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**Faithe Wempen**

*Computer Technology Instructor*



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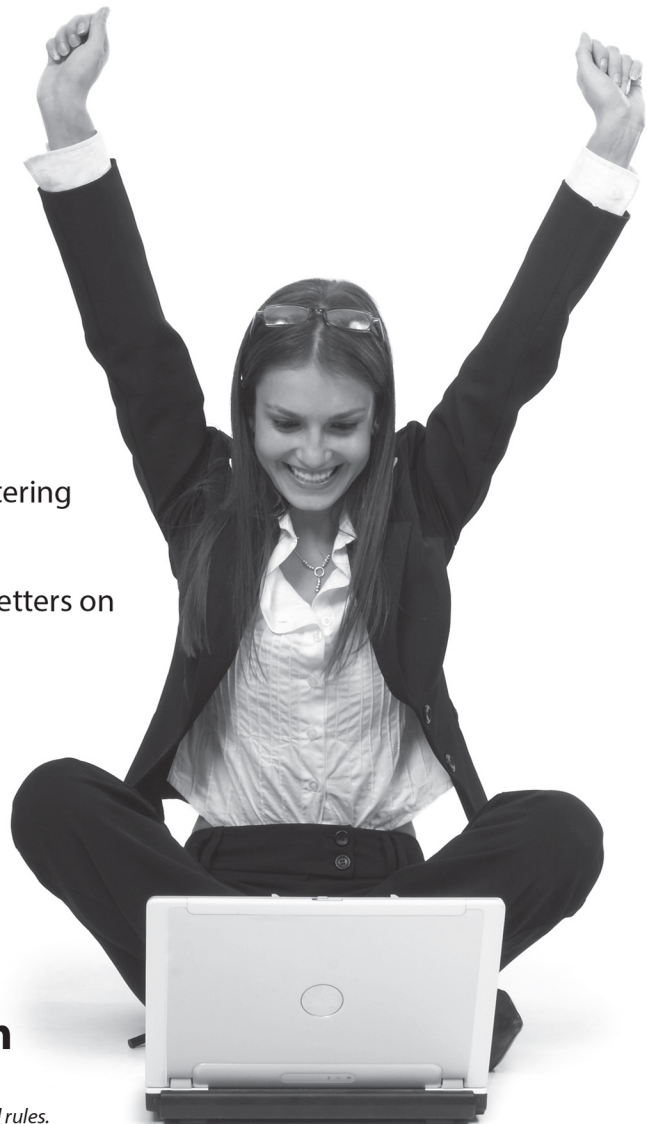
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**by Faithe Wempen**

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## Digital Literacy For Dummies®

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# Introduction



So, you've picked up this book, and perhaps you're wondering exactly what digital literacy means. Let's break that phrase down. *Digital* refers to the binary digits that computers work with (1s and 0s). When something is digital, it means that it's made up of numeric values — and it usually means that it's computerized, or at least electronic. *Literacy* means being able to communicate in a certain language. For example, someone who is English-literate can read and write the English language. Similarly, someone who is digitally literate is fluent in using digital technologies, including computers.

So you don't think you use computer technology that much? Think again. Computers are *everywhere*, including in places you might not expect or think about.

Let's assume for a moment that you're an average white-collar worker in North America.

*You wake up to a digital alarm clock.*

*You hop in your car (with a computer-controlled engine system) and drive to your office, sliding your name badge into a slot in the door to gain access to the building.*

*At work you sit at a desk and use a desktop computer to plan a budget for a new project, and then you have a video conference with coworkers in another office to go over the details.*

*On your lunch break, you go through a fast-food restaurant, where an employee touches a computer screen on his cash register to input your order.*

*That afternoon you drive to meet with a client, and you use a GPS unit to help you find the address.*

*On the way there, you chat with your mother on your cellphone.*

*Then it's back home for you, where you watch a movie recorded on your DVR, send a text to your friend about the movie you just watched, and head off to bed.*

Now, read that story again and count the number of computers you interacted with. Did you find all of them? And that's *just one day*. Other days you might get money from an ATM, play a game on your phone, book hotel reservations online, or send an email to your boss. It's pretty amazing when you think about how pervasive computers have become in our lives in the last few decades, in every industry.

Computers have become a central part of everyday life not only in urban and suburban areas, and not only in the Western world, but in rural areas and in every country. Internet cafes in remote villages on all continents allow people to rent computer time to explore the world of the Internet, and smart phones bring affordable Internet access to people who have traditionally not been able to afford full-featured personal computers. Farmers can use computers to plan the optimal planting times and crops and to calculate how much feed a herd of animals will need. Families in remote areas keep in touch via email with relatives in other areas. The Internet and computing has touched every part of the globe.

