9

Technical Vocational Education

Computer Systems Servicing

Quarter 1-Week 2- Module 2

Assemble Computer Hardware:Identify and Obtain Materials Needed

SPTVE CSYS9- ICCSIa-c-1

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Alternative Delivery Mode
Quarter 1 Week 2 Module 2 - Assemble Computer Hardware: Identify and Obtain Materials Needed
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Introductory Message

For the Facilitator:

Welcome to the Technical Vocational Education-Computer Systems Servicing 9 Project CAP-LRE Alternative Delivery Mode (ADM) Module on Assemble Computer Hardware: Identity and Obtain Materials Needed.

This module was collaboratively designed, developed and reviewed by educators both from public and private institutions to assist you, the teacher or facilitator in helping the learners meet the standards set by the K to 12 Curriculum while overcoming their personal, social, and economic constraints in schooling.

This learning resource hopes to engage the learners into guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

In addition to the material in the main text, you will also see this box in the body of the module:

Notes to the Teacher
This contains helpful tips or strategies that will help you in guiding the learners

As a facilitator, you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Furthermore, you are expected to encourage and the learners as they do the tasks included in the module.

For the Learner:

Welcome to the Technical Vocational Education-Computer Systems Servicing 9 Project CAP-LRE Alternative Delivery Mode (ADM) Module on Assemble Computer Hardware: Identify and Obtain Materials Needed

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled to process the contents of the learning resource while being an active learner.

This module has the following parts and corresponding icons:

What I Need to Know	This will give you an idea of the skills or competencies you are expected to learn in the module.

 ***What I Know***	This part includes an activity that aims to check what you already know about the lesson to take. If you get all the answers correctly (100%), you may decide to skip this module.
 ***What's In***	This is a brief drill or review to help you link the current lesson with the previous one.
 ***What's New***	In this portion, the new lesson will be introduced to you in various ways; a story, a song, a poem, a problem opener, an activity or a situation.
 ***What is It***	This section provides a brief discussion of the lesson. This aims to help you discover and understand new concepts and skills.
 ***What's More***	This comprises activities for independent practice to solidify your understanding and skills of the topic. You may check the answers to the exercises using the Answer Key at the end of the module.
 ***What I Have Learned***	This includes questions or blank sentence/paragraph to be filled in to process what you learned from the lesson.
 ***What I Can Do***	This section provides an activity which will help you transfer your new knowledge or skill into real life situations or concerns.
 ***Assessment***	This is a task which aims to evaluate your level of mastery in achieving the learning competency.
 ***Additional Activity***	In this portion, another activity will be given to you to enrich your knowledge or skill of the lesson learned.
 ***Answer Key***	This contains answers to all activities in the module.

At the end of this module, you will also find:

References- This is a list of all sources used in developing this module.

The following are some reminders in using this module:

1. Use the module with care. Do not put unnecessary mark/s on any part of the module. Use a separate sheet of paper in answering the exercises.
2. Don't forget to answer *What I Know* before moving on to the other activities included in the module.
3. Read the instruction carefully before doing each task.

4. Observe honesty and integrity in doing the tasks and checking your answers.
5. Finish the task at hand before proceeding to the next.
6. Return this module to your teacher/facilitator once you are through with it.

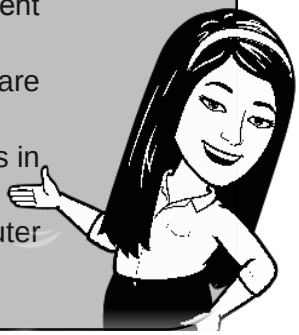
If you encounter any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator. Always bear in mind that you are not alone.

We hope that through this material, you will experience meaningful learning and gain deep understanding of the relevant competencies. You can do it!

What I Need to Know

This module encourages you to be familiar on how to validate one's work for quality improvement work. Different activities are provided for you to be able to:

1. Identify and select appropriate computer hardware tools in accordance with the task requirements
2. Check and identify unsafe computer hardware tools in accordance with standard operating procedures
3. Adhere to the safety procedures in using computer hardware tools



What I Know

Directions: Read and understand each question carefully and choose the letter of the correct answer. Write your answer in the given answer sheet.

