

# Computer Basics I



## Class Objectives:

1. Computer parts and terms
2. Ergonomics
3. Turning on the computer/Logging on to the library's desktop computers
4. Learning to use the mouse
5. Right click vs Left click
6. Learning the keyboard
7. Exploring the desktop
8. Turning off the computer

# What is a PC Anyway?

PC stands for **Personal Computer**—one designed for an individual to use as opposed to a large server.

A **Desktop Computer** is a personal computer designed to stay in a single location. It typically consists of a System Unit (Tower ), a screen or monitor, also a keyboard and mouse

A **Laptop** is a portable personal computer small enough to use in your lap.

A **Tablet Computer** is a portable computer in a single pane accessed by a touch screen.

**Servers and Clients.** In information technology, a **server** is a computer program that provides services to other computers or programs. The computer that a server program runs in is also frequently referred to as a server (though it may be used for other purposes as well). When you search the Internet using the Browser software on your laptop, you are the **client** and the Library's server provides you with links to the web pages you want to view.

## All computers perform four functions:

- **Input:** They accept data (information)
- **Processing:** They manipulate data
- **Output:** They produce a result
- **Storage:** They store data

## Computer Terminology

**Hardware:** The solid items you can see or touch

**Software:** Programs that allow you to perform different functions using the computer.

**System Unit or Tower (desktop computers):** The main body of the computer. It contains the Hard Drive, Mother Board, the Central Processor Unit, the Video card and Audio card for watching and hearing video and audio.

**Operating System:** The operating system is the most important program that runs on a computer. Operating systems perform basic tasks, such as recognizing input from the keyboard, sending output to the display screen, keeping track of files and items stored on the computer, and controlling peripheral devices such as disk drives and printers.

Common operating systems include **Windows** for Microsoft computers and laptops, and **Mac OS** for Apple computers, laptops and smartphones. Tablet computers made by Apple run **iOS** (for iPads and iPhones) while non-Apple products typically run the **Android** operating system. Microsoft has also developed a version of **Windows** for tablets and smartphones

**Processor:** Also called the Central Processing Unit CPU for short, this is the “brain” of the computer. It allows the computer to operate. It processes the information that is entered into it from the keyboard.

**Mother Board:** A flat board that the Processor and other components are attached to in the system unit.

**Hard Drive:** Part of the computer used to store your documents, photos and files.

**Monitor:** Also called the screen. It is used to view information processed by the computer.

**Desktop:** What you see in the computer monitor when all programs are closed—contains program icons, recycle bin (trash can) and a taskbar at the bottom.

