ATOMIC ENERGY EDUCATION SOCIETY

Computer Science Study Material

Class I

Syllabus for class I

Lesson	Title/Topic of the lesson	No. of Periods
1.	Introduction to Computer ☐ Nature Vs Machine ☐ Types of Machines ☐ Features of a Computer	7
2.	Parts of a Computer ☐ Label the parts of Computer ☐ Description of Various Components ☐ Other Devices	6
3.	Mouse and Keyboard ☐ Label the Keyboard ☐ Important Keys ☐ Label the Mouse ☐ Operations of Mouse	7
4.	Purpose of a Computer ☐ Calculations ☐ Drawing and Colouring ☐ Games ☐ Music and Movies ☐ Messages	10
5.	Applications of a Computer ☐ School, Office, Bank ☐ Shop, Hospital ☐ Railway station & Airport	8
6.	Working with Computer ☐ Turning on/off a computer ☐ Login/Logout ☐ Windows & Icons	7
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8.	Computer Etiquettes ☐ Good Habits ☐ Do's and Don'ts	7
	Total Number of periods	60

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CHAPTER 1

INTRODUCTION TO COMPUTERS
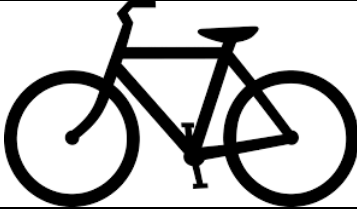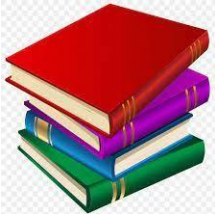
NATURAL AND MAN-MADE THINGS

Learning Objectives

Students will be able to:

- ✓ understand about man made things
- ✓ identify natural things
- ✓ understand types of machines
- ✓ learn about a computer and features of a Computer

Man-made things are not natural, they are made by humans. Few examples of man-made things are

Bicycle	
Books	
Car	
Clothes	

Eraser	
Pencil	
School Bag	
Train	

Natural things are not human-made. They are naturally found on earth. Few examples of natural things are

Animals	
Birds	
Cloud	

Flowers		
Mountains		
Plants		
Soil		
Vegetables		

Hi Friends. I am Mini. Let me take you on a journey of machines

What is a machine?

A machine is a manmade thing which helps us:

➢ To do different types of work.

➢ it makes our work easy

➢ helps us to complete our work faster

➢ it saves our time

The following pictures show how machines help us in completing our work faster.

Working without Machines	Working with Machines

Aunty Cutting fruits with Knife

Trisha making juice

Mala washing clothes with hands

Shreya is washing clothes in a washing machine.

Types of Machines

Now, let's learn about different types of machines. You must have seen these machines around you.

There are some machines which run on electricity. They are known as Electronic or Electrical machines like Television, Computer, Washing machine, Mixer, Juicer etc.

Television

Computer

Washing machine

Mixer

Some machines are manual machines. We can work on these machines using our hands or feet.

Cycle

Sewing Machine

There are some machines which need fuel (Petrol, Diesel) to run like Motorcycle, Car, Bus, Truck, Train etc.

Motorcycle

Car

Bus

What is a Computer?

A computer is an electronic machine. It runs on electricity.

Features of a Computer

It works very fast

It makes our work easy and simple

It never gets tired

It stores large amount of data

EXERCISE

A. Tick (√) the correct options.

1. Which of the following is a natural thing?

( )   ( )   ( )

(a) Bicycle   (b) Plant   (c) Pencil

2. Which of the following machines you see at your home?

( )   ( )   ( )

(a) Train   (b) Bus   (c) Television

3. Which of the following is a man-made thing but not a machine?

( )   ( )   ( )

