

Tech Tips



Tech Tips

Basics

Computer Science
OREGON
STRUT + Linux K-12
& Technology

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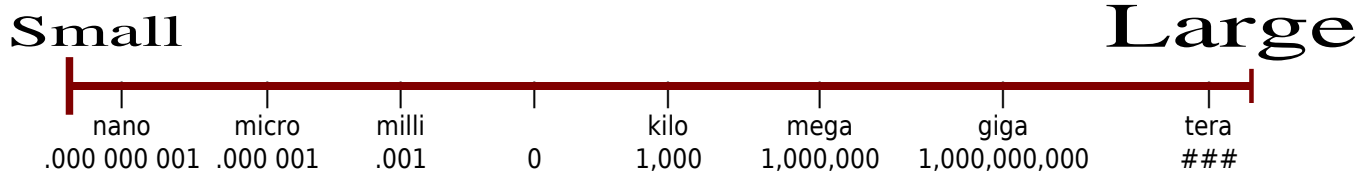


What is "computer math" & why is it important?

Computer math is comprised of very large numbers, very small numbers, and lots of fractions and percentages. Computer speeds are measured of stated in "millions of "cycles per second", "millions of operations per second or "**Millions of Instructions per Second**" (MIPS) Storage devices and media are measured in "bytes" or characters of storage with large numbers representing large storage capacities.

What is a byte? Byte = 8 binary bits (0000 0001)

- 1) is in the **base2** numbering system
- 2) = number between 0-255 Decimal (**base10**)



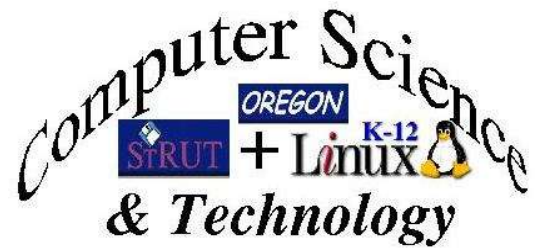
<u>Identifier</u>	<u>Amount</u>	<u>Quantity</u>	<u>Description</u>
Terabyte	trillion	###	
Gigabyte	billion	1,000,000,000	
Megabyte	million	1,000,000	
Kilobyte	thousand	1,000	
Byte		1	

<u>Identifier</u>	<u>Amount</u>	<u>Quantity</u>	<u>Description</u>
Megahertz	million	1,000,000	Cycles per second

<u>Identifier</u>	<u>Amount</u>	<u>Quantity</u>	<u>Description</u>
Millisecond	thousands	.001	
Microsecond		.000 001	
Nanosecond		.000 000 001	



Technology
MATH



Binary & Numbering Systems





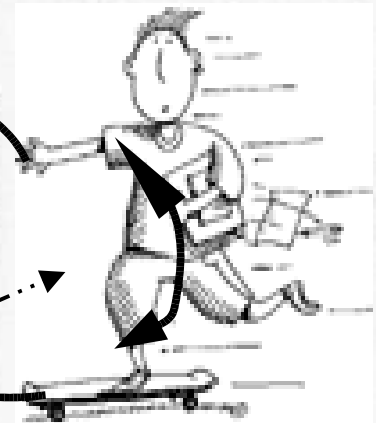
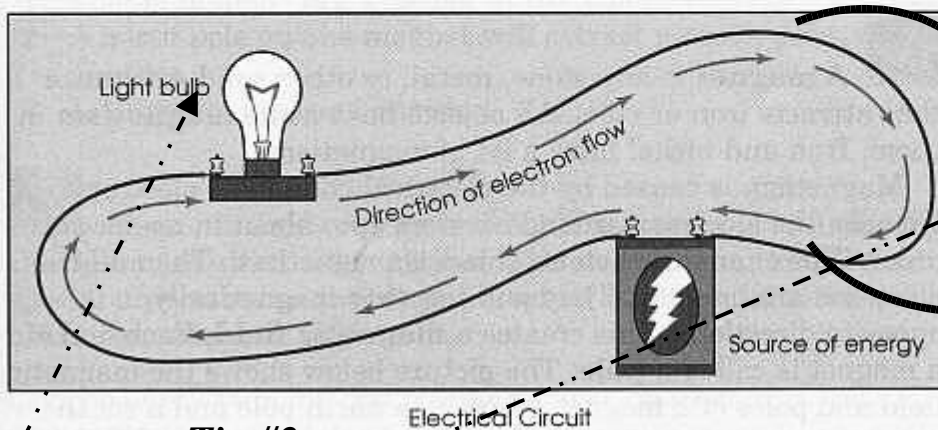
Safety with Electricity & Conductors



Electrical charges are controlled by forcing them to flow in circular paths. If the circular path is closed, the electricity is controlled. A circular path of electrical charges is called a **circuit**.

All circuits must have a source of energy. This might be a battery. The electrical energy flows through the insulated electrical wire. It powers a machine such as a light bulb. Then it travels back to the source of energy along another insulated electrical wire.

The word *circuit* sounds like SER-kiht.



Tip#3

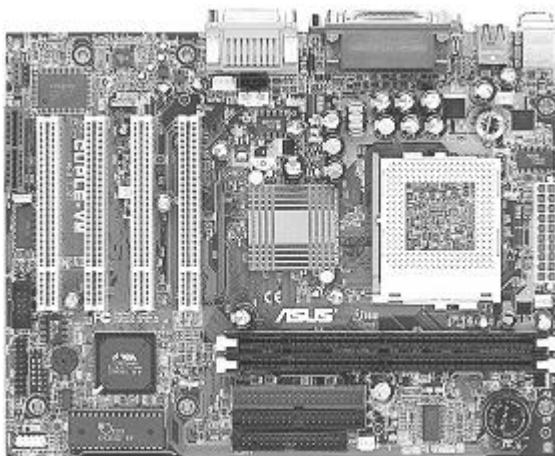
People can be great electrical conductors and / or resistors.

Tip #2 -

Resistors -Impede or resist the flow of electrons causing the resistive material to create heat and light.

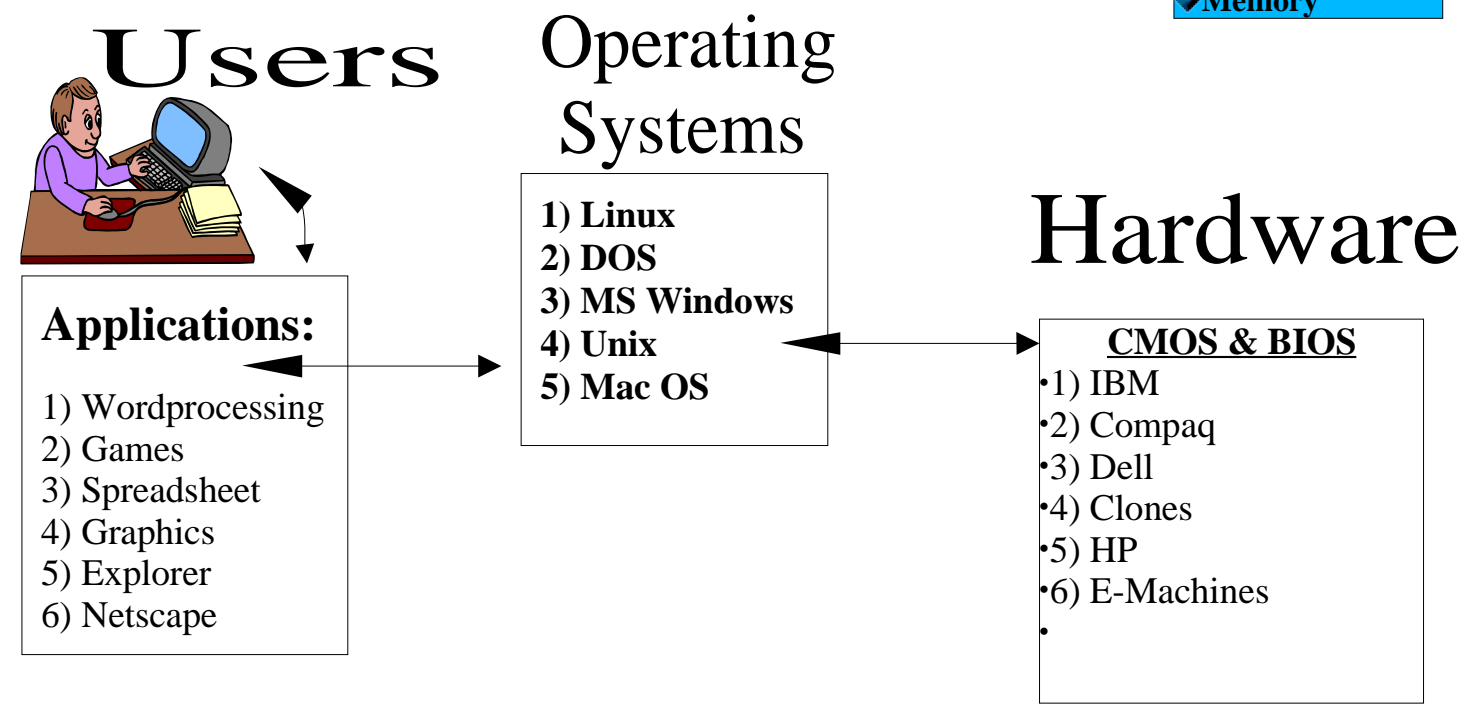
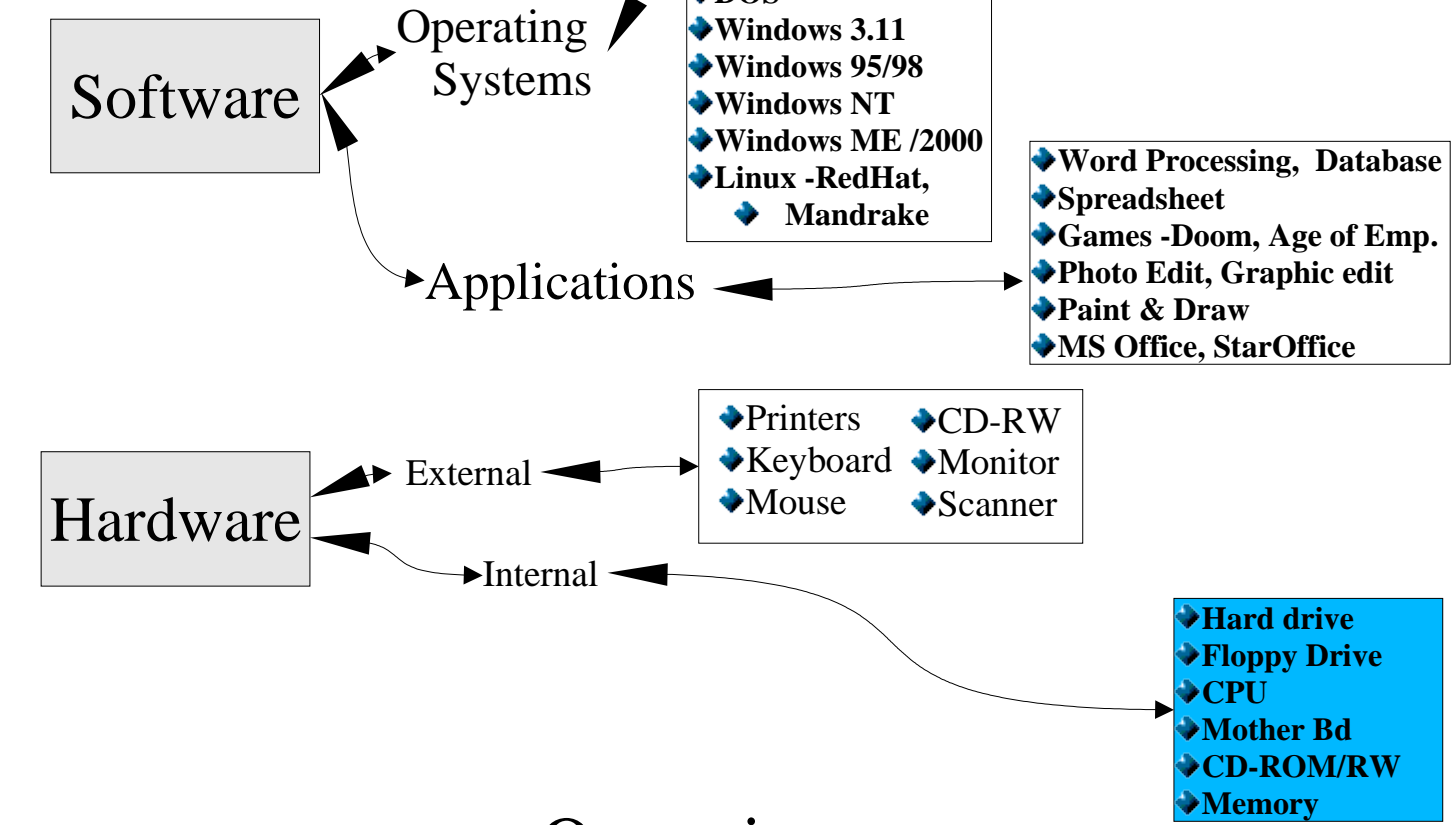
Tip #1