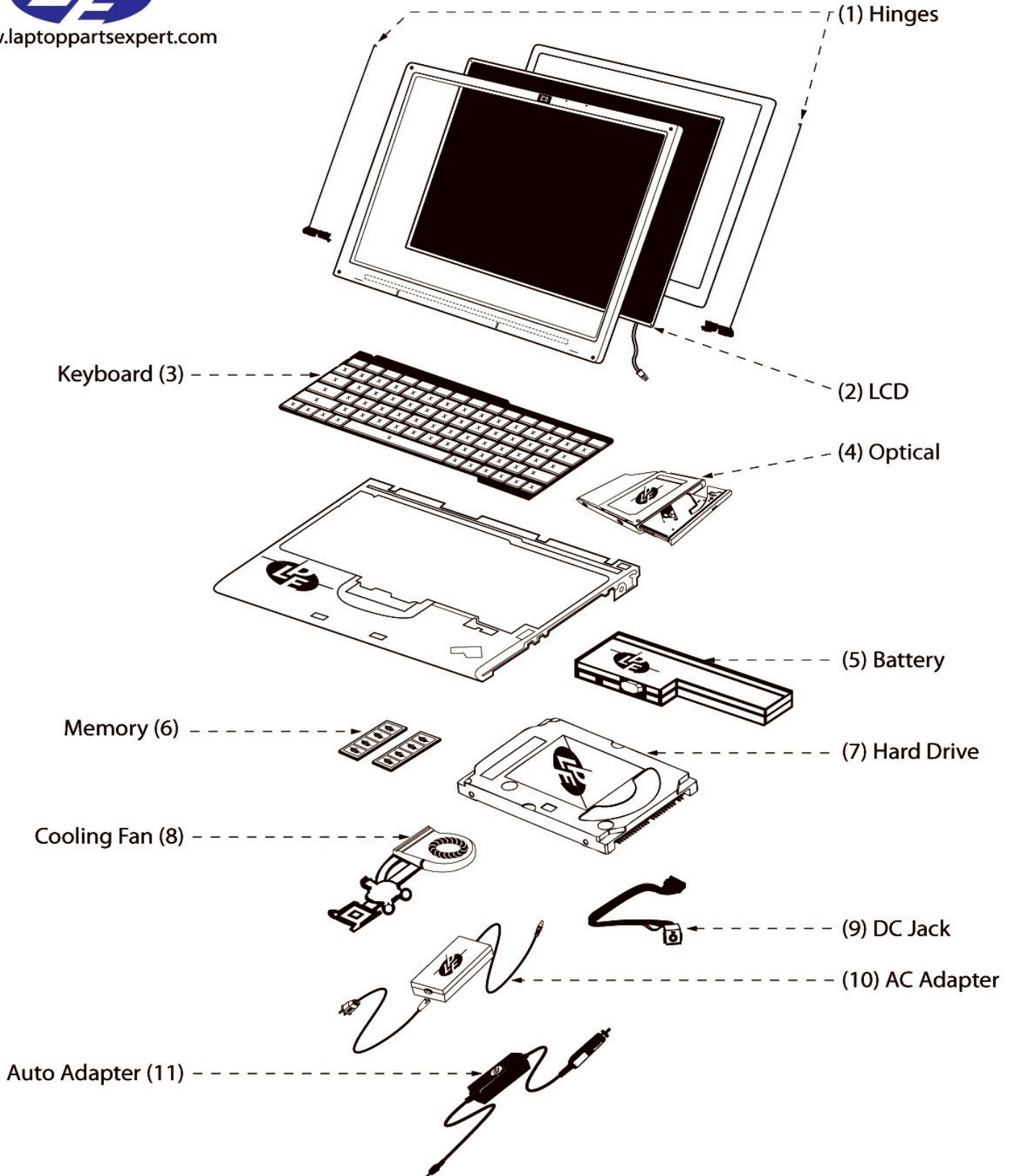


Find the parts of a Laptop

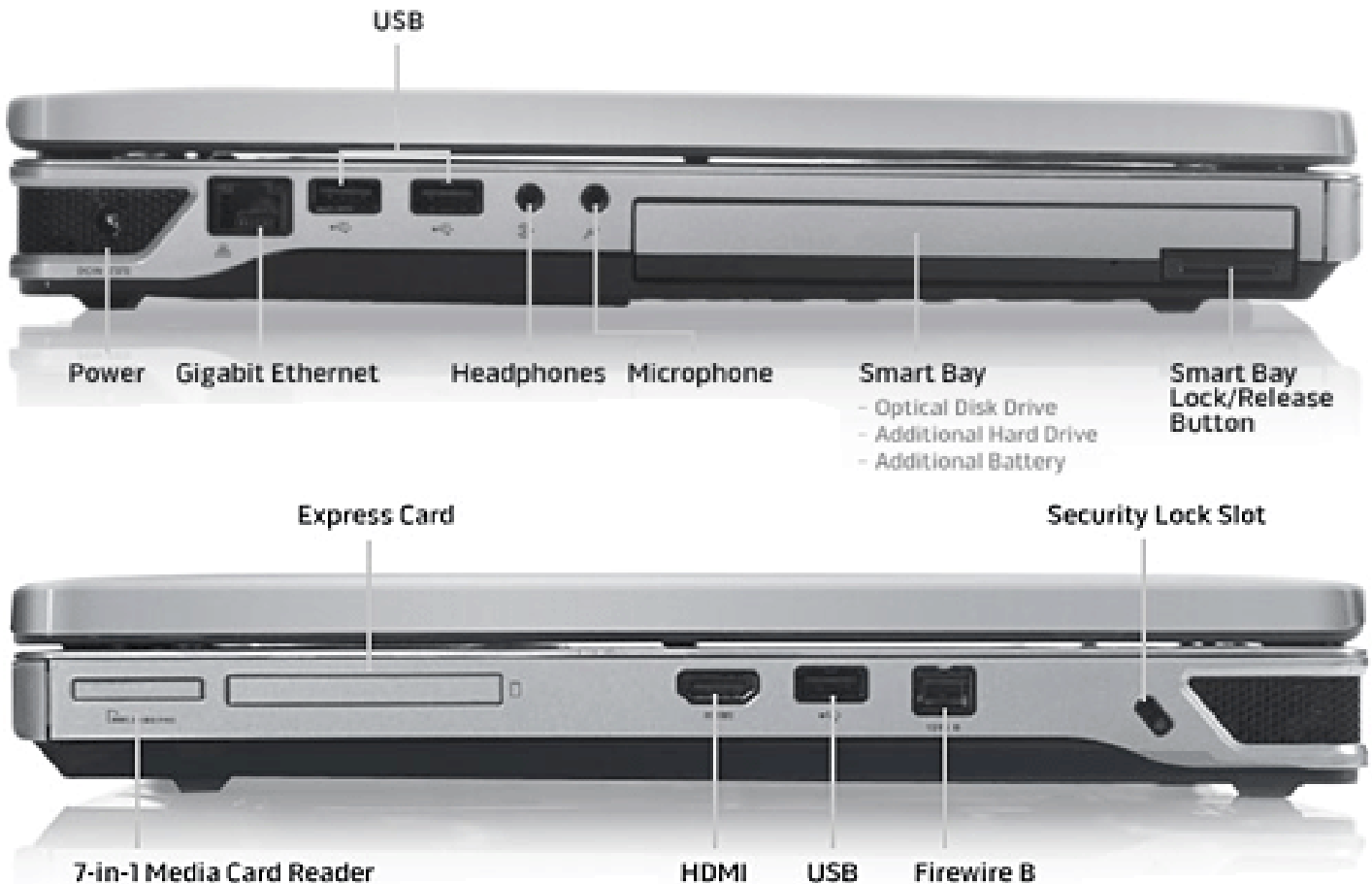


www.laptoppartexpert.com

# MSI Laptop - Exploded View



Pick up your laptop and get friendly with it. Some of the parts in the diagram are inside so you cannot see them. Specifically, locate the **Power button** which will have an icon that looks like this. This is where you turn your computer **on**. Typically, **you do NOT use this button to turn the computer off**—rather you use a command that lets the computer shut down and save data.



Laptops and desktops have Ports for connecting to different things. Different manufacturers may put the ports in different locations but most computers come with a place to plug in your **power supply, headphones and microphones, Ethernet cables for direct Internet access, a disk reader, and USB ports for adding storage to your computer**. In addition, some computers come with **HDMI ports to connect to a TV or projector, Firewire ports for camcorders, and card readers for SD cards from phones and digital cameras**. Some also come with **VGA ports** (not shown in diagram) for connecting to older monitors and projectors.

Find as many of these ports on your laptop as you can. Try opening your disk reader (smart bay in the diagram) and also inserting a USB drive. **NOTE** the USB drive is directional. Turned one way, it goes in. Turned the opposite way, it does not.

# Ergonomics

Using computers for long periods of time can cause eyestrain, neck and shoulder problems and tendonitis. Proper posture, good seating and lighting can avert this.

Sit in a good chair with your lower back supported. The chair should be high enough that your wrists can be slightly flexed, as in playing the piano. The monitor should be positioned slightly below your line of sight.