(a) Bucket   (b) Fruits   (c) Dog

4. Machines are things

(a) Man-made   (b) Natural   (c) Both

5. Machines save our _____

(a) Time   (b) efforts   (c) both Time and efforts

B. Fill in the blanks

| faster | electricity | fuel | manual machine | physical |

1. A machine works_____than a human being.

2. A machine that is operated by the parts of our body is known as _____

3. A washing machine works on_____

4. A manual juicer needs_____effort to squeeze out the juice.

5. A Bus runs on _____

C. State 'True' or 'False'

1. A Bus is a natural thing.   (   )

2. Automatic machines need physical efforts to work   (   )

3. Machine makes our work easier.   (   )

4. A computer is a machine.   (   )

5. A mobile is not a machine.   (   )

D. Write the missing letters to form correct words.

M	O		N

C	O		P			E	R

R		V		R

B		C		C		E

T	R		E	

M	A	H	N	E

E. Answer the following questions.

1. Write names of any four natural things which you see around you

A. _____

B. _____

C. _____

D. _____

2. Write names of any four machines that you see at home.

A. _____

B. _____

C. _____

D. _____

3. Write names of any four machines that you see in your school

A. _____

B. _____

C. _____

D. _____

4. Write names of any four man made things that you keep in your schoolbag

A. _____

B. _____

C. _____

D. _____

5. Write any four man-made things which are not machines.

A. _____

B. _____

C. _____

D. _____

6. Write any two benefits of machines.

A. _____

B. _____

7. What is a computer?

_____

G. Write features of a computer.

1. _____

2. _____

3. _____

4. _____

CHAPTER 2

Parts of a computer
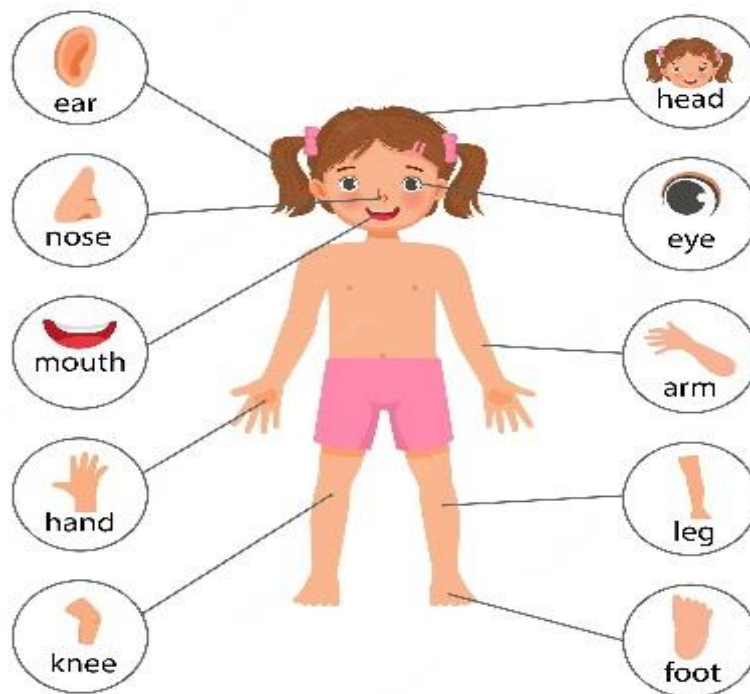
Learning Objectives:

- Recognize and name a mouse, keyboard, monitor, and other Device.
- Briefly describe the role each piece of hardware plays in making a computer work.

Dear children,

Are you ready to learn about computers?

First let us recall the parts of a human body

Label the Parts of a Computer

Like human, a computer also has several parts

Components of a Computer

Central Processing Unit (CPU)

❖ It is the brain of computer
❖ CPU is the most important part of a computer
❖ It is present inside the cabinet
❖ It performs all the tasks of the computer

Monitor

❖ The monitor is also called as screen, Display or Visual Display Unit (VDU)
❖ It is an output device
❖ It looks like a TV screen
❖ It display what we do on a computer
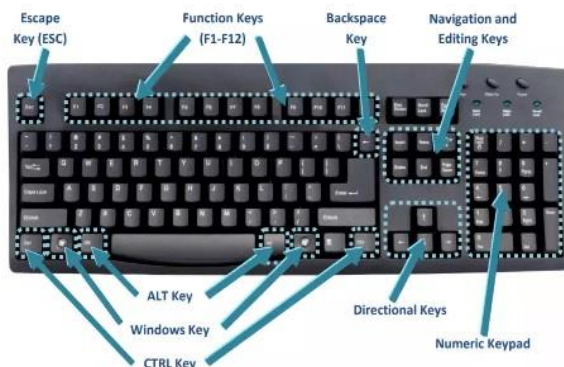
Keyboard

❖ It is an input device
❖ It helps to give commands to the computer
❖ A keyboard has many keys
❖ It consists of alphabets, Numbers, special keys etc.

Mouse

❖ Mouse is a pointing device
❖ It contains two buttons and a scroll wheel
❖ It helps to point or select the items
❖ We can use mouse for playing or drawing also
❖ It shows arrow symbol on screen

Other Devices

Printer

❖ It is an output device
❖ Printer prints texts or images on paper
❖ It can print in black or colour

Speaker

❖ It is a kind of output device
❖ Speakers produce sounds
❖ We can listen to music, songs etc.

