



TECHNOLOGY AND LIVELIHOOD EDUCATION

IA - RESIDENTIAL CARPENTRY

Grade 9 or 10

**Three-Term Budget Of Work (BOW)
for Learning Competencies**

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IA
Grade 9 and Grade 10

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For Learning Competencies

Please note that each sector under TLE: IA is studied for one term. This is applicable under Grades 9 and 10.

Term		
Sector	Residential Carpentry	
Performance Standard	The learners perform making wood joints following the safety precautions. The learners perform wood/bamboo/rattan project fabrication following the safety precautions. The learners perform residential carpentry repairs following the safety precautions.	
Content Standard	• Demonstrate an understanding of the concepts and principles in carpentry works. • Demonstrate an understanding of the concepts and principles of carpentry works in residential structures.	
Week	Learning Competency	Suggested Activities
1	• Discuss principles and concepts in carpentry. • Discuss career/business opportunities in carpentry. • Discuss the wood lumber, bamboo, and rattan classification. • Recognize the use of carpentry byproducts.	• Understanding Carpentry Principles Through Tools and Materials ○ Learners are introduced to the basic principles and concepts of carpentry such as proper measurement, types of wood, basic joints, tool functions, and safety practices through guided discussion, visuals, and actual carpentry tools or samples.

		○ Observe the tools and materials presented and actively participate in the discussion by explaining their uses and related carpentry principles. • Concept Mapping and Reporting on Carpentry Concepts ○ Learners work in small groups to organize carpentry principles and concepts into a concept map or chart, showing relationships between tools, materials, processes, and safety, then share their understanding with the class. ○ Create a group concept map of carpentry principles and present your explanations to the class. • Exploring Carpentry Careers and Businesses ○ Learners research and discuss different career paths and business opportunities in carpentry, including furniture making, construction, repair services, and entrepreneurship. They identify job roles, income potentials, and required skills. ○ Individually or in pairs, research and share different careers and business opportunities in carpentry with the class. • Carpentry Career and Business Presentation
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		○ In small groups, learners create a visual presentation (poster, slideshow, or chart) highlighting various carpentry careers and business ideas, then present their findings to the class while explaining the opportunities and requirements for each. ○ As a group, create and present a visual display of carpentry careers and business opportunities to the class. ● Identifying and Classifying Wood, Lumber, Bamboo, and Rattan ○ Learners examine samples of wood, lumber, bamboo, and rattan to identify their types and classify them based on characteristics such as texture, hardness, grain, and suitability for different projects. ○ Individually observe and classify the given wood, lumber, bamboo, and rattan samples based on their physical characteristics and uses. ● Chart Creation on Material Classification ○ In small groups, learners create a chart or table that organizes different types of wood, lumber, bamboo, and rattan, including their classifications, characteristics, and common uses, and then present their findings to the class. ○ As a group, create and present a chart
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		showing the classifications, characteristics, and uses of wood, lumber, bamboo, and rattan. • Identifying Carpentry Byproducts and Their Uses ◦ Learners examine common carpentry byproducts such as wood shavings, sawdust, offcuts, and leftover bamboo/rattan pieces, and discuss their potential uses in projects, crafts, or household applications. ◦ Individually observe carpentry byproducts and identify their possible uses in crafts, projects, or household applications. • Creative Use of Carpentry Byproducts ◦ In groups, learners brainstorm and create a small craft or project using carpentry byproducts, demonstrating practical and creative ways to repurpose leftover materials. They then present their finished project to the class. ◦ As a group, design and create a small project using carpentry byproducts and present your work to the class.
2	• Discuss the principles and concepts related to forestry regulatory laws. • Apply wood lumber calculation and pricing.	• Exploring Factory Laws Through Case Studies ◦ Learners read and analyze real-life or simplified case studies about forestry

