INTERNET BASICS I

WHAT IS THE INTERNET?

INTRODUCTION

The **Internet** is an increasingly important part of everyday life for people around the world. But if you've never used the Internet before, all of this new information might feel a bit confusing at first.

Throughout this tutorial, we'll try to answer some basic questions you may have about the Internet and how it's used. When you're done, you'll have a good understanding of **how the Internet works**, how to **connect to the Internet**, and **how to browse the Web**.
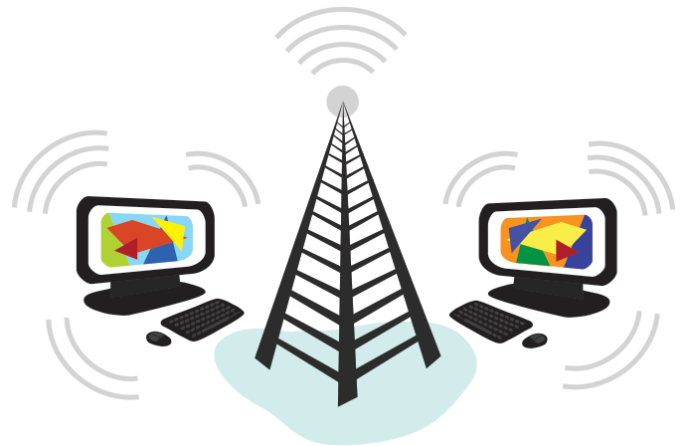
WHAT IS THE INTERNET?

The Internet is a **global network** of billions of computers and other electronic devices. With the Internet, it's possible to access almost any information, communicate with anyone else in the world, and do much more.

You can do all of this by connecting a computer to the Internet, which is also called **going online.** When someone says a computer is online, it's just another way of saying it's connected to the Internet.

WHAT IS THE WEB?

The **World Wide Web**—usually called the **Web** for short—is a collection of different **websites** you can access through the Internet. A **website** is made up of related text, images, and other resources. Websites can resemble other forms of media—like newspaper articles or television programs—or they can be interactive in a way that's unique to computers.

The purpose of a website can be almost anything: a news platform, an advertisement, an online library, a forum for sharing images, or an educational site like us!

Once you are connected to the Internet, you can access and view websites using a type of application called a **web browser**. Just keep in mind that the web browser itself is not the Internet; it only displays websites that are stored on the Internet.

HOW DOES THE INTERNET WORK?

At this point you may be wondering, **how does the Internet work?** The exact answer is pretty complicated and would take a while to explain. Instead, let's look at some of the most important things you should know.

It's important to realize that the Internet is a global network of **physical cables**, which can include copper telephone wires, TV cables, and fiber optic cables. Even wireless connections like Wi-Fi and 3G/4G rely on these physical cables to access the Internet.

When you visit a website, your computer sends a request over these wires to a **server**. A server is where websites are stored, and it works a lot like your computer's hard drive. Once the request arrives, the server retrieves the website and sends the correct data back to your computer. What's amazing is that this all happens in just a few seconds!

Watch the video below from Tata Communications to learn more about how the Internet functions.

OTHER THINGS YOU CAN DO ON THE INTERNET
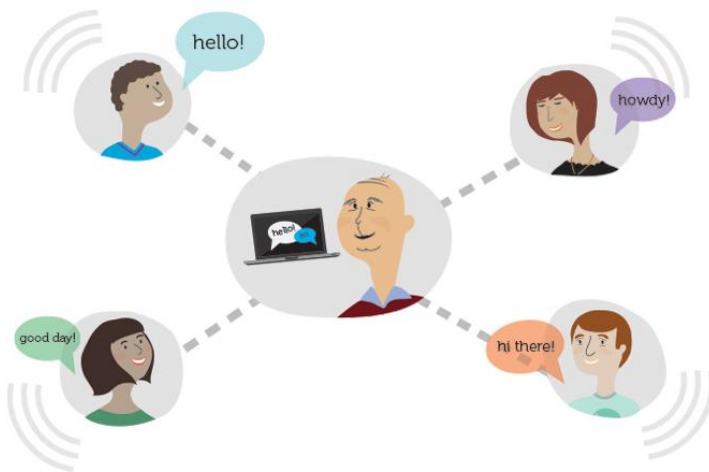
One of the best features of the Internet is the ability to communicate almost instantly with anyone in the world. **Email** is one of the oldest and most universal ways to communicate and share information on the Internet, and billions of people use it. **Social media** allows people to connect in a variety of ways and build communities online.

There are many other things you can do on the Internet. There are thousands of ways to keep up with news or **shop for anything** online. You can pay your bills, **manage your bank accounts**, meet new people, **watch TV**, or learn new skills. You can learn or do almost anything online.

WHAT CAN YOU DO ONLINE?

INTRODUCTION

There's almost no limit to what you can do online. The Internet makes it possible to quickly find information, communicate with people around the world, manage your finances, shop from home, listen to music, watch videos, and much, much more. Let's take a look at some of the ways the Internet is most commonly used today.

FINDING INFORMATION ONLINE

With billions of websites online today, there is **a lot** of information on the Internet. **Search engines** make this information easier to find. All you have to do is type one or more **keywords**, and the search engine will look for **relevant websites**.

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For example, let's say you're looking for a new pair of shoes. You could use a search engine to learn about different types of shoes, get directions to a nearby shoe store, or even find out where to buy them online!

