COMPUTER & INTERNET BASICS

TEACHER'S GUIDE
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PRODUCED
BY
COLMAN COMMUNICATIONS
CORP.

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COMPUTER & INTERNET BASICS

Grades 2-4

Viewing Time: 18:28

PROGRAM OVERVIEW

Intended Audience and Uses

Computer & Internet Basics has been produced for students in primary and lower intermediate grades. It presents fundamental information about computers and the Internet – and how they can best be used. Teachers may use the video as both an introductory and review medium for their instructional programs on computers and the Internet. In addition, the program and its ancillary print material may be used as mini-unit that contains seven distinct lessons: (1) *What is a Computer?* (2) *Input and Output Devices*; (3) *Processing and Memory*; (4) *Proper Care of Computers*; (5) *Software*; (6) *The Internet*; and (7) a review.

A cautionary note: because computer technology and the Internet are both dynamic in nature, the producers have taken special care to stress fundamentals that do not change. Nevertheless, it is virtually impossible for

all information to be completely current. Thus, it will be up to the teacher to update students on any changes that may have occurred since the program's production. On the other hand, your school may not have access to the latest technology. If that is the case, you will need to inform students that newer computers they will encounter out of school will operate much like the ones shown in the video.

Program Synopsis

The program opens with Katy Nelson as she uses her computer. Katy plays games on it, emails friends, checks her school's activity calendar and more. A definition of computers quickly follows: they are devices that manage and store all kinds of information – numbers, words, music and pictures. Mercer, a friendly animated cursor, is then introduced. He provides a guided tour to various parts of the computer. Mercer begins his tour with input and output devices – the mouse, keyboard, scanner, microphone, webcam, monitor, speaker, printer and earphones. He then explains how the computer processes infor- mation and keeps data in two principal kinds of memory. The difference between storage memory and RAM memory is explained. Mercer then comically shows what happens if one does not save a file. Next, the program covers cables, ports, and wireless devices. The next section of the program discusses the proper care of the mouse, monitor, keyboard, CDs and DVDs. A discussion of software – operating systems and application programs – follows. How to find and open software programs and an explanation of menus, icons and the help menu is covered

in this discussion. The next section of the program discusses the Internet. Topics include browsers and search engines and how each is used. Internet safety rules are also covered in some detail. The program ends with a review and video quiz.

VIEWER OBJECTIVES

After viewing this video and participating in the suggested activities, viewers should be able to do the following:

1. Give a brief definition of a computer.

2. Name at least four input devices and four output devices commonly used with computers.

3. Tell what the central processing unit (CPU) does.

4. Explain the difference between storage memory and random access memory (RAM).

5. Define the following terms: application, browser and search engine.

6. Name at least five rules to properly take care input and output devices (mouse, keyboard, monitor, DVDs and CDs.)

7. List at least seven safety rules when using the Internet.

The producers encourage you to make adaptations and changes to the following lesson plan whenever you feel it will enhance your students' learning experiences. Only by tailoring the material to your unique classroom situation will you be able to maximize the educational experience afforded by these materials.

SUGGESTED LESSON PLAN

Viewing Strategies

This program can be employed in three distinct ways. First, the video can be shown in its entirety as an introduction and/or review session for students beginning their study of computers and the Internet. Second, teachers may pick and choose various sequences and select ancillary print material
to underscore concepts taught in their current unit on computers and the Internet. The third way is using the program and all ancillary material as a mini-unit composed of seven distinct lessons. Each section of the program presents core concept material for individual lessons. Review questions that can be asked after each segment have been provided in the *Sample Questions* blackline master (see below).

Previewing Activities

The producers encourage you to prescreen the program to familiarize yourself with its content.

Ask your students how many computers they have seen today. Where were the computers located? In school? A store? At home? Elsewhere? Then have your students draw a picture of one of the computers they saw, and the person using it. Ask them to draw anything attached to the computer, such as a monitor. Discuss the various parts of the computer drawn – the monitor, mouse, speakers, etc. What do people do on computers? Has anyone ever received an email on a computer? If so, who sent it? Hand out the

Computer & Internet Basics Pre-Test and instruct your students complete it. If your students are unable to complete this test by themselves, complete it orally with them. An oral exercise or the test itself will help you determine how much your students currently know about computers and the Internet. Use the results to plan your lesson(s). If you are using this program as a mini-unit, duplicate and hand out *Our Computer & Internet Basics Unit* and *Computer & Internet Basics Outline.* Instruct your students to take home the letter and outline. Then review the outline with your students.

Introduce the Video

Part 1: What is a Computer?

If you are using this program as a mini-unit, have everyone start a Computer & Internet folder. As your students work through the unit, have them place all written activities in the folder. Now, tell the class they are going to see a video on computers and the Internet. Explain that there may be some terms they will need to know to better understand the program. Hand out *Computer & Internet Terms*. Have your students create their own definitions after each program segment is shown, or discuss the terms before each segment. Tell everyone they will be expected to define terms one through four after viewing the first part of the video. Next, tell your students that some things we see every day are computers, even though we don't normally think that they are. Say that the program mentions some of them and that you will ask about those things after they see the first section of the video.

Post-Viewing Activities
Part 1: What is a Computer?

Ask the class, "What were the three things the program mentioned are computers, even though we usually don't think they are?" (Digital media players, cameras and cell phones). Do they *store and manage information*? (Yes. Digital media players store and manage music, cameras store and manage pictures, cell phones store and manage sounds and sometimes many other things.) Are there any others they can think of? (Digital watches, hearing aids, GPS – global positioning systems – and calculators are four you might mention). Discuss the various kinds of computers mentioned in the video. Why are there many different kinds of computers? Help your students understand that different kinds of computers are needed to perform special kinds of tasks – easily carry around information (laptops), manage huge amounts of information (super computers or mainframes), do normal computing activities (desktops) and so on. Hand out *Is **This** a Computer?* Have your students complete this exercise as individual seatwork, in small groups, or as an oral class activity. After your students have completed this exercise, go over the answers and then have everyone place the activity in their Computer and Internet folders.

Pre-Viewing Activities
Part 2: Input and Output Devices

If you feel it would be helpful, review the information presented in the first part of the program. Mention that everyone was introduced to Mercer the Cursor in the last part of the program. Now hand out *More on Mercer and Cursors* and tell your class that this information will help them learn more about and cursors. Have your students complete this exercise as individual seatwork, in small groups, or as an oral class activity. After your students have

completed this activity, review the answers (mouse, cursor keys, touchpad and pointing stick) and then have everyone place the completed exercise in their folders. Next, explain that computers need some way to get information inside in order to manage and store it – and that computers also need a way for people to see or hear that information once it has been stored and managed. Can anyone guess how that's done? How do we get words and numbers into the computer? Tell the class that the next part of the program explains how information is put into the computer and how we see and hear what's inside. Turn to the **Computer & Internet Terms** handout and instruct the class to turn its attention to terms 5 and 6. Tell the class that Mercer the cursor will explain what those devices are and that they will be expected to name some input and output devices after seeing the next section of the video.

