

LEARNING STRAND 6 DIGITAL CITIZENSHIP

MODULE 1: LET'S FIX COMPUTERS

ALS Accreditation and Equivalency Program: Junior High School





LET'S FIX COMPUTERS

**DIGITAL CITIZENSHIP
MODULE 1**

ALS Accreditation and Equivalency Program: Junior High School
Learning Strand 6: Digital Citizenship
Module 1: Let's Fix Computers

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User's Guide

For the ALS Learner:

Welcome to this Module entitled Let's Fix Computers under Learning Strand 6 Digital Citizenship of the ALS K to 12 Basic Education (BEC).

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:



Let's Get to Know

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



Pre-assessment

This part includes an activity that aims to check what you already know about the lesson. If you get all the answers correct (100%), you may decide to skip this module.



Setting the Path

This section provides a brief discussion of the lesson. This aims to help you discover and understand new concepts and skills.



Trying This Out

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.



Understanding What You Did

This includes questions that process what you learned from the lesson.



Sharpening Your Skills

This section provides an activity that will help you transfer your new knowledge or skill in real-life situations or concerns.



Treading the Road to Mastery

This is a task which aims to evaluate your level of mastery in achieving the given learning competency.



Don't Forget

This part serves as a summary of the lessons in the module.



Explore More

In this portion, another activity will be given to you to enrich your knowledge or skill of the lesson learned. This also tends retention of learned concepts.



Reach the Top

This part will assess your level of mastery in achieving the learning competencies in each lesson in the module.

Answer Key

This contains answers to all activities in the module.

Glossary

This portion gives information about the meanings of the specialized words used 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 the Pre-assessment 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 ALS Teacher/Instructional Manager/Learning 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 ALS Teacher/Instructional Manager/Learning 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!

CONTENTS

Let's Get to Know	1
Pre-Assessment	2
LESSON 1: Troubleshooting Basic Computer Software Problems	3
Setting the Path	3
Trying This Out	4
Understanding What You Did	5
Sharpening Your Skills	8
Treading the Road to Mastery	9
LESSON 2: Troubleshooting Basic Computer Hardware Problems	10
Setting the Path	10
Trying This Out	11
Understanding What You Did	12
Sharpening Your Skills	17
Treading the Road to Mastery	18
Don't Forget	19
Explore More	20
Reach the Top	21
Answer Key	22
Glossary	26

CONTENTS

References

28



MODULE 1

LET'S GET TO KNOW

We use computers for many reasons such as accomplishing tasks at work, completing our assignments and reports in school, watching movies, playing games, and even reading books online. Many of us find this machine useful, as it makes our tasks easier to accomplish.



Computers have evolved based on users' needs. They have become more powerful, performing more complex operations despite its small size. New features have also been added. New applications were installed to solve more complex problems and improve business processes.

This module will identify the different potential software and hardware issues in a desktop computer and discuss how to fix or troubleshoot them. The two lessons in this module are the following:

Lesson 1 – Troubleshooting Basic Computer Software Problems

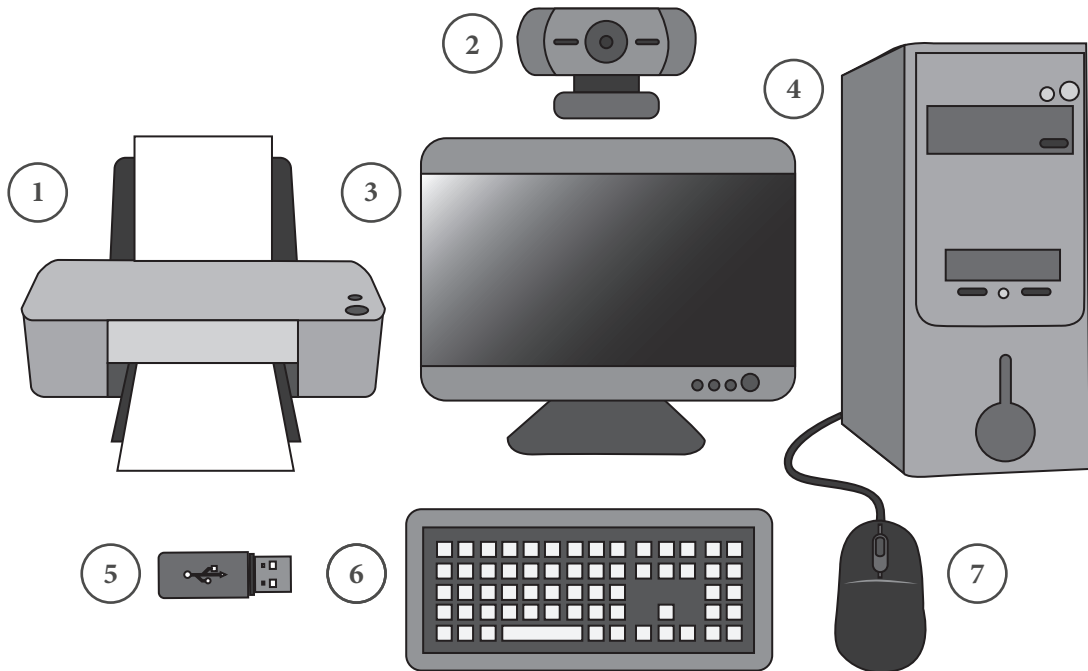
Lesson 2 – Troubleshooting Basic Computer Hardware Problems



