Internet Step-by-Step Guide

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MONTGOMERY COUNTY-NORRISTOWN PUBLIC LIBRARY

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Note to Home Students:

If you are taking this course from home, you can download handouts, the introduction slide show and other materials for this class from our

Class Resources page:

http://www.mc-npl.org/class-resources

Introduction

Objectives

Show Slide 2

- What is the Internet & how does it work?

- Who controls the Internet?

- What is the World Wide Web (aka "the Web")?

- What do I need to access the Web?

- Terminology

What is the Internet?

Show Slide 3

The Internet is a collection of millions of computers world-wide that are all connected to one another. While they do not share everything with each other, there is some limited amount of information a computer on the Internet can get from any other computer on the Internet.

Show Slide 4

People often think of the Internet as a cloud in space. In reality, every computer in the Internet is connected by actual wires -- Ethernet cables, phone lines, and fiber optic wiring on the ocean floor to connect the continents!

What is a server?

Show Slide 5

There is a LOT of information on the Internet, but all of it comes from another computer somewhere. Special computers designed for transmitting information on the Internet are called *servers*.

Big Internet companies often own thousands of servers so that their websites are fast. To the right is a picture of one of Google's many server rooms, located in Georgia. A *server room* is a large, air-conditioned room filled with thousands of servers. When you do a Google web search, your computer just might be "talking" to one of the servers in this server room.

Who Controls the Internet?

Show Slide 6

The Internet is a **cooperative endeavor**—no organization is "in charge" of it.

The Internet is an inherently **participative** medium. Anybody can publish information or create new services. For example, Google started out as two guys in a garage

When you connect your computer to the Internet, you become **part** of the Internet.

What is "the Web"?

Many people use the words "**the Internet**" and "**the Web**" interchangeably, but they do not mean the same thing.

The "**Web**" (short for "World Wide Web") is just one of the services that run on the Internet. It is a collection of interconnected webpages, documents and other resources, and is the portion of the Internet we will focus on in this lesson.

There are other services that run on the Internet such as e-mail, or electronic mail. Some other aspects of the Internet include the ability to retrieve files from other computers (downloading) and instant messaging, multiplayer gaming, and streaming media (like videos and music).

What do I need to access the Internet?

1. Computer Device

You need a computer, laptop, tablet, or smart phone (we can't plug our brains into the Internet—yet).

2. Internet Connection

There are several ways to obtain an Internet connection:

1. **Internet service provider (ISP):** Typically used by home and office computers. This type of connection is generally the fastest. Examples include Comcast and Verizon. The connection is accessed through a phone line (dial-up model), DSL line, or cable television system.

2. **Wi-Fi Hotspot:** These are accessible from a public place, such as a library, coffee shop, or hotel. They are often free and sometimes require credentials to connect, such as a password. In this case, you are connecting to the Internet though the ISP of the wi-fi hotspot's owner.

3. **Cell Phone Carrier:** If you have a smart phone with a data plan, you can access the Internet over the phone's cellular network (Sprint, AT&T, etc.). Examples of cellular Internet technologies include 3G, 4G, and LTE.

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3. Web Browser

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A web browser is software that allows you to view webpages. There are several web browsers that are available. All of them are free to download and use. We will talk about them next.

Common Web Browsers

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They all have similar features—they all let you access information on the Web and they are all free. You can have several brands of browsers installed on your computer at one time and discover a preference depending on how the browser behaves.

Teacher's note:

After describing **Google Chrome**, explain why we don't use it in class despite its popularity: Chrome does not let us assign a computer number to the bottom of printouts. However, all of the concepts we cover in class are relevant no matter what browser you are using.

U.S. Browser Usage for December 2019 *source: http://gs.statcounter.com*

	Chrome – Produced by Google, it is one of the fastest and most secure browsers available today.	**47%**
	Internet Explorer – Produced by Microsoft and bundled with the Windows operating system.	**2%**
	Safari – Produced by Apple and bundled with Apple products, such as Mac computers, iPhones, and iPads.	**36%**
	Firefox – Produced by Mozilla, a non-profit company, it is an open-source project.	**4%**
	Edge - Produced by Microsoft, this browser is only available on Windows 10. It is meant to replace Internet Explorer.	**4%**

What's a URL?

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The WWW is all the web pages on the Internet. When you visit a website, you are retrieving a web page file from another computer. To do this, you will need to use a "web browser" program such as Firefox. In that program, you would specify an address, the URL (Uniform Resource Locator), of the computer that holds the information.

Here is an example of a URL:

`http://www.irs.gov/uac/Free-File:-Do-Your-Federal-Taxes-for-Free`

Here is what each component represents:

- `http://`
  protocol
  Tells the browser what language it has to speak in order to display the web site. Most of the time, the "http" protocol is used, so you don't have to type this part—the web browser adds it automatically.

- `www.irs.gov`
  domain name
  Is typically named after the organization that owns the webpage. Takes you to the organization's main web site. Just like a mailing address is used to direct someone to your home, a domain name is used to direct someone to a specific web site.

- `.gov`
  top level domain
  The "category" of the web site. Below is a table describing some of the most common top level domains:

- `/uac/Free-File:-Do-Your-Federal-Taxes-for-Free`

  path
  The path a specific webpage or resource within the website as a whole. If you do not specify a path, and simply give a domain name, you will land on the website's main page.

Top-Level Domains

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.com	Commercial (for-profit business)	www.google.com
.net	Originally for network providers, now used as an alternative to ".com"	www.comcast.net
.org	Organization (non-profit)	www.mc-npl.org
.gov	Government agency	www.irs.gov
.edu	Educational institution	www.mc3.edu
.mil	Military	www.army.mil
Web sites located in other countries have a **two-letter country code** for their top-level domain. Each country has its own list of **second-level domains** (comes before the top-level domain)		www.bbc.co.uk .uk = "United Kingdom" (top-level domain) .co = "commercial" (second-level domain)

What's a hyperlink?

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A hyperlink is a graphic or a piece of text in a webpage that, when clicked, will send the reader to another webpage or document.

Hyperlinks often look like **blue underlined text** but can also appear as icons or other graphics.

Whenever you place your mouse cursor over a hyperlink, it will change into a pointing hand.

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What can you do on the Internet?

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Send and receive email	`www.gmail.com`
Read newspaper	`www.philly.com`
Get driving directions	`www.mapquest.com` `maps.google.com`
Search for a job	`www.monster.com`
Shop or Sell	`www.amazon.com` `www.ebay.com`
Research	`www.wikipedia.com`
Watch videos	`www.youtube.com`
Watch TV shows	`www.hulu.com` `www.netflix.com`
Check Train/Bus Schedules	`www.septa.org`
Communicate with government	`www.state.pa.us`
Get free credit reports	`www.annualcreditreport.com`
Fact-check rumors	`www.snopes.com`

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Introduction to Firefox

Minimize Slide Show

As stated above, looking at web pages on the Internet requires using a **web browser**. A Web Browser is an application used to view web sites stored on other computers connected to the Internet. The most common method of browsing is called the Hyper Text Transfer Protocol (HTTP) which uses a series of **hyperlinks** (sometimes just called **links**) to connect pages together.

In this class, we will be using **Firefox**.

Opening Firefox

To open Firefox:

1. **Double-click** the icon on the Desktop *or…*

2. **Use** the **Start Menu.** We have placed a **tile** for Firefox in the tiles section of the start menu. **Single-click** on the tile.

3. The first page that appears upon opening a web browser program is called the **home page** and can be set by the user.
   Q: What did the Computer Lab select for a Home page?
   A: Google.com

The Firefox Window

Teacher: Describe the different parts of the window.

Mention Handout 1
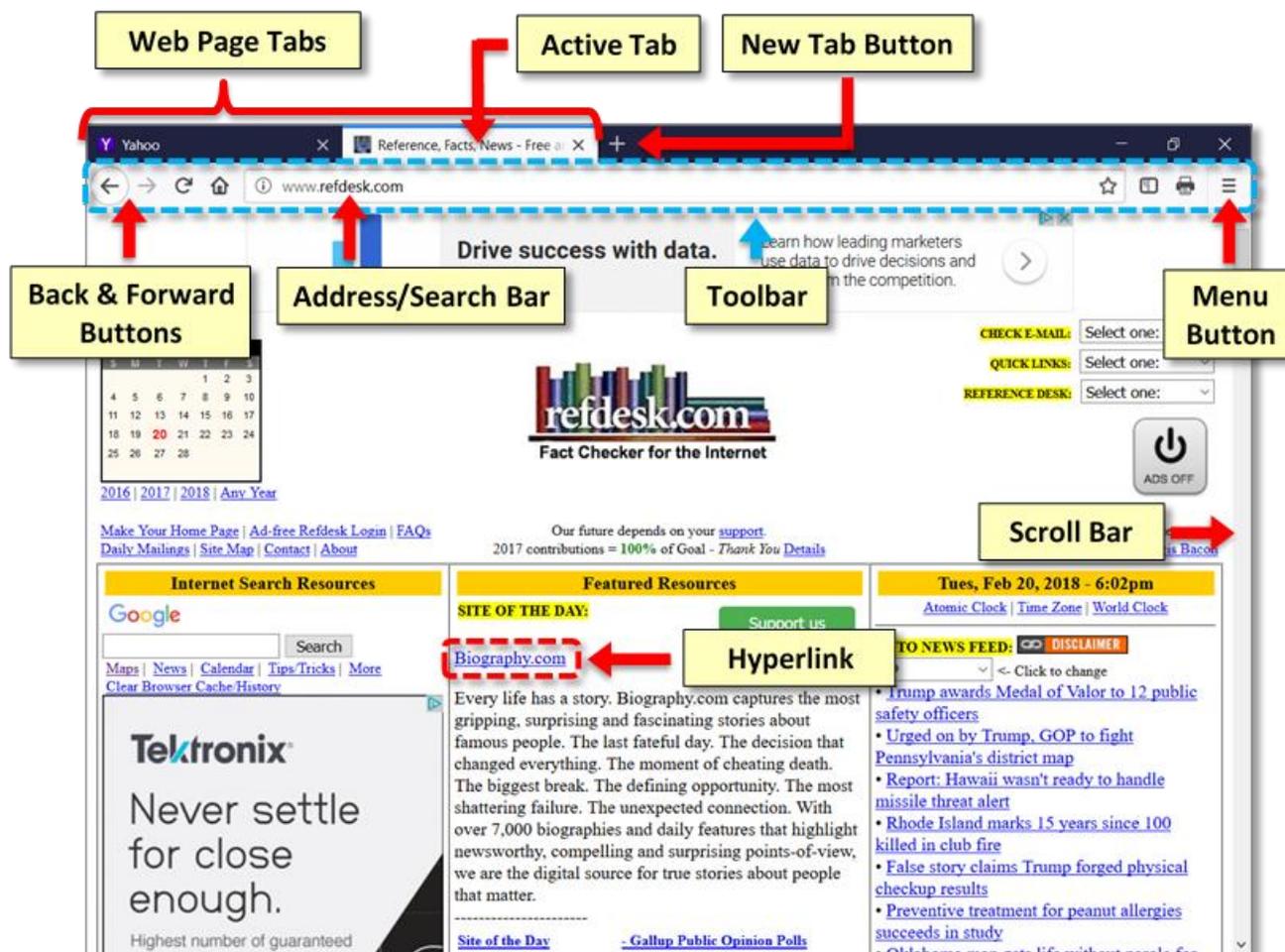
Title Bar, Window Controls
Unlike most programs on a computer, Firefox does NOT have a dedicated title bar! Window Controls are in their normal place.

Web Page Tabs
Each open web page is represented by a tab. The tabs occupy the space at the top of the window where the title bar is traditionally located. The title of the webpage is displayed on the tab.

Active Tab
The tab you are currently viewing.

New Tab Button
Allows you to open a new web page within the browser window.

Toolbar
Contains the back & forward buttons, address/search bar, and Menu Button. It is customizable. We have configured our toolbar to include these buttons:

Back & Forward Buttons
Navigates to the other webpages you have visited in the currently active tab.

Refresh
Retrieves the most recent version of the webpage so it has the latest content.

Home
Returns you to the browser's home page. Browsers can be configured to display a particular webpage when the browser is opened. In the computer lab our homepage is Google. Google is a very simple webpage that is comprised mainly of a search box. That is because Google is a **search engine**, a web site designed to find information on the Internet (we will learn more about this in the next lesson). It is a good homepage because it will load quickly into your browser. **Notice** that the name of the page is on the webpage tab and the URL is in the address box.

Address/Search Bar
- Allows you to go directly to a website by typing a URL.
- Provides search results when a search term or an incomplete web address is typed into the box.
- Displays the URL of the webpage in the currently active tab.
- Contains the Bookmark button ☆ which creates a bookmark for the current page. (Tip: If the bookmark is blue, it means the website has already been bookmarked)

Show Sidebars
Opens a side panel containing various information (notably: your bookmarks).

Print
Opens a print preview of the current webpage. This button is not present by default.

Menu Button
Provides access to a complete listing of all of Firefox's features and settings.

Scroll Bar
Allows you to move through the document if it cannot fit on the screen.

Hyperlink (or "link" for short)

A word or image on a web page that, when clicked, takes you a different page. Text hyperlinks are usually distinguished by being a different color than the surrounding text and are sometimes underlined

Navigating with a Web Browser

The main purpose of a web browser is to facilitate the accessing of websites. There are several common tools available in most browsers that make this navigation easy to do.

Entering a URL into the address bar

The **address bar** will display the URL of the webpage in the active tab. It also functions as an input box for navigating to a different website.

Mention Handout 2

If you know the exact web address (URL) of the web site you want to visit, you should enter it into the address bar.

When you first open the browser in the lab, the insertion point is **not** positioned in the browser's address bar, but in a Google search box.

1. Using Handout 1, **find** the address bar.

2. **Notice** the **address bar** displays the **web address** (URL) of the page you are on: www.google.com.

3. **Notice** the blue star at the right end of the address bar. This symbol means that Google.com has been bookmarked. (More on that later)

4. **Click** into the **address bar**. When you do, **notice** that the web address is now highlighted in **blue**. When you start typing, it will **replace** the highlighted text.
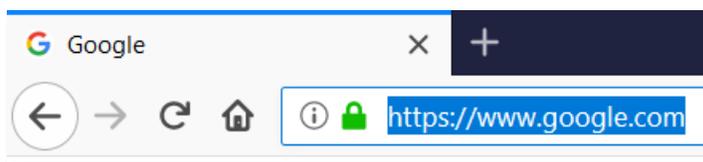
5. **Locate** the first URL on your list of websites handout. **Type www.irs.gov** (just those 9 letters and 2 periods (dots); no spaces, no other characters). The address bar acts **just like a text box**—if you make a mistake or need to change any part of the address, you can use backspace, delete, arrow keys, etc. to edit the existing text.

6. **Notice** that as you type, **suggestions** appear below the address bar. We will **ignore** this for now. DO NOT CLICK on any of the suggestions.
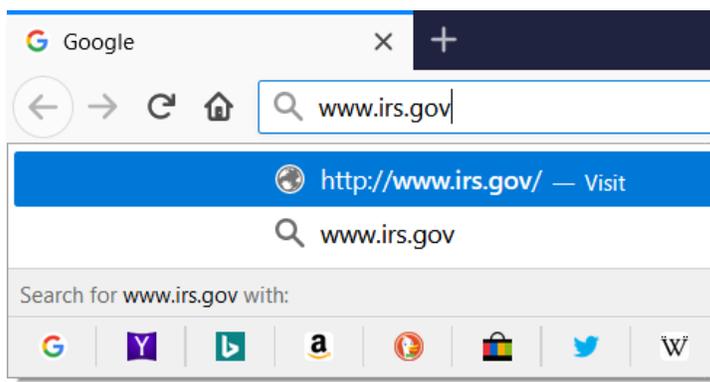
7. <mark>IMPORTANT:</mark> When typing a precise web address (like we are doing now), we recommend NEVER clicking on any of the suggestions, as it <u>may lead you to the WRONG website!</u>

8. **Notice** that the **Bookmark** (star) button was replaced with the **Go** button.
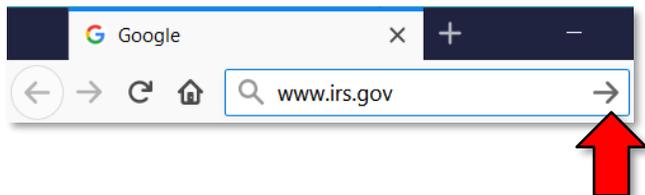
9. Now we are ready to actually visit that address. <mark>But before we do</mark>, **take note** of **three things** that will happen when we go to that address:

   a. A **"loading" animation** will appear to the left of the tab's name, indicating that the web site is loading. In Firefox, the animation is a dot that moves back and forth.
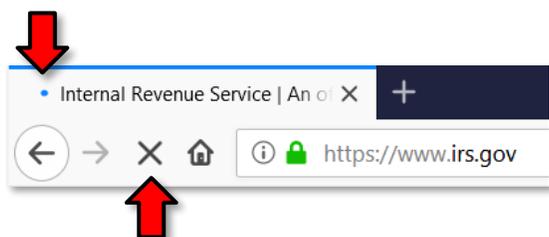
   b. While the **loading animation** is going, the refresh button is replaced by an **X button** (the "Stop" button). If the page loading is taking too long, it can be stopped with this button.

   c. The **web page tab name** will **change** to the name of the new web site.

