Interacting With Computers
Congratulations, a young person has asked you to be a helper for *Booting Up: Interacting With Computers*, an exciting multimedia curriculum. This activity guide and accompanying CD is designed for youths who want to learn more about computers and how to use them in their everyday lives. You play an important role in this process by providing encouragement, thought-provoking questions, and recognition. With your help, they will set goals and evaluate their own progress as they complete each level of the *Computer Mysteries* Series!

**What’s It All About?**
It is an exciting multimedia curriculum for the new millennium. Using a combination of interactive CD and Web-based activities, kids and teenagers alike will find *Computer Mysteries* challenging and fun. Youths will learn how to interact with computers, use a variety of software, add hardware, and take advantage of information on the Internet. The activities will help youths develop the skills to confidently use their computer to design professional-looking printed materials, animated presentations, and interactive Web sites.

Today’s youth have a wide spectrum of experience with computers. Some youths have computers at home, while others only get to use them occasionally at school. Because of this difference in experience, this computer curriculum is not designed for grade levels. Instead, we ask that youths start at the level that is appropriate for their experience. We do ask, however, that youths complete all the activities in a level before moving on to the next level. The first level is designed for beginners with little or no experience, just access to any computer with a CD drive. The activities in the second and third levels are designed to be completed on the Internet.

A Helper’s Guide offers additional background information, Internet safety, and helpful hints for working with youth, both individually and in groups. The curriculum Web site also has a special section for parents and adult helpers.

**Experiential Model**
Experiential learning distinguishes 4-H youth development education from many formal educational methods. Activities are designed so youths learn by doing first, then reflecting on what they did and thinking about how they can apply it to other situations.

1. **Experience** present content to the learner
2. **Reflect** explore the meaning of content
3. **Generalize** seek comprehension and appreciation of the content
4. **Apply** apply the content to real-world situations

Your aim as a helper is to guide youths as they explore an activity. In each activity you will find a youth development skill and subject matter skill to emphasize, suggestions for more activities, and other helpful information. In an effort to help youths share and process what they did, they will answer questions at the end of the activity. At the end of the chapter, youths will answer additional questions to help them generalize the youth development and subject matter skills they practiced and talk about how they will apply the skills to other situations.
# Table of Contents

Note to Project Helper .......................................................... Inside Front Cover
Table of Contents ................................................................. 1
Overview of Booting Up ......................................................... 2
  Booting Up Achievement Sheet ........................................... 3

## Computers in Our Lives & Community

1a Computer Detective ...................................................... 4
1b Hi Ho! Hi Ho! It's Off to Work We Go! ............................... 6

## What's So Hard About Hardware?

Introduction ............................................................................ 10
2a Function Junction .............................................................. 12
2b Hunt and Peck ................................................................. 14
2c Point and Click ............................................................... 16
2d Caring for Your Computer ............................................... 18

## Who's the Boss? Software

Introduction ............................................................................ 22
3a Telling Computers What to Do .......................................... 24
3b Learning Software ......................................................... 26
3c Computer Ethics ............................................................. 28

## Making Connections: The Internet

4a Internet Safety ................................................................. 32
4b The Name Game .............................................................. 34
4c A Hunting We Will Go ..................................................... 36

## Organize, Analyze, & Communicate

5a You Say It's Your Birthday ............................................... 40
5b Tell Me a Story ............................................................... 42
5c File Magic ..................................................................... 44

What's That Mean? .............................................................. 48
Fun Things to Make and Do .................................................. 50
Additional Resources ........................................................... 52

NOTE: All the above activities are also on the enclosed CD.
Are you ready to have fun learning computer and technology skills for the next millennium? In this project you will learn about how computers work and how to use them for fun things like games, searching the Internet and more serious stuff like homework. There is a lot to do in Booting Up. You'll notice that you have a CD in the back of this manual. The CD contains interactive activities that accompany the manual. So you have a choice! You can either do the activities that are in the manual or on the CD. But, be sure to answer the questions at the end of the chapter.

It's important that you do all the activities in the order they are presented. That's because it's important to know certain things and develop some basic skills before you can do the more advanced stuff. Once you have completed all the activities in this level, you can move up to Level 2. You can do all the activities in a year or take several years to do them. It's up to you.

But that isn't all you will be doing. You'll learn more about yourself, too. You'll learn things you can use all your life, like planning and organizing, making decisions, solving problems, and understanding systems.

Your Portfolio

Every great artist or computer technologist likes to show off his or her work. They usually put all these things in a "portfolio"—a sampling of their work. That's why we like you to save all your pictures, graphics, printed products, computer disks, and other things that you create for this project. You can use a large envelope, a scrapbook, or a box.

Your Project Helper

You don't have to do all of this alone. Ask a parent, neighbor, or older friend to guide you in this project. Your helper can help you find a computer to work on and other things you'll need. When you have completed all the activities in a chapter and have answered all the questions at the end of the chapter, sit down and discuss them with your helper. Be sure to record each activity and the date you completed it on your Booting Up Achievement Sheet. Then have your helper initial it.

Write the name and phone number of your project helper here:

- My project helper is:

- Phone number

- E-mail

Good Luck and enjoy the first level of Computer Mysteries!
**Achievement Sheet**

Level 1 Boating Up gives you some basic information and helps you develop skills that are needed before you move on to Level 2. Therefore, you must complete all the activities below in the order they are listed. You can complete all the activities in one year, or take more than one year depending on how fast you want to progress. Write in the month, day, and year beside each of the activities you completed. Get your project helper to initial that you have discussed the activity with them. In addition, you need to have at least one "product" that you produced on the computer each year. There are products ideas on page 50.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Date Completed Month/Date/Year</th>
<th>Helper Initial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computers in Our Lives &amp; Community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a Computer Detective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1b Hi Ho! Hi Ho! It's Off to Work We Go!</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What's So Hard About Hardware?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a Function Junction</td>
<td></td>
<td></td>
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<tr>
<td>2b Hunt &amp; Peck</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2c Point &amp; Click</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2d Caring for Your Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who's the Boss? Software</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a Telling Computers What to Do</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3b Learning Software</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3c Computer Ethics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Making Connections: The Internet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4a Internet Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4b The Name Game</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4c A Hunting We Will Go</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organize, Analyze, &amp; Communicate</td>
<td></td>
<td></td>
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<tr>
<td>5a You Say It's Your Birthday</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5b Tell Me a Story</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5c File Magic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These activities along with a few additional activities are on the enclosed CD-ROM. When you complete activities not found in the manual, please write them on the blank spaces and add the date complete. Be sure and get your project helper to initial, just like any other activity.

---

**Things I Plan To Do**

List some of the exciting things you plan to do in this project.

**Year 1**

**Year 2**

**Things I Did**

Date and list some of the most fun and interesting things you actually did in the project.

---

Project Helper's Signature

Date
Computers in Our Lives & Community

1a Computer Detective

Booting Up

Computers are all around you—probably in places you would never suspect. It is almost impossible to live without using computers. You can use a computer in your home or school. Computers are even used to operate many things in your community.

Tools

Pencil

Run Your CPU

Unlike other machines, computers can do many tasks. A lawn mower can only cut the grass, and an alarm clock wakes you up. But a computer can be used to write a letter, play a game, work with numbers, or find information on the Internet. There are thousands of uses for computers. How good of a detective are you? Can you find lots of different uses for computers?

Great detectives use clues to solve mysteries. In this activity you are to hunt for clues about how computers are used. Your goal is to find as many things as you can that people use computers for, either at home, at school, or in the community. See how many things you can write in the chart below.

You can find clues by exploring on a computer, talking with your parents, teachers, and community people, looking in the phone book, or visiting the library. Get together with friends or family members and make this a contest. Some examples are already filled in for you.

<table>
<thead>
<tr>
<th>Place</th>
<th>Location</th>
<th>Use of the Computer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>Living Room</td>
<td>Play games</td>
</tr>
<tr>
<td>Home</td>
<td>Living Room</td>
<td>Write letters</td>
</tr>
</tbody>
</table>
**Bits and Bytes**

- **Bit** - a bit is the smallest unit of information a computer can process. Bits are also called "binary digits." You'll learn more about bits in Activity 3a.

