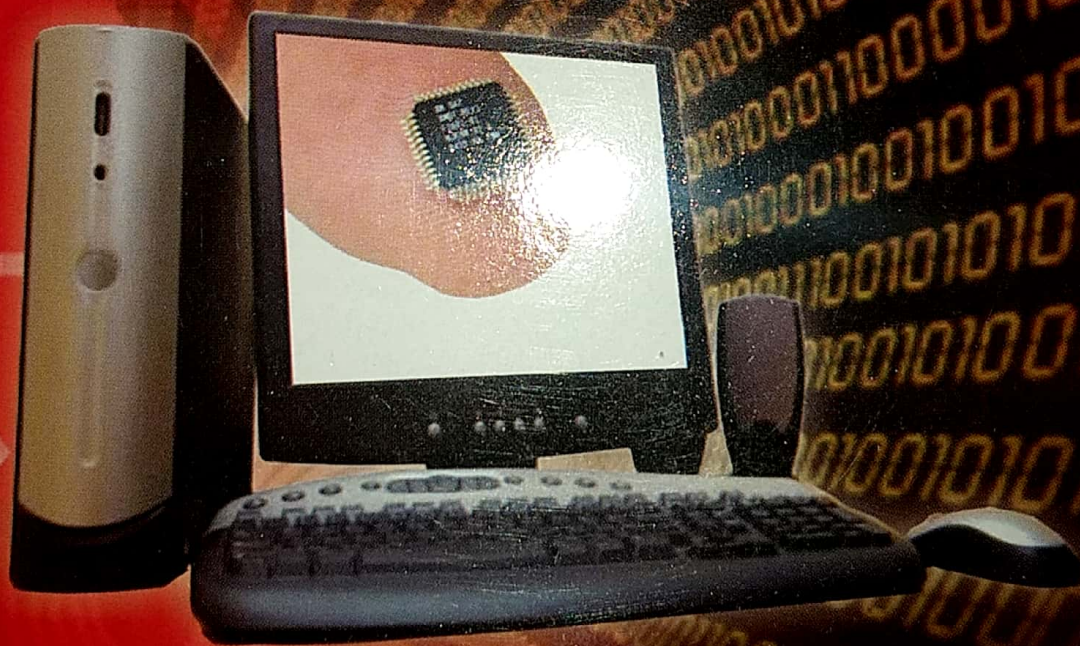


Beyond Windows



Towards Understanding Computers



2

Navdeep Publications

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Early Times and Now

In Earlier Times

In the ancient times, much before the invention of counting machines, people used their fingers and toes, made marks on the mud or sand, or used stones to count, calculate, and keep a track of their things.



- With the passage of time, families grew, societies formed and the requirements changed.
- The requirement for faster calculations with large numbers arose. For example, the merchants needed a way to count huge sums of money they earned, quickly and easily.
- Thus, the need for calculating devices began to be felt.

Remember To calculate means to add, subtract, multiply and divide numbers.

Different Types of Machines

In our daily life, we will see the following types of machines.

Manual Machines

A manual machine works with physical effort.

Example

A juice machine needs manual effort.



A bicycle needs to be paddled with your legs.

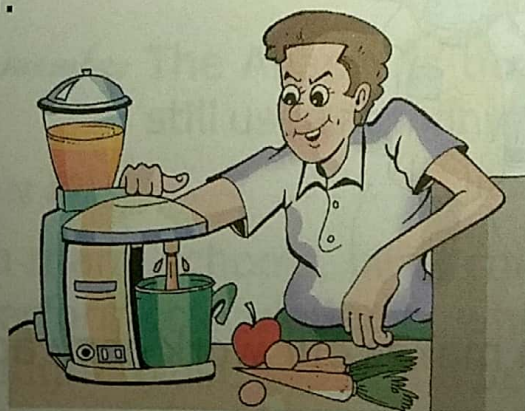


Automatic Machines

An automatic machine is one that can work without the interference of a human being.

Example

An automatic juicer automatically extracts juice after you put fruits in it and switch it on.

