

Computer Science Curriculum for First-time Students

BasicEdu Team.

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Fundamental Skills.

Getting started with computers, the following skills must be established. Most of these use a gamified process of learning to be able to attract and keep the attention of a younger user base. These methods have been tested to increase engagement levels and boost learning rates.

You're encouraged to tinker around with everything you possibly can, and these exercises are meant to pique the curiosity levels, eventually ending up with a basic intuition towards all the controls. Students will eventually explore what hasn't been taught with the help of this intuition.

Typing.

Typing is the process of writing or inputting text by pressing keys on a typewriter, computer keyboard, cell phone, or calculator.

Aim : To gain familiarity with using the keyboard,

Practice required : 15-20 minutes a day.

Target goal at the end of this exercise : Typing speed of about 30 words a minute.

Exercises in the form of games:

Please find a gamified learning process at : <https://www.typing.com/>

You're encouraged to race students' typing speeds, and share techniques towards improvement.

Mouse.

The different modes of the mouse, and gaining an intuition about the corresponding buttons that need to be pressed for every given mouse button.

Aim : To gain a familiarity towards the shortcuts and buttons on the mouse, and develop motor skills.

Tutorials and exercises :

GCFLearnFree.org: Mouse Tutorial

DigitalLearn.org: Getting Started on the Computer - the Mouse

GCFLearnFree.org: Mouse Shortcuts

For advanced learners :

Navigate to paint or any other drawing software and draw your house.

The BasicEdu team strongly encourages gamified learning through online in-browser games.
Check out fog.com / miniclip.com.

(Encourages the involvement of the kids in a gamified learning process, and leads them towards building better motor skills while on the computer.)

Basic Internet

Aim : The following exercise intends to create an intuition about :

Understand how to navigate using a browser

Understand simple search terms.

Locate web address

Understand concept of hyperlink

Tutorials : Complete the following

1. [What is the Internet?](#).
2. [How is the Internet Used?](#).
3. [Browser Basics.](#)

Exercises : Download and install google chrome and navigate to Wikipedia.

Basic Email.

Aim : Setting up, sending and receiving emails.

1. Complete the tutorial [Introduction to Email](#).
2. Complete the tutorial [Email Basics](#).
3. Complete the tutorial [Email Etiquette and Safety](#).
4. If you don't already have an email account, consider signing up for a Google Gmail, Microsoft Outlook, or Yahoo! Mail account.
5. Complete the tutorial [Sending Email](#).
6. Complete the tutorial [Responding to Email](#).
7. Use your email account to send an email message.
8. Reply to an email message you receive from someone else.

Basic Hardware Knowledge

1. Identify the external parts of your computer (case, monitor, mouse, keyboard, ports).
2. Identify the types of computers you use regularly (desktops, laptops, servers, tablets, mobile phones, game consoles, other).
3. If you have a desktop computer, identify the external parts of your computer (case, monitor, power cord, keyboard, mouse or other pointing device). Where possible, note the manufacturer's product name and model number.
4. Identify the buttons, sockets, and slots available on your computer. List each type of button, socket, or port you have, and where on the case they are located. Also list any connected peripheral devices, including product name and model number.
5. If you have a laptop or similar computer, identify the external parts of your computer (case, display, power adapter, keyboard, touchpad, ports).
6. If you have a mobile device, identify the type, manufacturer's product name and model number.
- 7.

Basic Software

Objectives and skills for basic software concepts include:

- Distinguish what is software / hardware
- Understand menu bars; etc
- Understand basic terminology: file; application
- Understand purpose of backup

Activities

Identify common applications installed on your computer (browser, word processing application, presentation application, etc.).

Complete the tutorial [Backing Up Your Files](#). Create a backup of your important files.

Word Processors :

Objectives and Skills

Objectives and skills for basic word processing concepts include:

- Create a new document: enter text; delete; save; save as

- Use basic edit features: cut; copy; paste

- Identify features: tool bar; icons; cursor

- Use dictionary; spell check

- Operate print; print preview

Multimedia

- Check out official tutorials to Word released by Microsoft.

Activities

These activities may be completed using any word processing application (Microsoft Word, LibreOffice Writer, Google Document, Apple Pages, etc.):

- Start your word processing application. It should automatically open with a new, blank document.

- Enter two paragraphs of text in your new document. You can write about the user interface features you see (toolbar, icons, menus, status bar, scroll bars, etc.) and where they are located.

- Save your document.

- Copy the first paragraph and paste it at the end of the document, creating a third paragraph.

- Delete the duplicate third paragraph.

- Use Spell Check to verify and correct spelling for your document.

- Use Print Preview to see the page layout for your document.

- Print your document.

- Use Save As to save your document with a new name.

TERMS : GLOSSARY

cable

Two or more wires running side by side and bonded, twisted, or braided together to form a single assembly

computer case

The enclosure that contains most of the components of a computer (usually excluding the display, keyboard and mouse).

display

An output device for presentation of information in visual form.

keyboard

A typewriter-style device, which uses an arrangement of buttons or keys, to act as mechanical levers or electronic switches.

laptop

A portable personal computer with a clamshell form factor, suitable for mobile use. They are also sometimes called notebook computers or notebooks.

mouse

A pointing device that functions by detecting two-dimensional motion relative to its supporting surface.

tablet

A mobile computer with display, circuitry and battery in a single unit.[8]

application

Computer software that causes a computer to perform useful tasks beyond the running of the computer itself.

backup

Refers to the copying and archiving of computer data so it may be used to restore the original after a data loss event.

browser

A software application for retrieving, presenting and traversing information resources on the World Wide Web.

file

A resource for storing information, which is available to a computer program and is usually based on some kind of durable storage.

word processor

A software application for composing, editing, formatting and sometimes printing of any sort of written material.