Post-Viewing Activities
Part 2: Input and Output Devices

Instruct your class to take out the **Computer & Internet Terms** handout. Write definitions for the 5th and 6th terms. Afterwards, discuss the second section of the program. Is there any way, other than using a mouse, to move the cursor? If you feel it would be helpful, mention cursor keys on the keyboard, touch pads and pointing sticks as alternate methods to move the cursor. Are there any ways other than keyboard to get words and numbers into the computer? Again, you could mention touch screen systems and stylus systems (on tablet computers) if you feel your students could use this information. Has anyone in your class used a webcam to communicate with anyone? If so, have them describe the experience. Now hand out **The Modem: An Important Input & Output Device**. Have your students read this handout as individual seatwork, or have it read aloud in class. Does anyone know what kind of modem he or she has

has in his or her home computer?   Finally, have class members place this handout in their folders.

Pre-Viewing Activities
Part 3: Processing & Memory

If you feel it would be helpful, review the information presented previously.   Did everyone find out the kind of modem they have at home? Mention that, in the video, Mercer has explained what a computer is and how we get information in and out of it.   But what happens after the information gets inside?   How does the computer change ("process") the information? How does it store data for use at a later time? Have the class turn to the *Computer & Internet Terms* handout. Can anyone give a definition for terms 7-13? Tell the class that the next part of the video will help everyone understand what these terms mean. As they watch it, they also should pay close attention to the different types of memory computers have, and how they differ.

Post-Viewing Activities
Part 3: Processing & Memory

Discuss the different kinds of memory. How do storage memory and RAM memory differ? (Information in storage memory stays in the computer when the computer is turned off, while information in RAM memory disappears when the computer is turned off or when the program is closed. Thus, the importance of saving.) Your students may be interested to know that over the years the speed and power of CPUs and the size of computer memory have grown dramatically. Mention that several decades ago, computers were unable to do many of the things they can do today because their

speed and memory size were so much smaller. But today's CPUs, as powerful as they are, cannot begin to match the power of the human brain. Scientists have been trying for many years to build a computer whose processing power is equal to that of the human brain, but they are still far away from achieving that goal. (Some people think they may never be able to do it). Even so, computers are able to do many things, and often do them more accurately than humans. Now, turn your attention to some of the exterior memory devices mentioned in the program – flash drives and CDs. (DVDs would fall in this category, also.) Ask the class why these devices are so popular. Help them understand that it is much more convenient to carry information in small devices than to carry around an entire computer. Pass out *Processing and Memory: Faster & Bigger*. Have your students read the information as individual seatwork or have this handout read aloud and discussed. Afterwards instruct everyone to place it in his or her folder.

Pre-Viewing Activities
Part 4: Proper Care & Protection

If you feel it would be helpful, review the information presented previously. Now, ask the class if anyone has experienced a broken computer. If so, what happened? How did it break? If you have ever had an experience with a broken computer (or one infected by a malicious virus), you might want to share the experience with your class. Explain that computers and their various parts do not normally break. But, as with all other machines, they will break if they are not cared for properly.

Therefore, it is very important to know how to take care of them. Tell the class they will now see the fourth part of the program, which discusses the proper care and protection of the computer. Have your students turn to the **Computer & Internet Terms** handout and review terms 12-15. Mention that you would like them to pay close attention so that after they see this section of the video, they will be able to define these terms as well as tell you nine different ways to take care of input and output devices, as well as exterior storage devices.

Post-Viewing Activities
Part 4: Proper Care & Protection

Ask your students to name the nine ways people can take care of their computer's input and output devices, as well as exterior storage devices. (Don't touch the monitor screen; don't spray it with chemicals; scoot the mouse on a flat surface; handle disks on their edges; don't set disks on anything that might scratch them; place disks in plastic cases for storage; slide the disk
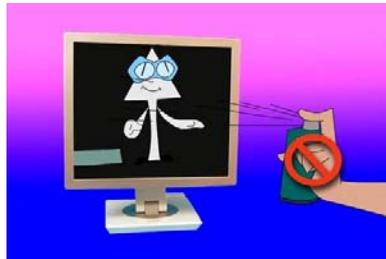
gently in the tray to make certain it's lying flat; never jam or force a cable or other device into a port; keep snack foods and drinks and away from the computer, keep food and liquids away from the keyboard.) *Note: Some of your more astute students may have noticed that the person who put the CD into the computer placed his fingers on the CD when making sure that the CD was lying flat in the tray. Explain that it is okay to touch the* <u>top</u> *part of the CD because the information is on the shiny, bottom side.* Now, hand out **Taking Care of Your Computer**. Have your students complete this exercise as individual seatwork, or as an oral class activity.   After your students have completed this

activity, review the results and then have everyone place the completed exercise in their folders.

Pre-Viewing Activities
Part 5: Software

If you feel it would be helpful, review the information presented previously. Ask your students to name, if they can, all the different things a person can do on a computer. Some possibilities: write a letter or class report, draw a picture, email a friend, watch a movie, listen to music (or a radio station), play a game, make a video. Does anyone know why it's possible to do all those things? Tell the class that computer programs allow the computer to perform thousands of tasks. Ask the class to take out their *Computer & Internet Terms* handout. Ask them to look at terms 16-19. Can anyone define the terms? Tell the class that these are the terms they will be expected to know after watching the next part of the program. Mention that the video discusses four things operating systems do, and you will want them to remember what those things are.

Post-Viewing Activities
Part 5: Software

Help your students define terms 16-19 on the *Computer and Internet Terms* list. Ask your students for the other name for "software." (application) Next, ask, "Can anyone tell the four things operating systems do?" (Help the computer work with its input and output devices, help other software programs work on the computer, help people organize and

find programs and files, display icons). Would it be possible for a computer to work without an operating system? (no) Tell your class which operating system your school computers use. In all likelihood, it's one of the Windows operating systems. Do any of your students have an Apple computer at home? Do they know what kind of operating system it uses? What are the differences similarities between Windows computers (PCs) and Mac OS X (Apple) computers? Hand out **Dangerous Software.** Have your students complete this exercise as individual seatwork, in small groups, or as an oral class activity. After your students have completed this activity, go over it and then have them place it in their folders.