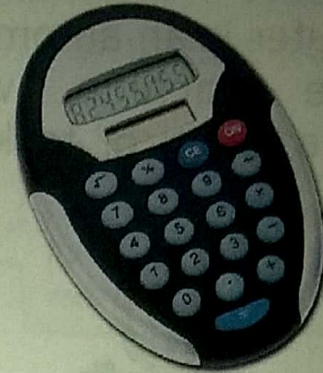


A scooter does not require you to make any physical effort to move it.



About Calculators

A Calculator is a small machine that is used for mathematical calculations.



Calculator

- It provides an easy and quick way to calculate large numbers.
- It has numbers and mathematical signs printed on its buttons that are pressed to get the results.

Using a Calculator

A calculator is easy to use. You can easily do addition, subtraction, multiplication or division with its help.

LET'S DO IT! Using a Calculator to add two numbers 5 and 7

1. Press the button on which '5' is printed.
2. Press the button on which '+' is printed.
3. Press the button on which '7' is printed.
4. Press the button on which '=' is printed.

The result '12' will be displayed on its display.

Activity Tick (✓) the machines which can calculate.

☐☐☐☐☐

What is a Computer?

A **Computer** is an automatic and a versatile machine, which can perform a variety of tasks.



Computer

Features of a Computer

A computer is a multipurpose automatic machine which has the following features:

1. It works on electricity.
2. You can perform many tasks on it such as make drawings, play music, solve sums and play games.
3. It has a memory to store your computer work.
4. It works on instructions which you give it.

What is Multipurpose?

Multipurpose means having multiple uses.



My table is multipurpose.

- I read on it.
- I play scrabble on it.
- I eat on it.

Fact File

We say that the Computer is versatile because it is capable of doing many tasks efficiently. It can solve sums, play music, create special effects in movies and send messages to other computers.

Computer is different

A computer is different from other machines. Most of the machines do a single type of work; but a computer does many types of work.



Can you tell what a juicer can do other than make juice from fruits?



Nothing. It can only be used for a single purpose that is extracting juice.



Can you tell what a washing machine can do other than washing of clothes?



Nothing. It can only be used for a single purpose that is washing clothes.



Can you tell what a calculator can do other than do calculations?



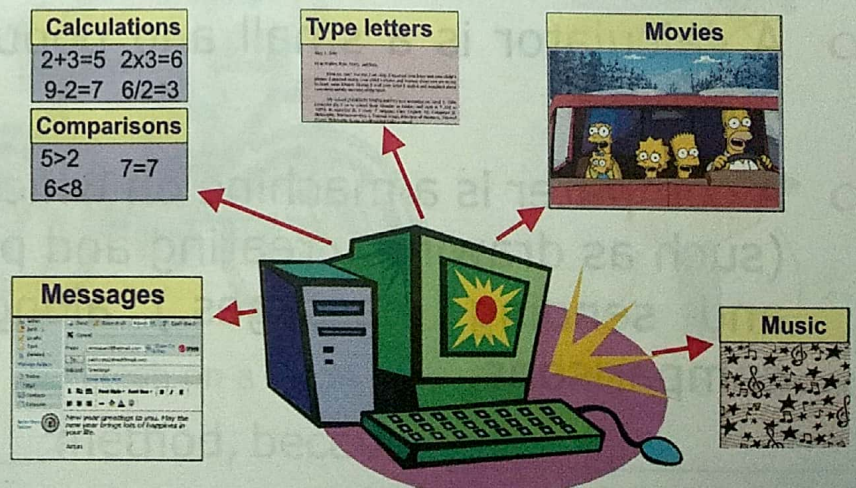
Nothing, it can just calculate numbers.

We can say that most of the machines are made only for one single purpose.

What can you do on a Computer?

A computer is a multipurpose machine. A single computer is meant for many purposes. Using a computer, you can:

1. Do calculations and comparisons.
2. Make drawings.
3. Play music and games.
4. Watch movies.
5. Type letters.
6. Send messages.
7. Chat with friends.



Activity Tick (✓) the sentences which you think a computer can do and cross (X) the ones that you think it cannot.

1. It can play music.
2. It can play football on the football field.
3. It can send messages to another computer.
4. It can drink coke and eat a burger.
5. It can climb a tree.
6. It can make drawings.

