IN THIS CHAPTER

- Understanding computer types
- Getting an overview of hardware
- Understanding the roles of input and output devices
- Appreciating operating systems and applications
- Deciding on a laptop type
- Comparing display types
- Evaluating your storage options
- Considering your Internet options
- Shopping for your ideal laptop



# Chapter 1
# Buying a Laptop

If you've never owned a laptop computer and now face purchasing one for the first time, deciding what to get can be a somewhat daunting experience. There are lots of technical terms to figure out and various pieces of *hardware* (the physical pieces of your computer such as the monitor and keyboard) and *software* (the brains of the computer that help you create documents and play games, for example) that you need to understand.

In this chapter, I introduce you to the world of activities your new laptop computer makes available to you, and I provide the information you need to choose just the right laptop for you.

Remember as you read through this chapter that figuring out what you want to do with your laptop is an important step in determining which one you should buy. You have to consider how much money you want to spend, how you'll connect your laptop to the Internet, and how much power and performance you need.

# What Is a Laptop?

A *personal computer* (*PC*) is a computer designed to be used by one person. The word "personal" helps distinguish PCs from a variety of other computer types, everything from the powerful servers that calculate trajectories at NASA to the computer chip that controls the temperature in your refrigerator.

There are two basic categories of PCs: those that are easily portable and those that aren't. The more portable models are *laptops* (sometimes called *notebooks*), and the less portable ones are *desktops*. This book focuses on laptops, but there's a lot of similarity between the two, so even if you have a desktop PC (or want to have one), you can still learn a lot from this book. In this book, I use the terms *computer* and *laptop* more or less interchangeably, because all laptops are computers.

Desktop PCs are big and rather heavy; you can't just throw one in a briefcase and hit the open road. But you tend to get more features and power for your money with a desktop, and they're easy to repair and upgrade. Desktops can have very large external monitors, which is good news if your eyesight isn't great and you need a big screen.

Laptops are lightweight and easy to handle. They can run on battery power for hours at a time, so you can use one anywhere — like in the passenger seat of a car, or in the middle of a national park. The built-in display, keyboard, and pointing device mean there are no cables to get tangled or come unplugged, too. Because there is less space for fans, laptops sometimes run hot to the touch. Laptops tend to be more expensive for the same hardware capabilities, though, and more difficult (read: expensive) to repair. Most laptops have very limited upgrade possibilities.

Laptops come in a variety of sizes, mostly determined by the screen size (which is measured diagonally). The smallest mini laptops have screen sizes as small as 9"; the largest ones have screen sizes of 17" and upward. Larger displays are easier to see, but larger laptops are also bulkier and heavier (sometimes as much as 8 to 10 pounds), use more power, and can't run as long on a single battery charge. The smallest laptops may have undersized keyboards that are awkward to type on, and may have fewer features or less capability. For many people, a screen size of between 14" and 16" is a good compromise. Figure 1-1 shows a moderately sized model.

**FIGURE 1-1**

Many of today's laptops (and some desktops) have *touchscreens* that allow you to interact with them using your finger or a digital pen. See Chapter 2 for advice on using a touchscreen computer.

A *tablet* is a small portable computer that consists of a flat tablet, like a pad of paper you might draw on, with a touchscreen. Tablets such as the iPad offer many basic computing capabilities and are extremely lightweight and portable. You can read books, check your email, play games, listen to music, watch videos, and more.

A tablet can't take the place of a real PC, though. It doesn't have a real keyboard (although you can buy an add-on wireless keyboard if you really want one), so your finger on the touchscreen has to substitute for both keyboard and mouse. There's no expandability or upgradability, and most tablets don't even interface with common external devices like printers. Enjoy your tablet — or your mobile phone — but don't expect it to have all the same capabilities as a PC.

## What Can You Can Do with a Laptop?

Today's computers can do some pretty amazing things. Not only can they connect you to the wide world of the Internet, but they can also run applications that let you store and organize photos, write your memoirs, make your own greeting cards, play all kinds of games, track your investments, and so much more. And a laptop lets you do all those things from almost anywhere you happen to be.

The following list walks you through some of the things a laptop computer will enable you to do. Depending on what activities are important to you, you can make a more-informed purchasing choice.