Metals - Like copper or aluminum wire (**conduct**) - they create a pathway for the flow of electrons (electricity)



Conductors

General OverView



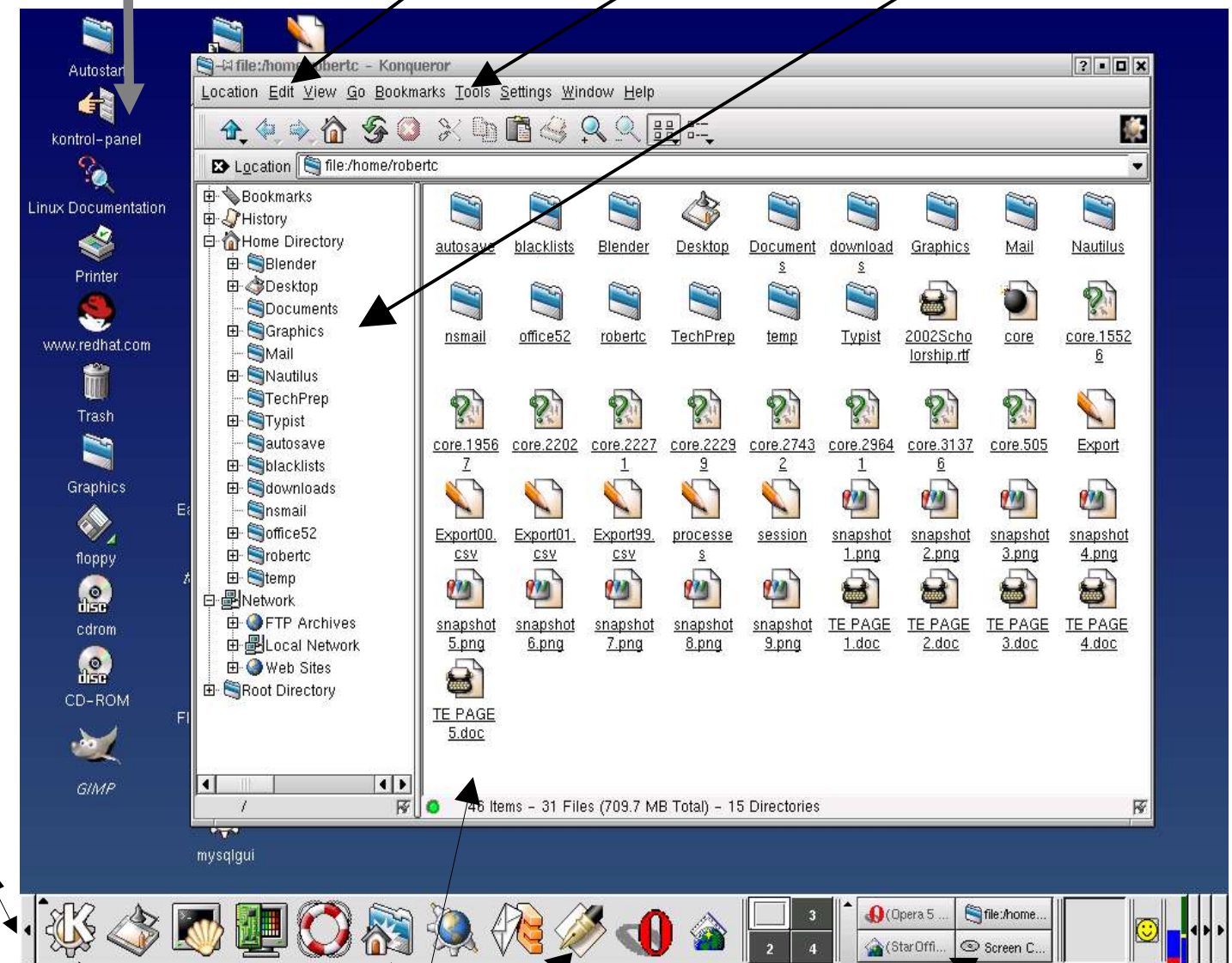
GUI Desktop &
File Management

**Desktop
ICONS**

**FIND
Files**

**File
EXPLORER**

Taskbar



**START
& Program
Button**

**DESKTOP
Explorer**

**KMAIL
E-Mail**

**DESKTOP
Windows**

**OPEN
Applications**

Open/Close
Explorer

Calendar

star office
DOCUMENTs

Desktop Explorer
(documents, files & folders)
ADDRESS Book

Publishing
(Star Draw)

Presentation

WordProcessing
(Star Text)

Spreadsheet (Star Calc)

tip:

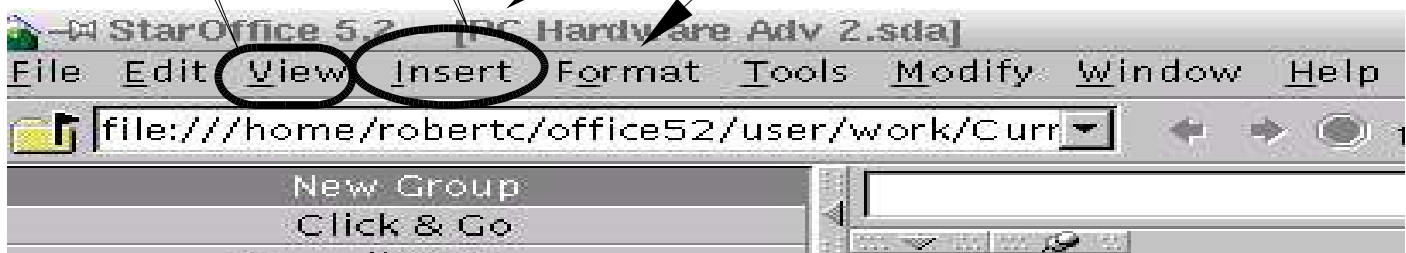
"Click" on View then Zoom to
change the working page size!!

tip:

"Click" here to insert a
graphic into the page
that you are working on!!

tip

"Click" here to change the margins,
print formatting, PAGE formatting
select grid lines, etc.



Creating
Things in
Star Office

Spreadsheet

Adjust column width

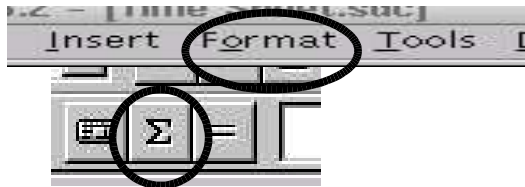
Text box (grey background)

Insert
graphics

Grid lines

	A	B	C	D	E	F
1	Roger works evenings and weekends repairing computers, building websites, and landscaping for clients. He found that his notebook "time and finance" system was no longer adequate as he was making a lot of money. He needed a system to track his income. The following spreadsheet was designed to accomplish this task.					
2						
3						
4						
5						
6						
7						
8						
9	<u>Date</u>	<u>Client</u>	<u>Category</u>	<u>Time</u>	<u>Rate</u>	<u>Total</u>
10						
11	9/10/01	Joe's Antique Shop	Web pages	4.50	\$125.00	\$562.50
12	9/11/01					\$0.00
13	9/12/01					\$0.00
14	9/13/01	Mrs. Jones	Landscaping	4.00	\$17.50	\$70.00
15	9/14/01	Robert Rhuman	Computer Repair	6.00	\$44.00	\$264.00
16	9/15/01	Robert Rhuman	Computer Repair	6.00	\$45.00	\$270.00
17						
18	Total income for the period of 9/1-9/15/2001					\$1,166.50
19						

Text



Orientation = Format->Page->Page
Grid Lines = Format->Page->Sheet
Summing #'s = "select numbers to add"
- ->"hit the enter key."

Maslow's Hierarchy of needs

Abraham Maslow is known for establishing the theory of a hierarchy of needs, writing that human beings are motivated by unsatisfied needs, and that certain lower powers need to be satisfied before higher needs can be satisfied. Maslow studied exemplary people such as Albert Einstein, Jane Addams, Eleanor Roosevelt, and Fredrick Douglas rather than mentally ill or neurotic people. This was a radical departure from two of the chief schools of psychology of his day: Freud and B.f. Skinner.

At once other (and higher) needs emerge, and these, rather than physiological hungers, dominate the organism. And when these in turn are satisfied, again new (and still higher) needs emerge, and so on. As one desire is satisfied, another pops up to take its place.

