TECH ACADEMY

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OVERVIEW

- ➤ Introductions
- ➤ Windows 11
- ➤ Terms & Identification
- ➤ Troubleshooting
- ➤ Q & A
- ➤ Password Security
- ➤ Email Security
- ➤ Q & A

WHAT CAN WE DO FOR YOU?

- ❑ We at MLC are here to help. We can come do technology assessments, make suggestions, and assist with improvements.

- ❑ For those having issues, give us a call and allow us to try and resolve your problem. If we can't help, we may be able to point you to other resources.

- ❑ We have the ability to remote access into most computers.

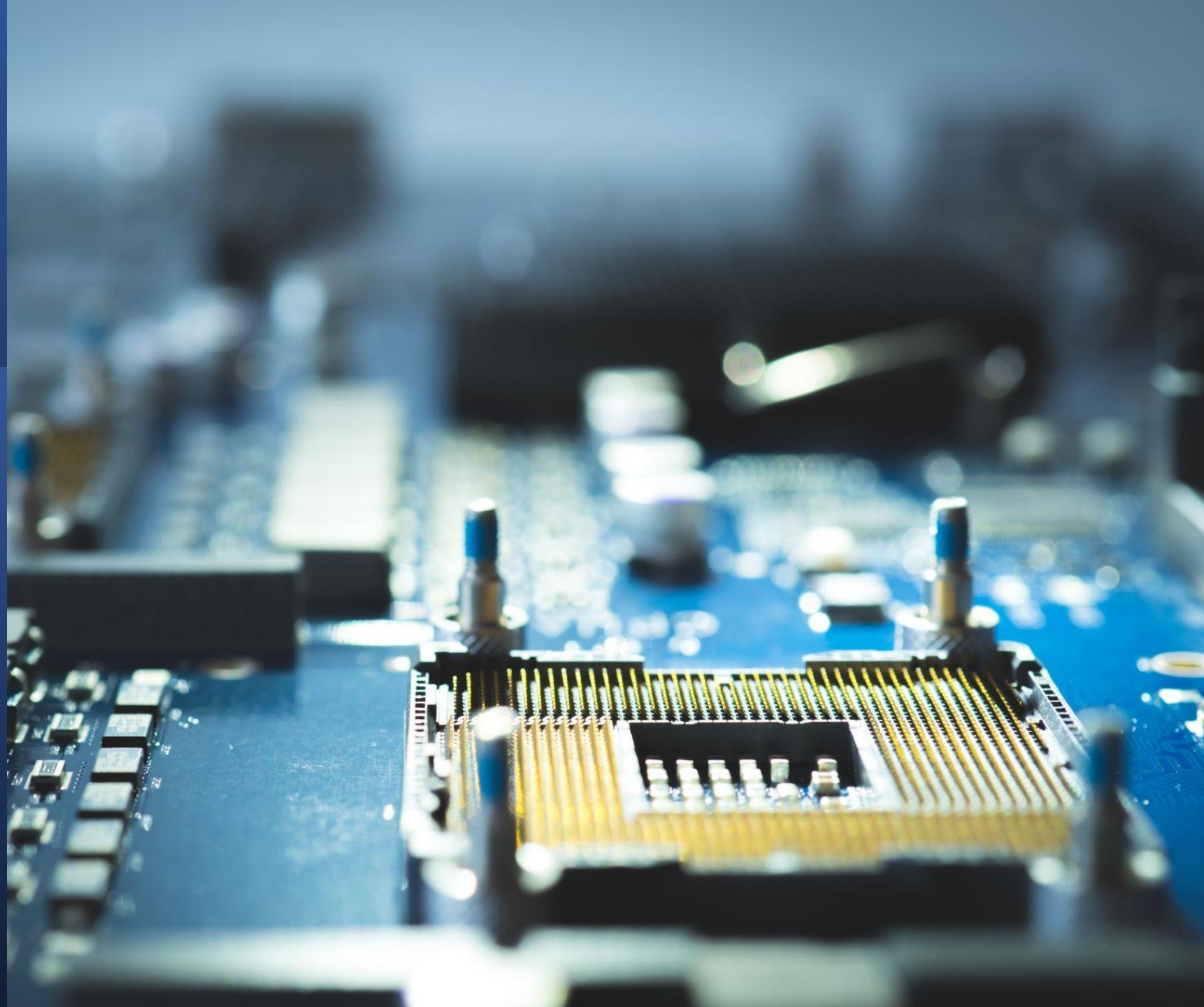- ❑ We can assist in setting up computers and work as a liaison with vendors for other needs.