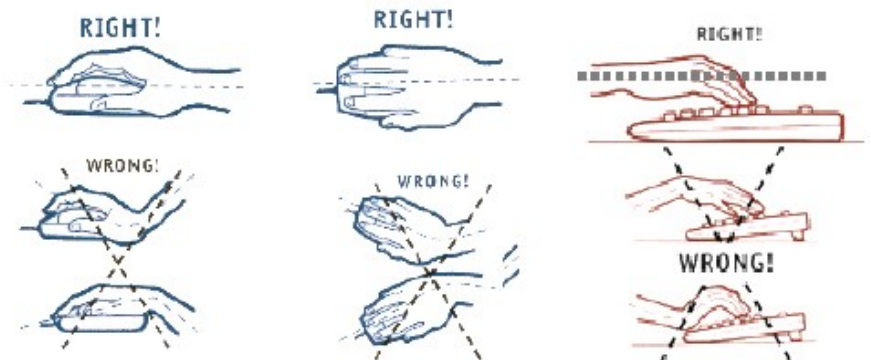
Lighting should be soft and indirect, not creating glare on the screen.

A good rule for preventing eyestrain is the **20-20-20** rule. Every 20 minutes, focus on something 20 feet away for 20 seconds. You can install little reminders on your computer, like **Fadetop** so you don't forget.

Correct hand position on the mouse and keyboard is important, too. If your laptop is uncomfortable to use, you can buy separate monitors and keyboards that you can more easily position.



Courtesy of [www.ergohealthy.com](http://www.ergohealthy.com)



If you are prone to wrist injury or already have one or have arthritis, there are other ways to input data besides the standard mouse. Many people with arthritis find the trackpad built into most laptops to be easier to use than a mouse.

For those with wrist injuries or tendonitis, vertical mice, trackballs or larger touch/pen trackpads may be the answer.



Trackball



Vertical Mouse



Touch/Pen Trackpad

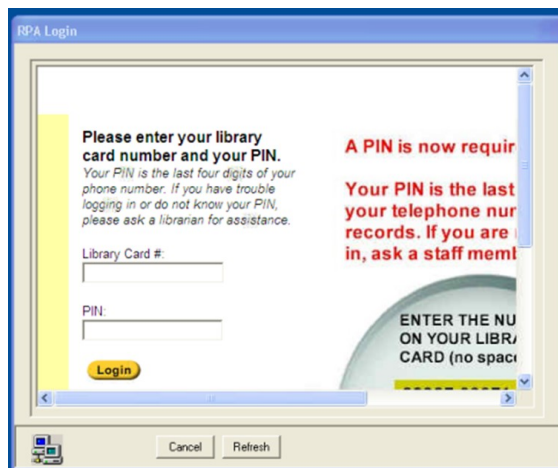
## Turning on your computer

So let's turn on the computer. Find the Power button. Press and hold it for a few seconds. You may hear the fan come on. Remember, DO NOT use this button to turn OFF the computer except in cases of emergency. You can damage the computer doing this.

## Using the Library's computers

The library's desktop computers require a special login. If you come back to practice what you've learned in class, this is what you need to know:

When you come into the library and use the computers you will need to log on with your library card and PIN. If you don't know your PIN, ask at one of the desks for it with your library card in hand.



Once you have signed in the timer and log out button will remain on the screen. There is a time limit on the library desktops to allow everyone a chance to use them.

## Using the Mouse—Holding it correctly

Look at the picture on page 6.

Rest the palm of your hand on the base of the mouse.

Put your 1st finger in the slight groove on the left side.

**Hold the mouse with your whole hand, not just your fingertips.**

As you move the mouse to the left, the pointer on the screen will move to the left, same when you move it to the right, up, or down. When you run out of space to move the mouse, pick it up and put it down a few inches to the right or left.



## Mouse Commands

**LEFT CLICK:** Click on the **Left** mouse button **once** to perform an action, like selecting an icon or following a web link. Click **twice rapidly** to open an icon on the desktop.

**RIGHT CLICK:** Click the **Right** mouse button **once** to bring up special menu of commands

**ONE CLICK:** *selects* a program on the desktop, **does not** open a program.

**DOUBLE CLICK:** opens a program.

**DRAG:** **Hold down the left mouse button while moving the mouse to drag** a desktop icon or select an area on the screen or drag it across a line of text to highlight or *select* the text for editing.