Pre-Viewing Activities
Part 6: The Internet

If you feel it would be helpful, review the information presented previously. Ask how many of your students have used the Internet. If any have, ask them how they use it. In all likelihood, they will say, "playing games," or

going to a popular children's website. Next, ask what the Internet is. Probably none can give an adequate definition. Does anyone know why the Internet is so important in today's world? Again, probably no one will know. Ask, "What kind of program do we use to get onto the Internet?" State that there are millions of websites on the Internet. Ask, "How do we find the site we want?" Explain that the next part of the program will answer those questions and that you will want them to play close attention so they can discover the answers. Next, instruct the class to take out their **Computer & Internet Terms** handout. Ask them to look at terms 20-25. Can any-

one define the terms? Tell the class that these are the terms they will be expected to know after watching the next part of the program.

Post-Viewing Activities
Part 6: The Internet

Help your students define terms 20-25 on the *Computer and Internet Terms* list.   Make certain that your students understand that browsers are used to get onto the Internet and search engines are used to find websites. If you have a classroom computer, or a computer lab in your school, have the children use both browser and search engines. Devote a specific amount of time to go over the Internet safety rules presented in the program.   Make certain that your students know the eleven rules and understand the necessity of following them.   Ask if anyone's family has Internet rules. If so, what are they? Why is it so important to follow those rules? Has anyone ever bought anything over the Internet? If so, have them describe the process and what they bought. Was it a good experience?

Program Review
Part 7: Review

If you have used this program as a min-unit, have your students read over their unit notebooks and ask if they have any questions on any of the material.   Hand out the *Computer & Internet Basics Review Outline* if you have not already done so. Have your students complete this exercise as individual seatwork, in small groups, or as an oral class activity. After your students have completed this

activity, discuss it and then have them place it in their entire program for a final time. After the review lesson, session, have the students review all the material in their Unit Notebooks. Finally, pass out the ***Computer & Internet Basics Unit Evaluation.*** Have the class complete this final activity as either seatwork or as an oral class activity.

Description of Blackline Masters

SAMPLE QUESTIONS – Provides teachers a set of questions to ask after each segment of the program has been shown.

COMPUTER & INTERNET BASICS PRE-TEST – Helps teachers determine student knowledge and assists in lesson preparation.

OUR COMPUTER & INTERNET BASICS UNIT – A letter to parents that explains the unit and asks for their support and help to make the unit a success.

COMPUTER & INTERNET BASICS OUTLINE – Helps parents and students understand the scope and sequence of the unit.

COMPUTER & INTERNET TERMS – Helps familiarize students with some of the terms used in the program.

IS THIS A COMPUTER? – Helps students distinguish between things that are and are not computers, or those things that use computers to function properly.

MORE ON MERCER AND CURSOR – Explains what a cursor is and tells about four different ways to move it.

THE MODEM: AN IMPORTANT INPUT & OUTPUT DEVICE – Helps students understand what a modem is and what it does.

PROCESSING & MEMORY: FASTER & BIGGER – Helps students understand the importance of increasing memory size and boosting processing speed.

TAKING CARE OF YOUR COMPUTER – Reviews the main rules for taking care of one's computer.

DANGEROUS SOFTWARE – Helps students understand viruses, worms and spyware and explains the need for protecting against malicious software.

COMPUTER & INTERNET BASICS REVIEW OUTLINE – An exercise that will help students remember the information presented in the program.

COMPUTER & INTERNET BASICS UNIT EVALUATION – An evaluation exercise that will help you and your students determine how much they have learned from the seven lessons presented.

ANSWER KEY

Video Quiz: 1. c.   2. True   3. b.   4. touch, food, liquids   5. a. 6. True   7. Any four of the following: never give your last name, never give your address, never give your phone number, never tell where you go to school never email a picture of yourself to someone you've met online, get a parent if someone says something online that makes you uncomfortable, never meet an online acquaintance unless a parent comes along, never give your password to anyone, always follow your family's Internet rules, never open an email from someone you don't know, never order anything online unless your parents are there, or have given you permission to place the order   8. False   9. It might contain a virus or other dangerous program. 10. b.

Computer & Internet Basics Pre-Test: 1. Possible answers: keyboard, webcam, microphone, modem, scanner 2. Possible answers: laptop, mainframe, supercomputer 3. central processing unit 4. RAM and storage memory 5. a storage memory device with no moving parts 6. in a plastic container 7. the programs that allow computers to do many things 8. software that allows you to go on the Internet 9. Possible answer: millions of computers that are part of a worldwide network that allows people to communicate with each other 10. a search engine

Computer & Internet Terms: 1. Computer: a machine that manages and stores information 2. Laptop: a small, portable computer 3. Mainframe: a large computer that process a great deal of information (data) 4. Desktop: a computer commonly found in homes, offices and schools 5. Input device: something that puts words, numbers, music and pictures into a computer 6. Output device: something that allows us to see or hear what's currently in RAM 7. Storage memory: the computer's memory that holds information, even if the computer is turned off or the program is closed 8. RAM: the kind of memory

whose information disappears when the computer is turned off or when a program is closed 9. CPU: central processing unit; the "brains" of the computer 10. Flash drive: storage memory without any moving parts 11. CD: compact disk, a memory storage device 12. Port: the place where cables and devices are plugged into the computer 13. Cable: a device through which signals flow to and from the computer 14. Monitor: An output device that allows us to see what's currently being processed 15. Hardware: the computer and all its input and output devices 16. Software: the programs that allow a computer to do many different things 17. Application: another name for software 18. Operating system: the most important software program on the computer 19. Help menu: where to find information that explains programs and so helps people operate the computer better 20. Internet: a network of computers located around the world 21. Home page: the first website you're taken to when you open a browser 22. Browser: a program that gets you onto the Internet 23. Search engine: a program that helps you find the website(s) that contain the information you're looking for. 24. Search box: on a search engine, where you type in what you're looking for on the Internet 25. Internet safety rules: rules you must follow to use the Internet safely

Is This a Computer? All six items should be checked.

More on Mercer and Cursors: Mouse, cursor keys, touch pad, pointing stick

The Modem: An Important Input & Output Device: Answers will vary.

Dangerous Software: Answers will vary.