- **Byte** - one byte is one character (a number, letter, or symbol).

1 byte = 8 bits

1 kilobyte = 1,024 bytes (approximately 1 page of double-spaced text)

1 megabyte = 1,024 kilobytes (approximately equal to one book)

1 gigabyte = 1,024 megabytes (approximately equal to two dozen books)

---

**EXPAND Your Memory**

- Use the information you found to create a short talk or a poster on "The Importance of Computers in Our Lives." Present it to your club or class.

- Use the information you found to create a short talk or a poster on "The Advantages and Disadvantages of Computer Use in Daily Life." Present it to your club or class.

- Have your helper, parent, or a friend show you some of the things that they do with a computer. See if you can learn how to do them, too.

Booting Up

It is so much fun to use computers to play games, surf the Internet, or chat with friends. Believe it or not, people get paid to use computers in their jobs! Computers are all around you, and people need to know how to use them. Who uses computers? How do they use them? What are computers used for? What skills are needed in these jobs that use computers? Let's interview some people and find out.

Tools

Pencil and paper

Optional—other methods of recording answers such as a cassette recorder, video camcorder

Run Your CPU

Ask your project helper or parent to help you think of 10 people who have jobs where they need to use computers. There is an example filled in for you already. For right now, list only the names.

<table>
<thead>
<tr>
<th>Name of Person</th>
<th>Job Title</th>
<th>How a computer is used in the job</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Jack Smith</td>
<td>Secretary</td>
<td>Type letters, send messages</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
<td></td>
<td></td>
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<tr>
<td>7.</td>
<td></td>
<td></td>
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<tr>
<td>8.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Arrange to interview at least two people on the list about how they use a computer in their job.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date and Time of Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
</tbody>
</table>
To conduct the interview, first contact the person, explain your project, and ask to meet with them to conduct the interview. Before you conduct the interview, make a list of questions that you want to ask. Some questions might be:

- What is your job title?
- How do you use the computer in your job?
- What kind of training do you need to use the computer in your job?
- How often do you use the computer in your job?
- How was your job done before computers existed?

Be creative and think of more questions on your own. Write them in the following blanks.

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You can interview them in person, on the phone, or by e-mail. You also may wish to interview other people to develop the answers to your questions. For the interview, write your questions on paper with a pencil or type them into a computer. Include the questions and answers on a computer disk or a sheet of paper with a pencil or type the interview and questions and answers on a computer disk or a sheet of paper. You can print the responses.

For the interview be sure to be on time, be organized, and finish on time. Remember to thank the person you interviewed for their time and effort. A written thank you note would be even better!

After the interview, complete the table you made earlier in this activity.

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**Bits and Bytes**

- In the 1990s, the computer industry generated about one million new jobs.
- In 1998, the video game industry earned $6.3 billion (including software and hardware). This falls just below the $6.9 billion earned by movies at the box office.
- In the United States, 1 out of 3 households owns a computer.
- New technologies are reaching us faster than ever. Here's a list of inventions and how many years it took to reach at least 1/4 of the people in the U.S.

<table>
<thead>
<tr>
<th>Date Invented</th>
<th>Invention</th>
<th>Years Until In Mass Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1893</td>
<td>Electricity</td>
<td>46 years</td>
</tr>
<tr>
<td>1876</td>
<td>Telephone</td>
<td>35 years</td>
</tr>
<tr>
<td>1886</td>
<td>Automobile</td>
<td>55 years</td>
</tr>
<tr>
<td>1906</td>
<td>Radio</td>
<td>22 years</td>
</tr>
<tr>
<td>1926</td>
<td>Television</td>
<td>26 years</td>
</tr>
<tr>
<td>1975</td>
<td>Personal Computer</td>
<td>16 years</td>
</tr>
<tr>
<td>1983</td>
<td>Mobile Phone</td>
<td>13 years</td>
</tr>
<tr>
<td>1991</td>
<td>The Web</td>
<td>7 years</td>
</tr>
</tbody>
</table>

**Expand Your Learning**

- Use the information from your interviews to create a short talk or poster on “Computers on the Job.” Present this to your club or class.
- Create a quiz game to use with your class or club. List a job title on one side of a 3” x 5” card and let contestants guess if the job requires the use of a computer.
- Make a list of 10 people who have jobs that you believe do not require the use of a computer. Interview some of these people to see if they actually use a computer or not.
- Check out another activity: *Time Travel* on the CD-ROM. Join Mr. Computer as he travels through time to find out more about computers. See if you can put events in the right time spot.

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**Other Links**

Look in the “help wanted” section of the newspaper. Highlight a job that lists computer experience or training.

Acknowledgment: Adapted from “Lost in Cyberspace,” the Illinois 4-H Computer Curriculum
Here's a chance to think about what you learned in Chapter 1 and record it for future reference.

**Reflect**

Where did you find computers were being used that surprised you?

What are some of the advantages and disadvantages of computer uses in daily life?

What are 5 ways that you think computers are used in jobs today that they were not used 10 years ago?
Generalize

How could you use computers to do your schoolwork? Do you think it would save time?

How could you use computers to communicate with others?

Apply

What one major computer use could you do without? Why?

How do you think computers will be used in jobs in the future?

How do you think you will use computers in the future for each of the following activities?

- locating information
- processing information
- understanding and evaluating information
- communicating information to others
Have you ever gone to a hardware store? What did you find there? Just as a hardware store provides tools that help you get jobs done, a computer must have hardware to help you get tasks done. Hardware is a critical component of the computer system. Let's learn what hardware is and why it is important.

**Scanner**

Feeds information (text or graphics) into the computer by changing it to zeros and ones, which the computer can read. This allows the picture or text to be changed, stored, copied, and printed.

**Joystick**

Used for many computer games. It lets you control the movement of characters and objects more accurately than you could with a keyboard or mouse.

**Zip Disk**

Used with the Zip drive to read and store huge amounts of information. Zip disks look much like floppy disks, only they are slightly thicker.

**Zip Drive**

May or may not be removable. Can read and write huge amounts of information onto Zip disks.

**Computer Case**

Contains all the major internal components of a computer system, including the Central Processing Unit (CPU). It is sometimes called the "brain" of the computer.

**Speaker**

Device to broadcast sound from the computer.

There's more to me than meets the eye.
CD-ROM
Compact Disc-Read-Only Memory is a compact disc that permanently stores computer information. CD-ROMs are not erasable, so the information on them cannot be changed.

Floppy Disk
This is a removable device that stores information using magnets.

Floppy Disk Drive
Stores and retrieves information on floppy disks.

Modem
A device that lets computers communicate through telephone lines. Modems can be inside the CPU (internal devices) or outside the CPU (external devices).

Monitor
Displays text and images generated by the computer.

Printer
Produces a paper copy of documents you create on the computer.

Mouse
A handheld device that lets you select and move items on the monitor.

Keyboard
One device used to enter information into the CPU.

Now that you have an overview of computer hardware, go to the CD-ROM and do two activities before moving on to Activity 2a, Function Junction.

☐ Hardware Matchup
☐ Hardware Hookup
There are four main parts of a computer system: input, processing, storage, and output. Each part has its own hardware. This activity will focus on the input, storage, and output devices. You will learn about processing in Level 2.

An input device enables you to communicate with a computer. Input devices can enter information or issue commands. The computer then uses this information to perform tasks. A storage device is used to store information for the computer. An output device lets the computer communicate with you. Output can be provided to the user in three forms:

- Text and graphics displayed on a computer monitor, television screen, or projector.
- Text and graphics printed on paper by a printer.
- Sound.

Scientists are also working on computers that can provide smell as output.

All input is processed in the Central Processing Unit (CPU). The CPU is the "brain" of the computer and is found in the computer case. The keyboard, mouse, printer, monitor, and any additional accessories are attached to the CPU. The CPU then communicates with those peripherals (the hardware attached to the computer that helps it function) to perform tasks.
The list below includes computer devices used for input, storage, or output. Put an “X” in the appropriate column for each device. You can find more information about each of these devices in computer magazines or on Web sites. Each device may have more than one use. Think about each device’s primary purpose as you complete the table.