There are many different search engines you can use, but some of the most popular include **Google**, **Yahoo!**, and **Bing**.
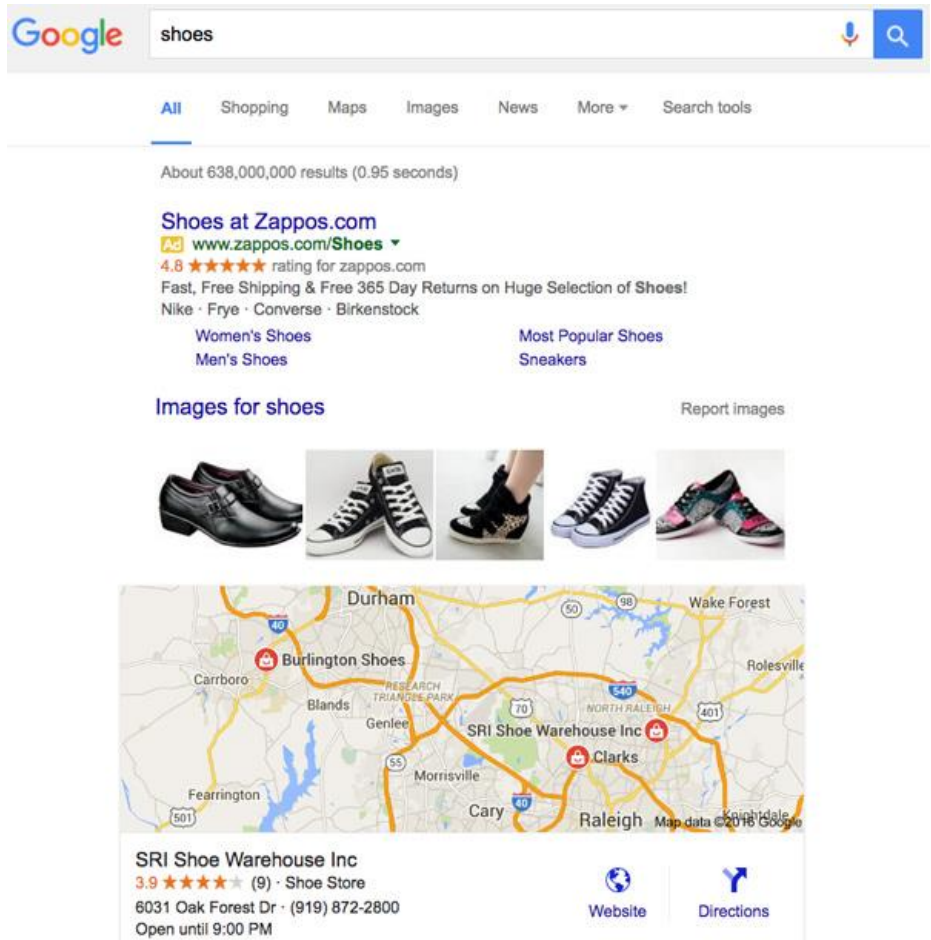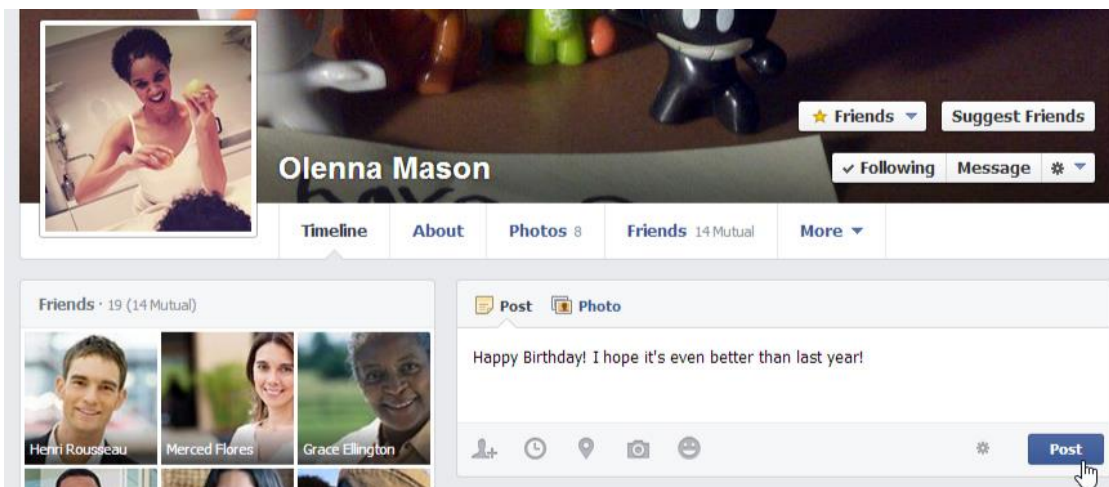

EMAIL

Short for electronic mail, **email** is a way to **send and receive messages** across the Internet. Almost everyone who uses the Internet has their own email account, usually called an **email address**. This is because you'll need an email address to do just about anything online, from online banking to creating a Facebook account.

SOCIAL NETWORKING

Social networking websites are another way to **connect and share** with your family and friends online. Rather than sharing with just a few people over email, social networks make it easier to **connect** and **share** with many people at the same time. **Facebook** is the world's largest social networking site, with **more than 1 billion users** worldwide.

CHAT AND INSTANT MESSAGING

Chat and **instant messaging (IM)** are short messages sent and read **in real time**, allowing you to converse more quickly and easily than email. These are generally used when both (or all) people are online, so your message can be read immediately. By comparison, **emails** won't be seen until recipients check their inboxes.

Examples of instant messaging applications include **Yahoo Messenger** and **Google Hangouts**. Some sites, like **Gmail** and **Facebook**, even allow you to chat within your web browser.
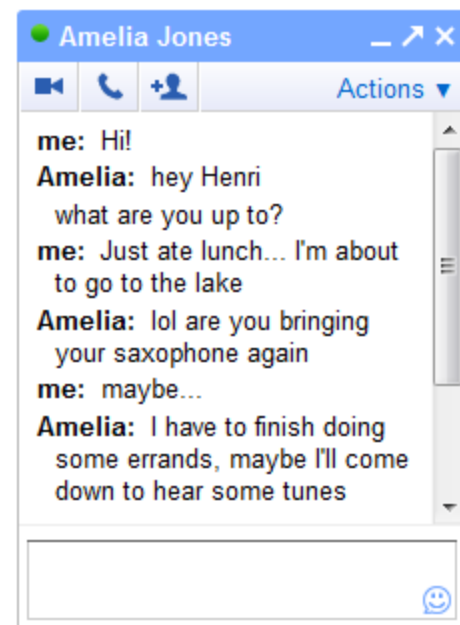
ONLINE MEDIA

There are many sites that allow you to **watch videos** and **listen to music**. For example, you can watch millions of videos on **YouTube** or listen to Internet radio on **Pandora**. Other services, like **Netflix** and **Hulu**, allow you to watch movies and TV shows. And if have a **set-top streaming box**, you can even watch them directly on your television instead of a computer screen.