Computer & Internet Basics Review Outline: **IA1-A4:** desktop, laptop, mainframe and supercomputer   **1B1-B3:** cars, airplanes, appliances   **IC1-C3:** cameras, digital media players, cell phones **ID Definition** of computer: a machine (device) that stores and manages information (data) **ID Examples:** words, music, numbers pictures **IIA1-A5:** mouse, scanner, keyboard, webcam, microphone **IIB1-B4**: monitor, speaker, printer, earphones **IIIA1-A2:** where information is sorted, managed and changed; the "brains" of the computer **IIIB1-B3:** hard drive, flash drive CDs and DVDs   **IVA1-A2:** don't touch, don't spray with chemicals **IVB1-B2:** keep food a snacks away, keep liquids away **IVC1-C2:** Treat gently, use on a flat surface **IVD1-D3:** handle on edges, slide around gently in tray to be certain it's lying flat **VA1:** Windows **VB1-B4:** help computer work with input and output devices, help computer work with other software programs, help people organize and find files, display icons **VC1-C3:** click program icon on

the desktop, click the start button and find the program icon on the list at the left, click the start button and the all programs button to find the program **VIA:** millions of computers connected by a network that allows people around the world to communicate with each other **VIB1-B2:** connect people to the Internet, Internet home page **VIC1-C2** help you find information on the Internet, a website that contains the information you're looking for **VID1-D11:** never give your last name, never give your address, never give your phone number, never tell where you go to school never email a picture of yourself to someone you've met online, get a parent if someone says something online that makes you uncomfortable, never meet an online acquaintance unless a parent comes along, never give your password to anyone, always follow your family's Internet rules, never open an email from someone you don't know, never order anything online unless your parents are there, or have given you permission to place the order

Computer & Internet Basics Unit Evaluation
Part I   1. T   2. F   3. F   4. T   5. F
Part II   1. I   2. O   3. I   4. O   5. O
Part III   1. the kind of memory that disappears when the computer is turned off or the program is closed without saving   2. the central processing unit, where information is sorted, managed and changed   3. the place where cables and other devices are plugged into the computer   4. a program that gets you onto the Internet   5. a program that helps you find the information you're looking for
Part IV   keyboard → keep food and liquids away   mouse → move on flat surface   monitor → never touch or spray with a chemical   CD → handle by its edges   Port → never force a cable into it
Part V   helps computers work with their input and output devices, helps computers work with other software programs, helps people organize and find files, displays icons, F1 key
Part VI   Any seven of the following: never give your last name, never give your address, never give your phone number, never tell where you go to school never email a picture of yourself to someone you've met online, get a parent if someone says something online that makes you uncomfortable, never meet an online acquaintance unless a parent comes along, never give your password to anyone, always follow your family's Internet rules, never open an email from someone you don't know, never order anything online unless your parents are there, or have given you permission to place the order

TRANSCRIPT OF THE VIDEO

PART I: WHAT IS A COMPUTER?

Katy Nelson, like a lot of other people, spends quite a bit of time on the computer – playing games, emailing friends, checking her school's activity schedule, and more!

Computers play a big role in Katy's everyday life, as they do in the everyday lives of lots of other people, too.

Because computers *are* so important to all of us, it just makes sense to know as much as we can about these amazing machines.

We certainly know that there are different kinds of computers – for example, desktops, laptops, and those giant computers: mainframes and super computers.

Then there are those that we don't normally think of as computers, but really are – cell phones, digital media players and cameras, for instance.

There are also many computers we don't normally see, but are all around us – in automobiles and airplanes, and the tiny computers that run many appliances in our homes. But what exactly is a computer and what does it do?

Well, for starters, a computer is a device, a machine, that manages and stores all kinds of information. That information includes numbers, words, music and pictures.

Most computers have different parts to do all that managing and storing.

Mercer the cursor has volunteered to help us explain those parts. Say hello, Mercer.

MERCER: Dzhudzho!

NARRATOR: That's how cursors say, "hello."

PART 2: INPUT & OUTPUT DEVICES

MERCER: zrrphstmxxt!

NARRATOR: That's cursor talk for, "First, let's look at some things that get information into the computer, or 'input devices.'" A mouse is one of them.

MERCER: Ffftpbxggst!

NARRATOR: That's right, Mercer. The mouse is what gives you your energy. It moves you all around and puts you in the proper place.

Like this!

Two other input devices include the microphone, which puts sounds into many computers…and the webcam, which is one way to put video into the computer.

We use the keyboard to input letters, words and numbers and a scanner to get pictures inside.

Once the information, often called "data," is inside the computer, it's managed – or processed – so we can see it (or hear it) on an output device.

One common output device is the printer.

Another is the computer's monitor.

MERCER: Meekurrrz!

NARRATOR: Yes, that's right. Speakers are a kind of output device, too. They let us listen to the music and other sounds that have been put into, and processed by, the computer.

MERCER: Meerfooon!

NARRATOR: And, yes…earphones – still another output device – can be used, too.

Using earphones is the courteous thing to do if the sounds will disrupt others nearby. Okay, let's move on.

PART 3: PROCESSING & MEMORY

MERCER: Zzzpppuuuuuu!

NARRATOR: Yes, the CPU, or central processing unit. That's where information is sorted and managed and changed this way and that – or "processed." The CPU is small but very, very powerful! It's often called "the brains" of the computer.

Our brain is where we think and remember things – where we have our memory.

But a computer is different. Its memory isn't in the CPU.

In fact, it has its memory in several different places. The first is in what's called the "storage memory." This storage memory device is called a "hard drive." Once information is in storage memory, it stays there – even if the computer is turned off.

The second kind of memory is called RAM memory. When you're working on your computer, what you see on your monitor is usually what's in RAM memory.

When you save information, like this, the computer puts a copy of the information you see on your monitor – again, what's in RAM memory – into storage memory.

The information is saved into what's called a "file."

Information in RAM memory must be saved in a file or it will disappear when you turn off your computer, or close the program you're working on.

MERCER: aaaheeehyikesowwww!

NARRATOR: Mercer says he'd like to show what happens when you don't save.

MERCER: (Aaaheeehyikesowwww! Aaaheeehyikesowwww! Aaaheeehyikesowwww! Aaaheeehyikesowwww! Uh, oh!

NARRATOR: That's right, Mercer. You can look everywhere. But you won't find it because it's *gone*!

So always save your file every few minutes and before closing a program or turning off your computer!

Luckily, a little reminder pops up that tells you to save before you close the program – but not always.

MERCER: Eeeyup!

NARRATOR: There are several other kinds of storage memory devices besides the one found inside your computer. CD ROM disks are one kind; and small, exterior flash drives are another.

Disks are placed into the computer on trays and exterior flash drives are plugged in.

There are plug-in places, called "ports," on every computer. They are where devices like exterior flash drives and various kinds of cables can be plugged in.

Cables carry information from the computer to all kinds of devices, such as printers and monitors. Sometimes the information goes in the other direction.