The Hierarchy of Needs

SELF ACTUALIZATION
Self-fulfillment or finding your calling
ESTEEM NEEDS
Recognition and respect
PSYCHOLOGICAL NEEDS
Belonging, love, and acceptance
SAFETY NEEDS
Security and stability
PHYSIOLOGICAL NEEDS
Air, water, and food

Tables-
Insert->Table

Text Box

Presentation & Draw (Publish)

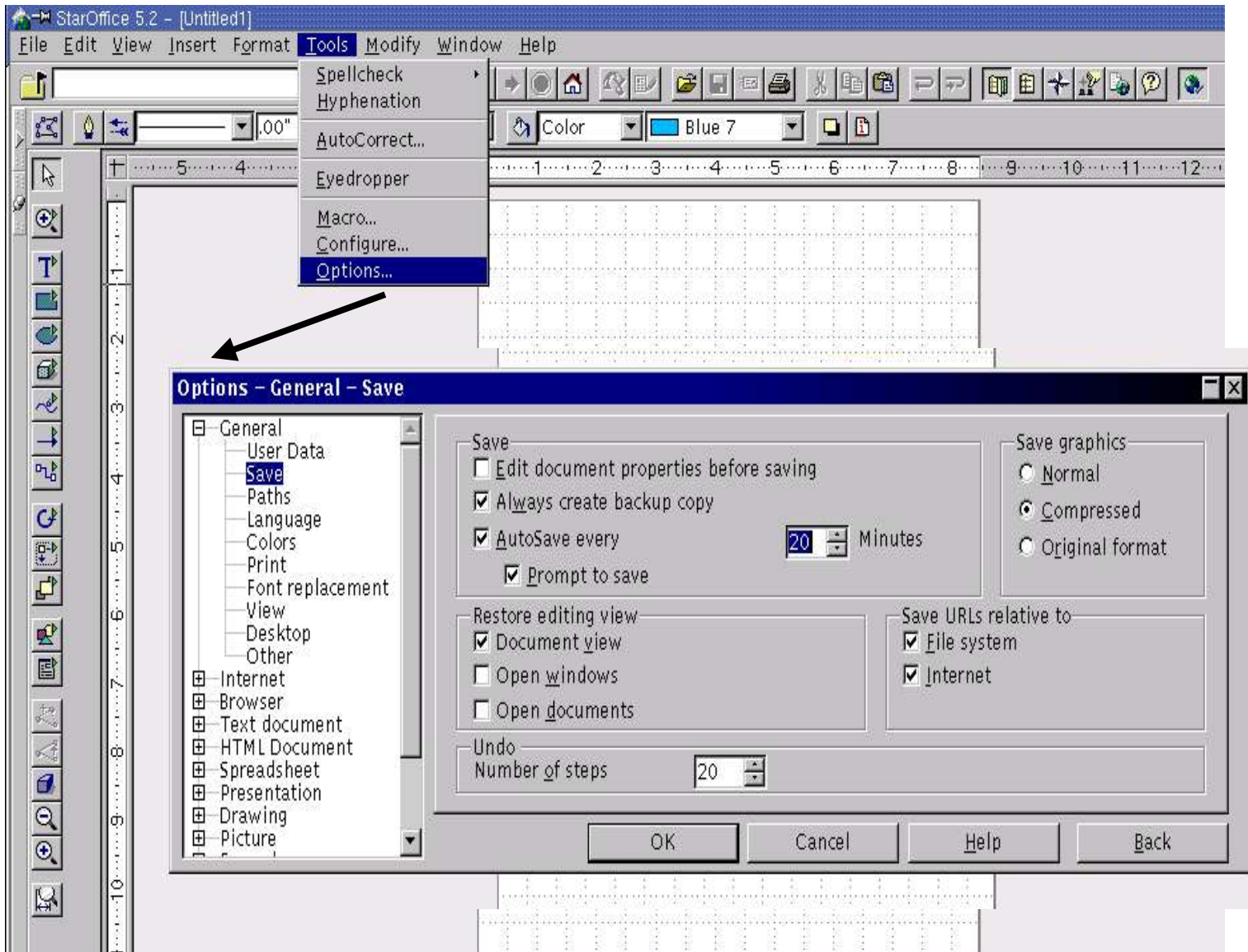


Insert graphic



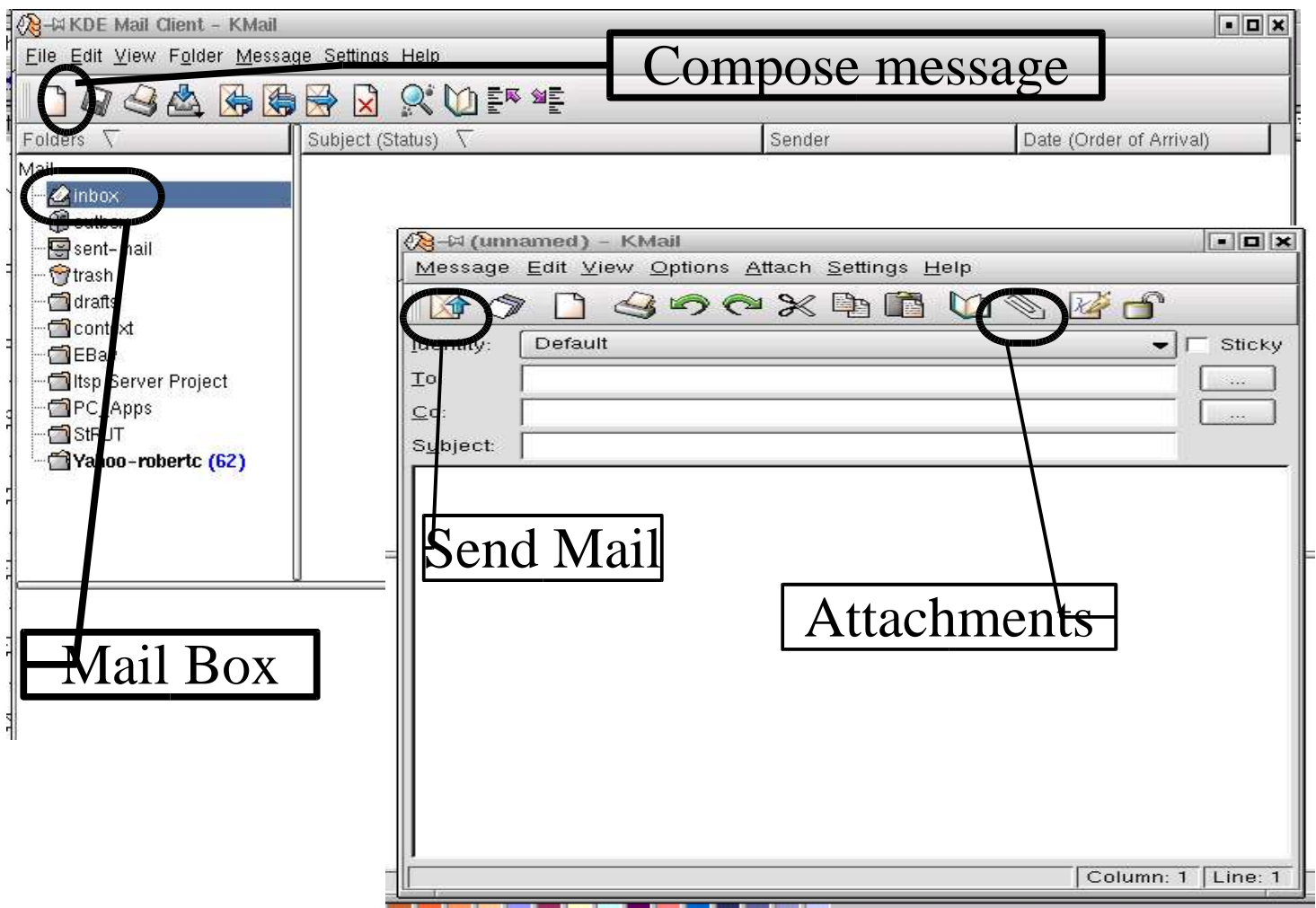
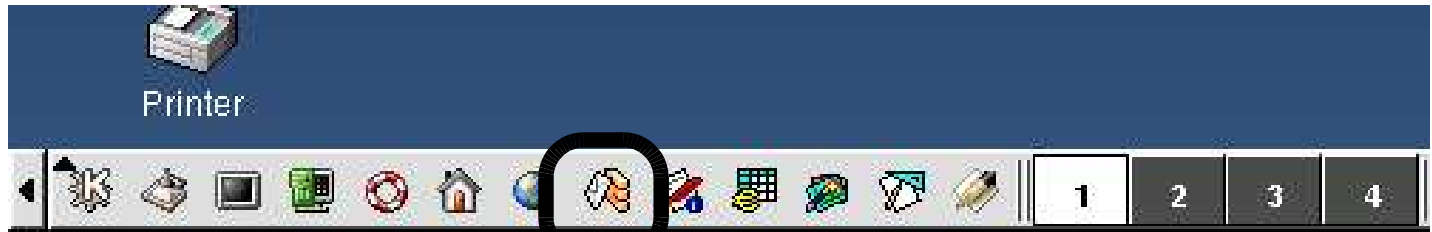


Tools => Options => Save -> Autosave every (15-20 minutes)