EVERYDAY TASKS

You can also use the Internet to complete many **everyday tasks** and **errands**. For example, you can manage your bank account, pay your bills, and shop for just about anything. The main advantage here is **convenience**. Rather than going from place to place, you can do all of these tasks at home!

AND A WHOLE LOT MORE!

Remember, these are just a few of the things you'll be able to do online. Keep working through this tutorial to learn more about connecting to the Internet and using the Web!

CONNECTING TO THE INTERNET

HOW DO I CONNECT TO THE INTERNET?

Once you've set up your computer, you may want to purchase **home Internet access** so you can send and receive email, browse the Web, stream videos, and more. You may even want to set up a **home wireless network**, commonly known as **Wi-Fi**, so you can connect multiple devices to the Internet at the same time.

Watch the video to learn about connecting to the Internet.

TYPES OF INTERNET SERVICE

The type of Internet service you choose will largely depend on which **Internet service providers** (ISPs) serve your area, along with the types of service they offer. Here are some common types of Internet service.

- **Dial-up**: This is generally the slowest type of Internet connection, and you should probably avoid it unless it is the only service available in your area. Dial-up Internet uses your **phone line**, so unless you have multiple phone lines you will not be able to use your landline and the Internet at the same time.
- **DSL**: DSL service uses a **broadband connection**, which makes it much faster than dial-up. DSL connects to the Internet **via a phone line** but does not require you to have a landline at home. And unlike dial-up, you'll be able to use the Internet and your phone line at the same time.
- **Cable**: Cable service connects to the Internet **via cable TV**, although you do not necessarily need to have cable TV in order to get it. It uses a broadband connection and can be faster than both dial-up and DSL service; however, it is only available where cable TV is available.

- **Satellite**: A satellite connection uses broadband but does not require cable or phone lines; it connects to the Internet **through satellites orbiting the Earth**. As a result, it can be used almost anywhere in the world, but the connection may be affected by weather patterns. Satellite connections are also usually slower than DSL or cable.
- **3G and 4G**: 3G and 4G service is most commonly used with mobile phones, and it connects **wirelessly** through your ISP's network. However, these types of connections aren't always as fast as DSL or cable. They will also **limit the amount of data** you can use each month, which isn't the case with most broadband plans.

CHOOSING AN INTERNET SERVICE PROVIDER

Now that you know about the different types of Internet service, you can do some research to find out what ISPs are available in your area. If you're having trouble getting started, we recommend talking to friends, family members, and neighbors about the ISPs they use. This will usually give you a good idea of the types of Internet service available in your area.

Most ISPs offer several tiers of service with different Internet speeds, usually measured in **Mbps** (short for **megabits per second**). If you mainly want to use the Internet for **email** and **social networking**, a slower connection (around 2 to 5 Mbps) might be all you need. However, if you want to **download music** or **stream videos**, you'll want a faster connection (at least 5 Mbps or higher).

You'll also want to **consider the cost** of the service, including installation charges and monthly fees. Generally speaking, the faster the connection, the more expensive it will be per month.

Although **dial-up** has traditionally been the **least expensive** option, many ISPs have raised dial-up prices to be the **same as broadband**. This is intended to encourage people to switch to broadband. We do not recommend dial-up Internet unless it's your only option.

HARDWARE NEEDED

MODEM

Once you have your computer, you really don't need much additional hardware to connect to the Internet. The primary piece of hardware you need is a **modem**.

The type of Internet access you choose will determine the type of modem you need. **Dial-up** access uses a **telephone modem**, **DSL** service uses a **DSL modem**, **cable** access uses a **cable modem**, and **satellite** service uses a **satellite adapter**. Your ISP may give you a modem—often for a fee—when you sign a contract, which helps ensure that you have the **right type** of modem. However, if you would prefer to shop for a **better** or **less expensive** modem, you can choose to buy one separately.

ROUTER

A **router** is a hardware device that allows you to connect **several computers** and **other devices** to a single Internet connection, which is known as a **home network**. Many routers are **wireless**, which allows you to create a **home wireless network**, commonly known as a **Wi-Fi network**.

You **don't necessarily need to buy a router** to connect to the Internet. It's possible to connect your computer directly to your modem using an Ethernet cable. Also, many modems include a **built-in router**, so you have the option of creating a Wi-Fi network without buying extra hardware.

SETTING UP YOUR INTERNET CONNECTION

Once you've chosen an ISP, most providers will **send a technician to your house** to turn on the connection. If not, you should be able to use the instructions provided by your ISP—or included with the modem—to set up your Internet connection.

After you have everything set up, you can open your **web browser** and begin using the Internet. If you have any problems with your Internet connection, you can call your ISP's **technical support** number.

HOME NETWORKING

If you have multiple computers at home and want to use all of them to access the Internet, you may want to create a **home network**, also known as a **Wi-Fi network**. In a home network, all of your devices connect to your **router**, which is connected to the **modem**. This means everyone in your family can use the Internet **at the same time**.

Your ISP technician may be able to set up a home Wi-Fi network when installing your Internet service. If not, you can review our lesson on How to Set Up a Wi-Fi Network to learn more.

If you want to connect a computer that does not have built-in Wi-Fi connectivity, you can purchase a **Wi-Fi adapter** that plugs into your computer's USB port.

UNDERSTANDING THE CLOUD

WHAT IS THE CLOUD?

You may have heard people using terms like **the cloud**, **cloud computing**, or **cloud storage**. But what exactly is the cloud?

Simply put, the cloud is **the Internet**—more specifically, it's all of the things you can **access remotely** over the Internet. When something is **in the cloud**, it means it's stored on **Internet servers** instead of your computer's hard drive.

Watch the video to learn more about the cloud.

WHY USE THE CLOUD?