Information isn't always sent through cables. This device sends and receives invisible signals called "infrared signals," to and from this mouse, which, as you can see, has no noticeable connection to its computer. It works just like an ordinary mouse, but without a cable.

Computers, then, have a lot of different parts – we haven't even mentioned all of them! With all these different parts – many of them very small and fragile-looking – you might think that computers are easy to break.

But if you treat your computer and its input and output devices well, they will work just fine for many years.

PART 4: PROPER CARE & PROTECTION

So let's take a few minutes to discuss their proper care and protection.

We'll start with the monitor. The first rule for monitor care is "don't touch the screen." Fingerprints are unsightly and can smear, making information difficult to read.

You shouldn't attempt to clean the monitor, either. Some cleaning chemicals can damage the screen!

You should handle the mouse gently. Scoot it along on a flat surface, and it will do its job just fine!

Disks should be handled on their edges so they won't be finger-printed, and they should never be placed on anything that might scratch them. Scratches can cause disks to malfunction – that is, fail to operate properly.

Whenever possible, put the disk in a plastic case or other container, where it won't be scratched.

Now, when you put the disk into the tray, slide it around gently to be sure that it's lying flat. If it isn't, the disk might jam when the tray drawer closes.

And speaking of jamming, never jam, or force, a cable or any other device into a port.

If it doesn't slide in easily, it's not made for that particular port.

Finally, it's best to keep snack foods away from the computer because sticky fingers make for sticky keyboards.

Others who use the computer probably won't appreciate what's left behind!

Foods – and liquids that could be spilled onto the keyboard, thereby ruining it – shouldn't be placed near any computer.

MERCER: Goooombye.

NARRATOR: So take a hint from our friendly curser. Thank you, Mercer.

MERCER: Nyuuurwelcum!

MERCER: Nyardnyer!

NARRATOR: Yes, that's right. So far we've been talking about what's called "hardware," the computer and the things plugged into it.

PART 5: SOFTWARE

Now we're going to talk about "software," the programs that make it possible for your computer do all kinds of things.

The most important software program on your computer is its operating system. Most computers use the Windows operating systems. They, along with all other operating systems do several things.

First, they help the computer work with its input and output devices.

Next, operating systems help other software programs work on the computer. We'll talk about them in a minute.

Third, the operating system helps people organize and find programs on their computer and the files they've saved.

Finally, the operating system displays the small pictures, called "icons," that when clicked, allow you to use the hardware, the operating system itself and all the other programs on the computer.

Those programs allow you to type a report for class, send an email to your grandparents, draw a picture, watch a movie or video – and lots more.

All these programs often are called "applications." You can start an application in several ways.

Here's one: on the area of the monitor screen that sometimes has program icons on it – it's called the "desktop" – you can click (or double click) the program you want to use.

Another way to start an application is to click the start button at the bottom left of the desktop – it normally looks like this or this. And if you've recently used the application you want to open (or start), you'll find it on the left side of the menu that pops up.

If it's not there, you'll have to click the "all programs" button. When you do, a list of all the programs on your computer pops up.

Once you find the program you want, you can click it, and the program will open.

All application programs have a menu near the top, and sometimes icons below it that, when clicked, allow you to do certain things to the words, numbers, sounds or pictures in the file you're working on.

To learn more about them, you can click the "help" menu. It can answer almost any question you have about the program.

The help menu also can be activated by pressing the F1 key at the top left side of the keyboard, next to the "escape" key.

PART 6: THE INTERNET

Now we're going to turn our attention to the Internet.

MERCER: José, Lönnie, Paul, Zorba, Adarsh, Ming, Tolo! Anmettemallonainnnernet!

NARRATOR: Mercer says that he's met these people from all over the world on the Internet and has received information from five continents.

He could do it because the Internet is a collection of millions upon millions of computers throughout the world, all connected together by what's called a "network."

To get onto the Internet, you'll need to open an Internet browser program. Most people use "Internet Explorer."

When you click it, you're taken to a "home page." Often, it's the home page of the company that provides the Internet service to your computer.

Sometimes, it's another home page. If you're using a school computer, for example, the home page will, more likely than not, be a special home page set up by your school or school district.

Some people set a "search engine," such as Google, as their home page.

A search engine searches the Internet for what you're looking for – information, music, videos, games, pictures and so on.

For youngsters, it's often best to use kids' search engines, such as *Yahoo Kids*, *Ask for Kids* or *Kidsclick* because they show Internet sites that are for young people, not adults.

All search engines have a search box where you can type in what you're looking for – in this instance, Abraham Lincoln.

When you click the search button next to it, you'll be taken to a list of websites that contain information on your search subject, or a page that will give various topics on Abraham Lincoln from which to choose.

If it's a list, there's usually a short description of each website to help you decide if it has what you're looking for.

When you click the name of the website, you'll be taken to it.

If you have a big brother or sister, you may have seen him or her using a chat room or a social network site, where people can post their pictures, chat with friends, and write information about themselves they want to share with others.

Hopefully, they're following some basic safety rules because as wonderful as the Internet is – and it truly *is* wonderful – everyone has to be careful when using certain Internet sites because you never really know for sure who's on the other end of that chat or who's looking at your personal web page.

It even could be someone who's even dangerous!

So here are some very important Internet rules everyone should follow: First, never tell your last name, your address, your phone number, or tell where you go to school.

Next, never email a picture of yourself to a person you've met online.

Third, if someone says something that makes you uncomfortable, get your parent.

Moreover, you should never meet an online acquaintance unless a parent – or parents – comes along.

And you should never give your password to anyone.

Always follow your family's Internet rules, and never open an email from anyone you don't know because it might contain a virus program that could damage your computer.

Finally, never order anything online unless your parents are there, or have given you permission to place the order.

REVIEW

Computers, then, are amazing machines that manage and store information – numbers, words, music and pictures.

There are devices that put information into the computer – input devices – and those that allow us to see or hear the information – output devices.

Computers have storage memory. Information stays in storage memory even when the computer is turned off.

Computers also have RAM memory. Information in RAM memory is what's on the monitor, and it disappears when the computer is turned off.

Together, the computer and its various parts are called "hardware."

Computer hardware will last many years if it is treated properly – so it's important to follow all the rules for their proper care.

Computer programs – called "applications" or "software" – make it possible for your computer do all kinds of things, including going on the Internet, where you'll need to follow a number of rules to keep yourself safe.

Computers – they allow us to have fun, learn many facts and do incredible things.

They're an important part of our lives today, and probably will be an even more important part of our lives in the future.

