

EUROPEAN PROGRAMME

LLP - Leonardo da Vinci - Transfer for Innovation

**“e-Commerce
for traditional products - women 50+”**

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BASIC PC TRAINING

INTRODUCTION TO COMPUTERS AND THEIR USE



GENERAL INTRODUCTION TO COMPUTERS AND THEIR USE

CURRICULUM

Learning goals	Contents	Focus and form of training	Teaching aids and materials	Time
Make participants to realize that they already use "computers" in their everyday life (e.g. machines).	<ul style="list-style-type: none"> Familiarizing students with certain computing concepts. A practical approach with the use of appliances and devices (e.g. calculators). Psychological aspects (e.g. "computers" have been in our lives in the past 50 years). 	<ul style="list-style-type: none"> lectures demonstrations 	<ul style="list-style-type: none"> notebooks 	2 lessons
Present and answer these questions: 1. "What is a personal computer and which are its parts?" 2. "What do its parts do?"	Interactive presentation of a full computer system: <ul style="list-style-type: none"> The tower and its parts. The monitor. The mouse. The keyboard. The printer. Some basic glossary 	<ul style="list-style-type: none"> demonstrations guided practice lectures 	<ul style="list-style-type: none"> notebooks worksheets 	4 lessons
Present some aspects of the computer use (at absolute beginner's level).	<ul style="list-style-type: none"> Turning the computer on and off. Use of the mouse. Use of the keyboard. Use of the printer. 	<ul style="list-style-type: none"> lectures with demonstrations guided practice 	<ul style="list-style-type: none"> notebooks 	6 lessons
Build on the previous lessons and extend the use of specific computer programs (at absolute beginner's level).	<ul style="list-style-type: none"> Writing a text (very basic use of Word or other writing software.) Printing a text. Creating an MS Excel file (very basic use of MS Excel or other similar program). Printing an Excel file. Some basic glossary 	<ul style="list-style-type: none"> lectures and demonstrations guided practice 	<ul style="list-style-type: none"> notebooks worksheets 	6 lessons
Build on the previous lessons and extend the communication possibilities that personal computers offer (at absolute beginner's level).	<ul style="list-style-type: none"> The Internet: theory, origins and simple use. Recreational uses of the Internet. Personal electronic mail box. Writing, sending, receiving and printing an e-mail. Some basic glossary 	<ul style="list-style-type: none"> lectures and demonstrations guided practice 	<ul style="list-style-type: none"> notebooks worksheets 	6 lessons



TEACHING MATERIALS

Get Familiar



Many people think that they are scared of computers because they think they are unfamiliar with them. That is not true. Every one of us is being exposed to computers and their services at least for the last twenty years. Microwave ovens, automatic washing machines, mobile phones, TV sets, dishwashers, digital washes, hi-fi sets and cars are just some examples of our everyday use of computers.

However, just because computers have been around for a while it does not mean that everyone knows how to use them. It is not usual to feel a bit of fear the first time you sit down in front of that intimidating monitor and keyboard. *Which keys should you press? What do they mean by double-clicking the mouse? Moreover, what are all those little pictures on screen?*

As foreign as all this might seem at first, computers really are not that hard to understand or to use. You have to learn a few basic concepts, of course, and it helps to understand exactly what part of the system does what. However, once you get the hang of things, computers are easy to use.

You can use your computer for various purposes. Many people use their home computers for work related purposes. You can bring your work home from the office and finish it on your home computer at night or weekends. Alternatively, if you work at home, you can use your computer pretty much to run your small business – you can use it to do everything from typing memos and reports to generating invoices and setting budgets.

Not only you can use your computer to play some interesting games, you can also use it to track your favourite hobby, create interesting crafts projects, print pictures from your latest family vacation, listen to your favourite music, and watch your favourite videos. In fact, with the right software and hardware, you can even use your computer to edit movies you take with your video camera.

A lot of people think that if they press the wrong key or click the wrong button they will break something or will have to call in an expensive repairperson to put things right. This really is not true. Yes, it is possible to break something if you drop it, but in terms of breaking your system through normal use, it just does not happen that often. It is possible to make mistakes, of course.

You can click the wrong button and accidentally delete a file you did not want to delete or turn off your system and lose a document you forgot to save. You can even take inadequate security precautions and find your system infected by a computer virus. However, in terms of doing serious harm just by clicking your mouse, it is unlikely. So, do not be afraid of the computer. It is a tool, just like a hammer, a blender or a camera. After you learn how to use it, it can be a very useful tool.



Computer system, software, hardware, operating systems

Computer hardware is those things you can touch – the system unit and everything connected to it, the monitor, keyboard, mouse and printer. Computer software on the other hand is something you cannot touch, because it is nothing more than a bunch of electronic bits and bytes. These bits and bytes, however, combine into computer programs - sometimes called applications – that provide specific functionality of your system.

There are a lot of different pieces and parts that make up a typical computer system. No computer system is identical with the rest; since you can always add new components to your system – or disconnect other pieces, you do not have any use for them. The basic material elements that you will find in all computers are the **system unit, the monitor, the keyboard, the mouse and the speakers**. Of course, one can add many items to the personal computer system, including printers, scanners, computer video cameras, joysticks and external hard disks. You can even add the appropriate devices to connect several computers together in a network.

An **operating system** is, as the name implies, a program that makes the system operate. It is the gateway to the hardware part of the system. The operating system allows your application software to interface with your computer hardware. When you want to print a document from word processor, the software works with the operating system to send the document to the printer. Most computers today use the operating system called Windows. This operation system has been around for more than twenty years and is published by Microsoft Corporation.

However, Windows is not the only operating system around. Computers manufactured by the company Apple Computers use different operating system, called Mac OS. Then there is Linux, which is compatible with most computers sold today, but used primarily by technical types of people.

The system unit



It is the most important piece of hardware in your computer system. The big box houses the disk drives and many other components. Most system units stand straight up like a kind of a tower – and are in fact called either computer tower or mini-tower depending on the size.

The back of the system unit typically is covered with all types of connectors. This is because all the other parts of your computer system connect to your system unit and they all have to have a place to plug in. If you open the case of the system unit, you see all sorts of computer chips and circuit boards. The big board located at the base of the computer is called the motherboard because it is the mother for the microprocessor and memory chips, as well as for the other internal components that enable your system to function.



The **microprocessor** is the brain inside the system. It processes all the instructions necessary for the computer to perform its duties. The more powerful the microprocessor, the faster and more efficiently the system runs. Before a computer can process any instructions you give it, your instructions must be stored somewhere, in preparation for access by the microprocessor. These instructions are temporarily held in the computer's **random access memory (RAM)**. All computers have some amount of memory measured in terms of bytes. One byte is approximately one character in a word processing document.

Another important physical component inside the system unit is the hard disk drive. The hard disk permanently stores all your important data. Before data can be stored on any disk, that disk must first be formatted. A disk that has not been formatted cannot accept any data. Of course, when you buy a computer, the hard disk is already formatted for you.

Not all the storage on the computer is inside the system unit. Most computers have a front accessible CD-ROM drive, install CD-based software programs and copy data from computer hard disk to a blank CD-ROM disk. Beyond is the newer DVD medium that can contain up to 4.7GB of data, is usually read-only and can read CD-ROMs.