Some of the main reasons to use the cloud are **convenience** and **reliability**. For example, if you've ever used a **web-based email service**, such as **Gmail** or **Yahoo! Mail**, you've already used the cloud. All of the emails in a web-based service are stored on servers rather than on your computer's hard drive. This means you can access your email from any computer with an Internet connection. It also means you'll be able to recover your emails if something happens to your computer.
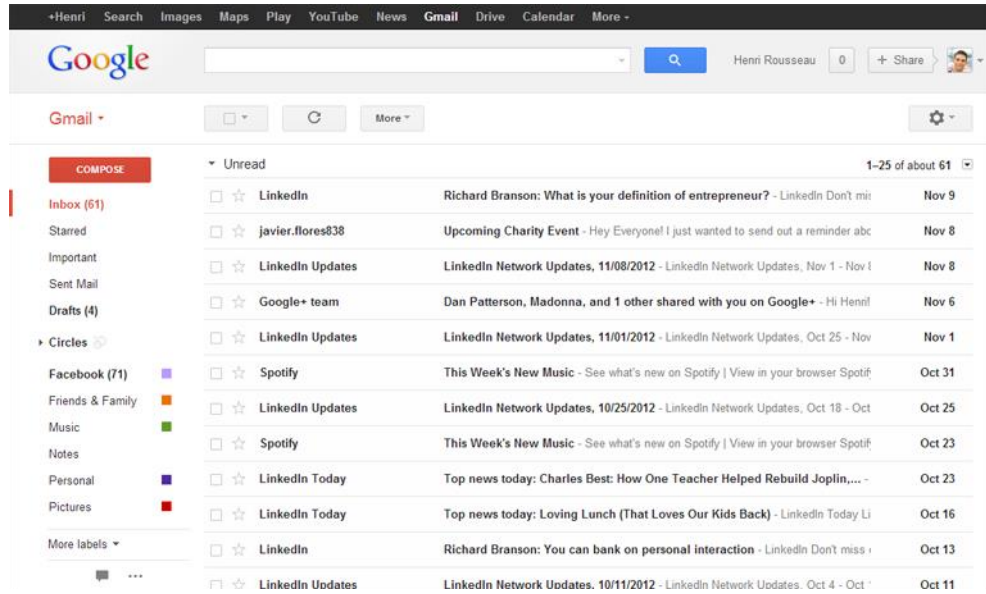
Let's look at some of the most common reasons to use the cloud.

- **File storage**: You can store all types of information in the cloud, including files and email. This means you can access these things from **any computer** or **mobile device** with an Internet connection, not just your home computer. **Dropbox** and **Google Drive** are some of the most popular cloud-based storage services.
- **File sharing**: The cloud makes it easy to **share files** with several people at the same time. For example, you could upload several photos to a cloud-based photo service like **Flickr** or **iCloud Photos**, then quickly share them with friends and family.
- **Backing up data**: You can also use the cloud to protect your files. Apps like **Mozy** and **Carbonite automatically back up your data** to the cloud. This way, if your computer ever is lost, stolen, or damaged, you'll still be able to recover these files from the cloud.

WHAT IS A WEB APP?

Previously, we talked about how **desktop applications** allow you to perform tasks on your computer. But there are also **web applications**—or **web apps**—that run **in the cloud** and do not need to be installed on your computer. Many of the most popular sites on the Internet are actually web apps. You may have even used a web app without realizing it! Let's take a look at some popular web apps.