Recall from memory

Write the name of the following devices

Test your memory

1. Tick the correct answer

1. Which part of the computer is called as brain of the computer?
a. Mouse   b. Monitor   c. CPU   d. Keyboard

2. Which of the following device display the text, images etc?
a. Mouse   b. Monitor   c. CPU   d. Keyboard

3. Which of the following is an output device?
a. Printer   b. Keyboard   c. Mouse   d. None

4. Name the device used for listening songs.
a. CPU   b. Speakers   c. Mouse   d. Monitor

5. In computer, mouse _____
a. is a pointing device   b. lives in the paddy field
b. is an enemy of cat   d. pet in the house

2. Match the following

	KEYBOARD
	PRINTER
	MONITOR
	SPEAKER

3. Rearrange the following to identify the parts of the computer

1. U C P   _____

2. S U M O E   _____

3. E K Y D O R A B   _____

4. S   R   E   P   A K E S   _____

5. R T M N O E I S   _____

4. Lab activity

1. Draw the major parts of the computer

2. Play the video of the English poem A Happy child @
   https://www.youtube.com/watch?v=H76ZkH7ZirY

3. Play the video of the English lesson three little pigs
   https://www.youtube.com/watch?v=13xjB72kz5g

4. Supply the worksheet of a computer picture to identify the name of the parts of a computer.

CHAPTER 3

Mouse and the Keyboard

Learning Objectives

Students will be able to:

- ✓ Use and understand different function of Mouse (left Click, Right click, etc)
- ✓ Understand the basic of keyboard usage

Parts of a Mouse

- A mouse is used to point at items shown on the monitor.
- The mouse usually has two or three buttons and a small wheel between the buttons.
- When we move the mouse around, the arrow on the screen also moves around.
- The arrow is called the mouse pointer. The mouse is usually kept on a flat surface called the mouse pad.
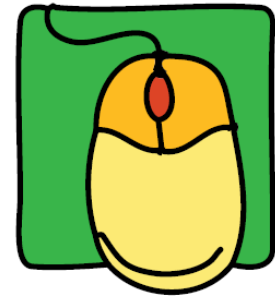
Mouse Clicks

- Pressing the button is called a click.
- There are two buttons on the mouse.
- The button on the left-hand side is called the left button.
- The button on the right-hand side is called the right button.
- Clicking these buttons tells the computer what to do.

There are three types of mouse clicks:

Left click: Click the left button once. This is used to select an activity after you point to it.
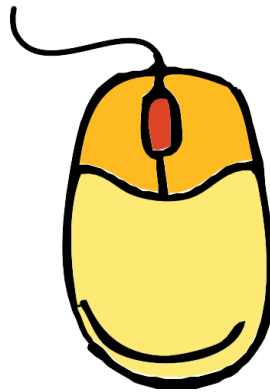
Double click: Click the left button twice, quickly. This is used to select an activity after you point to it.

Right click: Click the right button once. This is used to start the activity.

In the mouse shown below, which button will you press for left click? Write 'L' on the left button.

Which button will you press for right click? Write 'R' on the right button.

5. Match the columns.

|	
Left click	Move up and down a page
Right click	Start an activity
Scroll button	Select an activity
Double click	Control the activity

Keyboard

- The keyboard is made of several small buttons called keys.
- Each key has a number, letter or word written on it.
- Just as you use a pencil to write on a paper, you can use a keyboard to write with a computer.
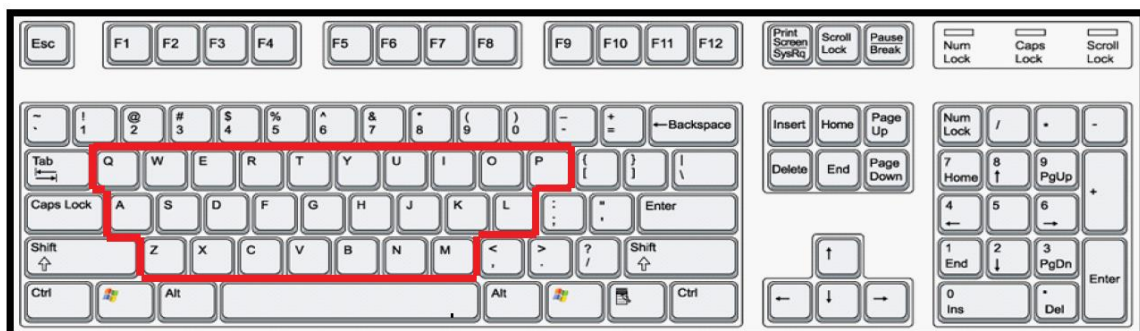- The keyboard is connected by a wire to the CPU of the computer.

