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[www.mc-npl.org](http://www.mc-npl.org)

Note to Home Students:
If you are taking this course from home, you can download handouts and other materials for this class from our Class Resources page:

[www.mc-npl.org/class-resources](http://www.mc-npl.org/class-resources)
About Programs and Operating Systems

Teacher’s note:
Explain to the students that we will be giving them a **skills test** at the end of class.

- There is no time limit.
- Reassure them that if they don’t pass, they can come back and retake it.

Now that we have become familiar with how to interact with our computer using a mouse and keyboard, we will begin to learn how to access programs on the computer.

Any time a task is performed on a computer, it is done through a **program**. For the user, the program is an application – a tool – for accomplishing a task. For the computer, it is a set of instructions on knowing how to perform this task. During today’s class, we will show you how to open a basic word processing program, WordPad, and a program used to access the Internet, Internet Explorer.

The most important program on the computer overall is the **operating system (OS)**, which manages all of the computer’s resources and decides how to treat input from the user. The OS is the brains that turn your computer into an effective tool.

There are several different computer operating systems in circulation:

- **macOS**: Apple desktop computers and laptops.
- **Linux**: Free, but requires more technical knowledge to use. Some libraries that are on a budget use Linux in their computers.
- **iOS**: Apple iPhones and iPads.
- **Android**: Used in smart phones. Made by Google.
- **Windows**: The most commonly used operating system. It is what we will be using in class.

Microsoft is the name of the company that makes Windows. There have been several different versions of Windows. In 2012 all the computers in the lab were updated to a version of Windows called “Windows 7”. If you have some experience with the older versions of Windows, you will notice that things look a bit different on Windows 7. The latest version of Windows is Windows 10.
The Windows 7 Desktop

The first thing you see when you log on to the computer is the Desktop. The Desktop is the display area you see when Windows opens. The following items are the most common items on the Desktop:

- **Mouse pointer or Cursor**: The indicator on the screen that you use to select and move objects. It moves as you move the mouse and **changes appearance** depending on what program you are using and what tool you have selected.

- **Icon**: A picture representing a program, a file, or folder (a place to store files).

- **Screen Tip**: When dwelling on a Windows element on the screen, a small descriptive message called a Screen Tip may display
  - **Hover** (hold the mouse pointer over but do not click) your mouse pointer over the icon in the top left corner of the desktop.
  
  **Teacher’s note:**
  If no screen tip appears, click on the Desktop and try again.

  - **Note** the descriptive message.
**Taskbar:** The gray/black bar at the bottom of the computer screen. When a program is running/open on your computer, it will be represented by a button on the taskbar. Important sections of the taskbar include:

- **Start Button** – A single left click on this button opens a menu that includes many options. You can start programs, shut-down your computer, switch users, log off, lock, restart, or put your computer to sleep. We will explore this section more closely later in the lesson.

- **Notification Area** – The bottom right corner next to the time and date. It contains miniature icons for easy access to system functions that are always running in the background, such as antivirus settings, printer status, network connection, sound volume, and battery status. Sometimes referred to as Notification Tray or System Tray.
  - **Hover** over or click an icon to view and access details and controls

- **Clock** – Displays the current date and time.

- **Show Desktop/Peek Button** – Farthest over on the right. We will examine this button later in the lesson.

**Two ways to Open a Program**

Programs on a Computer can be opened by double-clicking on an icon on the desktop (if there is one) or by finding the program in the Windows Start menu and clicking once on it.

**Desktop Icon**

1. **Move** your cursor over the icon for Internet Explorer.
2. **Notice** what the screen tip says. This is a program that gives you access to the Internet.
3. **Double-click** the icon to open the program.

**Tip:** If double-clicking is difficult for you, try one of these alternatives:

- **Single click** on the icon and press the **Enter** key on your keyboard.
- **Right-click** on the icon and select **Open** from the context menu.