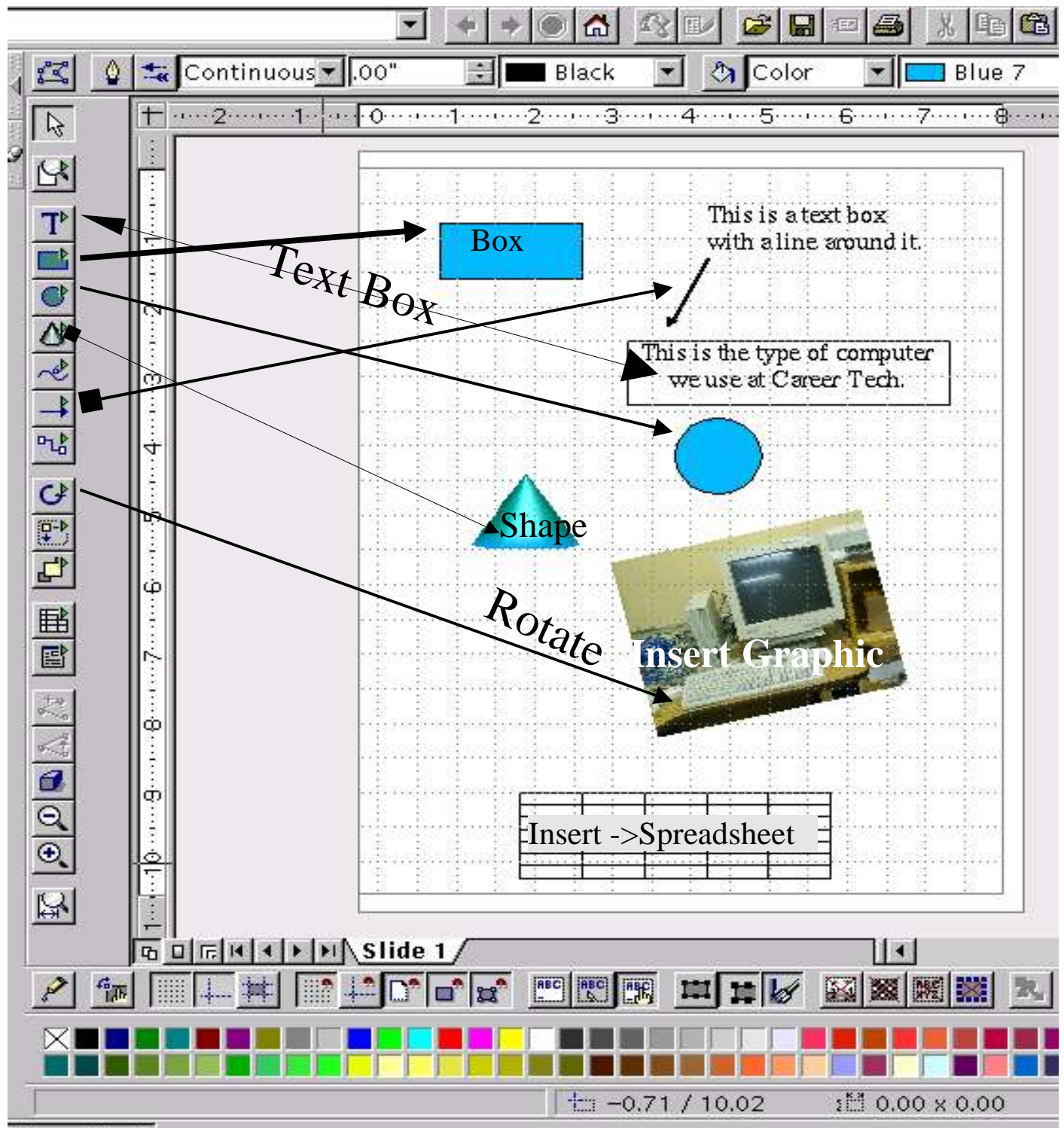
Sending
Things in
KDE Mail





Creating
Things in
Star Draw

Star Draw



L.C. Career Tech
Lincoln City, OR

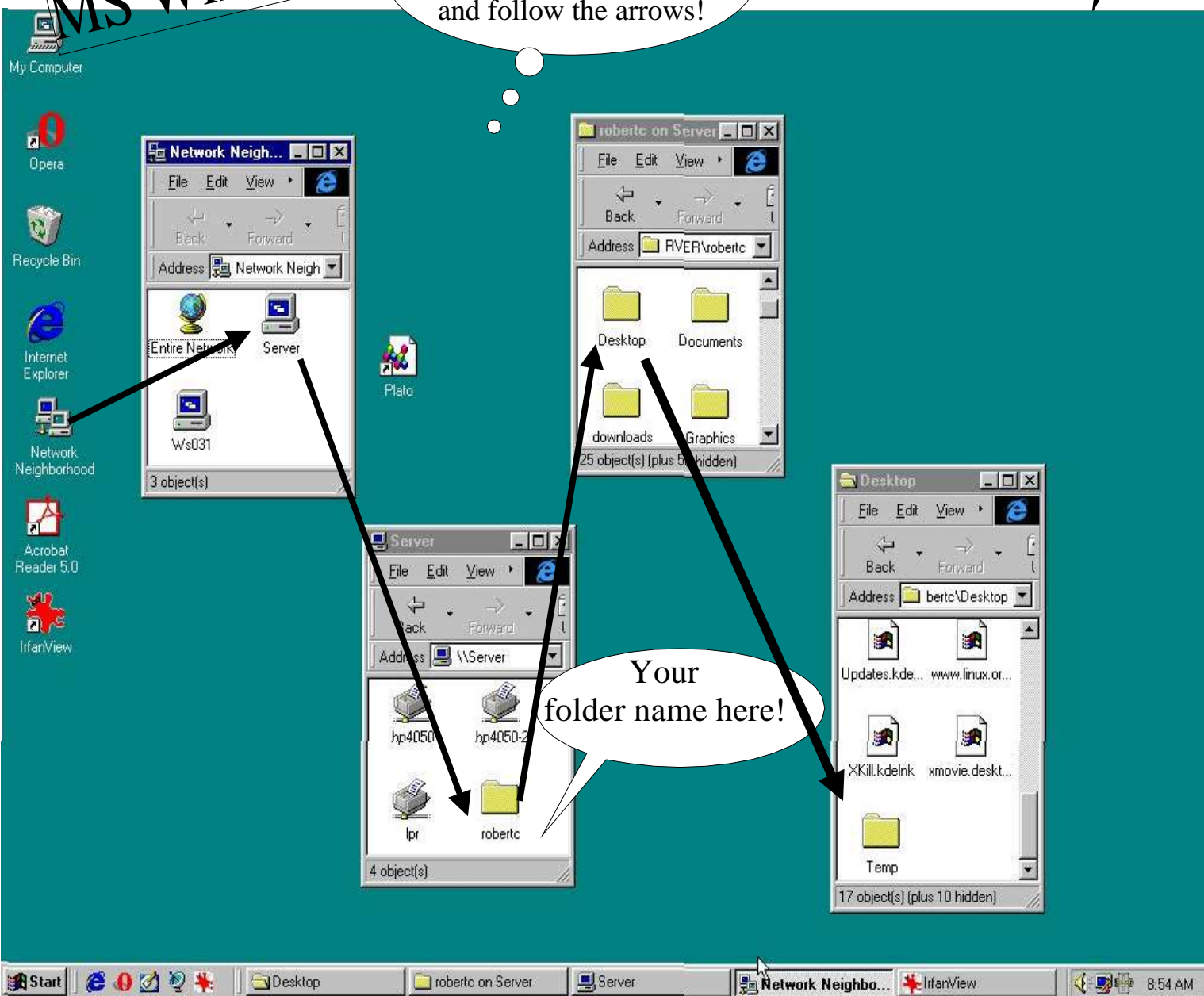
Tech Tips

Accessing Your folder from the I-Net Win 9x computer!

tip:
Be SURE to
LOGIN
exactly the same as you do
for Linux.

MS Windows

Double "Click"
on each "icon" to select
and follow the arrows!



Hardware

LC Career Tech
Lincoln City, OR



Tech Tips

Case & Power Supplies

tip#

3

AT power supplies generally have a **2 piece** power plug for the



tip#

2

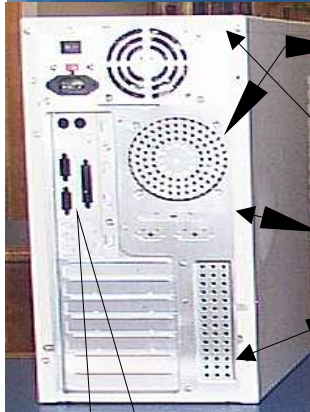
ATX power supplies generally have a **single** power plug for the

tip #8

Extra fan locations for extra CPU cooling..

Tip #1

Generic computer cases are generally fastened using screws on the back of the top cover.



tip#

4

AT cases generally have a single hole for a large keyboard connector..



Tip #5

ATX cases have a cutout (holes) for a PS/2 mouse & keyboard and peripheral ports.

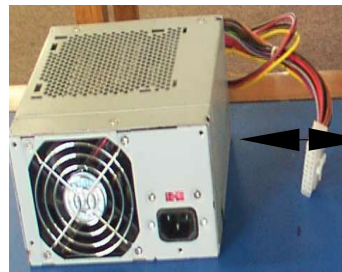
tip#6

Proprietary cases have non-standard motherboard slots, power supplies and cover fasteners.



Tip#7

Power Supplies are rated in **watts**. The wattage of the power supply must match the requirements of the motherboard & CPU used.



<u>Watts</u>	<u>CPU Supported</u>	<u>Certification</u>
100-200	Celeron, Duron & Pentium	Generally not req.
200-300	Most CPUs & PII, P4	P4, AMD required
250-300	Athalon, P4, AMD Xp	Required
300-400	Servers & Dual processors	



Motherboards

This ATX style motherboard is the heart of the PC. All components connect through it.

Tip#03

Primary & secondary IDE ports for access to IDE storage devices (40 pins).

Basic Input / Output System & configuration file- holds configuration information for the PC.

Tip#04

Chipset controls the access between the CPU and motherboard components

Integrated System Architecture

Clock Transfer

8Mhz	8Mbps
------	-------

Peripheral Connect Intfc.

Clock Transfer

66Mhz	132Mbps
-------	---------

Accelerated Graphics Port

Clock Transfer

100Mhz	1000Mbps
--------	----------

Tip#

Game port for joysticks, etc. (15 pin)

Tip#

Video controller port. (15 pins)

Tip#

Sound- speakers, earphones, microphones.

tip #

Parallel port, connects to printer, scanners, etc (25 pin) connector.

tip#

Serial (9 pin) connector.

tip#

USB connectors (Universal Serial Bus)

Mouse & keyboard ports

tip#02

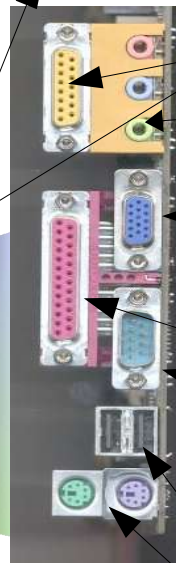
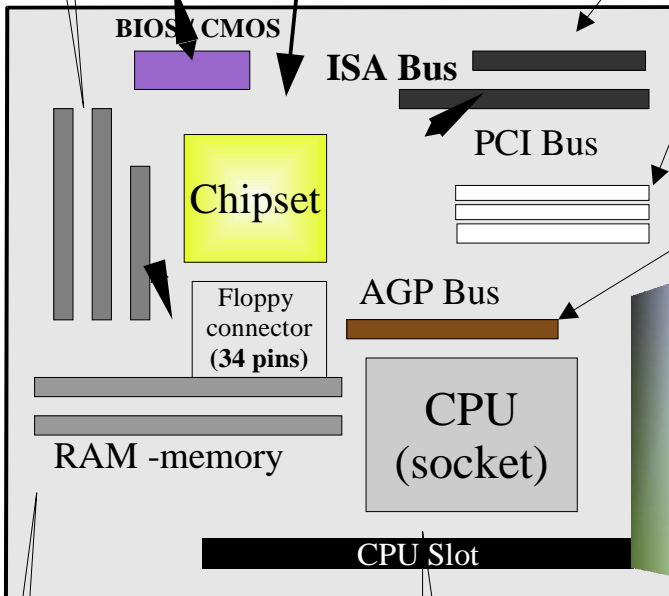
RAM must match the appropriate socket on the motherboard.

tip#01

The CPU must match the socket or slot on the motherboard.

