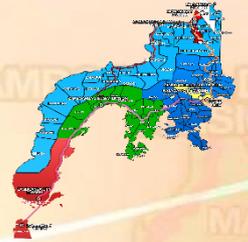




**6**



Zest for Progress  
 Zeal of Partnership

# Technology and Livelihood Education

## Quarter 4 – Module 6: Principles of “five S”



Name of Learner: \_\_\_\_\_

Grade & Section: \_\_\_\_\_

Name of School: \_\_\_\_\_

JANUARY	<i>Makugihon</i>
FEBRUARY	<i>Mahigugmaon</i>
MARCH	<i>Matinabugon</i>
APRIL	<i>Matinahuron</i>
MAY	<i>Mahapsay og Malimpyo</i>
JUNE	<i>Maabtik og Masurod sa Ihsaklong Oras</i>
JULY	<i>Maantigo og Maabilidad</i>
AUGUST	<i>Maginhuhunahan para sa Uban</i>
SEPTEMBER	<i>Madaginoton</i>
OCTOBER	<i>Matinud-anon</i>
NOVEMBER	<i>Masaligan</i>
DECEMBER	<i>Maatampoon</i>

**TLE – Grade 6**  
**Alternative Delivery Mode**  
**Quarter 4 – Module 6: Principle of “five S”**  
**First Edition, 2020**

**Republic Act 8293, section 176** states that: No copyright shall subsist in any work of the Government of the Philippines. However, prior approval of the government agency or office wherein the work is created shall be necessary for the exploitation of such work for a profit. Such agency or office may, among other things, impose as a condition the payment of royalties.

Borrowed materials (i.e., songs, stories, poems, pictures, photos, brand names, trademarks, etc.) included in this module are owned by their respective copyright holders. Every effort has been exerted to locate and seek permission to use these materials from their respective copyright owners. The publisher and authors do not represent nor claim ownership over them.

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

**DevelopTeam of the Module**

**Developer:** Kenneth C. Agalot

**Editors:** Jerry M. Perong

**Reviewers:** Ma. Perga A. Cadiente  
Dr. Jephone P. Yorong

**Illustrator:** Jennifer M. Beguinwa  
Ailene S. Bantilan

**Layout Artist:** Peter Alavanza

**Management Team:**

Dr. Ella Grace M. Tagupa  
Dr. Jephone P. Yorong  
Jerry M. Perong  
Joy I. Cagbabanua  
Genelyn M. Dabodabo  
Liberty L. Enjambre  
Pacita E. Balladares  
Leonido J. Tabilon  
Lyra L. Balladares  
Judycel L. Elumba

**Printed in the Philippines by** \_\_\_\_\_

**Department of Education – Region IX**

Office Address: \_\_\_\_\_

Telefax: \_\_\_\_\_

E-mail Address: \_\_\_\_\_



## ***What I Need to Know***

This module was designed and written with you in mind. It is here to help you to find out how to repair simple gadgets/furniture/furnishing at home and school with ease and dexterity by following the principle of “five S”. 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.

This lesson will expand your knowledge in how to construct simple electrical gadgets by following the protocols in making electrical gadgets.

After going through this module, you are expected to:

- a. repairs simple gadgets/furniture/furnishing at home and school
- b. discusses the principles of “five S”
  - Sorting (Seire)
  - Straightening (Seiton)
  - Systematic Cleaning (shine) (Seiso)
  - Standardizing (Seiketsu)
  - Service (Sustaining) (Shitsuke)



## ***What I Know***

Direction: Put a check (✓) if it the statement is following the safe practice and (×) if the statement is not following the safe practice .

- \_\_\_ 1. Identify waste materials as reusable, recyclable or residual.
- \_\_\_ 2. Place all things on its designated area.
- \_\_\_ 3. Do not check the condition of tools and equipment.
- \_\_\_ 4. Decide the right place for everything.
- \_\_\_ 5. Use cleaning as inspection

## Lesson

# 1

## The Principle of “five S”

The 5s was originally developed by Hiroyuki Hirano for manufacturing companies in Japan, The principle of 5s translate well to the laboratory, the repair facility, and even the corporate office. Almost any work environment will benefit from the structure and efficiency this model provides.