The monitor



To operate a computer would be difficult if you did not constantly receive visual feedback showing what your machine is doing. Your computer's monitor provides this vital function.

The traditional CRT monitor is a lot like a little television set. The microprocessor electronically transmits words and pictures (text and graphics, in computer lingo) to the monitor, in some approximation of how these visuals would appear on paper. You look at the monitor and respond according to what you see on screen. The preferred type of monitor in use today is LCD monitor, which provides a flat screen display that saves a bit of desk space. Even better some LCD monitors come with a widescreen display that has the same 16:9 (or 16:10) aspect ratio used to display widescreen movies – which makes them ideal for viewing or editing movies on your PC.

Neither CRT nor LCD monitors generate the images they display. Instead, a graphic card installed inside your system unit electronically crafts screen images. To work correctly, both graphic card and monitor must match together to display images of the same resolution. Resolution refers to the size of the images that can be displayed on screen and it is measured in pixels. A pixel is a single dot on your screen; a full picture is composed of thousands pixels. The higher the resolution, the sharper the resolution and this lets you display more (smaller) elements on screen.



The keyboard



Computers receive data by reading them from disk, accepting them electronically over a modem or receiving input directly from you, the user. You provide your input by way of what is called, in general, an input device; the most common input device you use to talk to your computer is the **keyboard**.

A computer keyboard looks and functions just like a typewriter keyboard except that computer keyboards have a few more keys. Some of these keys enable you to move around within a program or file. Other keys provide access to special program features. When you press a key on your keyboard, it sends an electronic signal to the system unit that tells your machine what you want it to do.

Most keyboards that come with new computer hook up via a cable to the back of the system unit. However, some manufacturers make wireless keyboards that connect to the system unit via radio signals – thus eliminating one cable from the back of the system.

The mouse



It is a funny name but a necessary device. It is a small handled gadget. Most mice consist of an oblong case with a roller underneath and two or three buttons on top. When you move the mouse along a desktop, an on-screen pointer (called a cursor) moves in response. When you click (press and release) a mouse button, this motion initiates an action in your program.

Mice come in all shapes. Some have wires and some are wireless. Some are relatively oval, and others are all curvy to better fit in the palm of your hand. Some have typical roller ball underneath and others use an optical sensor to determine where and how much you are rolling. Some even have extra buttons that can be programmed for specific functions or a scroll wheel you can use to scroll through long documents or web pages.

The left button is used for operations like a choice of objects (with a single click), a double click can put an application in operation, or you can close a file. The right button accesses a pull down menu. The central button is applied in some applications only.



The printer

For permanent records of your work, you must add a printer to your system. Printers create hard copy output from computer programs. The two main types of printers today are laser and inkjet printers. **Laser printers** work much like machines, applying toner to paper by using a small laser. **Inkjet printers**, on the other hand, shoot jets of ink to the paper's surface to create the printed image. Inkjet printers are typically a little lower priced than laser printers, although the price difference is shrinking.



You can also choose from black and white or colour printers. Black and white printers are faster than colour printers, which on the other hand are essential if you want to print pictures taken from a digital camera.

Practice:

1. Connect all the parts of your computer to the system unit.
2. Open the CD-ROM drive and insert a CD with music.
3. Press the button to put inside the CD.
4. Turn on the speaker system and increase the volume to listen to the music.

Basic Functions

Turning computer on and off

It is important that you turn on things in the proper order. Follow these steps:

1. Turn on your monitor.
2. Turn on your speaker system – but make sure the speaker volume knob is turned down (toward the left).
3. Turn on any other system components that are connected to your system unit such as your printer, scanner, and external modem. (If your computer is connected to an Ethernet network, make sure that the network router is turned on.)
4. Turn on your system unit.

Note: Your system unit is the last thing you turn on. That is because when it switches on, it has to sense the other components of your system – which it can do only if the other components are plugged in and turned on.

When you want to turn off your computer, you do it through Windows. It is the recommended procedure and you should always choose this way to turn off the computer. To shut down Windows and turn off the computer, follow these steps:

1. Click the **Start** button to display the **Start menu**.
2. Click the right arrow next to the **Power button** at the lower-right corner of the menu; then select **Shut Down**.
3. Manually turn off your monitor, printer and other peripherals.



Use of the mouse

Some important operations performed with the mouse are pointing and clicking, double clicking, dragging and dropping and right clicking. You simply move the mouse so that the cursor is pointing to the object you want to select and then click the left mouse button once. This is an effective way to select menu items, directories and files. **Double-clicking** on an item is needed on the other hand to activate an operation, for instance to launch a programme or open a file folder. This involves pointing at something on screen with the cursor and then clicking the left mouse button twice in rapid succession. When you select an item and then click the right mouse button, you will often see a pop-up menu. This menu, when available, contains commands that directly relate to the selected object. For example, if you right-click a file icon, you will see commands related to that file – copy, move, delete and so on.

Use of the keyboard

The **keyboard** is the main peripheral unit of entering data in the computer. In the centre of the keyboard, there are keys that produce letters and numbers. On the upper part, there are some additional keys that perform special functions (**F1, F2, F3,F12**). On the right part, there is the numerical keyboard. If you want to use a letter in capital, you press and hold "**Shift**" and then press just once the letter you want in capital. If you want to write many capital letters one after the other then press "**Caps Lock**".

The basic keys of the keyboard are **Enter, Esc, Alt, Insert, Delete** and **F1**. These perform various actions like inserting or deleting data from a specific location, cancelling of an operation or closing of a programme in use, asking for help etc.

Use of the printer

To print a file:

1. Select the file by clicking on it.
2. From **File** menu select **Print**.
3. The printer's icon will appear down on the right of the screen, next to time and when printing is ready Windows will send the information on the printer, whose operation light will start blinking.

To see the files you have sent for printing and other information concerning printing double-click on the printer's icon down on the right or choose **Start-Settings-Printers** and open the window for printing management by double-clicking on it. Then a window appears with all information on the files that are sent on the printer and their current status. To cancel a printing job click on it on the list print preview and press **DEL** on the keyboard.

Working with Word

Computers always come with a bunch of programs preinstalled on their hard disks. Which particular programs are preinstalled on the computer depends on what sort of arrangements the computer manufacturer made with the software dealers. Many computer manufacturers preinstall some sort of software "*suite*", which is basically a bundle of useful productivity programs. For many users, this suite of programs will be all they need to perform basic computer tasks such as letter writing and number crunching.



The most common software bundle installed on new computer systems is Microsoft Works, which includes a variety of different functions – word processor, spreadsheets etc. Alternatively, some higher priced computers have Microsoft Office installed, which is a more fully featured suite than Microsoft Works.

When you want to write a letter, fire off a quick memo, create a report or create a newsletter, you use the software program called word processor. For more computer users Microsoft Word is the preferred word processing program.

Anything you create with Word is called a document. A document is nothing more than a computer file that can be copied, moved and deleted – or edited, from within Word. Any new word document you create is based on what is called a template. A **template** combines selected styles and document settings – and, in some cases, prewritten text or calculated fields.