MODULE 1

PRE-ASSESSMENT

Directions: Below is a photo of a computer system. Identify each component and describe its function. Write your answer on the piece of paper provided.



Were you able to identify the different parts of a desktop computer? You should know those parts so that you will know which needs repair or replacement.



LESSON 1

SETTING THE PATH

TROUBLESHOOTING BASIC COMPUTER SOFTWARE PROBLEMS

After this lesson, you should be able to



identify the different potential software problems of a desktop computer; and



describe the procedures in troubleshooting basic software problems of a desktop computer.



LESSON 1

TRYING THIS OUT

Directions: Explain your answer to the following on a separate sheet of paper.

What do you think about computer viruses?
Do you know what will happen if your computer
gets infected with a virus?

Common computer errors are usually simple problems that most users encounter, and these could be solved without spending money. It will be an advantage if you get to know what causes computer errors and how to fix them.



LESSON 1

UNDERSTANDING WHAT YOU DID



Just like any other machine, computers also tend to encounter problems. In this module, you will learn about the most common computer problems, what causes them, and how to fix these problems.

Computer software plays an important role in a computer; without it, a computer will be useless. Sometimes software malfunction occurs, which requires a specific troubleshooting skill or software repair. In this lesson, we will discuss some of the most common software related problems and how to fix them.

MOST COMMON SOFTWARE PROBLEMS



1. COMPUTER SYSTEM IS HANGING OR NOT RESPONDING.

Solution 1. If the operating system or other software is unresponsive, try to look for the task manager in your operating system to end the task or the process.

Solution 2. If the computer does not respond at all, restart your computer by pressing the power button for a few seconds and then run a virus scan once the computer has been restarted. Make sure you have a reliable antivirus software; it can be licensed or free, which is available online.



2. OPERATING SYSTEM WILL NOT BOOT PROPERLY.

Solution. The operating system might have encountered a system boot failure or was improperly shut down. If this is the case, the operating system needs to be restarted or reformatted. Make sure to save your files on a separate storage device, such as flash drives or external hard drives before restarting or reformatting the system.



3. COMPUTER IS BECOMING SLOW.

Solution. If your computer is slower than usual, you can often fix the problem by cleaning and removing unwanted files from the hard disk. It can also be a sign of insufficient memory. External hard drives are great storage solutions for overloaded central processing unit and will help your computer run faster.





4. INSTALLED DEVICES ARE NOT WORKING.

Solution. There are times that the installed devices are not working after updating the computer operating system. Check your other installed software that may need updating to make the devices function well.



5. COMPUTER FILES ARE INFECTED WITH VIRUSES.

Solution 1. You may accidentally catch malware or adware, especially when you browse the internet and automatically install unknown apps to your computer. Avoid this by installing firewall, antivirus, and antispyware tools and scheduling regular registry scans.

Solution 2. Files that are already infected by a computer virus can be saved by scanning the file itself. In any case that the file cannot be opened, it needs to be deleted, as it will infect other files. Scan external storage devices when plugging them into the computer.

