicators of Learning for this lesson- learning intentions and success criteria:

Learning Intention: Students will understand the steps and requirements for constructing their toolbox.

Success Criteria: Students can outline the construction sequence and demonstrate safe handling practices.

Assessment:

Teacher checks understanding through questioning during the "Project Planning Discussion."

Any safety issues to be considered (APST 4.4.1):

Emphasis on PPE, workshop safety protocols, and emergency procedures.

Resources

Project Handout (including goals, steps, and safety guidelines)

Sample Toolbox or Visuals (to provide a concrete example of the final product)

LESSON SEQUENCE

Lesson Content / Indicators of Learning/ Teaching Strategies (<i>What is Taught</i>):	Timing (mins)	Learning Experiences: (<i>How it is taught</i>)	Resources and Organisation:
<ul style="list-style-type: none"> - student skills - student concepts - student values - link with learning intentions - link with success criteria 		<p>Write detailed steps showing what the teacher (T) will do and what students (Ss) will do. Include differentiation if applicable.</p> <ul style="list-style-type: none"> - teaching strategies 	

INTRODUCTION			
<p>Student Skills: Understanding project requirements and identifying necessary safety practices.</p> <p>Student Concepts: Importance of safety, planning, and precision in metalworking.</p> <p>Link with Learning Intentions: Students are introduced to project requirements and the importance of planning.</p>	10mins	<p>Teacher (T) reviews the toolbox project requirements and key safety aspects.</p> <p>T introduces students to the construction steps, discussing the importance of accuracy and safety.</p> <p>Students (Ss) listen and ask questions to clarify expectations.</p>	Project handout, sample toolbox.
DEVELOPMENT			
<p>Student Skills: Collaborating in pairs, discussing project planning, and identifying key construction steps.</p> <p>Student Concepts: Sequencing of construction tasks, peer collaboration, and planning.</p> <p>Link with Learning Intentions: Working in pairs helps students understand the construction steps.</p> <p>Link with Success Criteria: Students should be able to articulate the sequence of steps required to complete the toolbox.</p>	20mins	<p>T facilitates a “Project Planning Discussion,” where Ss work in pairs to discuss the construction sequence, helping them visualise and share their approach.</p> <p>Ss note the order of steps and identify any potential challenges.</p> <p>Differentiation: Pair stronger students with peers who may need additional support in visualising the sequence.</p>	Discussion handout with construction steps for reference.
CLOSURE			

<p>Student Skills: Reviewing and summarising key construction steps.</p> <p>Student Concepts: Reinforcement of safety, sequencing, and accuracy.</p> <p>Link with Learning Intentions: Reviewing and summarising construction steps ensures comprehension.</p> <p>Link with Success Criteria: Students demonstrate understanding by explaining project requirements and safety.</p>	10mins	<p>Ss review and share key points from their discussions, highlighting important safety and accuracy measures.</p> <p>T checks understanding through questions and provides feedback.</p>	
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LESSON PLAN 2

Class/Grade/Stage: Year9 Metal Stage 5	Date: Wednesday 12/06/2025	Time: Start:9am Finish: 9.50am
Key Learning Area(s): Metalwork, Technical Skills	Lesson Topic: Guided Cutting and Shaping of Toolbox Sides	
NESA Australian Professional Standards for Teachers <i>Identify the standard(s) and focus areas that align with this lesson:</i>	APST 2.6.1: Integrating practical skills with theory. (NESA, 2022)	
Recent Prior Experience <i>Students have discussed project planning and reviewed construction steps in the previous lesson.</i>		
Syllabus/Syllabi Outcome(s): <i>IND5-3: Demonstrates skills in producing quality practical projects.</i> <i>IND5-4: Selects, justifies, and uses relevant materials.</i> (NESA, 2022)	Indicators of Learning for this lesson- learning intentions and success criteria: <i>In meaningful Ss language, so Ss can monitor their learning. Linked directly with the syllabus/syllabi outcome(s).</i> Learning Intention: Students will accurately measure, mark, and cut metal for toolbox sides. Success Criteria: Students can measure, mark, and cut metal to specifications and handle tools safely.	Assessment: <i>Strategies which will be used to assess learners’ attainment of learning outcomes. Should be linked to each learning indicator.</i> Teacher reviews measurements and cuts for accuracy during the station rotations. -
Any safety issues to be considered (APST 4.4.1): Emphasis on PPE and correct handling of sharp edges and cutting tools.		Resources: <i>List resources you used in preparing the lesson AND those used in the lesson implementation.</i> <ul style="list-style-type: none">• <i>Metal Sheets and Tools (cutting, shaping tools)</i>• <i>Step-by-Step Instructional Cards</i>