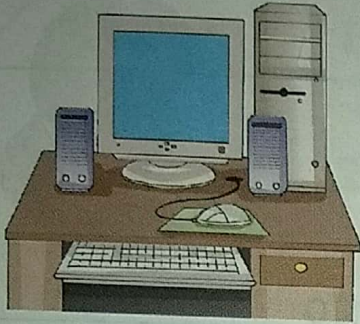
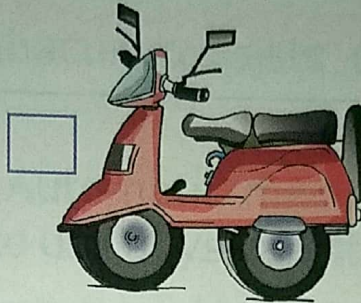
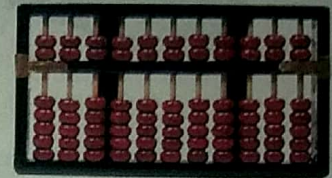
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Quick Recap

- Before the invention of counting machines, people used their fingers, toes, sticks and stones to count.
- The 'Abacus' is the first and one of the many calculating devices invented to help us do calculations.
- A manual machine works with physical effort.
- An automatic machine is one that can work without the interference of a human being.
- A calculator is a small and popular automatic calculating machine.
- A computer is a machine on which you can do many things (such as drawing, creating and playing music, doing sums and sending messages.) along with calculations and comparisons.

Worksheet Minutes

Worksheet 1 Write **A** alongside the machine, which is automatic and write **M** alongside the machine which is manual.

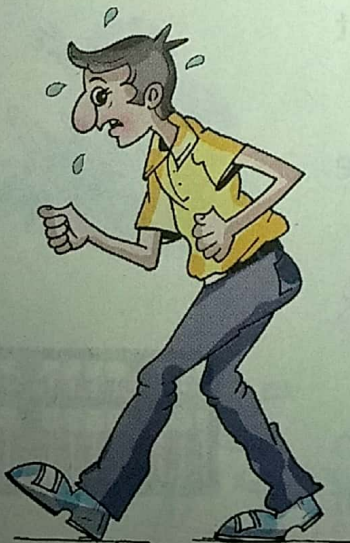

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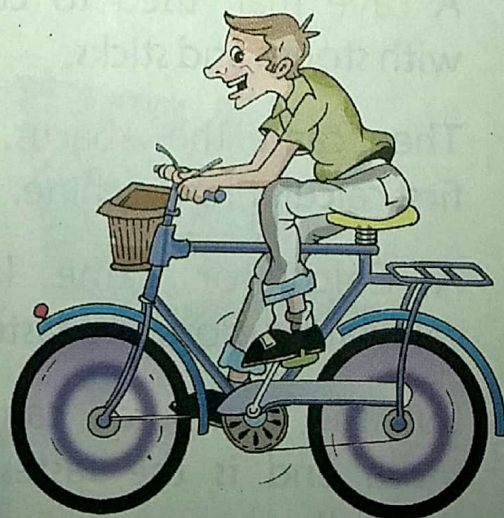
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Worksheet 2 Mitesh has to go far away to a different city to meet his friend. Write in the given space, which method should he prefer for travelling and why?



1. Mitesh Walking



2. Mitesh on a Cycle



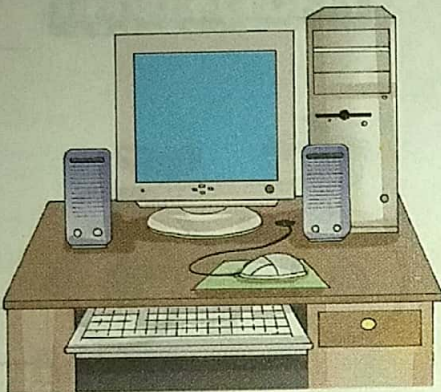
3. Mitesh on a Scooter

Mitesh should use the _____ method, because _____

Worksheet 3 Why do you think that a computer is more versatile than a calculator?



On a calculator, you can do _____



On a computer, you can do _____

Worksheet 4 Draw lines from related pictures to the red colour words in the poem.



