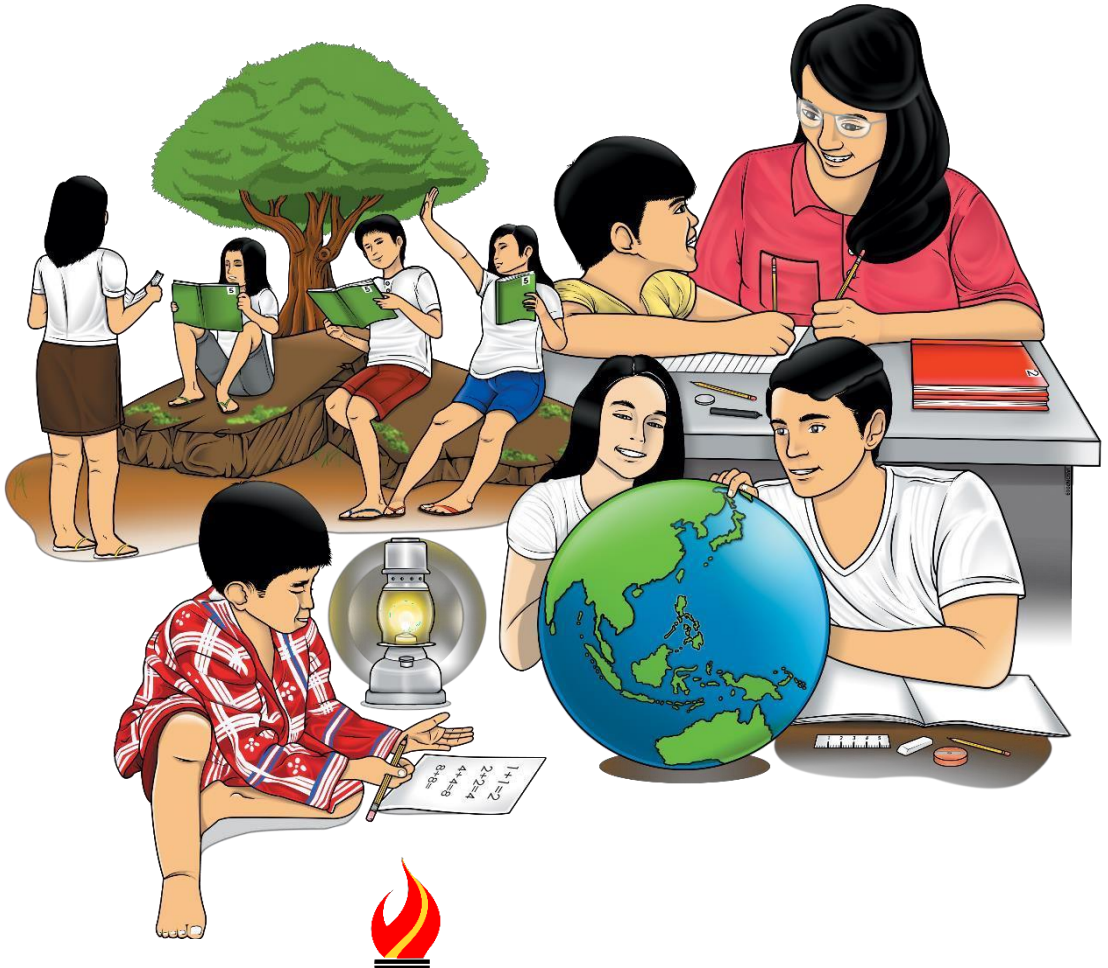
7/8

DepED
DEPARTMENT OF EDUCATION

TLE Masonry

Module 4:
Principles in Maintenance of Masonry Tools and Equipment



ALTERNATIVE DELIVERY MODE
ADM

TLE Masonry – Grade 7/8
Alternative Delivery Mode
Module 4: Principles in Maintenance of Masonry Tools and Equipment First Edition, 2020

Published by the Department of
Education Secretary: Leonor Magtolis
Briones Undersecretary: Diosdado M.
San Antonio

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Printed in the Philippines by Department of Education – SOCCSKSARGEN Region

Office Address: Regional Center, Brgy. Carpenter Hill, City of Koronadal
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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-test 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 Teachers are also provided to the 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. 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

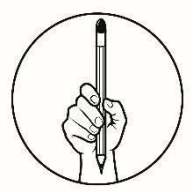
This module covers information and recommended learning activities on Masonry. The learning outcome contains learning activities supported by information sheets. Before you accomplish the instructions, read the knowledge sheets and answer the training activities provided to work out yourself and your instructor that you simply have acquired the knowledge necessary to perform the skill portion of the actual learning outcome.