4. The window that opens fills the entire desktop except for the taskbar.
5. **Look** at the upper right hand corner of your computer screen and **locate** the red button with the white x. **Point** to it and **notice** the **screen tip.** This is the **close** button. **Click** on the x to **close** the program.
Start Menu

Not all the programs that are available on the computer are represented by an icon on the desktop. To see and open any program, you will need to open the start menu. The Start Menu appears when you click the Start button on the left side of the Taskbar.

1. **Click** on the Start Button. Let’s **examine** it.

   Note that the Start Menu in the computer lab **has been modified**. The handout will show details about using the start menu on a home computer using Windows 7.

   ![Start Menu Display](image)

2. **Note** that the first view of the start menu will show a **list of programs on the left** that you have recently used or frequently use on your computer.

3. **Note** that the first program in this list is **Internet Explorer**, followed by **Mozilla Firefox**, followed by **Microsoft Word 2010**, etc.

   **Teacher’s note:**
   Point out the presence of **Microsoft Word 2010** in this list so they are prepared for the test.

4. To open one of these programs, you point to it with your cursor and **single click**. The program will open and the menu will close.

5. **Click** on **Internet Explorer** to **open** it, and then **close** it using the **close button**.

6. **Open** the start menu again.
7. To see all of the programs on your computer, **point** to the word “**Programs**”. Another menu will appear with a list of programs on the bottom and a list of folders above. There are more programs contained within these folders. To **navigate** this menu, **slide your cursor straight across and up** until you are pointing to the program or folder you want.

![Image of programs on computer]

8. **Navigate** to the **Accessories folder**. **Notice** the list of programs that are now displayed. To open a program, you would **point** to it and **click** once.

![Image of programs within Accessories folder]

9. **Exit** the menu without opening a program by **pointing** to a clear area off the menu and **clicking** once.

**Teacher’s note:** Remind students not to confuse “**Mouse Tutorial**” with “**Mousercise**” to prepare them for the test.
Examining a Window

First, what exactly is a Window? Older computers could only manage one program at a time, which took up the entire screen. Until you exited that program, you could not do anything new. The advantage of current operating systems such as Windows is that we can do more than one thing at a time, and each program is put in its own little compartment called a Window.

The window can take up the entire screen or just part of it, or it can even be (temporarily) hidden from view altogether. However, it is an essential concept to understand that even if you don’t specifically intend to, at some points, the computer will be Multi-Tasking. Multi-tasking is the act of having two or more on-going processes at the same time, such as typing a document and then pausing to look at something on the Internet.

We are going to use the Start Menu again to open a program called WordPad. WordPad is a Microsoft Windows program that you can use to create documents such as letters, notes and posters. It's less complicated than a full word processing program such as Microsoft Word but it still lets you perform a considerable range of tasks.

1. **Click** on the Start button and **hover** over Programs.
2. **Navigate** to the Accessories Folder and **locate** the WordPad program.
3. **Click** on the program name to **open** it.
Looking at the WordPad Window

This program opens in a window that is filling the desktop, except for the Taskbar. Every program opens in a separate window. All windows have some common elements.

- **Title Bar**: Top most bar with title of file and name of program.

- **Ribbon**: In WordPad and in Microsoft Office 2010 programs, the ribbon is a set of toolbars placed on several tabs. This makes the tools used in a program more visible. Not all programs have a ribbon, but most programs have tools in some form.

- **Window Controls**: This is a group of three buttons common to all windows. We will talk more about these buttons shortly.

Click on the **Close** button to close **WordPad**.
A Closer Look at the Taskbar

At the very bottom of the screen is the Taskbar. The two ends of the taskbar contain the Start button and the Notification Area. The taskbar was introduced as the most important part of the screen, even though most of it is blank!

The middle section of the taskbar lists all the tasks the computer is performing, and this is why it is important. Any time a new window opens, it will be represented on the taskbar. For now, simply note that most of the bar is empty, but keep watching how the taskbar changes as the lesson continues.

1. **Open WordPad** using the Frequently Used List on the Start menu and **notice** that there is a now a button representing that program on the taskbar.

![Taskbar with WordPad open](image)

2. **Click** the **Close button** on the WordPad window and **look** at the taskbar again. The WordPad taskbar button is gone.

