**COMPUTER BASICS**

**Computer** – A device that accepts input, processes data, stores data, and produces output

**Input** – Information fed into the system

**Data** – Raw material ready for processing

**Information** – Data that has been processed and turned into useful facts

**Processing** – To carry out operations on data or programs

**Output** – Useful information that leaves the system

**Memory** – Area of the computer that **temporarily** holds data waiting to be processed, stored, or output

**Storage** – Area of the computer that holds data on a **permanent** basis

**Computer program** – Instructions that tell a computer what to do

**Binary or Base 2 Numbering System** – A method for representing letters or numbers using only two digits, 0 and 1 – most basic level of communicating with computers

**Bit** – Each 0 or 1

**Byte** – 8 bits

**Kilobyte (KB)** – 1,000 bytes

**Megabyte (MB)** – 1 million bytes

**Gigabyte (GB)** – 1 billion bytes

**Terabyte (TB)** – 1 trillion bytes

**ASCII Code** – A number assigned to each letter and character in the alphabet

**TYPES OF COMPUTERS**

**Personal computer or microcomputer** – A personal computer based on a microprocessor

**Desktop** – Personal computer that fits on a desk – more power and storage for less cost than a laptop

**Laptop / Notebook** – a portable computer – all components contained within the laptop

**Workstation** – Powerful desktop computer designed for **specialized** tasks

**Supercomputer** – Very expensive, high-performance computer

**Mainframe** – Large, expensive computer able to process data for thousands of users at the same time

**Server** – Provides services to other computers over a network

**Smartphone** – A cell phone that offers many features including internet access and applications (apps)

**Tablet** – A wireless, portable personal computer which uses a touchscreen

**HARDWARE**

**Hardware** – Physical parts of the computer (mouse, keyboard, printer, CPU)

**System Unit** – Case that holds and protects the computer components

**Microprocessor or CPU (Central Processing Unit)** – Brains of the computer

**Hertz** - measures speed of computer components

**Megahertz (MHz)**  - 1 million cycles per second

**Gigahertz (GHz)** – 1 billion cycles per second

**ROM** – Read Only Memory – a chip on the motherboard that holds specific instructions for the computer’s operation – permanent, cannot be changed

**RAM** – Random Access Memory – A computer’s **temporary** memory

**Boot process** – Starting up the computer

**Boot sector** – A small program on the hard drive that tells the computer how to begin loading programs

**Hard Disk** – A rigid, magnetic storage device kept inside the computer to hold programs and data

**Video Card** – Connects the computer to the monitor

**Sound Card** – Connects the speakers and microphone to the computer

**Modem** – Connects the computer to a phone line

**Network Card** – Connects the computer to a network using special cables

**Peripheral Devices** – Devices connected by cable to the computer (keyboard, printer, camera, etc.)

**Maintenance** – keeping your computer in a good state of repair

**Input Device** – Any device used to input data into the computer

Examples: keyboard, mouse, scanner, microphone

**Output Device** – Any device used to receive output from the computer

Examples: monitor, printer, speakers, projector

**Pixel** – The basic unit of an image

**Resolution** – Amount of pixels on the screen – the more pixels, the better the resolution

**Storage Device** – A device used to record and store data when the computer is turned off (all disks and drives are storage devices)

**CD/DVD** – A storage device that uses optical laser technology to record data

**Hard disk** – A rigid, magnetic storage device kept inside your computer

**Flash drive** – A small, portable device used for storing data. Usually plugs into a USB port.

**External hard drive** – A hard drive that is stored outside of the computer in its own case.

**SOFTWARE / OPERATING SYSTEM**

**Software** – Computer programs (instructions for the computer)

**Operating System software** – Software that provides communication between the user, the application software, and the hardware – must have an operating system to run your computer

Examples: Windows, Apple OS

**Application software** – A program that performs a **specific** function

Examples: word processing, spreadsheet, presentations, a game, a photo program

**Platform** – Compatible computers - use the same operating system, software, and similar hardware

**Multitasking** – The ability of the operating system to run more than one program at a time

**Windows** – An operating system developed by Microsoft for the PC – provides a GUI

**GUI** – Graphical User Interface – Allows users to control the computer by pointing and clicking at graphical objects such as windows, icons, and menus

