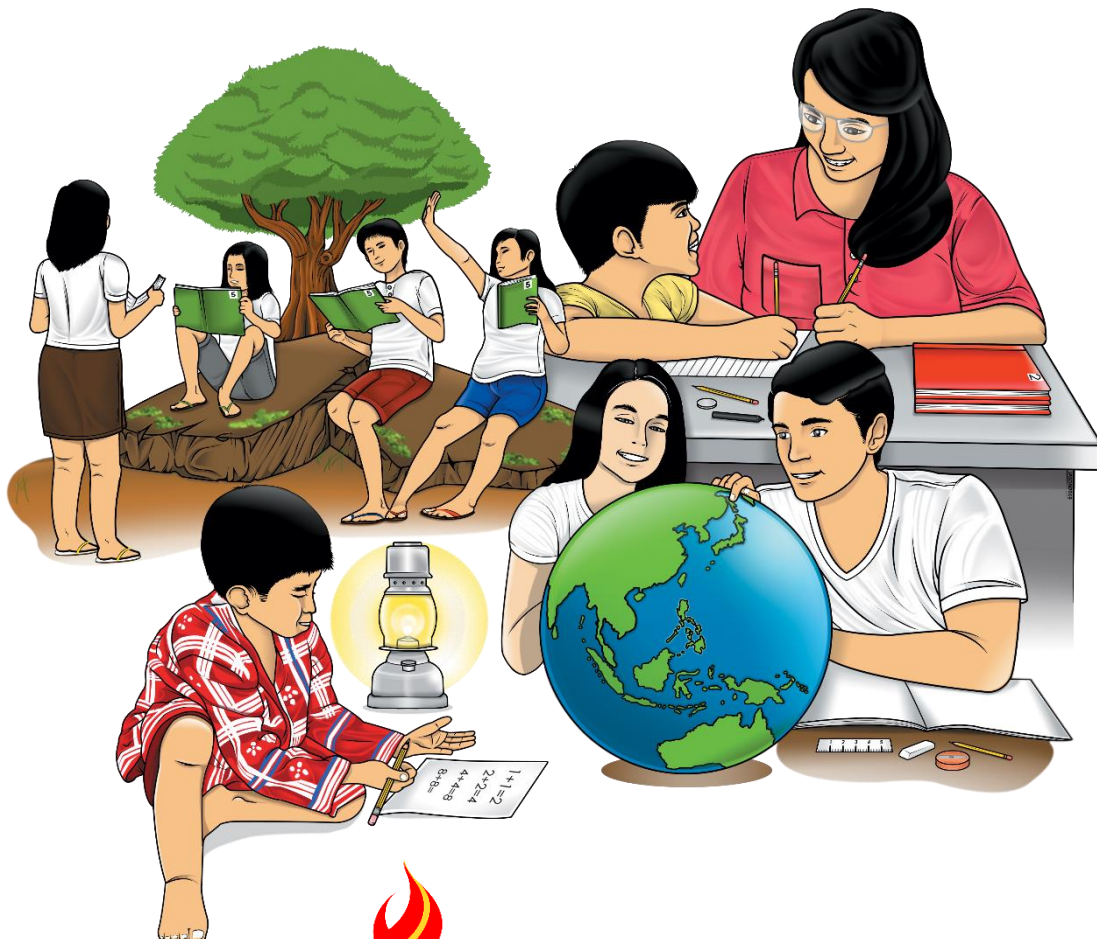


6

Technology and Livelihood Education

Industrial Arts – Module 10: Simple Gadgets/ Furniture/ Furnishing at Home and in School



TLE – Grade 6
Alternative Delivery Mode
Industrial Arts – Module 10: Simple Gadgets/ Furniture/ Furnishing at Home and in School
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Technology and Livelihood Education Industrial Arts – Module 10: Simple Gadgets/ Furniture/ Furnishing at Home and in School

Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.



What I Need to Know

This module was designed and written with you in mind. It is here to help you master the skills in repairing simple gadgets/furniture/ furnishing at home and in school. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

This module focuses on the following topics:

- Where to get information about simple repair?
- What simple repairs one can do at home?
- How to assess or check your repaired project?