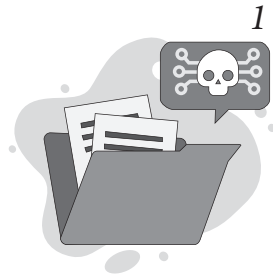
You can easily fix potential problems in a software; just remember to maintain your computer by scanning for viruses and updating its system. But if the problem becomes critical, call a professional technician to fix it and avoid worsening the problem.



LESSON 1

SHARPENING YOUR SKILLS

Directions: Give one solution to fix the given software problem of a computer.
Do this on a separate sheet of paper.



Files that are infected
with virus



Installed devices are not
functioning well



Weak Wireless Fidelity
(Wi-Fi) signal



LESSON 1

TREADING THE ROAD TO MASTERY

Directions: Read and answer the question on a separate sheet of paper.

What do you think is the importance of
knowing how to fix software issues or problems?
How can it help you in your daily life?

It is the user's responsibility to troubleshoot problems whenever a computer device fails.



LESSON 2

SETTING THE PATH

TROUBLESHOOTING BASIC COMPUTER HARDWARE PROBLEMS

After this lesson, learners should be able to



identify the different potential hardware problems of a desktop computer; and



describe the procedures in troubleshooting basic hardware problems of a desktop computer.



LESSON 2

TRYING THIS OUT

Directions: Identify which of the following are solutions for troubleshooting a malfunctioning printer. Write your answers on a separate sheet of paper.

Make sure there
are batteries

Reposition your device

Check if the
power button is on

Check if the software is
installed or up-to-date

Check if it is
in sleep mode

Make sure the cable is
connected properly

Check if the
ink is low

See if it is out of paper or
has a paper jam

Run an
antivirus program

Check the
volume level



LESSON 2

UNDERSTANDING WHAT YOU DID

In the previous lesson, you have encountered common software-related problems and how to fix such issues. In this lesson, you will learn what causes basic hardware problems and how to fix them.

Problems in our computers may happen unexpectedly.



Whenever these happen, do not panic because there are many basic troubleshooting techniques you can apply to fix these issues.

MOST COMMON HARDWARE PROBLEMS

1. MOUSE AND KEYBOARD HAVE STOPPED WORKING.

Solution 1. If you are using a wired mouse or keyboard, make sure it is correctly plugged into the desktop computer and it is not broken. You may also remove the plug and reconnect. Sometimes cables are just loose.

Solution 2. If you are using a wireless mouse or keyboard, check if the wireless USB is plugged into the desktop computer properly. See if the batteries for the wireless mouse and keyboard have enough charge.



2. SOUND IS NOT WORKING.

Solution 1. Check the volume level. Look for the audio button in your computer to make sure the sound is turned on and the volume is up. The audio button is usually located at the bottom-right corner of the screen.

Solution 2. Check the cables. Make sure external speakers or headphones are plugged in, turned on, and connected to the correct audio port or a Universal Serial Bus (USB) port. If your computer has color-coded ports, the audio output port will usually be green.

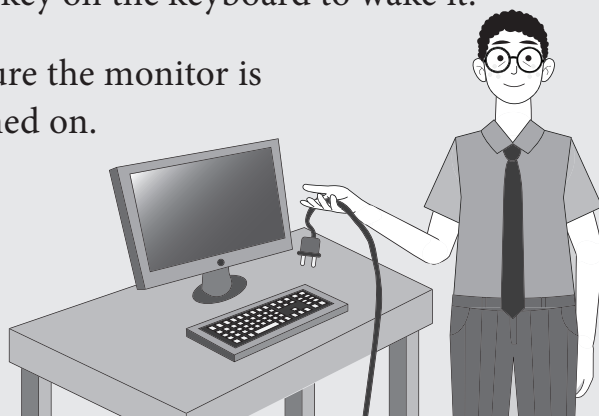
Solution 3. Check if the driver for the sound card is installed or needs an update.



3. SCREEN IS BLANK.

Solution 1. The computer may be in sleep mode. Click the mouse or press any key on the keyboard to wake it.

Solution 2. Make sure the monitor is plugged in and turned on.



4. **DESKTOP COMPUTER WILL NOT TURN ON.**

Solution 1. Make sure that the outlet or extension cord is working before you plug the power cable.

Solution 2. Replace the power cable if you have one.

Solution 3. Check the power button if it's not stuck.