Class/Grade/Stage: Year9 Metal Stage 5	Date: Wednesday 12/06/2025	Time: Start:9am Finish: 9.50am
Key Learning Area(s): Metalwork, Technical Skills	Lesson Topic: Guided Cutting and Shaping of Toolbox Sides	
NESA Australian Professional Standards for Teachers <i>Identify the standard(s) and focus areas that align with this lesson:</i>	APST 2.6.1: Integrating practical skills with theory. (NESA, 2022)	
Recent Prior Experience <i>Students have discussed project planning and reviewed construction steps in the previous lesson.</i>		
		<ul style="list-style-type: none">• <i>Measuring Tools (rulers, calipers)</i>

LESSON SEQUENCE

Lesson Content / Indicators of Learning/ Teaching Strategies (<i>What is Taught</i>): <ul style="list-style-type: none"> - <i>student skills</i> - <i>student concepts</i> - <i>student values</i> - <i>link with learning intentions</i> - <i>link with success criteria</i> 	Timing <i>(mins)</i>	Learning Experiences: (<i>How it is taught</i>) <i>Write detailed steps showing what the teacher (T) will do and what students (Ss) will do. Include differentiation if applicable.</i> <ul style="list-style-type: none"> - <i>teaching strategies</i> 	Resources and Organisation:
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INTRODUCTION			
<p>Student Skills: Observing demonstration and understanding key measuring and cutting techniques.</p> <p>Student Concepts: Precision, accuracy, and safe tool handling.</p> <p>Link with Learning Intentions: Demonstration ensures students understand the steps for accurate cutting and shaping.</p>	10mins	<p>T demonstrates measuring, marking, and cutting techniques specific to toolbox sides.</p> <p>Ss observe and take notes on technique and safety reminders.</p>	Step-by-step instructional cards, measuring tools.
DEVELOPMENT			
<p>Student Skills: Measuring, marking, cutting, and peer feedback.</p> <p>Student Concepts: Accurate cutting, safe handling of tools, and teamwork.</p> <p>Link with Learning Intentions: Practicing in stations helps students achieve accuracy and master cutting techniques.</p> <p>Link with Success Criteria: Students demonstrate correct cutting and handling, meeting project specifications.</p>	30mins	<p>T sets up “Guided Assembly Stations” where Ss rotate through stations for measuring, marking, cutting, and filing.</p> <p>Ss receive feedback at each station, with peers providing additional support through observation and collaboration.</p> <p>Differentiation: Visual guides at each station; peer buddies for students needing additional assistance.</p>	Metal sheets, cutting tools, filing tools, instructional cards.
CLOSURE			
<p>Student Skills: Self-checking for accuracy and reviewing steps.</p> <p>Student Concepts: Quality control and reinforcement of accuracy.</p>	10mins	Ss review their work and perform a self-check for accuracy.	Project checklist for self-assessment

<p>Link with Learning Intentions: Self-checking encourages accuracy and precision.</p> <p>Link with Success Criteria: Students confirm that their measurements and cuts meet specifications.</p>		<p>T provides final feedback on measurements and cut quality, addressing common issues observed.</p>	
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LESSON PLAN 3

Class/Grade/Stage: Year9 Metal Stage 5	Date: Friday 15/06/2025	Time: Start:9am Finish: 9.50am
Key Learning Area(s): Metalwork, Joining Techniques	Lesson Topic: Introduction to Joining Techniques for Toolbox Assembly	
NESA Australian Professional Standards for Teachers <i>Identify the standard(s) and focus areas that align with this lesson:</i>	APST 2.6.1: Using practical activities to teach complex concepts. (NESA, 2022)	
Recent Prior Experience <i>(formative assessment, summative assessment, specific relevant concepts, skills and values the school students have experienced prior to this lesson):</i> Students have completed measurements and cuts for the toolbox sides.		
Syllabus/Syllabi Outcome(s): <i>Please note the syllabus reference number AND write out in full.</i> <ul style="list-style-type: none">• IND5-8: <i>Evaluates the quality and functionality of their work.</i>• IND5-3: <i>Demonstrates skills in producing quality practical projects.</i>• (NESA, 2022)	Indicators of Learning for this lesson- learning intentions and success criteria: <i>In meaningful Ss language, so Ss can monitor their learning. Linked directly with the syllabus/syllabi outcome(s).</i> Learning Intention: Students will practice joining techniques and assess the stability of joins. Success Criteria: Students can perform secure joins and check join quality with a peer.	Assessment: <i>Strategies which will be used to assess learners’ attainment of learning outcomes. Should be linked to each learning indicator.</i> Teacher observes joining methods and evaluates join stability. -