- **Keep in touch with friends and family.** The Internet makes it possible to communicate with other people via email; share video images using built-in video recorders or *webcams* (tiny video cameras that capture and send your image to another computer); and make phone and video calls using your computer and Internet connection to place calls with services such as Zoom and Skype. You can also chat with others by typing messages and sending them through your computer using a technology called *instant messaging* (*IM*). These messages are exchanged in real time, so that you and your grandchild, for example, can see and reply to text or share images immediately. Part 3 of this book explains these topics in more detail.

- **Research any topic — from anywhere.** Online, you can find many reputable websites that help you get information on anything from expert medical advice to the best travel deals. You can read news from around the corner or around the world. You can visit government websites to get information about your taxes and Social Security benefits, and go to entertainment sites to look up your local television listings or movie reviews.
- **Create greeting cards, letters, or home inventories.** Whether you're organizing your holiday card list, tracking sales for your home business, or figuring out a monthly budget, computer programs can help. For example, Figure 1-2 shows a graph that the Excel application created from data in a spreadsheet.

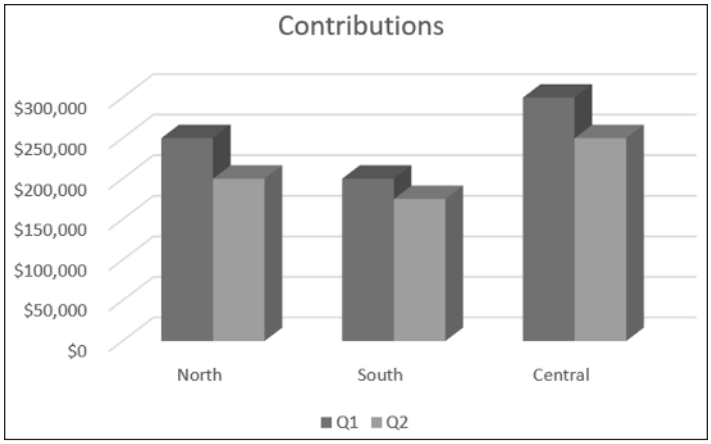


**FIGURE 1-2**

- **Pursue hobbies such as genealogy or sports.** You can research your favorite team online or connect with people who have the same interests. The online world is full of special-interest discussion groups where you can talk about a wide variety of topics with others.

- **Play interactive games with others over the Internet.** You can play everything from shuffleboard to poker and even participate in action games in virtual worlds. Love backgammon? Got you covered. Online bridge league? There are hundreds. Any game that you love offline, you can play online. You can play games with the computer, with total strangers, or (my favorite) with family and friends.
- **Share and create photos, drawings, and videos.** If you have a digital camera or smartphone, you can transfer photos to your computer (called *uploading*) or copy photos off the Internet (if their copyright permits it) and share them in emails or use them to create your own greeting cards. If you're artistically inclined, you can create digital drawings. Many popular websites make sharing your homemade videos easy, too. If you have a digital video camera or smartphone and editing software, you can use editing tools to make a movie and share it with others via video-sharing sites such as YouTube or by email. Steven Spielberg, look out!
- **Shop online and compare products easily, day or night.** You can shop for anything from a garden shed to travel deals or a new camera. Using handy shopping site features, you can easily compare prices from several stores or read customer product reviews. Many websites, such as `pricegrabber.com`, list product prices from a variety of vendors on one web page, so you can find the best deals. Beyond the convenience, all this information can help you save money.
- **Manage your financial life.** You can do your banking or investing online and get up-to-the-minute data about your bank account, credit card balances, and investments. For example, Figure 1-3 shows Quicken, an application that enables you to track and view all your bank accounts and investments in one place.