After going through this module, you are expected to:

- a. Repair simple gadgets/ furniture/furnishing at home and in school. (TLE6IA0h-10)
- b. Gather data on how to do simple repairs using technology or other methods.
- c. Repair broken furniture (chairs, cabinets and tables), doorknobs, extension cords, lampshades, other products and furnishing.
- d. Assess repaired gadgets/ furniture/ furnishing as to its reusability and functionality using rubric.
- e. Improve repair undertaken.



What I Know

Directions: Read each question carefully. Chose the letter of your answer and write your answer in a separate sheet of paper.

1. What do you call an object or something that is use in place of another?
A. replacement
B. original
C. preventive
D. local
2. Any work is made easy, fast and safe if you use _____.
A. genuine tools
B. imported tools
C. appropriate tools
D. localized tools
3. What is the usual cause of squeaking sound every time you close and open the door?
A. rust formed in door hinges
B. door is too old
C. door is not fit
D. door hinges is not compatible
4. The first step to do before repairing something is to _____.
A. determine the tools needed
B. determine the damage part
C. collect all the materials
D. put a nail to damage part
5. In order to prolong the usefulness of your things, it is a good thing to make a regular _____.
A. inventory
B. replacement
C. costing
D. maintenance
6. Which is NOT the benefit that can be derived in repairing gadgets or furniture?
A. save time
B. additional work
C. earn extra money
D. environmentally friendly
7. Which of the following belongs to finishing materials?
A. nails
B. varnish
C. lumber
D. glue

8. The following are the sources of information where we can get some ideas. Which is the most reliable source?
- A. videos in YouTube
 - B. other sites in internet
 - C. from experts
 - D. from your classmates
9. What method in applying finishes is the fastest among other methods?
- A. brush method
 - B. spray method
 - C. dip coating
 - D. roller coating
10. What is the importance of applying finishing materials in our project?
- A. it adds elegance
 - B. it prolongs usage
 - C. it gives protection
 - D. all answers are correct

Lesson 1

Simple Gadgets/ Furniture/ Furnishings at Home and in School

In order to maintain the form, beauty and function of gadgets/ furniture/ furnishing at home and school we need services of the technicians or carpenters. Thus, it will require us to pay additional or extra expenses for the family.

For this, it is very important that any member of the family must have the basic skills and knowledge to do simple repairs to save the cost of repair services.



What's In

Directions: Read and analyze each statement. Identify whether the task listed below should be done, **BEFORE**, **DURING** or **AFTER**. Write the word in your answer sheet.

1. Cleaning of working area.
2. Determining of damaged part or area.
3. Paying attention in work.
4. Turning off the switch when working with electricity.
5. Replacing the parts with the same size specification.
6. Having an adequate ventilation in working area.
7. Wearing of personal protective equipment.
8. Using of appropriate tools.
9. Seeking assistance from the experts if the task is unfamiliar.
10. Retrieving of all tools.



Notes to the Teacher

To our beloved teachers:

The following words listed below are defined according to how they are referred to this module.

Please help the pupils understand these words.

We encourage you to provide examples as necessary.

Here are some words related to our lesson. Familiarize them before you proceed with this module.

1. **Repair** – to fix or restore something back in good condition.
2. **Maintenance** – to sustain the upkeep of tools so they stay in good condition.
3. **Detach** – to separate or disconnect.
4. **Replace** – to provide something new in place of another.
5. **Replica** – to copy or to make the same kind.
6. **Hinges** – a jointed device in which a swinging part turns.
7. **Squeaking** – high-pitched sound produced usually by friction of door hinges.
8. **Prevention** – to keep from happening, to hold not to happen, to prevent from happening.
9. **Prolong** – to continue using for a longer period. To lengthen in duration
10. **Strip** – to remove insulator or covering of electrical wire.
11. **Leaking** – dripping of water



What's New

A responsible family member should acquire basic knowledge and skills in doing simple repairs. As part of maintenance, repair is necessary in order to prolong the usefulness of your things at home and in school. There is no preference, both male and female are encouraged to do simple repairs. There are countless benefits derived from doing repair all by yourself. The most important is that you have your money for other expenses instead of paying it to others.