5. **THERE IS NOISE COMING FROM THE CPU.**

Solution. If you hear clicking or grinding sounds from the hard drive, then it might be time to get a new one. Hard drives have a limited life span, and loud sounds are the main sign of a hard drive failure.



6. **PRINTER WILL NOT PRINT.**

Solution 1. Try turning the printer on and then off. Unplug the printer and plug it back in. Check the print queue by looking for the printer icon in the system tray and double-clicking it. The print queue shows you the status of each job and the general status of your printer.



Solution 2. Check if the printer's drivers are up-to-date. It should also have enough paper and ink or toner to print.



7. **THE INTERNET IS SLOW, OR YOU CANNOT CONNECT TO THE INTERNET.**

Solution 1. If you experience a slow or interrupted internet connection, restart the modem. Switch it off, wait for few a seconds, and turn it back on.

Solution 2. If the Wi-Fi signal is weak, reposition your modem or place it in a location with a stronger signal. It is also best not to go too far away from the modem.



MAINTENANCE TECHNIQUES

Here are some general maintenance techniques that will help you avoid future hardware problems:

- ✓ **Always check the cables.** Check all related cables to make sure they are properly connected and not broken.
- ✓ **Free up some hard drive space.** Giving your computer storage with at least 15% to 20% free space will allow the operating system to write temporary files, helping it to run more smoothly.
- ✓ **Install any available updates.** If updates in hardware drivers are available online, grab the opportunity to do so. It will help you save time looking for updates when a problem occurs.

Now that you know how to troubleshoot potential computer hardware problems, fixing these problems would be easier. However, hardware has a life span too; thus you should always remember to use the hardware properly to avoid breaking them early.



LESSON 2

SHARPENING YOUR SKILLS

Directions: Match the hardware devices in column A to its potential problems in column B. Write the letter of the correct answer on a separate sheet of paper.

Column A

- _____ 1. Modem
- _____ 2. Monitor
- _____ 3. Printer
- _____ 4. Computer mouse
- _____ 5. Keyboard
- _____ 6. Hard drive
- _____ 7. Sound card
- _____ 8. Cables
- _____ 9. Wireless mouse
- _____ 10. Computer desktop

Column B

- A. in a sleep mode
- B. not enough space
- C. not enough battery
- D. interrupted connection or weak signal
- E. stuck power button
- F. low ink or toner
- G. broken keys
- H. not updated
- I. uninstalled sound card driver
- J. broken wire skin

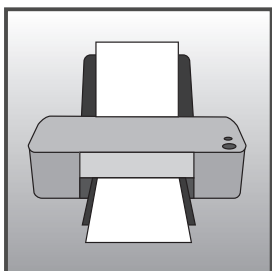


LESSON 2

TREADING THE ROAD TO MASTERY

Directions: On a separate sheet of paper, list down the step-by-step process when troubleshooting the following:

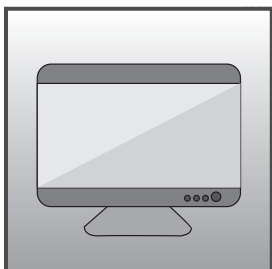
PRINTER



WI-FI SIGNAL



MONITOR



Most of the time, problems can be fixed using simple troubleshooting techniques, such as restarting the program or the computer. If the problem is still not fixed, seek for other solutions. You may always try these simple solutions before consulting technical experts that may cost you money.



MODULE 1

DON'T FORGET

“

- Different potential software problems of a desktop computer include computer viruses, outdated programs, corrupted files, and an unresponsive operating system due to improper shutdown and insufficient computer memory.
- Different potential hardware problems of a desktop computer include broken or improperly plugged cables, a hard drive that has reached its life span, wireless mouse or keyboards with low batteries, connection loss due to a weak Wi-Fi signal, and outdated drivers.
- These potential problems can be fixed without spending money.

”



MODULE 1

EXPLORE MORE

Try the following links to look for other troubleshooting techniques:

- <https://schooledbyscience.com/common-computer-problems-part-1/>
- <https://leapfrogservices.com/16-common-computer-problems-how-to-tell-if-theyre-hardware-or-software/>



MODULE 1

REACH THE TOP

Directions: Fill in the blanks to complete the statement. Write your answer on a separate sheet of paper.