The module is about:

- Lesson 2 - Perform Basic Maintenance.
  TLE_IAMS7/8MT0g-2
- Lesson 3 - Store Tools and Equipment
  TLE_IAMS7/8MT-0h-3

After going through this module, you are expected to:

1. perform cleaning and lubricating of tools;
2. prepare an inventory of tools and equipment; and
3. store tools and equipment in their proper places.



What I Know

Pre-Test

Let us determine how much you already know about maintaining the cleanliness and usability of masonry tools and equipment.

Direction: Select the letter of the correct answer. Write your answers in your activity notebook.

1. The best way to keep the tools in good condition is to .
   A. Keep them immediately without cleaning.
   B. Clean them while they're within the toolbox.
   C. Clean them before storage.
   D. Place them in a bucket of water.

2. Most handheld masonry tools are often cleaned by _.
   A. kerosene
   B. clean water
   C. oil
   D. cleaning agent provided by the manufacturer.

3. When can we use hydrochloric acid in masonry?
   A. To harden up the mortar.
   B. To remove hardened mortar on the tools.
   C. to urge rid of harmful elements from the mortar.
   D. To wash off the masonry materials.

4. What preventive maintenance is used for wooden tools?
   A. Water
   B. Kerosene
   C. Linseed oil
   D. muriatic acid

5. Why do we have to check frequently the hammers for signs of chipping, cracking or unusual signs of defects?
   A. To assure that there are not any missing tools.
   B. To ensure that they are well classified.
   C. To ensure that they are in perfect condition.
   D. To maintain their cost value.

6. What is the best way to prevent tools from rusting?
   A. Wipe the tools with oil.
   B. Keep the tools in an air-conditioned room.
   C. Keep them in their boxes always.
   D. Keep the tools clean and dry within the storage.

7. Which is an advantage of the proper use of tools and equipment?
   A. Accuracy in job/task performance is achieved.
   B. Shop efficiency is promoted.
   C. There is a high quality of work.
   D. All of the above.

8. What will happen if the mortar is not cleaned off from the tools?
   A. The mortar will build up and harden.
   B. The mortar will build up but are often removed too easily.
   C. The tools cannot anymore be used.
   D. Just ignore it for it won't matter anyway.

9. What do you do when a wooden handle needs to tighten up?
   A. Ignore it.
   B. Tie it around with a rope or a tie wire.
   C. Insert another wedge or immerse the hammerhead into the bucket of water overnight.
   D. Carry it immediately to the carpenter for repair.

10. This allows business owners and managers to know where each tool is located at all times.
   A. Use a barcode system to track inventory.
   B. Restrict shop tool access to one individual.
   C. Conduct an audit for long-term jobs.
   D. Create a symbol out sheet for all shop tools.

11. This creates an electronic record and can allow real-time reporting of tool use.
   A. Use a barcode system to track inventory.
   B. Restrict shop tool access to one individual.
   C. Conduct an audit for long-term jobs.
   D. Create a sign-out sheet for all shop tools.

12. Shop tools left at working place for long periods may require a manager to verify that the tools are still on the job site.
   A. Use a barcode system to track inventory.
   B. Restrict shop tool access to one individual.
   C. Conduct an audit for long-term jobs.
   D. Create a sign-out sheet for all shop tools.

13. Employees must fill up this sheet with specific information relating to the inventory items and specific job use.
    A. Use a barcode system to track inventory.
    B. Restrict shop tool access to one individual.
    C. Conduct an audit for long-term jobs.
    D. Create a sign-out sheet for all shop tools.

14. Allow one person on each job responsible for checking out, or in, various shop tools.
    A. Use a barcode system to track inventory.
    B. Restrict shop tool access to one individual.
    C. Conduct an audit for long-term jobs.
    D. Create a sign-out sheet for all shop tools.

15. To conduct an audit for long-term jobs, managers should .
    A. create an electronic record.
    B. visit the site unannounced.
    C. assigns one person responsible for checking out.
    D. use a barcode system to track inventory.

Lesson 1 Perform Basic Maintenance

Masonry is the building of structures from individual units, which are often laid in and bound together by mortar. The term masonry also can ask the units themselves. The materials of masonry construction are bricks, building stones like marble, granite, and limestone, cast stone, concrete block, glass block, and adobe. Masonry is usually a highly durable sort of construction.

What's In

Base on the picture below, is there a system, or process that employees follow when using the shop's tools? Why?

Illustration 1. Unorganized/ Unclean Tools

Source: Based on original tools

Notes to the Teacher

1. Read the lessons properly. These will guide you to do at the end of this module.
2. Find out what you already know by taking the learning activities.
3. Apply what you have learned in another activity or real life situation.