- **Facebook:** Facebook lets you create an online **profile** and interact with your **friends**. Profiles and conversations can be updated at any time, so Facebook uses web app technologies to **keep the information up to date**.
- **Pixlr**: Pixlr is an **image editing application** that runs in your web browser. Much like **Adobe Photoshop**, it includes many advanced features, like color correction and sharpening tools.
- **Google Docs:** Google Docs is an **office suite** that runs in your browser. Much like **Microsoft Office**, you can use it to create **documents**, **spreadsheets**, **presentations**, and more. And because the files are stored **in the cloud**, it's easy to **share** them with others.
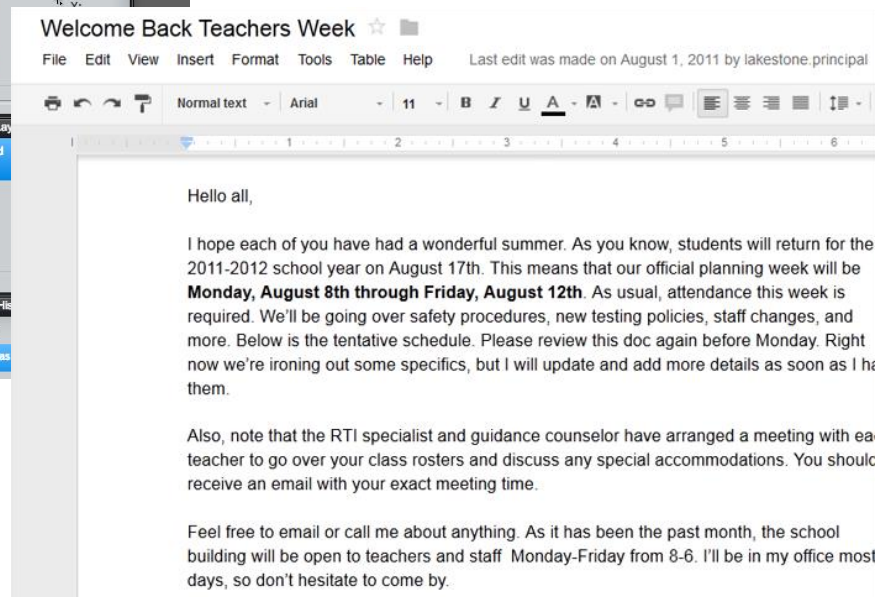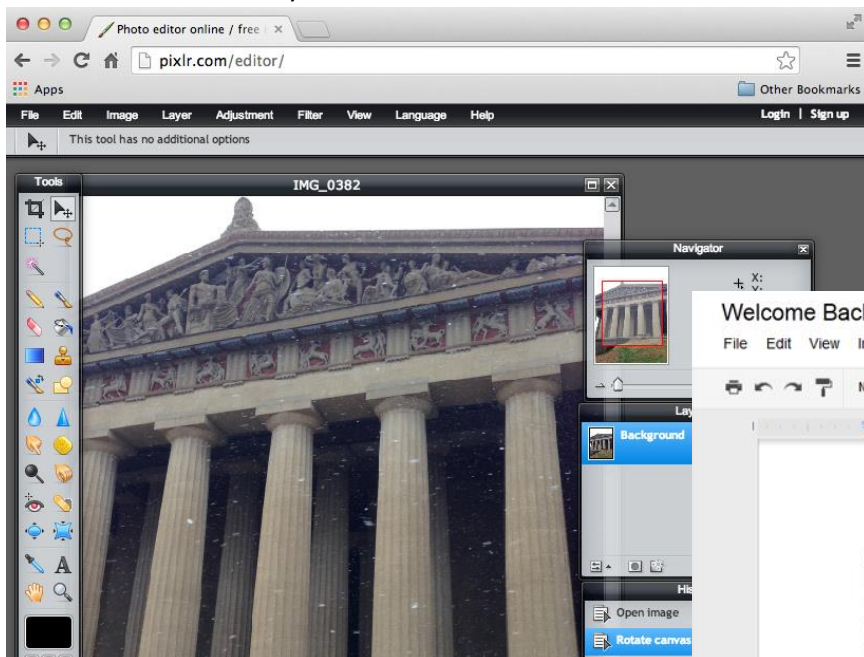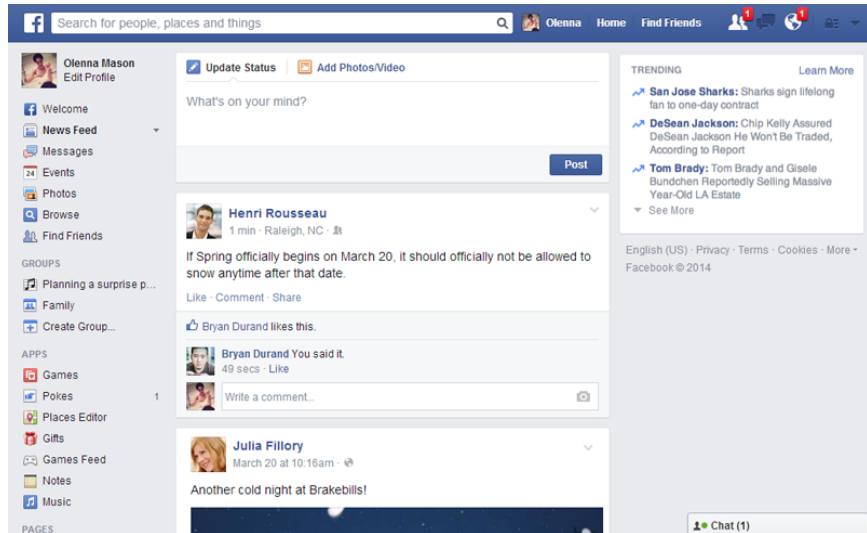
USING A WEB BROWSER

A **web browser** is a type of software that allows you to find and view websites on the Internet. Even if you didn't know it, you're using a web browser right now to read this page! There are many different web browsers, but some of the most common ones include **Google Chrome**, **Internet Explorer**, **Safari**, and **Mozilla Firefox**.

No matter which web browser you use, you'll want to learn the basics of browsing the Web. In this lesson, we'll talk about **navigating** to different websites, **using tabbedbrowsing**, creating **bookmarks**, and more.

Watch the video below to learn the basics of using a web browser.

We'll be using the **Google Chrome web browser** throughout this lesson, but you can use any browser you want. Keep in mind that your browser may look and act a bit differently, but all web browsers work in basically the same way.

URLs AND THE ADDRESS BAR

Each website has a unique address, called a **URL** (short for **Uniform Resource Locator**). It's like a street address that tells your browser where to go on the Internet. When you type a URL into the browser's **address bar** and press **Enter** on your keyboard, the browser will load the page associated with that URL.

In the example below, we've typed www.bbc.com/travel into the address bar.
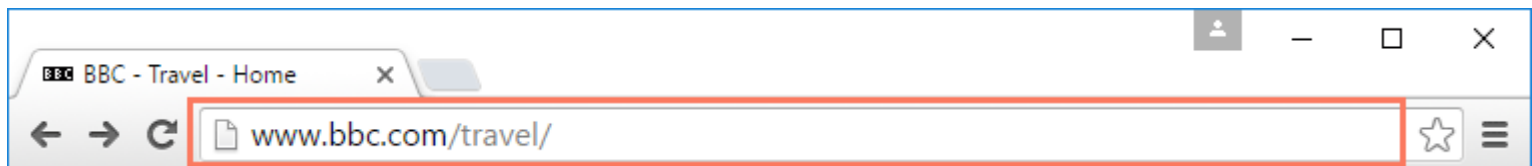
LINKS

Whenever you see a word or phrase on a website that's **blue** or **underlined in blue**, it's probably a **hyperlink**, or **link** for short. You might already know how links work, even if you've never thought about them much before.

Links are used to **navigate the Web**. When you click a link, it will usually take you to a different webpage. You may also notice that your cursor changes into a **hand icon** whenever you hover over a link.


An icy sail to the end of the Earth

We travelled 7,500km to the Norwegian Arctic in a no-frills sailboat that was better suited for cruising the Mediterranean than penetrating the polar ice.

If you see this icon, it means you've found a link. You'll find other types of links this way too. For example, many websites actually use **images** as links, so you can just **click the image** to navigate to another page.