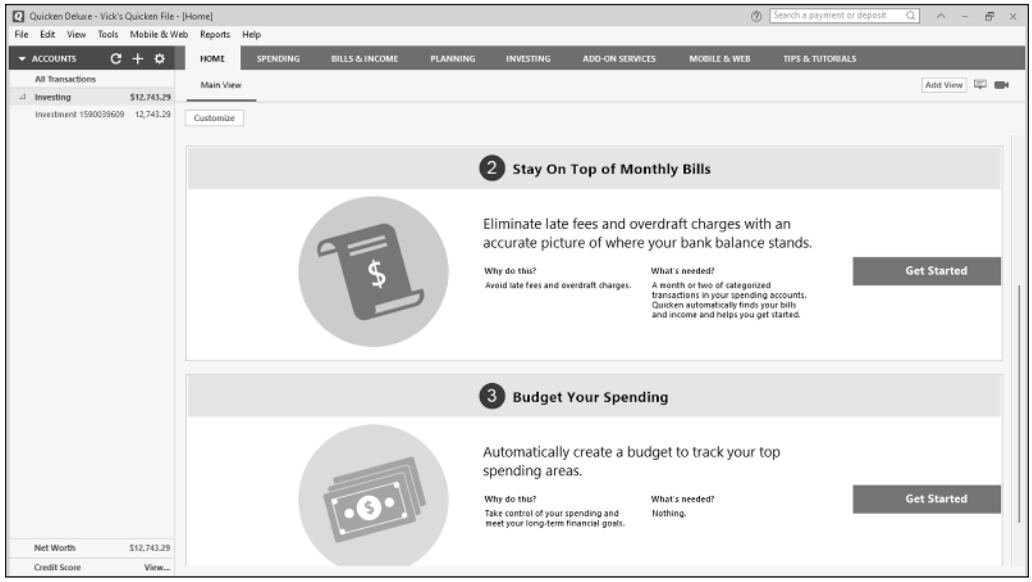


FIGURE 1-3

# Get Up to Speed on Laptop Hardware

Your computing experience consists of interactions with hardware and software. I will explain both of those things, but let's start with hardware. The *hardware* is all the tangible computer equipment — the parts you can see and touch.

REMEMBER

You should know a little something about computer hardware before you buy your first laptop because the various components are available in a variety of quality and performance levels, and the component choices affect both a computer's price and its suitability for certain tasks.

WARNING

It's not always a good value to buy a top-of-the-line laptop. In fact, unless you want to do something really specific and high-end, like professional graphic arts or movie production, high-end computers aren't usually worth the price. If all you want to do is write letters, share photos, and surf the Internet, don't waste your money. Get a moderately priced model that has the components you need.

In this and the next few sections, I break down the major hardware components you need to be aware of and explain how they affect your computing experience. When shopping for a laptop, you'll see many different models with different amounts, speeds, and quality levels of the essential internal parts. The best internal parts cost more money, but offer better performance and perhaps will become obsolete less quickly.

There's a laptop for every budget and every set of needs — with prices to match. Before making your purchase, you need to think about how you'll use the laptop and what specs it should have in order to enable you to do all the things you want to do with it.

Nearly all laptops consist of a metal and plastic case with a keyboard on one side and some access panels and fan vents on the other side. Within the case is a collection of parts that make the laptop work its magic for you. All those internal parts are connected by a large circuit board inside the case called a *motherboard*.

There are three main functions of a laptop's internal components:

- **Processing:** A computer's ability to receive input, perform an operation on it, and deliver output. The component in charge of processing is the *central processing unit* (*CPU*). It's a small, high-tech semiconductor chip mounted on the motherboard.

  
  TIP

  CPU speed is rated in billions of hertz (*gigahertz*). The higher the GHz, the faster the processor. Generally speaking, the faster your CPU, the faster most applications run. That's not always true, though, because other components can cause bottlenecks, like slow Internet speeds, that can make a computer seem slow when its processor is just fine. The speed and features of the CPU make a big difference in the price of the laptop.

  There are lots of highly technical features that distinguish one CPU from another, but you don't need to worry about those for the most part; they're mostly of interest to people who are a lot geekier than you. For a basic consumer laptop, any of the CPUs available in new PCs today will be fine.

TIP

Unless you are a big-time gamer who is super-serious about kicking butt in some graphics-intensive game, or you are a filmmaker or a professional artist, any modern CPU should be fine for your needs. Don't spend a lot of money on the fastest CPU available. Most people won't notice the difference.

- **Memory:** The computer's ability to juggle the digital data that is active while the computer is running. Another name for memory is *random access memory* (*RAM*). Its capacity is measured in billions of bytes (*gigabytes*). A *byte* is a group of eight binary digits (*bits*).

REMEMBER

The more RAM a computer has, the more things it can do simultaneously. For example, a computer with a lot of RAM can run several complicated applications at once without bogging down. More RAM is better, but can also drive up the price of the system. The absolute minimum amount of RAM I would consider in a new PC is 8 gigabytes (GB). By the time you read this, though, the minimum might be higher — perhaps 16 GB. For the average home laptop user, the amount of RAM (memory) in the computer is the single most important performance factor. The more RAM, the better. So if your budget allows you to have a fabulous CPU *or* a greater amount of RAM, definitely go with the RAM.