## Practice Exercise

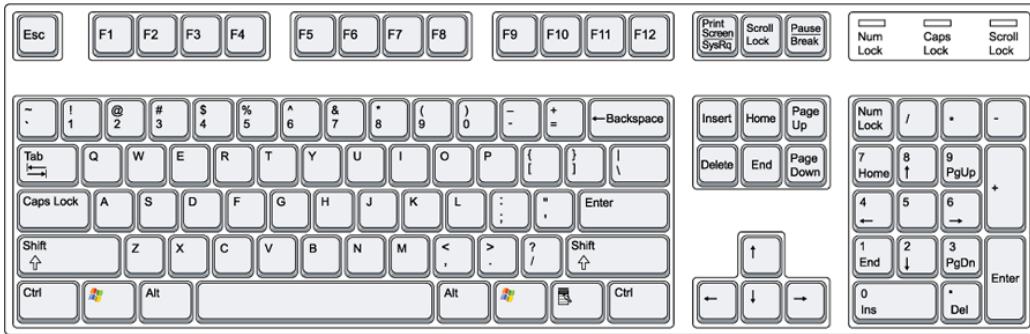
For additional practice, this is a really good tutorial on how to use and practice using the mouse.

[www.pbclibrary.org/mousing](http://www.pbclibrary.org/mousing)



# Using the Keyboard

Keyboards take their design and functions directly from the typewriter. In addition there are keys with special functions.

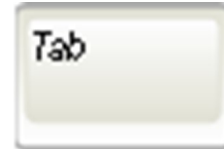


For example, the **Escape Key** lets you exit a process.



## Special Keys

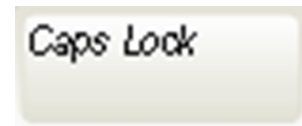
**Tab:** Indents spaces in a document



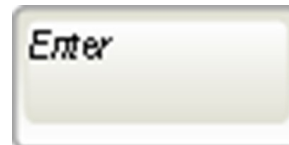
**Shift:** Allows you to type one letter in capitals



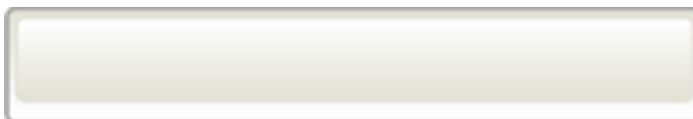
**Caps Lock:** Allows you to type in all capital letters.



**Enter:** Allows you to move to the next line in a document or the next page on the Internet



**Space Bar:** Moves you forward one space in a document.



The **Backspace Key** allows you to erase what you just typed.



## Directional Keys

**Insert:** Not used in modern word processors.

**Home:** Takes you to the beginning of a document or line.

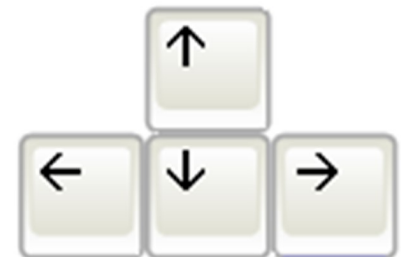
**Page Up:** Takes you to the top of the page or back through pages in a document.

**Delete:** Erases text to the right of the cursor.

**End:** Takes you to the end of your document or line.

**Page Down:** Pages down through your document.

**Navigation Keys:** These keys move you up, down, left, and right through a document. Also called arrow keys.



## Numeric Key Pad

These keys are used to enter numbers quickly.