- We can use a keyboard to give instructions to the computer
- The buttons on the keyboard are called keys.
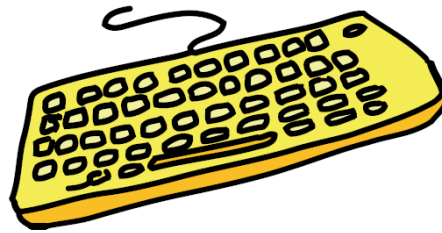
Important Keys

Alphabet Keys

The keys on which you see alphabets: A – Z are called alphabet keys. These are used to write words.

Number Keys

The keys on which you see numbers: 0 - 9 are called number keys. These are used to write numbers.

Special Keys

The keys on which you see words are called special keys. These are used for specific tasks such as moving to the next line on a page.

Space bar

- While you are typing, you can press the Space bar to create spaces.
- This is usually the longest key on the last row of the keyboard.
- It may not have anything written on it.

Backspace

- While we are typing, we press the Backspace key to erase the letters which are before the cursor.
- It is usually the last key in the row of numbers.
- This may look different on different keyboards.
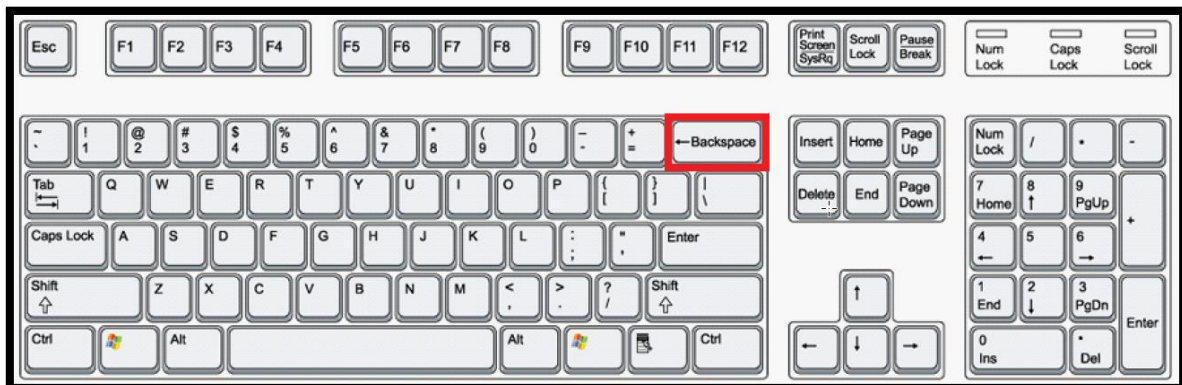
Enter Key

- While we are typing, the Enter key is used to move to the next line.
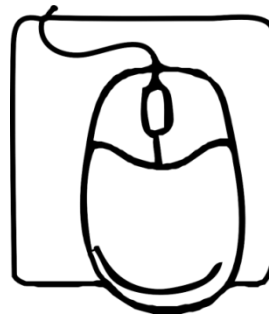- It is usually found at the end of the middle row of alphabets.

Exercise

1. What do we use as a pointer when we are reading a book? Which is the mouse pointer on the screen?

   Circle both of them

2. In the mouse shown below, colour the left button red, right button Green, scroll button blue, and the rest of the mouse yellow.

3. Circle the words that are related to the Computer Mouse.

   Right click   Photo click

   Mouse pad   Left click

   Rat   Scroll button

   Double click   Tail

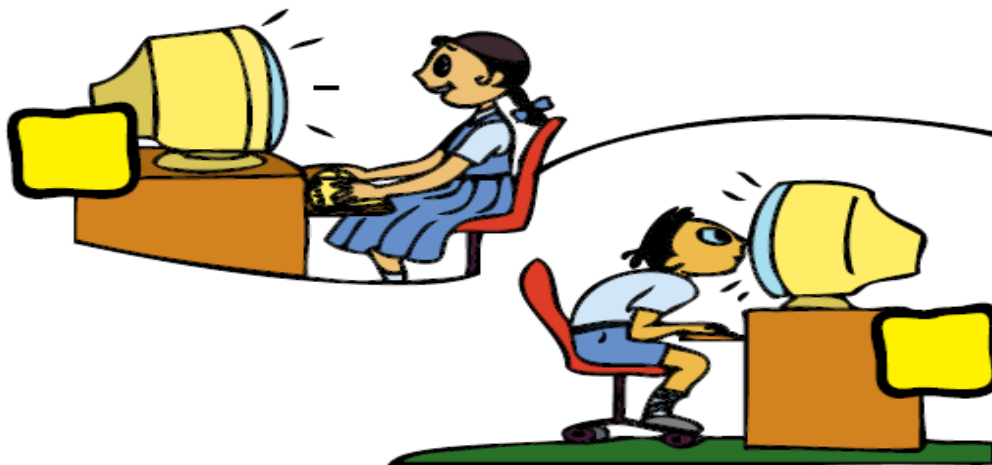4. Identify the ENTER key and colour them in Red.