3. **Reopen WordPad**.

4. **Point** to the button on the taskbar that represents your window. **Note** the **preview window**.

![Taskbar with WordPad open](image)

5. **Point** somewhere else and the preview window **disappears**. This preview window is actually an important tool we will be using going forward in the lesson.
The Window Control Buttons

There are three buttons in the upper right corner of the screen and we’ve only looked at the one on the right, the Close button.

1. **Point** your mouse at the left-most of those three buttons. What does the screen tip say this button does? (Screen tips show only when you point to just the right spot and hold still. If you are pointing to the correct button, the screen tip should say “Minimize”.)

2. **Click** the Minimize button, and as you do, the WordPad window should disappear. However, is the program truly gone? **Look** at your taskbar; there is still a button representing WordPad there. **Point** to the taskbar button. **Note** the preview window. This means the program is still open and running. We have only hidden it out of view. Just as we might shove a paper off to the side on a real desktop, the advantage of doing this is to put something else in your workspace, which we will do later. For now, let us worry about how to get the WordPad window back so we can work in it.

3. To get the full screen window back, **point** to the WordPad taskbar button and **click** on the preview window. Your WordPad window returns!

4. **Point** to the middle window control button. When you point at it, the screen tip should say Restore Down. That’s a kind of funny term, but it essentially means to de-maximize a window.

   a. **Note** the symbol on the button. It looks like two boxes or squares, one slightly behind the other. This is what the button looks like when the window is in full-screen mode or, in other terminology, its maximized state.

   b. **Click** the Restore Down button and **notice** what happens – the window will shift from full-screen mode to using just part of the screen.

   Why would I ever want to click Restore Down?

   Making the window smaller seems like an inconvenience. But it’s actually very useful for multi-tasking because it allows you to view two or more windows side-by-side.

   c. **Point** to the middle button now and the screen tip should say Maximize. **Take particular note** of the symbol on the button. It looks like a single box or square. This means that if you click the button it will return the window to a maximized state.

   d. **Click** the button and **note** the window is using the full screen.
Opening Multiple Windows

We now have one program currently running in a full screen window. Let’s open another program.

1. **Use** the start menu to **open** Internet Explorer.

2. **Look** at the taskbar and **note** that there is a button representing both programs.

**Active Window**

The Internet Explorer (IE) window is filling the desktop. Even though there are two programs running, the computer can only focus its attention on one at a time. That is called the **active window** and it is always the window that is on top. Where is the WordPad window? It is actually right behind the IE window. **How can we make our WordPad window the active window?** Let’s take a closer look at the taskbar.

1. **Point** to the taskbar button representing WordPad. We saw earlier that a small preview window appears.
2. **Point** to the **preview window** and look at the computer screen.

3. **Notice** how the WordPad window **appears** to be in full-screen mode again, but it really isn’t.

4. **Move** your cursor away and the WordPad window **disappears**. This was just a **full size preview**. We still haven’t made the WordPad window the **active window** yet, but we will use the preview window to do so.

5. **Point** to the WordPad **preview window** again and, this time, **click** on the **preview window**. The WordPad window is now in the forefront and the Internet Explorer window is behind.

6. **Click** on the **preview window for Internet Explorer**. Now the Internet Explorer window is in the forefront. Clicking on a program’s preview window is how to switch between open programs in order to place them in **Active** mode.

7. **Close** the Internet Explorer window.

8. **Close** the WordPad window.
Multitasking Practice

Let’s use Internet Explorer and WordPad to practice the copy and paste skills we learned last week.

1. Using the Start menu, **navigate** to the Accessories folder and **open Mouse Tutorial (Live)**

2. **Note**, by the appearance of the taskbar button, that the Mouse Tutorial webpage has opened in Internet Explorer.

3. **Use** the Start menu to **open WordPad**.
   
   a. **Note** that the WordPad window is now in front of the Internet Explorer window and is therefore the **active window**.
   
   b. **Look** at the WordPad window and **notice** that there is an insertion point (blinking cursor). When you start typing; your words will start there.
   
   c. **Type** your **name**.
   
   d. **Press** the **Enter** key on the **keyboard** to get to a new line.