To open a previously created document in Word 2007, click the office button and select **Open**; in Word 2003, select **File - Open**. When the **Open** dialogue box appears, navigate to and select the file you want to open; then click the **Open** button. Every document you make and you want to keep, must be saved in a file. The first time you save a file you have to specify a filename and location. When you make additional changes to a document, you must save those changes.

You enter text in a word document at the insertion point, which appears on screen as a blinking cursor. When you start typing on your keyboard, the new text is added at the insertion point. You move the insertion point with your mouse by clicking on a new position in your text. You move the insertion point with your keyboard by using your keyboard's arrow keys.

After you have entered a text, it is time to edit. With Word you can delete, cut, copy or paste text – or graphics – to and from anywhere in your document, or between documents. Before you can edit text, though, you have to select the text to edit. The easiest way to select text is with your mouse; just hold down your mouse button and drag the cursor over the text you want to select. You also can select text using your keyboard; example, **Shift+Left** arrow selects one character to the left; **Shift+End** select all text to the end of the current line.

Any text you select appears as white text against a black highlight. After you have selected a block of text, you can then edit it in a number of ways:

Delete	Del
Copy	Ctrl+Ins or Ctrl+C
Cut	Shift+Del or Ctrl+X
Paste	Shift +Ins or Ctrl+V

After the text is entered and edited, you can use Word's numerous formatting options to develop the document. It is easiest to edit text when you are working in print layout view because this displays your document as it will look when printed. To switch this view, pull down the view **Menu** and select **Print Layout**. To form a block of text, highlight the text and then click the desired format button.

Word has an automatic spell checking. When you misspell a word, a red line is displayed under the misspelling. This means that there is a spelling error. When you see the spelling error position the cursor on top of the misspelled word and right-click your mouse. Word now displays a pop-up



menu with its suggestions for spelling corrections. You can choose a replacement word from the list, or return to your document and manually change the misspelling. Sometimes Word meets a word it does not recognize, even though the word is spelled correctly. In these instances, you can add the new word to Word's spelling dictionary by right clicking the word and selecting **Add** from the pop-up menu.

When you have finished editing your document, you can instruct Word to send a copy to your printer. It is a good idea however to preview the printed document on screen before you print it so you can make any last minute changes without wasting a lot of paper. The fastest way to print your document is with Word's quick print option. You activate a fast print by clicking the **Office** button and selecting **Print, Quick Print**. When you do a fast print of your document, you send your document directly to your default printer. This bypasses the print dialogue box and all other configuration options.

Sometimes fast printing is not the best way to print. For example, you might want to print multiple copies, or print to a different (non-default) printer. For these and similar situations, you need to use Word's print dialog box. You open the print dialog by clicking the **Office** button and selecting **Print, Print**. After you have the print dialogue box displayed, you can choose any of a number of options specific to this particular print job. After you have made your choices, click the **OK** button to start printing.

Working with Excel

When you are in the computer and you want to crunch some numbers you use a program called spreadsheet. There are several different spreadsheet programs available to your personal computer. The most popular among serious number crunchers is Microsoft Excel, which we included as part of the Microsoft Office Suite (others include Lotus 1-2-3 and Corel's Quattro Pro).

A spreadsheet is nothing more than a giant list. The list can contain just about any type of data one can think of text, numbers, and even dates. You can take any of the numbers on the list and use them to calculate new numbers. You can sort the items on the list, pretty them up, and print the important points in a report. You can even demonstrate your numbers in a pie, line or bar chart!

All spreadsheet programs work in very similar fashion. In a spreadsheet, everything is stored in little boxes called cells. The spreadsheet is divided into lots of these cells, each located in a specific location on a giant grid made of rows and columns. Each single cell represents the intersection of a particular row and column. Each column has an alphabetic label and each row has a numerical label. The location of each cell is a combination of its column and row locations.

Entering text or numbers into a spreadsheet is easy. Just remember that data is entered into each cell individually – then you can fill up a spreadsheet with hundreds or thousands of cells filled with their own individual data.

To enter data into a specific cell, follow these steps:

1. Select the cell you want to enter data into it.
2. Type your text or numbers into the cell; what you type will be echoed in the Formula bar at the top of the screen.
3. When you finished typing data into the cell, press **Enter**.

Excels lets you enter just about any type of algebraic formula into any cell. You can use these formulas to add, subtract, multiply, divide and perform any combination of those operations. The most common operation in any spreadsheet is the addition of a group of numbers. Excel makes



summing up a row or column of numbers easy via the **AutoSum** function. You just have to follow these steps:

1. Select the cell at the end of a row or column of numbers, where you want the total to appear.
2. Click the **Autosum** button in the Editing section.

Excel automatically sums all the preceding numbers and places the total in the selected cell. Excel's **AutoSum** also includes a few other automatic calculations. When you click the down arrow on the side of the AutoSum button, you can perform the following operations:

- **Average**, this calculates the average of the selected cells.
- **Count Numbers**, this counts the number of selected cells.
- **Max**, this returns the largest value in the selected cells.
- **Min**, this returns the smallest value in the selected cells.

Practice:

1. Turn off the computer. Restart the computer.
2. Move the cursor over the button "**Start**" and select "**Help**" from the menu. Select the theme "**Microsoft Office Word Help**". Navigate through the themes that interest you.
3. Click on "**Start**" button. Then put the cursor on the icon "**My Computer**" and doubleclick.
4. Type in a Word document the phrase "**Personal Computer**" and print the page.
5. Create an Excel file with the contact details of your colleagues and print it.



Internet

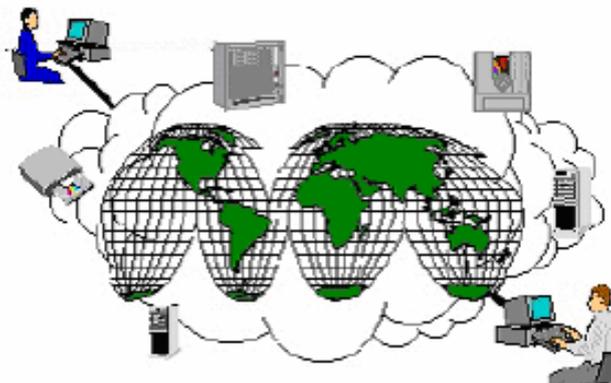
The Internet: theory and origins

The majority of people today buy computers to access the Internet – to send and receive email, surf the Web, and chat with other users.

What is the Internet?

- A network of networks, joining many government, university and private computers together and providing an infrastructure for the use of e-mail, bulletin boards, file archives, hypertext documents, databases and other computational resources.
- The vast collection of computer networks which form and act as a single huge network for transport of data and messages across distances which can be anywhere from the same office to anywhere in the world.

Brief history of the Internet



- **1968** - DARPA (Defence Advanced Research Projects Agency) contracts with BBN (Bolt, Beranek & Newman) to create Arpanet.
- **1970** - First five nodes:
 - o UCLA,
 - o Stanford,
 - o UC Santa Barbara,
 - o University of Utah,
 - o BBN.
- **1974** - TCP specification by Vint Cerf.
- **1984** – On January 1, the Internet with its 1000 hosts converts en masse by using TCP/IP for its messaging.