So, what does all that mean for you? It means that digital literacy is a must in order to keep up with our changing world. If you don't keep up with the latest digital technologies as they emerge, you'll fall further and further behind, and become more and more confused as new technologies build upon the previous ones. In other words, *you need this book!* So let's get started.

## About This Book

This book is designed to help you become digitally literate — that is, fluent in today's digital technologies that you'll encounter in daily life. It follows a general plan put forth in Microsoft's Digital Literacy Standard Curriculum, Version 3. You can find details about it here: <http://www.microsoft.com/about/corporatecitizenship/citizenship/giving/programs/up/digitalliteracy/eng/curriculum3.msp>.

Microsoft's Digital Literacy program is not only a set of standards, but also an online curriculum and proficiency exam. If you take the online course for it, you'll study these five areas:

- ✓ Computer Basics
- ✓ The Internet and the World Wide Web
- ✓ Productivity Programs
- ✓ Computer Security and Privacy
- ✓ Digital Lifestyles



The book you are holding in your hands is based on this same curriculum and covers all the same topics. It provides an alternate method for achieving digital literacy to completing the online course.

This book uses certain conventions to highlight important information and help you find your way around:

- ✓ **Tip icons:** Point out helpful extras, such as effort-saving shortcuts, designed to enhance your knowledge or productivity.
- ✓ **Note icons:** Provide interesting side commentary and extra information, such as the origin of a term or an exception to a general rule presented in the main text.
- ✓ **Warning icons:** Point out potential pitfalls and workarounds. For example, if there's a chance that you'll encounter an error message, this icon points out the instructions that will help you know how to deal with it.
- ✓ **Capitalization:** Although some applications use lowercase in options and on buttons, I capitalize their names for emphasis. For example, you might see *Save now* onscreen, but I'll write it as *Save Now*. It doesn't make much difference on a short name, but when you have something like the Don't Ask for Credentials Again check box, it does help clarify things.
- ✓ **Bold:** I use bold for figure references and also when you have to type something onscreen using the keyboard.
- ✓ **Italics:** Technology always comes with its own terms and concepts, and when I introduce a new term, I italicize it for emphasis.
- ✓ **Figure labels:** Some figures have labels or other markings to draw your attention to specific areas. For example, if I'm referring to a certain button, a label points it out.
- ✓ **Website addresses:** If you bought an e-book, website addresses are live links. In the text, website addresses look like this: `www.dummies.com`.

## *Foolish Assumptions*

I assume that you have some sort of computer and are interested in learning more about how it works and how it interacts with other computers. That's really all you need to get started and to get some benefit from this book.

Certain chapters require you to have specific software, but you can skip those chapters if you don't have it, or just skim them for informational purposes. They are:

Chapter 4, "Windows 8.1 Basics," and Chapter 7, "Sending and Receiving Email," assume you have Windows 8.1. If you have Windows 8, you can download a free update to Windows 8.1 through the Windows Update utility. Chapter 7 also assumes that you have one or more email accounts.

Chapter 6, "Working with the Web," assumes you have Internet Explorer, which is the browser that comes free with Windows. You can use Windows Update to make sure you have the latest version.

Chapters 10, 11, 12, and 13 assume that you have Microsoft Word, Excel, PowerPoint, and Access 2013, respectively. These are all part of the Microsoft Office suite.

Chapter 17 assumes that you have a digital camera, and optionally a printer for printing digital images.

## *Icons Used in This Book*



The Tip icon marks tips (duh!) and shortcuts that you can use to make using your computer easier.



Remember icons mark the information that's especially important to know. To siphon off the most important information in each chapter, just skim through these icons.



The Warning icon tells you to watch out! It marks important information that may save you headaches.

## *Beyond the Book*

- ✓ **Cheat Sheet:** This book's Cheat Sheet can be found online at [www.dummies.com/cheatsheet/digitalliteracy](http://www.dummies.com/cheatsheet/digitalliteracy). See the Cheat Sheet for Windows 8.1 and Office 2013 keyboard and mouse shortcuts.

- ✓ **Dummies.com online articles:** Companion articles to this book's content can be found online at [www.dummies.com/extras/digitalliteracy](http://www.dummies.com/extras/digitalliteracy). The topics range from learning how to set up wireless network security to finding out how to customize Microsoft Office applications.
- ✓ **Updates:** If this book has any updates after printing, they will be posted to [www.dummies.com/extras/digitalliteracy](http://www.dummies.com/extras/digitalliteracy).