Jan's Computer Basics
http://www.jegsworks.com/Lessons/lesson1-2/lesson1-1.htm
An excellent source to learn more about computers, their
history and their uses

Computer Basics
http://dragon.ep.usm.edu/~it365/module/Basics/Basics.htm
A very good overview of the computer and its functions

The Living Internet
http://www.livinginternet.com/
An outstanding online tour of the Internet

Sample Questions – Computer & Internet Basics

Part I: What is a Computer?

1. What does Katy Nelson do on her computer? (plays games, emails friends, checks her school's activity schedule)

2. Name three different kinds of computers. (desktops, laptops, mainframes or super computers)

3. Name three things that are computers, although we don't think of them as such. (digital media players, cell phones, digital cameras)

4. What is a computer? (a device that manages and stores information)

Part II: Input & Output Devices

1. Name five input devices. (mouse, keyboard, scanner, microphone, webcam)

2. Name four output devices. (monitor, printer, speaker, earphones)

Part III: Processing & Memory

1. What is the CPU and what does it do? (central processing unit; sorts, manages and changes information)

2. What is storage memory? The computer's memory that doesn't disappear when the computer is turned off.

3. What is RAM? (The kind of memory that disappears when the computer is turned off; what's seen on the monitor)

4. What are two other kinds of storage memory? (CD ROM and flash memory)

5. What are ports? (plug-in places where devices and cables are plugged into the computer)

6. What do cables do? (carry information to and from the computer and its input and output devices)

Part IV: Proper Care & Protection

1. What are two proper care rules for the monitor? (Don't touch the screen and don't spray with chemicals.)

2. What are two proper care rules for the mouse? (handle gently, use on flat surface)

3. What are four proper care rules for CDs? (handle on edges, don't place on anything that could scratch them, store in a plastic container, slide gently in a tray to be sure it's lying flat)

4. What shouldn't be placed near the keyboard? (foods and liquids)

5. What is computer hardware? (the computer and all the things plugged into it)

Part V: Software

1. What is "software?" (the programs that make it possible for the computer to do many different things)

2. What is the most important software program? (the operating system)

3. Which operating systems do most computers use? (Windows)

4. What four things do operating systems do? (help computer work with input and (output devices, help other software programs work on the computer, helps us find and organize programs and files, displays icons.

5. How can you activate the help menu? (with the F1 key or by clicking the help icon)

Part VI: The Internet

1. What is the Internet? (a collection of millions of computers throughout the world, all connected by a "network."

2. What is a browser? (a program that's used to get on the Internet)

3. What is the most commonly used browser? (Internet Explorer)

4. What appears when you click the browser program? (home page)

5. What is a search engine? (a program that searches the Internet for a web page that contains what you're looking for)

6. Name three kids' search engines. (Yahoo kids, Ask for Kids, Kidsclick)

7. Name the 11 safety rules for using the Internet. (never give your last name, never give your address, never give your phone number, never tell where you go to school never email a picture of yourself to someone you've met online, get a parent if someone says something online that makes you uncomfortable, never meet an online acquaintance unless a parent comes along, never give your password to anyone, always follow your family's Internet rules, never open an email from someone you don't know, never order anything online unless your parents are there, or have given you permission to place the order)

Computer & Internet Basics Pre-Test

Directions: Write your answer in the space below each question.

1. Name three things that get information into a computer.

2. A desktop is one kind of computer. Name two other kinds.

3. What does "CPU" mean?

4. What are the two kinds of memory in a computer?

5. What is a "flash drive?"

6. How should CDs be stored?

7. What is "software?"

8. What is a "browser" program?

9. Define the term "Internet."

10. What program do you use to find something on the Internet?

Our Computer & Internet Basics Unit

Dear Parent:

As you know, computers have become an increasingly essential part of our lives. As such, it is vitally important that your child have a basic understanding of this crucial technology.

With that in mind, we will start our Computer & Internet Basics unit in a few days. The unit will have seven lessons: (1) What is a Computer? (2) Input and Output Devices; (3) Processing and Memory; (4) Proper Care of the Computer; (5) Software; (6) The Internet; and (7) A Unit Review.

I would like to ask for your help in this unit. I have attached a unit outline with this letter. Please look it over, and review the information with your child. It would also be helpful if you could use a home computer with your child to practice some of the concepts and skills that will be introduced. This will be particularly important when we discuss the Internet. It is very important that your child learn to use browsers and search engines in order to do research projects in the years to come. These are vital skills he or she will be able to use later in life, also. Please note that we will be discussing safety issues when using the Internet. These also are extremely important and we would like you to emphasize them at home. I would encourage you to establish some Internet usage rules that would be appropriate in your household and, if you have not already done so, download blocking programs that will protect your child from inappropriate sites.

Thank you very much for your cooperation.

Sincerely,

Computer & Internet Basics Outline

I.   Lesson One: What is a computer?

   A. Different kinds of computers

      1. Desktop
      2. Laptop
      3. Mainframe and supercomputer
      4. Others

   B. Computers we don't see, but are there, in

      1. Cars
      2. Airplanes
      3. Home appliances

   C. Computers that we don't think of as computers

      1. Digital media players
      2. Cameras
      3. Cell phones
      4. Others

   D. Definition: a device (machine) that manages and stores all kinds of information

      1. Numbers
      2. Words
      3. Music
      4. Pictures
      5. Other

II. Lesson Two: Input & Output Devices

   A. Input Devices

      1. Mouse
      2. Microphone
      3. Webcam
      4. Keyboard
      5. Scanner

  B. Output Devices

    1. Printer
    2. Monitor
    3. Speakers
    4. Earphones

III. Lesson Three: Processing & Memory

  A. CPU or Central Processing Unit

    1. Sorts and manages information
    2. Known as the "brains" of the computer

  B. Storage memory: stays in the computer when turned off

    1. Hard drive
    2. Flash drive
    3. Compact Disk

  C. RAM: disappears when computer is turned off

    1. What's seen on monitor
    2. Must be saved
    3. Files

  D. Ports, cables, wireless devices

IV. Lesson Four: Proper Care & Protection

  A. Caring for the monitor

    1. Don't touch screen
    2. Don't spray with chemicals

  B. Caring for the keyboard

    1. Food – prohibited
    2. Drinks – prohibited

  C. Caring for the mouse

    1. Use on flat surface
    2. Don't handle roughly

D. Caring for disks

    1. Handle on edges
    2. Don't lay on things that can scratch
    3. Store in plastic container, other

E. Never force cable into port

V.   Lesson Five: Software

A. Operating systems

    1. Windows
    2. Others (OS X, Linux, Unix, etc.)

B. What operating systems do

    1. Help computer work with input and output devices
    2. Help other software programs work on the computer
    3. Helps people organize and find programs and files
    4. Displays icons that, when clicked, allow you to operate software and hardware