A **cave man** used to count with stones and sticks.

Then came the **Abacus**, the first calculating machine.

A **Calculator** came later, calculating more and faster

But the **computer** can do more and is the fastest of them all.



Kids, what do you think, who is the best...? _____

Worksheet 5 Ishi has written some sentences. Help ma'am to check which are wrong and which are correct. Tick (✓) the sentence, which you think is correct and cross (X) the wrong sentence.



1. The Abacus consists of a frame and beads. ☐
2. In an Automatic machine, you do not need to use physical effort. ☐
3. In a manual machine you do not need to use physical effort. ☐
4. You can make drawings using a calculator. ☐
5. On a computer you can type letters. ☐

Worksheet 6 Draw a circle around the things which can be used for more than one purpose.





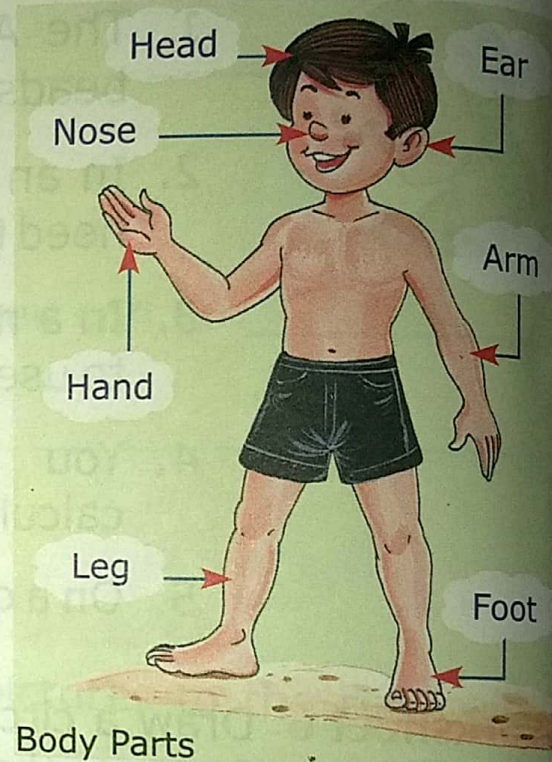
Computer Parts

Parts of a Computer

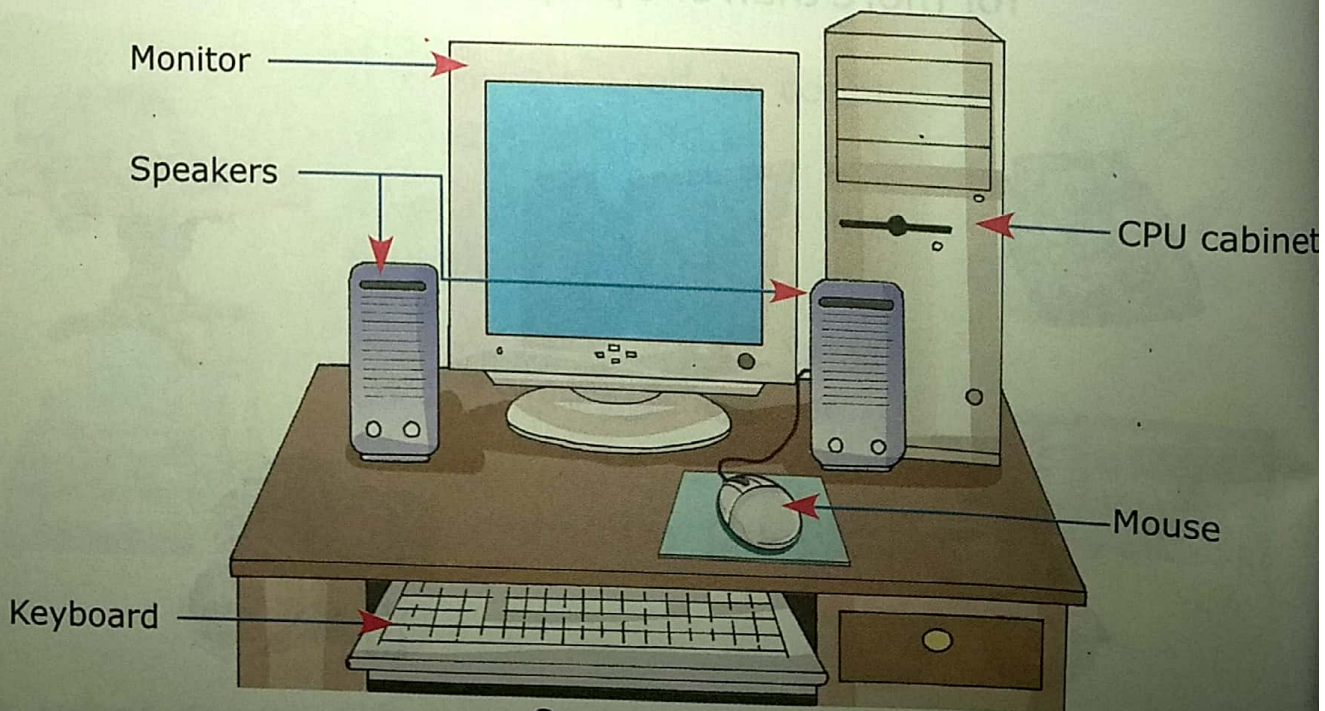
Just like your body, a computer is also made up of many parts. These parts work together to perform a computer function.