<table>
<thead>
<tr>
<th>Device</th>
<th>Input</th>
<th>Storage</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD-ROM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital Camera</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Digitizing Tablet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DVD</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Floppy Disk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joystick</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keyboard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microphone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mouse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other computers that are networked together</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pen and Tablet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Printer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scanner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speakers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Touchpad</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trackball</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zip Disk</td>
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</tbody>
</table>

There are several factors to consider when buying a printer.

- Make sure the printer will work with your computer and software. Most families buy ink-jet printers rather than laser printers because they are more economical.
- What is the cost to ink cartridges? Colored ink is usually more expensive than black.
- Can the printer handle the size and type of paper you plan to use. Some printers can even print envelopes and 3" x 5" index cards.
- What is the resolution of the print? Generally, a resolution of 600 dots per inch (dpi) is acceptable. Better quality printers are 1200 dpi.
- How fast does it print? A higher speed results in faster printing output.

- If you can locate an old computer that is no longer used, disassemble it. Identify each part as you disassemble the computer.
- On the back of the computer case are ports, where each peripheral is attached to the CPU. Explore the different ports on the back of your computer. Determine what else can be plugged into it.
- New hardware components are constantly being introduced. Make a price list of hardware components, not mentioned in this chapter, that are listed in computer magazines and catalogs. This could be the beginning of your computer “wish list.”

Computer magazines are an excellent source of information on computer systems. Other excellent sources are the Web sites of the various computer manufacturers.
You come into more direct contact with your keyboard than you do any other piece of hardware on your computer. It is important that you know the parts of the keyboard and the functions of certain keys. The keyboard transmits information from the computer user to the Central Processing Unit (CPU). It is the most common input device for your computer. Pressing a key on the keyboard completes a circuit and sends an electrical signal to the computer.

The keyboard is similar to the typewriter keyboard but includes a few special keys. The keyboard allows the user to input numbers, letters, and special characters. The keyboard is really a device that allows you to communicate with your computer, and it with you.

Not all keyboards are alike, but most have similar keys and the same basic functions. Most keyboards have around 100 keys. Each key has at least one function. Some keys have many more than one function! Some keys, called toggle keys, turn things on and off each time you press them. For instance, the caps lock key is a toggle key. Each time you press it, it turns the caps lock on or off. Other keys must be held down to perform their function. The shift key, for instance, capitalizes any key that you press as long as you are also holding the shift key down.

As we go over the following common keys and what they do, find them on your keyboard.

1. **Application Key** - displays the shortcut menu for an item on the screen (Windows only).
2. **Arrow Keys** - move the cursor around the screen.
3. **Backspace Key** - removes the character to the left of the cursor.
4. **Caps Lock** - allows you to type in all capital letters. Press the key to change case, then press again to return to the original case. This is called "toggling."
5. **Ctrl and Alt (Option) Keys** - use these keys in combination with another key to do a specific job, depending on the program you are using.
6. **Delete Key** - removes the character to the right of the cursor.
7. **Enter (or Return) Key** - tells the computer to carry out a task. In a word processing program, press it to start a new paragraph.
8. **Escape Key** - quits a task.
9. **Function Keys** - F1, F2, F3, ..., F12 keys let you quickly perform specific tasks, depending on the program you are using.
10. **Numeric Keypad** - enters numbers and mathematical function keys when the Num Lock light is on. When the Num Lock light is off, you can use these arrow keys to move the cursor around the screen. To turn the light on or off, press Num Lock.
Tools

Computer with Notepad (or other word processing) software

Run Your CPU

For the following activity, find Notepad or another word processing software program on your computer. On Windows 95 or 98, it is found under Start. Programs. Accessories. On a Macintosh machine, Notepad is located under the Apple menu in the top left corner of the screen. While word processing programs like Microsoft Word or Works are popular programs and have many similarities, Notepad is a generic word processing program found on most computers. It will work for most activities in this manual.

When you are in Notepad, explore by typing several lines of text. In Notepad, the lines go on and on to the side of the page, then print funny. To make your printed document look nicer, press the Enter Key before each line goes off the screen.

To get yourself familiar with where the letters are on the keyboard, type the following sentence, which contains every letter of the alphabet:

The quick red fox
jumps over the
lazy brown dog.

Don’t forget to capitalize the first letter and put a period at the end! Now, try typing the sentence in all capital letters. The easiest way to do this is to use the Caps Lock Key.

Now, write a letter to your 4-H leader or project helper, telling them about yourself. Be sure to tell them how old you are, your address, and phone number. Also in the letter, thank them for their help and all the work they do for the 4-H members. Use the numbers at the top of the letter pad, and also the ones on the numeric keypad, if your keyboard has a separate numeric keypad. This will help you become comfortable using either method to type numbers.

If you already know how, print the letter to give to your 4-H leader or project helper. This will show him or her what you have learned in this activity. There is no need to save this letter if you do not know how to print or save. When you are finished typing, close Notepad.

Expand your Memory

☐ Many computer software programs have quick-key shortcuts. These allow you to press a key or two to do a task, rather than using the menus. If you are familiar with a program, try using the quick-keys. Are they really faster? Do they help?

☐ There is a line of function keys (F1, F2, F3, ... F12) at the top of most keyboards. They do different things depending on the program you are using. Open a software program, and try to figure out what each function key does in that program.

Extra Fun...

Wallpaper your Desktop

If you want to make your computer screen look a little different, why not try wallpapering. Not the wallpaper you put up on the walls, but a patterned background. If you are using Windows software, you have several designs to choose from.

☐ Double click on the Display icon in the Control panel and select the Background tab.

☐ Click on Wallpaper list.

☐ Click on Center or Tile options to position your wallpaper.

☐ Then select the name of the wallpaper you want and click on OK.
2c Point & Click

Booting Up

One way of controlling a computer is to use a device called a mouse. When you move the mouse, a pointer on the computer screen moves too. You move the mouse so the pointer points at something on the screen. Then you push a button on the mouse to send information to the computer.

That sounds simple enough, but really getting the hang of using a mouse can be difficult for some people. Begin by holding it properly. Rest your hand on the mouse, and use your thumb, ring finger, and little finger to move the mouse on the desk or mouse pad. Use your two remaining fingers (the pointer and middle fingers) to press the mouse buttons.

When you move the mouse on your desk or mouse pad, the pointer on the screen moves in the same direction. The pointer will be in different shapes, depending on where it is on the screen and the tasks you are performing.

The pointers:

Computer with solitaire game software

Run Your CPU

Most computers come with several games. On Windows 95 or 98, these are found under Start, Programs, Accessories, Games. The game solitaire is a relatively simple game to learn. Many people already know how to play, so adapting to play on the computer is not difficult. Solitaire also gives you experience in using the mouse.

Open solitaire on your computer. It will come up with the cards already dealt for you. You will use the left-click, double-click, and drag-and-drop mouse functions to play solitaire. To move a card from one place to another, you must drag and drop it in place. To deal more cards from the top pile, do a left-click. When you turn up cards that can be placed in order in the top piles, you can either drag and drop them in the correct pile or double-click them, so the computer places them in the correct pile for you.

If you need help in learning how to play solitaire, use the Help menu.

Play several games of solitaire until you think you have the hang of using the mouse. When you are comfortable with using the mouse, try some of the other games on your computer.
**Bits and Bytes**

**Mouse Actions**

**Click** - You click on an item to select it on the screen. To do this, press and release the left mouse button. (A Macintosh mouse usually has only one button, which is used for all clicking.)

**Drag and Drop** - Dragging and dropping moves an item on the screen. To do this, position the pointer over an item on the screen and press and hold down the left mouse button. While still holding down the button, move the pointer to where you want to place the item. Then release the button, and the item will move to its new place.