1. When cleaning a keyboard, what tool is best used to remove the dust?
   a. Compressed air
   b. Compressor
   c. Duster
   d. Spray

2. If you are dealing with a slotted bolt, which of the following tools you will use?
   a. Flat screwdriver
   b. Philips screwdriver
   c. Torx screwdriver
   d. Hex driver

3. Which of the following does NOT describe a successful maintenance program?
   a. Defines procedure
   b. Controls hazard
   c. Unsystematic
   d. Well-organized

4. To loosen or tighten six-sided bolts, which of the following tools you will use?
   a. Flat screwdriver
   b. Hex driver
   c. Phillips screwdriver
   d. Torx screwdriver

5. In cleaning computer casing, which of the following tools is used with a mild cleaning solution?
   a. Blower b. Cloth c. Duster d. Lint-free cloth

6. What will you do if there are damaged or defective tools in your toolkit?
   a. Clean the toolkit
   b. Place anywhere
   c. Remove in your toolkit
   d. Store in the toolkit

7. What will you do to properly store computer hardware tools?
   a. Keep inside the box
   b. Layered the tools
   c. Place on the board/toolkit and labeled it
   d. Remove faulty tool

8. Which of the following is NOT a benefit of applying preventive maintenance of tools and equipment?
   a. Faulty tools and equipment c. Systematic care
   b. Protection of tools
   d. Safe conditions of tools and equipment

9. What is the first step in handling the computer internal parts?
   a. Clean the working area before the activity.
   b. Connect immediately to the connectors and drives.
   c. Discharge the current in your body.
   d. Wash your hand with soap first.

10. To finish the work safety and early, what OHSP should be done?
   a. Always power off and unplug the computer before working on it.
   b. Be careful with tools that may cause a short circuit.
   c. Do not work alone.
   d. Take away any liquid near your working area.

11. What is the importance of Occupational Health and Safety Procedures?
   a. Avoid the disobedience of the employees.
   b. Ensure the protection in the health and safety of the employees.
   c. Follow the mandated rules and regulations of the government.
   d. Show the different activities in the workplace.

12. To maintain sanitation and prevent accidents in the workplace, what can we do?
   a. Always wear PPE
   b. Clean the area before and after work
   c. Follow the OHS
   d. Neither of the three

13. What procedure should be done to ensure that we discharge the electricity in our body?
    a. By asking for a professional technician.
    b. By holding a piece of metal.
    c. By turning off the computer plug.
    d. By wearing an anti-static wrist strap.

14. To avoid short circuit, before working on electronic devices you need to ____
    a. Always power off and unplug the computer before working on it.
    b. Be careful with tools that may cause a short circuit.
    c. Do not work alone.
    d. Take away any liquid near your working area.

15. The student was asked to disassemble the computer. What should the student do first?
    a. Always power off and unplug the computer before working on it.
    b. Be careful with tools that may cause a short circuit.
    c. Do not work alone.
    d. Take away any liquid near your working area.

What's In

Directions: Computers are classified into two types, **BASED ON PRINCIPLES OF OPERATION** and on **BASED ON PRINCIPLE OF CONFIGURATION**. Group the following computers below according to their type. Write only the letter of your answer in your answer sheet.

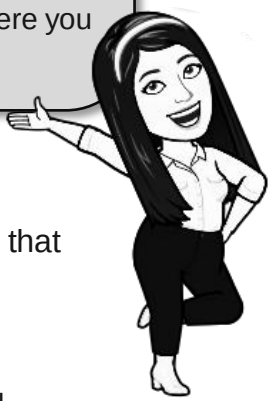
BASED ON PRINCIPLES OF OPERATION	BASED ON PRINCIPLE OF CONFIGURATION

A. Digital Computer
B. Hybrid Computer
C. Supercomputer
D. Laptop
E. Minicomputer
F. Desktop
G. Microcomputer
H. Server
I. Wearable Computer
J. Smartphones

What's New

Computer hardware tools are handheld device that enables a person to install, remove, or perform a specific task on a computer. Before any computer task/job takes place, oneself must be familiar first in identifying and selecting appropriate computer hardware tools in accordance with the task requirements and raise awareness in addressing hand tools safety concerns.