- **Storage:** The computer's ability to keep a lot of data and many applications permanently on hand, ready to be copied into memory and used at a moment's notice. Storage capacity is measured in *gigabytes* (billions of bytes) or *terabytes* (trillions of bytes). More capacity costs more. The more storage you have, the more applications can be installed on your computer, and the more data you can save (photos, documents, videos, and so on).

  Every computer has at least one permanent storage component inside its case. Hard drives can also use different technologies, which offer different data access speeds. Traditional hard drives (often referred to as *hard-disk drives* or HDDs) use a mechanical and magnetic storage system; they are slower and cost less for the same amount of capacity. *Solid-state drives* (SSDs) use storage media that is technologically similar to RAM. They are faster, quieter, more reliable, and they run cooler — but they're more expensive.

## UNDERSTANDING HOW COMPUTERS STORE AND USE DATA

TECHNICAL STUFF

Computers store all data and programs digitally — in other words, using digits. At their most basic level, computers employ only two digits: 0 and 1. A number system with just those two digits is called a *binary* system. Each individual stored digit is called a *bit* (which is short for binary digit).

Computers work with binary data in a variety of different ways. For example, memory chips like RAM hold data using capacitors that can either store or not store a tiny electrical charge. A stored charge is a 1, and a lack of stored charge is a 0. Data is stored in memory using patterns of charge/no charge. This type of data storage is called *solid state* because there are no moving parts.

Solid-state storage can be either temporary (*dynamic*) or permanent (*static*). For example, the main RAM in a computer system is dynamic RAM, which is only temporary storage. The data stays in dynamic RAM only as long as the computer remains powered up. The instant it loses power, all the capacitors revert back to 0 (no charge). Dynamic RAM serves as a temporary work area for the computer whenever it is powered up. In contrast, solid-state drives store data in capacitors that don't lose their charge when the computer is powered down or if you unexpectedly lose electrical power.

There are other ways that some older kinds of permanent computer storage holds its data. For example, hard-disk drives store data magnetically, in patterns of positive and negative magnetic polarity. Optical discs such as CDs and DVDs store data in patterns of greater and lesser reflectivity on a shiny surface.

# Input Devices: Putting Stuff In

Any computer system must provide at least one way for you to convey your wishes — in other words, to provide *input*. Almost all computers today offer at least two methods of accepting input: a keyboard and some type of pointing device.

- A **keyboard** is similar to a typewriter keyboard. In addition to typing text, you can press certain key combinations to quickly

issue commands for common activities such as selecting, copying, and pasting text.


REMEMBER

A laptop keyboard is built-in, and you can't swap it out for a different one. (You can, however, connect a second, external keyboard to a laptop and use it instead of the built-in one.) There are some spiffy third-party keyboards you can get nowadays that have extra features and are designed to be more comfortable to use.

» **A pointing device** is a device that moves an on-screen *pointer* (usually shaped like an arrow). A pointer enables you to point at what you want and then select it by pressing a button on the pointing device. On a laptop PC, a touch-sensitive rectangular pad (a *touchpad*) in front of the keyboard serves as a pointing device. You move your finger across the touchpad to move the on-screen pointer, and tap the touchpad to select things. Figure 1-4 shows a touchpad. You can also optionally connect other pointing devices, such as:

- **Mouse:** A mouse is a little device about the size and shape of a bar of bath soap, with an LED and optical sensor on its underside. You slide the mouse across a flat surface with your hand, and that moves the pointer around on-screen. A mouse can be either wired (that is, have a cord that attaches to the computer) or wireless, operating via radio frequency (RF) signals.


**FIGURE 1-4**

- **Trackball:** A trackball is like an upside-down mouse. It has a stationary base with a ball on top, and you roll the ball with your fingers to move the on-screen pointer.

# Output Devices: Getting Stuff Out

It would be a pretty one-sided and unsatisfying experience if you never got anything back from your computer, right? The most common way a computer provides feedback is through the display screen. The *display* is the graphical panel where you see the operating system interface, the applications you run, the websites you visit, and the data files you create, such as documents, spreadsheets, and messages.

When a display is a separate unit from the computer, it's often referred to as a *monitor*. Laptops have built-in display screens, but you can optionally connect external monitors to them, either as a replacement for the built-in display or as an extra screen.