INTRODUCTIONS

❑ What is your name, what library are you from, and what is your position?

❑ What is your level of computer experience and/or network experience?

❑ What are your expectations of this workshop?

WE'VE COME
A LONG WAY

SETTING UP
A NEW PC

COMMON TERMS

BITS & BYTES

Bit
A computer's most basic unit of information

Byte
Small unit of data storage; 8 bits; usually holds one character

Kilobyte
1,024 bytes; usually abbreviated KB

Megabyte
1,048,576 bytes or 1,024 kilobytes; enough storage to approximately equal a 600 page paperback book; generally abbreviated Mb

Gigabyte
1,073,741,824 bytes or 1,024 megabytes; generally abbreviated GB

Terabyte
1,099,511,627,776 bytes or 1,024 gigabytes; generally abbreviated TB

HARDWARE: TANGIBLE (CAN BE TOUCHED/HELD)

EQUIPMENT IDENTIFICATION
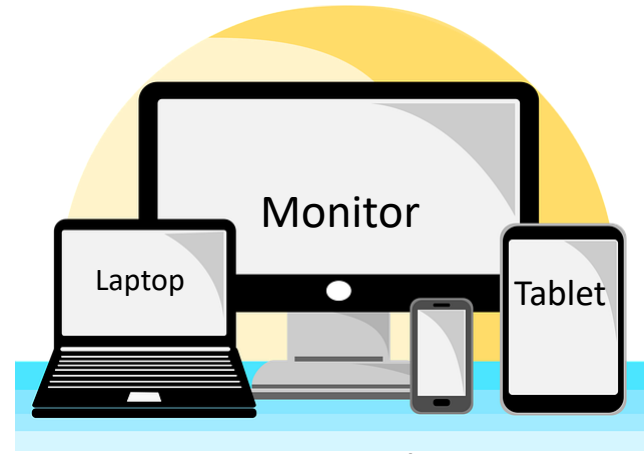
Webcam

Printer, Copier, & Scanner

Laser printer

Monitor

Laptop

Tablet

Phone

PC

Desktop

Laptop

PC speakers

Monitor

Keyboard ->

Mouse ->

COMPUTER CASE TYPES

ALL-IN-ONES

HARD DRIVES

HDD
3.5"

Platters
Spindle
R/W Head
Actuator Arm
Actuator Axis
Actuator
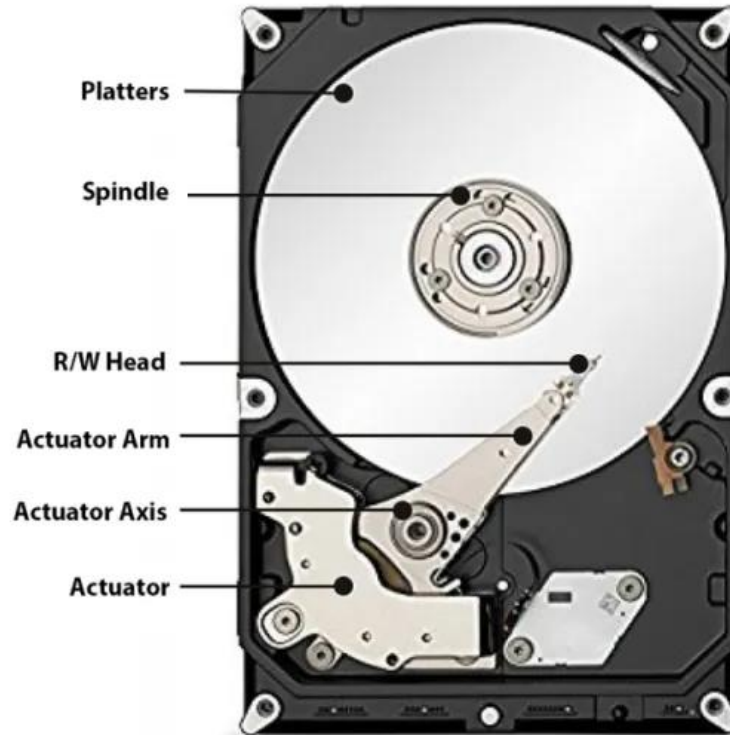
Shock resistant up to 55g (operating)
Shock resistant up to 350g (non-operating)

