TUK

Based on NEP (2020) and NCF (2023)

REVISED

# THE COMPUTER HUB

with CODING and ARTIFICIAL INTELLIGENCE (AI)

2

- Lab Activities
- TUK Etiquettes
- TUK Activities
- Tips for Parents
- Did You Know?
- Revise With TUK
- Exercises

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UN SDGs INCLUDED

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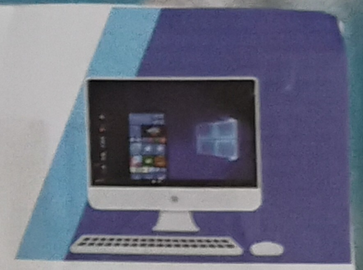
# 1 An Introduction to Computers

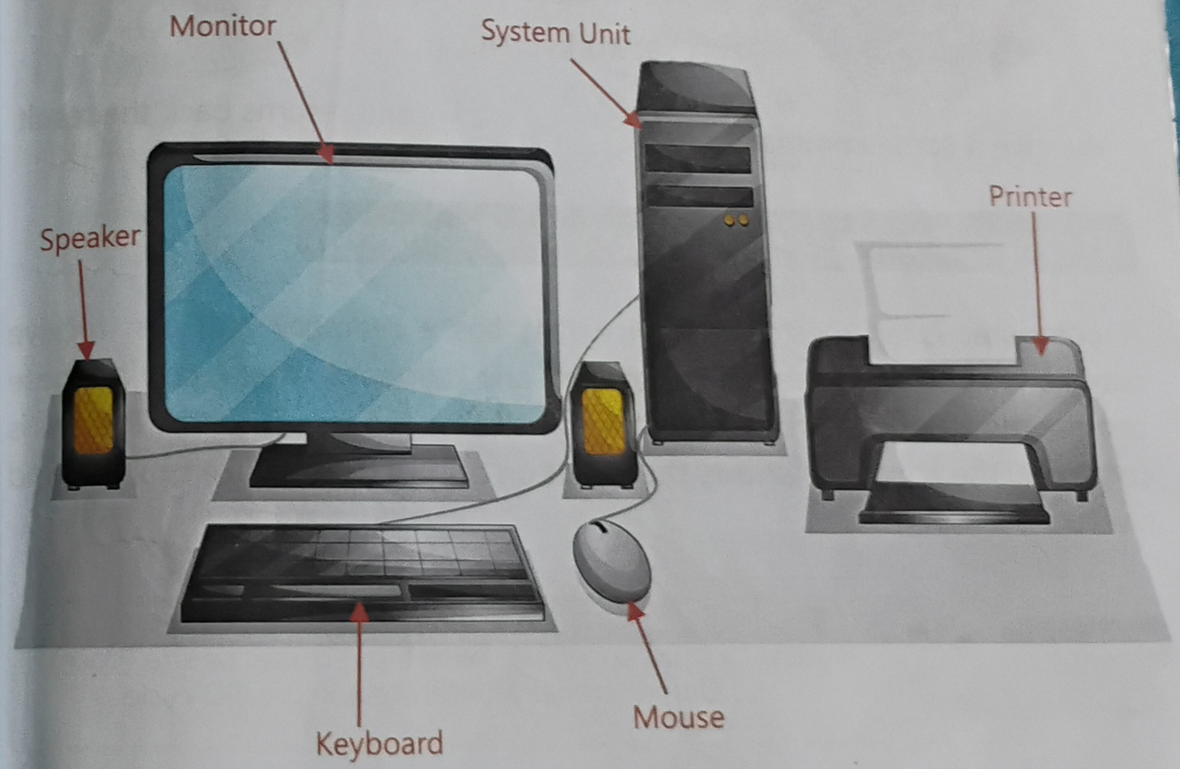


**To know in this chapter**

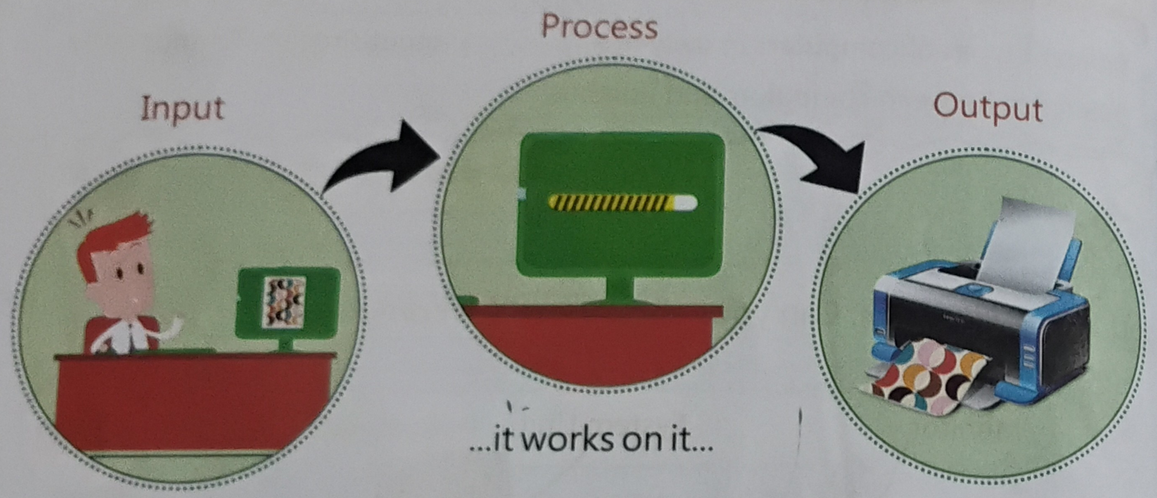
- Different types of computers in daily use
- Difference between computers and humans
- Input-Process-Output cycle

Hello all,

Good to see you back. Can you tell us what is a computer?



A computer is an automatic machine that work on electricity. It helps us to do many things.