		practices, illegal logging, and environmental management to understand the principles and concepts behind forestry regulatory laws. - Individually read the case study and explain how forestry laws apply to the situation presented. Group Discussion and Poster Presentation on Forestry Laws - In small groups, learners identify key principles of forestry regulatory laws, create a visual poster summarizing these laws, and present it to the class with examples of legal and illegal forestry practices. - As a group, create a poster summarizing forestry regulatory laws and present examples of their application to the class. Individual Wood/Lumber Measurement and Cost Calculation - Learners are given sample wood or lumber pieces and practice measuring their dimensions (length, width, thickness) to calculate board feet or volume, then determine the cost based on given pricing rates. - Individually measure the wood/lumber, calculate its volume or board feet, and compute the total cost using the given rates.
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		• Group Pricing Exercise for a Carpentry Project ◦ In small groups, learners are given a project plan or materials list and collaboratively calculate the total lumber requirements and pricing for the project, then present their cost breakdown to the class. ◦ As a group, calculate the total lumber needed for the project and determine the overall cost using the given pricing rates.
3	• Demonstrate the use of power tools and equipment following the safety precautions. • Demonstrate the maintenance of power tools and equipment.	• Individual Power Tool Handling Practice ◦ Learners independently practice using one assigned power tool (e.g., drill, circular saw, or sander) by following proper handling techniques, operational procedures, and safety precautions while performing a simple task like drilling a hole or sanding a wood piece. ◦ Individually operate the assigned power tool correctly and safely to complete the given task. • Group Power Tool Demonstration and Safety Drill ◦ In small groups, learners take turns demonstrating the correct use of different power tools while the group

		observes safety rules, and then they perform a short group safety drill or checklist to reinforce proper precautions. ○ As a group, demonstrate the proper use of assigned power tools and follow all safety precautions during a hands-on activity. ● Individual Power Tool Maintenance Practice ○ Learners independently perform basic maintenance tasks on an assigned power tool, such as cleaning, lubricating, checking for loose parts, and inspecting cords or blades, while following proper safety precautions. ○ Individually, perform maintenance on the assigned power tool by cleaning, lubricating, and inspecting it safely. ● Group Power Tool Maintenance Workshop ○ In small groups, learners collaboratively inspect, clean, and perform preventive maintenance on a set of power tools, discuss the maintenance procedures, and demonstrate safe handling to the class. ○ As a group, perform maintenance on power tools and demonstrate proper procedures while observing all safety
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		precautions.
4	- Discuss the handling and storing of consumables. - Demonstrate procedure in wood joints safely.	Individual Consumables Handling Exploration - Learners examine various consumables used in carpentry or industrial arts (e.g., nails, screws, sandpaper, adhesives, paint) and discuss their proper handling, precautions, and storage requirements to prevent waste, damage, or accidents. - Individually observe and explain the proper handling and storage procedures for different consumables. Group Consumables Storage Organization Activity - Learners organize a set of consumables in a mock storage area, labeling items, arranging them according to type or safety rules, and presenting their storage system while explaining their rationale. - As a group, organize and store consumables safely and explain the proper handling and storage system to the class. Individual Wood Joint Demonstration - Learners independently perform a specific wood joint (e.g., butt joint, lap

		joint, or dado joint) by measuring, cutting, and assembling the pieces while following proper procedures, using the correct tools, and observing safety precautions. - Individually create the assigned wood joint by following proper procedures and safety precautions. Wood Joint Workshop - In small groups, learners collaboratively practice making different types of wood joints, assign roles for cutting, measuring, and assembling, and ensure all safety rules are followed while demonstrating the correct procedures to the class. - As a group, create various wood joints while following correct procedures and observing all safety precautions.
5	- Prepare a project plan. - Apply procedures in wood/bamboo/rattan projects following the safety precautions.	Individual Project Plan Development - Learners individually choose a simple carpentry, wood, bamboo, or rattan project and create a detailed plan including objectives, materials, tools, step-by-step procedures, and estimated time and cost. - Individually prepare a complete project plan for your chosen project, listing materials, tools, procedures, and estimated costs.

		• Individual Project Plan Sketching and Timeline ○ Learners create a visual sketch or diagram of their chosen project along with a timeline showing the sequence of activities, required tools, and milestones for completing each step. ○ Individually sketch your project and create a timeline outlining the steps, tools, and estimated completion time. • Individual Wood/Bamboo Project Construction ○ Learners independently construct a simple project using wood or bamboo by measuring, cutting, assembling, and finishing the materials while correctly following the standard procedures and safety precautions. ○ Individually construct your assigned wood or bamboo project by following proper procedures and observing all safety precautions. • Individual Rattan Craft Assembly ○ Learners independently create a small rattan craft (e.g., a basket or simple mat) by applying proper techniques such as bending, weaving, and securing the material while using tools safely. ○ Individually assemble your rattan project using correct techniques and
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		observing all safety precautions.
6	Apply procedures in wood/bamboo/rattan finishing following the safety precautions.	Individual Wood/Bamboo/Finishing Practice - Learners independently apply finishing techniques on a rattan craft, such as smoothing, polishing, or coating, ensuring that all procedures are followed correctly and safety precautions are observed. - Individually finish your wood or bamboo project by following proper procedures and observing all safety precautions. Individual Rattan Craft Finishing - Learners independently apply finishing techniques on a rattan craft, such as smoothing, polishing, or coating, ensuring that all procedures are followed correctly and safety precautions are observed. - Individually finish your rattan project using proper techniques while following all safety precautions.
7	Discuss the importance of carpentry works in residential structure.	Individual Research on Residential Carpentry Works - Learners research the role of carpentry in residential structures, focusing on elements like framing, roofing, doors, windows, and furniture, and explain