NAVIGATION BUTTONS

The **Back** and **Forward** buttons allow you to move through websites you've **recently viewed**. You can also click and hold either button to see your recent history.
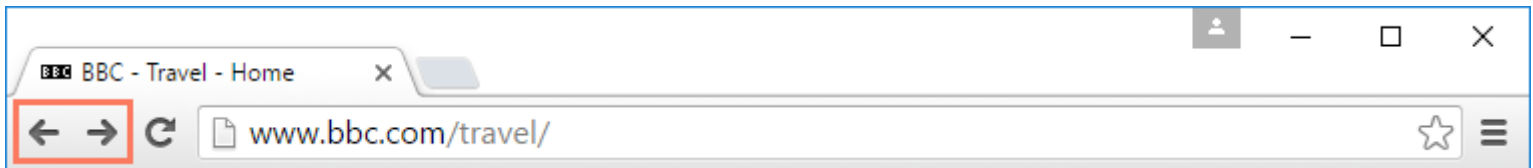
The **Refresh** button will **reload** the current page. If a website stops working, try using the Refresh button.
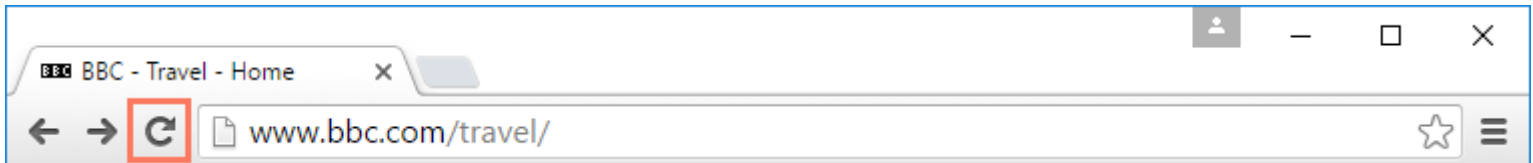
TABBED BROWSING

Many browsers allow you to open links in a new **tab**. You can open as many links as you want, and they'll stay in the **same browser window** instead of cluttering your screen with multiple windows.

To open a link in a new tab, **right-click** the link and select **Open link in new tab** (the exact wording may vary from browser to browser).
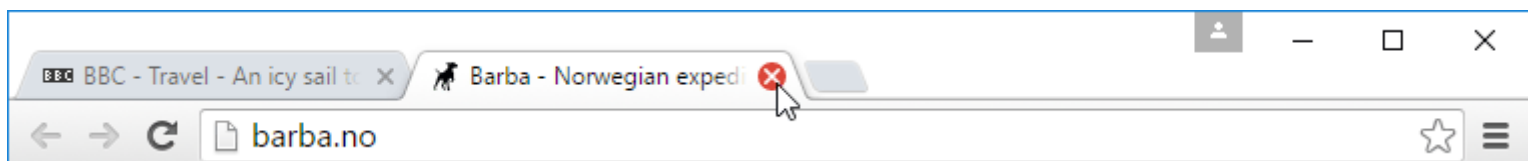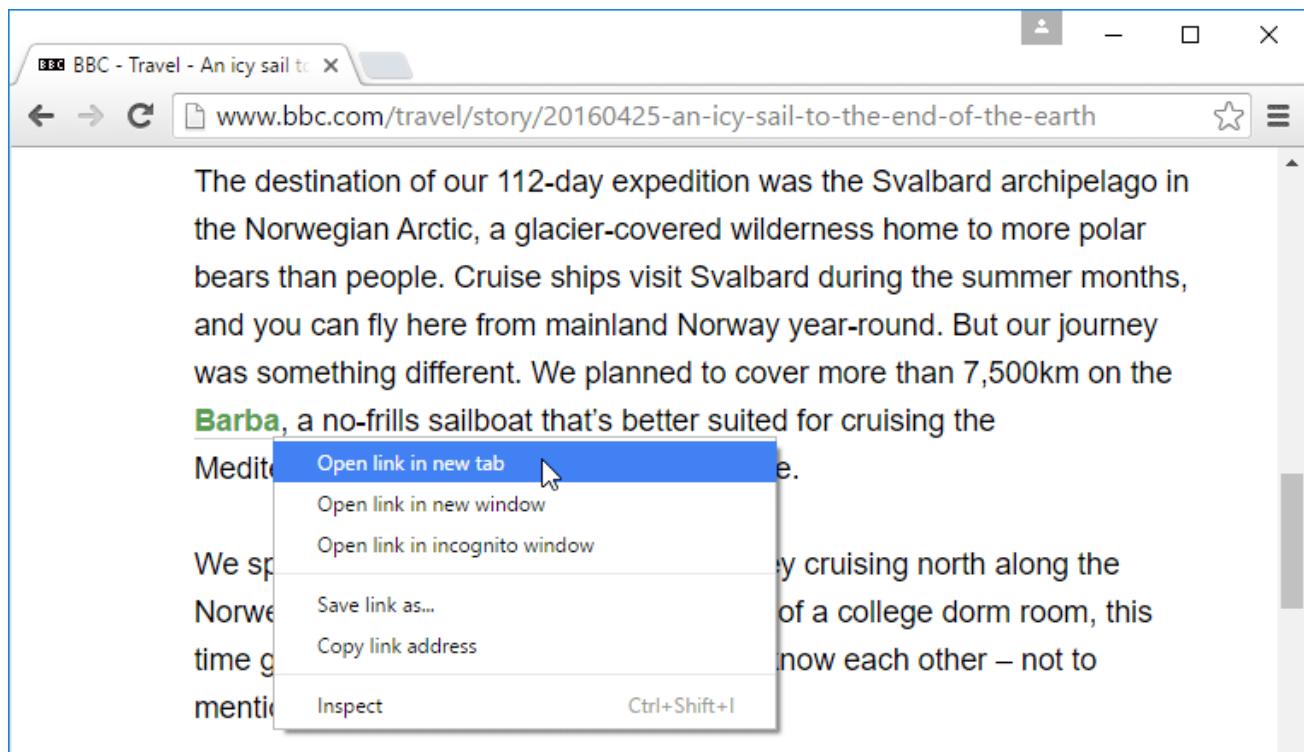
To **close** a tab, click the **X**.

