434. **HARDWARE** the physical parts of the computer system and network
435. examples of **input devices**, keyboard, mouse, microphone
436. **output devices** monitor, printer, speaker
437. **monitor** what you look at same as screen
438. **CPU** central processing unit the main processor that does the computing
439. **GHz**, gigahertz billions of cycles per second
440. **MHz** megahertz millions of cycles per second
441. **memory** a temporary storage place for data waiting to be used by the CPU
442. **storage device** a drive that allows data to be stored on it for possible future use
443. **NIC** Network Interface Card. a card or device that interfaces the computer to a network.
444. **modem** a device that interfaces the computer to/from a phone line or cable line
445. **Network**, a collection of computers and other devices connected to share data and resources.
446. **What is Data**? unorganized input used by computers
447. **Information**: organized data output with additional value used by Humans
448. **Why** are computers powerful? Stores a lot, Very Fast, Accurate, Reliable, Consistent, communicates
449. **Information processing cycle**. Input, Process, Output, Storage, sometimes Communicate
450. **PDA** Personal Digital Assistant a handheld computer, sometimes referred as mobile computers
451. **PC** personal computer for one person sometimes means IBM clone, Mac is an Apple computer
452. **kiosk** Public computer station often having a touch screen
453. **main board** also known as mother board jargon mobo
454. **chip** piece of plastic with micro circuitry inside newer processors with millions of transistors
455. **system speed.** How fast is adequate? Depends for word processing 100 MHz for Graphics 2GHz
456. **RAM** random access memory readable writable memory used by the CPU
457. **ROM** read only memory can not be written to
458. **CMOS** chip where the computer settings are held
459. **expansion card**. a circuit board that is plugged into the main board to add circuits
460. sound card a circuit board that adds sound producing capability
461. video card a circuit board that adds video capability
462. **PC cards** little credit sized circuit boards that add electronic circuits like WiFi, USB, Bluetooth
463. **port** a place in the system unit to add connections or devices
464. Old serial port interface connects device to the system unit. It transmits only one bit at a time.
465. parallel port connects devices that are capable of transferring more than one bit at a time, printers.
466. **firewire** special high speed port that can connect multiple types of devices
467. **touchpad** flat pointing device used on a laptop computer.
468. Do not block air ports in computers as they may overheat and sometimes burn up
469. pointing stick pointing device on a laptop computer. Looks like pencil eraser end.
470. stylus device that looks like a ballpoint pen, but uses pressure, to write text. Used on hand helds.
471. **pixel** picture element, a single point in an electronic image the more the better
472. **optical scanner** device that scans documents and pictures for computer input
473. **OCR** Optical character recognition changes scanned picture of a document into text
474. **bar code** a series of lines readable by a computer scanner
475. **POS** terminal point of sale computer such as a store checkout
476. **biometric device** reads human physical features and inputs them to a computer for ID, voice print, finger, face, hand, retina, scanner
477. how to change resolution of screen right click desktop, select properties or resolution
478. **acceptable pitch** the distance between pixels A pitch of .29 or smaller is acceptable
479. **acceptable refresh** is rate over 60. Below 60 Hz you get flicker and eyestrain
480. **CRT** cathode ray tube old type monitor and TV a big vacuum tube uses dangerous high voltage
481. **EMR** electromagnetic radiation
482. **LCD** liquid crystal diode
483. **ink-jet** a printer that sprays ink on to the paper

484. **S-video** port s special port that efficiently transfers video signal
485. how to save money on ink while printing use the draft mode, change density level in printer
486. **what is important about laser printer** it is very efficient, more reliable, has permanent and cheapest ink
487. What is important about **dye-sub** makes more permanent color prints. Some printers under $100
488. ripping generally copying songs from a CD
489. How many songs can be stored on a CD using WMA 20, **MP3** 200 **are as little as 1/10 the size**
490. write protect notch is used to stop someone from writing to a FDD
491. shutter The snap shut door on FDD that protects it from fingerprints & dust
492. **head crash** occurs when head touches the platter **caused by** bumping moving or hitting computer
493. **best care of disks** keep them protected in case, avoid dirt, fluids, heat, scratching
494. miniature storage media examples SD & compact flash card, memory stick
495. **micro SD** is the **smallest flash memory form available**
496. Micro SDHC has higher capacities
497. Micro SD has adapters to the larger sizes
498. monitors specs, LCD, LED pixel CRT 61 aspect rato 4:3 now 16:9 16:10 1600x1200
499. contrast 400-1000-1 viewing angle 150 recommended
500. brightness 55 300cd/m^3 62 projectors, printers, 67 mobo, cpu 68 ram, hd floppy
501. ports speeds 72ports USB1 USB 2 480mBPS =40X USB3 4.8 Gbps=10x Parallel 500kbps
502. **Firewire** 400Mvps Firewire 800Mbps Firewire 3200=3.2Gbps Connectivity port ethernet 1000Mbps
503. serial 4 pin 8 pin 9 pin Smart labels MaxiCode 7
504. PORTS see p74 VGA, S-Video, DVI, HDMI, Ethernet,USB, FireWire, audio.
505. VIDEO PORTS p 74 Video VGA DVI only video S Video HDML high definition
506. ergonomics efficient human interaction use wrist pad p 76
507. New tini PC slightly bigger than USB drive is Raspberry Pi. With an expected retail price of $25.
508. **LED monitors** offer more intense lighting and finer color resolution, and sharper contrast. They use 40% less power than their LCD. LED's have a much sharper image from an angle. But they are more expensive. LED is used in much larger screens in public places. See http://www.youtube.com/watch?v=YjglBWoRg0s
509. **OLED** displays, see http://www.youtube.com/watch?feature=endscreen&v=3uBR_M9bSCc&NR=1
510. An OLED (organic light-emitting diode) is a light-emitting diode (LED) in which the emissive electroluminescent layer is a film of organic compounds which emit light in response to an electric current. This layer of organic semiconductor material is situated between two electrodes. Generally, at least one of these electrodes is transparent. These are thinner 3mm, Brighter, Nobacklight needed, uses less power, flexible, transparent, will work on windshields, eye glasses and wearable on clothing.
511. What are the **categories of computers.** hand held, mobile computer, are all PCs as are lap tops, notebooks, win books (slightly smaller notebook, next up in size and power is server, mainframe, super computer. Computer chips are also **embedded** in other devices such as cars, electronic thermostat. Note discussion on keyboards Dvorak keyboard which was better. Numbers are best entered from numeric keypad. **Ethics Avoid causing harm**. Projectors check bulb price first. Printers all-in-one has scanner, fax. Table of capacities on 75 or 71
512. **HZ** means cycle per second. Port speeds USB2 480MB USB3 4.86GB, Ethernet 1 GB
513. Wearable screen glasses myvu.com personal media viewer from zetronix giving big screen experience. The effect is that you feel as though you are watching a 80" flat screen television, from 2 meters away, in a dark room.
514. **Bistable screens** use less power show display with power off. The zenithal bistable device (ZBD), developed by QinetiQ, can retain an image without power. The crystals may exist in one of two stable orientations ("Black" and "White") and power is only required to change the image.
515. Kent Displays has also developed a "no power" display that uses polymer stabilized cholesteric liquid crystal (ChLCD). Used to cover the entire surface of a mobile phone, allowing it to change colors, and keep that color even when power is cut off.