1. If the operating system or other software is either unresponsive, _____ your computer and run a virus scan.
2. If your computer is slower than normal, _____ the hard disk of unwanted files.
3. When the screen is blank, check first if the computer is in _____ mode.
4. A noisy hard drive might be a sign to get a replacement because hard drives have a limited _____.
5. Check all _____ to make sure they are properly connected.
6. Free up at least _____ percent of hard drive spaces.
7. Make sure that you have enough paper and _____ to print.
8. Giving your computer storage with at least _____ will help the operating system run efficiently.
9. If the Wi-Fi signal is weak, _____ your modem to a location with a stronger signal.
10. When the desktop computer will not open, make sure that the power button is not _____.

ANSWER KEY

PRE-ASSESSMENT

PAGE 2

COMPONENTS OF A COMPUTER	FUNCTION
Printer	It allows digital data to be converted to print format.
Scanner	It is used to convert printed materials into digital form.
Flash Drive	It is a small, ultra-portable storage device.
Monitor	It displays the video and graphics information generated by the computer through the video card.
Speakers	This device allows users to hear audio stored in the computer's storage.
CPU	It is responsible for interpreting and executing most of the commands from the computer's other hardware and software.
Keyboard	It is used to input text, characters, and other commands into a computer or a similar device.
Mouse	It is a hand-operated input device used to manipulate objects on a computer screen.

LESSON 1: TROUBLESHOOTING BASIC COMPUTER SOFTWARE PROBLEMS

SHARPENING YOUR SKILLS

PAGE 8

Files that are infected of virus	<p>Install firewall, antivirus, and antispyware tools. Schedule regular registry scans.</p> <p>Files that are already infected by virus can be saved by scanning the file itself. If the file cannot be opened, delete it before it infects other files. Scan external storage devices when plugging them into the computer.</p>
Installed devices are not functioning well	<p>Look for the installed software that needs updating.</p>
Weak wi-fi signal	<p>Move your router to a location with a stronger signal, reduce the number of devices using up the bandwidth, adjust your router antenna, or move near the router.</p>

LESSON 2: TROUBLESHOOTING BASIC COMPUTER HARDWARE PROBLEMS

SHARPENING YOUR SKILLS

PAGE 17

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

TREADING THE ROAD TO MASTERY

PAGE 18

Printer

Try turning the printer on and off. Unplug the printer and plug it back in. Check your printer's print queue by looking for the printer icon in the system tray and double-clicking it.

Check if the printer's drivers are up-to-date. It should also have enough paper and ink or toner to print.

Wi-Fi Signal

If you have a slow or interrupted connection, restart the modem. Switch it off, wait for few a seconds, and turn it back on.

If the Wi-Fi signal is weak, reposition your modem to a location with a stronger signal. It is also best not to go too far away from the modem.

Monitor

The computer may be in sleep mode. Click the mouse or press any key on the keyboard to wake it.

Make sure the monitor is plugged in and turned on.

ANSWER KEY

REACH THE TOP

PAGE 21

1. look for the task manager in
2. clean and remove unwanted files from
3. sleep
4. life span
5. cables
6. 15% to 20%
7. ink
8. 15% to 20%
9. reposition
10. stuck

GLOSSARY

Boot

The act of starting a computer.

Desktop
Computer

A personal computer designed for regular use at a single location on or near a desk or table due to its size and power requirements.

Computer
Hardware

The physical parts of the desktop computer. Also called **hardware**, it includes the mouse, keyboard, monitor, printer, scanner, and speakers. The parts inside the computer such as the hard drive, motherboard, processor, sound card, and video card are also hardware.

Computer
Software

A program or app containing all the procedures and instructions. Also called **software**, it tells the hardware how a certain task should be performed. It includes application software and operating system.

Modem

Short for **modulator-demodulator**. It is a hardware component that allows a computer or another device, such as a router or switch, to connect to the internet.

Operating System

A complex program that keeps the hardware and software components of a computer system coordinated and functioning.

Storage Device

Any computing hardware used for storing, porting, and extracting data files and objects.

GLOSSARY

Troubleshooting

A systematic approach to problem solving that is often used to find and correct issues with complex machines, electronics, computers, and software systems.

Wi-Fi

Short for **Wireless Fidelity**. It means you can access or connect to a network using radio waves, without needing to use wires.

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