**Double-click** - A double-click often opens a document or starts a program. To double-click, quickly press and release the left mouse button twice. Be careful not to move the mouse as you are clicking. If you have trouble doing this, try taking your hand off the mouse and click the button with your fingers only. When you become more familiar with using the mouse, you can try it again with your entire hand properly over the back of the mouse.

**Right-click** - On a mouse with two or three buttons, a right-click displays a list of commands on the screen. To right-click, press and release the right mouse button.

**Left-handed Users**

If you are left-handed, you can switch the functions of the left and right mouse buttons to make the mouse easier to use. Ask your helper, consult your manual, or use the on-line help for assistance.

**Mouse Pad**

A mouse pad provides a smooth surface for moving a mouse. It reduces the amount of dirt that enters the mouse. You can buy mouse pads with interesting designs, logos, or pictures at computer stores. Some mouse pads have built-in wrist supports that make them more comfortable. Hard plastic mouse pads attract less dirt and give you a smoother working surface than fabric-covered mouse pads, although they are usually more expensive.

**Other Links**

Many Web sites offer free solitaire and other games. Try searching for some of these sites to experiment with other games.

Occasionally, you will find a mouse with three click buttons or with a scroll button located between the two major buttons. If you are using either of these types, or some other type of pointing device, check your manual about the uses of these extra buttons.

**Expand**

- Some computer games require you to use your mouse for speed. When you are really comfortable with using your mouse, try some of these speed or accuracy games to see how well you do.

- There are also ways to change the speed of the pointer moving across the screen. This can usually be done in a control panel or other similar file. If you would like to experiment with the different speed settings, try to find the setting that is most comfortable for you and apply that setting.
2c Caring for Your Computer

Booting Up

A computer is a major investment. A home computer may cost anywhere from $500 to $5,000 or more. With that kind of investment, proper care and maintenance are important.

Probably the most important care issue for computers is not getting food or drink on the computer, especially the keyboard. Spills on the keyboard can cause the keys to misfunction, making the entire keyboard useless. Be careful not to vacuum your keyboard to remove the crumbs, however. Vacuuming can also damage the keys or even pull them off!

You might notice that your mouse does not work well after a lot of use. A good way to take care of your mouse is to frequently clean it by removing the bottom cover that holds the ball in place. When you remove the cover, you can take out the ball and wipe it with a soft cloth. Then gently blow into the cavity of the mouse to loosen any debris that may be caught inside. Put it back together by inserting the ball and replacing the cover. Do not take apart any more of the mouse, as you may damage parts.

Your computer monitor probably will collect dust, as well. Some people use a dust cover when their computer is not in use. These are relatively inexpensive. Covers can be purchased anywhere computers are sold.

Whether or not you use a dust cover, you will still need to dust your monitor with a soft, lint-free cloth and dust-spray formulated for electronics. Do not use abrasive cleaners or rough cloths to clean your monitor. These could scratch the screen.
Tools

Soft cloths
Dusting spray formulated for electronic equipment
Computer manual

Run Your CPU

Thoroughly clean your computer and the area around it using the tips on page 18. Then, browse through your computer manual and identify more cleaning and maintenance tips. List them here.

Caring for Floppy Disks and CD-ROMs

In order to keep floppy disks and CD-ROMs in good working order, you must handle with care. Below are some simple rules to follow to protect the life of your disks.

- Handle floppy disks by the label only. Do not touch the metal part.
- CDs should be handled by their outside edges. Never touch the surface of the CD.
- Keep it dry and clean.
- Keep it out of direct sunlight, heat or freezing temperatures.
- Never put it on top of your computer, monitor, microwave, TV or near any magnetic field. It will ruin the data on the disk.
- Write on the label first then attach it to your disk.
- Store all disks in jackets, boxes or cases.

Expand Your Memory

☐ Give a demonstration to your club or class on proper care and maintenance of computers.
☐ Visit a computer store and talk with a salesperson about proper computer care and maintenance. Tell them what you are currently doing to care for your computer and ask for additional tips.

Other Links

Several computer-related Web sites discuss computer maintenance and care. Enter these for additional tips. Your local computer retailers can also provide you with tips specific to their computers.
Here's a chance to think about what you learned in Chapter 2 and record it for future reference.

**Reflect**

Describe in your own words how the parts of a computer system work together.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What did you learn from using the keyboard and mouse in this chapter's activities?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What information about cleaning and maintenance did your operator's manual contain?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Generalize

What might happen if one of the parts of your computer did not work?

What are the similarities between your computer and your Game Boy?

If your cursor did not move when you moved the mouse, what might you check first?

Apply

Describe how what you learned about computer systems can be applied to other systems you use such as a boom box, portable CD player, or tape recorder.

Make a list of hardware you would like to have for your “dream” computer.

How might you use the keyboard and mouse control skills you learned in doing other computer tasks?

In this chapter you learned about keeping your computer cleaned and well maintained. Describe how what you learned might be applied to keeping your VCR cleaned and well maintained.
Booting Up

An operating system is basically the “brain” of the computer. It is the software that controls the overall activity of a computer. Its job is to make sure that all parts of a computer system are working together smoothly and efficiently. The operating system runs application software, such as word processing, database management, spreadsheet, or presentation software. It allows you to manage and organize information stored on a computer. You use the operating system to sort, copy, move, delete, or view files.

There are four main families of operating systems: MS-DOS, Windows, Macintosh, and UNIX. These are explained below.

Did you know...
Computers have "brains" and can even "listen" and "talk" back to you.

More Challenges:
If you have access to a computer with another operating system, spend some time exploring it. Compare the similarities and differences to your setup of your own.

MS-DOS
MS-DOS stands for Microsoft Disk Operating System. It displays lines of text on a black screen. You tell the computer to perform tasks by typing short commands.
Windows

Windows displays a graphical screen. You use the mouse to perform different tasks, instead of typing in commands. Windows is also called a Graphical User Interface (GUI). It allows you to select pictures instead of text commands to perform jobs. This makes Windows much easier to use than MS-DOS. Because Windows is a GUI, people have been able to use computers without understanding or memorizing MS-DOS commands.

Macintosh

Macintosh computers (Macs, for short) were introduced by Apple Computer in 1984. They were the first home computers with a mouse, on-screen windows, menus, and icons. Like Windows, Macintosh is a GUI. Again, this makes Macs relatively easy to use.

UNIX

UNIX is actually a family of operating systems used by many computers on the Internet. It is a very valuable system. Many different versions are available. It is also one of the more complicated systems, relying on typed commands to perform tasks. While text-based, UNIX can run interface software so it looks just like that on Windows or Macintosh screens.

Depending on the operating system your computer uses, you might need to do the activities in this chapter a little differently. However, most are basically the same on any operating system.
Software is a vital component of the computer process. Without software, a computer is useless. On the other hand, software without computer hardware is useless. You need both the computer (hardware) and the software that tells the computer what to do.

There are many different kinds of software, and each kind tells the computer to do different things. Let's explore some of the different kinds of software.

The kinds of software available for you to use on your computer are practically unlimited. There is software to help you:

- Write letters and reports (word processors)
- Keep a list of your friends and their addresses, phone numbers, and birthdays (databases)
- Create pictures or other graphics (paint/photo or graphics software)
- Make decisions—a “what if tool” (spreadsheets)
- Design book-quality text and graphics (desktop publishing)
- Communicate with family and friends across the country or world (telecommunications)
- Keep records of your checking account (financial/accounting programs)
- Create precise drawings like the ones engineers make (CAD—computer-aided design)
- Play games (recreational programs)
- Learn about new and interesting topics (educational software)
- Write programs (programming languages)
- Explore the World Wide Web (Web browsers)
- Develop Web pages (HTML editors)
- Develop interactive CD-ROM-based programs (authoring programs)
- Make electronic presentations (presentation programs)
- Create new songs (music composition programs)
Using magazines and catalogs, identify as many software titles as you can for each category listed in the chart below. Tour a local computer store and add additional titles.