**Icon** – An image that represents a file, folder, or program

**Menu** – A list or table of options

**File** – One document or one picture

**Folders** – A way to organize files into logical and manageable groups

**Filenames** – In Windows, filenames are given an extension which tells the type of file - .doc (Word), .pdf (Adobe Reader), .jpg (image)

**File Properties** – Right click on a file to see the properties including size, date created or modified, full name

**Save** – After the first save, clicking SAVE will automatically replace the old file with the new one

**Save As** – Always opens the save window allowing you to control where you save and what the name will be

**Selecting Files and Folders** –

**Select All** – Ctrl + A OR click and drag around all files

**Select Section** – Shift + Click will select from the first click to the last click

**Random Selection** – Ctrl + Click to select items not next to each other

**Backup files** – Make a copy or save in **two different** hardware locations

**Install** – Load software onto your computer

**Uninstall** – Remove software from your computer

**Upgrade** – Get a newer version of hardware or software

**NETWORKS / INTERNET**

**Network** – Computers and devices connected together to communicate or share devices

**LAN** – Local Area Network – Computers and devices connected within a confined space such as an office

**WAN** – Wide Area Network – Multiple computers connected over larger geographical areas

**VPN** – Virtual Private Network – Using a public network to securely access a private network

**File Server** – A computer that processes requests from clients across a network

**Client** – Hardware or software that sends requests to a server

**Network Speed** – Measured in bits per second (bps)

**Firewall** – Software or hardware that helps screen out hackers and viruses

**Wireless Communication** - Uses radio waves to allow devices to exchange data or connect to the internet over short distances.

**IP Address** – A unique, numerical address assigned to each computer or device on a network – used to locate devices across a network

**Internet** – A global network of networks

**World Wide Web (www)** – A collection of web pages you can access through the internet – the www is only **part of** the internet

**Website** – A connected group of web pages

**Web page** – One page on a website

**Link or hyperlink** – A word, phrase, or picture that links or connects you to another website or webpage

**HTTP (Hyper Text Transfer Protocol)** – The rules used to transfer data over the web

**HTML** **(Hyper Text Markup Language)** – The programming language of the web

**URL** – Uniform Resource Locator – The address of a website, web page or file on the web

**Search Engine** – A program that searches the web for websites or pages that match keywords

**Boolean Operators** – **AND, OR, NOT** - help narrow down a search

**Modem** – Connects the computer to a phone line

**Browser** – Application program that allows you to view information on the web and move from location to location

Examples: Internet Explorer, Firefox

**ISP (Internet Service Provider)** – A company that provides a connection to the internet for a fee

**DNS (Domain Name System)** – Allows us to use names instead of IP addresses to locate across a network

**Common Domain Name Extensions**

**.com** = company, **.edu** = education, **.org** = organization, **.gov** = government, **.mil** = military

**Homepage** – The first page that opens every time a browser is opened

**Favorites** – A place to store your favorite or often visited URLs

**Plugin** – An add-on for a program that adds functionality

**Download** – Opening or saving a file or program from the internet “down” to your computer

**Upload** – Loading a file from your computer “up” to the internet

**Cookies** – A small message sent from a website that keeps track of your preferences

**VIRUSES**

**Virus** – a kind of malicious software written intentionally to enter a computer without the user’s permission or knowledge, with the ability to copy itself and continue to spread

**Malware** – Malicious software

**Adware** – Automatically displays advertisements

**Spyware** – Software that enables the user to gain information from your computer without your knowledge

**Trigger Event** – An event that activates a task

**Time Bomb** – Watches for a certain date or time to activate a virus

**Logic Bomb** – Waits for a specific set of input to activate the virus

**File Virus** – Attaches to an application program or operating system file

**Boot Sector Virus** – Infects system files your computer needs to start up

**Trojan Horse** – A computer program that seems to perform one function while actually doing something else

**Worm** – Virus that spreads from computer to computer, usually through a network

**Antivirus Software** – Software that attempts to recognize and destroy viruses before they infect your computer

**ELECTRONIC COMMUNICATIONS**

**Email –** Electronic mail

**Attachment** – An electronic file or photo sent with an email message

**Blog** – Short for weblog – An online journal or log. Each entry is called a post.

**Teleconferencing** – A conference between two or more people using telephone lines

**Videoconferencing** – A video and audio conference between two or more people at different sites

**Webcast** – Using the web to deliver live or delayed versions of a broadcast.

**Webinar** – A live presentation transmitted over the web.

**Podcast** – A digital file downloaded to a computer or portable device and listened to at your convenience. Subscribing through an RSS feed gives you automatic downloads when a new file is added.