A *printer* is another popular output device. A printer turns on-screen data to a paper copy that you can share with others. Chapter 3 covers printers in detail.

Yet another output device is a *speaker* (or a set of speakers). A computer speaker works basically the same way the speaker on your stereo system works — it enables you to hear the sound effects your computer generates as it operates, such as dings and beeps that accompany error messages. It also enables you to listen to music and watch videos that include sound using your computer. Laptops have built-in speakers, but you can optionally attach external speakers to use instead. Chapter 17 explains how to play music on your computer.

# What Is Software?

*Software* is what makes computer hardware work and lets you get things done, such as writing documents with Microsoft Word or playing a game of solitaire. A computer uses two types of software: operating systems and applications.

All computers have an *operating system* (*OS*), which is system software that starts up the computer and keeps it running as you use it. Examples for laptop computers include Microsoft Windows, macOS (for computers made by Apple), and Linux (a free operating system popular with techie types). A lot of the upcoming chapters in this book explain how to interact with Microsoft Windows; I picked Windows to talk about in this book because it's the overwhelming favorite, with something like a 95 percent market share.

Mobile devices like tablets and smartphones have different operating systems. The most popular operating systems for mobile devices are iOS for Apple devices (iPhones and iPads) and Android for most other phones and tablets.

The operating system is responsible for the *graphical user interface* (*GUI,* which is pronounced *gooey*). The pictures, text, menus, boxes, and other items you see on the computer's screen are all part of the GUI. It also handles various housekeeping tasks like saving and opening files, talking to the hardware on your behalf, and starting and exiting applications.

An *application* (sometimes called an *app* or a *program*) is software that does something that's directly useful or beneficial to the person using the computer. For example, Microsoft Word is an application that helps you write letters and other documents, and Microsoft Edge is a web browser application that helps you view web pages.

Each operating system comes with a few basic apps. For example, Microsoft Windows comes with a simple word processing program called WordPad, a simple drawing program called Paint, and a digital music player called Windows Media Player. Chapter 5 showcases several of these built-in Windows apps.

An operating system also comes with *utilities,* which are applications designed to perform tasks that keep your computer in top shape. For example, antivirus apps protect your computer from malware (covered in Chapter 19) and Windows Update keeps Windows current.

TIP

You can actually do quite a bit with just the free apps that come with Windows (which I cover in Chapter 5), but if you ever want more, "more" is certainly available. For example, Microsoft Office is a suite of professional-quality business applications that you can subscribe to for about $100 a year, and use it on up to five computers. Chapter 4 covers applications in detail, and explains how to acquire, install, update, and remove them.

REMEMBER

Each app is written for one specific operating system; you can't mix and match them. However, most of the popular apps are available for multiple operating systems, so you just have to make sure you are getting the version of the app that works with your OS.

## WINDOWS VERSIONS AND EDITIONS

Each application has a version number or name, which is like a generation. Some version numbers correspond to the year the software was released, like Office 2021. Other version numbers indicate how many versions have come before, like Camtasia 13 (that is, there were 12 previous versions). Still others have nonnumeric names, like Adobe Acrobat CC.

Microsoft used to assign different version numbers or names to each generation of Windows (such as Windows XP, Windows 7, Windows Vista, and so on), but they stopped doing that for Windows back in 2015, when they released Windows 10. Windows 11 came out in 2021, and that's the current version at this writing. A feature called Windows Update runs automatically in the background, downloading and installing fixes and new features whenever they are available. Chapter 19 explains more about Windows Update.

Because not every computing situation has the same needs, Microsoft produces different *editions* of Windows with different subsets of features. The two main ones you will probably encounter are Home and Pro. As you might guess, the Home edition is for people who use their computers at home or in small businesses. It's a less expensive edition because it doesn't include some business-oriented networking and security features. All the instructions and advice in this book apply equally well to either of those editions.

# What Ports Should a Laptop Have?

Each laptop PC has one or more *ports* (connectors) to enable you to plug in external peripherals, like printers, speakers, scanners, and so on. A *peripheral* is a computer component that isn't built into the main case. Laptops tend to have fewer ports than desktop PCs do, both because of limited space and because laptops usually support Bluetooth, a wireless technology that allows you to use wireless peripherals of various types.