10. **Press** Enter or **click** the **Go button** to load the web page.

11. Once the page has loaded, the **irs.gov** web site will replace the Google web site within the browser window.

Back and Forward buttons

1. **Focus** the mouse pointer on the **Back** button**, which** is now active. **Point** to it and note what the ScreenTip says. The browser's memory keeps track of where you go.
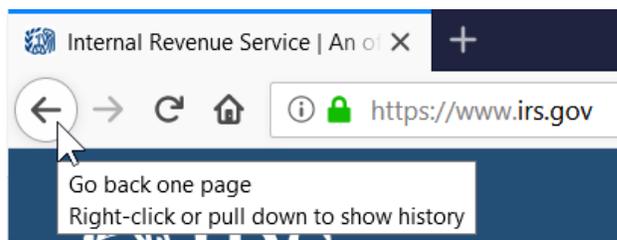
2. **Click** on the **back button** to **return** to the Google web page.

3. Now, the **forward button** will be active. **Point** to that button and **note** the ScreenTip.
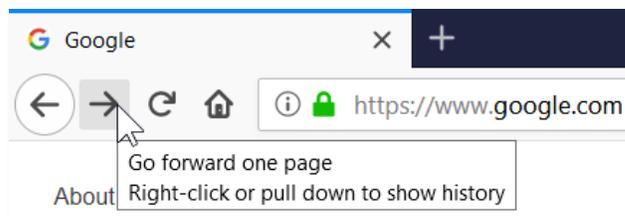
4. **Click** on the **forward button** to return to the IRS web site.

5. **Close Firefox**.

Typing an incorrect or incomplete URL into the address bar

Before we explore other navigation methods, we are going to look more closely at some of the pitfalls of typing an incorrect or incomplete URL into the address bar.

Let's see what happens if we make a mistake when typing into the address bar.

Remember, to get to the website we want, we must enter the web address (URL) <u>exactly</u>. Making any kind of mistake or omission will produce a very different result than what we expect.

Getting search results instead of getting directly to a website

The following demonstrates a very common typo that people make when typing in a URL. Instead of typing a **period** (dot) they will type a **comma**.

1. **Open Firefox**.

2. **Click** into the **address bar** and **type www(comma)refdesk(comma)com (#6 on slip)**

3. **Press** the Enter key and watch what happens**.**

4. The browser will attempt to find the website but will be unsuccessful. So instead, it will display a list of **search results** that it hopes will fill your need. In this case, the address bar is acting like a **search box**. In the computer lab the search provider connected to the address bar is **Google**.

5. **Note** the **first result** in the Google search results list. If we had typed dots instead of commas we would have gone directly to this site.
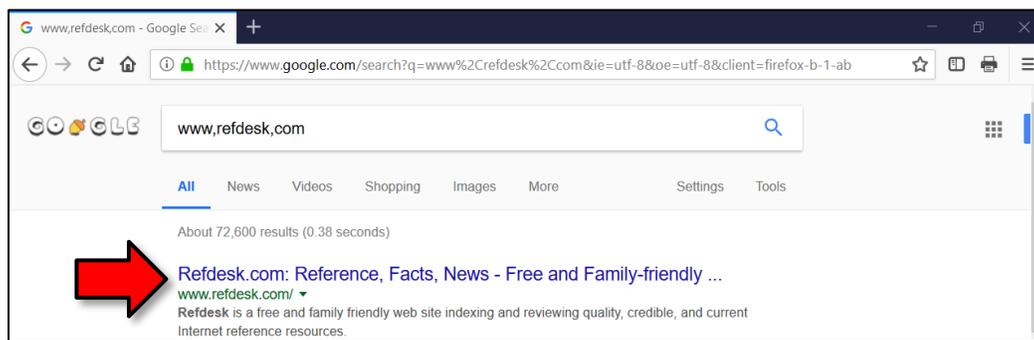
Getting to the wrong website

Sometimes you might mistype a URL and end up on a page that doesn't show what you expect, and instead just has a list of ads or "Related Links."

1. **Click** into the **address bar**, **type www.moncopa.org (#7 on slip)**, and **press** Enter . We should have typed www.mon**T**copa.org—we forgot the "T".

> **Teacher's note:**
>
> These kind of websites change often.
>
> **Show Slide 19** if the website doesn't look like the screenshot below.

> Show **Slide 19** if the website doesn't look like the screenshot below.

2. **Notice** the menu of links in the center of the screen. Often times, websites like these will display a listing of links that *seem* useful. **DO NOT CLICK ON ANY OF THESE LINKS, AS THEY COULD LEAD YOU TO A SCAM OR MALWARE INFECTION**.
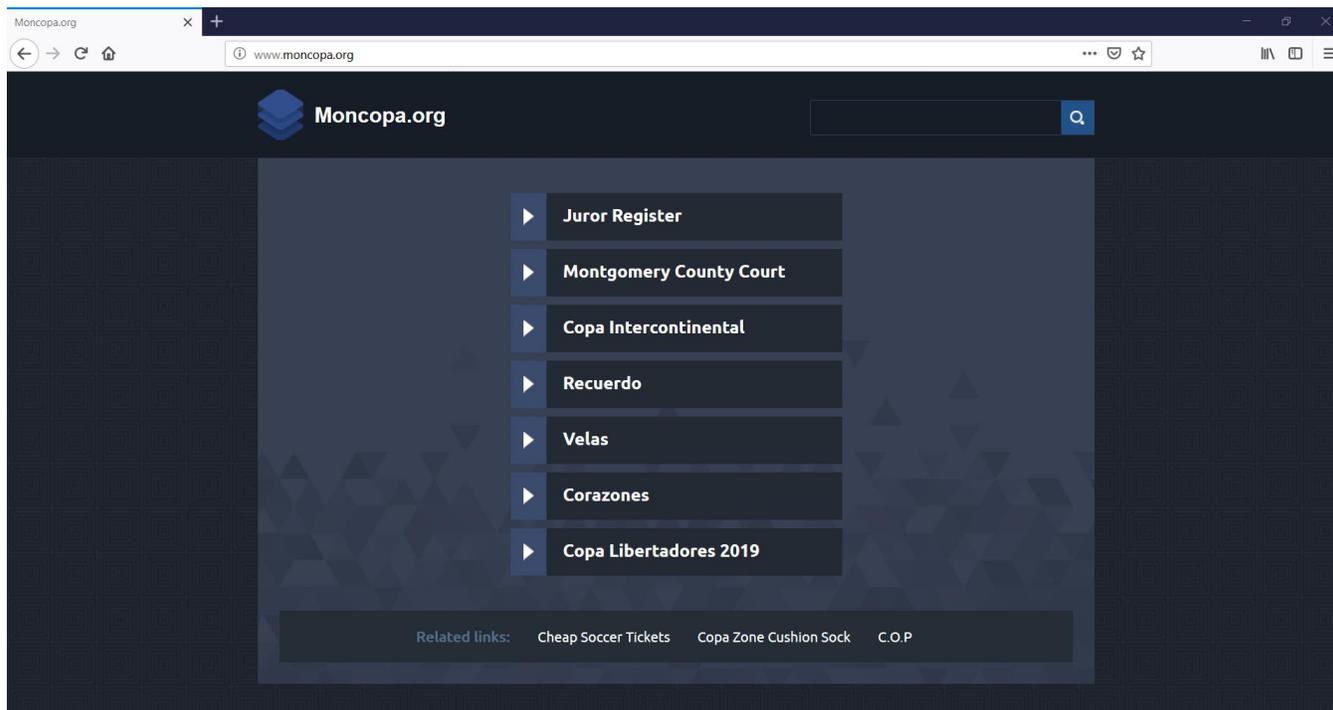
3. If you see a website like this, the safest thing to do is **close** your browser window and **start over**, double-checking the spelling of your URL.

4. **Close Firefox**.

Practice

1. **Open Firefox**.

2. **Click** into the address bar and **enter** this URL: **www.visitpa.com (#2 on slip)**

3. **Press** Enter or **click** the **Go** button.

4. **Click** the **Back** button to go back to Google.com.

> **Teacher's note:**
>
> Use prop to demonstrate what tabs are.

Tabbed Browsing

Tabbed browsing allows you to open multiple websites within the same window and use tabs to move between them. Tabs are ideal for when you want to go to another website without losing your current website.

1. **Click** on the **New tab** button to open a new tab.
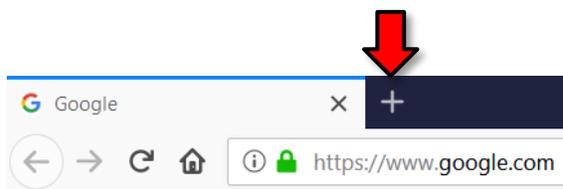
2. **Notice** that the address bar says "**Search with Google or enter address**" and there is a **blinking insertion point** inside it.

3. **Notice** there are now **two** webpage tabs. One of them says Google, and the other says **New Tab**. The second tab is the **active** tab, because it is colored white.

4. Because a blinking insertion point is already present in the address bar, you do not have to click in the address bar—you can just start typing your URL.
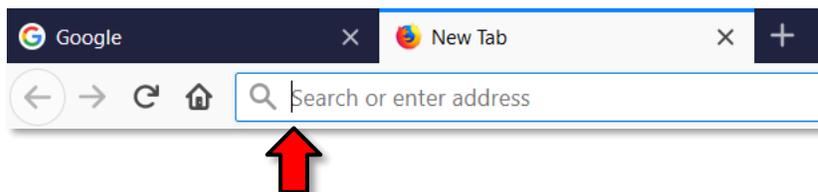
5. **Type www.refdesk.com (#3 on slip)**

6. **Focus** your attention on the **tab** labeled **New tab** that you just opened, and **press** [Enter] to commit the URL. **Watch** for the connecting indicator as your page "loads" into the tab.
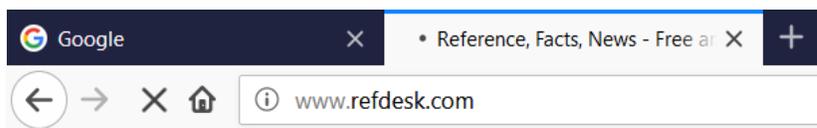
7. **Notice** that there are now **2 webpage tabs visible**, one labeled "Google" and the other "Reference, Facts, News" (Refdesk).
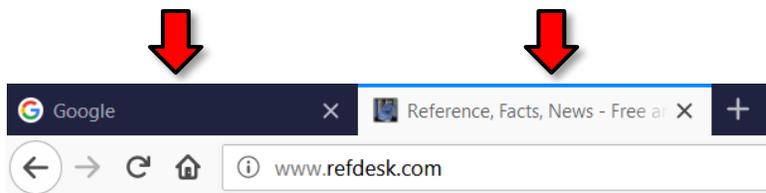
8. **Notice** the address bar shows the URL for Refdesk because that is the **active tab**. The active tab is the website that you are viewing. The active tab is generally **lighter** in color.

9. **Click** on the tab labeled **Google**. What website is in view? What URL is displayed in the address bar? Clicking on the **webpage tab** is the way you **switch** between the websites.

Using Links on a Webpage

Entering a specific URL is only one way to navigate on the Internet. Most of your navigation will be done by clicking on **hyperlinks** (or "links" for short). Clicking on a link will take you to another page on the site you are on or onto another website altogether.

1. **Click** on the tab for **Refdesk**. This website (refdesk.com) has many reference materials on it, but in particular, notice the section in the center of the screen partway down (that you may have to scroll to reach) marked "**Site of the Day**." Every day, refdesk.com will pick a new website to feature, and the name of it will be just under the words Site of the Day. Notice that those words are **blue and underlined**. What does this normally mean?

2. **Point** to the **Google logo** on the left side of the screen. **Note** that hyperlinks **do not *always*** have to be blue and underlined. Nonetheless, your mouse pointer does change to the shape of a hand, so you can be sure this is a hyperlink.

3. While you are pointed at that link, a **ScreenTip** will appear in the bottom-left corner of the window. This ScreenTip displays the exact web address of the website where this hyperlink will take you.

4. **Click** on the **Site of the Day** link.

5. **Click** the **Back** button to go back to refdesk.com.

6. Now, let's go to a different link on the Refdesk page. **Optional**

    a. **Find** the link that says **Thought of the Day Archive**.

    b. Instead of just clicking on it, let's **right-click** on the link and **click Open Link in New Tab** from the context menu.

    c. This will open the web page that the link points to in a **new browser tab**.

    d. **Note** how doing that **does not take you to the new tab**; you will have to **click** on the new tab to view the content.

Closing the browser

1. **Take note** of the fact that we now have **two** tabs open and let's **close** the **entire browser window**.

2. Unless this option is turned off, a dialog box will ask you if you want to **close all the tabs** or the **cancel the close operation**.

3. **Click Close tabs**.
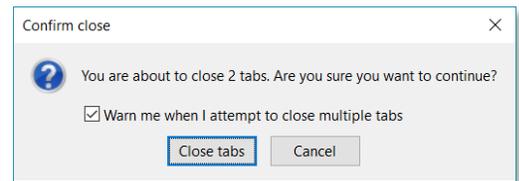
Practice

1. **Open** Firefox.

2. **Click** on the address bar and **go** to this URL: **www.cnn.com** <mark>**(#4 on slip)**</mark>

3. **Click** on **New tab**.

4. In the new tab, **go** to this URL: **www.montcopa.org** <mark>**(#5 on slip)**</mark>

5. Sometimes links are not called out as blue and underlined text, but the sure fire clue is when your *cursor changes into a hand*. **Find** the link (near thee top) for **Parks, Trails & Historical Sites** but **don't click just yet**.

> **Teacher's note:**
>
> **Note:** Even though all of the computers in the Lab are identical, the menu headings at the top of the screen will be extremely small on some computers (see screenshot below). It usually happens to about half of the computers. This is likely a deficiency of the website.

6.   **Note** that just pointing opens a **menu** of other links.

a.   Under the **Parks** sub-heading, **click** on **Norristown Farm Park**.

b.   If you did everything right, you will see information about the Farm Park in the center pane.

7.   **Find** the link for the "**Map of Park**" and **click** on it (you will need to scroll down the page). A map will appear on the screen.

a.   <u>Q: How do we go back to the page with the link to the map?</u>
A: Click the Back button

b.   <u>Q: Why is the Back button disabled?</u>
A: Because the link automatically opened in a **new tab**, and this is the only webpage this tab has visited (remember, each tab has its **own memory** about what pages it has visited). It's important to know that, sometimes programmers will specify that certain links open in a separate tab or even a separate window. So, always check your tabs if you are having trouble going back to a previous page.

You should now have **three tabs** open and your active tab should be displaying a map.
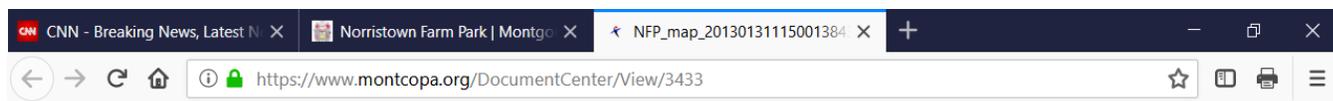
Using the Zoom controls

1.   **Move** the cursor so it's on top of the map. **Notice** how it changes to a magnifying glass with a "plus" in the middle (pictured at right). This means that clicking on the map will **zoom in**.

2.   **Click** on the map to zoom in. Use the vertical and horizontal scrollbars to see different parts of the map.

3.   **Move** the cursor so it's on top of the map again. **Notice** how it changes to a magnifying glass with a "minus" in the middle (pictured at right). This means that clicking on the map will **zoom out**.