RAM Type	Pins	Description
SIMM	30 / 72	
DIMM	168	PC66, PC100, PC133
DDR	184	pc133/2100
RDRAM	184	

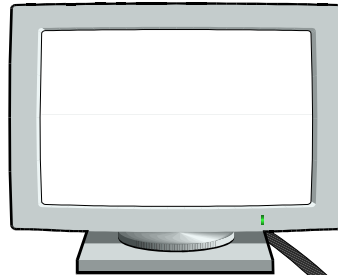
Socket / Slot	Intel	AMD	Cyrix
Socket 3	486		
Socket 5	586		
Socket 7	Pentium	K6	MK2
Socket 8	Pentium Pro		
PPGA 370	Celeron		CPGA
Slot 1	Pentium II		
Slot 2	Xeon		
Slot A		K7/ Athlon/ Duron	
Socket A /452		K7/ Athlon/ Duron	





Video

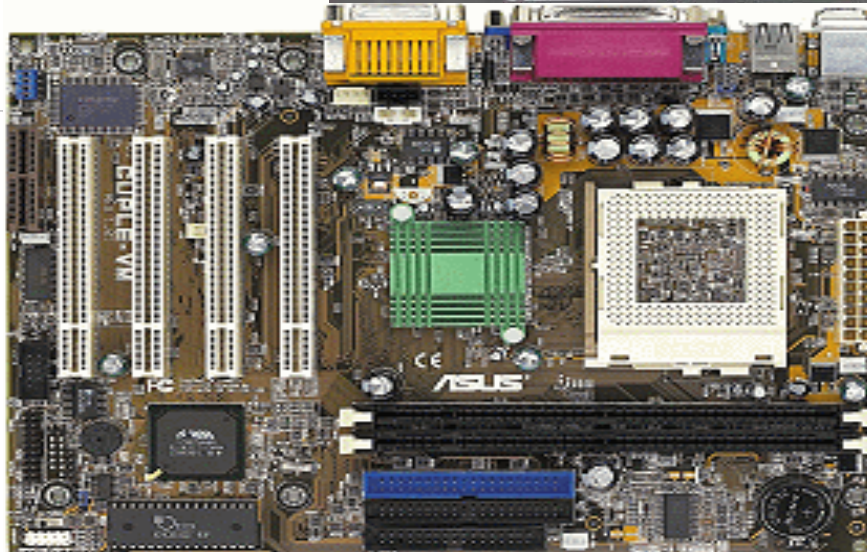
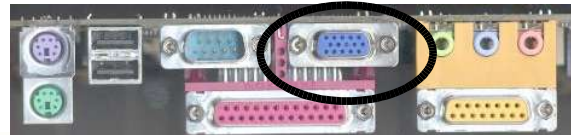
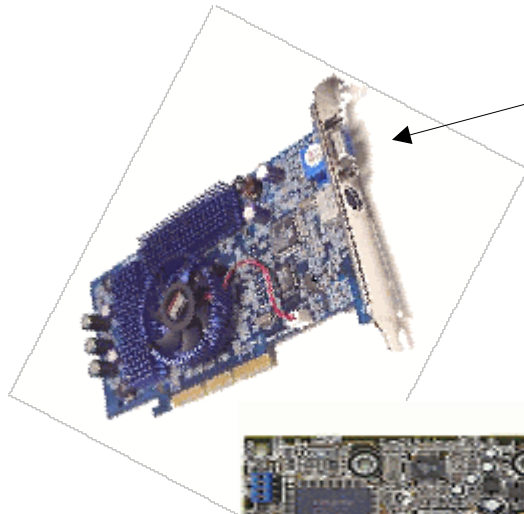
When a graphics card handles color, it does it in one of two ways. A true-color card devotes 3 or 4 bytes per pixel (4 bytes allows an extra byte for an "alpha channel"). On a **1600x1200**-pixel display, this adds up to about **8-million** bytes of video memory.



Dot Pitch	Approx. number of pixels/cm ²	Approx. number of pixels/in ²
.25 mm	1,600	10,000
.26 mm	1,444	9,025
.27 mm	1,369	8,556
.28 mm	1,225	7,656
.31 mm	1,024	6,400
.51 mm	361	2,256
1 mm	100	625

Tip#

The display monitor may connect either to the motherboard or to a separate **video card**.



IDE Storage Devices

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Lincoln City, OR



Tech Tips

Tip#1:

-The total number of IDE devices per cable & controller is 2.

tip#8

The manufacturer & model #'s provide critical info as to device size and software drivers required to run the device.

tip#6:

Drive configuration instructions are generally found here.

Single	
Master	
Slave	

Single = 1 drive
1 Master &
1 Slave = 2 drives.

tip#5:

The power connector. connects to the 4 pin power connector on the power supply.

tip#4:

The red stripe is cable PIN #1 & generally goes toward the drive power connector

Tip#3:

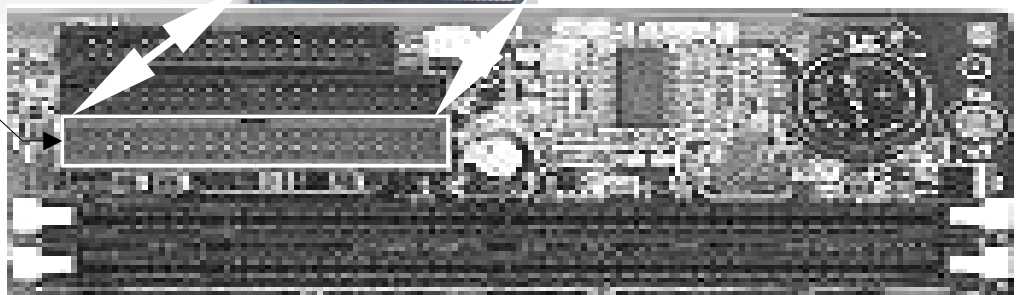
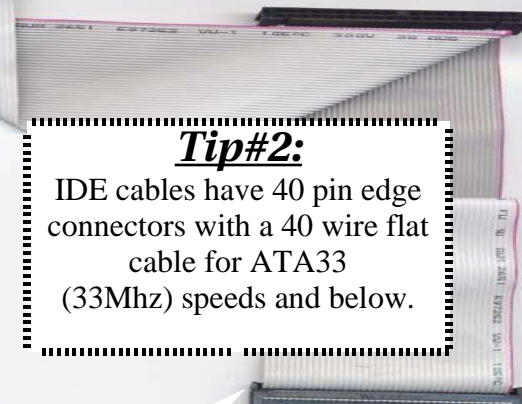
IDE cables have 40 pin edge connectors with a 80 wire flat cable for ATA66 (66Mhz) speeds and above.

Tip#2:

IDE cables have 40 pin edge connectors with a 40 wire flat cable for ATA33 (33Mhz) speeds and below.

tip#7:

The IDE cable connects to the Primary or Secondary **MOTHERBOARD IDE Connector**





(Central Processing Unit)

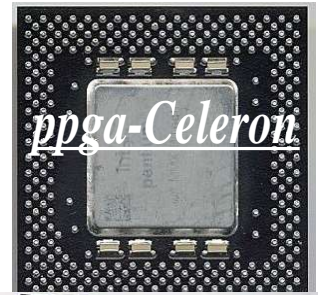
Pentium



tip #1

cpu(s) from type "8088" to the **ppga celeron** are no longer in production. Though still in use they are being replaced as the price of faster CPU(s) decrease.

ppga-Celeron



"386"



Not in production

Current production

tip #2

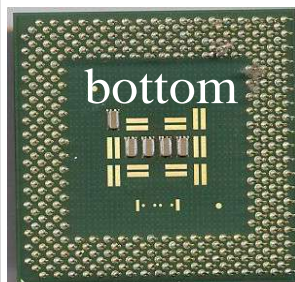
CPU(s) must be matched up with an appropriate mother-board & CPU socket.

tip #3

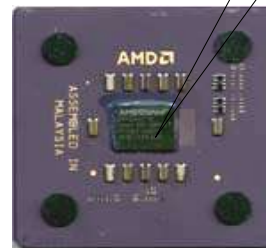
A CPU's speed can generally be found as the last 3 #'s of the CPU model #.

Socket 370

fc-pga Celeron



Duron / Athlon



Socket 462

LC Career Tech
Lincoln City, OR



Tech Tips

CPU & RAM Chart



RAM - Random Access Memory

Type	Name	Speeds	Capacity
SIMM	30 Pin		
SIMM	72 Pin	80 ns / 70ns / 60ns	4 Meg - 64Meg
DIMM	168 Pin	66Mhz / 100Mhz / 133Mhz	16 Meg - 1 Gig
DDR	180 Pin		
RDRAM	180 Pin		

CPU Char

MotherBd Microprocess or CPU Socket	CPU Manufacture r	CPU Speeds (in Mhz)	CPU Class	Typical RAM	MotherBd Bus Speed
Socket 3	Intel/AMD/Cyr ix	33-100	486	30 pin/72 pin	33-66
Socket 5	Intel	60-90	586	30 pin/72 pin	
Socket 7	Intel/AMD/Cyr ix	100-233	Pentium/MMX	72 pin/168 pin	66 - 100 Mhz
Socket 370 (ppga)	Intel/Cyrix	266-700	Celeron	168 pin PC66/100	66-133 Mhz
Socket 370 fc- pga	Intel	266-950	Celeron/PIII	168 pin/PC100/133	100 -133 Mhz
Socket 462 (A)	AMD	400-	Athlon/Duron	168 pin PC100	100 -266

Socket 370 *fc-pga* Celeron



Duron / Athlon



Socket 462



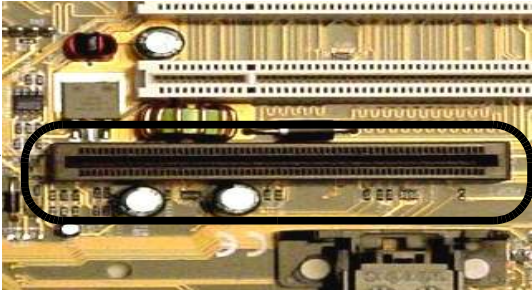

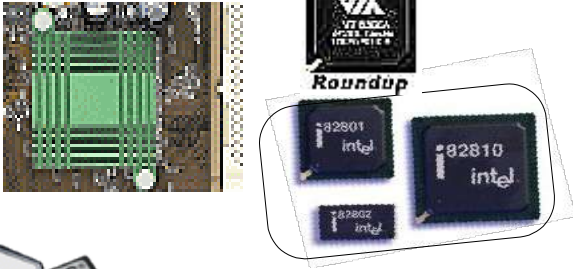




Pentium 4



Tip#

CPU's, RAM & motherbds
must be compatible with each
other

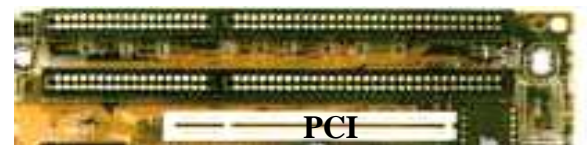
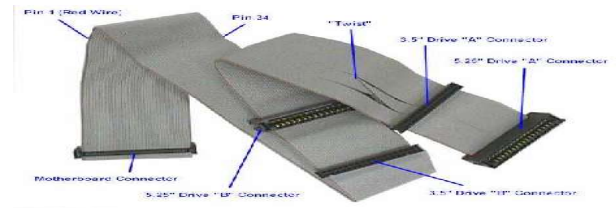
PC Identification Chart

<u>Component</u>	<u>Description</u>	
AGP Bus	=====>	
Case -top	=====>	
Case -bottom	=====>	
Chipset	No standard form or format. ==>	
CMOS / BIOS	=====>	
CPU	Central Processing Unit =====>	
Floppy Diskette	High density = 1.44 MegaBytes =====>	
FloppyDrive 3.5	Floppy Diskette Drive (capacity) 1.44 MB ==>	