What's New

Activity 1: Match Up

Direction: Match the pictures with the correct description of masonry basic maintenance materials

(1) 

(a.) It contains little wax and their low pour point makes them good lubricants for most applications.

(2) 

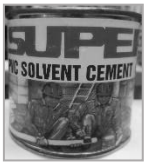
(b.) It covers a broad category of oils, greases, and pastes of varied properties.

(3) 

(4) 

(5) 

(6) 

(7) 

(8) 

(9) 

(10) 

(c.) It reduces friction between moving metal surfaces. It coats surfaces and resists being displaced by the pressure, keeping the metal parts

(d.) It is a component of a solution that dissolves solute and is usually present in large proportion or amount.

(e.) These are very stable and very inert lubricants, which provide a wider range of operating temperatures than non-silicone synthetic lubricants.

(f.) It is used to remove dust, grease oil, paint, etc.

(g.) These are very waxy which makes them useful for hydraulic equipment and other types of machinery.

(h.) It used mainly to dissolve rust and an excellent cleaner.

(i.) These are solvents which dissolve or are soluble in water.

(j.) It is used to wash oil/greasy tools/ equipment

For questions 11 – 15 refer to the illustration below:

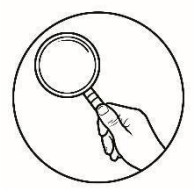
11. Are the tools properly stored? Why did you say so?

12. Identify 4 masonry tools found in the cabinet. Write the name and description of the tool in the tool inventory sheet.

Retrieved from https://www.google.com/search?q=image of cabinet with masonry hand tools

Illustration 2. Cabinet with hand tools

TOOLS INVENTORY SHEET	
Name of Tool	Description of Tool



What is It

Guide Questions:

Answer the following questions and write your answer in your activity notebook.

1. What are the commonly used masonry maintenance tools? Discuss their uses.

_____
_____
_____
_____

2. Why do you think these maintenance tools are important to masons?

_____
_____
_____
_____

3. Have you experienced buying tools? What have you observed in the manner of getting the list of the tools you will buy? Cite 2 situations.

_____
_____
_____
_____

MASONRY BASIC MAINTENANCE

1. 

Lubricant - reduces friction between moving metal surfaces. It coats surfaces and resists being displaced by the pressure, keeping the metal parts separated.

2. 

Naphthenic Oils - contain little wax and their low pour point makes them good lubricants for most applications.

3. 

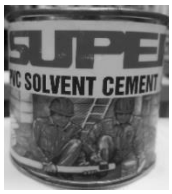
Paraffinic Oils - are very waxy which makes them useful for hydraulic equipment and other machinery.

4. 

Rust Remover - used mainly to dissolve rust. It is also used as an excellent cleaner.

5. 
Synthetic Lubricants - cover a broad category of oils, greases, and pastes of various properties.

6.  **Silicones** - are very stable and very inert lubricants, which provide a wider range of operating temperatures than non-silicone synthetic lubricants.

7. 

Solvent - is a component of a solution that dissolves solute and is usually present in large proportion or amount.

8. 

Polar Solvent - solvents which dissolve or are soluble in water.

9. 

Gasoline - used to wash oil, greasy tools and equipment

10.  **Kerosene** - used to remove dust, grease oil, paint, etc.

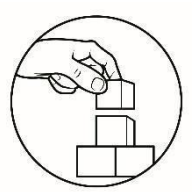
POINTS TO CONSIDER IN PREPARING TOOLS AND EQUIPMENT INVENTORY

- **Create a symbol out sheet for all shop tools.** Use a sign-out sheet where employees must fill up with specific information relating to the inventory item and specific job use. This allows shop owners and managers to know where each tool is located at all times.

• **Conduct an audit for long-term jobs.** Shop tools left at working place for long periods may require a manager to verify that the tool is still on the job site. A shop manager can visit the site unannounced and review the sign-out sheet against all tools on the job.

• **Restrict shop tool access to one individual.** This allows companies to possess one person on each job liable for finding out, or in, various shop tools.

• **Use a barcode system to track inventory.** Place barcode labels on each shop tool and need employees to electronically scan each tool when using them at different job sites. This creates an electronic record and may allow real-time reporting of tool use.



What's More

Activity 3

Direction: Now that you have learned about the basic maintenance of tools and equipment, try to answer the following questions.

TRUE OR FALSE: Read and evaluate each statement below. Write **True** if the statement is correct and **False** if the statement is incorrect on the space provided.