4.   **Click** on the map to zoom back out.

5.   There are also **keyboard shortcuts** for zooming in and out. This feature comes in handy when the font on a webpage is too small to read. **Press** Ctrl + to zoom in and Ctrl - to zoom out.

6.   To bring the zoom level back to normal, **press** Ctrl 0.

Review of tab navigation

1. What tab is the active tab? The tab with the map of park.

2. **Notice** again how we **do not** have an active Back button.

3. **Click** on the tab for **CNN**.

4. Now that CNN is our active tab, **notice** how we now have an **active back button**. This is because each tab has its **own memory** of the webpages it has been to.

5. **Click** the **Back** button.
   Q: <u>What website are you now viewing?</u>
   A: Google
   Q: <u>What is the web site's URL?</u>
   A: google.com

6. **Click** on the **middle tab**.

   Q: What website are you now viewing?

   A: montcopa.org

Using the **back** and **forward** buttons is the way to switch between sites that have been opened in the same tab (remember that each tab keeps its **own memory** of what webpages it has visited).

Clicking on the **tabs** is the way to switch between websites that have been opened in different tabs.

Closing and Reopening Tabs

Tabs are closed by clicking the Close Tab button (the "X") on the right-hand side of the tab.

1. **Point** to the Close Tab button of the **Google** tab. **Notice** the ScreenTip.
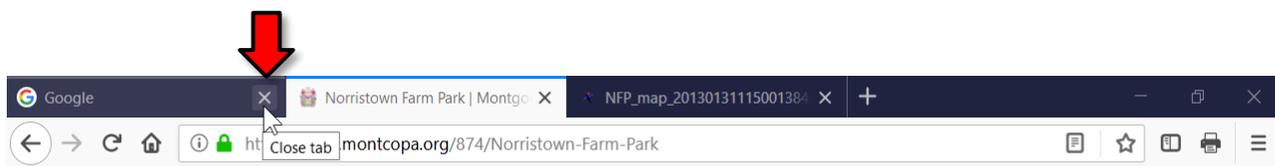
2. **Click** on the Close Tab button for the Google tab.

3. **Notice** how that tab closed and you now have **2 tabs remaining**.

4. Now **close** the tab with the **Norristown Farm Park map**.

5. Sometimes you may close one or more tabs **by accident** and need a way to reopen them easily.

   a. **Right-click** on **any tab**. We only have one tab open right now, so right-click on the Norristown Farm Park tab.

   b. On the context menu that appears, **choose Undo Close Tab**. The tab that we just closed (park map) has reappeared.

6. **Close** the browser (remember to respond to the dialog box by **clicking Close tabs**).

Saving Favorite Websites

Bookmarks (also called **favorites**) can remember websites for you, like ==speed dial== on your phone (you don't have to remember or type anything). They are good for:

- Remembering websites that you visit often.

- Remembering websites that you may want to visit at a later time in the future.

- Remembering websites that have very long URLs.

Viewing your Bookmarks

1. **Open Firefox**.

2. **Click** on the Show sidebars button.
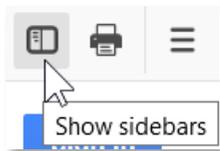
3. **Notice** the panel that appears on the left. It contains our bookmarks. All of these bookmarks were added to the library's computers—you will not see any of these favorites on your home computer!
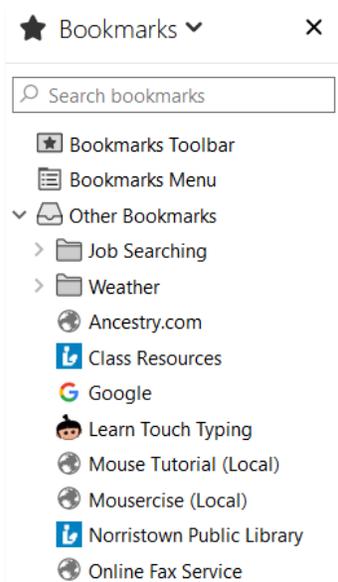
4. Some of our bookmarks are organized into sub folders. **Click** on the **Weather** folder to see its bookmarks.
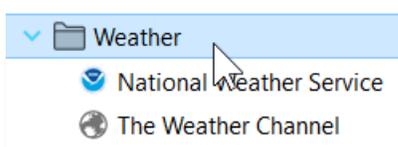
5. **Point** to the **first** website listed under Weather and **observe** that your cursor changes to a **hand**.

6. **Click** on this bookmark. **Notice** how the **National Weather Service website** loads in the **Active tab**.

7. **Close** the sidebar by clicking its **close button** ("X").
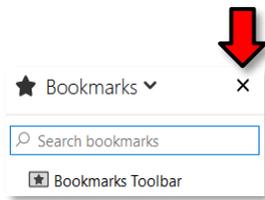
Adding a Bookmark

Next, we are going to add a bookmark for Refdesk to our bookmarks list.

1. The first step is to go to the website you make to make a bookmark for.

2. **Go** to **www.refdesk.com**. **(#3 on slip)**

3. **Locate** the **Bookmark button** on the far-right side of the address bar. **Notice** how it is colored white.

4. **Point** to the Bookmark button. **Notice** the ScreenTip.
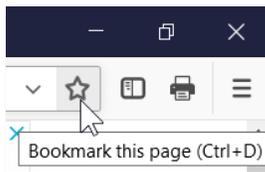
5. **Click** on the Bookmark button. **Keep** the cursor focused on the box that displays, in order to keep it open for editing.
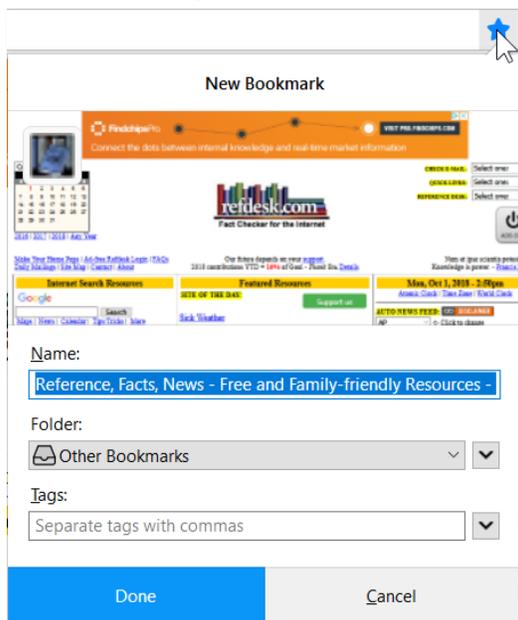
Teacher's note:

The box may disappear after a few seconds if you don't maintain focus inside it. If it disappears, click the Bookmark button again to edit the bookmark.

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6. The **box** that appears is asking us for some information about our new bookmark.

   a. A mini picture of the website appears at the top of this box.

   b. Below the picture is a text box labeled **Name**. By default, it assigns the webpage's title to this field. The downside to this is that webpage titles are often very long. Let's change it to something shorter.
   Type "Refdesk".

   c. Next, it asks us what **folder** we would like to place it in. Firefox has **three different folders** to choose from. **Click** on the dropdown list to see the list of folders.

      i. **Bookmarks Toolbar:** Displays the bookmark as a **button** below the address bar (more on this later). Only your most frequently used bookmarks should go here.

      ii. **Bookmarks Menu:** The bookmarks in this folder are displayed when the Bookmarks Menu button in the toolbar is clicked. We do not have this button enabled in the Computer Lab.

      iii. **Other Bookmarks:** This is the default save location for bookmarks.

   d. We will store this bookmark in **Other Bookmarks**, so **select** this folder from the list.

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e. **Click** on the **Done** button to save changes. You may notice a quick pop-up message that says "Saved to Library".
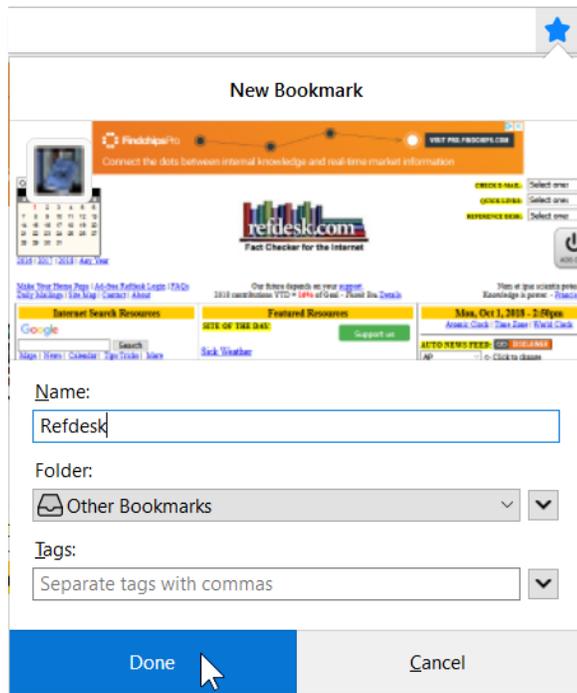
7. **Notice** how the Bookmark button is now colored blue. This means our browser has a bookmark for this website (Refdesk).

8. **Click** on the **Show sidebars** button and **find** the new bookmark in the list.

> **Tip:** By default, the list of bookmarks is sorted in the order they were added. This means that newly added bookmarks will always appear at the **bottom** of the list. To sort them alphabetically, right-click on "Other Bookmarks" and click "Sort By Name".

9. **Close** the sidebar by clicking its **close button** ("X").

> **Teacher's note:**
>
> **Tell the students:** Any bookmarks you save to the computers in the Lab will be lost when the computers are shut down because we have configured them to do so. However, a typical home or work computer will keep your bookmarks forever until you delete them yourself.

The Bookmarks Toolbar

To get even quicker access to a bookmarked website, you can utilize the **Bookmarks Toolbar**. This special toolbar appears directly below the address bar. It allows you to create **buttons** that you can click to go to your favorite websites.

Enabling the Bookmarks Toolbar

The toolbar is **turned off** by default. Let's turn it on:

1. **Click** on the **Menu Button** and **select** **Customize**.

2. We will talk more about this screen later. For now, **click** on the dropdown list labeled **Toolbars**, located at the bottom of the screen and **select** **Bookmarks Toolbar**.
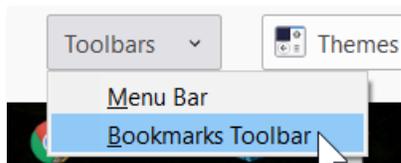
3. **Click** the blue **Done** button in the lower-right corner.

4. **Notice** the **extra whitespace** below the address bar. This is the Bookmarks Toolbar. It is empty because we don't have any bookmarks there yet.

Adding a Bookmark to the Bookmarks Toolbar

Let's add **CNN** to the Bookmarks Toolbar.

1. **Remember**: To add a favorite, you must be **looking at that site**. **Go** to **www.cnn.com** ==**(#4 on slip)**==

2. **Click** on the **Bookmark** button.

3. **Click** on the **Folder** dropdown list and **select** **Bookmarks Toolbar**.
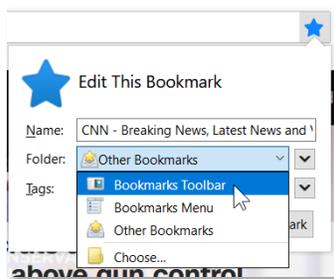
4. **Click Done**.

5. **Notice** the button for **CNN** on the Bookmarks Toolbar (below the Back button).
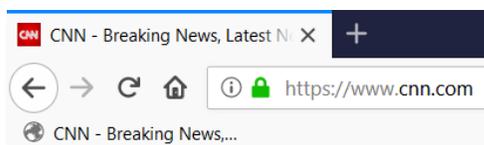
6. Let's **rename** the bookmark so it doesn't take up as much space.

    a. **Right-click** on the bookmark and **select Properties**.

    b. In the **Name** field, **type CNN**.

    c. **Click Save**.

Properties for "CNN - Breaking News, Latest News and Vid... ✕

Name:	CNN
Location:	https://www.cnn.com
Tags:	Separate tags with commas
Keyword:	
Description:	View the latest news and breaking news today for U.S., world, weather, entertainment, politics and health at CNN.com.

☐ Load this bookmark in the sidebar

[Save]   [Cancel]

CNN - Breaking News, Latest N... ✕   +

← → C ⌂   ⓘ 🔒 https://www.cnn.com

🌐 CNN
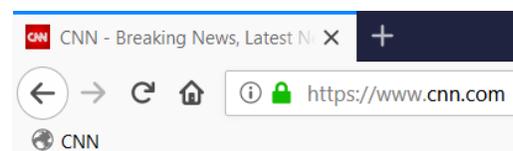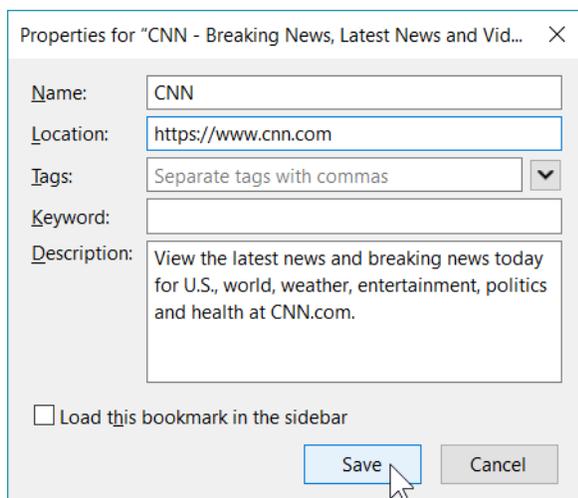
7. **Close Firefox**.

Practice

1. **Open Firefox**.

2. **Use** the bookmark we created to open **Refdesk**. (Hint – Click the "Show Sidebars" button, locate the bookmark, and click on it)

3. **Find** the link on Refdesk for **Thought of the Day ARCHIVE** and **click** it. (Hint- remember, your mouse cursor will change to a **hand** when you are pointing at a link)

4. **Add** this page to your bookmarks naming it **TOTD** (Hint – click the Star, type a name, and select "Other Bookmarks" from the folder list)

5. **Close** the Bookmark Sidebar

6. **Close** Firefox.

7. **Open** Firefox.

8. **Use** the bookmark we just created to **open** the TOTD webpage (Hint – Click the "Show Sidebars" button, locate the bookmark, and click on it)

9. *Notice* that you can save a favorite that goes to a specific page on a website and not merely to the main page.

10. **Close** the Bookmark Sidebar.

11. **Close** Firefox.

Good stopping point for Session 1.

Session 1 Review

Before we go into new territory, let's review some of the basics from the last session:

- To be able to view pages on the World Wide Web, we need to open a program called a **web browser**

- **Q:** Can you name the two web browsers that are on the lab computers?
  A: Internet Explorer and Firefox

- **Q:** We will be using Firefox. How will we open this program?
  A: Double-click on the **Desktop icon** or use the **Windows Search Box**.

- **Open** Firefox

  - **Q:** What do we call the website that loads when we first open a browser?
    A: Home Page

  - **Q:** What is the home page on the Computer Lab's computers?
    A: Google.com

  - **Q:** What is a URL?
    A: An address for a web site

  - **Q:** Where do you type a URL?
    A: Into the **address bar** of the browser

- **Click** into the **address bar** and **go** to **www.refdesk.com**. **(#3 on slip)**

  - **Q:** How do we get back to the previous website?
    A: Back button

- **Use** the **Back button** to **view** **Google's** website.

- Now **use** the **Forward button** to **return** to **Refdesk**.

- **Close** Firefox.

We'll be reviewing more as we go along, but next let's look at a new concept.

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Customizing the Firefox Toolbar

Last class, we saved a bookmark to the Bookmarks Toolbar. That toolbar is turned off by default, so we had to turn it on. To do this, we used the Customize screen. We will talk more about the Customize screen next.

1. **Open** Firefox.

2. To open the Customize screen, **click** on the **Menu Button** and **select** **Customize**.

3. **Notice** how the Customize Firefox options opened in a **new browser tab**.

4. The middle of the screen shows us the buttons that we can add to the Toolbar. Let's add the **Zoom Controls** button to the toolbar.

    a. First, **decide** where on the toolbar you want the new button to go. We would like this button to go to the **right of the Print button**.

    b. **Find** the **Zoom Controls** button and **drag** it to the right of the Print button in the toolbar.

        ▪ **Notice** how it makes room for the button before you even let go of the mouse. **Let go** of the mouse button when it has made space for the button.