It is also a must to identify the Occupational health and safety (OHS) planned system of working to prevent illness and injury where you work by recognizing and identifying hazards and risks.



Directions: Write the letter of the correct answer in your answer sheet that best describes the illustrations.

A. Physical Hazard
B. Chemical Hazard
C. Mechanical Hazard
D. Electric Shock Hazard

1. _____

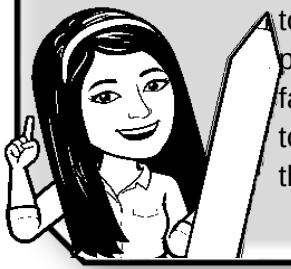
2. _____

3. _____

4. _____

5. _____

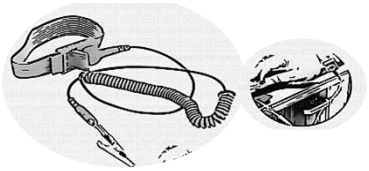
What is It



Proper usage and maintenance of computer hardware tools is vital in a workplace to ensure the safety of every job to be accomplished and to keep the optimum conditions of physical properties at acceptable levels. Oneself should be familiar in managing and upholding computer hardware tools to extend the use in lifespan and ensure the safety from using the tools, its physical properties, and the environment.

CLASSIFICATION OF HARDWARE TOOLS AND ITS PROPER USAGE

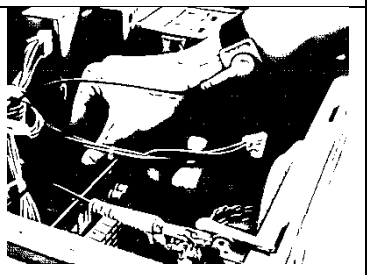
1. **Electro-Static Discharge (ESD) Tools** – tools that prevent the sudden flow of electricity to avoid damage to your computer components and parts.



✓ **Anti-static strap** – usually worn on your wrist to prevent the occurrence of ESD

✓ **Anti-static mat** – used to stand on or place hardware on to prevent static electricity from building up.

✓ **Anti-static spray** – can be applied on floors, walls, ceilings, tools, equipment, and workspaces to prevent building up of ESD

PROPER USE OF ESD TOOLS	
ESD tools	**Tips for properly use of ESD tools**
Antistatic Wrist Strap	✓ Connect the cable to the metal chassis of the computer. ✓ Wrap the strap around your wrist. ✓ The connection will keep your body at the same voltage (potential) as the computer. 

	✓ Attach the wire on the same side of the equipment as the arm wearing the antistatic wrist strap to keep the wire out of the way while you are working
Antistatic Mat	✓ Lay the mat on the workspace next to or under the computer case. ✓ Clip the mat to the case to provide a grounded surface on which you can place parts as you remove them from the system.

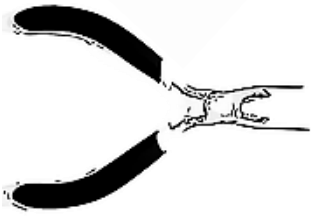
2. **Hand Tools -** are used in the performing task like computer assembly and computer repair, this tools are manually operated by hand and are available individually or as part of a computer repair toolkit. Toolkits range widely in size, quality, and price.

✓ **Flat head screwdriver** is a hand tool used for tightening and loosening slotted screws, has a flat wedge shape tip

✓ **Philips head screwdriver** is a hand tool for tightening and loosening cross head screws,

✓ **Torx screwdriver** used for loosening or tightening screws with a star-like depression at the end, a function often seen on a laptop.