SSD
2.5"

Cache
Controller
NAND Flash Memory
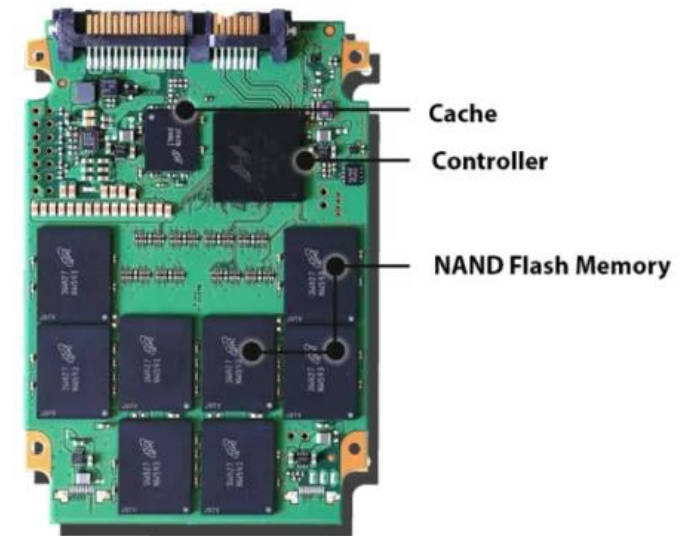
Shock resistant up to 1500g
(operating and non-operating)