5. **Click** the blue **Done** button in the bottom-right corner of the screen to **save changes**.

6. **Notice** how we now have zoom controls in our toolbar.

7. Buttons can be **removed** from the toolbar as well. Let's remove the button we just added.

    a. **Click** the **Menu Button** and **select** **Customize**.

    b. **Drag** the **Zoom Controls** button off the toolbar back to the center of the screen.

    c. **Click** the blue **Done** button to save changes.

Changing Themes

Firefox's appearance can be adjusted by changing the **Theme**.

1. **Click** on the **Menu Button** and **select** **Customize**.

2. **Click** on the **Themes** dropdown list at the bottom of the screen and **select** **Dark**.
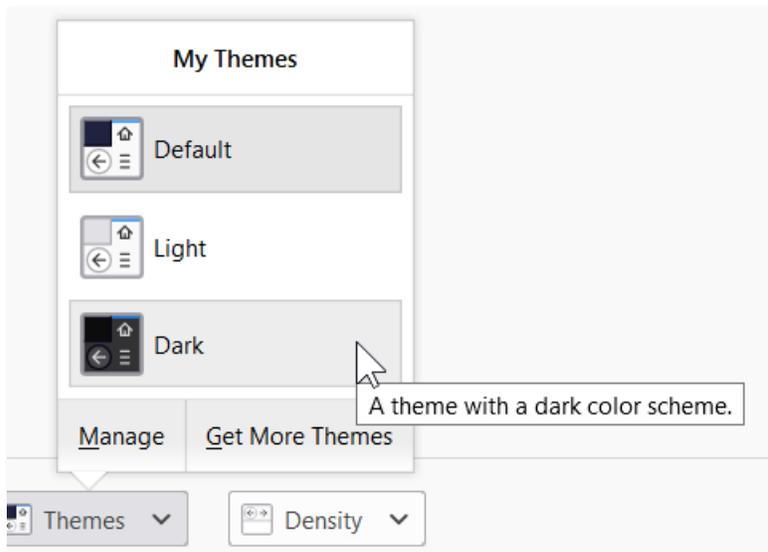
3. **Notice** how the tabs and toolbar at the top of screen now have a **different background**.
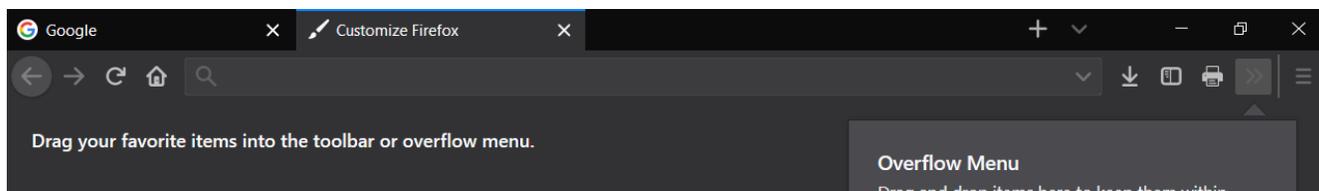
4. **Click** on the **Themes** dropdown list again. **Change** to back to **Default**.

5. More themes can be downloaded from the Internet. **Click** on the **Themes** dropdown list again and then **click** **Get More Themes**.

   a. **Notice** a **new tab** opens showing themes for download.

   b. **Close** the tab.

   > **Show Slides 20 and 21 to illustrate installing a theme**.

6. **Click** the blue **Done** button to exit the Customize screen.

Pop up blockers

Sometimes when you click a link on a webpage it will automatically open another, usually smaller, window. This new window is referred to as a **pop-up window**. Pop-up windows are traditionally associated with unwanted advertising so most modern web browsers have a built in feature to block them.

> **Teacher's note:**
>
> If the live demo website doesn't work, jump down to the "Alternative to Live Demo" section.

Live Demo

1. **Type pvlibrary.net/popup-demo** (**#12 on slip**) in the address bar and **press** Enter .

> **Teacher's note:**
>
> If the students are currently on refdesk.com, and they dwell too long before pressing Enter, the webpage may reload itself and clear out the address bar.

2. **Notice** the yellow bar at the top of the screen. This is telling us that the browser blocked a popup the website was trying to show.

> Firefox prevented this site from opening a pop-up window.   Options   ✕

3. **Click** the **Options** button to see more options related to the popup.

   a. **Show 'http://pvlibrary.net/popup-demo/popup.html':** Displays the individual popup that was blocked.

   b. **Allow popups for pvlibrary.net:** If you trust the website, you can select this option to prevent the browser from blocking ANY popups on this website. This is usually what you want to do if the website makes legitimate use of popups (for example, a banking website or an online course).

      > http://pvlibrary.net - M... — ☐ ✕
      >
      > Surprise! I'm a popup!

   c. **Click** the "Show …" option to see the popup.

   d. **Notice** how the popup has its own set of window controls.

   e. **Click** the popup's **close** button to close it.

4. **Close** Firefox.
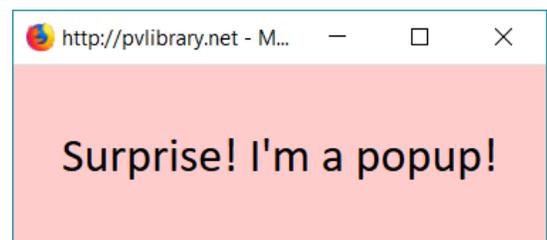
Alternative to Live Demo (SKIP IF LIVE DEMO WORKED)

Show Slide 22

In Firefox, a bar that looks like this will appear above the task bar when a pop-up window is blocked.

Firefox prevented this site from opening a pop-up window.   Options   ✕
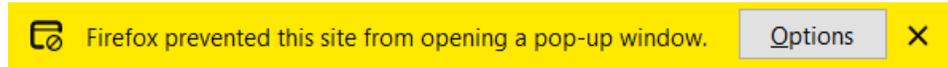
Sometimes pop-up windows are used legitimately (that is, they actually contain content you are trying to reach, for example a popup from your bank or from an online course you are taking).

If you see the pop-up blocked message and think that you want to see the window that was blocked, you can override the block by clicking the Options button and selecting the "Show …" option.

If it's a website you visit frequently, you may want to click the "Allow pop-ups for …" option. This will cause the browser to ALWAYS show popups from that website.

Options   ✕
Allow pop-ups for pvlibrary.net
Edit Pop-up Blocker Options…
Don't show this message when pop-ups are blocked
Show 'http://pvlibrary.net/popup-demo/popup.html'

Printing

Switch to FF

Oftentimes we want to print what we are viewing on the internet to have for long-term or just to read on paper. If you want to print what you are viewing, there are a few things to be careful of. Sometimes the browser doesn't print a webpage exactly as it's seen on the screen. It could end up printing more pages than you expected, or not even printing what you wanted. Different browsers handle printing differently. Sometimes even the webpages themselves come with their own print button built-in or "embedded" in the code of the page. All these methods can be confusing and challenging. In general, it is always good to try to get a preview of the webpage before sending the job to the printer, in order to avoid unwanted pages.

We will share some tips for printing using the Firefox web browser.

1. **Open** Firefox and go to **www.refdesk.com <mark>(#3 on slip)</mark>**.

2. **Click** on the **Thought of the Day Archive** link.

3. Because the webpage doesn't have its own print functionality, i.e. we cannot see an embedded print button anywhere, we will have to use the **web browser's** print functionality. **Click** on the **Menu Button** and **select** Print.

    a. **Note:** We have configured our Firefox installations to have a Print button in the Toolbar. But this button is hidden by default, so we are showing you how to print from the Menu Button instead.
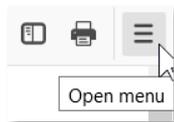
4. **Notice** a window appears that shows us a **preview** of the printout and allows us to adjust print options.
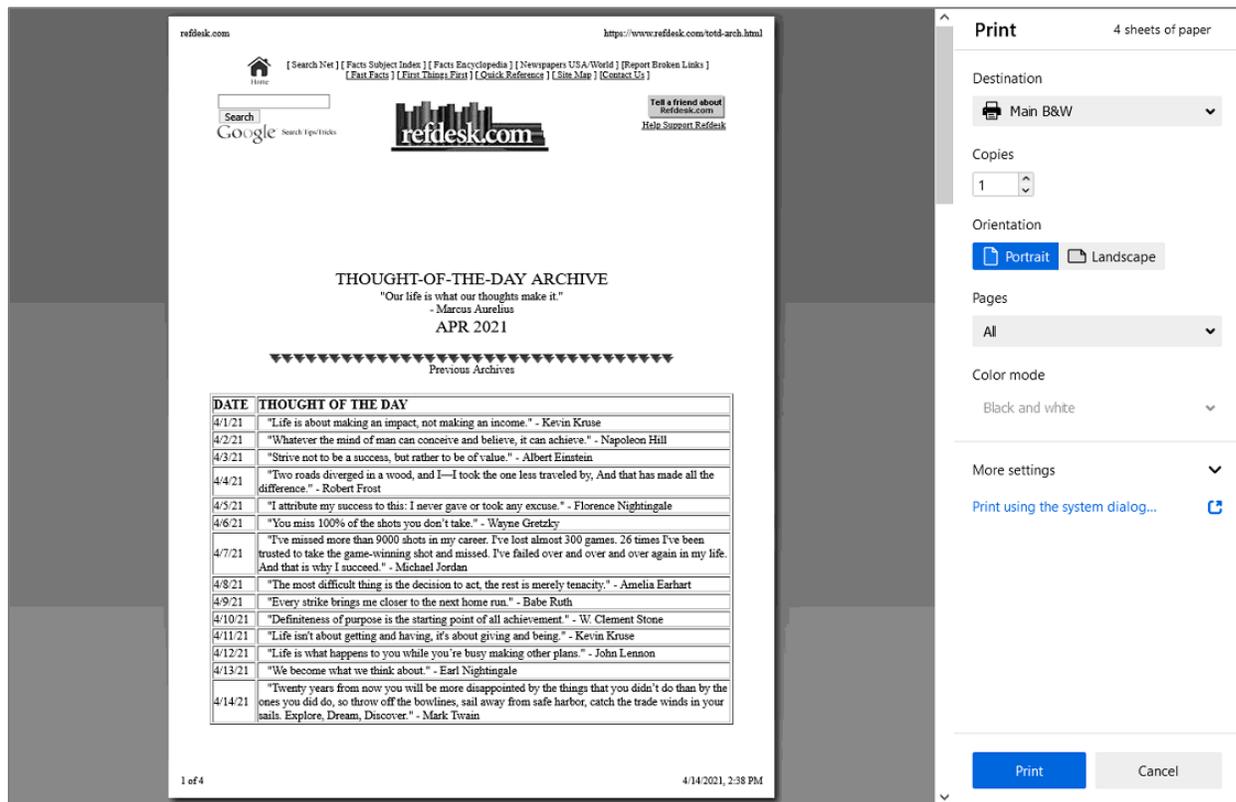
5. **Notice** how the **total number of pages** is displayed in the upper-right ("4 sheets of paper").

6. **Point** to the preview. **Notice** the controls that appear at the bottom of the window.
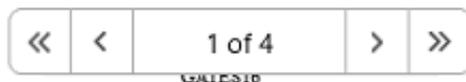
     a. **Notice** how it is telling us that we are currently viewing page "1 of 4".

     b. **Notice** the arrow buttons. **Point** to each of these buttons to reveal their **screen tips**. These buttons can be used to view the other pages that are part of the printout.

     c. **Click** the "Next Page" arrow (the single, right-pointing arrow) to jump to page 2.

7. **Notice** the **scrollbar** that is present on the right side of the preview. The scrollbar can be used to flip between pages as well.

     a. **Use** the scrollbar to go to the **last page**.

8. **Notice** how the last page hardly has anything on it. We might want to **exclude** this page from our final printout to save paper and ink (more on this later).

9. The print options are displayed on the right.

   a. **Destination**: Allows you to choose the printer you want to print to.

      i. At home, you probably only have 1 printer, but in an office environment, you might have more.

      ii. Some "printers" are not actual printers, but programs that save your printout to a file. "Microsoft Print to PDF" is one such printer in the Computer Lab.

      iii. "Save to PDF" is a special option that only appears in Firefox. Selecting this will save your printout to a PDF file instead of sending it to a printer (useful for saving printouts to your hard drive or for sharing with others over email).

   b. **Copies**: Allows you to print multiple copies of your printout.

   c. **Orientation**: Controls the rotation of the page.

      i. **Click Landscape** and **notice** how the preview changes.

      ii. **Click Portrait** to return to the original setting.

   d. **Pages**: Allows you to choose the pages you want to actually print.

      i. **Note** that, unless we change this setting, ALL pages will be printed.

      ii. **Click** the dropdown menu and **click Custom**.

      iii. **Notice** the textbox that appears below the dropdown menu. The textbox is showing an example of the kind of values we can enter into this box.

         1. **Single page numbers** can be entered if you just want to print one page (e.g. 9).

         2. A **page rage** can be expressed with the use of a dash between two numbers (e.g. 2-6).

         3. A **combination** of single pages and/or page ranges can be entered by separating them with commas (e.g. 2-6, 9, 12-16)

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iv. Let's **exclude** the last page of our printout. We will accomplish this task by entering a page range. **Type** "1-3" into the textbox.
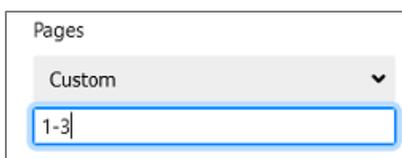
Pages
Custom ⌄
1-3

v. **Notice** how the print preview has automatically updated. It now only shows us pages 1 and 2.

vi. **Change** this setting back to "All".

e. **Color mode**: Allows you to print in black and white to save ink. This option may be disabled if the currently selected printer cannot print in color.

f. **Click More settings** to see additional settings.

g. **Scale**: Allows you to shrink or enlarge the text by percentage.

i. **Click** "Scale" and **change** the scale to 70.
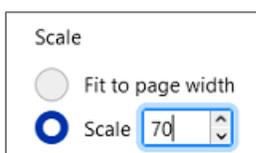
Scale
◯ Fit to page width
⬤ Scale 70 ⬍

ii. **Notice** how the text is smaller.

iii. **Notice** how there is a total of 2 pages now, instead of 3.

iv. **Change** the scale to 125.

v. **Notice** how the text is larger.

vi. **Notice** how there is a total of 4 pages, instead of 3.

vii. **Change** the scale back to "Fit to page width". This default setting works well for most webpages.

10. Finally, when you are ready to send the print job to the printer, you would click the blue "Print" button in the bottom-right. But we are NOT actually going to print this out in class today.

11. **Click Cancel** in the bottom-right to close the print window.

Printing with Reader View

Firefox has a unique feature called "Reader View", which eliminates clutter from webpages to make them easier to read. This makes Reader View an ideal choice for printouts.

If the website supports Reader View, you will see a clickable icon in the address bar (next to the Bookmark button, pictured below).

1. **Go** to **www.irs.gov (#1 on slip)**.