✓ **Hex driver** is sometimes referred to as a nut driver, it is used to tighten nuts just like a screwdriver tightens screws



✓ **Needle- nose plier** (Also known as long-nose pliers) characterized by long, tapering jaws of equal length. Used for holding small portions

✓ **Tweezers** are tools used for picking up objects too small to be easily handled with human hands

✓ **Wire cutter** is used for stripping and cutting wires

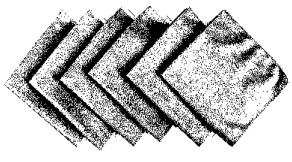
- ✓ **Flashlight** used to light up areas that you cannot see well.

- ✓ **Part retriever** is used to retrieve screws, jumpers, fasteners, and other parts and prevents them from getting mixed

PROPER USE OF HAND TOOLS	
Hand Tools	**Tips for properly use of ESD tools**
Screwdrivers	✓ Each screw matches with the correct screwdriver. Place the screwdriver tip onto the screw end. Switch the clockwise screwdriver to twist the screw and push the screw in counterclockwise. ✓ If you over-tighten them with a screwdriver, the screws may get stripped. A stripped pin can get trapped in the hole of the bolt, or may not securely secure. Discard screws off.
Flathead screwdriver	✓ If you are dealing with a slotted bolt, using a flat head screwdriver. Do not use a flat head screwdriver to loosen a head screw at Phillips. ✓ Using a screwdriver never as a pry bar. If you can't uninstall an item, test and see if a clip or lock is in position to protect the object.
Phillips head screwdriver	✓ Using a screwdriver or Phillips head and crosshead screws. Should not use this sort of screwdriver to have it punctured. This would hurt the screwdriver's handle.
Hex driver	✓ To loosen and tighten bolts with a hexagonal (six-sided) head, use a hex driver. Hex bolts should not be over-tight, as the bolts' threads can be stripped. Do not use the hex driver which is too big for the bolt you are using.
Part retriever, Needle-nose pliers, or tweezers	✓ You should use the component retriever, needle-nose pliers, and tweezers to position and remove pieces that could be impossible to touch with your fingertips. When using such materials, do not smash or touch any parts

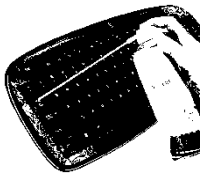
3. **Cleaning Tools –** are essentials when maintaining and repairing computers. Using the appropriate cleaning tools helps ensure that computer components are not damaged during cleaning.

   - ✓ **Lint-free cloth** is a special type of cleaning cloth that wipes off dust and other types of unwanted elements from computer parts without scratching



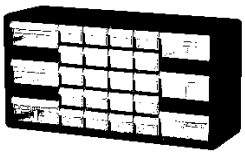
- ✓ **Computer Duster** softly brushes away dust from computer parts. This is commonly used for cleaning computer keyboard.

- ✓ **Compressed air** is a product used for cleaning or dusting electronic equipment and other sensitive devices that cannot be cleaned using water



- ✓ **Cable ties** are used to organize all kinds of cables, like those used with a computer, an entertainment system, or in a network

- ✓ **Parts organizer** is a type of storage box featuring small compartments for sorting



PROPER USE OF CLEANING MATERIALS/TOOLS	
Components to be cleaned	**Tips for properly use of ESD tools**
Computer Cases and Monitors	✓ Clean computer cases and monitor outdoors on a damp, lint-free cloth with a mild cleaning solution. To create the cleaning solution, mix one drop of dishwashing liquid and four ounces of water. When some water drips within the device, give the liquid to dry enough time before turning on the machine.
LCD Screens	✓ Do not use ammonized glass cleaners on an LCD screen or any other solution unless the cleaner is specifically designed for that purpose. Harsh chemicals damage the on-screen coating. Such displays are not covered by glass, so be careful when washing them, and don't click tightly on the screen.
Keyboard	✓ Clean a desktop keyboard with compressed air or a small, hand-held vacuum cleaner with a brush attachment
Mouse	✓ Using a glass cleaner and a fluffy towel to brush the mouse outside. Do not sprinkle glass cleaner directly on your mouse. If you clean a ball mouse, you can remove the ball and clean it with a soft cloth and a glass cleaner. Wipe the rollers with the same rag, wipe inside the cursor. Do not sprinkle any liquids in the mouse.