As member of a family and as a student, have you ever done simple repair of furniture or fixtures in your home? How about in school?



What is It

Proper care and maintenance of gadgets/ furniture/ furnishing at home and in school must always be taken into consideration. This is to ensure that your things are safe to use and in good condition.

Previously we discussed how to construct simple electrical gadget. We hope you can still recall those simple gadgets.

In this module you will be guided how to do simple repair of your things at home. We will suggest also some materials where you can gather information about simple repair and how to improve what you have repaired.

Where to get information about simple repair?

Sources of information about simple repair are available in many forms. You can use the technology or any other method in gathering information to further improve your skills.

Nowadays more and more people are using the **internet** to look for information and demonstration of skills they wanted to learn. Some are using **books** and **magazines** to get the necessary information or tips for a job. Others gather tips through research and readings of **articles** and **journals**.

While obtaining ideas from these sources is fun and exciting, still the best method to gather data is by consulting **experts** and **professionals**. Tips, ideas and technique from them are more reliable and competent.

Some of the simple repairs surely you can do at home.

I. Repair of Male Plug (Round and flat)

Materials:

5-meter wire no. 14 (Duplex)
or 5-meter wire no. 16 (Stranded)
1 male plug (round or flat)

Tools:

Cutter plier
Combination plier
Wire stripper
Screwdriver
(flat or Philips head)

Steps:

1. Measure about 10 cm. from the end of the wire and separate the two wires.
2. Strip the insulator cover or skin of each wire about 2 cm. from end.
3. Use a screwdriver to loosen the screw of the male plug to remove the cover.
4. a. **For flat male plug**, insert the wire in the hole provided at the end of the plug, then twist to secure connection. If the plug is screw type, loosen the screw then insert the wire and lock it with the screw to secure connection.

b. **For round male plug**, perform the underwriters' knot to serve as the lock of the wire to the hole, this is to protect the wire from loosening when accidentally pulled off.
- After the underwriters' knot, twist the wire and lock it with the screw to secure connection.
5. Secure that the wire is properly installed on the plug.
6. Return the cover of the plug. Make sure no wire is exposed to avoid electric shock.

II. Repair of leaking faucet

Materials:

New rubber washer (rubber gasket)

Tools:

Pipe wrench
Screwdrivers

Steps:

1. Cut off the water supply, by turning the gate valve on off position.
2. Detach the faucet using a pipe wrench. Make sure to cover the nut with a cloth or tape to avoid scratches while applying force on turning.
3. Loosen the nut and remove the valve system of the faucet.
4. Loosen the screw to remove the rubber washer or gasket.
5. Replace the rubber washer or the gasket with the new one of the same kind and size.
6. Put back the screw of the rubber washer or gasket, make sure it is installed properly.
7. Return the valve system of the faucet into its proper position.
8. Use the pipe wrench to tighten packing nut.
9. Allow the water to flow by opening the gate valve.
10. Check if the water flows properly and if the leakage has stopped.

III. Repair of a broken chair

Materials:

Wood brace
Wood glue
Nails

Tools:

Claw hammer
Crosscut saw
Chisel

Steps:

1. Gather all the materials needed.
2. Determine the parts of the chair that needs to be repaired. Collect them if they are still available.
3. Make a replica of the parts which are lost or damaged.
4. Connect the parts to be repaired using nails.
5. Apply wood glue on the parts to be joined or on parts that wiggle.
6. Install braces to make it stronger.

IV. Repair of door hinges

Materials:

All-purpose oil
Hinges
Screw

Tools:

Screwdriver
Chisel
Measuring tool

You may observe that your door produces a squeaking sound every time you close and open it. This sound is sometimes due to rust or the door does not fit properly on the jamb.

It can be repaired by applying oil to the hinges to eliminate squeaking sound. Loose screws can also be tightened to fix the hinges.

Steps in replacing damaged hinges

1. Gather all the tools and materials needed.
2. Unscrew the hinges to detach the door from the jamb.
3. Determine the part where the hinges are to be fixed by measuring the exact position.
4. Chisel the part where the hinges are to be placed.
5. Put the hinges in correct position.
6. Screw the hinges in the jamb and door.
7. Fix all the hinges.