C. Applications: software that allows you to do many different things on computer

    1. Three ways to start applications
    2. Menus
    3. Icons
    4. The help menu and the F1 key

VI.   Lesson Six: The Internet

A. Definition: collection of millions upon millions of computers connected by a "network"

B. Browser programs

    1. Gets computer on the Internet
    2. Home pages

C. Search engines

    1. Searches for what you're looking for on the Internet
    2. Kids' search engines
    3. Search boxes, website listings and how to use them

D. Safety Rules for the Internet

1. Never give last name
2. Never give address
3. Never give phone number
4. Never tell where you go to school
5. Never email a picture of yourself to someone you've met online
6. Get parent if someone says something online that makes you uncomfortable
7. Never meet an online acquaintance unless a parent comes along
8. Never give your password to anyone
9. Always follow your family's Internet rules
10. Never open an email from someone you don't know
11. Never order anything online unless your parents are there, or have given you permission to place the order

VII.   Lesson Seven: Review

Computer & Internet Terms

Directions: Some computer and Internet terms are found below. Knowing what they mean will help you better understand computers and how they operate.

1. Computer:

2. Laptop:

3. Mainframe:

4. Desktop:

5. Input device:

6. Output device:

7. Storage memory:

8. RAM:

9. CPU:

10. Flash drive:

11. CD:

12. Port:

13. Cable:

14. Monitor:

15. Hardware:

16. Software:

17. Application:

18. Operating system:

19. Help menu:

20. Internet:

21. Home page:

22. Browser:

23. Search engine:

24. Search box:

25. Internet safety rules:

Is <u>This</u> a Computer?

Directions: Some things don't look like computers. Even so, they really *are* computers. Put a check mark next to the thing that is a computer. Cross out anything that isn't a computer. The pictures show a calculator, digital radio, thermostat, camera, cell phone, and a small GPS navigation system.
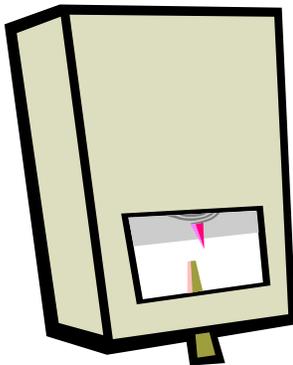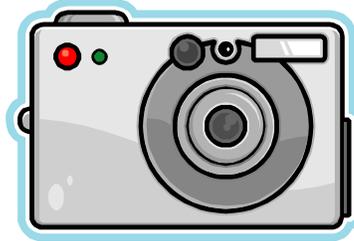
More on Mercer and Cursors
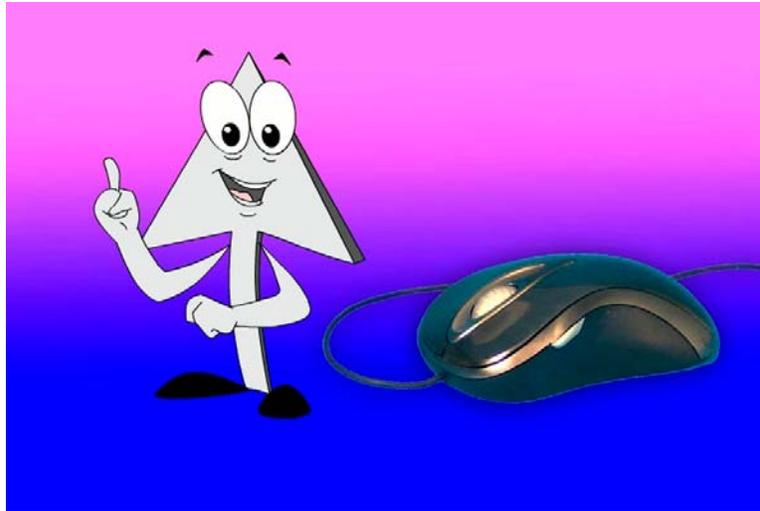
If you have used a computer, you probably know that a cursor is the thing you move around to get to different places on what you see on the monitor.

The cursor is often shaped like Mercer – as an arrow. But a cursor can have many other shapes, too. When you type a report, the cursor often looks like a straight up-and-down line.

Sometimes the cursor looks like a cross, a square, a circle, a capital "I," or other shapes. The cursor's shape depends on the program you're using.

Most people use a *mouse* to move the cursor. But you don't need a mouse to do it. Some people use the *cursor keys* at the bottom right of the keyboard. The keys have arrows on them. When you press the up arrow key, the cursor moves up. The down arrow key moves the cursor down. The right cursor arrow key moves the cursor right. And the left cursor arrow key moves the cursor to the left.

Some computers, usually laptops, have a *touchpad* to move the cursor. You move your finger on the pad and the cursor will move the same direction your finger moves.

Some laptop computers have a small *pointing stick* near the center of the keyboard that you can push around to move the cursor. The stick looks somewhat like the top of a pencil eraser.

Do you remember what you have just read? Test yourself by writing in the space below the four ways to move cursors.

Name _____

The Modem: An Important Input & Output Device

You saw many input and output devices in the video. There's another kind of device that's both an input *and* output device. It allows computers to receive and send information from all over the world. It's called a modem.

Some modems are found inside the computer. Some are found outside the computer and are attached by a cable. Modems receive and send information through telephone lines, cables, satellites and other devices.

Modems are one of the most important parts of the computer because they allow us to talk back and forth to others all around the world (on Internet phones). They also allow us to receive and send written messages, music, pictures, videos and other kinds of information.

If you have a computer at home, it almost certainly has a modem. Find out if it's a phone modem, a cable modem, a satellite modem or another kind. Write what kind it is below.