## The Input-Process-Output (IPO) Cycle of Computer

A computer is an electronic device that has a memory and can receiv commands from input devices like mouse and keyboard. After receiving thes commands, the CPU works on it. This work is called Process. After the Process i complete, the computer shows the result on output devices like monitor an printer.

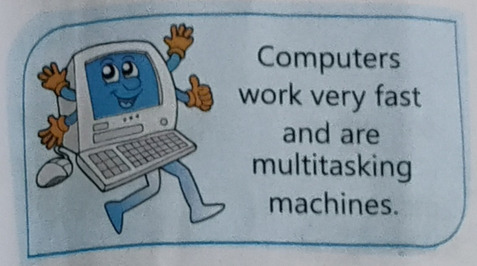
**TIPS FOR PARENTS**

Make your child understand why Input comes before Process and Output comes after Process in the IPO cycle.

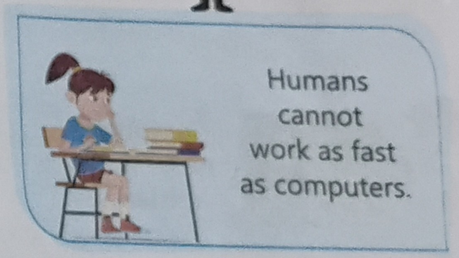


## Difference between Computers and Humans

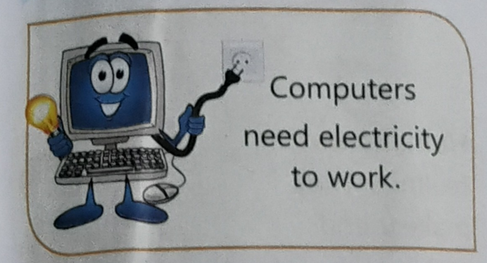
The computer is a smart machine. Humans are also smart. But there are many differences between computers and humans. Let's see some of them.



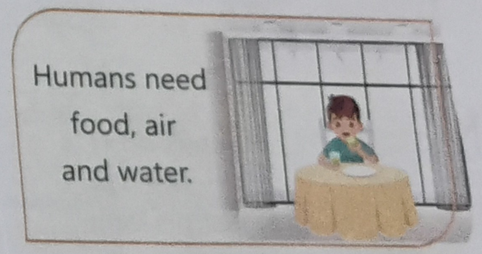
Computers work very fast and are multitasking machines.