5s is sometimes called the five pillars because just like the physical pillars that hold up a structure, 5s has five elements that support the effectiveness of the system. And just like pillar of building, if one was to weaken or fail, the entire structure would fall.



### What's In

#### **What is the meaning of 5s?**

Is a method or system of organizing things in the work place that can also be applied to waste management.

5S is the principles of work environment improvement derived from the Japanese words seiri, seiton, seiso, seiketsu, and shitsuke. In English the five 5S respectively described Sort, Set Shine, Standardized, and Sustain.

#### **1. Sort (Seiri):**

*Meaning* -This means distinguishing or sort out between ‘wanted’ and ‘unwanted items’ at place of work and removal of unwanted items.

##### *Methods*

- First decide what is necessary and what is unnecessary. To find out unnecessary items you should not only check the floor but also shelves, lockers, storehouse, stairs, roofs, notice boards, etc.
- Put a red tag on unnecessary items and keep them in a separate area.
- Discard or throw those items which have not been used in the past one year.
- Things used once in 6 to 12 months may be stored at a distance from work station.
- Things used more than once a month should be available at a central point in a workplace.
- Things used hourly/everyday/once a week should be near the work station or may be worn by or kept in the pocket.

##### *Benefits*

- Your useful floor is saved
- Your searching time of tools, materials, and papers is reduced.
- You have better flow of work.
- Your inventory cost of unnecessary items is reduced.



## 2. Set (Seiton):



*Meaning* – Arranging items in such a manner that they are easy to use. Labelling them so that they are easy to find and put back. This means a place for everything (necessary) and everything in its place. No more homeless items.

### *Methods*

- If necessary, reassign spaces, racks, cabinets, etc.
- Decide the right places for everything.
- Put all materials and equipment at a place allocated to them with proper label or signalization. Use alerts or indications for out-of stock situations.
- Use floor paint marking to define working area, path, entrance/exit, safety equipment, cart/ trolley locations, etc.
- Use standard colour coding for pipelines for steam, water, gas, drainage, etc.
- Use display cautions, messages, instructions at proper place at proper height and written clearly

### *Benefits*

- You take things out and keep things back easily. You make lesser mistakes. You reduce searching time. Your work environment becomes safe

## 3. Shine (Seiso):



*Meaning* – This means removing dirt, strain, filth, soot and dust from the work area. This includes cleaning and care for equipment and facilities and also inspecting them for abnormalities. In a way it also includes primary maintenance of equipment.

*Note: Cleaning is not polishing, etc., to make the piece of equipment more beautiful – it looks after its condition and fitness for use.*

### *Methods*

- Divide the total area in zones and allocate responsibility for cleaning for each zone.
- Decide on cleaning points, order of cleaning, type of cleaning, cleaning aid required, etc.
- Display cleaning schedule.
- During cleaning look for defective conditions (loose bolts, vibrations, excessive sound, high temperature, fallen tools, etc.) and solve the problem.
- Allocate space for storage of cleaning aids and consumables for cleaning.

### *Benefits*

- Your work place becomes free of dirt and stains which is the starting point for quality. Your equipment lifespan will be prolonged and breakdowns will be less. Creates a pleasant environment. And prevents accidents.

#### 4. **Standardized (Seiketsu):**

*Meaning* – This call for systematizing the above 4S practices. This means ensuring that whatever cleanliness and orderliness is achieved should be maintained. This requires that you should develop a work structure that will support the new practices and turn them into habits. The purpose of standardization is to make sure that everyone in the company follows the same procedure, the same names of items, the same size of signalization/floor marking, shapes, colours, etc. Standardize also helps to do the right thing the right way every time.