RAM:
RANDOM ACCESS MEMORY
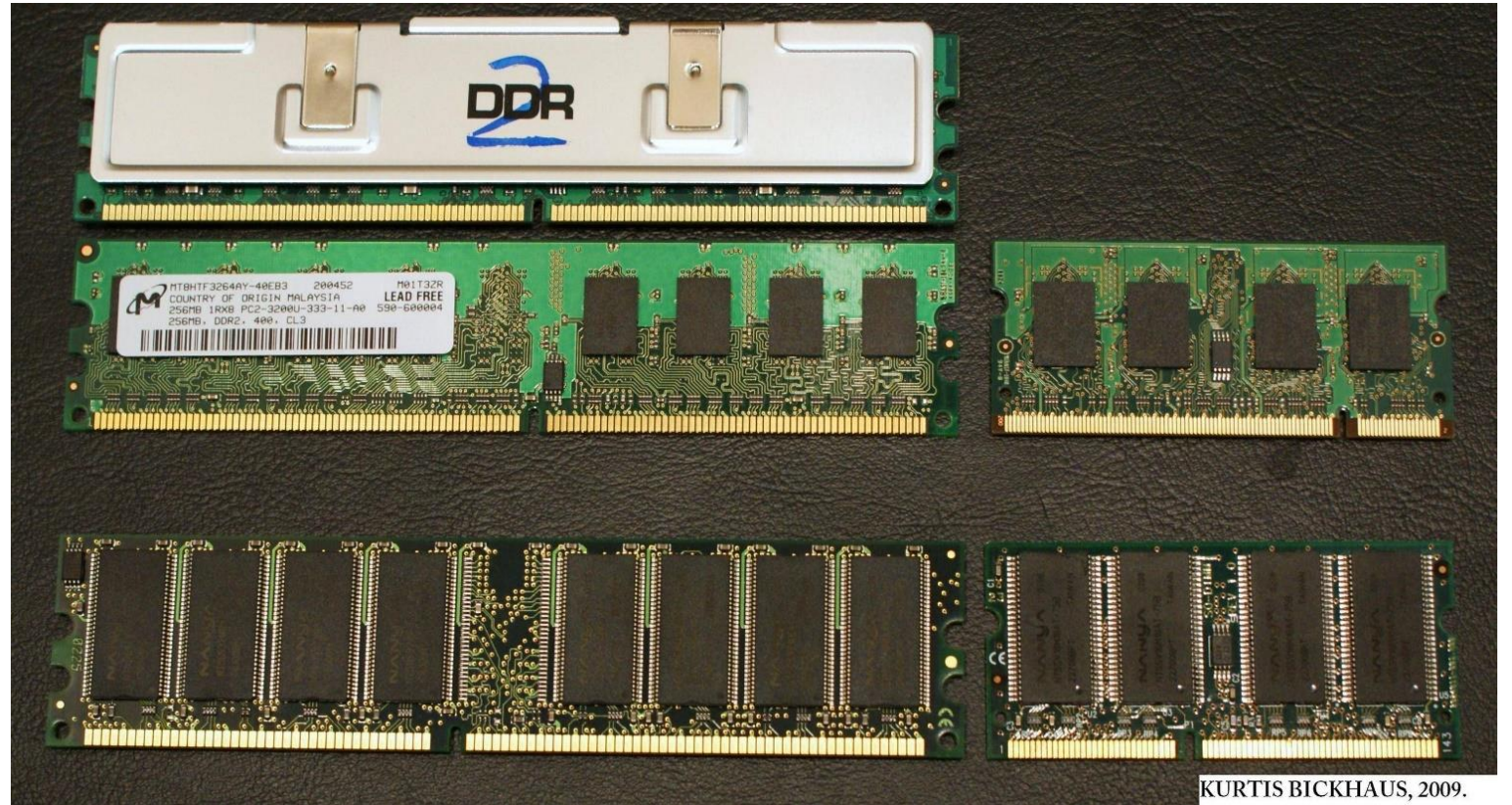
KURTIS BICKHAUS, 2009.

CENTRAL PROCESSING UNIT (CPU)