<table>
<thead>
<tr>
<th>Type of Software</th>
<th>Brand Name of Software</th>
<th>Price</th>
<th>My Pick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Word Processing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Processing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Database</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paint/Photo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telecommunications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial/Accounting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desktop Publishing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HTML/Web Page Authoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software Authoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spreadsheet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
People who don’t know how to use computers are often afraid of them. Sometimes people who are afraid of computers are called "techno-phobics." Working with computers can be simple, though, because many programs have similar features. Let’s look at some similarities between different kinds of programs.

Most programs have a list of words across the top of the screen. Each of these words is the title of a menu. If you click on one of these with your mouse, it will show the pull-down menu. To select an option on any pull-down menu, simply click on it.

The file menu is common to most programs. Many of the options under the file menu are also the same in most programs.

File menu options that you will probably use include:

- **New**
  - allows you to start a new file in your specific program.

- **Save**
  - saves your file. If this is the first time you have saved the file, it may act like a Save As command. You will have to tell the computer where to save the file and what to name it.

- **Save As**
  - use this when you want to save a file in a different place or under a different name.

- **Print**
  - brings up a dialogue box so you can tell the computer to print your file, and how many copies you want.

- **Exit or Quit**
  - closes your file and the program. Most software programs also have a Help menu. This is especially helpful when you are not sure how to do something. The Help menu should have an index of topics that explain almost anything the program is designed to do. Some Help menus also have a tutorial. Tutorials allow you to follow along as the computer demonstrates how to do something.
**Tools**

Computer with Notepad (or other word processing) software

**Run Your CPU**

Open a word processing program on your computer, such as Notepad or Microsoft Word. Type a note to a friend. Try using each of the options you learned about on page 26. Tell your friend about everything you have learned so far in the 4-H Computer Mysteries project. If you have any problems, first try using the Help menu to figure it out. If you still need help, ask your helper.

Experiment with other options not discussed above, such as cut and paste. If you do something you think was wrong, the first option under the Edit menu, Undo, will undo whatever you did last. Spend some time exploring and “playing” with this program.

Make sure you save your letter, and print it so you can mail it to your friend.

---

**Bits and Bytes**

**Features of Word Processing Software**

Most word processing software contain the following features. Check out how these work on your word processor.

- **Spell Check**—helps you make sure you spell things right
- **Thesaurus**—helps you find another word that means the same thing as a word you may be using too often
- **Word Count**—counts the number of words you have in a document
- **Font**—gives you the ability to change words to look different
  
  Here are some examples of different fonts:
  
  - Helvetica
  - Century Schoolbook Bold
  - Comic sans MS
- **Point Size**—gives you the ability to change the size of words
  
  - 8-point type
  - 16-point type
  - 24-point type
- **Justification**—gives you the option of placing your words, sentences and paragraphs along the left margin, the right margin, or both margins. See examples below:

  - Left justification is most commonly used. Text is lined up against the left side of the page.
  - Right justification line your text up along the right side of the page
  - Centering is when your text is centered within the margins.

---

**Other Links**

Many programs or their publishers have Web sites where you can contact somebody for technical support. You can usually email or call somebody with questions if you cannot find an answer under the Help menu. Look in the software box, underline manual, or the main menu for a Web site, e-mail address, or phone number you can call to ask additional questions. Is the telephone support toll-free? What difference would it make?
When used properly, computers are excellent tools. They help us do things more effectively and efficiently. Not everyone makes the right decisions about their computer. Using computers improperly can even mean breaking the law! Using computers always involves ethics. Ethics are morals. Morals describe what is right and what is wrong.

Many ethical questions about computer use involve software. It is illegal to use computer software that you have not legally purchased unless it is free (freeware) or public domain software. The only legal copying of software is when you make a copy of legally purchased software. It is a backup copy in case the original disks are damaged.

Another ethical question involves using computers to illegally get into government, business, school, and bank records.

Very private information may be stored on a computer. Some people keep letters, a diary, checkbooks, and budgets on the computer, as well as other things that are private. You would be very angry if someone got into these files on your computer. It is exactly the same with files that other people or businesses keep. Most files are private, and you should never try to get into them!

The basic rule concerning software is:

One Purchase = One Computer

Plain as day... It's the law.

The bottom line is this:

When using a computer, access only files and information that you have permission to use. Accessing other people's files may be illegal and definitely is unethical.
Tools

Pencil and paper

Run Your CPU

Read each situation, and answer the questions that follow.

Your friend has a really cool flight simulation program. You love playing it at your friend’s house. You would also like to have it on your computer at home. Your friend offers to let you borrow the original CD so you can load it onto your home computer.

- Do you take the CD? Why or why not?
- What could happen to you if you loaded the software on your computer?

You are getting a really bad grade in your math class. You are worried about your parents seeing your report card. You are complaining about it at school. Some kids hear you and say they know how to hack into the school’s computer system to change your grade.

- What do you tell them?
- Why is it wrong to access the school’s computer system?
- What could happen to you and the other kids if somebody found out that you changed the grade?

You are doing homework on your brother’s computer. You find a folder that he named “My Journal.” You really want to read it so you know his secrets. You know it is wrong to spy in his private files.

- Do you look in the folder? Why or why not?
- What would your parent(s) or brother say if they caught you reading the files in that folder?

Bits and Bytes

- Check out this fun Web site about being a citizen in cyberspace.
  http://www.extension.umn.edu/citizen/

Expand Your Memory

- Find a magazine or newspaper article that discusses the issue of computer ethics. Give a brief presentation to your club or class about the article and what you have learned in this activity.
- Write some more sticky situation: and have your friends answer questions about them like you did. Discuss their answers.

Other Links

Computer magazines are an excellent source of information on ethical issues. Another excellent source is the Web. If you have access to the Internet, search for articles in all issues related to computer use.

Here's a chance to think about what you learned in Chapter 3 and record it for future reference.

Reflect

In addition to price, what things did you consider when making your decisions about what software you would buy?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What new things did you learn about as you used your word processing software?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What is the difference between shareware, freeware, and public domain software?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
**Generalize**

Which factors do you think are the most important in buying computer software? Why?

Why is it important to know more than one way to do something in word processing?

What are some unethical or illegal activities that people have done with computers or software?

**Apply**

How is purchasing software similar to buying a car or a new outfit?

Make a list of computer software menu options that are modeled after similar features, controls, or tools on something besides a computer (i.e., erasers, wastebaskets, magnifying glasses).

Describe a situation when people have not been very ethical in their actions. Note: The situation may involve computers, but it doesn't have to.
The Internet gives you access to information that is educational and rewarding. It allows access to resources that you would not otherwise be able to see, or use. It allows you to get up-to-date information on lots of topics. However, the Internet is not always a safe place, especially for young people.

While "surfing the Web" can be dangerous enough, participating in chat sessions can be even more dangerous. People can lie and are not always what they appear to be when they are online. Please read through the following rules taken from the 4-H Chat page (http://www.4-h.org/tech/online-safety.html) before visiting a chat session.

My Rules for Online Safety

1. I will not give out personal information such as my address, telephone number, parent's work address/telephone number, or the name and location of my school without my parent's permission.

2. I will tell my parents right away if I come across any information that makes me feel uncomfortable.

3. I will never agree to get together with someone I "meet" online without first checking with my parents. If my parents agree to the meeting, I will be sure that it is in a public place and bring my mother or father along.

4. I will never send a person my picture or anything else without first checking with my parents.

5. I will not respond to any messages that are mean or that in any way make me feel uncomfortable. It is not my fault if I get a message like that. If I do, I will tell my parents right away so that they can contact the online service.

6. I will talk with my parents so that we can set up rules for going online. We will decide upon the time of day that I can be online, the length of time I can be online, and appropriate areas for me to visit. I will not access other areas or break these rules without their permission.
Run Your CPU

For this activity, you need to sit down with a parent or adult helper and write your version of “My Family’s Online Safety Guide” based on topics such as the following:

- **Time online** – how much time is each family member allowed to spend online? Are there any conditions about when each family member can be online (e.g., after finishing homework, chores, etc., before 9 p.m.)?