A computer is made up of the following basic parts.

1. Monitor
2. CPU cabinet
3. Keyboard
4. Mouse
5. Speakers



Body Parts



Computer Parts

Function of Computer Parts

Let us understand the functions of each of the computer part.

Monitor



Monitor

A **Monitor** allows you to see what you are doing on the computer.



- The Monitor looks almost like a TV and has a screen in front.
- These days, thin flat screen monitors are available that provide a very clear display for the user.

CPU cabinet



A **CPU** solves problems and makes decisions for the computer.



CPU cabinet

- The full form of CPU is the Central Processing Unit.
- The CPU cabinet contains a CPU inside it, so it is called the CPU cabinet.
- The CPU is also called the microprocessor.

Fact File

A CPU cabinet is commonly referred to as the CPU. Just like humans use their brain for thinking, the computer thinks and makes decisions with the help of its CPU.

Keyboard



A **Keyboard** is used to type by pressing the various keys on it.



Keyboard

- The keyboard has keys for alphabets, numbers and signs.
- Pressing the keys to write something on a computer is called typing.
- When you type the command, the computer starts working on that command.

Remember You should position the keyboard directly in front and close to you so that you do not have to extend your arms to reach it.

Mouse



Mouse

A **Mouse** is a pointing device and used for pointing and clicking.

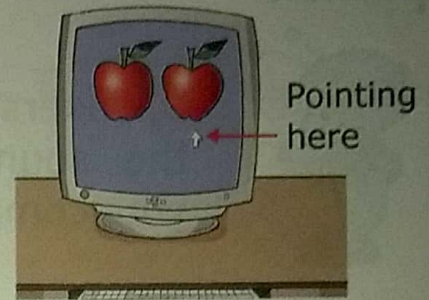


- The Mouse has two or three (usually two) buttons and there may be a scrolling wheel between the two buttons.
- The Mouse has a pointer linked to it on the screen which moves in the direction in which the mouse is moved.
- By clicking the buttons on the Mouse, you give commands to the computer.

Pointing the Mouse



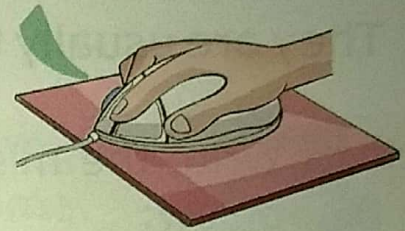
Pointing is to bring the mouse pointer where you want to point.



Clicking the Mouse



Clicking is to press the mouse button and release it quickly.