Health Habits and Safety Precautions, to be observed in doing simple repairs.

1. Make sure that you have the right tools intended for a job to be done.
2. Wear comfortable clothing to allow freedom of movement but make sure that you have the right personal protective equipment.
3. Work on properly lighted area.
4. Use leather gloves in handling electrical work.
5. Inspect all tools before the start of the job.
6. Repair or replace defective tools before working to avoid accident.
7. Use only appropriate tools for the job to make your work easy, fast, and safe.
8. Seek expert's advice or guidance before doing the simple repairs so that you will be guided accordingly.
9. Clean the area after working.
10. Clean and return all tools to its proper places or cabinet.

How to assess finish project?

Make it a habit to always check or assess the project you have repaired. It is a way of knowing how functional your project is, and to become aware of hazard or possible accident.

You can use the simple rubric below to check how excellent is your work.

Rubric for Assessing Repaired Furniture

Criteria	Excellent 10	Good 9-5	Fair 4-1	Score
Materials and Tools	Materials and tools needed for specific repair are present and complete.	1 or 2 materials or tools needed for specific repair is lacking.	3 or more materials or tools needed for specific repair is lacking.	
Procedure	All the procedures or steps in making simple repair are followed and observed.	1 or 2 procedures or steps in making simple repair are not followed.	3 or more procedures or steps in making simple repair are not followed or observed.	
Workmanship	Repaired project has 3 distinct characteristics; (durable, safe and can be used again).	Repaired project has 2 distinct characteristics from the ones stated below (durable, safe and can be used again)	Repaired project has 1 distinct characteristics from the ones stated below (durable, safe and can be used again).	
Total Score:				
Remarks:				

In order to make our gadgets and furniture more attractive, durable and pleasing to the eyes they need finish.

The common types of finishing materials are: **paint**, **varnish** and **shellac**.

What is the common way of applying these finishing materials?

Finishing materials can be applied in various way depending on the materials you are using and the kind of finish you want to achieve.

Here are some methods of applying finishes.

1. **Brush method** – in this method natural brush or synthetic brush is used to apply different finishing materials.
2. **Spray method** – in this method an air compressor and a spray gun is use to apply finishes. Using this method is much faster than any other method.
3. **Dip coating** – this is done by dipping the item into the solution of the finished product. Wooden products are best applied in this method.
4. **Roller coating** – paint rollers are used in this method with a paint tray where you put the finishing material and dip the paint roller, then roll it to the surface you want to apply finishes.

What is the purpose of apply finishing materials?

They are called finishing materials or finishes because they are the last element we apply on our project. Our main reason here is to protect the materials we used in constructing the project and to enhance the appearance of our finished product.

Here are some of the purposes why we apply finishes on our product.

1. **Protection** – our product is protected from moist, heat and extreme temperature when it is covered with finishes.
2. **Decoration** – finishes and adds elegance to beautify the product.
3. **Sanitation** – cleaning a well-polished product is easy; such as dust and dirt can be easily wiped out.
4. **Saleability** – pleasing appearance and attractive design are highlighted by finishing materials that suit to our product, thus, it catches attention of buyers.
5. **Balance** – finishing materials allow us to blend the beauty, color and theme of our product to the different environment producing desirable effects.



What's More

Instruction: Read, analyze and do each activity. Write your answer on a separate sheet of paper.

Activity 1: Recall Me

Learning the Skill: Simple recall of lesson

Directions: List down five (5) purposes/ reasons of applying finishing materials in your project.

- 1.
- 2.
- 3.
- 4.
- 5.

Activity 2: You Decide

Learning the Skill: Evaluating of something

Directions:

1. Look for an ongoing repair (not a structural repair) in your home, in your neighborhood, or in school.
2. Use the “Rubric for Assessing Repaired Furniture” that you have learned in this lesson.
3. Use the rubric to assess the work of a person who makes the repair. Do not forget to ask permission to the person before doing this.
4. Make an interview if needed.
5. Complete the rubric by filling in the score based on your evaluation and don't forget to make your own remarks.
6. Show this to your teacher.