- **Location of computer** – will the computer be in a public place in the house, where family members can easily monitor each other’s activities, or will it be someplace more private? If it is in a more private area, are there any additional guidelines?

- **Location/Supervision** – are there any restrictions or guidelines on where you can go online? At school? At a friend’s house? With or without adult/parental supervision?

- **Personal information** – what information is okay to give and what is not? As a guideline, no one should ever give out personal information to anyone they meet online. This includes your real name, address, phone number, school, grade, etc.

- **Web sites** – which Web sites are okay and what kinds are off-limits? Are you limited to certain sites or directories?

- **Meeting online friends** – When is it okay to meet someone you have “chatted” with online? Never! As a rule, never agree to meet in person anyone you’ve met online!

- **Chat rooms** – what kinds of chat rooms (if any) are okay? Which are off-limits? Explore a few chat rooms with your helper or parent/guardian while discussing your guidelines. Parental/adult supervision is strongly recommended when you are participating in chat sessions.

- **Inappropriate material** – you should never respond online when you feel uncomfortable or scared by something you’ve seen or read. Immediately tell your parent or helper when you find something that bothers you.

- **The Golden Rule** – treat others online as you would like to be treated.

Whatever you and your parent/helper agree to should be written down. Then each of you should sign and date your family’s “Online Safety Guide.” You can include guidelines that your parent or helper agrees to do or not to do. For instance, you might want them to let you teach them online tricks, play online games with you, or help you find cool sites!
4b The Name Game

Booting Up

Like using a TV or phone, using the Internet requires special equipment—usually a computer with Internet browser software, a modem, and a connection to an Internet Service Provider (ISP).

A modem is a hardware device that lets you connect your computer to a line such as a phone line. The modem can be internal or external (inside or outside) the computer case. This connection lets your computer “talk” to other computers through the phone system. ISPs give you access and instructions for setting up your computer to communicate with their servers.

Servers are computers that are connected to the Internet 24 hours a day, seven days a week, over direct, high-speed lines.

To connect to your server, your software dials the ISP’s phone number and the two computers connect. You usually hear a lot of squawking while this is happening!

Once you are connected to a server, there are lots of cool things you can do on the Internet, like visiting Web sites, sending e-mail, or chatting with friends.

Visit a Web site any time of the day or night, and the information you’re looking for will be there. Send e-mail to anyone, anywhere in the world, and your message will go where it is supposed to go. That happens because every server computer on the Internet has a unique name and number. A computer’s number is called its Internet Provider, or IP number. IP numbers are hard to remember, so another naming system, called the domain name system, is used. Special computers called domain name servers keep track of all the domain names. These servers help your Web location request or e-mail message find its destination.

Domain names make it easier to remember addresses and sometimes give you clues about where a server is located and who it belongs to. The last part of the domain name is called the top-level domain. Top-level domains include the following:

- .com for commercial domains
- .edu for education domain
- .org for nonprofit organizations
- .gov for government domains
- .net for network domains
- .mil for military domains

There are also special domains for each country. Some are:

- .us for United States
- .au for Australia
- .uk for the United Kingdom

You will see the server domain names in Web and e-mail addresses.

Web addresses usually look like this:

http://www.somedomainname/

Examples:
National 4-H Web – http://www.4-h.org/
National 4-H Council – http://www.fourthcouncil.edu
Electronic Zoo – http://netvet.wustl.edu/
National Park Service – http://www.nps.gov/

E-mail addresses look like this:

someone@somedomainname

Examples:

myname@aol.com

is the e-mail address of a fictitious person with America Online service.

student@umn.edu

is the e-mail address of a fictitious student at the University of Minnesota.
Even though not everyone has Internet access, references to the Internet are everywhere! You can probably find Internet addresses on items in every room of your house.

Look around your home and see how many Internet addresses you can find. You might discover them on household items, food packaging, newspapers, magazines, or TV commercials or shows...the possibilities are endless. Make a list and write each address you find as either an e-mail or Web address.

See if you can find at least one address for each domain type listed in the table below:

<table>
<thead>
<tr>
<th>Domain Affiliation</th>
<th>Web Address</th>
<th>E-mail Address</th>
<th>Where did you find the address?</th>
</tr>
</thead>
<tbody>
<tr>
<td>.com Commercial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.edu Educational Institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.org Nonprofits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.gov Government-related</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.net Networks</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Did you know...**

My e-mail notes can travel across the world faster on the Internet than I can print them?

Queen Elizabeth sent her first e-mail in 1976

**Other Links**

Even if you don't have a computer at home, there might be places in your community that offer free Internet access. Some places to check include public libraries, local recreation centers, schools, extension offices, and shopping malls.

You can purchase Internet access through local or nationwide ISPs like America Online, Prodigy, Sprint, etc. Sometimes you can get less expensive service locally. Check with local telephone companies, cable companies, computer stores, and the Yellow Pages to find ISPs in your area. Some good questions to ask any ISP are:

- Do they offer local phone numbers to keep costs down?
- Do they offer local phone numbers when travelling with a laptop?
- Do they offer unlimited access or a certain number of hours for the monthly fee?
- How fast are their high-speed connections?
- How many incoming lines do they have so you won't get busy signals when you call? How does this compare to the number of incoming calls they get?
- What type of service do they offer?
4c A Hunting We Will Go

Booting Up

Search sites help you find what you are looking for on the Web. Sometimes looking for good information is like hunting for a needle in a haystack.

Here are some strategies for using search tools to get the best information:

Most search tools are based on keyword searching. They look for pages that match any of the words you enter. Using one or two keywords is sometimes too effective—you get too many results (hits), because words have different meanings. Suppose you are helping your parents plan a vacation. You are looking for places where you can go tubing (floating down a river in an inner tube). What kind of results do you expect if you searched using the keyword ‘tubing?’

Adding words to your search often increases the number of results. Searching for ‘inner tube’ will find any pages that contain the word ‘inner,’ any pages that contain the word ‘tube,’ and any pages that contain both ‘inner’ and ‘tube.’

A better choice for searching with multiple words is to use phrase searching to narrow your search. Many search engines use quotation marks (“ ”) or hyphens (−) to connect words together. For example, searching on “inner tubing” or inner-tubing would only find those words together in a phrase.

After you see the results of a search, you can gain clues for how to improve the search. Inner tubing can be done on both ski slopes and rivers. Searching for “river tubing” narrows the field.

When you look for a specific person or place, capitalizing the names will only find those pages that have the word capitalized. Searching using all lowercase will find matches that are either capitalized or not. If you were looking for a place to rent inner tubes on the Apple River, searching for “Apple River tubing” should produce specific results. “Apple River tubing rental” might provide even more specific results.

Another technique offered by some search engines is to use plus (+) and minus (−) signs to specify which words must or must not appear in matched pages. For example, doing the following search should find sites on the Apple River that have something to do with Minnesota:

+"Apple River tubing" +Minnesota

The following search would find sites on Apple River tubing outside of Minnesota (or at least sites that don’t mention that Apple River is in Minnesota):

+"Apple River tubing" −Minnesota

Search sites for activity:
Excite – http://www.excite.com/
Infoseek – http://infoseek.go.com
Lycos – http://www.lycos.com
Snap – http://www.snap.com
Yahoo! – http://www.yahoo.com
Yahoo!igans – http://www.yahooigans.com

Search Tool Especially for Kids
Ask Jeeves for Kids – http://www.ajkids.com
A version of Ask Jeeves especially for kids. Help reduce the likelihood of inappropriate hits.

Study Web – http://www.studyweb.com/
An educational research site for tutoring, studying, projects, etc.
Tools

Computer with Internet access

Run Your CPU

1. Several search site URLs are listed in the “Other Links” section on page 36. Visit one of these sites by typing the URL into the location bar on your Internet browser.
   Which search site did you choose?
   ____________________________________________
   ____________________________________________
   ____________________________________________

2. Let’s do a search for Web sites about 4-H.
   Enter 4-H in the search bar, and press the search button with your mouse.
   How many sites are listed under the search term 4-H?
   ____________________________________________

3. Some search engines won’t find any sites under the search term 4-H. Try 4H instead. Does that work?
   ____________________________________________

4. Now, let’s try to narrow that down a little more.
   Let’s search for specific 4-H Web sites in your state. To do this, enter the search terms: +4-H +[your state]. (Example: +4-H +Indiana)
   How many sites are found with this search?
   ____________________________________________

Visit a few of them, and learn something new about 4-H in your state. If you’re having fun, continue narrowing it down even more.
Try searching under your state, as well as your county. Does your county 4-H program have a Web site? If so, spend some time browsing in it. You might even see pictures of people you know!