*Universal serial bus* (*USB*) is a very common, generic port type used for many different kinds of devices. Nearly every external device type comes in a USB version. The standard USB connector is called Type-A; it's the one you see almost everywhere, from automobiles to electronics. The more modern USB connector, Type-C, is higher-speed; it's just now beginning to be common on entry-level laptops. You can use an inexpensive adapter to convert between the two as needed. Figure 1-5 shows four USB connectors: two Type-A and two Type-C.

Having more USB ports on your computer is nearly always better. The more USB ports your computer has, the more peripherals it can support at once. That might not seem like a big deal . . . until that moment when you need to plug in an external keyboard *and* trackball *and* printer all at once.

TIP

Let's pause a moment on that scenario of needing to plug in more USB peripherals at once than your laptop has ports to accommodate. One way around that is to connect a USB hub (which is kind of like a power strip, but for USB instead of electricity) to a USB port. Then you can connect multiple USB devices to the hub and run them all off of a single USB port on the computer. It's not ideal, but it's a good workaround. (See Chapter 2 for more on USB ports and hubs.)

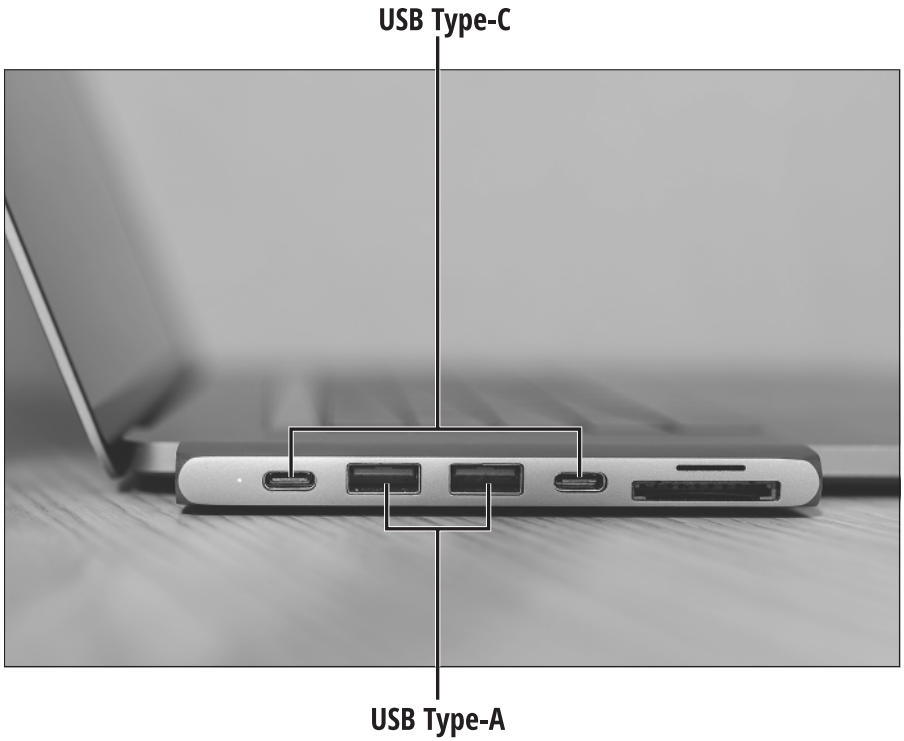


FIGURE 1-5

# Choose a Display Type

A display screen is the window to your computer's contents. The right display can make your computing time easier on your eyes. The crisper the image, the more impressive your vacation photos or that video of your last golf game will be.

REMEMBER

The display consists of two parts: the display screen you look at, and the *display adapter* (a.k.a. graphics card) that tells the screen what to display. The display adapter serves as a translator between the software and the display screen. It does the calculations that result in certain parts of the screen lighting up with certain colors.

TIP

A high-end display adapter can add hundreds of dollars to the overall cost of a computer, so you don't necessarily want the fanciest and best one out there unless you plan on playing graphics-intensive games competitively or creating your own animated cartoon movies. The standard display adapter that comes with the average desktop or laptop PC today should be fine for ordinary home needs like email, word processing, and Internet exploration.

On a laptop, you're stuck with the display screen and display adapter that it comes with; you can't usually upgrade them. That means you need to choose carefully when you purchase. Many online retailers enable you to choose the display adapter and display screen specifications when you place your order.

If you want to have multiple screens as you use your laptop, you will need to buy an external monitor to hook up to the laptop. If you do that, you can run different apps in each monitor, for multitasking.