4. We now want to **go back** to the **open Internet Explorer** window, so **point** to the taskbar button and **click** on the **preview window**. The Internet Explorer window is now in front and is the **active window**.
   
   a. **Highlight** a few words of the black text.
   
   b. **Use** your keyboard combination **Ctrl** + **C** to copy the words to the computer’s memory.

5. **Make WordPad** the active window again. In other words, **go back** to the WordPad window by **clicking** on its **preview window**.

6. **Use** your keyboard combination **Ctrl** + **V** to paste the words into the WordPad document.
The Dialogue Box

A dialogue box appears when a program requires more information from the user. We have entered content into our WordPad document and we are now going to close the document. WordPad will recognize that we have created content and will prompt us about saving the document.

1. **Close** WordPad.

2. **Notice** the **dialogue box** that pops up. This dialogue box **must be dealt with before we can do anything else**.

3. **Watch** what happens if you try to **click** in the **body** of the document or on the **close button** again. The dialogue box flashes to get your attention.

4. Since we are not going to be saving this document, **click Don’t Save**. The WordPad program will close.

Exploring Taskbar Buttons

**Show Desktop/Peak Button**

What would you do if you have a full-screen window open but you want to get to the desktop so you can use an icon to open another program (or a second instance of the same program)? If there is only one window open, minimizing it would bring the desktop into view. But suppose that you had many windows open. Minimizing a lot of windows is time consuming. The **Show desktop** button is the answer.

1. We now have only Internet Explorer running. **Open WordPad** again.

2. **Point** to the **Show desktop** button.
3. **Notice** how you can see the desktop as if through a thin veil.

![Desktop Image]

4. **Click** on the **Show desktop** button and **notice** that the Internet Explorer and WordPad window both minimize. This would happen to all your windows, no matter how many you had open.

**Stacked Taskbar Buttons**

For purposes of multi-tasking it is possible to have two instances of the same program open at one time.

In previous versions of Windows, every open program was represented by a separate button on the taskbar. In Windows 7, however, when you have more than one instance of a program open, the buttons will “stack”.

1. **Double-click** on the desktop icon for **Internet Explorer** to **open** it. The **Google** website has opened in it.

2. **Look** at the **taskbar** and note that you don’t see two separate buttons but one button stacked behind the other.

![Taskbar Image]
3. **Point** to the Internet Explorer button on the taskbar and you will see **previews for both Internet Explorer windows side by side**. You see previews for both IE windows, but the screen of your computer is displaying the IE page showing the Google website.

4. **Point** to the **preview window** showing the **Mouse Tutorial webpage** and see what happens to the screen. The screen fills with the Mouse Tutorial webpage, but again, it is only displaying a **full-screen preview**.

5. **Move** your cursor away and the **Google** screen comes back in view. When you simply point at the preview window you can get a better look at what it represents on the screen but you will not make it the active window until you **click on the preview**.

6. **Point** to and **click** on the **preview window** showing the **Mouse Tutorial webpage** to make it the active window. **Point** and **click** on the **preview window** for the **Google** webpage to make it the active window.

7. **Close** all open windows. **Check** the **taskbar** to be sure that there are no programs still running. In the computer lab, there is no need to log off or shut down the computer.

CB2 Proficiency should be started no later than 7:15pm / 12:00pm
More Multitasking Practice

Practice 1
1. From the desktop icon, open “Library Website”.
2. From the Start menu, open Microsoft Word 2010 and type your first and last name.
3. Go back to the library website window and copy “Select Main Library or Branch” (in the orange box on the left).
4. Go back to the Word window and paste.
5. Using the Start menu, open another Word window and type the name of a color.
6. Go to the Library Website window and copy the library hours (in the box on the left).
7. Go to the Word window with the name of a color and paste.
8. Close all the windows without saving changes.