5. When you have finished, try this activity again using another search site. Are your results the same?
   ____________________________________________

EXPAND Your Memory

☐ Every two weeks, Patrick Crispen posts a new scavenger hunt for two age groups. Individuals or groups can participate in these hunts. Seniors (ages 13 to 17) and juniors (12 and under) can participate in separate hunts at his Squirrel Hunt site: http://www.netsquirrel.com/hunt/
Store Your Data

Here’s a chance to think about what you learned in Chapter 4 and record it for future reference.

Reflect

What guidelines did you and/or your parents disagree about putting in “My Family’s Online Safety Guide”? Why did you disagree?

Why is it important to involve all family members when designing “My Family’s Online Safety Guide”?

Describe two things you learned about conducting an Internet search.

Why do you think people, businesses and companies want you to have their Web site address or e-mail address?
Generalize

What were some of the most important things your family considered when designing their safety guide?

Do you have a hobby that you could use the Internet to find more information about?

Which search engine would you use?

Apply

If you went to a large amusement park, what are some of the safety guidelines you and your family might use?

Which "Online Safety Guidelines" might change as you get older? Why?

What homework assignment do you have that you could search the Internet for information about it? Which search engine do you plan to use? Why?
Organize, Analyze, & Communicate

5a You Say It's Your Birthday!

Booting Up

Do you ever have a hard time figuring out what to do for someone's birthday? Personalized gifts are always treasured but are usually expensive. One thing you can do to surprise someone for their birthday is to use your new computer skills to make a personalized happy birthday sign! These can be easy and cheap to make on your computer. Give it a try!

Tools

Computer
Printer (color if possible)
Paper (special paper designed for color print jobs is optional; any type of print paper will work.)
Publishing software (e.g. Print Shop, Print Master, Microsoft Publisher, American Greeting Cards, etc. A word processing program will work for this, too!)

Run Your CPU

Using the computer program that you have access to, create a birthday sign for a friend or family member. Use ordinary 8" x 11" paper, in any light color of your choice. White paper is fine, but colored paper would also be nice. It's up to you to decide how simple or elaborate you would like to make this project. Try to use as many of the features of the program as possible (fonts, colors, print sizes, layouts, etc.). Before you print your sign, create a second version using the same layout but changing the message and graphics. Don't forget to customize the card for the person you are giving it to. Compare the two signs. Decide which you like best. Then print your creation.
Bits and Bytes

Read Ahead. Most card and banner programs are user-friendly and easy to learn. Before you begin, review the User Guide that came with the program or look through the Help menu. This will help you to be more familiar with what this program can do.

Leave White Space. You may not be able to say everything that you want to say on the sign you are creating. Remember that you have limited space to work with. Too many words can make your creation hard to read. Designers make use of something called "white space." This is the space that is not taken up by words or graphics. Including more white space in your sign may actually attract more attention to your thoughts than if you overload it with words or pictures.

Limit Font Changes. Many programs also allow you to change fonts as often as you would like. While it may be tempting to go crazy with this new power, remember not to get carried away. Too many changes in font styles or sizes make things hard to read. Usually a maximum of two font changes per project is a good guideline.

Additional Graphics. Some programs will let you use graphics from sources other than the software itself. If you have access to a scanner or digital camera, consider using a picture of the person that you are honoring. Or you may want to use different clip art or images that are not included with the original program. Learn how to import pictures from clip art CD-ROMs into your creations. Another good source of clip art on the World Wide Web is http://www.clipart.com. This site provides links to many clip art sites.

Create a birthday card. Try to include features in this project that you did not include in your first.

Try using different quality and weights of paper and a different printer to create the same project. Do you see a difference?

If your project has a photo on it, try using photo quality paper. Do you see a difference? What is the cost difference between photo paper and regular paper? Is it worth the difference in cost?

Look at old greeting cards that you have received in the past. Which are your favorites? Why are they your favorites? Are there ideas that you can borrow from these cards to make your cards better?

Visit an on-line electronic card site on the World Wide Web. Check out some of the designs and ideas that they are using. Some sites to check out are:

http://www.bluemountain.com/
http://americangreetings.com

What features can you use in a Web card that you can't use in a paper card? How do you think electronic cards affect sales of paper cards in the store? What changes do you think paper card manufacturers have made as a result of competition from Web cards and card-making software?

You have already learned that computers can be used for a huge variety of jobs. One of the most common uses of the computer is for word processing.

Tools

Computer

Word processor application (for example Notepad, Word, WordPerfect, or WordPad)

Printer

Run Your CPU

Every word processing program is a little different, but they all do similar things. You can do lots of fancy things with most word processors, but the most basic steps are:

- create and name a document file
- add text by typing
- delete text with the <backspace> or <delete> keys
- spell-check
- save your file.

Word processors make writing easy, because you can write your thoughts as you have them, and then copy or move them to the clipboard, and paste them in a new location to make better sense.

Whether writing a personal letter, business memo, or school paper, many people use computers to write documents, then save and/or print them.

Using whatever word processing application you have access to, write several paragraphs of a story. After you are done typing, look for a spell checker to check your work. Print and save the file. The next time you have an idea that you would like to add to your story, open the file and write more. Keep adding for as long as you want.
The menus at the top of your screen contain the commands, but most word processors also have buttons that are shortcuts for popular features. Since it saves time to use the buttons, take the time to learn what they do.

Most word processors have an Undo option or button. If you make a mistake, click Undo, and your mistake magically disappears.

You could stop when you are done writing, but the real fun of word processors is using features that make your documents look nice. Look through the menus to see if you can find some interesting ways to format your work, like changing the alignment, using larger or bold text for titles, indenting paragraphs, or using color. These items are usually in the formatting menu or on a toolbar.

Many word processing programs also allow you to add graphics to your documents. Look through the Help menus to learn how to add graphics to help illustrate your story. If you can't find appropriate graphics from those provided, consider visiting a Web site that contains free clip art you can download.

A fun activity is to share e-mail addresses with a group of your friends, and write a progressive story. A progressive story begins when one person writes the first few paragraphs of a story, then e-mails it to another person. This person adds a few paragraphs, then sends it on to another person. This can continue for as long as you would like. When someone finally feels like they have ended the story, they can e-mail it to everybody who has authored portions of the story. This can be a fun way to learn about word processing!
5c File Magic

Booting Up

How do you store your clothes in your bedroom? Do you have a separate drawer for socks, shirts, underwear, and pants? Or do you have them all tossed in your closet or in the middle of the floor? When your drawers are well organized it is easy to find what clothes you want to wear. But, if your clothes are tossed on the floor, it may take you a long time.

Tools

A personal computer with a word processing program

Run Your CPU

Each letter, report, or homework assignment you create is called a "file". To make your files easier for you to find, you can organize files into "folders" or "directories". These are then organized on "drives". It might look like this on your computer screen:

Your bedroom is just like the "drive" in a computer. Its filing system works just the same way. If you are organized you can find things easily. In your bedroom you might have a dresser, a closet, and maybe a clothes hamper, which are like the "folders" in a computer. Each of these "folders" has the ability to hold "files," just like the drawers in your dresser.

First you create a file and file it in a folder. This is then saved on a drive, so you know where to find it later. Then you can retrieve it, change it, add to it, redo it, copy it, or put the copy into a different folder. With computer files you do all of those things and more, all on your monitor.