4. **Diagnostic Tools –** are tools used for testing computer hardware to check for its functionality.

   - ✓ **Multimeter** an electronic tool used to measure voltage, amps and resistance across circuits. By attaching two leads to different parts of an electrical system, learners can use multimeter to detect voltage and resistance levels, or changes

   - ✓ **Loopback Adapter** is also called a loopback plug, used to test the basic functionality of computer ports

IDENTIFYING UNSAFE OR FAULTY TOOLS

Environmental Safety and Health Program requires the following:

1. All tools are kept in good condition with regular maintenance
2. The right tool be used for the job
3. Each tool be examined before use AND damaged or defective tools NOT to be used
4. Tools are operated according to the manufacturer's instructions
5. The right protective equipment for the tool and activity be used

TOOL AND EQUIPMENT MAINTENANCE

We must always be aware that maintenance tasks themselves are potentially hazardous and can result in injury. The successful maintenance program is:

- ✓ well organized and scheduled,
- ✓ controls hazards,
- ✓ defines operational procedures, and
- ✓ trains key personnel.

General requirements for tools and equipment maintenance include:

- ✓ Obtaining a copy of the maintenance schedule recommended by the manufacturer
- ✓ Ensuring that maintenance is performed as required
- ✓ Ensuring that the person(s) performing the maintenance are competent (e.g. licensed mechanic)
- ✓ Retaining records of maintenance/service conducted
- ✓ Specifying who is responsible for overseeing equipment maintenance and where the records are kept
- ✓ Set up a system for removal and tagging of damaged or defective tools and equipment

PROPER STORAGE OF TOOLS, PARTS, AND EQUIPMENT

To ensure that tools and equipment remain in good condition and last for a long time, store them properly. Properly stored tools and equipment will be easy to find when needed and are less likely to be lost.

Good practices include:

- ✓ Parts should be properly stored and labeled.
- ✓ Tools should be properly placed on the board and labeled. Consider drawing the shapes of the tools on the board so that they always get put back in the same position.
- ✓ Use bins for storing small parts.
- ✓ Consider making an individual (or individuals) responsible for the good maintenance of tools and parts.

Benefits:

- ✓ Tools and parts are kept in good condition and are easy to find
- ✓ Costs are reduced.
- ✓ Productivity is increased because time is not wasted looking for tools, parts, and equipment.
- ✓ Workshop staff develop a sense of responsibility and pride in their work

Activity 1:

Direction: Complete the following statements below about the proper usage and maintenance of computer hardware tools by choosing the appropriate word(s) inside the box. Write your answer in your answer sheet.

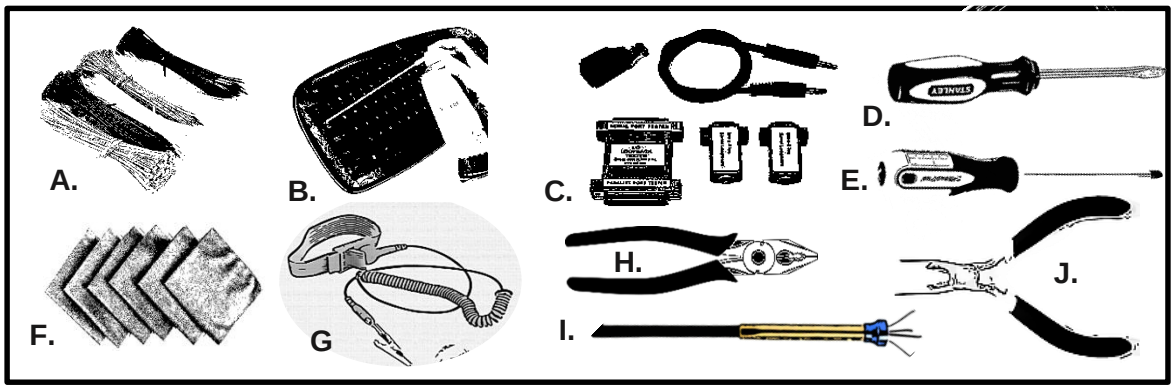
Around	Ammoniated	Tighten	
Electrical charge	Dust	Crosshead	
Conductor	Bolts	Loosen	Alcohol