##### *Methods*

- Document procedures and guidelines for sorting, set in order and shine.
- Make a checklist for each section and train your people in using them
- Carry out periodic evaluation by using the above check list.
- Use visual management to act quickly, for example putting/using:
  - Open and shut directional labels on switches, etc.
  - Temperature and safety labels
  - Zone labels on measuring metres (normal zone, danger zone, etc.)
  - OK or hold marks on product.
  - Put transparency control
  - Make transparent covers of drawers.
  - Put inspection windows in the metal covers.
  - Use location maps with emergency exit, fire fighting equipment, etc.

##### *Benefits*

- Your activities will be simplified. You will have consistency in the work practices. You will avoid mistakes. With better visual and transparency management work efficiency will improve

#### 5. **Sustain (Shitsuke)**

*Meaning* – Sustain also means ‘Discipline’. It denotes your commitment to maintain orderliness and to practice first 3S as a way of life. This also requires that your employees show positive interest and overcome resistance to change

##### *Methods*

- Create awareness and publicize the system. For example develop 5S News, 5S Posters, 5S Slogans, 5S Day, etc.
- Create a structure of how and when 5S activities will be implemented.
- Formulate guidelines for audit/evaluation of 5S implementation.
- Provide management support by providing resources and leadership.
- Reward and recognize best performers

##### *Benefits*

- Promotes habit for complying with workplace rules and procedures.
- Creates healthy atmosphere and a good work place.
- Helps you to develop team work.
- Provides you with data for improving 5S





## ***What's new***

### ***Why do we practice the 5s?***

The general concept of the 5S is that they are intended to eliminate waste (Osada, 1993).

Working in disorder is neither productive, nor safe. 5S is a simple and practical method to instil a quality culture at the work place. It is relatively easy to undertake, and requires minimal additional resources. The first and small investment made in time and effort pays off in a much bigger manner when the results are realized and maintained.

Among the main benefits of implementing 5S are:

- the workplace becomes cleaner, safer, well-organized and more pleasant
- floor space utilization is improved
- workflow becomes smoother and more systematic and non-value added activities are reduced;
- time for searching tools, materials and document is minimized;
- machine breakdowns are reduced since clean and well-maintained equipment breaks down less frequently and it also becomes easier to diagnose and repair before breakdowns occur, therefore extending equipment life;
- errors are minimized leading to making defect-free products;
- consumables and material wastage are minimized;
- the morale and satisfaction of employees improves; and
- the productivity of the organization improves together with the quality of products and services.



## ***What Is It***

5S is a philosophy and a way of organizing and managing the workspace and work flow with the intent to improve efficiency by eliminating waste, improving flow and reducing process unreasonableness.

The following are the reason of 5S is very effective in working environment.

- Visible results enhance the generation of more and new ideas
- The workplace gets cleaned up and better organized
- The operations become easier and safer
- Results are visible to everyone- insiders and outsiders
- People are naturally disciplined
- People take pride in their clean and organized workplace.



## ***What's More***

Directions: Match the English terms in column A with the Japanese terms in column B. Write the answers on the blank.

A	B
_____ 1. Shine	A. SEITON
_____ 2. Sort	B. SEIRI
_____ 3. Sustain	C. SEIKETSU
_____ 4. Straighten	D. SHITSUKE
_____ 5. Standardize	E. SEISO



## ***What I Have Learned***

Identify what is being asked in each statement. Write the answer on the blank.

\_\_\_\_\_ 1. A principle than can be done in the work area after it has been cleared of unneeded items.

\_\_\_\_\_ 2. A methodology developed in Japan that is used to organize a workplace for work to be efficient and effective.

\_\_\_\_\_ 3. This is a principle that means creating specific task, responsibilities, and procedures or rules

\_\_\_\_\_ 4. This involves distinguishing things or items in the work area and eliminating the unnecessary items.

\_\_\_\_\_ 5. This is maintaining consistency and striving for continued improvement.



## ***What I Can Do***

Practical Activity:

Now let's try to repair the broken table by following the 5S principle.

Usual defects of table are loosening of its fixing materials such as nails, screws, and bolts. This is caused by either loose of nail's hole or the fixing material itself.