PC Identification Chart

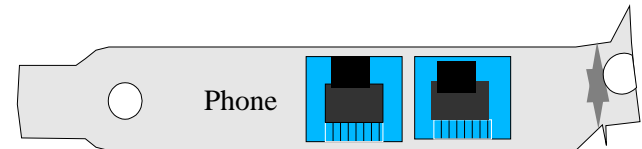
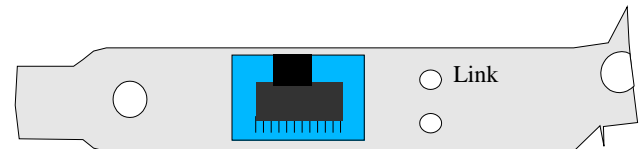
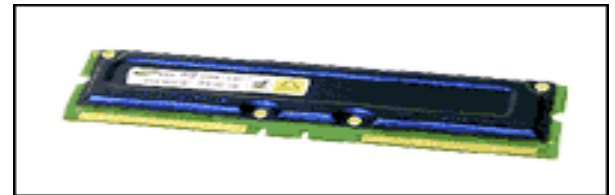
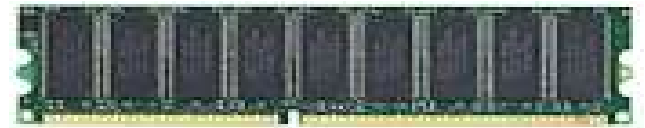
<u>Component</u>	<u>Description</u>
<u>Floppy Drive Cable</u>	34 pin flat cable (twisted end to drive #1 ----->
<u>IDE Hard drive</u>	40 pin edge connector ----->
<u>IDE Cable</u>	40 pin flat cable ----->
<u>ISA Bus</u>	Generally black (2 Sections) =====>
<u>Mouse port (ps/2)</u>	Round 6 pins & alignment pin (green)=====>
<u>Keybd port (ps/2)</u>	Round, 6 pins & alignment pin (purple)----->
<u>Parallel Port</u>	Edge connector w/ 25 pins -female =====>
<u>PCI Bus</u>	Generally white, 2 sections =====>
<u>Power Supply</u>	ATX (1 connector), AT (2 connectors) =====>
<u>Serial Port</u>	Edge connector w / 9 pins -male =====>
<u>Video controller</u>	Edge connector w/ 15 pins -female =====>





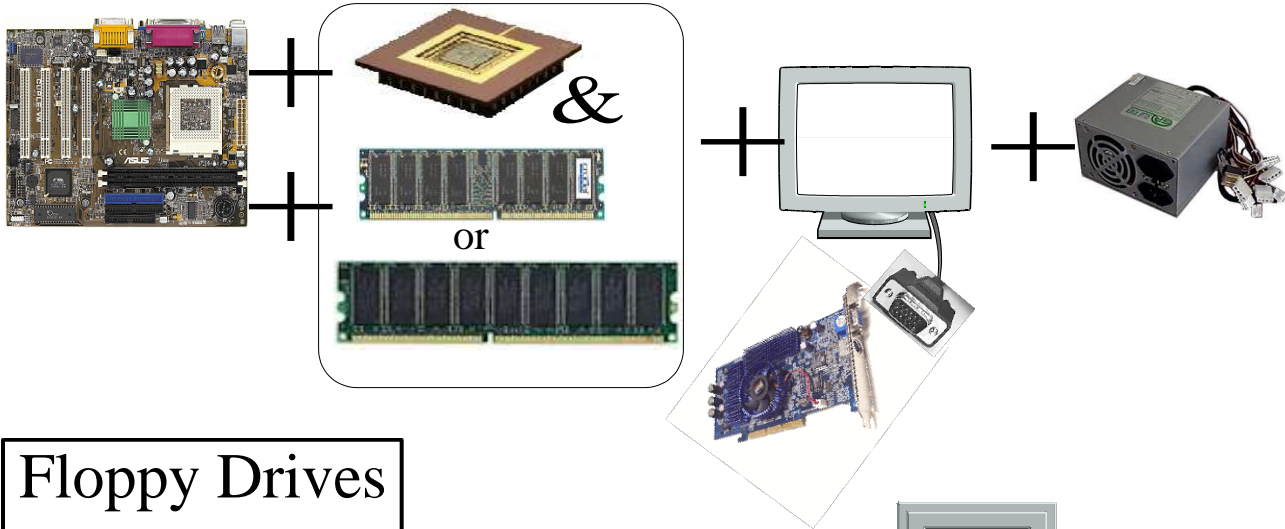
**PC Component
Identification Chart**

<u>Component</u>	<u>Description</u>
RAM (SIMM)	72 pin =====>
RAM (DIMM (sdram)	168 pin =====>
RAM (DDR)	184 pin =====>
RAM (RDRAM)	184 pin =====>
Network Card (NIC)	RJ45 connector - 8 pin / wires ----->
Modem Card	RJ11 phone jack - 4 pins /wires ----->



Bench Testing
COMPONENTS

Motherboard Testing

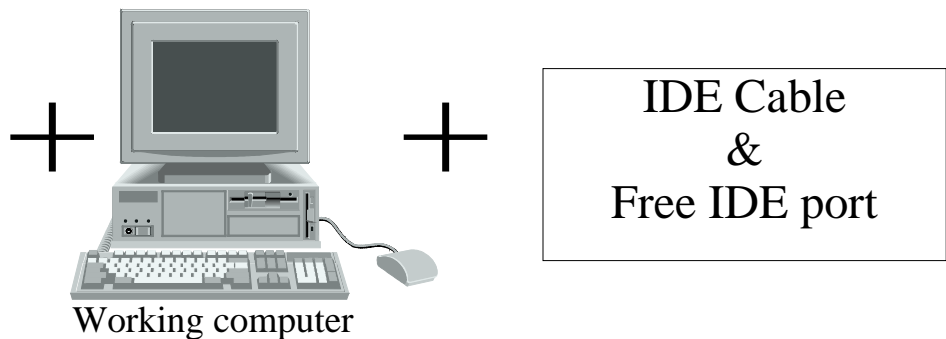


Floppy Drives

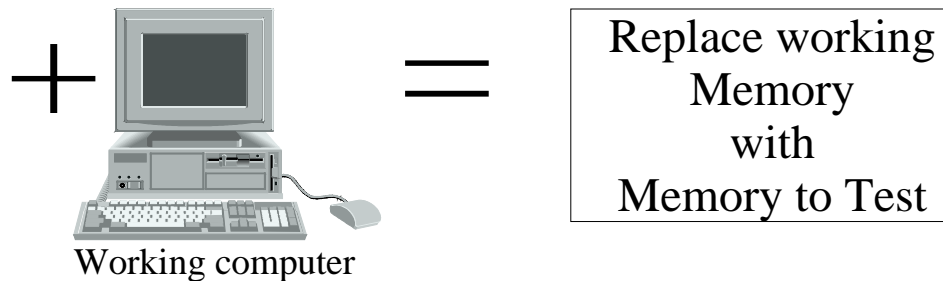


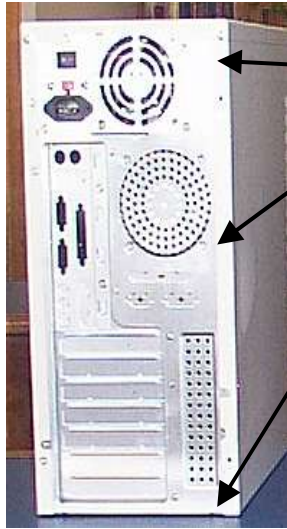
Hard Drives

CD-ROM Drives



Memory





Tip

Locate and remove the fasteners- they may be screws, tabs, buttons or ???

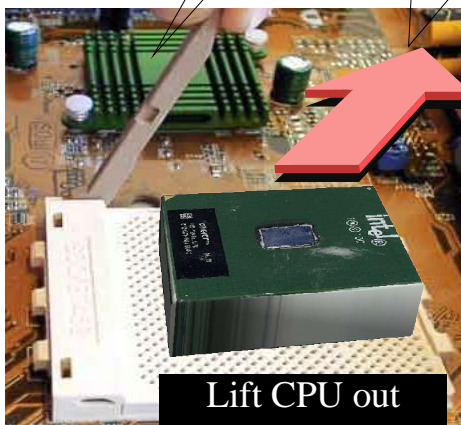
Remove the 40 pin (wire) IDE cable - (from the motherboard to the hard drive or CD-ROM drive



Remove the flat 34 pin (wire) floppy drive cable - (from the motherboard to the floppy diskette drive.

Tip#

Lift handle on side of CPU socket & lift CPU out of the socket!!



Lift CPU out

Removal

	Screws from top / side cover
	Remove top or side cover
	Remove hard drive cable
	Remove floppy drive cable
	Remove RAM or Power Supply
	Remove RAM or Power Supply
	Remove CPU fan
	Remove CPU
	Remove hard drive
	Remove Floppy drive
	Remove motherboard



Introduction to Operating Systems

MS-DOS (Disk Operating System)

- ◆ DOS is very compact (very small and fits on a single floppy with appropriate utilities. It was designed originally for computers with floppy drives only.
- ◆ DOS with appropriate utility programs can be a very useful tool for configuring and testing a computer system.
- ◆ DOS on a diskette may be required to load the Windows operating system.
- ◆ Everyone should have their own copy of a DOS boot diskette if they own a computer.
- ◆ There are non microsoft DOS versions available.

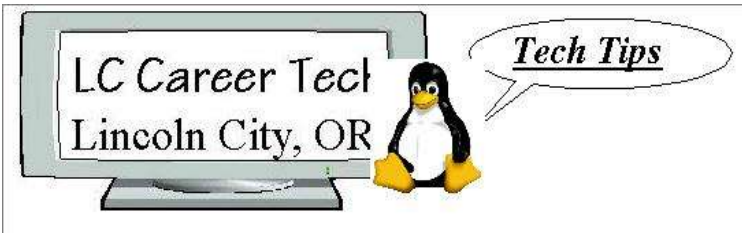
MS-Windows

- ◆ Windows comes in various versions and updates beginning with Windows (v1.0, v2.0, v3.0, v3.1, v3.11), Windows 95(a/b/c), 98(std & se), NT3.5, NT3.51, NT4.0, Windows ME, Windows 2000 (prof & enterprise), & Windows XP.
- ◆ Windows 3, 95, 98, ME are generally for personal and home use with little to no security or safety features.
- ◆ Windows NT, 2000 & XP have built in security which allows multiple users to use their own secure corner of the operating system. These also have the ability to function as a secure server - the ability to share data files and printers.

Linux & Unix

- ◆ Linux and Unix are secure operating systems with controlled access - (login & password security). These operating systems provide the ability to share printers and files. Linux is **public domain** software which is available at no purchase cost to the user. Technical support is available both on donated time and for fee basis.
- ◆ Linux and Unix are very stable and cost effective solutions for schools.
- ◆ These operating systems are the primary systems used for the Internet.