1. Use a Philips head screwdriver with _____screws.
2. Turn the screwdriver counterclockwise to _____the screw.
3. Pencils should not be used inside the computer to change the setting of switches or to pry off jumpers because the tip contains lead which can act as a _____ and may damage the computer components.
4. The purpose of an antistatic wrist strap is to equalize the _____ between you and the equipment.
5. Clean the contacts on components with isopropyl _____.
6. Turn the screwdriver clockwise to _____ the screw
7. On electrical components, an excessive buildup of _____ will act like an insulator and trap the heat.

8. Do not use _____ glass cleaners or any other solution on an LCD screen unless the cleaner is specifically designed for the purpose.
9. Use a hex driver to loosen and tighten _____ that have a hexagonal (six sided) head.
10. When compressed air is used to clean the inside of the computer, the air should be blown the components _____with a minimum distance of four inches from the nozzle.

Activity 2:

Directions: Below are different tasks/activities in undertaking a single computer operation, fill it in with the appropriate computer hardware tools to be used in accomplishing the said task. Choose your answer from the box below and write the letter of the correct answer in your answer sheet.



___1. It is a product used for cleaning or dusting electronic equipment and other sensitive devices that cannot be cleaned using water.
___2. This is used to organize all kinds of cables, like those used with a computer, an entertainment system, or in a network.
___3. It is characterized by long, tapering jaws of equal length. Used for holding small portions.
___4. A hand tool used for tightening and loosening cross head screws.
___5. A hand tool used for tightening and loosening slotted screws has a flat wedge shape tip.
___6. A special type of cleaning cloth that wipes off dust and other types of unwanted elements from computer parts without scratching or leaving debris on them.
___7. It is also called a loopback plug, used to test the basic functionality of computer ports.
___8. It is used for stripping and cutting wires.
___9. It retrieves screws, jumpers, fasteners, and other parts and prevents them from getting mixed.
___10. It is usually worn on your wrist to prevent the occurrence of ESD.

What's More

Occupational health and safety (OHS) is a planned system of working to prevent illness and injury where you work by recognizing and identifying hazards and risks.

There are three steps to manage health and safety at work: Spot the Hazard, (2.) Assess the Risk; and (3.) Make the Changes.

A hazard is a situation in the workplace that has the potential harm the health and safety of people or to damage plant and equipment. The situation could involve a task, chemical or equipment used.

Independent Activity1:

Directions: Identity what type of hazard is stated below. Write only the letter of the correct answer in your answer sheet.

A. Chemical Hazard
B. Electric Shock Hazard
C. Mechanical Hazard
D. Physical Hazard

___1. Cables running across the floor
___2. Compressed gas dirt and dust removers
___3. Damaged crimping tool
___4. Handling cutting tools
___5. Improper grounding
___6. Inkjet printer cartridges, or laser printer toner cartridges
___7. Interaction with overhead power lines
___8. Paper feed arm moves
___9. Tools on top of ladders
___10. Wet floor

Independent Activity 2:

Directions: Write **T** if the underlined word(s) is true and **F** if it is false. Write your answer in your answer sheet.

___1. Always <u>ground</u> or discharge yourself before touching any part of the computer.
___2. <u>Do not</u> work alone so that there is someone who can take care of you in case of accident or emergency.
___3. Always pull the <u>cable connector</u> on the handle and not hold on the cable itself.
___4. Use only <u>security</u> shoes when standing on the ground or a concrete floor.
___5. Always power off and <u>plug</u> the computer before working on it.
___6. Take <u>away</u> any liquid such as mineral water or soft drinks near your working area or near computers.