Here's how to fix it.

### **PROCEDURE FOR REPAIRING A BROKEN TABLE**

1. Prepare all the materials and tools.
2. Identify the materials and tools.
3. Find the loose part where fixing materials are placed or lost screws.
4. Either replace the broken part of the table or transfer where to fasten.
5. To fasten the part or parts thoroughly, place a brace to support the loosen legs.

### **REMINDER: Safety Precautions When Doing Repairs**

- Have a container for the tools and equipment.
- Use appropriate tools or equipment for the particular activity.
- Use tools and equipment that are in good condition.
- Keep sharp and pointed tools away from you and others.
- Avoid placing them in your pocket if not in use.
- Use an apron or work clothes when working.
- Wash your hand before and after working.
- Wear a mask while working.
- Use and handle electrical tools with care.
- Turn off the main switch when repairing electrical wiring and appliances.



## **ASSESSMENT**

Let's see how much you learned today!

Direction: Write TRUE if the statement is correct and FALSE if it is not. Write your answer on the space provided.

- \_\_\_ 1. Arrange all necessary items so that can be easily selected for use.
- \_\_\_ 2. There is loss and waste of time when tools/equipment are in close proximity.
- \_\_\_ 3. Make work flow smooth and easy.
- \_\_\_ 4. Components should be placed according to their uses.
- \_\_\_ 5. Maintain safety in the work place.
- \_\_\_ 6. Removed all part or items that are not in use.
- \_\_\_ 7. Ensure first –1 -first –out basis.
- \_\_\_ 8. Use cleaning as inspection.
- \_\_\_ 9. Work place should be harmful to anyone.
- \_\_\_ 10. If you are working on any receptacle at your home then always turn off main switch.



## **Additional Activities**

Direction: Put a check (  $\checkmark$  ) if it the statement is correct and (  $\times$  )if the statement is incorrect.

- \_\_\_ 1. Things used every day should be near the work place.
- \_\_\_ 2. Removed unnecessary items or materials from the work place.
- \_\_\_ 3. Put a red tag on unnecessary items.
- \_\_\_ 4. Decide what is necessary and what is unnecessary inside the work place.
- \_\_\_ 5. Assign cabinets or racks for materials according to its uses.



## Answer Key

What I Know  
 1. /  
 2. /  
 3. ×  
 4. /  
 5. /

What I Have Learned  
 1. Seton/Strajhten  
 /Set in Order  
 2. 5S  
 3. Seiketsu/standar  
 dize  
 4. Seiri/Sort  
 5. Shitsuke/Sustain

Assessment  
 1. True  
 2. False  
 3. True  
 4. True  
 5. True  
 6. True  
 7. True  
 8. True  
 9. False  
 10. True

Additional  
 Activities  
 1. /  
 2. /  
 3. /  
 4. /  
 5. /

What's More  
 1. Seiso  
 2. Seiri  
 3. Sustain  
 4. Strajhten  
 5. Standardize  
 d

## References

K-12 Curriculum Guide in Industrial Arts  
 Technology and Livelihood Education pp.227-229,  
 Susana V. Guinea, Ma. Gilmin G. Sotoya, Randy R. Emen  
[www.intracem.org](http://www.intracem.org)  
<https://www.youtube.com/watch?v=Zwsyt>  
<https://www.youtube.com/watch?v=MspNVXPUKR8&t=52s>  
<https://www.youtube.com/watch?v=qmQxQ1v85e0>  
<https://www.youtube.com/watch?v=Zwsyt>

## Disclaimer:

This learning resource contains copyrighted materials. The use of which has not been specifically authorized by the copyright owner. We are making this learning resource in our efforts to provide printed and e-copy learning resources available for the learners in reference to the learning continuity plan of this region at this time of the pandemic.

This LR is produced and distributed locally without profit and will be used for educational purposes only. No malicious infringement is intended by the writer. Credits and respect to the original creator/owner of the materials found in this learning resource.