

# Choosing an IT Device?

## Things to Consider

**COMPU**corps.org

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# Our Mandate

Our Mission is to benefit Canadian society by providing under-served groups (Indigenous Peoples, youth, those living in low-income household, seniors, and those living with disability) career and life skills training focused on access to technology and the internet.

# Things to Consider When Buying a Computer

- Do you need a NEW computer?
- How will you be using your device?
- Mac or PC?
- New, Used or Refurbished?
- Laptop, Desktop or Tablet?

# Do You need a NEW computer?

- How long have you had your current computer (if applicable)?
- Can your current device be repaired or refurbished?
- Are you looking for more out of your device? (going mobile so you can work in Cafes)
- What will you do with your old device?

# How will you be using your device?

- Basic tasks, like creating documents and spreadsheets, checking email, and using the Internet? Or heavy-duty stuff with video, audio, or images? Audiovisual work tends to be resource-intensive and will require a more robust computer.
- How does the new device fit in with your existing technology?
- Will you be video-chatting or taking photos? (For Google hangout, Skype, etc.)
- Will you stream from your device to a TV?
- Does your current internet package offer Wi-Fi or will this device be connected via Ethernet cable?

# Mac or PC?

The choice between Mac and PC often comes down to personal preference. Both types of computers have their merits. Macs and PCs use the same kinds of internal processors, so they are equally powerful. The main difference between Macs and other computers is the operating system they use: Macs run Mac OS X, and PCs run Windows

- **Macintosh computers are usually more expensive off the shelf than a similar PC.** However, some argue that the long-term cost for a PC is actually higher, due to additional software and maintenance costs.
- **There is some software that will only run on Windows.** Make sure the software you depend on is compatible with your new computer's operating system.
- **The more similar your computers are, the easier your technology will be to manage.** If you have different types of computers, running different operating systems and different software, troubleshooting and maintenance become much more complicated. Consider whether you already have a Mac- or PC-centric home.

## PC v/s Mac



# New, Used or Refurbished

- If you plan to use the computer for basic office tasks like word processing, email, and web browsing, you probably don't need a top-of-the-line or brand new computer. A used or refurbished computer may be just fine. Used and refurbished computers are usually much less expensive than new computers. They're also a greener option, since you're extending the life of an old computer, rather than buying a brand-new one.
- A refurbished computer may be a better option than a used or donated one. Refurbished computers are older machines that have been carefully inspected and updated by professionals. If you get your refurbished computer from an authorized professional refurbisher (and you always should), you will know it is in good working condition. Refurbished computers also often have a warranty of some kind.

# Price comparison (New, Used, Refurbished)

## Desktop

- New (\$499)
- Used (\$199)
- Refurbished (\$99)



## Laptop

- New (\$649)
- Used (\$299)
- Refurbished (\$150)





# Laptop, Desktop or Tablet

When deciding whether a laptop, desktop, or tablet (hand-held) computer will best meet your needs, the key things to consider are:

- **Price.** Laptops are usually more expensive than an equally powerful desktop computer, even if you factor in the cost of a monitor for your desktop. Parts and repairs are usually more expensive for laptops as well.
- **Travel.** If you will only be using the computer at home, a laptop probably isn't worth the added cost.
- **Upgrade, repair, and maintenance.** Especially if you're planning to do this yourself, keep in mind that fixing or upgrading a laptop computer is usually much more complicated than it is for a desktop computer.
- **Size or "form factor."** Desktop computers can be the traditional bulky tower, compact models that are smaller than a loaf of bread, or an all-in-one model (where the computer and the monitor are all one piece). Laptops come in different sizes, too: from tiny subnotebooks with miniature keyboards and 10-inch screens to ultra-thin or ultra-portable models to giant models with 17+-inch screens that don't even need a separate monitor. A few things to consider:
  - If you will be traveling a lot, size and weight are important considerations for laptops.
  - Smaller models are often more costly than a comparably equipped standard size model.
  - There is often a trade-off between small size and computing power. Inexpensive netbooks, for example, may not be powerful enough to serve as your main computer.
  - Tablets (as handy as they can be and as popular as they are) aren't suitable for heavy use for office productivity tasks. But they're great for web surfing, checking email, and reading documents on-the-go.