___7. Hazard/risks in the workplace and their corresponding indicators are identified to minimize or eliminate risk to co-workers, workplace, and environment.
___8. Take necessary precautions to protect the component of the computer from damaged caused by Electrostatic Dispense (ESD).
___9. Hold the components by edges and touch the IC's.
___10. Use excessive force if things do not quite slip into place

Independent Activity 3:

Directions: Group the following statement below according to the title in each column of the table. Choose the letter of the correct answer inside the box.

A. Find an escape route in case a fire gets out of control.
B. Hold the expansion card, integrated circuit and RAM in the edges.
C. Keep the workspace clean.
D. Keep most solvents in a separate area.
E. Know how to contact emergency services quickly
F. Know the location of fire extinguishers, how to use them and which to use for electrical fires and for combustible fires.
G. Make sure the plug and cable are already removed in main socket/source of electricity.
H. Prevent to bring with you any liquid form of drinks while working.
I. Remove jewelries when working inside any computer-related equipment.
J. Wear shoes that is made of rubber to because it is a bad conductor of electricity. It is also prevent the current to pass through in the body.

'Fire Safety Guidelines	**Personal Safety While Working with PCs Computer**

What I Have Learned

To ensure that tools and equipment remain in good condition and last for a long time, store them properly. Properly stored tools and equipment will be easy to find when needed and are less likely to be lost.

Direction: Read and understand carefully each question below then write your insights about its answer should be a minimum of 5 sentences of each question. Write your answer on the space provided.

1. Why is it important to adhere to the proper maintenance procedures of computer system components?

   _____
   _____
   _____
   _____

2. Why is it important to perform regular computer hardware tools maintenance before using it?

   _____
   _____
   _____
   _____
   _____

What I Can Do

Directions: Observe the arrangement of things in your house with the help of an elder member of the family. Identify the hazard in the place and give solutions.

Spot the hazard

1. If you spot something hazardous, what should you do?
   - ✓ *Simple hazard (e.g. boxes on the floor that get in the way)*

     _____
     _____
     _____

   - ✓ *More complex hazard (e.g. frayed cords, damaged equipment)*

     _____
     _____

Assess the risk

2. What two main things should the person in charge or responsible for safety consider when assessing the risk?

_____
_____
_____
_____
_____

Assessment

A. Multiple Choice:

Direction. Read and understand each question carefully and choose the letter of the correct answer then write your answer beside every item.

1. Which of the following tools is used for stripping and cutting wires?
   a. Cable ties c. Parts organizer
   b. Hex driver d. Wire cutter
2. Which of the following tools is used for tightening and loosening slotted screws?
   a. Anti - static mat c. Hex driver
   b. Flathead screwdriver d. Wirecutter
3. Which of the following computer hardware is used to prevent ESD?
   a. Anti-static strap c. Lookback adaptor
   b. Compressed air d. Multimeter
4. Which of the following hand tools also known as a nut driver?
   a. Flat screwdriver c. Parts retriever
   b. Hex driver d. Philips screwdriver
5. Which of the following tools does NOT belong to cleaning tools?
   a. anti-static wrist strap c. lint-free cloth
   b. cable ties d. parts organizer
6. When getting parts that are too small for your hand to fit in what tool should be used?
   a. Cable ties c. Part retriever
   b. Lint free cloth d. Wire cutter
7. What tool is used in removing cross-headed screws in the system unit?
   a. Anti-static wrist strap c. Philips head screwdriver
   b. Cable ties d. Wire cutter
8. In cleaning computer casing, which of the following tools is used with a mild cleaning solution?
   a. Blower b. Cloth c. Duster d. Lint-free cloth
9. When cleaning a keyboard, what tool is best used to remove the dust?
   a. Compressed air b. Compressor c. Duster d. Spray