ALSO KNOWN AS THE PROCESSOR

AMD	Intel
AMD has its extensive line of Ryzen 3, Ryzen 5, Ryzen 7, Ryzen 9, and the Threadripper processors.	Intel has the already popular Core i3, i5, i7, and Core i9 line of desktop processors.
Mid-range AMD chips offer a clock speed starting at 3.1GHz with the Ryzen 5 2600E.	Intel mid-range Core i5 chips start at a base clock speed of 2.1GHz with the Core i5-8500T.
AMD chips come nearly overclocked even with the budget models starting at around $100.	Intel provides more room for overclocking as you can get the most of your Intel chips than AMD's.
AMD chips offer the best value for your buck with the base models starting from under $100.	Intel processors tend to be more expensive than their AMD counterparts.
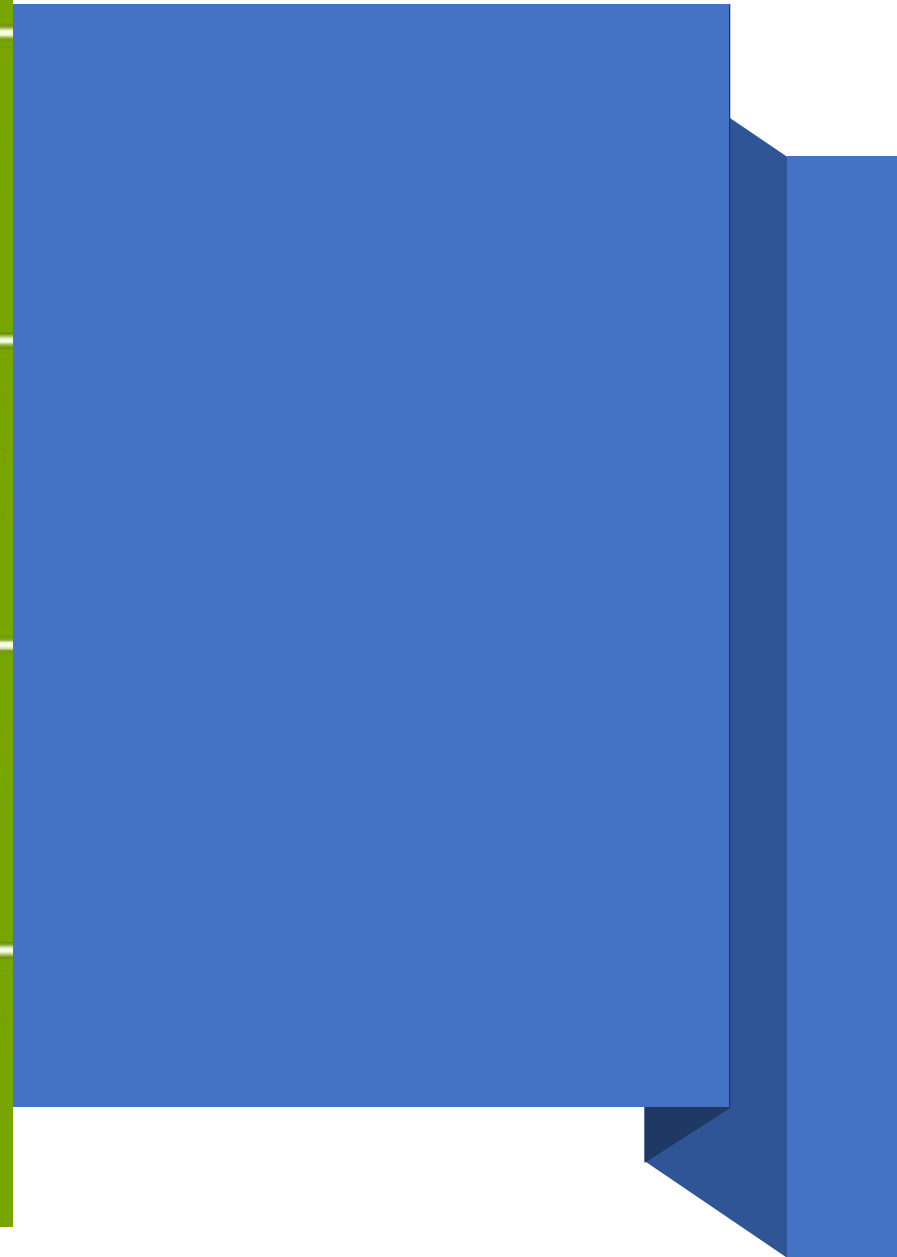
SOFTWARE: INTANGIBLE (CANNOT TOUCH)

❑ Operating System – Windows 10 or 11, Android, iOS

❑ Internet Browser – Firefox, Google Chrome, Microsoft Edge

❑ Applications and Programs – Adobe reader, Outlook, VLC Media player

WINDOWS 11

MINIMUM SYSTEM REQUIREMENTS

❑ **Processor**: 1 gigahertz(GHz) or faster with 2 or more cores on a compatible 64-bit processor or System on a Chip(SoC).
  ❑ Intel Gen 8th or better
  ❑ AMD Rayzen 2 or better

❑ **RAM**: 4 gigabyte (GB).

❑ **Storage**: 64(GB) or larger storage device.

❑ **System firmware**: UEFI, Secure Boot capable.

❑ **TPM**: Trusted Platform Module(TPM) version 2.0.

❑ **Graphics card**: Compatible with DirectX 12 or later with WDDM 2.0 driver.