<u>DOS</u>	<u>Windows 9x / me</u>	<u>Windows NT</u>	<u>Linux</u>	<u>Unix</u>
Not graphical	Graphical GUI	Graphical GUI	Graphical GUI	Graphical GUI
not secure	some login security	Login security	Login security	Login security
single task	File & print share	File & print share	File & print share	File & print share
Costs	Replaceable drivers	Replaceable drivers	Kernel drivers	Replaceable drivers
not in production	Multiple tasks	Multiple tasks	Multiple tasks	Multiple tasks
	ME is current version	Workstation version	Workstation version	Workstation version
		Server version	Server version	Server version
		Domain manager	Domain manager	Cost = \$1000-\$1m
		Terminal server version	Terminal server version	
		not in production	Cost = Public Domain \$0	
		Cost = \$550-100k	Multiple distributions	



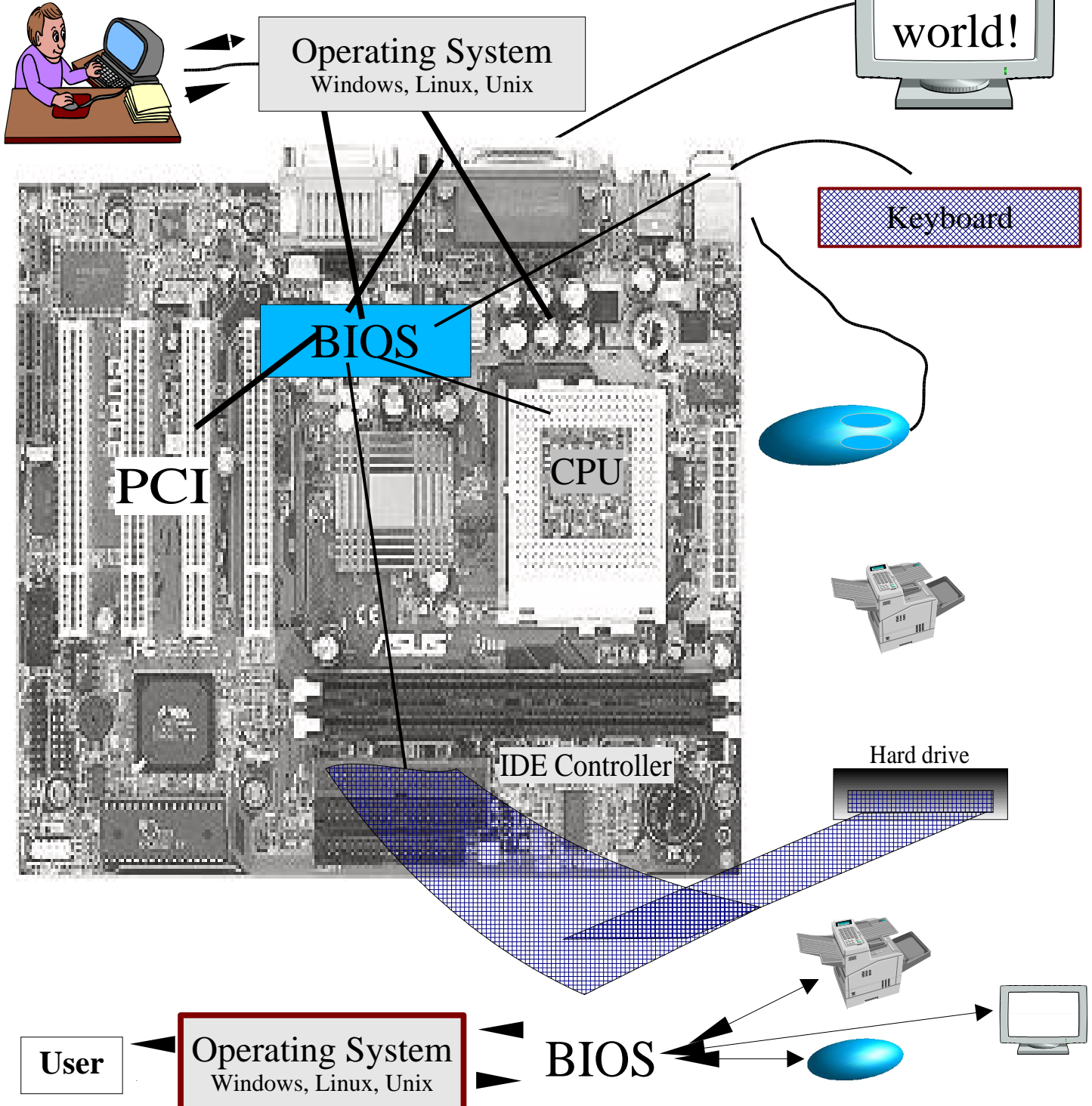
Operating System Requirements

General (Typical) Operating System Requirements

<u>Operating Sys</u>	<u>RAM</u>	<u>FDD-HDD</u>	<u>File System</u>	<u>Partitions</u>	<u>CPU / Speed</u>
DOS	1 Meg	1 Meg - 500 meg	FAT	1 (C:)	286 / (any)
Windows 95	16 Meg - 128 Meg	100 Meg - 8+ Gig	FAT32	1 or 2 (C:, D:)	486+ /50 Mhz+
Windows 98	32 Meg - 256 Meg	200 Meg - 40+ Gig	FAT32	1 or 2 (C:, D:)	Pentium+ / 200 Mhz+
Windows ME	64 Meg - 256 Meg	1 Gig - 100 Gig	FAT32	1 or 2 (C:, D:)	Pentium+ / 300 Mhz +
Windows NT4.0	64 Meg - 512 Meg	1 Gig - 20 Gig (Requires svc packs)	FAT or NTFS	1+ as required	Pentium+ / 200 Mhz +
Windows 2000	128 Meg - 512 Meg	2 Gig - 100 Gig	???	1+ as required	Pentium+ / 700 Mhz +
Linux Mandrake	32 Meg - 1 Gig+	1.5 Gig - 100 Gig	Ext2, Swap	3 (Root,Swap, Home)	Pentium+ / 200 Mhz +
Linux LTSP	128 Meg - 1 Gig+	2 Gig - 100 Gig	Ext2, Swap	3 (Root,Swap, Home)	200 Mhz +

Operating System & the BIOS / CMOS

The User communicates thru the **Operating system(s)** which communicates with the **PC hardware** through the **Basic Input Output System**. The BIOS in turn connects and communicates with various peripherals like hard drives, floppy drives, printers, monitors, keyboard & mouse and programs, data, and file systems.



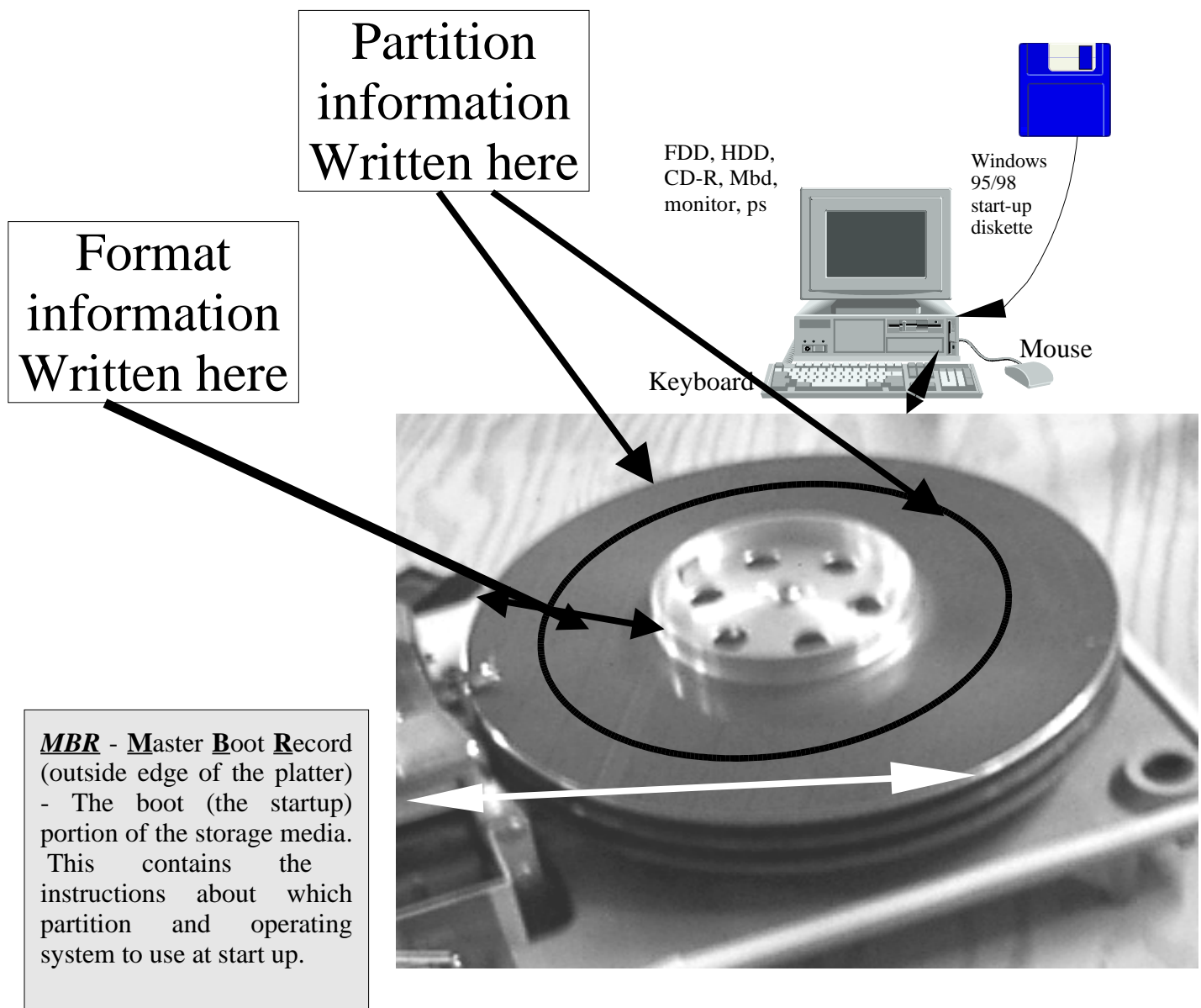


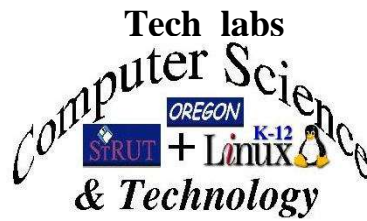
Partitions

Partitioning -Disk storage drive platter surfaces must be prepared for program or data file storage using a program called **FDISK** or **Diskdrake**. **Partitioning** creates the "**table of contents**" for the hard (storage) drive so that as files are added to the surface of the drive they can be found later.

Formatting: used to finish the preparation of the drive surface for file storage.

Different operating systems require different types of partitions.