Internet growth trends

1977:	111 hosts on the Internet
1981:	213 hosts
1983:	562 hosts
1984:	1,000 hosts
1986:	5,000 hosts
1987:	10,000 hosts
1989:	100,000 hosts
1992:	1,000,000 hosts
2001:	150 – 175 million hosts
2002:	over 200 million hosts
By 2010,	about 80% of the planet will be on the Internet.

You can connect to the Internet through an Internet service provider. You need to set up an account with an ISP before. You can sign up for either dial-up or broadband service. After you have an account, you configure Windows for your new account. You surf the web with a programme called a web browser. Internet Explorer is probably the browser installed on your new computer. You can go to a particular web page by entering the page's address in the **Address row** and then pressing **Enter**.

Recreational uses of the Internet

The Internet is a great place to buy all kinds of things like CDs, books and other just with the click of a mouse. Some of the users are still hesitant to do their shopping on line but in general, the Internet is a safe place to shop. The Internet is also a great place to make your travel reservations by using one of the numerous travel sites.

Commonly used is the social networking site that is called **MySpace** but it is not the only one. It is a place where users of any age can network with one another, sharing their likes and dislikes, opinions and advice. **MySpace** users create their own profiles pages, complete with personal info, photos, lists of friends, blogs entries etc.

Anyone can create his or her own page or site on the web. All you need is a web page editing program (to create your pages) and a web hosting community (to host your pages). Web pages are built using the HTML programming language. To create a personal web page, check out one of the large page building communities such as **Yahoo**, **Geocities** or **Google Page Creator**.

Moreover, you can download songs from **iTunes Store**, **URGE** and other on-line music stores and you can use any audio player programme, like **Windows Media Player** or the **iTunes player**, to play back digital audio files. Internet radio is also a way to listen to digital music through real world and web-only radio stations broadcasting on the Internet. You could also explore many useful websites like news, sports and weather, financial information, medical information, photos, maps, travel guides, games, entertainment.



Personal electronic mailbox

Email is a modern way to communicate with friends, family and colleagues. An email message is like a regular letter, except that it is composed electronically and delivered almost immediately via the Internet. You can use several programs to send and receive e-mail messages (e.g. Microsoft Outlook, Windows Mail or Outlook Express).

Composing a new email message is easy and not much different from writing a memo in Microsoft Word. Just follow these steps:

1. Click the **Create Mail** button on the **Windows Mail** toolbar; this launches a **New Message** window.
2. Enter the email address of the recipient in the **To** field and then enter the address of anyone you want to receive a carbon copy in the **Cc** box. You can enter multiple addresses as long as you separate them with a semicolon; like this pcat@rocket.org; spotsi@gaze.com.
3. Move your cursor to the main message area and type your message.
4. When your message is complete, send it to the **Outbox** by clicking the **Send** button. Then by clicking the **Send/Receive** button on Windows Mail toolbar the message will be sent.
5. When you receive new email messages, they are stored in Windows Mail **Inbox**. To display all new messages, select the Inbox icon from the **Folders** list. All waiting messages now appear in the **Message** panel. To read a specific message, select its header in the message box. The contents of that message are displayed in the **Preview** panel.

Practice:

1. What is the Internet and what do you need to connect to it?
2. Visit the web page www.google.com and search for vacation destinations.
3. Write an e-mail to doctor asking for the opening hours of his office and send it.



INTRODUCTION TO THE WORK WITH THE INTERNET

CURRICULUM

Learning and teaching goal	Contents	Focus / form of training	Learning and teaching aids, materials	Time
Overview of the basic concept in using the internet	Introduction: <ul style="list-style-type: none"> • history of the internet • spread, world wide web, providers, country code, networks • communication networks 	<ul style="list-style-type: none"> • lecture • discussion • presentation 	<ul style="list-style-type: none"> • notebooks • worksheets • tutorial programs on CD 	1 lesson
Using web browsers	Browsers: <ul style="list-style-type: none"> • start and finish browsers (different ways) • construction of a domain • entering internet addresses • layout of a home page (elements) • Internet Explorer and other widespread browsers (online/off-line, different navigation and control elements) 	<ul style="list-style-type: none"> • demonstration • guided practice 	<ul style="list-style-type: none"> • notebooks • worksheets • tutorial programs on CD 	6 lessons
Own design of web browsers, using work routines to make work easier	Set-ups on internet pages: <ul style="list-style-type: none"> • Inserting and hiding toolbars (adjust individually) • Internet options • registers „Universal“ and other settings • plug-ins and cookies • favourites (call up, set, organize) 	<ul style="list-style-type: none"> • demonstration • guided practice 	<ul style="list-style-type: none"> • notebooks • worksheets • tutorial programs on CD 	5 lessons
Searching on the internet search engines for the internet, Systematization of activities	Search: <ul style="list-style-type: none"> • different search engines • catalogues • list of links • databases • search criteria (concepts join) • copying and saving web sites • downloading files 	<ul style="list-style-type: none"> • demonstration • guided practice 	<ul style="list-style-type: none"> • notebooks • worksheets • tutorial programs on CD 	6 lessons
Using anti-viruses software and other security programs: <ul style="list-style-type: none"> • removing virus protection • existing viruses • distinguishing 	Security on the internet: <ul style="list-style-type: none"> • viruses, where they lurk and how they work • precautionary measures (regular data-saving, using an anti-virus program) • precautions against dangerous files • dangers through e-mail viruses • Firewall 	<ul style="list-style-type: none"> • demonstration • guided practice 	<ul style="list-style-type: none"> • notebooks • worksheets • tutorials on CD 	6 lessons



BASIC PC TRAINING

between real threats and misinformation	<ul style="list-style-type: none">• spam, Junk, Root kits etc			
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TEACHING MATERIALS

Mode of operation and important Internet terms

Really quite simple

In order to get onto the Internet you need certain equipment: a computer, a telephone extension, a modem, an ISDN-card or a network interface card, furthermore you need a browser (software) and a provider, who provides access.

The data transmission is conducted through a special protocol, which is understood by all computers: **TCP/IP** (TCP= Transmission Control Protocol and IP= Internet Protocol). The transmitted data is split into packets that are given an address (IP-number) and are reassembled on the addressee's computer. Servers take all incoming enquiries and connect to the desired Internet page or website.

On their way through the net, the data run across a **router**, connecting equipment, which controls the data traffic and exchange among the various networks. They read the addresses on data packets and send them to the right addressee.

Used terms and their definition

Offline

The computer stands alone and is not connected in any way with other computers.

Online

The computer is connected by some kind of data link to another computer. A computer can only be connected to one other computer at any particular time. It can be connected sequentially to other computers. An online connection is necessary for the use of the Internet.

Protocol

The basis for every data transmission is the common protocol among the computers, which want to trade information (Internet protocol is TCP/IP). One can imagine it as a set of diplomatic rules: who should offer his hand first, who should be the first to speak, who should be the first to continue, etc.

Net / Network

Several computers are connected to each other. There are many different kinds of networks. The most important form of a network is a computer that stands in the middle and is connected to other different computers. The computer in the middle has data and programs that can be accessed by all the other computers. The middle computer can also be connected to a central mainframe computer.



Client

A client is a computer that is connected to a central computer. Every private Internet computer is a client.