Practice 2
1. Using the Start menu, open Mousercise (Live) from the Accessories folder.
2. Using the Start menu, open the Microsoft Word 2010 program. Type your favorite TV show.
3. Go back to the Internet Explorer window that has Mousercise in it and copy the words “Welcome to the Mousercise!”
4. Go back to the Microsoft Word window that has your TV show in it and paste.
5. Using the Start menu, open a NEW Microsoft Word window.
6. Go back to the Internet Explorer window that has Mousercise in it and copy the words “This exercise will help you practice”.
7. Go back to the second Microsoft Word window you opened and paste.

Practice 3
1. Using the Start menu, open Mouse Tutorial (Live) from the Accessories folder.
2. Using the Start menu, open the Microsoft Word 2010 program. Type your favorite sports team.
3. Go back to the Internet Explorer window that has the Mouse Tutorial in it and copy the words “We will concentrate”.
4. Go back to the Microsoft Word window that has your sports team in it and paste.
5. Using the Start menu, open a NEW Microsoft Word window.
6. Go back to the Internet Explorer window that has Mousercise in it and copy the green text.
7. Go back to the second Microsoft Word window you opened and paste.
Closing a Window using the Taskbar (supplemental)

1. **Open** two instances of Internet Explorer.

2. **Point** to one of the two Preview Windows and **note** that a tiny **Close** button appears in the Preview Window. This button can be used to close the window without having it appear on your screen.

3. You can also close **multiple** windows at the same time using the Taskbar button.
   a. **Point** to the stacked Internet Explorer Button and **right-click**. The menu will list a command to close all windows. Clicking on that command will close all the IE windows
   
   b. **Click** on **Close all windows**.

Snapping Windows (supplemental)

Snapping windows facilitates multi-tasking by allowing two windows to be viewed side-by-side. It is a new feature that was added in Windows 7.

1. **Open** two programs.

2. **Restore Down** the active window and **drag** it to the **left side** of the screen. In Windows 7, the window will “snap” to fill half the screen.

3. **Restore Down** the other window and **drag** it to the **right side** of the screen.
Saving a File (supplemental)

Creating a document

1. **Use** the Start Menu to **open** WordPad
2. **Note** the WordPad Title Bar which indicates a default file name of **Document**.
3. When WordPad opens, it will display a blank document ready for you to type in. The words that you type and the formatting that you use become your document.
4. **Type** your **first name**.
5. Each document you create is temporary unless you save it as a **file** with a unique name and location.

Saving the File

1. **Point** to the **WordPad tab** and **read** the Screen Tip.
2. **Click** on the **WordPad tab** to expand the menu.
3. **Slide down** to the **Save As** command. **Save As** is the command we use when we are saving a file for the first time or if we want to save an existing file with a different name or a different storage place.
4. **Slide** straight across and up to **Rich Text document** and **click** on it.
5. **Notice** that a smaller window appears in front of our work. This small window is called a **dialogue box**. Because the computer needs to know more than just “OK, save,” the dialogue box is where we tell it *how* we want to save our work.

![Image: Dialogue box for saving files]

6. When it comes to saving, there are two important things to *identify* for the computer: the **location where the file is going to be saved to**, and **what name you want to give the file**.

7. The **location** where it will be saved is displayed for us in the **Address field**. In this case, **note** that the **Documents directory** under the **Libraries directory** is the **default** save location, but we want to save our file somewhere else.

![Image: Address field displaying default save location]

8. **Notice** other available folders and devices can be seen in the left pane, called the **Navigation pane**. If we wanted to save to one of these alternate locations, we would have to click on it.
9. We are going to save our file to the **Temporary Patron Drive (P:)**. We must first **point our cursor** to the words “Temporary Patron Drive” in the Navigation pane and then **click**.

![Image of Save As dialog box with Temporary Patron Drive selected and cursor pointed to file name field.]

10. Next, **click** on the words in the **File name** field. They will get a blue background.

![Image of Save As dialog box with file name Document.rtf highlighted.]
11. The blue background means the field is ready to accept typing so type a file name of Me. Then click the Save button.

12. The dialogue box disappears and your file is saved. Verification of this can be made by looking again at the Title bar in the WordPad window. Note how instead of Document, the title is Me.rtf.