Double Clicking the Mouse



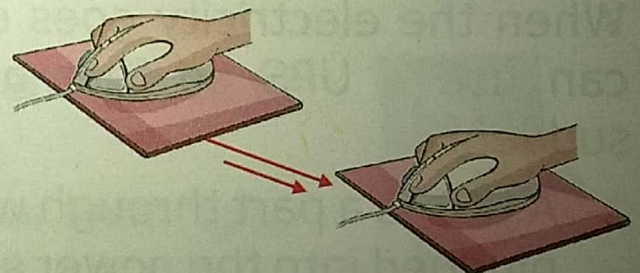
Double clicking is to click twice quickly.



Dragging



Dragging is to hold down the mouse button and move the Mouse.



This action is also called 'Drag and Drop'.



How should I do the Drag and Drop action?



1. Hold the left mouse button down.
2. Move the mouse on the mouse pad.
3. Leave the mouse button.

...This is drag and drop.

Speakers



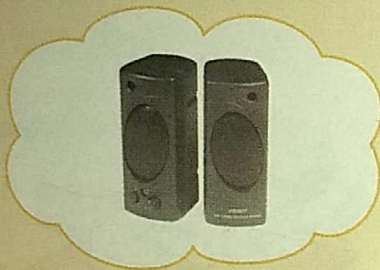
Speakers help you to hear the sound produced by your computer.



Speakers

- Computer speakers are just like stereo speakers.
- They are usually two in number and come in various sizes.

Activity Write the missing alphabets to name the pictures given below:



SP _ _ A _ _ ERS



KEY _ _ O _ _ RD



M _ _ N _ _ TOR

Attaching a UPS with a Computer

When the electricity goes off, a computer stops working. We can use a UPS so that our computer does not switch off suddenly.

- A UPS is a part through which a computer is plugged into the power supply.
- When the electricity goes off, the UPS starts working on batteries.

In this way, the computer does not switch off immediately when the electricity goes off and gives you sometime to save your work.



UPS

Various Sizes of Computers

Computers are of different types and sizes. They are classified as:

1. Desktop Computers
2. Laptop Computers
3. Hand-held Computers

Desktop Computers

- A Desktop computer is a large size computer that is placed on a desk in an office or home.
- It is not portable.



Desktop

Laptops

- A Laptop is a small size portable computer that can be placed on your lap.
- Portable means that you can carry a Laptop wherever you go.



Laptop

Hand-held Computers

- A hand-held computer is small enough to be held in one hand.
- These are also called Pocket PCs or Palmtops.



Palmtop

Latest Trends

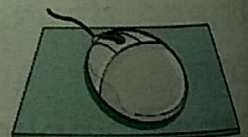
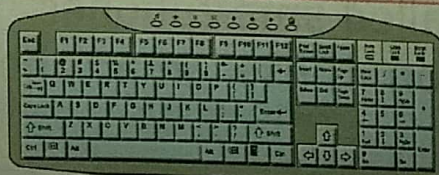
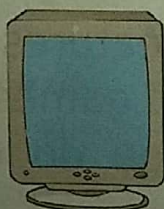
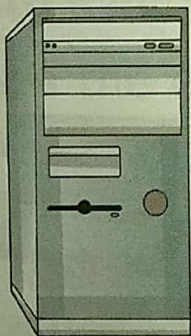
These days, the latest mobile phones also have features of a computer and are called smartphones. You can add games and other applications on these smartphones like you do on a computer.

Quick Recap

- The main parts of a computer are the monitor, a CPU cabinet, a keyboard and two Speakers.
- The Monitor displays what you do on a computer.
- The CPU does all the calculations and makes decisions.
- The Keyboard is used to type by pressing the various keys on it.
- The Mouse is a pointing device, which has a pointer linked to it on the screen.
- Speakers help you to hear the sound from your computer.
- Desktop, Laptop and Palmtop are the different sizes of a computer.