2. **Scroll down** the page until you find the **Forms & Instructions** section. Underneath the section heading are some form numbers. Underneath the form numbers are hyperlinks to some articles (there are clipart pictures above the article titles). **Click** on one of the article titles to view it.
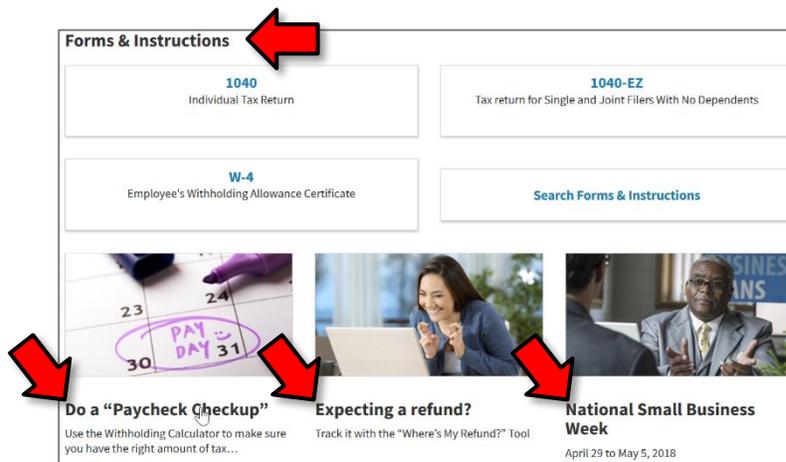
3. **Click** the **Toggle reader view** button on the right-hand side of the address bar.
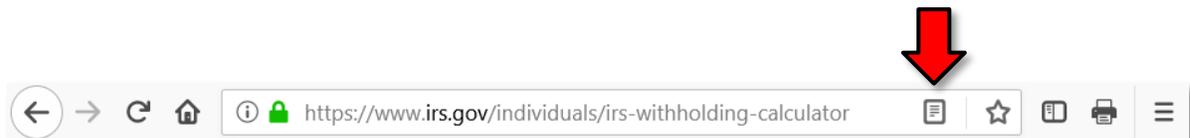
4. **Notice** how most of the webpage was been stripped away, leaving us with just the article content.
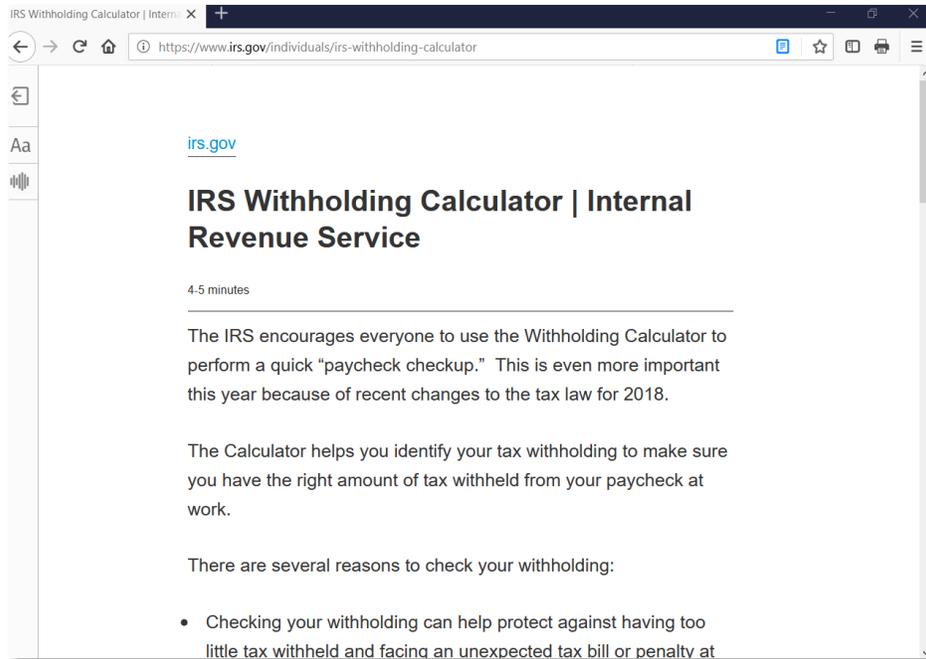
5. **Click** the **Toggle reader view** button again to **deactivate** Reader View.

Safety on the Internet | Show Slide 23 |

Secure websites

There are times when you will need to share personal information over the web.

- If you are **shopping online**, you will need to input your credit card information.

- A **job application** may ask for all sorts of personal information.

- Your **bank** may ask you to set up a series of security questions with personal information to gain access to your account.

- Doing your **taxes** requires that you enter sensitive information, such as your social security number.

Before sending any sensitive or financial information online, you want to know that you are communicating with a **secure site**. Secure sites make sure that all information you send is **encrypted** so that cybercriminals can't intercept it as it travels across the Internet.

The **https** protocol in the website address and your browser's **security symbol** are two signs that indicate you are on a secure site.

Accessing a Secure Website

1. **Open Firefox**.

2. **Go to www.wellsfargo.com (#8 on slip).**

3. **Look** at the Address Bar. **Notice** the "padlock" icon in the Address Bar. This is the primary indication that you are on a fully secure website.
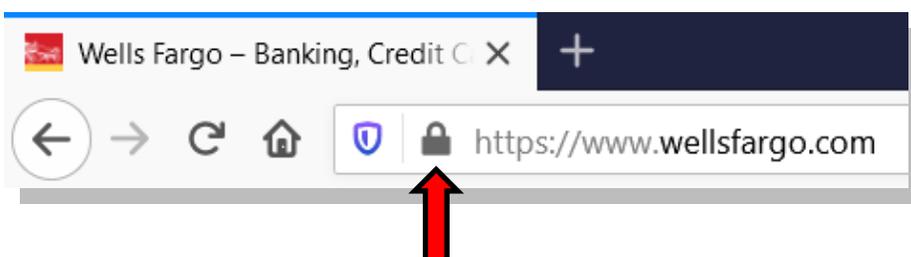
4. **Click** on the padlock to see more information. **Notice** how it says "Connection Secure". This confirms that we are on a fully secure website.
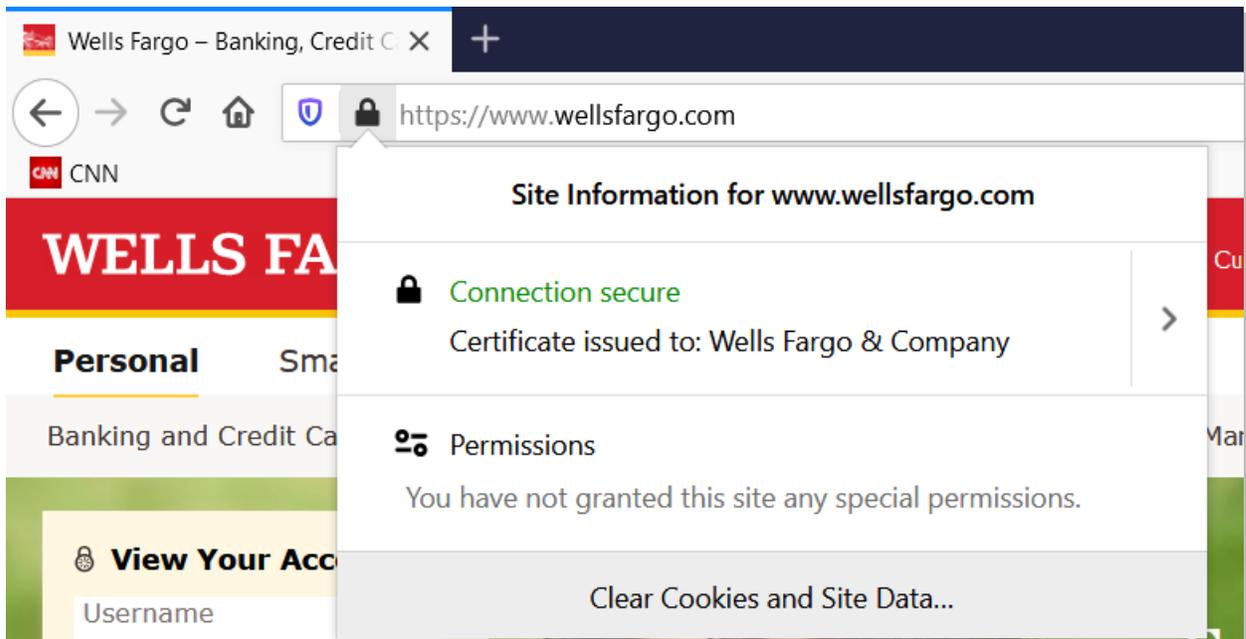
5. **Also notice** how the URL begins with "https" and NOT "http" (without the "s"). This is another indication that you are on a secure website.
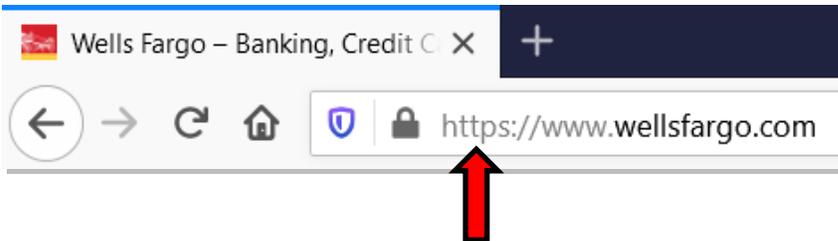
6. Sometimes, a website will only be **partially** secure, in which case the padlock will **not** be colored green. You should not enter personal data into websites that are only partially secure.

Never enter personal information on a non-secure website!

Strong Passwords

Once you start using the web, you will go to many different sites or services, like email, Facebook, Amazon, your library account, and so on, that will ask you to create an account. These accounts will want you to create a password. If someone guesses your password, they can gain access to your information, so it should be very hard to guess.

The first defense against this is a **strong password**. Websites will often enforce some of these rules to help you choose a strong password (such as length and variety of characters). But there are some rules they cannot enforce (such as being a word from the dictionary). Below are some characteristics of a strong password:

See this article for more password tips:

http://www.prnewswire.com/news-releases/users-perceptions-of-password-security-do-not-always-match-reality-300266692.html

Most important:

1. Is significantly different from your other passwords.
    If you use the same password for everything and a hacker breaks into just ONE website, then he has access to ALL your accounts!

2. Is at least 8 characters long (the longer, the better)

3. Is NOT a word from the dictionary

4. Is NOT a proper noun (name of person, place, business, etc—**real or fictional!**—for example, "Darth Vader")

5. Does NOT contain personal information such as your user name, real name, address, or mother's maiden name.

6. Does NOT contain characters from adjacent keys (e.g. "zxcvb")

Also important:

7. Does NOT contain professions of love ("ilovedogs") (a lot of people do this, making your password easier to guess)

8. Does NOT **start** with an uppercase letter or **end** with numbers (another common pattern that makes your password easier to guess).

9. Does NOT contain "clever" substitutions for letters or words ("@" instead of "a", "4" instead of "for")

Show Slide 27

When prompted, click to display 3 bulleted items

Misconception:

"Having a mix of different types of characters increases the strength of your password."

Show Slide 28

Category	Examples
Uppercase letters	A B C
Lowercase letters	a b c
Numbers	1 2 3
Special characters	# % - (space)

•   This a relic from the past. The National Institute for Standards and Technology (NIST) removed this from their security best practices in June 2017.

•   Unfortunately, many websites still enforce this rule (see screenshot below), but know that this alone does not make your password more secure!

The website pictured below erroneously considers a password to be "strong" if it has a mix a different characters.

Note the image on the left reflects a very long password that contains only lower case letters and numbers. It is a strong password, yet the website declares it "weak".

The image on the right contains all the required character types, but it is self-evident the password is very weak.

Source: https://twitter.com/AaronToponce/status/988761412464857088
See also: https://www.pluralsight.com/blog/security-professional/modern-password-guidelines
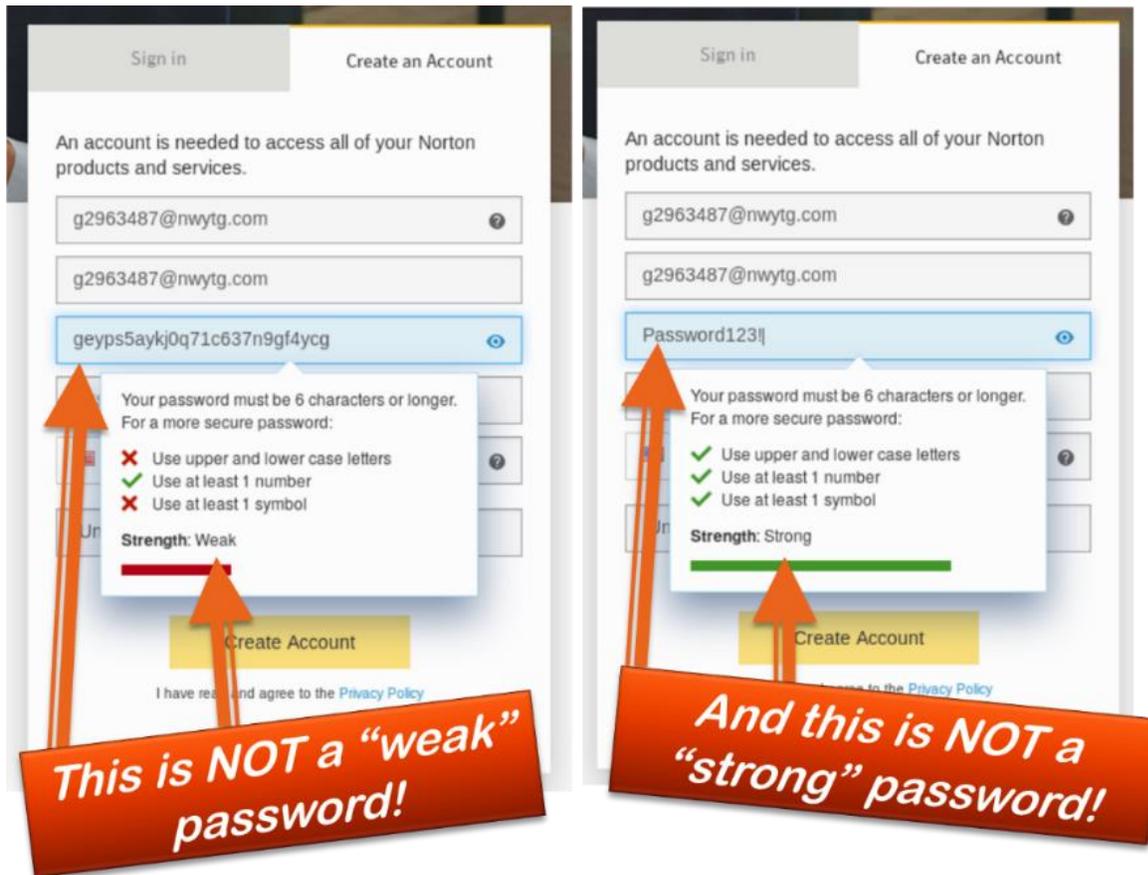
You should try to make your password easy to remember. But **note** that, the more random a password is, the more secure it is.

- **rOses21forEver** (long, easy to remember, "roses forever")

- **giraffeeats75dicedpears** (4 random words from the dictionary formed into a sentence with numbers)

- **there are 100 speCies of roses** (passwords don't have to be words—they can be phrases)

- **qaH5RbM1ib** (random letters and numbers)

Here are some examples of very **bad passwords**.
Can you tell me why they are bad?

1. **elephant** (single word from the dictionary)
2. **f8#Za** (too short)
3. **1qaz2wsx** (adjacent keys)
4. **ilovemusic64** (profession of love, ends in numbers)
5. **$uperm@n** (proper noun, "clever" substitutions)

6. **BillClinton** (proper noun, starts with capital letter)
7. **4-13-1970** (birthdate, personal info)
8. **143-maple-ln** (address, personal info)

What if I forget my password?

Most websites provide an option for resetting your password via email, so it's not the end of the world if you forget a password. However, as a consequence, it is very important that you **never forget your __email__ password**. Think of your email account as your "**Internet passport**"—it essentially acts as your online ID card.

If you forget the password to your email account, there are still ways to reset it. Most email services allow you to enter the following information to help you gain access your email account, should you forget your password:

- A cell phone number

- An alternate email address

- One or more security questions (like "Name of my first pet").

Of course, you must enter this information into your account *before* you lose your password. If you haven't entered any of this information and you've lost your email password, you're pretty much out of luck!

2-Factor Authentication

Slow Slide 34

Security is always a concern with passwords, and hackers are constantly finding new ways to steal passwords and other personal information. In an effort to fight this problem, many websites have introduced a new layer of security to verify it's really you.

Sometimes when you log into your e-mail or bank website, you'll be prompted to set up this extra layer of security. We recommend you always set this up, as it helps keep your information safe.

This method, often called 2-Factor or Multi-Factor Authentication, combines your password with a unique code that can be texted, sent to your primary (or an alternate) e-mail address, or even communicated to you with an automated phone call.

It works by first logging in with your normal username and password. Then you'll see an extra screen asking for the security code. This code will be sent to your mobile phone via text message, email, or automated call. Once you enter the security code on the website, you'll be logged in.

Can I write my passwords down?

Yes. In fact, we recommend it. Here are some techniques:

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- Write them down by hand in a notebook. Store it in a safe place and do NOT carry it around with you in case you lose it.

- Use a **password storage program** like KeePass. They store all your passwords in a file on your home computer. These programs encrypt all your passwords with a single, master password, so there's no way to view your passwords without first entering the master password. The downside is—if you forget the master password, there is no way to recover it. They also can generate random, secure passwords for you.

- Store your password list in a **secure cloud service**, like Google Drive or Dropbox. The benefit to this approach is that you can access you password list from anywhere. But make sure the password to your cloud account is secure so nobody can break in.