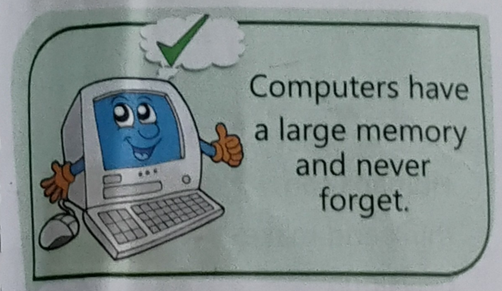
Humans cannot work as fast as computers.



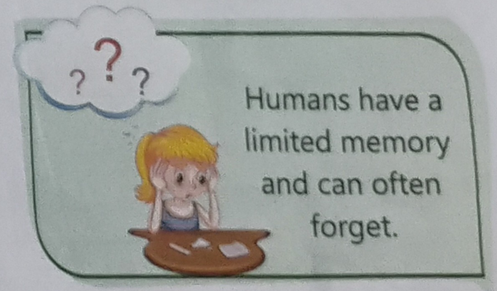
Computers need electricity to work.



Humans need food, air and water.



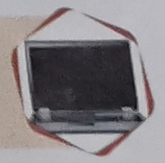
Computers have a large memory and never forget.



Humans have a limited memory and can often forget.

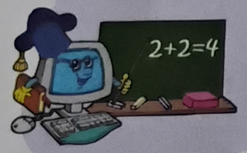
**DID YOU KNOW?**

The first .com website was www.symbolics.com. It was registered on March 15, 1985.



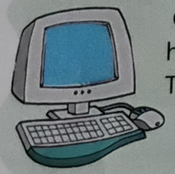
Computers never get tired.

After working for some time, humans get tired and bored.




Computers never make mistakes.

Sometimes humans make mistakes.

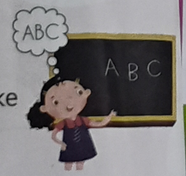


Computers don't have any feelings. They just perform functions.

Humans have feelings. They make friends and live with family.

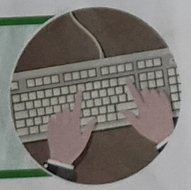
Computers cannot make their own decisions.

Humans can think and make decisions.




**TUK Etiquette**

Never hit the keys of the keyboard very hard!





## Types of Computers

### (a) Desktop Computers

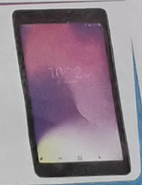
The computer that you see in your computer lab is a Desktop Computer or a Personal Computer (PC). We cannot carry them along for use. They have separate parts which are connected with wires.

### (b) Laptop Computers

It is much smaller than a desktop computer and is also lighter in weight. It can easily be kept on your lap. You can also carry it with you anywhere.

This is a **Laptop.** It runs on battery. The battery needs charging from a power source.

### (c) Tablets



This is a **Tablet**. It is slim and very easy to carry. It is smaller than a laptop and has a touch screen.

### (d) Smartphones

What do you think? Is this also a computer?

Yes the **smartphone** is also a type of computer. It is smaller in size than a tablet. It has a battery and needs charging from a power source. All smartphones have a touch screen.

**TUK ACTIVITY**

**Write down any one difference between humans and computers.**

.....

.....

.....

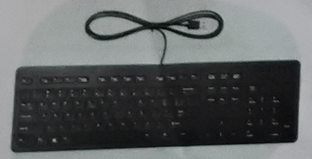
.....

.....

.....

## INPUT-PROCESS-OUTPUT (IPO) CYCLE

Computer follows this cycle to perform a given function.

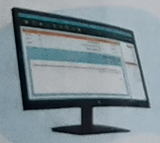


**INPUT**

- Instructions are provided to the computer to perform a task.
- Instructions are given from Input devices.

**PROCESS**

- The computer understands the instructions and works on it.
- The CPU is the processor which works on the instructions.



**OUTPUT**

- Computer gives the desired output through Output devices.