Consider these factors when evaluating a laptop's display screen, and make sure you choose a laptop that meets your display needs:

- **Size:** Displays come in all sizes, from tiny 9-inch screens on smaller laptops to 28-inch external monitors. Larger screens are typically more expensive.
- **Image quality:** The image quality can vary greatly between displays. There are objective measurements of quality you can use to compare different models, but it's often better to simply go to a retail store that sells laptops and view their screens in action, like you do when shopping for a television. You can see at a glance which laptop's display you prefer without having to fuss with technical specifications.
- **Resolution:** A display's resolution represents the number of tiny dots (called *pixels*) that form the images you see on the screen. The higher the resolution, the more pixels it contains and the crisper the image. The larger the screen size, the higher the resolution should be. For example, a 15-inch monitor should have at least a 1280 x 800 resolution.

- **Cost:** Higher-resolution, larger displays cost more. If having a great display is a priority, build that into your shopping budget.
- **Touchscreen technology:** Windows provides support for using a touchscreen interface, which enables you to use your fingers to provide input by tapping or swiping on the screen itself. If you opt for a touchscreen laptop, you can still use your keyboard and mouse to provide input, but touchscreen technology can add a wow factor when performing tasks such as using painting software or browsing around the web or an electronic book (ebook).


WARNING

Displays with touchscreens usually cost more, and a lot of people who get them find that they don't use the touchscreen as much as they thought they would.

# Evaluate Your Storage Options

Storage is an important part of a personal computer. You need to be able to store important software and data inside the computer case — in other words, internally. That's because internal storage is always available, and usually quite fast to access. You also need a way of accessing external storage, such as external DVD and hard drives, USB flash drives, and online storage services.

As I mentioned earlier in this chapter, all PCs have some sort of built-in storage device. Until recently, in nearly every system that was the *hard-disk drive* (*HDD*), sometimes just called the hard disk or hard drive. A hard-disk drive is a sealed metal cartridge containing metal platters on which data is stored in patterns of magnetic polarity.

Today, a new technology of internal storage called a *solid-state drive* (*SSD*) is fast replacing HDDs as the storage medium of choice in PCs. SSDs use the same technology that RAM uses, and they are faster, more reliable, quieter, and run cooler — in other words, all-around better. The one way that HDD wins that match-up is on price: SSD drives are more expensive for the same capacity.

Capacity is the other big decision point when computer-shopping. The higher capacity the internal storage device, the more applications and data you will be able to store without running out of room. Storage is measured in gigabytes (billions of bytes) or terabytes (trillions of bytes).

WARNING

With capacity, more is better — to a point. When you get into very high-capacity storage devices, the price begins to get so much higher that it's not worth the cost for most casual users. The average home user won't even need a single terabyte of storage in their lifetime. And keep in mind that you can have external storage as well as internal; at any point you can buy an external SSD or HDD and connect it to your computer to offload data that you might not need in the near future.

## DO I NEED A DVD DRIVE?

In the recent past, most laptops came with an optical drive where you could insert a DVD and play a movie or music. If you bought an application, it usually came on a DVD.

Times have changed, though, and most new laptops don't include an optical drive for reading DVDs. This is in part because you can so easily stream video or download a new application from an online source without ever handling a DVD. People who still have software or videos on DVD that they need to be able to access using their computer can purchase an external DVD drive and connect it to the computer using a USB port whenever the drive is needed.

If you want to play the latest optical discs (like movie rentals from a service like Redbox or DVD.com), get a computer with a Blu-ray player, or buy an external Blu-ray player that you can connect to your PC via USB port. Blu-ray is a great medium for storing and playing back feature-length movies because it can store 50 GB or more, about ten times as much as the average DVD.

# Consider How You Will Get Online

You also must decide how your laptop will connect to the Internet. You need Internet access because so much of the usefulness of a computer depends on being able to access online content.

From a computer-buying perspective, there is just one important consideration: how will your computer physically connect to your home Internet connection? Your two choices are wired (that is, with a cable) and wireless (with radio waves).

Nearly all laptops today have wireless networking capabilities built in. That's important because you'll presumably be roaming around the house with your laptop — and perhaps farther afield than that.

There have been various standards for wireless networking (also called Wi-Fi) over the years, but all the standards start with 802.11 and have one or more letters following that number. The current standard at this writing is 802.11ax, also called Wi-Fi 6; the slightly older standard of 802.11ac (Wi-Fi 5) is also still in use. A new laptop should support one of these.