Scams

Show Slide 36

Phishing

Phishing is a technique used by scammers to steal your personal information. They will send you an email that looks like it is coming from a legitimate organization, like your bank. The emails tell you to click a link, which takes you to a website that might look like your bank's website, but is NOT your bank's website. The website will then ask you for your personal information, such as your name, social security number, or your username and password.

Teacher: Show examples of phishing emails

Show Slides 37 - 39

Phony Error Messages

Just like in real life, there are people on the internet who want to make a quick buck off you. A scam that has been circulating recently is one that tells you there is something wrong with your computer, and that you have to call a phone number to fix it. Never call this phone number. When they ask you to call a phone number, this is a sign that it is a scam.

Your computer might also start making loud noises, and might even start speaking to you. Just turn down your speakers.

Often times, the crooks will make it so that you can't exit out of your web browser. If this happens, just shut down your computer. Do not pay attention to any phony warnings telling you that shutting down your computer will damage it.

Phony Websites

Show Slides 41 - 44
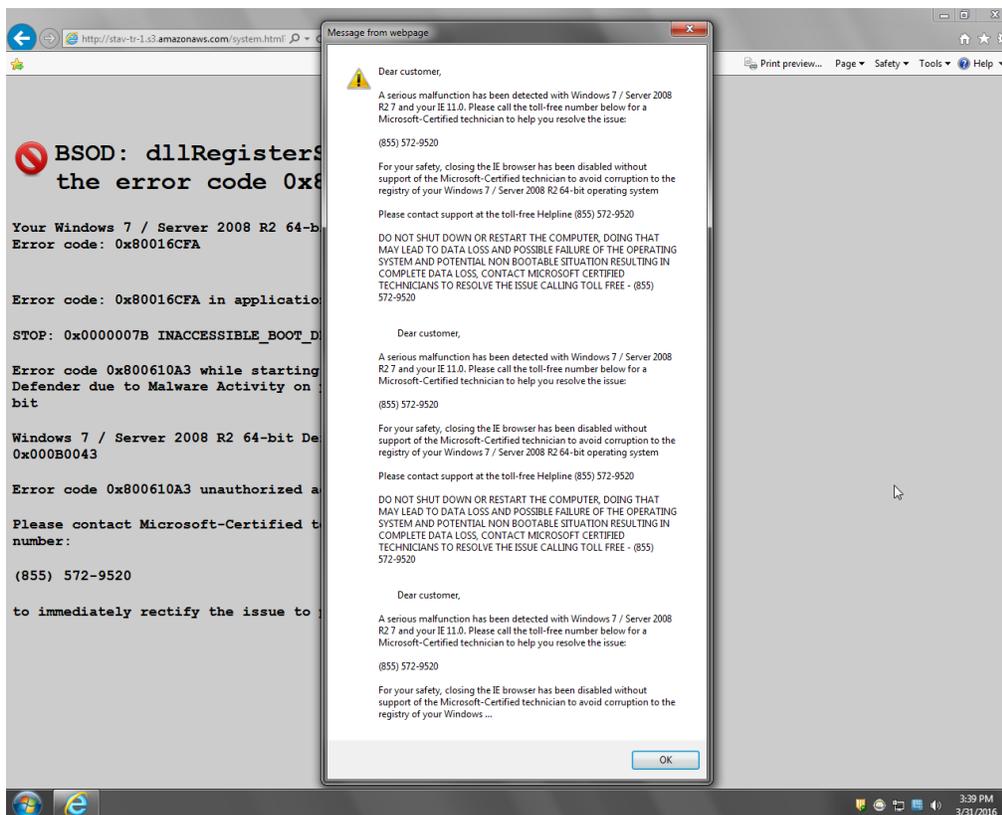
Sometimes, you will end up on a website that claims to offer a ridiculously good product and appears to be from a legitimate organization. The website below claims to offer a dietary supplement that builds your muscles without you even needing to exercise.

Looking at the website header, we appear to be on ESPN's website (a respected sports magazine). Plus, the article is written to sound like an ESPN journalist is reviewing the product, making it seem more legitimate.
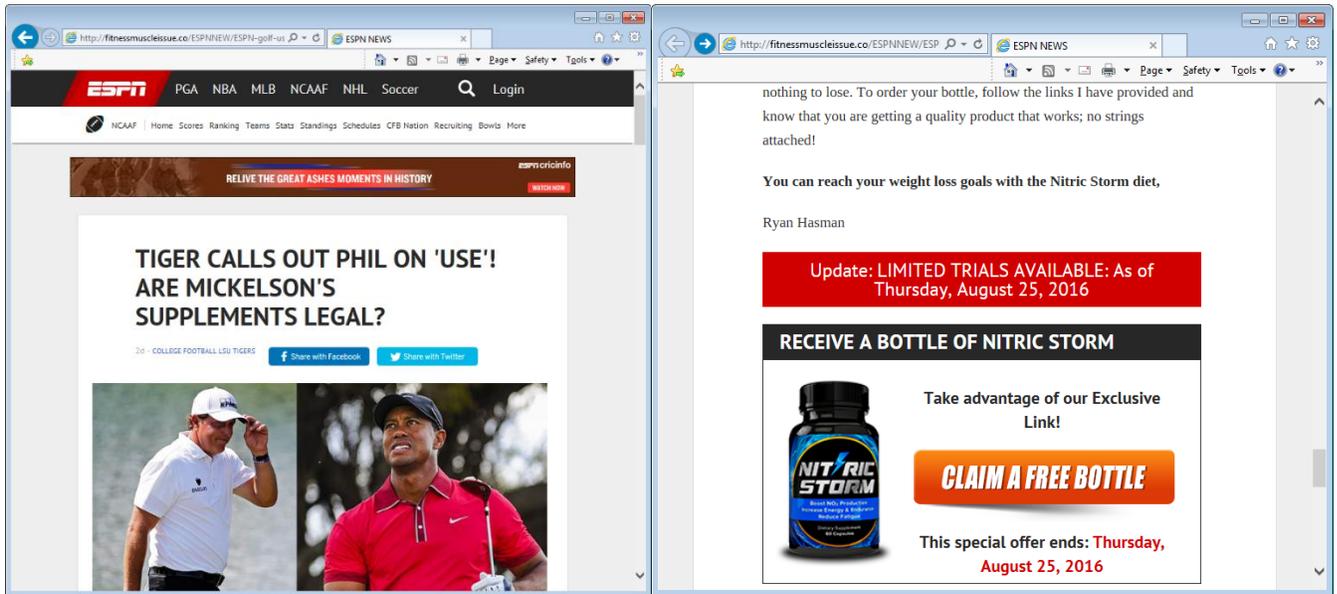
But look at the Address Bar. Do you see "espn.com" anywhere? Looking at the URL in the Address Bar is a good way of telling if a website is phony or not.

This advice also applies to government-related websites—if the domain name doesn't end in ".gov", then that's a sign you might not be in the right place.

And just remember the age-old saying, "If it sounds too good to be true, it probably is!"

Ransomware

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The word "ransomware" is a play on words—it combines the words "ransom" and "software". Ransomware is a kind of virus that uses modern encryption technology to lock you out of the files on your computer. The only way to unlock them is to pay money, typically around $500.

Anti-virus programs can remove some types of ransomware, but not all. Because of the way encryption technology works, the only way to get your files back is to obtain the master password, which only the scammers have.

How to protect against ransomware:

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- Avoid downloading suspicious email attachments. This is the most common way ransomware spreads.

- Backup your data regularly (copy important files to a flash drive).

- Unplug flash drives and external hard drives as soon as you are done using them. If external storage is connected to your computer at the time of infection, those storage devices will be infected too.

- Have anti-virus software installed on your computer.

- Avoid clicking links in suspicious emails.

- Avoid clicking advertisements on websites.

See this article for information on ransomware:

tinyurl.com/je9yzf7
#15 on slip

Tip: If you've been a victim to any of these scams, file a complaint with the FBI's **Internet Crime Complaint Center** (IC3):

www.ic3.gov **#16 on slip**

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Searching for Information on the Internet

Show Slide 50

There is a lot of information on the Web. According to http://www.worldwidewebsize.com/ the Indexed Web contains **at least 6.52 billion pages** as of 9/23/2019. Regardless of exactly how many pages there are…a lot of stuff is available! Good and bad, reliable and not. So how do you find what you are looking for?

Search Engines

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This is where Search Engines come in handy. Search Engines work by using thousands of clustered computers to download essentially *every* web page on the Internet. They use computer programs called **crawlers** (aka "spiders" or "bots") to do this.

It's a complex process and the owners of search engines are often secretive about the inner workings of their software—especially how it decides which pages are the most relevant to a particular search and therefore should appear at the top of the list of results. This is called the search **algorithm**. The word "algorithm" refers to the **logic** a computer uses to perform a specific task.

Being highly ranked is so important to businesses that there is an **entire industry** focused on how to design websites to make them appear at the top of search results—it's called **Search Engine Optimization** or SEO.

Search engines do not find everything though, and each search engine will find somewhat different results. But they are usually very good at finding what you want if you remember some general searching tips.

Top Search Engines *(www.alexa.com/topsites - 1/29/2020)* Show Slide 52		
1	Google	**Google**: The most popular, by far.
2	Bai 百度	**Baidu**: A Chinese search engine. Contains mostly Chinese-language websites.
3	YAHOO!	**Yahoo**!: The third most popular.
4	bing	**Bing**: A search engine created by Microsoft.
5	Ask	**Ask**: The fifth most popular.

> *****   **DuckDuckGo**: Takes privacy very seriously. Most search engines track the searches you perform in order to improve accuracy and increase ad revenues. DuckDuckGo does not track anything. Downside: Search results may not be as good because they are a small company and don't have the infrastructure that Google has.

> **?**   **What is net neutrality?**
>
> It is legislation that states that all websites must use the same "roads" to connect to their users. This puts everyone that owns a website on a **level playing field** (large corporations and individuals alike). <u>Without</u> net neutrality, companies are allowed to pay extra money to use an "expressway" so they can be faster than everyone else.

Searching Tips

Show Slide 53

- Imagine what words would likely appear on the pages you are looking for.

    o   For example, instead of searching for *my head hurts* search for *headache*

- Start with only a few words and make them the most meaningful that you can think of.

- If you do not get useful results, add alternate keywords and phrases that describe your topic. For example, use "migraine" instead of "headache"

- You can also try using a different search engine if you are not getting useful results.

- Be careful when looking for words with multiple meanings. Add words to help the search engine know what you are looking for. For example:

    o   *penguins animal* vs. *Pittsburgh penguins*

    o   *turkey the country* vs. *turkey the animal* vs. *turkey the food*

A Simple Search

Switch to FF

Let's use Google to do a simple search and examine the results.

1. **Open** Firefox.

2. **Notice** that the insertion point is already blinking in the search box. We are going to do a search for **chicken soup**.
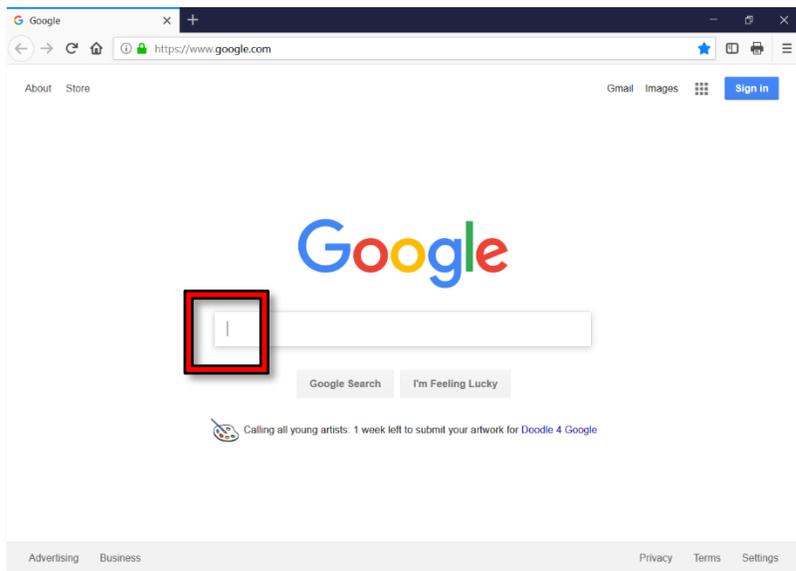
3. To start, just **type** a $\boxed{C}$ and **watch** what happens. **Notice** that a list of suggestions starts to appear beneath.
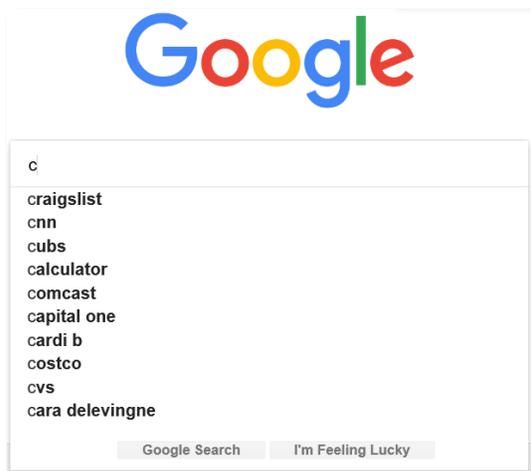
4. **Continue typing** "chicken soup" until you see a suggestion that says "chicken soup". **Remember**, we want the computer to do as much work for us as possible so to save ourselves from some typing.

5. **Click** on the suggestion that says <mark>"chicken soup"</mark> to **commit** the search.

> Even though Google performs searches as you type, it's best to **commit** your search before clicking on any of the search results.
>
> **There are three ways to commit a search:**
>
> - Clicking on a suggested search query
>
> - Pressing ⬚Enter⬚ on the keyboard
>
> - Clicking the "Search" icon (if present) 🔍

The Search Results Page

Mention Handout 4

Let's start at the top and work our way down.

1. Before we go over the search results page, you **may notice** a message in the **top-right** corner of the screen. <mark>Teacher's note: This may not appear in Firefox.</mark> <mark>Teachable moment: Do you remember what Chrome is?</mark>

> Switch to Chrome, a smarter browser
> Google recommends using Chrome. Try it?
>
> I DON'T WANT IT   YES, I WANT IT
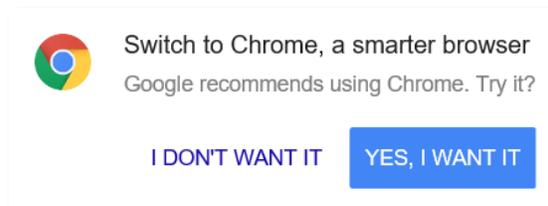
   a. Google has detected that we are using Firefox, and is encouraging us to switch to their own web browser, Chrome.

   b. **Click** the "no" option to dismiss the message.

2. <mark>**Search query:**</mark> At the very top is a text box that contains your search query. You can use this text box to refine your query (we will demonstrate this shortly).

> chicken soup 🔍

3. <mark>**Search Categories:**</mark> You can narrow your search by searching for particular types of resources, such as pictures or videos. By default, "All" is selected, which means that Google will search websites.

> All   Images   Books   Videos   Shopping   More ▾
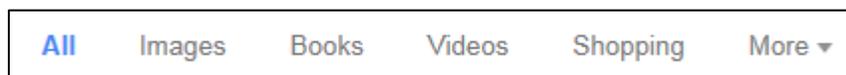
4. <mark>**Statistics:**</mark> Displays the total number results Google found, along with how long it took for Google to perform the search. Note that the total is an estimate, not an exact number.

> About 3,900,000 results (0.48 seconds)
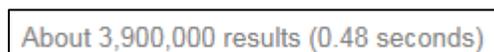
> **Teacher's note:**
>
> The next couple items may not appear on the webpage in the same exact order that they appear in the lesson plan.

5. **Curated Results:** Google will display graphic heavy content here at the top of the results.
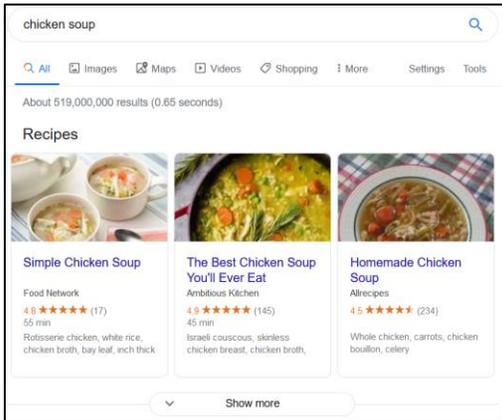
6. **Advertisement:** Google often places advertisements inside of the search results, usually at the top and/or bottom of the page. They look very much like regular search results and are even related to your search term. You can identify an advertisement by looking for an **"Ad" icon**.