**Social Networking** – Using social media (like Facebook) to make connections with family, friends, customers, and clients.

**Wiki** – A collaborative website that allows users to add, modify, or delete content.

**DIGITAL CITIZENSHIP**

**Digital Citizenship** – Using technology in a safe, legal, and responsible way.

**Netiquette** – Proper etiquette used in electronic communication

**Spamming** – Sending unsolicited electronic bulk messages or junk mail

**Flaming** – Bashing, insulting, or using profanity on the internet

**Cyber-bullying** – Using electronic communication to harm or harass in a deliberate, repeated, and hostile manner

**Libel** – A published, false statement that is damaging to a person’s reputation

**Slander** – A verbal, false statement that is damaging to a person’s reputation

**Censorship** – Suppression of speech or other public communication

**Filtering** – Keeping out unwanted material such as using a filter to keep children from accessing inappropriate material on the internet

**Ethics** – Principles of right and wrong that guide behavior

**Intellectual Property** – A work or invention that is the result of creativity

**Copyright** – The rights possessed by the owner of information or resources

**Creative Commons** – Lets you dictate how others may use your work

**Trademark** – Protecting a name, symbol, or logo so that others cannot use it without your permission. Identified by the TM symbol. (Registering your trademark with the proper government entity may give you more protection and allows you to use the registered symbol)

**Piracy** – Making illegal copies of CDs, DVDs, movies, music, software, etc.

**Plagiarism** – Copying someone else’s work and claiming it as your own or not giving proper credit to the owner

**Software License** – A legal contract that defines the ways in which you may use a computer program

**Regular software license** – Usually allows you to load software on ONE computer

**Freeware** – Free software – You can use, copy, share but not sell or change

**Shareware** – Trial software – Use the software for a trial period and then decide whether to purchase it

**EULA (End User License Agreement)** – A legally binding contract you agree to when you **install** software

**AUP (Acceptable Use Policy)** – Guidelines on how a network can and should be used

**Public Domain** – Information available for anyone to copy

**Public Information** – Can be used without permission

**Private Information** – Cannot be used without permission

**APPLICATION PROGRAMS**

**PRESENTATIONS / POWERPOINT**

**Presentation** – An electronic slide show

**Microsoft PowerPoint** – Application program used to create an electronic slide show or presentation

**Slide** – One screen in a slide show

**Design** – Style and color of slides (choose a Design Theme for consistency)

**Background** – The background of one slide may be changed by right clicking on it

**Layout** – Placement of text and objects on the slides

**Resizing objects** – When making an object bigger or smaller use these keys along with the sizing handles

Hold down **SHIFT** to maintain proportions

Hold down **CTRL** to keep the center in the same place

Hold down **SHIFT + CTRL** to do both

**Transition** – How a slide will enter the screen (can also set automatic timing here)

**Animation** – Adding movement or an effect to text or objects – controls the order of things entering a slide

**View** – Normal, slide sorter, outline, notes

**Notes** – Add notes in a section under the slide – will only appear on the notes page, not on the slide show

**Thumbnail** – A small, visual representation of a slide or picture

**Embed** – Adding an item into a file so that it becomes part of the file (such as embedding a video into your slide show)