10. What will you do if there are damaged or defective tools in your toolkit?
    a. Clean the toolkit
    b. Place anywhere
    c. Remove in your toolkit
    d. Store in the toolkit
11. If you are dealing with a slotted bolt, which of the following tools you will use?
    a. Flat screwdriver
    b. Philips screwdriver
    c. Torx screwdriver
    d. Hex driver
12. To loosed or tighten six-sided bolts, which of the following tools you will use?
    a. Flat screwdriver
    b. Hex driver
    c. Phillips screwdriver
    d. Torx screwdriver
13. Which of the following is NOT a benefit of applying preventive maintenance of tools and equipment?
    a. Faulty tools and equipment
    b. Protection of tools
    c. Systematic care
    d. Safe conditions of tools and equipment
14. Which of the following does NOT describe a successful maintenance program?
    a. Defines procedure
    b. Controls hazard
    c. Unsystematic
    d. Well-organized
15. Which of the following computer hand tools is NOT used to hold small computer parts and components?
    a. Needle-nose Plier
    b. Parts Retrievers
    c. Tweezers
    d. Wire Cutter

True or False

Directions: Write the letter **T** if the statement is true and **F** if it is false:

____1. Properly selected hand protection can protect employees from burns, electrical shock, and chemical absorption.
____2. PPE must be inspected after used.
____3. The primary objective of PPE is to protect employees by creating a barrier against workplace hazards.
____4. Personal protective equipment can protect employees from all workplace hazards.
____5. Safety glasses used in conjunction with a face-shield will not provide protection when using grinding equipment.

Adhering to the proper usage and maintenance of computer hardware tools plays a vital role in every computer related task because it makes the task easily accomplished, it extends the life span of the tools therefore it saves us money from replacing it and ensures safety of everybody in the workplace

Additional Activity

Directions: Make a poster about the advocacy of promoting the importance of OHS in working especially in ICT-CSS.

The Output will be judged according to the following criteria:

CRITERIA	SCORE
Relevance to the theme	30%
Originality	25%
Creativity	20%
Color Harmony	15%
Visual Impact	10%
TOTAL	100%

What I Know

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

What's In

BASED ON PRINCIPLES OF OPERATION	BASED ON PRINCIPLE OF CONFIGURATION
A	C
B	D
	E
	F
	G
	H
	I
	J

What's New

1. A
2. D
3. B
4. A
5. C

What Is It-Activity1:

1. Crosshead
2. Loosen
3. Conductor
4. Electrical Charge
5 Alcohol
6. Tighten
7. Dust
8. Ammoniated
9. Bolts
10. Around

Activity 2:

1. B 6. F
2.A 7. C
3. J 8. H
4. E 9. I
5. D 10. G

What's More

Independent Activity1

1. D
2. A
3. C
4. C
5. B
6. A
7. B
8. C
9. D
10. D

Independent Activity2:

1. T 6. T
2. T 7. T
3. T 8. F
4. F 9. F
5. F 10. F

Independent Activity3:

Fire Safety Guidelines	Personal Safety While Working with PCs Computer
A	B
E	C
F	G
D	H
	I
	J
	G

What I Have Learned and What I Can Do

CRITERIA	RUBRICS				
	10	**8**	**5**	3	**1**
Quality of Answer with Correct Usage of Grammar	*The students are able to understand and answer the questions correctly and clearly explained*	*The students are able to understand and answer the questions correctly*	*The students are able to understand and answer the questions slightly correct*	*The students are able to understand and answer the questions slightly correct with a minimal error in usage grammar*	*The students are able to answer questions but has a difficulty in constructing ideas*
Ideas and Explanation	*The students are able to explain and expand his/her ideas extremely*	*The students are able to explain his/her ideas thoroughly*	*The students are able to explain his/her ideas slightly*	*The students are able to explain his/her idea*	*The students have the hardship to explain his/her idea*

Assessment: A

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

Assessment: B

Additional Activity:

CRITERIA	SCORE
Relevance to the theme	30%
Originality	25%
Creativity	20%
Color Harmony	15%
Visual Impact	10%
TOTAL	100%

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