Server

This central computer serves the clients. The data and programs are stored on this computer so that the client is able to work with them. He has to register or log on. Normally the user has to enter a username and a password.

LAN/ WLAN

A **LAN** is a local area network that means it operates only at a specific location, i.e. a room or a house. Cables connect the computers. A **WLAN** is a wireless local area network. The connection is created by radio waves. WLAN is quite widespread today. Most of the newer computers are normally equipped with the necessary hardware. The advantage of WLAN is the cable-free use in the house, terrace or garden. It has to be a digitally encrypted network; otherwise, there is no protection against tapping.

Internet Access /Account

If you want to have an **Internet access**, you have to choose one of the many Internet providers. You must have an account with one of these providers (an account and log on authorisation). If you use a modem, it is often possible to take advantage of so-called free Internet access. In this case, an **account** will be created at the first log on. In Germany, the most common form of Internet connection is through the telephone.

Modem/ ISDN/ DSL

The various methods of connection over the telephone cables to the Internet are described by these terms. The simplest but slowest connection is using an **analogue modem** (Mo-dem = MOdulation/DEModulation). This machine stands next to the computer or is built into newer computers. The modem creates the connection between the computer and the telephone network.

Besides being rather slow, another disadvantage of a modem connection is that when you are on the Internet, it is not possible to use the telephone. **ISDN** is a digital version. The transmission speed is double and you can use the telephone at the same time. (The customer is assigned several telephone numbers.)

DSL (Digital Subscriber Lines) is the most modern and fastest Internet connection (10 to 160 times faster than ISDN). It is also possible to use the telephone at the same time. The costs for DSL have been radically reduced in the past few years. Many providers offer special prices but unfortunately, DSL is only available in metropolitan areas.



Provider

A provider provides a service that offers private people and companies a connection to the Internet. The provider owns an Internet server. According to the kind of provider, one can store data on its computer or on its computer network making it available to the world. (The creation of personal websites, e-mail, storage areas for e-mails, chat rooms for Internet chat.) The provider is responsible for the contents, which may be illegal in his country (e.g. pornography and radical right-wing propaganda). However, it has proved to be difficult to enforce laws covering the Internet. Providers charge money for this service and there are various methods of billing.

News and Usenet

They are not as popular as email but very important to the development of the Internet. **News** also called **Usenet** is an electronic discussion forum. Without news, only people who were in the same room could discuss with each other or individual people could only send e-mails to each other. Using Usenet people who are in different parts of the world can easily discuss with each other. This form of discussion is more like sending letters than the real-time chats. The Usenet is divided into various topic groups (worldwide there are hundreds of thousands).

Chat

Chat is another subsystem of the Internet. In English, a chat is a relatively short, light conversation. In a chat, the people communicate directly online.

WWW

An important breakthrough for the Internet was the **www** (World Wide Web). It is also a subsystem of the Internet. The addresses of individual websites begin with www. It is a simple system to use with high-level graphic possibilities.

HTML

HTML (Hypertext Mark-up Language) is a set of instructions, which describe how a document or a website is structured. One can describe HTML as a programming language for websites.

Link

A **link** is a connection to another document. On the Internet, a link on a website sends you to another website. If you click on a link, you leave the old website and a new one is opened. This is called surfing the Internet.

Download/Upload

Download means getting data out of the Internet and "*loading*" it "*down*" onto your computer. Each website you want to look at must be downloaded to your computer.

Upload is the opposite. It means sending data to another computer or server. For example, in online banking you load data up onto the bank's computer.



Browser

A **browser** (from the English browse, look around in a book or magazine) is the program on a private computer that creates the connection to the Internet and displays the contents of the websites in the monitor screen. It is therefore a very important program for the private user. In the Windows system, it is called the Internet Explorer.

Search engine

The amount of information on the Internet is incalculable. If you do not know the exact address of the website where the information is stored, it is impossible to find it without the help of a search engine. A **search engine** is a computer program. You give a word or term into the search engine and the program returns the addresses of websites which correspond to the term and which can be immediately started through the clicking a link. Well-known search engines are Yahoo, AltaVista and the most popular Google.

Mailbox

It is an electronic storage area for all the emails, which were sent to you, if you have an email address with a provider.

Anti-virus program (virus scanner)

Anti-virus programs know the special features of many computer viruses and scan the hard disk to find them. Many new viruses are being continually created all over the world. Anti-virus programs have to be updated at short intervals.

Firewall

Firewalls consist of hardware and software components in the computers of private users, which protect against viruses and illicit access to the computer from the Internet. It should always be active when the computer is connected to the Internet and be routinely updated.

Internet

History of the Internet

First ideas and concepts appeared in the USA within the military at the end of the 1950s.

- The idea was that telephone and computer circuits between military facilities could be destroyed in potential wars by nuclear strikes. Therefore, a network was to be created – not just a user-to-user connexion but also a network.
- Around the end of the 1960s, a standard was created in the USA to connect different computers, even entire local computer networks from different manufacturers that could be run on different system software.
- This standard is called the communication protocol TCP/IP (Transmission Control Protocol/Internet Protocol) and it created the basis for the modern Internet.
- The original goal of the Internet protocol (decentralization, difficult to destroy by military means) is why this network has been spreading at a rapid speed since the beginning of the 80s, practically without any central control or planning.
- One must also consider that through the simultaneous development and availability of cheaper PCs as well as the progress of telephone and data networks the expansion of the Internet has been possible.



- The growth of the Internet takes place today in uncountable places simultaneously and is hardly controllable. Even in remote parts of the world and in developing countries it is possible today with the help of satellite antennas and solar electricity to connect to the Internet.
- Today the Internet has developed into a worldwide information system. It is practically not controllable by states, governments or authorities.
- Therefore, the Internet is actually humankind's first, truly free information system. That has advantages and disadvantages.
 - **Advantages:** the unhindered free possibility to get and give information, the world's biggest encyclopaedia, fast worldwide communication
 - **Disadvantages:** the danger of disinformation; use by politically extremist groups and parties; an immense data flood and therefore the need for search engines, which can filter information after their specifications; the use of the Internet for criminal purposes (e.g. door-to-door sales on the Internet; hackers in online banking); danger of attacks through viruses or Trojan horses.

How does the Internet work?

As mentioned before in the Internet history, military reasons were decisive for its development. Simple data transmission from A to B was unsafe. It is better to have further star-shaped connexions from A to B via C, D, E etc.

How is that handled technically? A transmission method that was tolerant of errors was looked for and found, the packet orientated data transmission. It revolutionized data communication in the years to follow. With packet orientated data transmission, the sent data are split into data packets. Each of them is sent separately. Each packet contains all the information (e.g. addresses of the sender and addressee, sequence number), which is necessary in order to transmit it to the addressee and, once there, be reassembled with other data packets back into the original information. Special computers, called "router", do the transmission of the packets via various routes.

The **routers** choose optimal transmission ways for the packets depending on the line availability, traffic load and transmission time of the various network sections. The packets of the same data transmission can well go different directions. It may even happen that a packet can overtake one that was sent earlier and reach the addressee sooner because of having taken a different route. However, with the help of the sequence number in each packet, the addressee can reassemble the original sequence without any problems.