Processing & Memory: Faster & Bigger
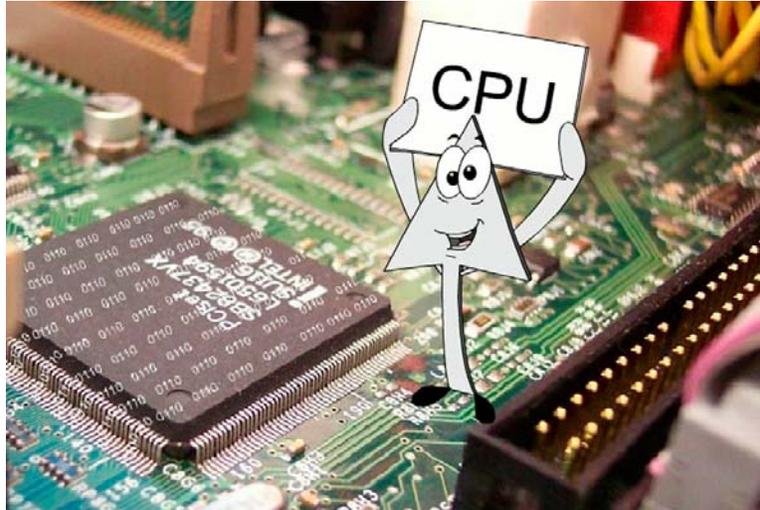
Information in CPUs is processed – changed this way and that – at blazingly fast speeds. In fact, the speeds are so rapid that we can't even begin to imagine how fast they really are. <u>Billions</u> of numbers can be added, subtracted, divided and multiplied in a matter of seconds, for instance. That's fast! Scientists, engineers and people in large businesses need to process huge amounts of information. Moreover, they need everything to be mistake-free. So it's no wonder that they depend on computers and their CPUs. Fortunately, CPUs get faster all the time.

Computer memory gets larger all the time, also. More RAM allows the computer to work faster. Larger storage memory allows the computer to store more information. Computer scientists try to make CPUs still faster and storage and RAM memory even larger.

They also try to make computers more dependable. One way is to improve storage memory.

One part of a hard drive is a spinning disk on which the information is placed. Because the disks spin so much, they eventually wear out. So computer scientists have looked for more reliable storage memory devices. Flash drives have no moving parts, so they don't wear out. But the information in flash memory devices can be lost after a year or so. So they're not perfect, either.

The latest attempt to find a better storage memory device is called a "memristor." It's unlike any other memory device, and scientists think it may be perfect for storage memory. It doesn't wear out and its information isn't lost over time.

Taking Care of Your Computer

Directions: How well do you take care of your computer? Check the boxes next to the statement that applies to you. The more checked boxes there are, the better you take care of your computer.

❑　 I never touch the monitor screen.

❑　 I never spray cleaning chemicals on the monitor screen.

❑　 I always use the mouse on a flat surface and treat it gently.

❑　 I never eat snack foods when working on the computer.

❑　 I never put liquids near the computer keyboard.

❑　 I always handle CDs and DVDs by the edges.

❑　 I never put CDs or DVDs on anything that can scratch them.

❑　 I always put CDs and DVDs in a plastic storage container.

❑　 I gently slide CDs and DVDs in the tray to make certain they're lying flat.

❑　 I never jam cables or other devices into ports.

Dangerous Software

If your computer has an Internet connection, it must be protected from dangerous software programs called viruses, worms and spyware. Written by criminals, these programs can enter your computer through its Internet connection and can either damage it, destroy the information in its storage memory or steal important information such as credit card, social security, and bank account numbers.

Operating systems have programs called "firewalls" that help protect your computer from many of these dangerous programs. But firewall programs don't always protect the computer. For that reason, computer experts say that everyone should have additional programs that protect against these destructive and dangerous programs.

The dangerous software also can get into your computer if you share disks with other people. Their computer may be infected and when they transfer a file from the computer to the disk, it can be infected with the virus. When you put the disk into *your* computer, the infection passes into it.

Another way viruses, spyware and worms may get into your computer is through email. That's why you should never open an email from someone you don't know. It's especially important that you never open a picture file or any other file attached to an email. That attachment may be a dangerous computer program.

Is your family's computer protected against programs written by criminals? Has it ever been infected by a virus, worm or spyware? If so, what happened to the computer? How was it fixed?

Computer & Internet Basics Review Outline

Directions: Fill in the blank spaces in the outline.

I.   Lesson One: What is a computer?

   A. Different kinds of computers

      1.
      2.
      3.
      4.   Others

   B. Computers we don't see, but are all around us

      1.
      2.
      3.

   C. Things that we don't think of as computers, but really are

      1.
      2.
      3.
      4.   Others

   D. Definition of a computer:

      Examples of computer information:

      1.
      2.
      3.
      4.
      5. Others

II. Lesson Two: Input & Output Devices

   A. Input Devices

      1.
      2.
      3.
      4.
      5.

Computer & Internet Basics Review Outline, p. 2

      B. Output Devices

            1.
            2.
            3.
            4.

III. Lesson Three: Processing & Memory

      A. CPU or Central Processing Unit: what it is and what it's known as

            1.
            2.

      B. Storage memory: stays in the computer when turned off. Examples

            1.
            2.
            3.

      C. RAM: Information disappears when computer is turned off

      D. Ports, cables, wireless devices

IV. Lesson Four: Proper Care & Protection

      A. Caring for your monitor: two rules

            1.
            2.

      B. Caring for the keyboard: two rules

            1.
            2.

      C. Caring for the mouse: two rules

            1.
            2.

Computer & Internet Basics Review Outline, p. 3

    D. Caring for disks: three rules

        1.
        2.
        3.

V. Lesson Five: Software

    A. Operating systems: examples

        1.
        2. Others

    B. What operating systems do

        1.
        2.
        3.
        4.

    C. Applications: three ways to start

        1.
        2.
        3.

VI. Lesson Six: The Internet

    A. Definition:

    B. Browser programs

        1. What they do:
        2. Where they take you:

    C. Search engines

        1. What they do:
        2. Where they take you:

Computer & Internet Basics Review Outline, p. 4

D. Internet Safety Rules

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

Computer & Internet Basics Unit Evaluation, Page 1

Part I

Directions: Put a "T" next to all true statements and an "F" next to all false statements.

___ 1. A computer is a device that stores and manages information.

___ 2. There are computers in airplanes, but not in cars.

___ 3. Three kinds of computers are desktops, laptops and flash drives.

___ 4. Cell phones and digital media players are computers.

___ 5. A mouse is an output device.

Part II

Directions: Put an "O" on the blank space if the item is an output device and an "I" on the blank space if the item is an input device.

1. Scanner ___
2. Monitor ___
3. Webcam ___
4. Headphones ___
5. Printer ___

Part III

Directions: Define the terms.

1. RAM _____
2. CPU _____
3. Port _____
4. Browser_____
5. Search Engine _____

Computer & Internet Basics Unit Evaluation, Page 2

Part IV

Directions: Draw a line from the device to its proper care rule.

Device	**How to Care for It**
Keyboard	Handle by its edges
Mouse	Never force a cable into it
Monitor	Keep food and liquids away
CD	Never touch or spray with a chemical
Port	Move on a flat surface

Part V

Directions: Fill in the blanks.

Four things that operating systems do are _____,

_____,

_____,

and _____.

You can get to the help menu on most programs by pressing the _____.

Part VI

Directions: In the space below, name seven Internet safety rules. You will get extra credit for every additional rule you can name.