❑ **Internet Connection and Microsoft account.**

The doohickey has uncoupled from the thingamabob.

Troubleshooting
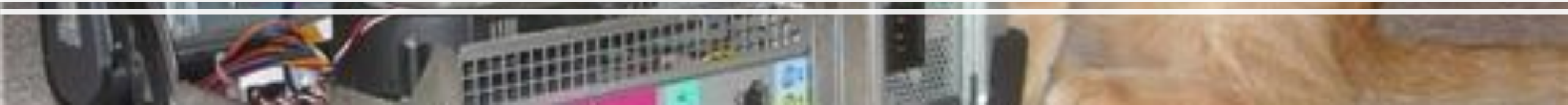
WHAT IS TROUBLESHOOTING?

Troubleshooting is **a systematic approach to problem solving** that is often used to find and correct issues with complex machines, electronics, computers and software systems. The first step in troubleshooting is gathering information on the issue, such as an undesired behavior or a lack of expected functionality.
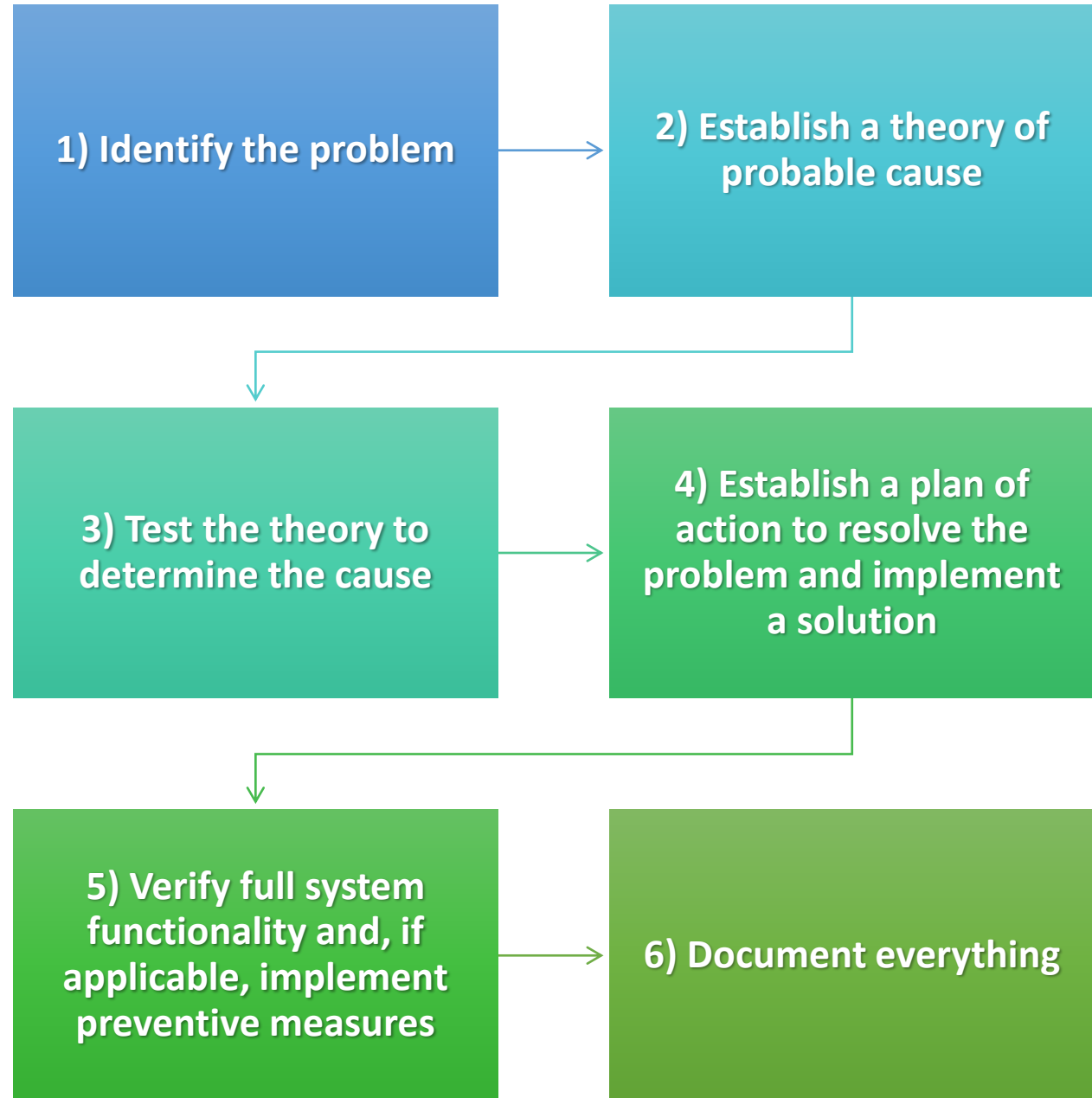
WHAT IS TROUBLESHOOTING?