Should a packet get lost during transmission; it can be identified quickly based on the consecutive sequence numbers. The lost packet is then requested for repeated transmission and sent anew, the user not even noticing the error. Packet orientated data transmission via starshaped cluster computer networks is therefore more resistant to failure than direct connection transmission techniques

Internet pages (domain names)

The idea is that each page on the Internet should contain a clear and worldwide unique address, similar to a postal address or telephone number. This is the **URL**= Uniform Resource Locator with following principle: the address of each page in the Internet begins with **http://** (Hypertext Transfer Protocol) and that is the internal language of the Internet.



Normally Internet addresses consist of three parts. They are divided by dots or periods:

- The first element, “*www*” stands for the World Wide Web.
- The middle part is the most important. It is the actual name of the page. It often, but not necessarily, says a lot about the page’s contents.
- The third element of the address is the country code, e.g. “*de*” is the German country code. It says that it is a web page originated in Germany.

Here are some abbreviations for other country codes:

at	– Austria
be	– Belgium
ca	– Canada
ch	– Switzerland
de	– Germany
es	– Spain
fr	– France
it	– Italy
nl	– the Netherlands
nz	– New Zealand
uk	– Great Britain
us	– the US
eu	– European Union (new)

The “**us**”, however, is seldom used; “**com**” is more often used instead. This has historic reasons. Since the first web pages were created in the USA, internal codes were used:

com	(commercial) – commercial enterprises
edu	(educational) – colleges and universities
gov	(government) – American government facilities
mil	(military) – military facilities and organizations
net	(network) – administrative facilities for a network or Internet providers
org	(organization) – private organizations

The Internet address of the White House in Washington is, for example:

<http://www.whitehouse.gov>.

Internet addresses are assigned by certain organizations in the individual countries, which are responsible for their country codes. In Germany the Deutsche Network Information Centre (DENIC), in Austria by the Vienna University, handles this. It works on the principle of “*first come, first serve*”. The first person to apply gets the name. There are also costs involved, an annual fee is charged (application fee is approximately 100 _).

Clever people have bought many names in advance. Then they have offered them for sale. This is a legally ambiguous situation. It is possible to secure a web page or name through legal action. The town of Heidelberg for example won its web address www.heidelberg.de through a court case. However, generic terms like “*fruit*”, “*mineral water*” or “*magazine*” cannot be registered.



E-mail

E-mail is an electronic message that is sent, so to speak, in an electronic envelope, on which is “written” the electronic postal addresses of the sender and the addressee as well as the information on about what the message is. The e-mail is put on the Internet and sent on its way. At the destination, the e-mail is deposited into the addressee’s virtual mailbox and waits there to be called up and read. There are no postage fees, just the usual Internet costs. Digital information is transmitted with the e-mail. It may be short messages but also other kinds of information are possible. As an “attachment”, all sorts of files can be sent (e.g. texts, diagrams, images, films).

E-mails are given an address. These are, like web pages, unique on the Internet, i.e. they exist only once in the worldwide web. An e-mail address consists of two parts: the name of the addressee and the virtual “*home*”. The first part is the arbitrarily chosen name of the user. The second part stands for the virtual “*post office*”, i.e. the provider, through which the user carries out his e-mail traffic. The two pieces of information are separated by the ampersand character @. It is spoken “*at*”. The Americans often use the “@” for of the English word “*at*”.

How is an e-mail created?

Either your e-mail address is already registered with your personal Internet provider or you have to register with a provider of your choice to get an e-mail address.

- You call up the web page of the e-mail provider or for example Outlook Express or the Windows Internet browser.
- You log in with your e-mail name (it need not be your real name, but rather an abbreviation) and a password.
- Then you can choose, whether you want to read a received email, administrate your data (e.g. delete an old e-mail) or write and send a new e-mail.
- If you want to write a new e-mail, you first enter the e-mail address of the addressee.
- Then you fill in the reference line.
- Afterwards write the text of the message.
- You can then attach files (e.g. image files). A paper clip symbol is put on them.

You can decide if other people besides the first addressee should receive the e-mail simultaneously (in this case you would have to add their e-mail addresses). These copies can be attached as so-called **CCs** (carbon copies). At the end of the e-mail, all receivers of the copies will be listed. You can also send copies as **BCC** (blind carbon copy). The receiver of a **BCC** would not be on the list of addressees, he would remain invisible and unknown to the other receivers.

You can also send so-called HTML links in your email. These are cross-references to other documents or pages on the Internet. These cross-references work similarly to links on web pages. With their help, you can also directly call up other web pages. However, receivers of e-mails are often not allowed to use these links. The problem of safety with HTML and so called script attachments will be mentioned later.

You can also use personal electronic signatures as e-mail closes. These are personal characters that have been once entered into a special file. In addition, they are – as required – added in place of a signature at the end of an e-mail. They serve the addressee as an additional safety measure to recognize the sender as known and trustworthy.



Internet safety

Checking Internet connection settings

When using the Internet it is extremely necessary, check the following settings. In the network, settings of the remote data transmission connexion (DFÜ/RDT) the following must not be activated:

- the Microsoft Networks Client;
 - enabling the free use of a file or the printer.
- Otherwise, the doors are opened to all to access your computer.

Settings:

- Under “**Start**”, “**System Control**”, open the “**Network Connections**”.
- Select the correct network on the right, press the right mouse button, and select “**Attributes**”.
- In the window, “**Attributes**”, with the above-mentioned entries, remove any checkmarks and click on **OK**.
- Close the window.

Automatically updating the operating system including the Firewall:

“**Start**” – “**System control**” – “**System**” – “**Automatic Updates**”. As a possible option, click “**Advise before downloading updates and advice again before installing**”.

Internet Explorer

You can take safety precautions on the Internet Explorer even without extra programs. Under “**Extras - Internet Options**”, simple settings are possible

Deleting temporary files

The Internet explorer will delete your temporary Internet files when closing the browser only you activate the respective option in the browser:

- Call up the entry “**Internet Options**” in the menu “**Extras**” of the Internet Explorer.
- Click on the field “**Extended**” in the register card. Under “**Extended**”, you have to activate the entry “**Delete temporary Internet files when closing the browser**”.
- Furthermore, you should activate the entry “**Do not save encrypted pages on the hard disk**”.

Deleting cookies

Many web pages work with so-called **cookies**. These are small files, which are saved on your hard disk by a website in the list “*Cookies*”. When the particular web page is called up, these cookies are asked for. A cookie contains information such as when the page was last visited or certain information concerning sales options. Cookies belong to the official HTTP Internet standard and are essentially harmless. However, some people do not like it when someone else copies files onto their hard disks.

In the Internet Explorer under the heading **Extras – Internet Options - Security** it is possible to prohibit the saving of cookies. You can also remove them manually at the end of a session under the heading “**General**” – “**Delete Cookies**”. If you suppress cookies it is, possible that many web pages will not function properly, especially shopping sites, since customer information is saved in the cookies.



Deleting records

Under “**Extras – Internet Options – General**”, you can also erase the record list. In this list, all sites, which were visited, are listed. If you are using a computer other than your own, you should always erase the records list at the end of a session.