		how carpentry contributes to safety, durability, and aesthetics. - Individually research and explain the importance of carpentry works in residential structures, citing examples from real-life houses. Individual Reflection and Report on Carpentry Significance - Learners write a short report or reflection discussing how residential carpentry impacts daily living, construction quality, and overall functionality of a home, including personal observations or examples. - Individually write a reflection or report on why carpentry works are important in residential structures and provide supporting examples.
8	Classify materials and consumables for residential carpentry repairs following the safety precautions.	Individual Materials Identification and Classification - Learners examine various materials used in residential carpentry repairs, such as different types of wood, fasteners (nails, screws), adhesives, and finishes, and classify them according to type, purpose, and suitability while following safety precautions. - Individually observe and classify materials used in residential carpentry

		repairs, ensuring safe handling at all times. • Individual Consumables Categorization and Reporting ○ Learners identify consumables used in carpentry repairs (sandpaper, varnishes, glues, paints), categorize them by use and storage requirements, and write a brief report explaining how each should be handled safely. ○ Individually categorize carpentry consumables and explain their proper handling and storage following safety precautions.
9	• Prepare an estimate of residential repair cost-based outputs.	• Individual Cost Estimation for a Simple Residential Repair ○ Learners are given a scenario of a small residential repair (e.g., fixing a door, replacing a damaged board, or repairing a cabinet) and calculate the cost of materials, labor, and other expenses to prepare a detailed estimate. ○ Individually calculate the materials, labor, and total cost to prepare an estimate for the assigned residential repair. • Individual Cost Comparison Exercise ○ Learners are provided with two or

		more repair options for a residential project and individually estimate and compare the costs of each option, considering materials, labor, and efficiency to determine the most cost-effective solution. Individually estimate the cost for each repair option and determine which is the most cost-effective based on your calculations.
10	Apply procedures in residential carpentry repairs with safety precautions.	Minor Repair Practice - Learners independently perform a minor residential carpentry repair, such as fixing a loose door, replacing a broken hinge, or repairing a damaged wooden frame, following the correct repair procedures and observing all safety precautions. - Individually carry out the assigned residential carpentry repair by following proper procedures and observing all safety precautions. Tool-Based Repair Exercise - Learners independently use appropriate hand tools or basic power tools to repair a small wooden component in a residential setting, ensuring proper handling, adherence to repair procedures, and safety practices throughout the task.

		Individually perform a residential carpentry repair using the correct tools while strictly following safety procedures.
Suggested Performance Tasks	Individual Wood Joint Making with Safety Compliance - The learner independently performs wood joint making by measuring, cutting, and assembling wood pieces using proper tools and techniques while strictly observing safety precautions. - Individually make the assigned wood joint by following correct procedures and safety precautions. Group Wood Joint Construction Activity - In groups, learners collaboratively create wood joints by assigning tasks, sharing tools, and ensuring that all safety measures and proper woodworking procedures are followed. - As a group, construct the assigned wood joints while observing proper techniques and safety precautions. Individual Wood/Bamboo/Rattan Project Fabrication - The learner independently fabricates a simple project using wood, bamboo, or rattan by measuring, cutting, assembling, and finishing materials while strictly observing safety precautions. - Individually fabricate a simple wood, bamboo, or rattan project by following proper procedures and safety precautions. Group Wood/Bamboo/Rattan Project Fabrication - In groups, learners collaboratively design and fabricate a project using wood, bamboo, or rattan, assigning tasks and ensuring correct procedures and safety practices are followed throughout the activity. - As a group, fabricate a wood, bamboo, or rattan project while observing proper procedures and safety precautions. Individual Residential Carpentry Repair - The learner independently performs a basic residential carpentry repair (e.g.,	

	fixing a loose hinge, repairing a damaged wooden frame, or replacing a broken board) while correctly using tools and strictly observing safety precautions. ○ Individually perform the assigned residential carpentry repair by following proper procedures and safety precautions. ● Group Residential Carpentry Repair Project ○ In groups, learners collaboratively carry out residential carpentry repair tasks by assigning roles, coordinating tool use, and ensuring proper repair techniques and safety practices are followed throughout the activity. ○ As a group, complete the residential carpentry repair while observing correct procedures and safety precautions.
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