**Printing options** – Outline, **handouts** (print several slides on one page), slides, slide thumbnail with notes

**WORD PROCESSING**

**Word processing** – An application program to help create documents such as memos, letters, and reports

**Microsoft Word** – Application program used for word processing

**Default settings** – The settings that are in place when a program is opened such as margins or font

**Word wrap** – Letting the program automatically return for you when it reaches the right margin (soft return)

**Hard return** – Actually pressing the Enter key

**Soft page break** – Allowing the program to automatically go to the next page when you reach the bottom margin

**Hard page break** – **CTRL + ENTER** – Forcing a new page

**Emphasis** – Giving emphasis to text using bold, underline, or italics

**Font** – Style of text

**Line spacing** – The number of blank lines between typed lines (single, double, triple, etc.)

**Ruler** – Number marks across the top of the page – used for margins, indenting, tab stops, and alignment

**Horizontal alignment** – How text is aligned (lined up) between the left and right margins (left, right, center)

**Vertical alignment** – How text is aligned between the top and bottom margins (**page center**)

**Margins** – The white space around the edge of the document

**Orientation** – Determines whether your document will be printed lengthwise or crosswise

**Portrait** – lengthwise (the usual default setting)

**Landscape** – crosswise

**Cut** – CTRL + X – Cut a selection and place it on the clipboard

**Copy** – CTRL + C – Copy a selection and place it on the clipboard

**Paste** – CTRL + V – Paste a selection from the clipboard

**Clipboard** – A **temporary** storage area for a selection that is waiting to be pasted

**UNDO** – CTRL + Z

**Spell Check** – Checking for spelling errors – will not find wrong uses of words (their/there), incorrect words (it instead of to) will find words it thinks are misspelled or double words

**Grammar Check** – Checking for grammatical errors

**Thesaurus** – Looking up a word to find another word that means the same or the opposite

**Tab Stops** – Setting places on the ruler line where the tab key will stop

**TAB** – Press TAB to move from one tab stop to the next

**Leaders** – Dots, dashes, or lines that fill in the space from tab stop to tab stop

**Indent** – Lining up a section of text **IN** from the left or right margin

First line indent, left indent, right indent, hanging indent

**Hanging indent** – A format that keeps the first line of a paragraph at the left margin and indents remaining lines from the left margin. **References use this format**.

**Header or Footer** – Information that appears on the top or bottom of every page

**References / Bibliography** – A list of sources used in a document

Placed at the end of the report, in alphabetical order, in hanging indent format

**Template** – a document that someone creates as a pattern – it includes all formatting, you just have to add info

**Multi-level Lists** – Numbered or bulleted lists that have more than one level. Each level is indented further.

**Non-printing characters** – Formatting marks that do not print with the document

**Symbols or Special Characters** – Characters that are not found on a standard keyboard such as mathematical symbols, international characters with accents, or symbols like the degree symbol

**Rotate** – Turning a graphic

**Crop** – Cutting off parts of a graphic

**Resize** – Making a graphic smaller or larger

**SPREADSHEETS**

**Spreadsheet / Workbook** – A grid of rows and columns containing numbers, text, formulas, and calculations

**Microsoft Excel** – Application program used to create spreadsheets

**Row** – Horizontal cells up and down a spreadsheet – represented by numbers (1, 2, 3)

**Column** – Vertical cells across a spreadsheet – represented by letters (A, B, C)

**Cell** – Where a row and column intersect (A1, C3, D10)

**Active Cell** – The cell your cursor is in

**Sheet** – One page in a workbook

**Range** – A section of the spreadsheet identified by beginning cell and ending cell (C1:G10)

**AutoFit** – Adjusts the size of rows or columns to fit the data within those rows or columns

**Auto Fill** – Click and drag the AutoFill button to automatically copy from one cell to several others

**Mathematical operators (+ - \* /) –** Used to create formulas and calculations

**Formula** – Use cell addresses and mathematical operators to create a formula – start with =

**Functions** – A special formula Excel has created for you

**SUM** – Adds numbers in a range

**AVERAGE –** Averages numbers in a range

**MAX** – Finds the highest (max) number in a range

**MIN** – Finds the lowest (minimum) number in a range

**COUNT** – Counts the number of cells in a range that contain a number

**Relative Address** – Cell references (addresses) change as the formula is copied (A4 or C6)

**Absolute Address** – Cell references (addresses) do not change as the formula is copied. Use the $ in front of a cell, row, and/or column address to make it absolute ($A$4 or $A4 or A$4)

**Sort** – Changing the order of information

**Ascending** – from A to Z, 0 to 1, or low to high

**Descending** – from Z to A, 9 to 1, or high to low

**Chart or Graph** – A visual representation of data

**X-axis** – Usually the horizontal axis, usually left to right – usually shows the topics of the values

**Y-axis** – Usually the vertical axis, usually top to bottom – usually shows the range of values

**Legend** – Key for interpreting the chart’s colors, patterns, etc.

**DATABASES**

**Database** – A collection of records

**Field** – One piece of data, the same as a cell in a table – fields are designated by column headings

**Record** – The same as a row in a table, all of the information about a single item in a table

**Modify** – Make changes to a record

**Query** – A question – requesting information from the database