Some laptops also have an *Ethernet* port (or an RJ-45 jack), which is what you use to connect a computer to a home router via a network cable. A wired connection is faster and more reliable, but it keeps your computer tethered to one spot in the house because it has to stay close enough to your home router for the cable to connect.

Internet service doesn't just magically appear at your home when you buy a computer; you have to subscribe to an Internet service through a company called an Internet service provider (ISP), which operates similarly to a cable TV company. (In fact, many cable TV companies also provide Internet service.) See Chapter 9 to learn how to choose and set up a home Internet connection.

## LET'S MAKE THIS SIMPLE . . .

If you're a bit overwhelmed by all this new vocabulary, never mind all that: Just answer these questions:

**Do you need high performance?** If you're going to be working extensively with video editing, music production, or the latest shoot-em-up games, look for a fast processor and a top-quality display adapter. If you're just interested in email, writing, and photo sharing, the latest processing and graphics technology will be wasted on you.

**Are you a multitasker?** If you think you'll be doing a dozen things at once on your computer, like watching a video, editing photos, switching between different websites, and video chatting with a friend, you will need extra RAM (memory).

**Do you plan on using a lot of external devices?** If you think you'll be plugging in many different devices, like an external keyboard, mouse, webcam, phone charger, speakers, and so on, you want a model with as many USB ports as possible.

**How important is fast wireless Internet?** A laptop PC should have wireless networking support (802.11ac or 802.11ax). If you have a very high-speed Internet connection in your home (such as fiber-optic), make sure the laptop you choose supports 802.11ax.

# Where to Shop for Your New Laptop

You can buy a laptop for anywhere from about $199 to $5,000 or more, depending on your budget and computing needs. You might start shopping thinking that you want a "just the basics" model, but when you start thinking about extras such as a larger monitor or larger storage capacity, you may find that the price goes up quickly.


TIP

A good rule of thumb is to buy just as much computer as you need *now*, and don't plan too aggressively for what you might need in the future. By the time the future gets here, a new model with better capabilities will probably be a lot cheaper than it is now.

You can shop in a retail store for a laptop or shop online using a friend's computer (and perhaps get their help if you're brand new to using a computer). Consider researching different models and prices online with the help of a computer-savvy friend and using that information to get the best buy. Be aware, however, that most retail stores have a small selection compared to all you can find online on websites such as Amazon.com and Newegg.com. Additionally, retail stores sometimes carry slightly older models than those available online.

Buying a laptop can be confusing, but here are some guidelines to help you find a model at the price that's right for you:

- **Determine how often you will use your laptop.** If you'll be working on it 8 hours a day running a home business, you will need a better-quality model to withstand the use and provide good performance. If you turn on the computer once or twice a week just to check email, it doesn't have to be the priciest model in the shop.
- **Consider the features that you need.** Is it critical that your laptop runs very fast, or runs many programs at once? Do you need to store a great deal of data, such as hundreds of hours of video footage? Each feature or upgrade adds dollars to your computer's price. Understand what you need before you buy.
- **Shop wisely.** If you walk from store to store or do your shopping online, you'll find that the price for the same computer model can vary by hundreds of dollars at different stores. See if your memberships in organizations such as AAA, AARP, or Costco make you eligible for better deals. Consider shipping costs if you buy online, and keep in mind that many stores charge a restocking fee if you return a computer you aren't happy with. Some stores offer only a short time period, such as 14 days, in which you can return a computer.
- **Buying used or refurbished is an option, though this may not save you much.** In addition, technology gets out of date so quickly that you might be disappointed buying an older model, which might not support newer software or hardware.

» **Online auctions are a source of new or slightly used computers at a low price.** However, be sure you're dealing with a reputable store or person by checking reviews others have posted about them or contacting the online Better Business Bureau (bbb.org). Be careful not to pay by check (this gives a complete stranger your bank account number); instead, use the auction site's tools to have a third party handle the money until the goods are delivered in the condition promised. Check the auction site for guidance on staying safe when buying auctioned goods.


TIP

Some websites allow you to compare several laptops side by side, and others, such as pricegrabber.com, allow you to compare prices on a particular model from multiple stores.


TIP

New to all this? Find a computer-savvy friend to help you shop for your first laptop. People who have been using computers for awhile usually have an informed opinion about what features are important, what's a good value, and what pitfalls to avoid.