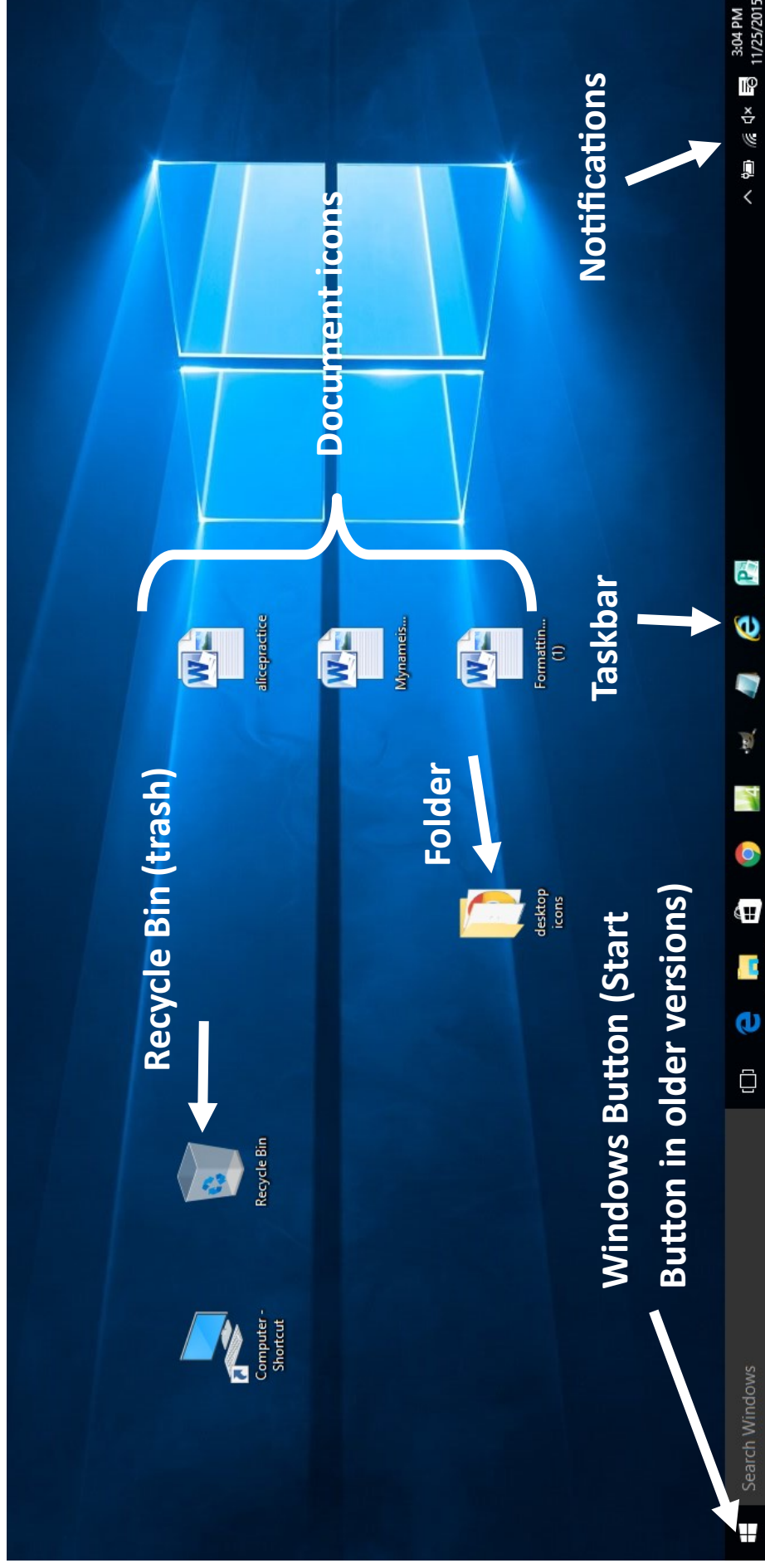
They work the same way that the numbers above the letters do.

Look for the **Num Lock** light indicator to be illuminated to use these keys. The light must be on for these keys to work as numbers. When Num Lock is off, they have different functions.



## Practice

There is a document on your desktop named **alicepractice**. Open the icon on it to play around some with the keyboard in this document.



## The Desktop—Practice

Now that you know how to click, double click, right click, and drag, use these skills to rearrange the icons on your desktop, open programs and explore the Windows button. We will cover much more of this in the next class.

## Turning off the Computer

The only **SAFE** way to turn off the computer is to click on the **Windows button** and then click on **Shut down**. The computer needs time to close programs and save data. Do not disconnect power while the computer is shutting down. A forced shut down—holding down the power button until the computer stops—should be used only in an emergency.