## *Where to Go from Here*

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# Part I

# Computer Basics



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## ***In this part . . .***

- ✓ Learn how computers connect people, businesses, and processes all over the world, and how you can participate in that.
- ✓ Find out how to select and buy a computer and how to set it up.
- ✓ Find out about the various operating systems out there and what computer types they work best on.
- ✓ Take a tour of Windows 8.1 and find out how to use it to run applications and manage files.

# Chapter 1

## It's a Digital World

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### *In This Chapter*

- ▶ Reviewing the types of personal computers
  - ▶ Discovering about powerful multi-user computer systems
  - ▶ Finding out about different types of software
  - ▶ Seeing how it's all connected
  - ▶ Finding out what's out there online
- 

**T**he world has changed dramatically in the last few decades, thanks to computer technology. Every second of every day, billions of bits of electronic data are whizzing around the globe and bouncing off satellites to deliver data to businesses and individuals.

This chapter provides a look at the most popular computing devices in use today and how they fit together to make up the digital world in which we live. You'll learn about the types of computers and software, the networks used to enable them to connect, and what you can accomplish by using them.

### *PCs: Discovering the Personal Computing Connection*

When most people think about computers, they picture a *personal computer*, or *PC*. It's designed for only one person to use at a time. Most of the computers you and your friends and family have are probably personal computers.

The term *PC* has different meanings in popular culture. On one hand, it means any computer designed for personal use. That's the meaning it has in this chapter. On the other hand, it is also sometimes used to refer specifically to a computer that runs Microsoft Windows, as in "Which is better: Macs or PCs?"

Personal computers fall into several categories, differentiated mainly by their sizes:

- ✓ **Desktop:** A *desktop computer*, shown in Figure 1-1, is designed to be used at a desk and seldom moved. It consists of a large box called the *system unit* that contains most of the essential components. The monitor, keyboard, and mouse all plug into it using cables (or in some cases, using a wireless technology). Desktops offer a lot of computing power and performance for the price, and they're flexible because you can connect whatever monitor, keyboard, and mouse you want to it, as well as install additional storage drives, memory, and expansion cards that add new capabilities.



**Figure 1-1:**  
A desktop  
computer.

- ✓ **Notebook:** A notebook, as its name implies, is a portable computer designed to fold up like a notebook for carrying and storage. As shown in Figure 1-2, its cover opens up to reveal a built-in screen, keyboard, and pointing device, which substitutes for a mouse. A notebook can run most of the same software as a desktop, and is similar to it in performance. Some people call it a laptop. Notebooks allow you to take your computer with you almost anywhere. They're more expensive than desktops of the same level of performance, however, and not very customizable or upgradable.





**Figure 1-2:**  
A notebook  
computer or  
laptop.

- ✓ **Netbook:** Short for *Internet notebook*, a *netbook* is a smaller and less powerful notebook computer designed primarily for accessing the Internet. A netbook is usually cheaper than a notebook or desktop, and is lighter and more convenient to carry around, but may not have enough memory and a powerful enough processor to run all desktop applications.
- ✓ **Tablet:** A tablet is a portable computer that consists of a touch-sensitive screen mounted on a tablet-size plastic frame with a small computer inside. There is no keyboard or pointing device; a software-based keyboard pops up onscreen when needed, and your finger sliding on the screen serves as a pointing device (see Figure 1-3). Tablets are extremely portable and convenient, but usually do not run desktop computer applications and have limited memory and storage capabilities.
- ✓ **Smart phone:** A smart phone, like the one shown in Figure 1-4, is a mobile phone that can run applications and has Internet capability. Smart phones usually have touch-sensitive screens. Many have a variety of location-aware applications, such as global positioning system (GPS) and mapping programs and local business guides. Smart phones have a lot in common with computers, but they lack the power and flexibility of larger computing devices.



**Figure 1-3:**  
A tablet  
computer.



**Figure 1-4:**  
A smart  
phone.

## The Business End: Multi-User Computer Systems

Multi-user computers are designed to serve groups of people all at a time, from a small office to a huge international enterprise. Here are some types of multi-user computers to be aware of:

- ✓ **Server:** A *server* is a computer that is dedicated to serving and supporting a group of network users and their information needs. There are different kinds of servers, varying greatly in size and power and performing different functions. For example, a *file server* stores files in a central location where multiple people can access them. A *database server* stores a database, such as a product inventory, and allows users to look up information in the database from their own computers. A *print server* manages a group of shared printers, controlling and prioritizing print jobs. Servers can be various sizes and designs. A *tower server* looks a lot like a regular desktop computer (Figure 1-1). *Rack servers* are stacked in multiples on storage racks, and accessed via a network interface rather than having their own keyboards and monitors.
- ✓ **Mainframe:** A *mainframe* is a large, powerful computer capable of processing and storing large amounts of business data. The main difference between a mainframe and a server is that the mainframe functions as the processing brain for multiple individual user terminals; it's not just a helper, but the primary processing device. For example, a mainframe might run several dozen cash registers in a large department store.
- ✓ **Supercomputer:** A *supercomputer* is the largest and most powerful type of computer. It can occupy a large room, or even an entire floor of a building. Supercomputers are used when a job requires a huge amount of processing power, such as molecular modeling, weather forecasting, or *cryptanalysis* (code-breaking). They are found in high-tech academic, government, and scientific research facilities.

## Computer Software

All the computer types you've learned about so far in this chapter have been *hardware* — that is, the physical computing devices you can see and touch. But it's actually the *software* — the instructions given to the hardware — that makes things happen. Without software, the hardware, no matter how grand and expensive it is, would be a useless lump of metal and plastic.

Here's a quick look at the software that makes a computer do what it does.

## BIOS

The hardware has a small amount of software permanently built into it on a chip, just enough to help it start up when you apply power to it. This basic startup software is called the *Basic Input Output System*, or *BIOS* (pronounced *buy-ohss*). Because this software is permanently installed, it occupies a somewhat gray area between hardware and software, so it is sometimes called *firmware*. You can mostly ignore it. However, sometimes if you are having problems with a device, the manufacturer will tell you that you can fix the problem by updating the firmware (or BIOS) and will provide you with a utility to do so.

## Operating system

The *operating system* manages all the computer's activities after the BIOS has finished its startup routine. It provides the user interface, runs applications, manages file storage, and communicates with the hardware on your behalf. Microsoft Windows, shown in Figure 1-5, is the most popular operating system, but there are also others, including Mac OS X and Linux for desktop computers, and iOS and Android for tablets and smart phones. You will learn more about operating systems in Chapter 3.



**Figure 1-5:**  
Microsoft  
Windows.

## Utilities

Utility programs work in partnership with the operating system to keep the computer healthy and running well. Some utilities come with the operating system, and others are purchased as add-ons. Utility programs assist with a wide range of maintenance and security functions, such as checking storage disks for errors, blocking security and privacy threats, and backing up important files.

## Applications

Last but not least, we get to the reason you own a computer: the applications. An *application* is software that is designed to help you do something productive or fun — something of interest to a human user.

Many computers come with some applications already installed, and you can buy more, either through an online store or on a CD or DVD in a retail store. You will learn more about applications in Chapter 9.

## It's All Connected

When computers were first developed, they were mostly standalone units; networking came later, and for years networking of all kinds remained cumbersome and slow, making it not-so-appealing for information sharing. Nowadays, though, connection is the norm. Many good networking technologies have been developed that transfer data from computer to computer quickly and easily, without a lot of complex setup and maintenance.

Here are some of the buzzwords you may hear about computer connectivity and what they mean. Many of these are discussed in much more detail in later chapters.

- ✓ **The Internet:** The Internet is the big, worldwide network of interconnected computers. When people talk about being “online,” they generally mean the Internet. The Internet is the network that enables the World Wide Web (also known as the web), which you’ll learn more about in Chapter 6, and email, covered in Chapter 7.
- ✓ **Ethernet:** *Ethernet* is a network type, but you’ll more likely hear the term when someone is referring to the port in your computer that you can plug a network cable into. Although technically most networks today

use Ethernet technology, the term Ethernet has lately come to informally mean the wired type of networking, where an Ethernet cable connects an Ethernet port on a computer to a router, switch, or some other type of networking equipment, as in Figure 1-6.



**Figure 1-6:**  
An Ethernet  
port and  
cable.

- ✓ **Wi-Fi:** *Wi-Fi* is the technology used to connect your computers, tablets, and smart phones to wireless networking access points. It's an abbreviation of *Wireless Fidelity*, which is itself a play on the phrase “high fidelity” that used to be used to describe vinyl records. It refers to the wireless type of Ethernet networking, and is also known by its official standard: IEEE 802.11. There are various versions of it, like 802.11g or 802.11n, and you'll see those on the boxes if you buy networking hardware.
- ✓ **Private networks:** Besides the Internet, many companies and even homes also have private networks that allow their own computers to communicate with one another. Most of these private networks are Ethernet, and you use the same networking hardware to participate in the private network that you do to connect to the Internet.