Activity 3. Explain to Me

Learning the Skill: Writing an essay.

Instructions: Write a simple essay about “Furniture Restoration: A Help to Environment”. Write your essay on a separate sheet of paper.



What I Have Learned

Directions: Fill in appropriate word/s to make the statement correct and complete. Get your answer from the box below and write it on a separate sheet of paper.

prolong repair proper care and maintenance considered reliable
rubric spray finishing materials check valve protection

1. _____ is done to prevent further damage and to improve the efficiency of the gadget/ furniture/ furnishing at home.
2. In order to extend the usefulness of gadget/ furniture/ furnishing at home, _____ should be done.
3. Experts and professionals are the most _____ sources of information.
4. _____ is used to assess a repaired item.
5. Paint, varnish and shellac are called _____.
6. There are four common methods of applying finishing materials and the fastest method is _____.
7. Applying finishing materials to a project is not only for decoration, sanitation, saleability and balance. It is also for _____.
8. Safety measure should be _____ in doing work to avoid accidents.
9. Turn the _____ in off position before servicing the leaking faucet.
10. Repair is necessary in order to _____ the usefulness of your things at home and in school.



What I Can Do

1. With the help of your parents or guardian, look for a gadget/ furniture/ furnishing in your home that needs repair.
2. Plan on the repair you are going to do. Gather all the materials and list down the procedure.
3. Do the repair.
4. Make any documentation (before, during and after your repair). This will be submitted as part of your portfolio.
5. Don't put any finishes yet. This will be done in your next activity.
6. Write a reflection on the success of repair you have done.



Assessment

I. Multiple choice:

Directions: Read each question carefully, then, write the letter of the correct on a separate sheet of paper.

1. Any work is made easy, fast and safe if you use _____.
A. genuine tools
B. appropriate tools
C. imported tools
D. localized tools
2. The first step to do before repairing something is to _____.
A. determine the tools needed
B. put a nail to damage part
C. collect all the materials
D. determine the damage part
3. Which is NOT a benefit that can be derived in repairing gadgets or furniture?
A. save time
B. earn extra money
C. additional work
D. environmental friendly
4. Which of the following belongs to finishing materials?
A. nails
B. glue
C. lumber
D. varnish
5. What is the importance of applying finishing materials in our project?
A. it adds elegance
B. it prolongs usage
C. it gives protection
D. all answers are correct

II. Sequencing:

Directions: Arrange the following steps according to the correct procedures in repairing a broken chair. Write number 1 as the first step to be followed by 2, 3, 4 and 5 as the last procedures. Write your answer on a separate sheet of paper.

_____ Make a replica of the parts of the chair which is lost.

_____ Determine the parts of the chair that need to be repaired. Collect them if they are still available.

_____ Gather all the materials needed.

_____ Install braces to make it stronger.

_____ Apply wood glue on the parts to be connected and on the parts that wiggle.



Additional Activities

A. Applying of finishing materials.

Instructions:

1. Take the project you have repaired.
2. Plan on what type of finishing materials to apply on your project.
3. Plan and choose the appropriate method of applying finishing material on your project.
4. Work out your plan.

B. Use the rubric we have discussed in this lesson to assess your output.



Answer Key

<p style="text-align: center;">Assessment</p> <p>I. 1. B 2. D 3. C 4. D 5. D</p> <p>II. 3 1 2 5 4</p>	<p style="text-align: center;">What's More</p> <p>Activity I: 1. Protection 2. Decoration 3. Sanitation 4. Sale ability 5. Balance</p> <p>Activity 2 & 3 A Note: answer may vary depending on the personal experience of the pupils. The teacher is encouraged to facilitate the checking.</p> <p style="text-align: center;">What I have Learned:</p> <p>1. repair 2. proper care and maintenance 3. reliable 4. rubric 5. finishing materials 6. spray 7. protection 8. considered 9. check valve 10. prolong</p>	<p style="text-align: center;">What I Know</p> <p>1. A 2. C 3. A 4. B 5. D 6. B 7. B 8. C 9. B 10. D</p> <p>What's In: 1. After 2. Before 3. During 4. During 5. During 6. During 7. Before 8. During 9. Before 10. After</p>
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