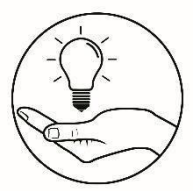
_____1. Electronic record allows real-time reporting of tool used.

_____2. A shop manager can visit the site unannounced and review the sign out sheet against all tools on the job.

_____3. A sign-out sheet for shop tools allow shop owners and managers to know where each tool is located at all times.

_____4. Polar solvents are soluble in water.

_____5. Oil is the best cleaning agent for small and larger tools.

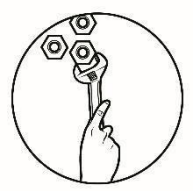


What I Have Learned

Directions: Fill in the blanks. Select the answer provided inside the box. Write your answer in your activity notebook.

Lubricant	**Oil**	**Solvent**
water	**clean**	**dry**
track	**unannounced**	

1. _____reduces friction between moving metal surfaces.
2. _____cover a broad class of fluid lubricants which has physical properties and characteristics.
3. _____is a component of a solution that dissolves solute and is usually present in large proportion or amount.
4. _____ is the best cleaning agent for small and large tools.
5. The best way to keep the tools in good condition is to just _____them.
6. Use a barcode system to_____inventory.
7. A shop manager can visit the site_____.



What I Can Do

Directions: Suppose you were told to visit a shop of your choice. Find out from the shop owner or worker how preventive maintenance of tools and equipment is done. Also, find out the problems met in implementing preventive maintenance of tools and equipment.

1. What are the preventive maintenance of tools and equipment practiced in the shop? Cite 2 examples.

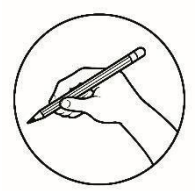
_____
_____
_____
_____

2. What are the problems encountered in implementing preventive maintenance of tools and equipment in the shop? Cite 2 problems.

_____
_____
_____
_____

3. Does the shop owner practice tools and equipment inventory? How?

_____
_____
_____
_____



Assessment

Post-Test

Let us determine how much you already know about maintaining the cleanliness and usability of masonry tools and equipment.

Direction: Select the letter of the correct answer. Write your answers in your activity notebook.

1. The best way to keep the tools in good condition is to_____.
   A. Keep them immediately without cleaning.
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   D. Place them in a bucket of water.

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    B. visit the site unannounced.
    C. assigns one person responsible for checking out.
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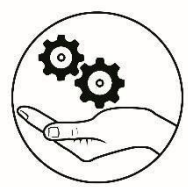

Additional Activities

Activity 4.1 MAKE ME CLEAN!

Students are tasked to do the following:

1. Pick 2 tools from the tools placed on the table.
2. Clean the tools using the basic maintenance materials provided.
3. Student's performance will be rated using the performance rubrics.

PERFORMANCE RUBRICS

CRITERIA	5	3	1
Proficiency	Performs the task with competence and exceptional performance	Performs the task with competence and standard performance	Performs the task with competence but below standard performance
Accuracy	Performs the task with no error	Performs the task with at least 1-2 errors	Performs the task with at least 3-5 errors
Completeness	Performs all the steps in sequence	Performs the task with at least 2-3 steps not met	Performs the task with at least 3-5 steps not met
Safety	Follows all the safety practices as set in the guidelines	Follows the safety practices with at least 1-2 safety measures not met	Follows the safety practices with at least 3-5 safety measures not met

TOTAL : _____

Rating Scale	Points Earned	Numerical Rating	Descriptive Rating
	16 – 20	91 – 100	Expert
	11 – 15	86 – 90	Competent
	06 – 10	81 – 85	Novice
	01 - 05	76 - 80	Needs Development

What is your score? _____

Activity 4.2 CHECK IT OUT!

Directions. Using the Tools Inventory Form below, list down 5 masonry tools that are found in your home and identify its condition whether it's Good (functional), Fair (functional but slightly damaged), and Poor (non-functional/damaged) by checking the appropriate column.

TOOLS INVENTORY FORM			
Name of Tools	Condition		
	Good	Fair	Poor

Answer Key

Activity 3

True
2. True
3. True
4. True
5. False

Activity 1

1.c
2.a
3.g
4.h
5.b
6. e
7. d
8. i
9. j
10. f

Pre-Test

1. B
2. D
3. C
4. D
5. D
6. D
7. A
8. B
9. D
10. D
11. A
12. C
13 D
14. B
15. B

What I Have

1. Learned
2. Lubricant
3. Solvent
4. Water
5. Clean
6. Track
7. unannounced

1. B
2. D
3. C
4. D
5. D
6. D
7. A
8. B
9. D
10. D
11. A
12. C
13 D
14. B
15. B

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