**DID YOU KNOW?** Barbara Blackburn is the world's fastest typist according to Guinness Book of World Records (2005).

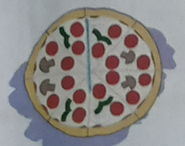


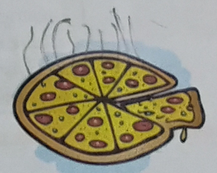
## Examples of Input-Process-Output Cycle

**Input**
The ice tray which contains water is kept inside the fridge.

**Process**
The fridge cools down the water.

**Output**
After some time, the water turns to ice.





**Input**
Raw pizza is prepared and kept inside the oven.

**Process**
The oven heats the raw pizza.

**Output**
After few minutes, cooked pizza is ready.

C.W 10.4.25

**TUK ACTIVITY**

**Complete the IPO cycle with the help of the hints.**

Computer takes input from the Input device. Then it works on the input in the Processing device. The CPU is the brain of the computer. Here it does the Process which means doing work on the input. After working on the information, it gives output on the Output device.

**Hint Box:** output device, input device, brain, processing device

C.W 17.4.25

## Revise with TUK

Computers perform calculations automatically, store data, and run on electricity.

Computers receive input from devices like the mouse and keyboard, process it, and display output on the monitor or printer.

Computers are faster and error-free compared to humans but cannot think independently; they follow instructions.

Computers also have some limitations. For example, they cannot think of a solution if there is any error. They just follow directions.

Computers operate on the Input-Process-Output cycle: Input takes data, Process works on it, and Output shows the result.

## Exercises

**A. Write the correct number in the boxes against the right answer.**

1.
2.
3.
4.
5.

| | |
|---|---|
| a. Keyboard | 2 |
| b. Speakers | 5 |
| c. Monitor | 4 |
| d. Mouse | 3 |
| e. System Unit | 1 |



**Unscramble the jumbled words.**

1. PTCUERMO — Computer
2. NEMACHI — MachINE
3. HONESMARTP — SMaRT PHONE
4. TOPLAP — LAPTOP

**Fill in the blanks with the help of the hints.**

**Hint Box** input-process-output, fast, CPU, tablet

1. Computers work very fast.
2. Tablet is slim and very easy to carry.
3. The CPU is the brain of the computer.
4. All computers follow Input-Process-output cycle to perform a given function. IPO

**Give two examples.**

1. Input device (a) keyboard (b) Mouse
2. Output device (a) Monitor (b) Printer
3. Types of computer (a) Tablet (b) Laptop

## E. Write T for True and F for False statements.

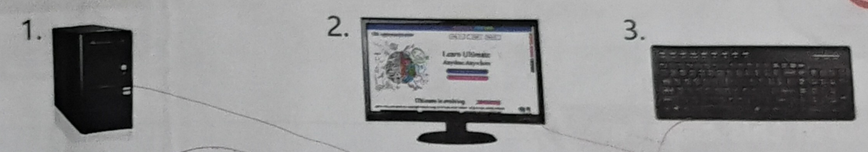
1. Computers work very fast. T
2. Computers make mistakes. F
3. Computers need electricity to work. T
4. Computers never get tired. T
5. Computers forget many things. F

## F. Answer the following questions.

1. What is a Computer?
   a computer is a smart machine
2. Name different types of computer.
   Smart Phone, LaPTop Computer, Desktop computer, tablets
3. What is the use of an input device?
   to give commands to the computer.
4. What is the use of an output device?
   to give output.



## G. Arrange the IPO cycle.



1. Keyboard board I
2. CPU P
3. monitor O

## H. Tick (✓) the correct answer.

1. Computers are _____ machines.
   a) ☑ multitasking b) ☐ single tasking c) ☐ double tasking
2. _____ never makes mistakes.
   a) ☐ humans b) ☑ computer c) ☐ both
3. Sharpening a pencil using a sharpener is _____.
   a) ☐ input b) ☐ output c) ☑ process
4. _____ processes the command that the computer receives and shows the output on an output device.
   a) ☐ monitor b) ☑ CPU c) ☑ keyboard

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### Lab Activity

Computers can do many things which humans cannot. But there are also some things which humans can do but computers cannot. Can you list down some of them?