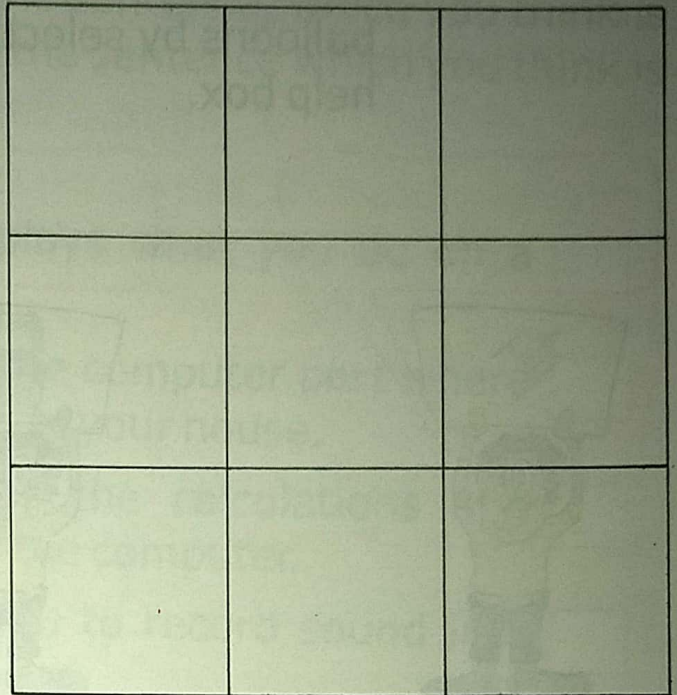
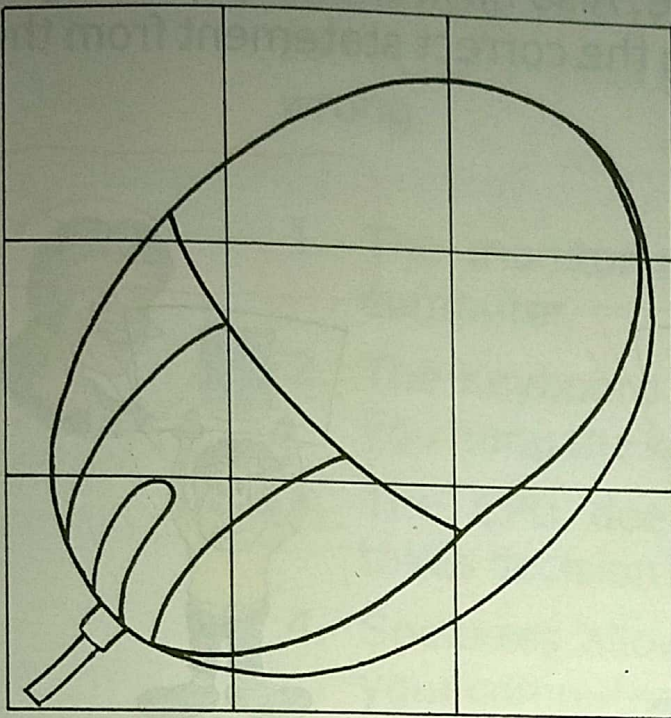
Worksheet Minutes

Worksheet 1 Find the hidden names for the parts and draw lines to join them with their pictures. Names can be found vertically and horizontally.



K	C	K	R	T	A	E	D
S	P	E	A	K	E	R	S
J	U	Y	U	Q	V	N	G
T	S	B	C	X	U	M	O
L	M	O	N	I	T	O	R
F	M	A	F	D	S	U	P
R	G	R	E	B	V	S	G
J	M	D	U	S	R	E	P

Worksheet 2 Observe the mouse drawn on the left side and draw it in the grid on the right side.



Worksheet 3 Help Ajay to fill in the blanks for the actions shown on the mouse and also match them.