7. **Knowledge panel:** We also have a knowledge panel along the side of our search results. It contains general information about, along with a link to the website where it got the information.
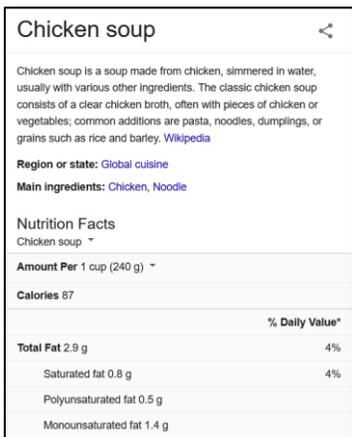
    a. Knowledge panels contain general information about the topic you are searching for. Not all searches will display a knowledge panel.

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b. Google gets this information from a website on the internet that it has deemed a reliable source of information about the topic you're searching for.

c. If this information is important to you, <mark>do not rely on it</mark>! Always back up your research with information from **other sources**.

8. <mark>Search result:</mark> Most of the items on this page are search results that will take you to webpages that might contain the information you are looking for.
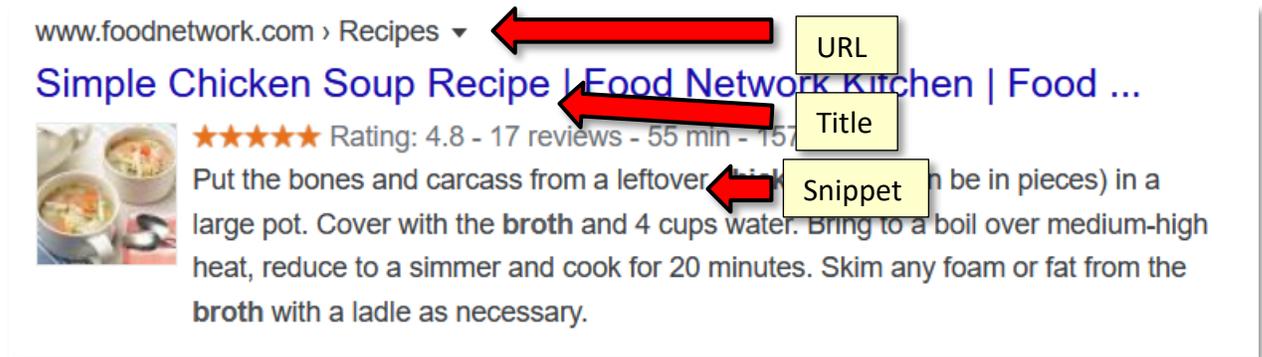
a. **Webpage title**: The blue link is the webpage title. Clicking it will take you to the webpage.

b. **URL**: Above the title is the URL of the website.

c. **Recipe rating:** Many of our search results are recipes. Google is smart enough to figure out what rating the website gave the recipe. It displays the rating below the URL. This is something **extra** that Google adds to the search results of certain recipe websites.

d. **Snippet**: The gray text below the URL is a snippet. The snippet is an excerpt of text from the webpage that includes your search term. You can read this to get an idea of whether or not the webpage has the information you are looking for.

9. <mark>**Related searches:**</mark> At the bottom of the page is a list of search queries that are similar to our current search query. This is helpful if you want to refine your search query so that it's more specific, but don't know what words to use.

10. <mark>**More pages of search results:**</mark> Also at the bottom of the page are links to the other pages of search results. Most of the time, you won't need to use this because you are often able to find what you're looking for right on the first page (yes, Google is *that* good!).

Refining a Search

Most of our search results are about chicken soup **recipes**. Let's **refine** our search and search for chicken soup **books**.

1. **Click** into the search box at the top of the page (remember: your insertion will go to whatever point you click).

2. **Click** after the word "soup", **press** the ⌷Space Bar⌷ and **type** the word **book**.

3. Commit your search by **clicking** the **Search** button or **pressing** ⌷Enter⌷.

4. **Note** how your results change. **Change** your search again by adding the word "Mexican" before the word "chicken".

Opening a Search Result

1. **Look** at your **results list** and **choose** one you would like to visit.

2. **Click** on the title to go to the website.

3. **Use** the **Back button** to return to your results page.

> **Tip:** Instead of clicking on a search result, try opening a search result in a new tab instead. This allows you to keep your search results "open" while you visit each one of the search results.

A Final Tip about Browsers

To start our search, we typed into the search box on the Google page. However, we could have simply **typed** our search term into the **address bar** of the browser. In Firefox, as in most other browsers, <u>the address bar is also a search bar</u>. The default search engine in Firefox is Yahoo but, in the computer lab, we have changed it to Google. We could have started our search by typing "chicken soup" in the address bar and then clicking the go to button.

- **Close** Firefox

Practice

1. **Open** Firefox.

2. **Click** into the address bar, **type** the word **pizza,** and **click** the **Go** button.

3. **Notice** the map that appears. <mark>What is this a map of? **Norristown**</mark>. Google is able to determine our general location and is providing us search results specific to our location. This is either cool or creepy, depending on your perspective!
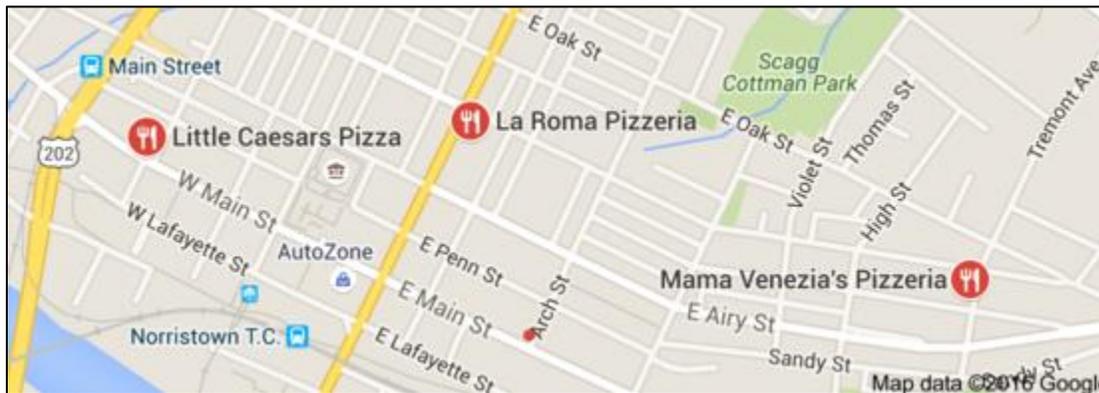
4. Let's make our search a little more specific:

   a. **Click** after the word pizza in the Google search bar.

   b. **Press** the ⬚Space Bar⬚ on the keyboard.

   c. **Type** 19401.

   d. **Tap** ⬚Enter⬚.

5. **Try** another search

   a. See if you can find when and where the next **summer Olympics** will be held.

   b. Think about what your search terms should be?

Improve Your Search Experience

In addition to providing easy access to billions of web pages, Google has many special features to help you to find exactly what you're looking for. Some of the most popular features are listed on your handout for this lesson.

1. **Open** a new tab and **go** to **www.google.com**. **(#10 on slip)**

2. Try typing the following search queries into the Google search box:

    ○ **time Tokyo:** Get the local time of anywhere in the world.

    > **10:34 PM**
    > Friday, May 13, 2016 (GMT+9)
    > Time in Tokyo, Japan

    ○ **define hypertext:** Get a dictionary definition of any word.

    > **hy·per·text**
    > /ˈhīpərˌtekst/ ◄⁾
    > *noun* COMPUTING
    >   a software system that links topics on the screen to related information and graphics, which are typically accessed by a point-and-click method.
    >   • a document presented on a computer as hypertext.
    >
    > ⌄   Translations, word origin, and more definitions
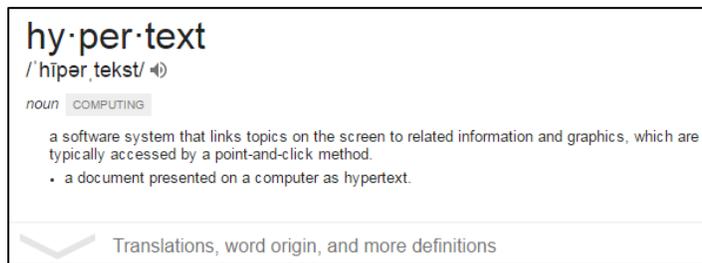
    ○ **embaress**: Use Google as a spell checker. The correct spelling of the word will often appear in the suggestion list.

    > embaress
    > **embarrassed**
    > **embarrassing**
    > **embarrass**
    > **embarrassment**
    > Press Enter to search.
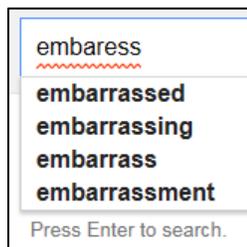
3. You can also use Google to give you answers to **specific questions** (instead of having to visit a website to find the answer). These are called **knowledge panels**. Note that Google is not always clear about where it got this information, so if the information is important to you, always back up your research with data from **other sources**. Simply **type** your question into the search box. For example:

    ○ where was George Washington born

    ○ when was the first moon landing

    > Apollo 11 / Period
    >
    > **July 16, 1969 – July 24, 1969**
    >
    > *Feedback*
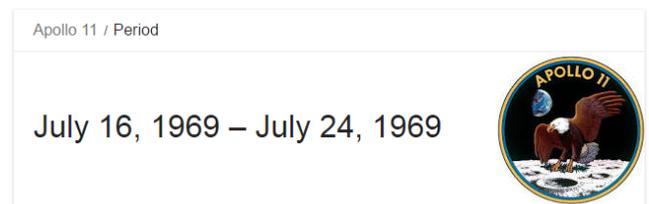
Finding directions

There are three popular sites that you can use to search for directions:

Mapquest `www.mapquest.com`	This site was the first mapping website to come out years ago.
Google Maps `maps.google.com`	This site is excellent not just for driving directions, but for simply exploring a place.
Yahoo! Maps `maps.yahoo.com/beta`	This site works very similarly to Google's map site.

We will use **Google Maps** to find directions from the Library to "Our Town Alley".

1. In the address bar, **type maps.google.com**. **(#9 on slip)**

2. **Look** at the **top of the screen**. Google is again encouraging us to use their web browser, Chrome. **Click** "no".

3. **Point** to the middle of the map and **click and drag** in any direction. This is how you **move around** the map.

4. **Roll** the mouse's scroll wheel **away** from you. This is how you **zoom in**.
   Roll the scroll wheel **toward** you. This is how you **zoom out**.

5. **Click** "Directions".
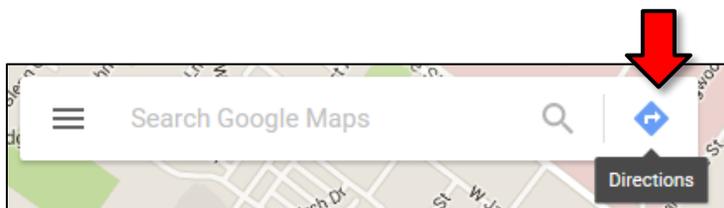
6. In top text box, **start typing** the library's address, **1001 Powell St, Norristown, PA** , but continue to **watch** the computer screen as you type for the autocomplete list. As soon as you see the correct choice, **click** on it.

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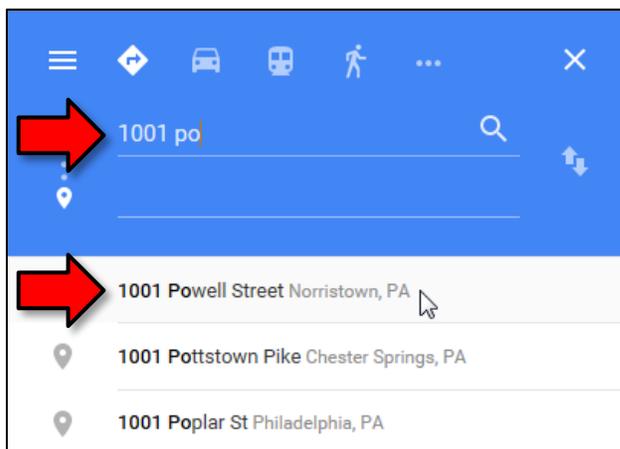
7. In the bottom text box, **start typing Our Town Alley** and **use** the autocomplete list to complete the entry.
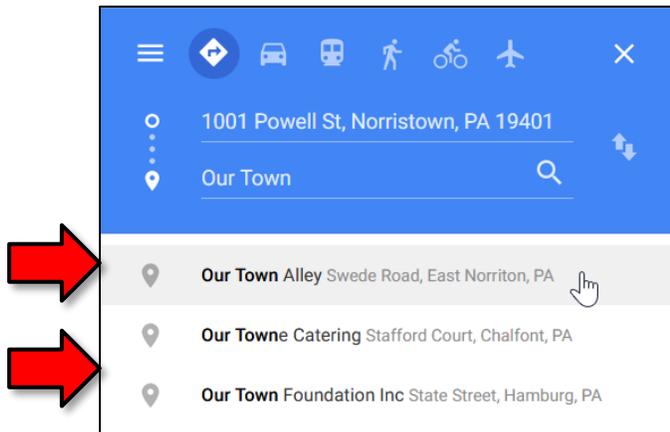
8. Once both addresses are in place, route options will appear below. The top option usually is the fastest.
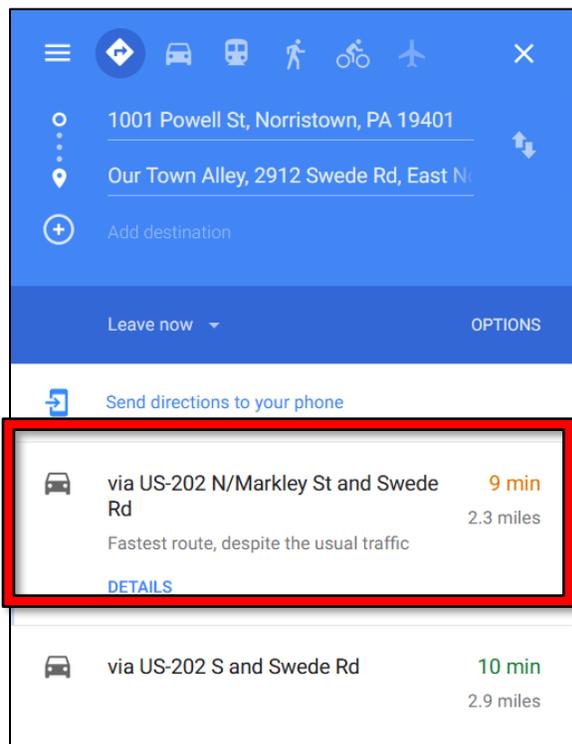
Tip: By default, Google Maps will usually give you driving directions. But you can also get **public transit** directions and even **walking** directions by clicking the appropriate icons at the top.