Class/Grade/Stage: Year9 Metal Stage 5	Date: Friday 15/06/2025	Time: Start:9am Finish: 9.50am
Key Learning Area(s): Metalwork, Joining Techniques	Lesson Topic: Introduction to Joining Techniques for Toolbox Assembly	
NESA Australian Professional Standards for Teachers <i>Identify the standard(s) and focus areas that align with this lesson:</i>	APST 2.6.1: Using practical activities to teach complex concepts. (NESA, 2022)	
Recent Prior Experience <i>(formative assessment, summative assessment, specific relevant concepts, skills and values the school students have experienced prior to this lesson):</i> Students have completed measurements and cuts for the toolbox sides.		
Any safety issues to be considered (APST 4.4.1): Reinforcing safe handling of joining tools and PPE, especially during spot welding or riveting.		Resources: <input type="checkbox"/> <i>Joining Tools (rivets, spot welding equipment)</i> <input type="checkbox"/> <i>Magnets for Temporary Assembly Checks</i> <input type="checkbox"/> <i>Quality Checklist for Join Inspectionimplementation.</i>

LESSON SEQUENCE

Lesson Content / Indicators of Learning/ Teaching Strategies (<i>What is Taught</i>):	Timing <i>(mins)</i>	Learning Experiences: (<i>How it is taught</i>)	Resources and Organisation:
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<ul style="list-style-type: none"> - student skills - student concepts - student values - link with learning intentions - link with success criteria 		<p><i>Write detailed steps showing what the teacher (T) will do and what students (Ss) will do. Include differentiation if applicable.</i></p> <p>- teaching strategies</p>	
INTRODUCTION			
<p>Student Skills: Observing and understanding joining techniques.</p> <p>Student Concepts: Secure joining, tool safety, and quality control.</p> <p>Link with Learning Intentions: Demonstration helps students understand secure joining techniques.</p>	10mins	<p>T demonstrates joining techniques, including riveting and spot welding, emphasising safe practices.</p> <p>Ss observe and ask questions to clarify each technique.</p>	Joining tools, safety guidelines
DEVELOPMENT			
<p>Student Skills: Practicing joining techniques, using quality control, and peer feedback.</p> <p>Student Concepts: Stable edges, quality assessment, and collaboration.</p> <p>Link with Learning Intentions: Hands-on practice helps students develop secure and stable joins.</p> <p>Link with Success Criteria: Students demonstrate correct joining, meeting stability requirements</p>	30mins	<p>Ss practice joining techniques through the “Join and Check” activity, where they perform joins on metal parts and complete a quality check with a partner.</p> <p>T circulates to observe techniques and provide individual feedback.</p> <p>Differentiation: Peer pairs for quality checking; modified tools for students who may need alternative methods for joining.</p>	Joining tools, magnets for alignment checks, quality checklist.

CLOSURE			
<p>Student Skills: Reflecting on progress, reviewing quality, and planning improvements.</p> <p>Student Concepts: Self-assessment and continuous improvement.</p> <p>Link with Learning Intentions: Self-reflection encourages accountability and quality improvement.</p> <p>Link with Success Criteria: Students can identify project strengths and areas for further improvement.</p>	10mins	<p>Ss complete a project progress checklist and reflect on their work, discussing strengths and areas for improvement with a peer.</p> <p>T reviews checklists and provides feedback on individual progress.</p>	Project progress checklist, peer feedback sheets.

Reflection

This unit was designed to provide Year 9 students at *Albion Park High School* with foundational skills in metalwork through a structured, hands-on learning approach that emphasises safety, precision, and effective project planning. The focus on practical experiences with sheet metal aligns with the *NESA* Industrial Technology outcomes (NESA, 2022) and incorporates important aspects of WHS (Work Health and Safety) and tool handling.

The rationale for this unit centres on progressively building students' competencies, starting from basic tool identification and WHS protocols and advancing to the more complex construction of a toolbox. This gradual approach ensures that students build confidence and proficiency in each skill area before applying them to a comprehensive project. The weekly breakdowns and structured activities enable students to achieve specific learning outcomes, such as selecting and justifying materials, demonstrating safe and accurate tool use, and evaluating the quality of their work.

Differentiated instruction was a critical component in meeting the diverse needs of learners. For instance, Student A (Sarah), who has dyslexia, required visual aids and step-by-step guidance to understand written instructions. By providing her with visual resources and allowing extended time, I aimed to make tasks more accessible and reduce potential frustration. Similarly, for Student B (James), who has ADHD, tasks were broken down into manageable steps with frequent check-ins and movement-based activities to keep him engaged and on track. These adjustments were crucial in ensuring that both Sarah and James could fully participate in the workshop environment, demonstrating that an inclusive learning environment is achievable with thoughtful planning and targeted support.

Overall, this unit reflects a commitment to fostering a safe and engaging space where students can develop essential skills in metalworking while learning to work responsibly and collaboratively. The structured progression of tasks, coupled with differentiated strategies, was intended to help all students reach their potential and

succeed in applying their new knowledge to a practical, real-world project. This approach not only builds technical skills but also encourages students to value quality, accuracy, and teamwork in their work.

References:

NESA. (2022). *Industrial Technology 7–10 | NSW Education Standards*. Nsw.edu.au. <https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/tas/industrial-technology-2019>