To isolate the source of a problem and fix it.

❑ In the case of computer systems, the term *troubleshooting* is usually used when the problem is suspected to be hardware-related.

❑ If the problem is known to be in the software, the term *debugging* is commonly used.

❑ You may also hear the term *compatibility* used

BASIC STEPS FOR TROUBLESHOOTING YOUR PC

1) Identify the problem

2) Establish a theory of probable cause

3) Test the theory to determine the cause

4) Establish a plan of action to resolve the problem and implement a solution

5) Verify full system functionality and, if applicable, implement preventive measures

6) Document everything

PROBLEM: "POWER BUTTON WILL NOT START COMPUTER."

❑ If your computer **does not start**, begin by checking the power cord to confirm that it is plugged securely into the back of the computer case and power outlet.

❑ If it is plugged into an outlet, make sure it is a **working outlet**. To check your outlet, you can plug in another **electrical device**, such as a lamp**.**

❑ If the computer is plugged in to a **surge protector**, verify that it is turned on. You may have to **reset** the surge protector by turning it off and then back on. You can also plug a lamp or other device into the surge protector to verify that it's working correctly.

PROBLEM: "WHEN I MOVE THE MOUSE, NOTHING HAPPENS…"

- ❑ Check for laser light underneath
- ❑ Check underneath the mouse for a piece of paper or tape
- ❑ The USB connection may be loose. Try unplugging the mouse and plugging it back in.
- ❑ Plug the mouse into a different USB port.
- ❑ If your mouse is plugged into a USB hub or USB switch box, try removing it and plugging it directly into the computer.
- ❑ Try the mouse on another computer to verify it is not defective.
- ❑ Update USB drivers

PROBLEM: "I CAN HEAR MY COMPUTER WHEN I TURN IT ON, BUT NOTHING IS ON THE SCREEN."

- ❑ Is the monitor plugged in and turned on?
- ❑ Is the monitor connected to the computer?
- ❑ Observe the light on the front:
  - ▪ Green or solid blue means it has a connection and should show
  - ▪ Yellow or flashing denotes that it does not have a good connection
  - ▪ No light means off or no power
- ❑ In some cases, you may need to check that monitor is set to proper input

PRINTER ISSUES

YOU WANT TO PRINT BLACK AND WHITE?

TOO BAD. YOU'RE OUT OF YELLOW.

PROBLEM: "MY PRINTER WILL NOT PRINT!"

❑ **Printer power:** Ensure printer is plugged in and turned on. Some printers may take time to wake from Sleep Mode.

❑ **Low on paper/Paper Jam:** First, ensure your printer is in proper working state. Verify that the printer has paper loaded and it isn't jammed if it isn't printing

❑ **Check the Ink or Toner:** Of course, you'll need enough ink (if it's an inkjet printer) or toner (if it's a laser printer) before you can print. Even if you're just printing in black-and-white, some color printers may refuse to print at all if they have a low or empty color.

