

# General Topic: Computer Hardware and Software Basics

## Lesson Overview:

Computers are *made up of hardware (physical parts) and software (programs)*. Knowing their functions helps users operate a computer efficiently and troubleshoot basic problems.

## Key Concepts and Subtopics:

### 1. Hardware Components

- Input devices: keyboard, mouse, scanner.



Reference:<https://www.currys.co.uk/gbuk/computing-accessories/computer-accessories/mice-and-keyboards/mice/logitech-b100-optical-mouse-21775704-pdt.html>; <https://theethicalhacker.com/2016/12/05/what-is-keyboard/>; <https://www.techwalla.com/articles/what-are-the-uses-of-scanners>

- Output devices: monitor, printer, speakers.



Reference:<http://pngimg.com/image/7737>; [http://www.bhphotovideo.com/c/product/1133147-REG/samsung\\_s22e310h\\_21\\_5\\_led\\_monitor\\_with.html](http://www.bhphotovideo.com/c/product/1133147-REG/samsung_s22e310h_21_5_led_monitor_with.html); <https://www.globalsources.com/Stage-loudspeaker/studio-speakers-monitor-speakers-1207238539p.htm>

- Storage devices: hard drive, SSD, flash drive.



Reference:<https://www.westerndigital.com/it-it/products/usb-flash-drives/sandisk-cruzer-glide-usb-2-0>; <https://www.bgcloud.com/blog/ssd-advantages/>; <https://www.bestbuy.com/site/wd-blue-1tb-internal-sata-hard-drive-for-desktops-oem-bare-drive/6331502.p?skuid=6331502>

- Processing unit: CPU (central processing unit).



Reference:<https://www.thetechadvocate.org/what-is-a-cpu-central-processing-unit/>

## 2. Software Types

- System software: operating systems (Windows, macOS, Linux).



Reference:<https://www.pngwing.com/en/free-png-nyyqj>; [https://www.wikiwand.com/en/System\\_Software\\_5](https://www.wikiwand.com/en/System_Software_5)

- Application software: word processors, browsers, games.

## 3. Interaction of Hardware and Software

- Software sends instructions to hardware to perform tasks.

### **Real-Life Example:**

When typing a document, the keyboard (hardware) sends data to the word processing program (software), which then displays it on the monitor.

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### **Remember This!**

- *Hardware is useless without software, and software cannot function without hardware.*

# General Topic: Internet and Online Safety

## Lesson Overview:

The **internet connects** people and devices worldwide. While it offers countless benefits, it also comes with risks, so **online safety** is essential for protecting information and personal security.

## Key Concepts and Subtopics:

### 1. The Internet

- Definition and basic structure.
- Uses: communication, research, entertainment, e-commerce.

### 2. Online Safety Practices

- Creating strong passwords.
- Avoiding suspicious links and attachments.
- Using antivirus and firewall protection.

### 3. Cybersecurity Threats

- Phishing, malware, hacking.
- Social engineering attacks.

## Real-Life Example:

Before logging in to a social media account, a student checks if the website link is correct and uses two-factor authentication for extra security.

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## Remember This!

- *Think before you click—online safety starts with you.*

# **General Topic: Word Processing, Spreadsheets, Presentations**

## **Lesson Overview:**

Productivity software is essential for creating documents, organizing data, and presenting ideas clearly and effectively.

## **Key Concepts and Subtopics:**

### **1. Word Processing**

- Formatting text and paragraphs.
- Inserting images and tables.
- Spell check and grammar tools.

### **2. Spreadsheets**

- Entering data into cells.
- Using formulas and functions (SUM, AVERAGE).
- Creating charts and graphs.

### **3. Presentations**

- Designing slides with text, images, and animations.
- Using themes and layouts for consistency.
- Presenting effectively.

## **Real-Life Example:**

A student uses a spreadsheet to track expenses for a school project, then prepares a presentation to report findings to the class.

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## ***Remember This!***

- *Mastering productivity tools saves time and improves the quality of work.*

# General Topic: Basic Programming Concepts

## Lesson Overview:

**Programming** is the process of writing instructions that a computer can follow. It develops problem-solving and logical thinking skills.

## Key Concepts and Subtopics:

### 1. What is Programming?

- Giving step-by-step instructions to a computer.
- Programming languages: Python, Java, Scratch.

### 2. Basic Elements of a Program

- Variables: storing data.
- Data types: numbers, text, Boolean.
- Control structures: if-statements, loops.

### 3. Problem-Solving Process

- Understanding the problem.
- Writing an algorithm.
- Testing and debugging.

## Real-Life Example:

Using Scratch, a student creates an animation where a character moves when arrow keys are pressed.

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## Remember This!

- *Programming is like giving a recipe to a computer—clear instructions lead to successful results.*

# **General Topic: Digital Citizenship**

## **Lesson Overview:**

**Digital citizenship** is using technology responsibly, ethically, and safely. It includes knowing your rights and responsibilities in the digital world.

## **Key Concepts and Subtopics:**

### **1. Responsible Use of Technology**

- Respecting others online.
- Avoiding plagiarism by citing sources.
- Managing screen time.

### **2. Digital Etiquette**

- Using polite language in online communication.
- Avoiding spamming or sending unwanted content.

### **3. Legal and Ethical Issues**

- Copyright laws.
- Cyberbullying and its consequences.

## **Real-Life Example:**

Before posting a photo online, a student asks permission from the people in the picture to respect their privacy.

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## ***Remember This!***

- *Being a good citizen online is just as important as being a good citizen offline.*