REFURBISHED - PC



Microsoft  
AUTHORIZED  
Refurbisher

# Get To Know Your Technology

COMPONENT	DEFINITION	KEY CONSIDERATION	MINIMUM STANDARD
<b>CPU (Central Processing Unit)</b> Also known as: <b>processor</b>	This is your computer's brain, and its function — as you might imagine — is to process information. Usually, a faster processor means a faster computer.	Performance, which is based mostly on <ul style="list-style-type: none"><li>•Number of cores (single, dual, quad, and so on).</li><li>•Processor speed or "clock speed," which is measured in gigahertz (GHz).</li></ul>	Dual-core processor, with mid-range clock speed (2.6 GHz)

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<b>RAM (random access memory)</b> Also known as: <b>memory</b>	RAM is used to temporarily store information while your computer is running. More memory allows your computer to run more quickly, up to a point.*	Amount of memory, which is measured in megabytes (MB) and gigabytes (GB). There are 1,024 megabytes in a gigabyte.	4 GB

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<p><b>Hard Drive</b> Also known as: <b>hard disk, hard disk drive (HDD), or internal drive</b></p>	<p>The hard drive is where most of the information on your computer is stored. There are 2 main types of drives:</p> <p>Traditional drive is a spinning disk attached to a platter. Because it has these rapidly moving parts, a hard drive is susceptible to mechanical failure.</p> <p>A Solid State Drive does not have moving parts and therefore is less likely to have mechanical problems. SSDs are also faster + quieter (read: more expensive).</p>	<p>Disk size: the amount of storage space on the disk.</p>	<p>250 GB storage capacity</p>
COMPONENT	DEFINITION	KEY CONSIDERATION	MINIMUM STANDARD
<p><b>Storage</b> Also known as: <b>hard-disk storage</b></p>	<p>The amount of information (files, data, software, photos, video, and so on) your computer can store.</p>	<p>Amount of storage, usually measured in GB.</p>	<p>See Hard Drive, above</p>

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<p><b>Networking</b></p>	<p><b>How your computer connects to the Internet or networked devices.</b></p> <ul style="list-style-type: none"> <li>• An Ethernet port lets you plug your computer into a router for "wired" access.</li> <li>• A wireless adapter or wireless card enables your computer to connect to the Internet and other devices wirelessly.</li> <li>• Bluetooth is a technology that allows your computer to wirelessly connect to other devices (but it doesn't allow your computer to connect directly to the Internet).</li> </ul>	<p>Wired and wireless connection capability.</p>	<ul style="list-style-type: none"> <li>• Ethernet port or adapter</li> <li>• A wireless card or adapter</li> </ul>

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<p><b>Ports</b></p> <p>Also known as: <b>output ports or interface ports</b></p>	<p><b>Device ports:</b> how your computer connects to other devices, like a keyboard, mouse, printer, digital camera, or external hard drive. Different devices use different cables to connect to different kinds of ports. The most common ports and cables are:</p> <ul style="list-style-type: none"> <li>• USB (Universal Serial Bus) — the current standard is USB 2.0, which provides a faster connection than the older USB 1.1 standard.</li> <li>• Firewire (also known as IEEE 1394, iLink) provides an even faster connection for high-speed data transfer.</li> </ul> <p><b>Audio and video ports:</b> How your computer connects to speakers and external displays, like a monitor or television screen. There are different kinds of outputs, including:</p> <ul style="list-style-type: none"> <li>• VGA (analog) output. This is included on almost all desktops.</li> <li>• DVI (digital visual interface). This carries only video, not audio.</li> <li>• HDMI (high-definition multimedia interface). This carries both audio and video. Mini HDMI ports are often used on portable devices.</li> <li>• Like HDMI, DisplayPort and Mini DisplayPort carry both audio and video.</li> </ul>	<p>What devices you will connect to your computer.</p>	<ul style="list-style-type: none"> <li>• Device ports: Several USB 2.0 ports</li> <li>• Audio and Video Ports: VGA port, HDMI</li> </ul>

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<p><b>Graphics Card</b> Also known as: <b>graphics processing unit (GPU)</b></p>	<p>The graphics card or chip is what allows your computer to process and display visual information (text, images, video, and basically everything you see on your computer screen).</p> <p>There are two main types of graphics processors.</p> <ul style="list-style-type: none"> <li>• Integrated or on-board graphics cards are built into your computer, and they share your computer system's main memory.</li> <li>• A dedicated graphics card has its own, separate memory.</li> </ul>	<p>Amount of system memory (RAM), and tasks you are performing</p> <ul style="list-style-type: none"> <li>• If you have at least 2 GB of RAM, integrated graphics should be sufficient in most cases.</li> <li>• If you work with a lot of digital video, you will probably need more RAM, a dedicated graphics card, or both.</li> </ul>	<p>Integrated graphics: fine for most everyday office functions.</p> <p>Dedicated graphics card: only needed if you're planning to work with a lot of digital media.</p>