Internet Explorer – Extras – Security

You can adjust the settings for all sites in the Internet, trustworthy sites, or restricted sites. Internet Explorer is not secure against attacks from the Internet. Special little programs are components of many websites (e.g. ActiveX, Java, VB-scripts) and they are saved to the hard disk when the page is called up. These little programs are supposed to speed up the access to the page. Unfortunately, they often contain viruses, which are then written onto the hard disk. Since security should have the highest priority, the transmission of such programs should be limited or totally forbidden.

Making security settings for the Internet Explorer

- Open the **Internet Explorer – Extras – Internet Options – Security**.
- Chose **Degree Adjustment**.
- In the window “**Security Settings**” make the appropriate settings.
- If everything is deactivated, you have the highest priority of security, but then some websites will not be able to be displayed. Therefore, you should set “**Prompt/Notify**” and then decide from situation to situation what should be done.
- Close the window.

Search engines

There are various kinds of search engines on the Internet. **Search engines** are special programs with whose help it is possible to find specific information on the Internet. The most well known are the automatic search engines.

Automatic search engines

Automatic search engines automatically search the web for information using certain mathematical rules called algorithms that is without the manual intervention of human beings. Not every unsuccessful search in the Internet is the fault of the search engine. Many sites do not have the important information (invisible in the browser) that allows them to be found. The fault lies with unprofessional programmers. On the other hand, a search engine cannot possibly search the entire Internet, because the data volume is too big and the search time too short. In addition to the HTML code, the degree of popularity also influences the search results. Some of the most popular search engines:

www.altavista.de

www.fireball.de

www.google.de (very well known in Germany)

www.northernlight.com

www.teoma.com

www.wisenut.com



Meta-search engines

The **meta-search engines** work on another concept. In this case, the search engine accesses other search engines and compile the results. Every meta-search engine uses the results of various other search engines, which can be partially set by the user.

Examples of meta-search engines are:

www.metacrawler.de

www.metager.de

www.metaspinner.de

www.vivisimo.com

Web catalogues

Web catalogues have a completely different approach. Rather than using search software (so called robots, spiders or crawlers), web catalogues are created by people. Editors catalogue websites and decide which site contents and which sites should be included in the catalogue.

Web catalogues represent only a small extract of the Internet, but they often give a good overview of a certain search word or term. It is not the amount of information that is important but rather the quality of the information. Here are some web catalogues:

www.lycos.de

www.sharelook.de

www.yahoo.de

www.web.de



GLOSSARY

Acrobat

Acrobat is a program from Adobe that lets you capture a document and then view it in its original format and appearance. Acrobat is ideal for making documents or brochures that were designed for the print medium viewable electronically and capable of being shared with others on the Internet. To view an Acrobat document, which is called a Portable Document Format ([PDF](#)) file, you need Acrobat Reader. The Reader is free and can be downloaded from Adobe. You can use it as a standalone reader or as a [plug-in](#) in a Web browser.

Access

Access is simply being able to get to what you need. Data access is being able to get to (usually having permission to use) particular data on a computer. Web access means having a connection to the World Wide Web through an [access provider](#) or an [online service provider](#) such as America Online. For data access, access is usually specified as read-only access and read/write access.

Algorithm

The term algorithm (pronounced AL-go-rith-um) is a procedure or formula for solving a problem. The word derives from the name of the mathematician, Mohammed ibn-Musa al-Khwarizmi, who was part of the royal court in Baghdad and who lived from about 780 to 850. Al-Khwarizmi's work is the likely source for the word *algebra* as well. A computer [program](#) can be viewed as an elaborate algorithm. In mathematics and computer science, an algorithm usually means a small procedure that solves a recurrent problem.

Browser

A program used to browse files. A web browser, browses internet files. Both, Netscape Navigator, and Internet Explorer are web browsers.

CD-Rom

Another acronym. This one stands for Compact Disk-Read Only Memory. CD-ROM disks are becoming the standard for delivering programs from the software developer to the computer user. CD-ROM's come in a variety of flavors based on the language they are written in (PC, Mac, or Unix). PC's cannot read a Mac CD-ROM, but Macs can read PC CD-ROMS.

Compression

Compression is the reduction in size of data in order to save space or transmission time. For data transmission, compression can be performed on just the data content or on the entire transmission unit (including *header* data) depending on a number of factors. Content compression can be as simple as removing all extra space characters, inserting a single repeat character to indicate a string of repeated characters, and substituting smaller bit strings for frequently occurring characters. This kind of compression can reduce a text file to 50% of its original size. Compression is performed by a program that uses a formula or [algorithm](#) to determine how to compress or decompress data.



Computer

A computer is a device that accepts [information](#) (in the form of [digitalized data](#)) and manipulates it for some result based on a [program](#) or sequence of instructions on how the data is to be processed. Complex computers also include the means for storing data (including the program, which is also a form of data) for some necessary duration. A program may be invariable and built into the computer (and called logic circuitry as it is on [microprocessors](#)) or different programs may be provided to the computer (loaded into its storage and then started by an administrator or user). Today's computers have both kinds of programming.

Data

Computer food. Data can be numbers, letters, symbols, mathematical expressions, mouse clicks, or button presses. The CPU translates all this activity to series of zeroes and ones and then performs magic.

Database

A collection of data. A filing system capable of accepting data. Normally referred to as a well organized, easily accessible, computer filing system, which contains a collection of information. A database can also be a file cabinet, or any other item that stores data.

Drivers

Drivers are software packages that are needed to run certain peripheral devices. Printers, monitors, scanners, and network cards all require software drivers so that the computer knows how to communicate and control the device.

E-commerce

E-commerce (electronic commerce or EC) is the buying and selling of goods and services on the Internet, especially the World Wide Web. In practice, this term and a newer term, [e-business](#), are often used interchangeably. For online retail selling, the term [e-tailing](#) is sometimes used.

E-mail: Electronic Mail

The electronic transmission of messages over communication networks, like the internet.

Excel

Excel is a [spreadsheet](#) program from Microsoft, a component of its Office product group for business applications. In common with similar products, such as Lotus 1-2-3 and Corel's QuattroPro, Excel is an automated version of the paper-based spreadsheet that makes it easier to manipulate, process, and view the data. Although Lotus 1-2-3 was reportedly the first spreadsheet to introduce cell names and macros, Excel implemented a graphical user interface and the ability to point and click using a mouse.

Flash, a popular authoring software developed by Macromedia, is used to create [vector graphics](#)-based animation programs with full-screen navigation interfaces, graphic illustrations, and simple interactivity in an antialiased, resizable file format that is small enough to stream across a normal modem connection. The software is ubiquitous on the Web, both because of its speed (vector-based animations, which can adapt to different display sizes and resolutions, play as they download) and for the smooth way it renders graphics. Flash files, unlike animated but rasterized [GIF](#) and [JPEG](#), are compact, efficient, and designed for optimized delivery.



GIF

The GIF (the original and preferred pronunciation is DJIF; it stands for Graphics Interchange Format) is one of the two most common file formats for graphic images on the World Wide Web. The other is the JPEG.

JPEG

JPEG (Joint Photographic Experts Group) is an ISO/IEC group of experts that develops and maintains standards for a suite of compression algorithms for computer image files.

