



# EIGHTH GRADE Learning Objectives for **Computer Technology**



## **BASIC COMPUTER OPERATIONS**

### **The learner will**

- recognize when the case and monitor are in their different power options, e.g., on, off, sleep mode, power saving mode.
- understand the four functions of a computer system
- recognize the sizes and common uses of personal computers.
- develop an appropriate computer vocabulary.
- develop an appropriate file naming scheme based on the InterCap file naming method.
- understand file name extensions and be able to recognize different file types based on their extensions.
- understand the importance of .RTF files for home computing compatibility.
- understand the Read Only file property.
- clean a mouse.

## **STORAGE DEVICES AND MEMORY**

### **The learner will**

- recognize the advantages and disadvantages of hard disks, floppy disks, CD ROMs & memory sticks.
- understand floppy disk care.
- learn the differences between CDR & CDW and be able to determine which is best to use in different scenarios.
- recognize the importance of frequent saving.
- recognize the importance of backing up important data to a minimum of two permanent storage locations.
- learn how to correctly use memory sticks and burn data onto CDs.
- understand the difference between temporary (RAM) and permanent (hard disk) memory.
- understand the memory hierarchy (bits, bytes, kilobytes, megabytes, gigabytes).
- determine how much temporary and permanent memory a PC has.
- Learn how to ZIP files to compress files in size and allow for easier transport.

## **PRINTING BASICS**

### **The learner will**

- recognize and set the default printer.
- choose different printers for target printing.
- load paper into the printers correctly.
- print a single page or page range.
- understand the difference between print cartridges and toners.
- understand the advantages and disadvantages of ink-jet and laser printers.
- understand the common causes of printer malfunction (offline).

## **FILE MANAGEMENT**

### **The learner will**

- create folders and subfolders in order to effectively organize his or her files for quick retrieval.
- organize pre-existing files into a proper file hierarchy.
- know the four methods of using the clipboard.
- use the Control & Shift keys for multiple file selection.
- move files from a shared folder on one computer to his or her own folders.



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## **HARDWARE OPERATION**

### **The learner will**

- scan a photo.
- take a photo with a digital camera and transfer the image files onto the computer.
- understand the general physical care of a computer.
- recognize the hardware components inside of a case, e.g., motherboard, microprocessor, power supply, RAM.

## **SOFTWARE TYPES**

### **The learner will**

- recognize the various operating systems in existence.
- understand the role of operating system software.
- differentiate between software packages and their associated uses.
- recognize the importance of .pdf (Adobe Acrobat reader) files and convert files into .pdf files.

## **SCREEN CAPTURES**

### **The learner will**

- demonstrate the three methods of performing a screen capture.
- insert a screen captured into a document or presentation.
- save a screen capture as a .jpg file.

## **WORD PROCESSING ESSENTIAL SKILLS**

### **The learner will**

- change fonts style, font color, font attributes.
- customize bullet settings.
- apply borders to paragraphs and pages.
- use utilities, e.g., spell checkers, grammar checkers.
- use search and replace.
- insert graphics: customize wrapping and picture properties, cropping.
- set margins, alignments and justification.
- set page layout options, e.g., orientation, vertical alignment.
- set line spacing options.
- use format painter.
- set and understand the four types of tab stop settings.
- insert special characters, e.g., €, é, ©.
- insert headers and footers.
- insert references, e.g., footnotes, endnotes.
- insert and modify tables, e.g., merge cells, shading, insert/delete rows/columns.
- use the Drawing Toolbar icons, e.g., WordArt, AutoShapes.
- develop the habit of proof reading, editing on-screen and using Print Preview to emulate the “perfect the first time” printing philosophy.



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## **IMAGE EDITING**

### **The learner will**

- understand pixels and screen resolution settings.
- save an Internet image correctly.
- convert image files.
- crop image.
- rotate images.
- recognize the importance of ratio management and resize images.

## **INTERNET BASICS**

### **The learner will**

- understand how the Internet works.
- understand the difference between LAN and WAN.
- use Boolean search techniques to refine Internet searches.
- add favorites.
- recognize the use of the history list.
- identify the Internet Explorer icons and understand their uses.
- understand domains, top-level domains, mail servers.
- understand the risks involved on the Internet, e.g., fraud, theft.
- understand anti-spyware and spyware uses.
- create a blog.
- document Internet resources appropriately.
- use correct Internet vocabulary, e.g., FAQ, virus, newbie, ISP, hacker, e-commerce, filtered, modem.
- understand the importance of ethical behavior on the Internet.
- update virus checking software.
- identify reputable URLs and develop judgment for Internet credibility.

## **MICROSOFT EXCEL**

### **The learner will**

- identify the uses of spreadsheet software.
- define cells, columns and rows.
- understand the three types of data used in spreadsheets.
- identify which jobs would benefit from spreadsheet knowledge.
- use formulas and functions to perform mathematical operations, e.g., SUM, MIN, MAX, AVERAGE.
- link formulas between sheets.
- rename and move sheets.
- insert and delete rows/columns.
- expand their computer vocabulary to include business terms, e.g., mortgage, budget, VAT.
- print worksheets using "fit to one page" when required.
- print formulas.
- plot data on a variety of graphs.
- customize graphs, e.g., change scale, move legend, adjust fonts.

## **INDUSTRY PIONEERS**

### **The learner will**

- understand the contributions of the following people to the computer industry: William Henry Gates, Stephen Jobs & Stephen Wozniak, Mark Shuttleworth, Michael Dell, Shaun Fanning (creator of Napster), Linus Torvalds.
- research a computer pioneer to discover facts about his/her involvement with the PC industry history.



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## **BUYING A PC**

### **The learner will**

- understand the main components and their uses when assembling a computer (motherboard, RAM, hard disk, sound card, etc).
- understand the difference between onboard and separate components

## **MICROSOFT ACCESS INTRO**

### **The learner will**

- understand the hierarchy of a database (field, record, file, database).
- create their own database.
- sort data.
- format reports.
- create data entry forms.
- create queries to use in reports.

## **RESOURCES**

Megabyte, Chapters 4, 5, 6, 8, 9

Computers in Everyday Life worksheets

File Compatibility, Extensions and PDF worksheets

ICT At Various Places worksheets

Memory worksheets

Zipping Files theory sheet

Printer Advantages and Disadvantages chart

File and Folder Management worksheet

Parts of the PC worksheet

File Compatibility, Extensions and PDF worksheet

Computers in Everyday Life worksheet

Screen Captures theory sheet

Image File Basics theory sheet

Inserting a Graphic theory sheet

Tables, Tabs & Tips theory sheet

MS Word Screen Identification worksheet

Headers and Footers worksheet

Internet Theory worksheets

Hackers movie

Relevant current articles

Introduction to Microsoft Excel theory sheets

Absolute Versus Relative Cell Referencing theory sheet

Graphing Tips theory sheet

Computer Pioneers Homework and Project Sheets

Triumph of the Nerds video

Current pc advertisements

Broken pc parts

Current PC comparison journal articles

Introduction to Databases handouts and assignments