To create a **new blank tab**, click the button to the right of any open tabs.
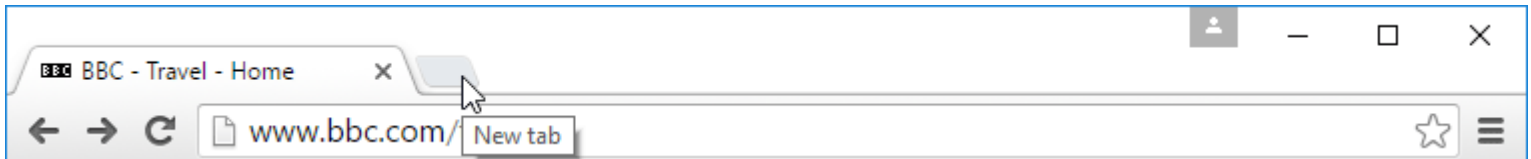
BOOKMARKS AND HISTORY

If you find a website you want to view later, it can be hard to memorize the exact web address. **Bookmarks**, also known as **favorites**, are a great way to save and organize specific websites so you can revisit them again and again. Simply locate and select the **Star** icon to bookmark the current website.
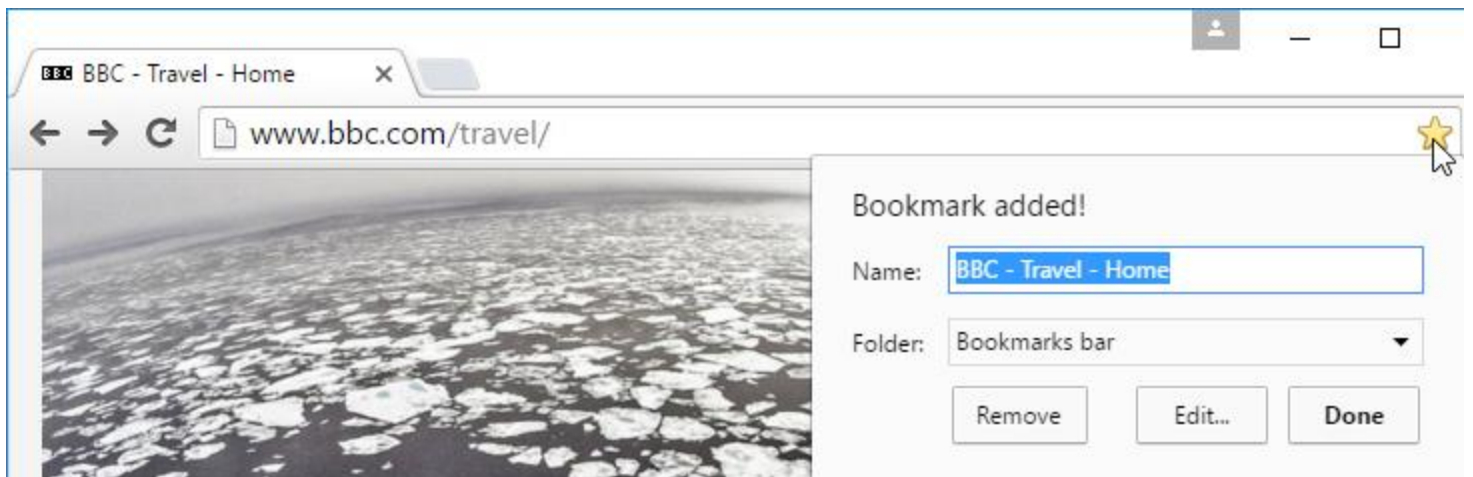

Your browser will also keep a history of every site you visit. This is another good way to find a site you visited previously. To view your history, open your browser settings—usually by clicking the icon in the upper-right corner—and select **History**.
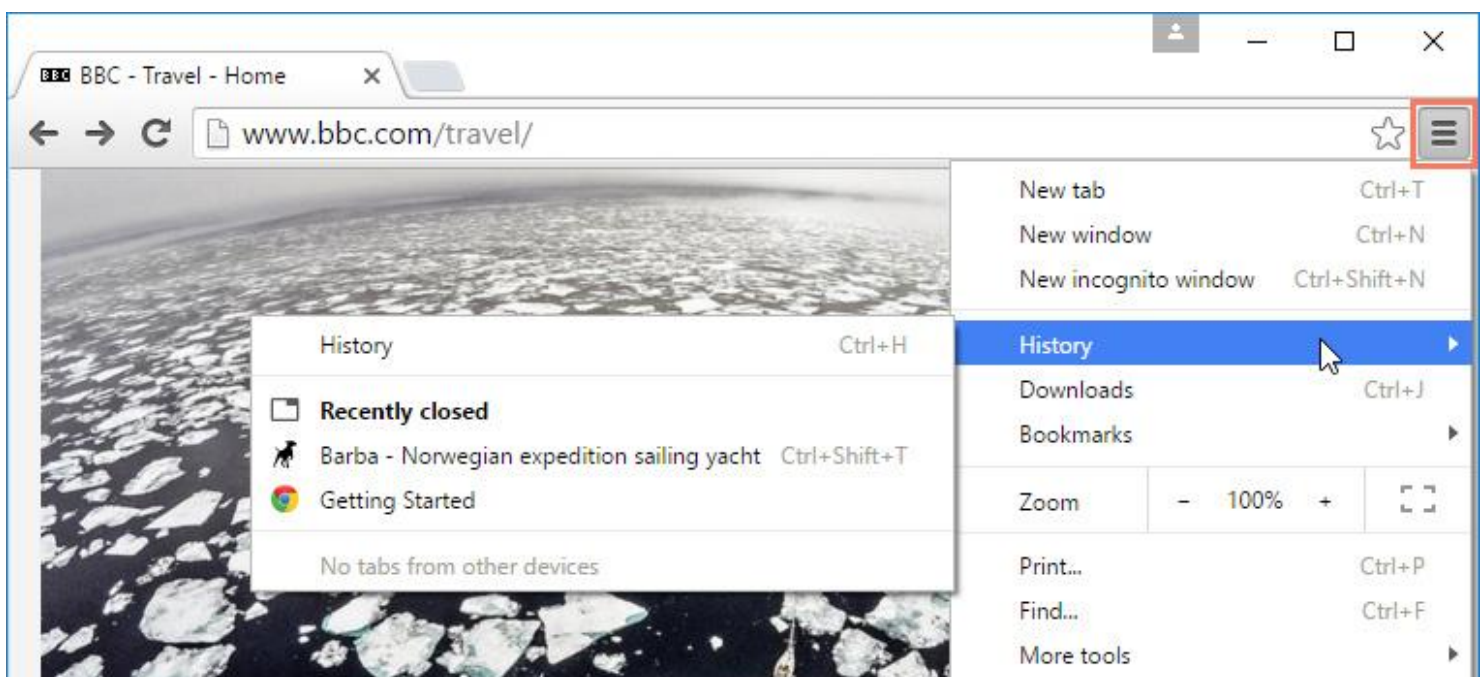
Downloading files

Links don't always go to another website. In some cases, they point to a **file** that can be **downloaded**, or saved, to your computer.