Use any available word processing program to create the following file of information about yourself:

- Name
- Address
- Telephone Number
- Height
- Weight
- Eye Color
- Hair Color
- Books I have read recently
- Names of three friends
- Any other information you want to put in

- School
- Grade
- Teacher's Name(s)
- Hobbies
- Favorite TV show(s)
When you finish, use the “save” function on your word processor or to save the file. Name the file “myinfo” or something like that (something you can remember). Write down the location where you save your file. You may want to make a new folder called “Ben’s Folder” (if your name is Ben).

Close the application. Shut down your computer, or switch to another program for awhile. Later, reopen your file. Change any information that needs to be changed (you might have switched friends or hobbies by now). Save the changes. If you have a printer, print the file.

Reopen your file periodically and update the information. Be sure to save the new information to the file before you close it. Print out your updates if you want a paper copy. It is wise to save the file before you print it.

If you can do this activity, you can maintain order in your computer (if you are an organized person!)

---

Don’t try these operations on files that you didn’t create. If you rename, move, or delete a file that your computer needs to operate, you may make your computer a useless heap of bits!

---

**Bits and Bytes**

**What’s the Purpose of a Screen Saver?**

Screen burn happens when you leave the same image on your screen for a long time and it becomes permanently imprinted on the screen. To avoid this, you can use a screen saver. This replaces the image with a moving picture after a certain amount of time.

**Scrolling Marquee**

Scrolling Marquee allows you to type in a message that scrolls across the screen to act as a screen saver. In Windows, select scrolling marquee from the drop-down list of screen savers and then click on the settings button. Type your screen message in the text box. You can change the background color, font size and color, and the speed at which the text moves your screen. When you have finished selecting your preferences, click on OK. Some screen savers allow you to add your own picture, which will then move around the screen.

---

**Extra Fun...**

**Design a Mathematical Picture**

Did you know that you can create fun 3-D images using a mathematical formula? This image called a fractal. You can create your own fractal by visiting this Web site:

http://www.panglass.com/seidel/Frac/

This site allows you to change the values in the formula to create your own unique image. If you don’t like your first image, keep trying to get one you like.
Store Your Data

Here's a chance to think about what you learned in Chapter 5 and record it for future reference.

Reflect

Describe how you used your creativity to create the birthday signs or your story.

How did it feel to create your story on the computer rather than with pen and paper?

What did you learn about file structures that you didn’t know before?
Generalize

What are some jobs that require using the computer to be creative?

What happens to your clothes drawers and/or closet at home when you do not keep them organized?

Apply

Next time you need a card, will you buy one at the store, create one on the computer, or use one of the Web sites that produce cards? Why?

Why is it important to not touch other people’s files?

What can happen to information that you store on your computer if you do not keep it organized?
**What's That Mean?**

**bit** - the smallest unit of information a computer can process; bits are also called “binary digits”

**browser** - a program that enables you to look at documents on the Web

**byte** - one byte is one character (a number; a letter, or a symbol); one byte equals 8 bits

**CPU (Central Processing Unit)** - processes instructions and manages the flow of information through the computer

**digitize** - the process of changing information into number codes that can be read by a computer.

**domain** - a name that identifies a particular Internet computer

**hard drive** - primary device that stores information in a computer; most hard drives today can store at least 1 gigabyte (that’s 1,073,741,824 bytes of information)

**hardware** - any part of a computer system that you can see or touch

**HTML (HyperText Markup Language)** - a programming language that is used to format Web page documents so any browser can read them

**input** - a device that lets you enter information and issue commands to the computer; examples are a keyboard, a mouse, and a joystick

**ISP (Internet Service Provider)** - a company that provides you access to the Internet

**keyboard** - a device that lets you type information and instructions into a computer

**modem** - a device that lets computers communicate through the telephone lines; most people connect to the Internet using a modem

**network** - a number of computers and other devices that are linked together so they can share information and equipment

**operating system** - a software program that controls the overall activity of a computer; Windows, MacOS, OS2, MS-DOS, UNIX, and Linux are all different operating systems

**output** - a device that gives you information by displaying it on a screen, in a printed copy, or through sounds; a monitor, printer and speakers are output devices

**parallel port** - a connection point, usually on the back of your computer, that has 25 holes and is known as a female connector; printers are usually connected to a parallel port

**peripheral** - any piece of hardware attached to a computer, such as a printer or scanner

**public domain information** - information that anyone can use because it does not belong to a particular person or organization
**resolution** - refers to the quality of images; the range is 300 to 1,200 dots per inch (dpi)

**serial port** - a connection point, usually on the back of your computer, that has either 9 or 25 pins and is known as a male connector; a mouse or joystick is usually connected to a serial port

**server** - a computer that does tasks for other computers on a network; ISPs have servers that allow you to connect to the Internet

**software** - a set of electronic instructions that tells a computer what to do

**scanner** - a device that digitizes pictures and stores them as computer files

**storage** - a device that holds bytes of information for later use; examples are a hard drive, floppy drive, CD-ROM, and DVD

---

**It's How Big?**

1 byte = 8 bits

1 kilobyte = 1,024 bytes

1 megabyte = 1,024 kilobytes

1 gigabyte = 1,024 megabytes
Here is a list of fun things you can make and do. Some require special software to complete, so you may want to choose those things that don't require you to purchase any additional software. Remember, the software listed below are just suggestions; you can use whatever software you have on your computer to complete these items. The list is not in any particular order. Any of the following would make great exhibits for a county or state fair.

**Cards for All Occasions**
Develop a series of 4 to 6 greeting cards for a variety of holidays or special occasions. Use clip art, scanned photos, or draw your own pictures. Can use software such as Word, Wordperfect, PrintShop, or Publisher.

**Graphic Illustration**
Using a software program such as Paint, Paintbrush, Kid Pix Studio, or CorelDRAW, make your own drawing and print it. Be creative.

**Computer Presentation**
Using a presentation software program such as PowerPoint, Kid Pix Studio, or HyperStudio, design a computer presentation on a topic you enjoy. You can present on your computer or print out overhead transparencies or display prints on a poster.

**Photograph Series**
Take a photograph and design a series of 4 to 6 special effects new photos. You can use a morphing software such as MorphMan or Morph Filter. Software programs such as Adobe Gallery Effects or SuperGoo can also be used.

**Create a Scrapbook or Poster**
Put together a scrapbook or poster on a topic that you have investigated on the Web. The topic can be anything such as dinosaurs, space, favorite TV stars, music, science fiction characters, sports cars, fun vacation spots, etc. Print off the information you found on the Web and display it in a scrapbook or on a poster.

**Storybook**
Write a story and illustrate it with pictures. Pictures can be original drawings, clip art or photos. Put it all together in a storybook format.
Additional Resources

Books

Computers Simplified, 4th Edition
IDG Books Worldwide, Inc.
919 E. Hillsdale Blvd. Suite 400
Foster City, CA 94404

Starting Computers
by Susan Meredith
Usborne Publishing Ltd.
83-85 Salfron Hill
London EC1N8RT

101 Things to Do on the Internet
by Mark Wallace
Usborne Publishing Ltd.
83-85 Salfron Hill
London EC1N8RT

Internet Quest: 101 Adventures Around the
World Wide Web
by Catherine Halloran Cook and Janet McGivney
Pfeifer
Incentive Publications, Inc.
Nashville, TN

Web Sites

Free Clip Art Sites
http://www.free-graphics.com

General Information Web Sites for Youth
http://lycoszone.com
http://www.kids.infoplease.lycos.com
http://yahooligans.com

Software Web Pages
Appleworks
http://apple.com/appleworks

CoreIDRAW and Corel Print House
http://www.corel.com

HyperStudio
http://hsnetwork.com

Kid Pix Studio Deluxe
http://mattelinteractive.com

Microsoft Windows Paint and PowerPoint
http://microsoft.com

Print Shop
http://mattelinteractive.com

MorphMan
http://stoik.com

SuperGoo
http://www.melacreations.com
Experience the Difference

Online: www.n4hccs.org
Fax: 612-625-6281
Phone: 1-800-876-8636
E-mail: order@extension.umn.edu

Send no money or checks. You will be billed when your order is shipped.

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www.n4hccs.org
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