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<p><b>Optical Drives</b> Also known as: <b>removable media</b></p>	<p>Optical drives let you read and record (or write) to CDs, DVDs, and Blu-rays. A "burner" or "recorder," usually labeled "RW," allows you to record or write information to discs.</p> <p>Most drives are labeled with the type of discs they are compatible with, as well as whether they can record or write to a disc or only play or read it.</p> <ul style="list-style-type: none"> <li>• Devices labeled "ROM" can only play discs; they cannot write to them.</li> <li>• Devices labeled "RW" allow you to write information to discs.</li> <li>• For example, a DVD-ROM/CD-RW can play DVDs and can both play and record to CDs.</li> </ul>	<ul style="list-style-type: none"> <li>• What media you are using (CD, DVD, and so on)</li> <li>• What devices can and need to read that data</li> </ul>	<p>Functioning DVD-ROM/CD-RW device</p>



COMPONENT	DEFINITION	KEY CONSIDERATION	MINIMUM STANDARD
<p><b>Optical Drives</b> Also known as: <b>removable media</b></p>	<p>Electronic equipment connected by cable (or wireless integration) to your computer's CPU.</p> <ul style="list-style-type: none"> <li>• Monitor or screen</li> <li>• Keyboard</li> <li>• Pointing devices (mice, trackballs, touchpads)</li> <li>• Printers, scanners, and other optional devices</li> </ul>	<p>For monitors, the key considerations are:</p> <ul style="list-style-type: none"> <li>• Screen size.</li> <li>• Display resolution is based on the number of pixels (the little dots that make up the image you see on-screen) that can be displayed; more pixels means a sharper display.</li> </ul>	<ul style="list-style-type: none"> <li>• Desktop monitor: 15" monitor (measured diagonally), 1024x768 screen resolution</li> <li>• Laptop screen: size will depend on organizational needs; 1024x768 screen resolution</li> <li>• Fully functioning keyboards and pointing devices</li> </ul>

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<b>Battery and Power Consumption</b>	<p>When not plugged in to an outlet, laptops use a rechargeable battery for power.</p> <p>Some laptops can have an extended battery added. This makes the laptop bigger and heavier, but significantly extends battery life.</p> <p>Some laptops have batteries that cannot be removed, which makes them more costly to replace when the battery wears out.</p>	Battery life: how long the battery retains power after charging	No specific recommendation

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<p><b>Size or "Form Factor"</b></p>	<p>Desktops, laptops, and tablets come in different sizes. Some desktop terms you may hear:</p> <ul style="list-style-type: none"> <li>• Full-size: these computers are encased in a standard (sometimes bulky) "tower" case.</li> <li>• Compact: smaller than full-size towers (sometimes called "minitowers").</li> </ul> <p>All-in-one: the computer and the monitor are all one piece.</p> <p>Laptop terminology:</p> <ul style="list-style-type: none"> <li>• While we use the term "laptop" in this guide, "notebook" means the same thing.</li> <li>• A subnotebook is a lightweight laptop computer. Macbook Airs and Intel Ultrabooks are in this category.</li> </ul>	<p>Unless you will be traveling a lot, size is not usually a major factor when choosing a computer.</p>	<p>No specific recommendation</p>

# So, still want to buy that device?

Buying a computer is no easy task, and with the cost of many of the machines out on the market today, you want to make sure you're making the right purchase so you don't blow your money on something that stops meeting your demands within a year. Not all machines are created equal, and unless you're pretty familiar with computer hardware, you might have a hard time determining just how unequal they are. Of course, not all computer users' needs are equal, so you might not need certain things included in a computer, especially not if those features are pushing up the price.

This guide hopefully has helped you get a better understanding of what all the components of the computer will mean for you and make it easier to decide what you want, need, and which elements to prioritize. That way, you'll be better equipped to get the right computer for you, and to avoid spending any more money than you must.

One last tidbit: Go ahead and ask a salesperson to give you a deal. Maybe they won't bump down the price of the computer, but if you're going to need a mouse, a keyboard, a monitor, or any other device to go with your computer, see if they will cut off sales tax or give you some other discount for purchasing the items together. You will often be pleasantly surprised.

# Questions?