If you click a link to a file, it may download automatically, but sometimes it just **opens within your browser** instead of downloading. To prevent it from opening in the browser, you can **right-click** the link and select **Save link as** (different browsers may use slightly different wording, like **Save target as**).
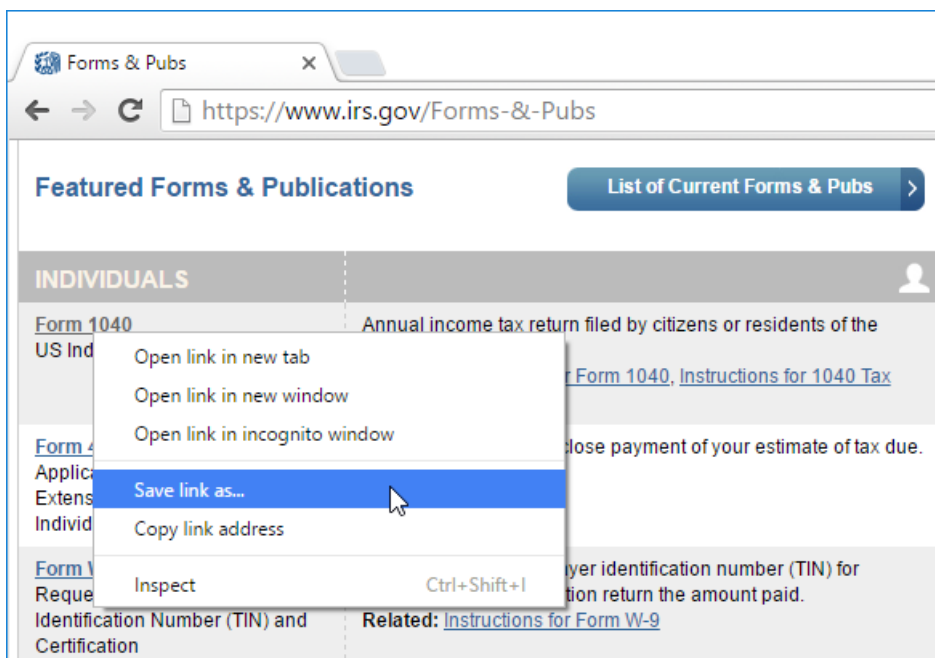
Saving images

Sometimes you may want to save an image from a website to your computer. To do this, right-click the image and select **Save image as** (or **Save picture as**).
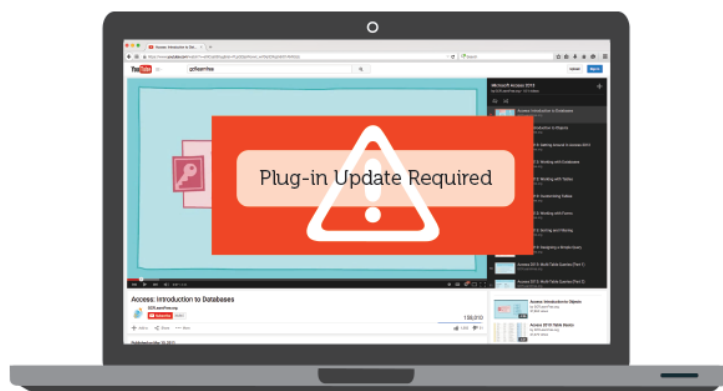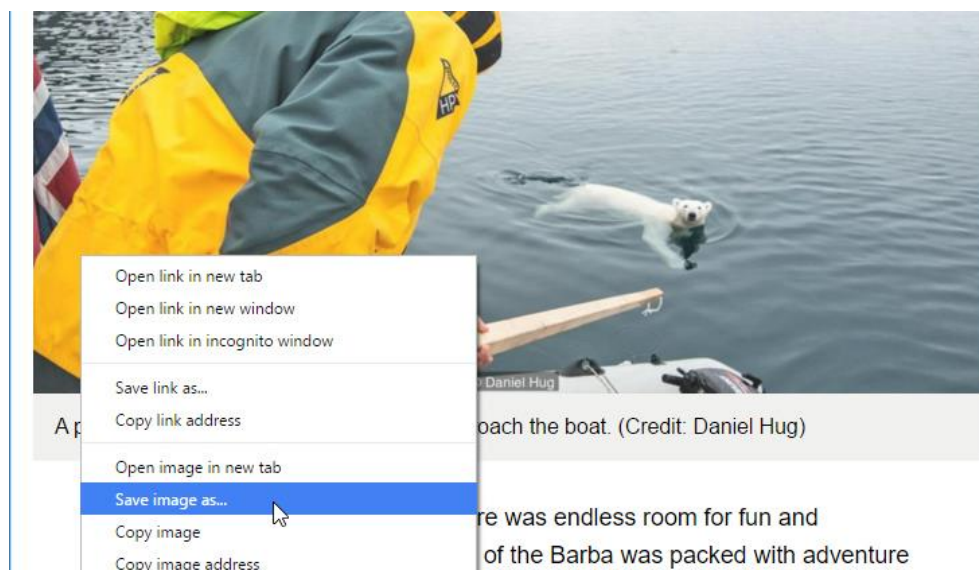
Plug-ins

Plug-ins are small applications that allow you to view certain types of content within your web browser. For example, **Adobe Flash** and **Microsoft Silverlight** are often used to play videos, while **Adobe Reader** is used to view PDF files.

If you don't have the correct plug-in for a website, your browser will usually provide a link to download it. There may also be times when you need to **update** your plug-ins.