Hard Disc Drive

Hard Disk Drive (HDD): This is the internal magnetic storage device housed inside the computer case. These come in a variety of sizes, measured in how many bits of information they can contain. A bit of information equals either zero (0) or one (1). To a computer, this is equivalent to turning a light switch off (0) or on (1). Computers operate on bits in groups of 8, called a byte. Every byte contains 8 bits. Bits and bytes can be stored magnetically on material that resembles cassette or 8-track recording tape. The magnetic material stores information as sequences of the digits "0" and "1" (hence the name digital storage). Since it takes many bytes to store such things as letters, words, and sentences, the amount of information that a Hard Drive can store is measured in multiples of 1000-bytes, 1,000,000 bytes, or 1,000,000,000 bytes. Terms such as kilobyte (1000 bytes or 1KB), megabyte (1,000,000 bytes or 1MB), and gigabyte (1,000,000,000 bytes or 1GB) have evolved to represent these storage capacities. When you purchase a computer, get as large a Hard Drive as you can afford. The standard in 1998 was between 4GB and 8GB. The Hard Disk Drive is often referred to as the "C:" drive.

Hardware

Physical items. Items that you can see and touch. Disks, keyboards, monitors, chips, computers, wires, etc., are all hardware items.

Internet

The Internet, sometimes called simply "the Net," is a worldwide system of computer networks - a network of networks in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers).

Internet explorer

Internet Explorer (IE) -- sometimes referred to as Microsoft Internet Explorer (MSIE) -- is the most widely used World Wide Web browser. It comes with the Microsoft Windows operating system and can also be downloaded from Microsoft's Web site. The IE browser competes with an earlier browser, Netscape, now owned by AOL.

ISO

ISO, founded in 1947, is a worldwide federation of national standards bodies from some 100 countries, one from each country. Among the standards it fosters is Open Systems Interconnection (OSI), a universal reference model for communication protocols. Many countries have national standards organizations such as the American National Standards Institute (ANSI) that participate in and contribute to ISO standards making. According to ISO, "ISO" is not an abbreviation. It is a word, derived from the Greek *isos*, meaning "equal", which is the root for the prefix "iso-" that



occurs in a host of terms, such as "isometric" (of equal measure or dimensions) and "isonomy" (equality of laws, or of people before the law). The name ISO is used around the world to denote the organization, thus avoiding the assortment of abbreviations that would result from the translation of "International Organization for Standardization" into the different national languages of members. Whatever the country, the short form of the organization's name is always ISO.

Keyboard

The main tool to get information into the computer and the most common way to tell the computer what you want it to do. Most keyboards have the same arrangement of keys as a typical typewriter keyboard. Computer keyboards have additional keys that perform computer-specific functions.

MB: Megabyte

Refers to 1 million bytes. Actually, in binary, 2 raised to the 20th power is a Megabyte, or 1,048,576 bytes.

Modem

A telecommunications peripheral device that allows computer to communicate with one another via conventional telephone lines. Modems are required for home computers to access the Internet or to send and receive facsimile transmissions (FAX). Modems are rated by their speed in moving data from the computer to the telephone line. This speed is measured in bits per second (bps). Standard modern modems are rated at 28,800 bps, 33,600 bps and 56,400 bps.

Mouse

A common input device used to tell a computer what it needs to do. With the invention of the Macintosh and Windows operating systems, computer users needed a device to point at objects on the screen and select them.

MS-DOS

An older operating system that powered personal computers through their beginning years. Prior to the development of the graphics-oriented Macintosh and Windows operating systems, this system relied on typing commands one line at a time to tell the computer what you wanted it to do. This system is still in use in the Windows family of software and still has many practical uses. Windows 3.1 relies on MS-DOS to operate. MS-DOS stands for Microsoft-Disk Operating System.

Outlook express

Microsoft's Outlook Express is a email client and NNTP news reader provided for free by Microsoft. *Outlook* and *Outlook Express* are completely distinct platforms without common code

PC: Personal Computer

A personal computer conforming to IBM standards. While the technical term refers only to IBM compatible computers, used loosely, it can refer to almost any "personal" computer.



Pentium - Pentium II

Faster, larger CPU devices that are designed to allow more computing instructions to occur per second. Most computers manufactured in the past 3 to 4 years contain this device.

Peripheral Device

Any device that is connected to the computer in addition to the basic CPU-Monitor-Keyboard-Mouse configuration. External speakers, microphones, joysticks, printers, and scanners are examples of peripherals.

Photoshop

Photoshop is a bitmap graphics editor, published by Adobe. It is the market leader for commercial bitmap image manipulation. As with most of other Adobe's applications, Photoshop is available for Mac OS and Microsoft Windows.

Printer

A peripheral device that allows the computer user to produce paper copies of the information processed by the computer. Common home printers spray ink on paper and are called ink-jet printers. Office and school printers are typically laser printers which work on the same principle as a xerographic copy machine, using electrostatic charges and toner cartridges to place information on paper.

Program

A complex set of instructions that allow the computer user to process data. Common programs include word-processing, spreadsheets, databases, drawing and painting, Internet tools, and games. Programs are necessary for computers to be useful to humans.

RAM: Random Access Memory

Memory that the computer readily reads from, and writes to. Once the computer is turned off, : shut down, the RAM is cleared, : erased.

Server

A computer which serves the computers connected to it. When you connect to the internet, you connect to your internet provider's server computer.

Site

This definition is also listed under *presence*, *Web site* and *Website*. A Web site is a collection of Web files on a particular subject that includes a beginning file called a [home page](#). For example, most companies, organizations, or individuals that have Web sites have a single address that they give you. This is their home page address. From the home page, you can get to all the other pages on their site. For example, the Web site for IBM has the home page address of <http://www.ibm.com>. (In this case, the actual file name of the home page file doesn't have to be included because IBM has named this file *index.html* and told the server that this address really means <http://www.ibm.com/index.html>.)



Software

The actual program itself, not the disk. A disk is hardware, but the program contained on the disk is software. Software can't be seen.

Vector graphics

Vector graphics is the creation of digital images through a sequence of commands or mathematical statements that place lines and shapes in a given two-dimensional or three-dimensional space. In physics, a *vector* is a representation of both a quantity and a direction at the same time. In vector graphics, the file that results from a graphic artist's work is created and saved as a sequence of vector statements. For example, instead of containing a bit in the file for each bit of a line drawing, a vector graphic file describes a series of points to be connected. One result is a much smaller file.

Virus

A malicious program designed to intentionally cause harm to a computer's data files. These programs can be designed to replicate themselves and spread throughout your files, using up memory, and/or destroying data. While viruses might wipe out all of your data, the computer can be restored by reformatting the hard drive and reinstalling the operating system.

www: World Wide Web

Computers, linked to each other all around world, resulting in a web of documents and files which have links, allowing you to jump from one location on the web to another.

Windows

Windows is a personal computer [operating system](#) from Microsoft that, together with some commonly used business applications such as Microsoft Word and Excel, has become a de facto "standard" for individual users in most corporations as well as in most homes.

Word

Microsoft Word is a word processor program from Microsoft. It was originally written by Richard Brodie for IBM PC computers running MS-DOS in 1983.

ZIP

A method of compressing a file, making it much smaller in size, and capable of being transferred from one computer to another more quickly.



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