OpSys-05

Operating Systems

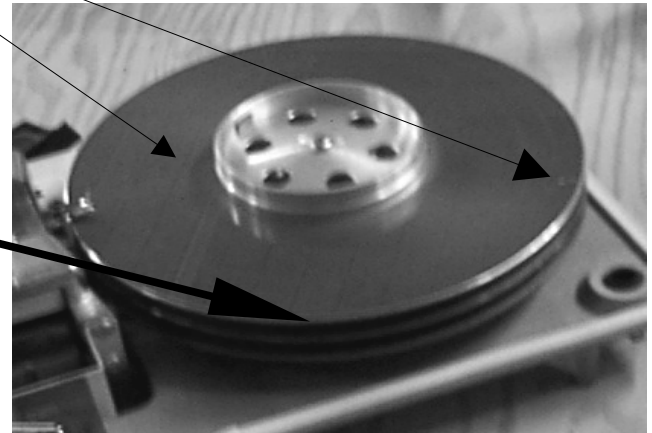
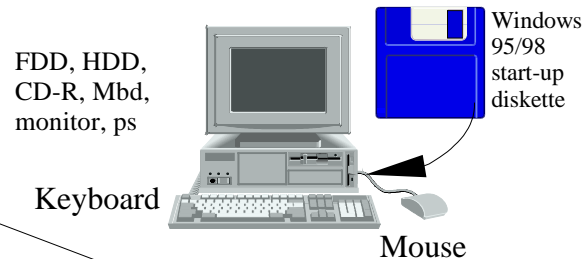
•Loading the MS-DOS •Operating System

Partitions -Disk storage drive platter surfaces must be prepared for program or data file storage. Programs such as **fdisk** or **Diskdrake** and **format** are used to prepare the surfaces. Different operating systems require different types of partitions.

MBR - **Master **Boot **Record**** (outside edge of the platter) - The boot (the startup) portion of the storage media. This contains the instructions about which partition and operating system to use.**

PARTS LIST:

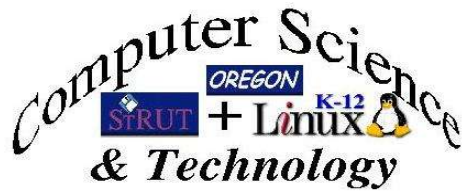
- 1) A working computer with a hdd, fdd, RAM, Mbd, Kbd. CD-ROM drive & CPU, PS.& NIC.
- 2) A copy of Windows 9x boot floppy diskette.



- **Loading MS-DOS**
- 1> Obtain a copy of the Windows 95/98 start up diskette
 - & insert into the floppy drive.
- 2> Boot your computer by powering on
 - or using the "**ctl+alt+del**" keys.
- 3> Select option **#1** "With CD-ROM support." at the display prompt.
- 4> Type **fdisk** at the "A:>" prompt & press the enter key.
- 5> Select **#4** from the menu to view the **partition** table.
- 6> Select "**esc**" to return to the menu.
- 7> Select **#3** from the menu to **remove** the current partitions -follow onscreen instructions.
- 8> Select "**esc**" to return to the menu.
- 9> Select **#1** from the menu and install a new "**primary**" DOS partition.
- 10> Type **format c: /s** at the "A:>" prompt -press the enter key & follow the instructions.
- 11> Type **sys c:** at the "A:>" prompt - press the enter key & follow the instructions.
- 12> Remove the floppy disk & Reboot (**ctl+alt+del**) the computer.



Tech_tips



OpSys-06

Loading Windows 9x

<u>Cklst</u>	<u>Task</u>
****	*** Install DOS on your hard drive
	- Use fdisk to partition the drive.
	- Use format (format c: /s) to format the partition.
1)	Boot from DOS diskette "with CD-ROM support"
	*** Insert Windows 95 CD in CD-ROM drive
3)	At the "A:>" prompt type C: & Enter
4)	Type MD \windows at the C:> prompt
5)	Type MD \windows\options at the C:> prompt
6)	Type MD \windows\options\cabs at the C:> prompt & " hit the Enter I
	*** Locate the Win95 directory on the CD-ROM
7)	Type D: & Enter then type dir /w (look for a Win95 directory)
8)	Type E: & Enter then type dir /w (look for a Win95 directory)
	*** When the "win95" directory is found type dir to view the contents.
	- Type CD win95 at the prompt and hit the enter key.
9)	Copy the windows setup files to the C: drive
	- type Copy *.* C:\windows\options\cabs "hit the enter key"
10)	Make sure the floppy diskette is out & reboot the PC.
11)	- Type CD \windows\options\cabs at the prompt and "hit the enter ke
	- Type setup & "hit the enter key "
12)	Follow (answer) the onscreen prompts until windows is installed.
13)	After Windows is installed:
	- Select "Start" "settings" "ControlPanel" "System"
	- Check for any ? (question marks) - the question marks must be cleared
	- ? marks can be cleared by installing proper drivers which can be found by downloading software drivers from the internet. Drivers will be found by searching based on the Mfg., Model# and serial # (if any).
	- Install the drivers into the Windows installations by:
	1) Executing the driver setup program or
	2) Removing the device from the system control panel, restarting the PC and letting the driver install program search the floppy or CD for the fi
14)	Type, grammer check & spell check an instruction guide for installing windows 9x.

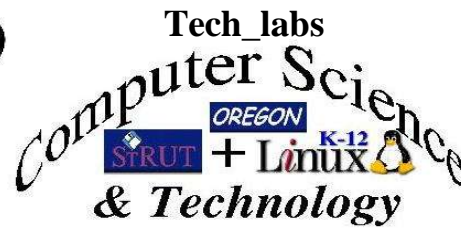
Things I Need!!



Working, tested PC!!



Installation key



Intro to PC Software

Name.....: _____
 Date.....: __/__/__
 Instructor: _____

Loading Linux

	<u>Task</u>
1	Obtain a working tested PC with CD-ROM and a hard drive(s) with at least a total of at least 1.6 gig or more, a digital tested monitor and 3 Linux Mandrake 8.x installation CD's.
2	Create a component list by examining the components or by examining the CMOS configuration.
3	Modify the <u>CMOS</u> of the PC to boot from the CD-ROM.
4	Insert Linux CD #1, the install CD in the CD drive.
5	Reboot the PC.
	<u>At the on-screen prompts:</u>
6	Left mouse click on " OK " for language = United States.
7	Left mouse click on " Accept " for the license agreement.
8	Left mouse click on " Expert " and " Install ".
9	Left mouse click on " No " and " OK " for any SCSI interfaces.
10	Left mouse click on " OK " for mouse = " Standard ".
11	Left mouse click on " OK " for " US Keyboard ".
12	Left mouse click on " OK " for security level = " Standard ".
	<u>At the partition setup screen select the following:</u>
13	Left mouse click on: A- " Clear All " to delete all existing partitions. B- Create the following partitions by left mouse click on the white space then on the color of the partition required. Create partitions of the following sizes. 1- Green = swap partition = 2 times the size of memory. 2- Deep red = journalized partition = <u>/</u> (root) = 1.3+ Gig. 3- Deep red = journalized partition = <u>/home</u> = 250+ Meg. C- Left mouse click on " Done " when finished. D- Left mouse click on " OK " for " Partition table written to disk ". E- Left mouse click on " OK " to " Format partitions ".
14	Check on "all install CD's" and left mouse click on " OK " - (Note - Make sure the install package total is less than 1.2 Gig.)
15	At the root password prompt - type "Admin0101" and "OK".
16	At the user add prompt - add yourself as a user and choose your password.
17	Accept the default monitor/video interface selection and test.
18	Follow the rest of the on-screen prompts.
19	Type, grammar check and spell check an instruction guide for installing Linux Mandrake 8.x.

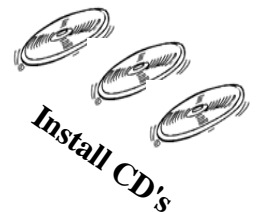
Things I Need!!

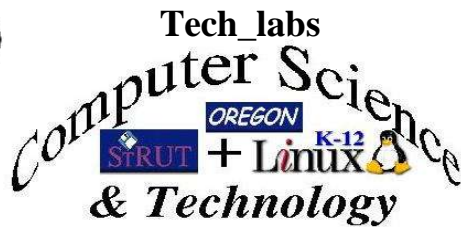


**Working,
tested
PC!!**

hdd = 1.6gig+
 monitor = digital
 RAM = 64 meg

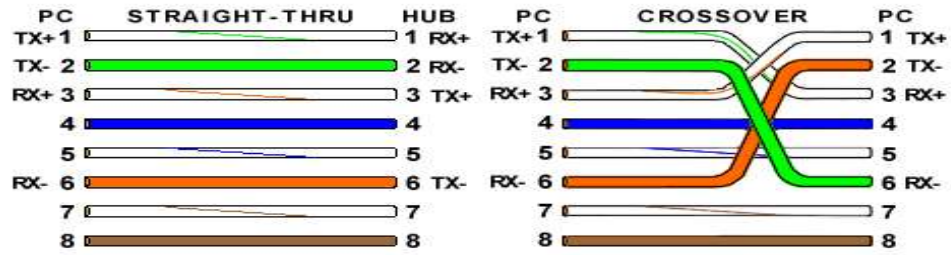
Linux Mandrake 8.x



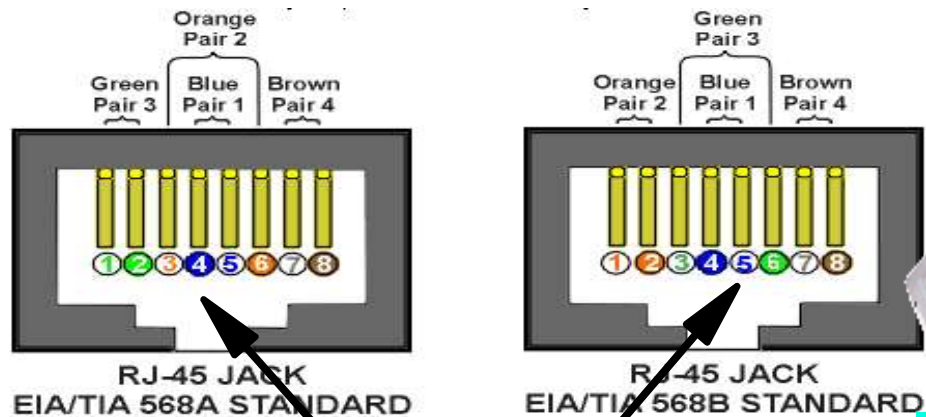


Netwk-01

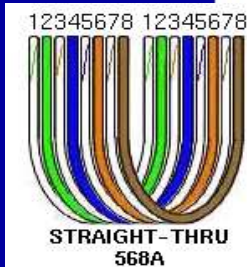
Intro to Network Cables



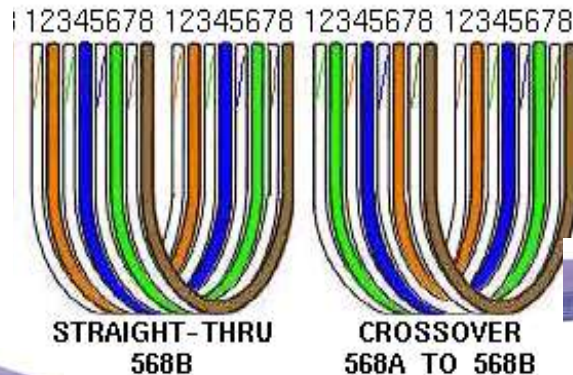
This further emphasizes, I hope, the importance of the word "twist" in making network cables which will work. You cannot use an flat-untwisted telephone cable for a network cable. Furthermore, you must use a pair of twisted wires to connect



If we apply the 568A color code and show all eight wires, our pin-out looks like this:



Straight-thru connect computers and hubs together.



Crossover - connects 2 hubs together.



Use crimping tool to crimp wires to connector