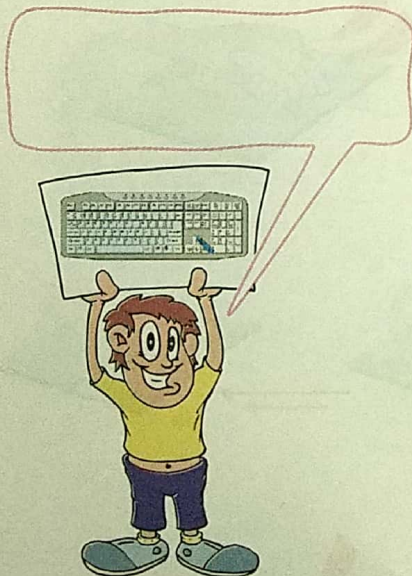
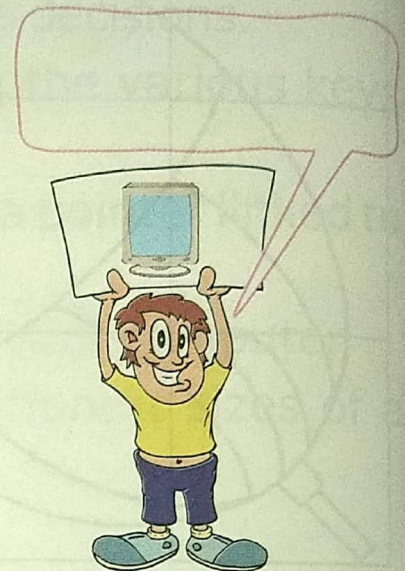
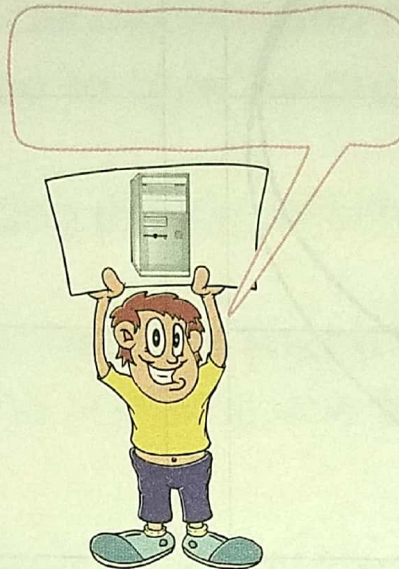
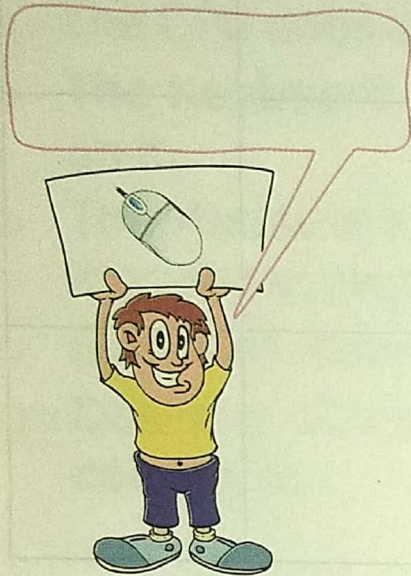
1. CL__CK

2. DO __ B __ E CLIC __

3. D __ AG AND DR __ P



Worksheet 4 Travis is showing pictures of the various parts of the computer. Write the name of the part on the blank line below the picture. Also fill in the empty dialogue balloons by selecting the correct statement from the help box.



Help Box

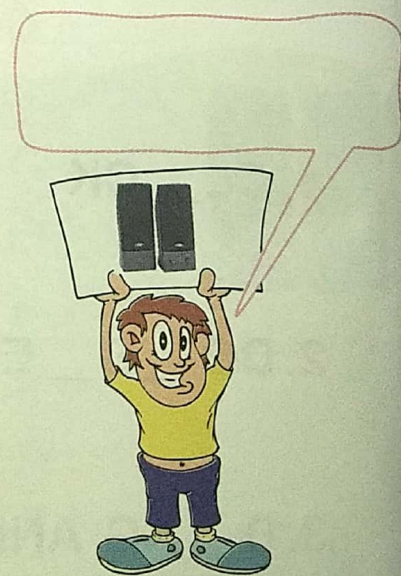
It shows the results.

It gives sound.

It does calculations.

We type with it.

We point with it.



Worksheet 5 Sunny has written some sentences about computers on a sheet of paper. Help ma'm to check the sentences. Tick (✓) the sentence, which you think is correct and cross (X) the sentence which you think is wrong.



1. The monitor displays what you do on a computer. ☐
2. The Keyboard is the computer part where you hang the keys of your house. ☐
3. The CPU does all the calculations and takes decision for the computer. ☐
4. Speakers allow you to record sound into your computer. ☐
5. The Desktop is the smallest size of the computer available. ☐

Worksheet 6 Tie the correct label tag to the correct computer.