COMMON REASONS PRINTERS WON'T…PRINT

❏ Click the "Printer" menu here and verify that "Use printer offline" isn't enabled. If this option is checked, remove the checkmark to disable it.

❏ **If the printer is a network printer:** Is the printer still plugged into the network. Is your network up. Are the printer and the computer on the same network.

❏ **Check the Print Queue Dialog:** You can open a printer's queue by right-clicking that printer in the Devices & Printers window and selecting "See what's printing". If you see an older document that can't print with an error, right-click the document here and remove it. If a printer job is paused, you can resume it from here.

COMMON REASONS PRINTERS WON'T...PRINT

❑**Restart Printer Spooler**
- ▪ Services
- ▪ Print Spooler
- ▪ Restart

Note: Please be careful in stopping other functions within the Services Console. It can cause critical issues.

PROBLEM: "WIRELESS OR BLUETOOTH DEVICE IS NOT WORKING."

❑ Is the device turned on and connected to the wireless system or Bluetooth receiving device properly?

❑ Check the charge (battery issue?)

❑ Is the Device Driver installed properly?

❑ Check for software updates.

❑ Download and install any high-priority updates, and custom updates, especially those related to hardware.

PROBLEM: "AN APPLICATION IS FROZEN."

Sometimes an application may become stuck, or **frozen**. When this happens, you won't be able to close the window or click any buttons within the application.

❑ Force quit the application.

    ❑ On a PC, you can press and hold down **Ctrl+Alt+Delete** (the Control, Alt, and Delete keys) on your keyboard to open the **Task Manager**. On a Mac, press and hold **Command+Option+Esc**. Then, select the application and click **End task** (or **Force Quit** on a Mac) to close.

❑ Restart the computer. If you are unable to force quit an application, **restarting** your computer will close all open apps.

AVOID (UNLESS NECESSARY WHEN YOUR COMPUTER FREEZES):

❑ Pressing and holding the Power button. The Power button is usually located on the front or side of the computer, typically indicated by the **power symbol**. Press and hold the Power button for **5 to 10 seconds** to force the computer to shut down.

❑ If the computer still won't shut down, you can **unplug the power cable** from the electrical outlet. If you're using a laptop, you may need to remove the battery to force the computer to turn off.

  ❑ **Note**: This solution should be your **last resort** after trying the above suggestions.

PROBLEM: "AN APPLICATION IS RUNNING SLOWLY."

- ❏ Close and reopen the application.
- ❏ Update the application.
- ❏ Your computer may be running out of hard drive space.
- ❏ More RAM may be needed
- ❏ You can run Disk Defragmenter
- ❏ Run a virus scanner

PREVENTION: PROTECTION

Malware: Software that is intended to damage or disable computers and computer systems

Virus: A type of malware

Malware protection: *Malwarebytes, Super anti Spyware*

Antivirus protection: *Symantec/Norton, Trend Micro, Windows Defender, AVG*

Remove toolbars and any suspicious programs
(may require Administrator privileges).

PREVENTION: RECOVERY

One corollary to Murphy's Law states that the probability of losing data is directly proportional to the difficulty of reproducing it.

- ❑ Recovery Disks
- ❑ Back ups
- ❑ Offsite/Cloud storage
- ❑ Offline Storage
- ❑ Images of important machines

PREVENTION: PROGRAMS

❑ Apply updates and patches

❑ Install only trusted programs

❑ Software life cycle

❑ Keep manuals and software discs (if available)

Windows 7 Support End of Life date – January 14, 2020

Windows 8 Support End of Life date – January 2023

Windows 10 Support End date – Est. October 2025

PREVENTION: HARDWARE

❑ Keep food and drinks away from equipment

❑ Keep areas around computers and other network equipment uncluttered

❑ Run cables in a way that they are not likely to be stepped on, pulled or pinched

❑ If using power strips, place them in a position that the power switch is not likely to be stepped on or accidently turned off

❑ Hardware life cycle, capabilities and duty cycle

Q & A

...and to help!

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