9. To see turn-by-turn directions for a route, **click** "**Details**".
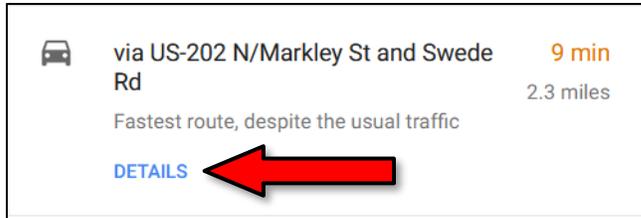
10. **Notice** how the step-by-step **directions** appear on the left, along with a map of the **travel route** on the right. **Also notice** that the **estimated travel time** and **total distance** is displayed at the top.
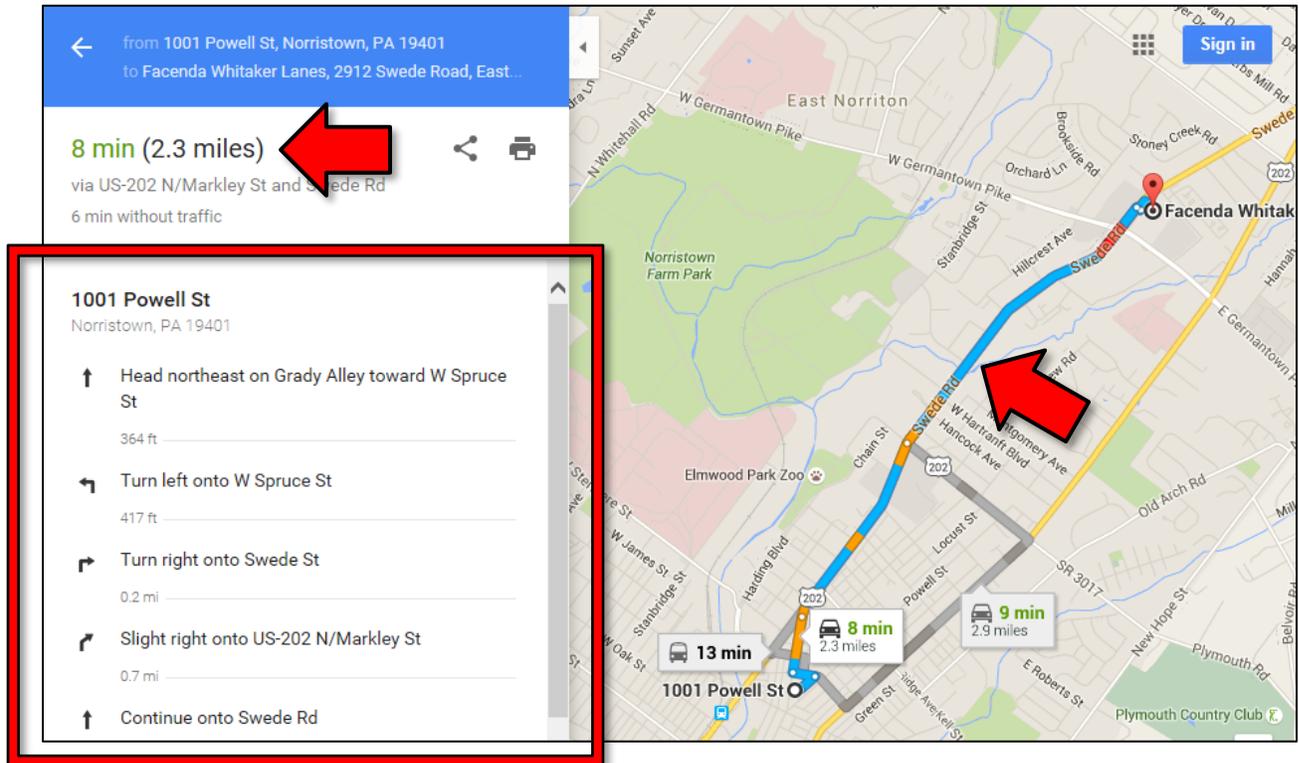
11. If you would like to get a printout, be sure to use the print button embedded on the page. **Click** the **print button**. An options drop down appears, allowing you to choose to include the map or print the text only.
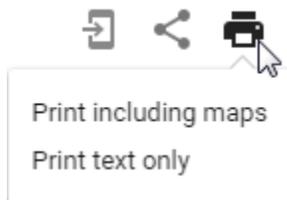
12. **Click** **"Print including maps"**. A page is displayed that gives you an idea of what you are printing. A map is at the top and the directions are at the bottom.
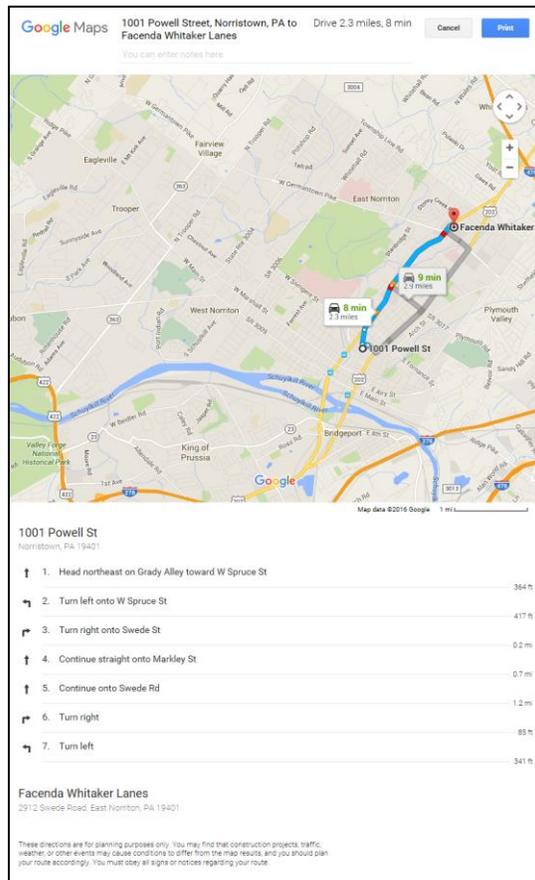
13. **Click** the blue "**Print**" button in the top-right corner. This launches a print dialog box without giving you the option of seeing a print preview. We in the Computer Lab consider this a serious deficiency, because you won't know what your print looks like. **Click** CANCEL.
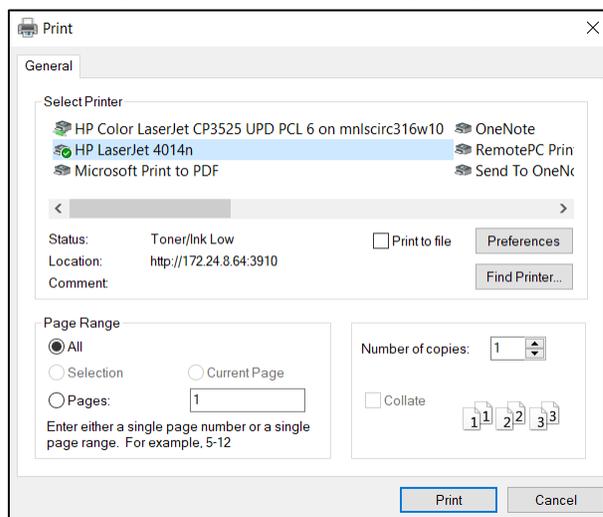
14. **Use** the _**browser's**_ Print button instead so we can get a **print preview**.

15. **Close** the print preview and **close** Firefox.

Narrowing Web Searches (supplemental)

Here are a few tricks that occasionally come in handy when you want to search for something very specific.

Phrase Search

When you type multiple words into a search query, what it's actually doing is searching for webpages that contain all of the words that you've typed **somewhere** within the page—the words do NOT have to appear together. When you want to search for a specific *phrase*, like a quote, enclose the search term in double quotes (teachers often use this technique to look for plagiarism).

Example:
```
"The Internet, referring to the specific global
system of interconnected IP networks, is a proper
noun and written with an initial capital letter."
```

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Site Search

This technique will search one specific site on the Internet, instead of the entire Internet.

1. **Type** "**site:www.cnn.com olympics**" into the search field.

2. **Notice** how we are not getting search suggestions as we type. This is because we are doing an advanced search.

3. **Commit** the search query by pressing Enter or clicking the blue button.

Exclude Search Terms

You can exclude pages that contain a search term by putting a hyphen before it.

Let's search for a **book** called "Rolling Stones" using this technique.

1. **Type** "rolling stones" into the search field and **commit** the search.

2. **Notice** how most search results are about the **band** or the **magazine**.

3. Let's exclude the keyword "music" from our search.

   a. **Click** into the search box.

   b. **Type** "<space> -music". **Commit** the search.

4. What other keywords can we exclude? Keep excluding terms until you get a search result about a book. Examples: magazine, band, rock

Tip: Exclude a **website** from a search:
```
-site:www.cnn.com olympics
```

Tip: Exclude a **phrase** from a search:
```
rock and roll -"the rolling stones"
```

Working with Fillable PDF Files (supplemental)

The scenario: We lost our vehicle registration card so we need to learn how to get a replacement. We are going to see if the Pennsylvania Department of Motor Vehicles can make it easy for us online.

1. **Open** Firefox.

2. In the address bar **type pa dmv** and **press** Enter.

3. **Examine** the results list. Which one looks like the official website? <u>Beware of imitators</u>.

> www.dmv.org ▾
>
> ### The DMV Made Simple - DMV.ORG
>
> **DMV**.ORG makes understanding the **Department of Motor Vehicles** simple. Get quick access to **DMV** locations & hours, appointments, renewals, forms, practice ...
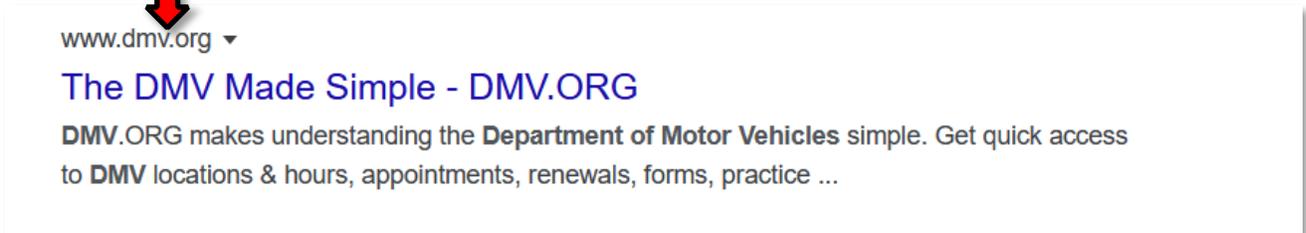
> Q: What are the indicators of the imitation site?
>
> A: The presence of the Ad indicator in the search results and the suffix of .org. While .org is not necessarily a red flag, one would expect a government entity to have a suffix of .gov.

4. The search results for the "official" DMV website provides some handy links to locate the service we want. **Click** on the link for **Vehicle Services**.

5. Click on **Title/Registration** and then on **Duplicate Motor Vehicle Products**.

6. Among the different options, we will be choosing to **Apply for a Duplicate or Replacement Registration Card or Standard Issue Plate Through the Mail (USPS)**. There is a link to **Form MV-44**.

7. The text description indicates that Form MV-44 is a **PDF.** What does this mean?
PDF is a file format that requires software to open it. Firefox comes pre-installed with software for viewing PDF files. You can also download a program called Adobe Reader for free, which can open PDFs. You might want to check your programs menu first to see if it already on your computer. Bottom line, if you click on the file and it opens, you have some kind of PDF software already installed.

> **?** **What is a plug-in?**
>
> A plug-in is an add-on to a web browser that enhances functionality. Some browsers may come with certain plug-ins already installed. Adobe Reader is a very common and popular plug-in. Plug-ins may not contain all the features of a full program but for many uses, they are sufficient.

8. **Click** on the file link and the file will open in a new tab or a new window. The file is opened within the browser but note that it comes with its own toolbar with tools such as "Print" and "Save".

9. **Note** the file is able to be filled out. This is something that is usually called out somewhere near the top of the document, but the different appearance of the fields can also be an indication.

10. Filling out this form is different than filling out an online form. Information entered into an online form is typically able to be submitted electronically, whereas fillable pdf files are meant to be printed or saved to storage media or both.

11. **Enter** some numbers into the Title number and VIN fields.

12. **Locate** the print button and **click** it. In the print preview, **note** the content in those first two fields.

13. **Cancel** the print dialogue.

14. Saving the filled-in form:

    a. When you have gone to a lot of trouble filling in a form, it might be wise to save the form electronically, in case the printed version becomes lost or mishandled. If it has been saved you have the option of printing it again if needed.

    b. **Press** the save button and a **Save As dialogue box** will appear. You will need to choose a location to save your file to. In the case of the computer lab, files can be saved to the **Temporary Patron Drive**. **Click** on **Temporary Patron Drive** on the left side of the dialogue.

Using Wikipedia (supplemental)

Wikipedia is a **user-contributed encyclopedia.** The articles are written by volunteers around the world. It's fairly easy to create or edit a page on Wikipedia. Because of this, information on the site can be inaccurate or outdated, so care must be taken when using its content. I'm going to show you how you would edit a page.

1. **Go** to **en.wikipedia.org (#11 on slip)** (the "en" stands for "English"—Wikipedia is written in many different languages) and search for "Norristown". **See** link for "Norristown, Pennsylvania" and **click** it.

2. **Click** on the "**Edit**" link on the top of the page. This will take you a page that allows you to edit the article.

3. **Notice** the yellow banner at the top of the page. It warns us that we are not logged in. Many articles on Wikipedia can be edited without creating a Wikipedia account. Some of the more popular articles *require* a user account to edit them in order to prevent vandalism.

    > **You are not logged in**. Your IP address will be publicly visible if you make any edits. If you **log in** or **create an account**, your edits will be attributed to a user name, among other benefits.
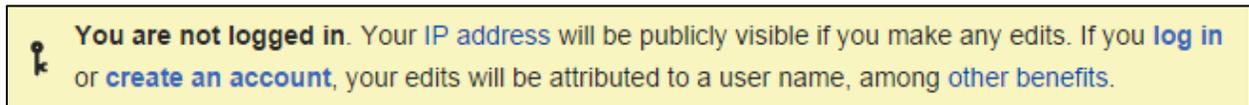
4. **Note** the large text box in the middle of the page. This contains the article's content. It uses what's called a **markup language** to do things like make text bold or insert images. The markup you are looking at now is used to define a sidebar that contains statistical information about Norristown.

THIS SECTION IS FOR DEMONSTRATION ONLY – <u>DO NOT</u> EDIT THE ARTICLE

5. **Scroll down** until you see the text below. This is the beginning of the actual article content.
    ```
    '''Norristown''', officially the '''Municipality of Norristown'''"
    ```

6. **Change** the words "**Norristown**" to "**New York**".

7. **Scroll down** to the bottom of the page.

8. **Note** the "Edit Summary" text box. This is where you would type a short description of your changes. This will be logged to the article's History for everyone to see.

9. Now, **click** the "**Show preview**" button. Do **<u>NOT</u>** click the "Save page" button. That button will actually save our changes and make them visible on the page. We do not want to do this because it is inaccurate information.

10. After a few second's a preview of the page will load, and you will see a preview of your changes.

    Preview
    This is only a preview; your changes have not yet been sav
    New York, officially the **Municipality of Norristown,**[N 1] is the historic the Schuylkill River approximately 6 miles from the Philadelphia city lim Census and is the 4th most populous municipality in the county.[1]
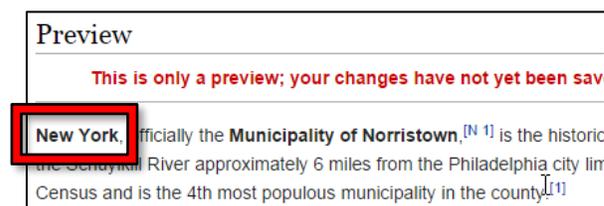
Working with Internet Forms (supplemental)

Many websites will ask you to **create an account** in order to use their full functionality. This will usually require to you create a username to login with and a password. Depending on the site they may also ask for other information such as your real name, address, and payment information. Be mindful of what type of information you give to sites.

The computer lab has created a form to give you practice in some of the elements you may find on an online form. The form is available on the Class Resources page under the "Internet" class section. It's called "Optional Form Exercise".

http://www.mc-npl.org/class-resources

Evaluating the Reliability of Website Content (supplemental)

With so much information so readily available, **how do we know what information is reliable and accurate and what is not**?

Sometimes it is not all that important where information comes from; if you are trying to remember the names of the seven dwarfs in Snow White, you might not care whether the information comes from the Disney web site, Wikipedia or some other trivia site. However if you are doing a research paper on the history of animated fairy tales, then you will need to make sure you get the information from a reliable source. If you are looking for medical information, help with your taxes or a job application, you definitely want reliable information. Where the information comes from will matter!

When it comes to evaluating information on a web site, use the same deductive reasoning skills you use in evaluating other information like you find in magazines, newspapers, TV ads, or political debates. Do not be intimidated just because it is on the web.

When you look at a web site, here are some things to consider:

- **Who produced the site?**

    o Look at the URL. Is it from a government agency (.gov) or an educational institution (.edu), which should be more credible than a business or individual's web site? Anyone can get a .com, .org or .net domain and sometimes pretend to give you reliable information when actually they only want to sell you something.

    o Is there an "about" or "contact" page that identifies who created the website and why? If the web site does not tell you who created it, then you have no way of judging if the person (or organization) is knowledgeable about the topic.

- **Is the information believable?** If you find a site selling a product that will make you feel 30 years younger, is that really believable? Something that is too good to be true probably is not true.

- **Is the information up to date?** Look for a date on the web site (often at the bottom of the page). Depending on your topic, you may want information that was created in the last year or even the last few days. Note that some search engines will allow you to narrow your search results by date.

- **Can you find the same information in multiple places (and from multiple sources)?** If not, then question the information more closely. On the other hand, don't necessarily believe something just because you find it in many places, it might just have been repeated incorrectly.