Colour all the ALPHABET keys in Green.

5. Colour the alphabets in the word COMPUTERS.

6. Tick the correct way to sit while using the keyboard.

CHAPTER 4
Purpose of a Computer

Learning Objectives

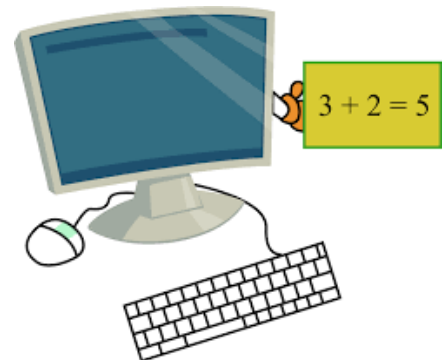Students will be able to:

- ✓ understand what we can do by the computer
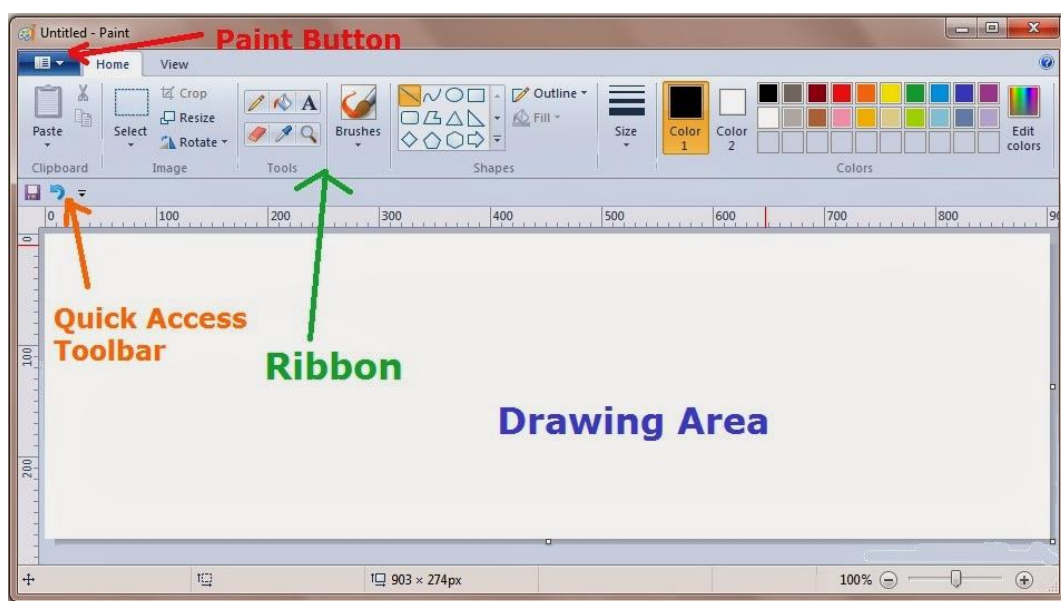- ✓ understand the simple use of computer

Calculations

Computers can do the calculations such as addition, subtraction, multiplication and division.

Computers can also do very difficult calculations.

Drawing and colouring

We can draw pictures and colour them using a computer.
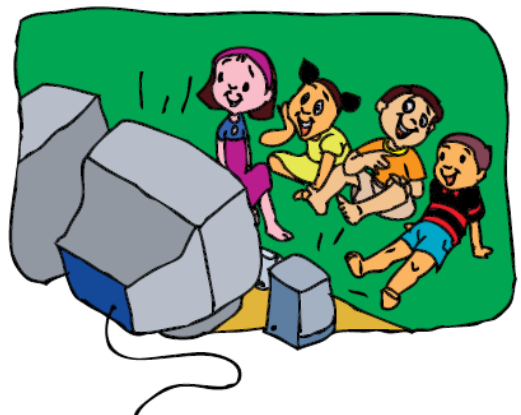
Games

We can play games using a computer.
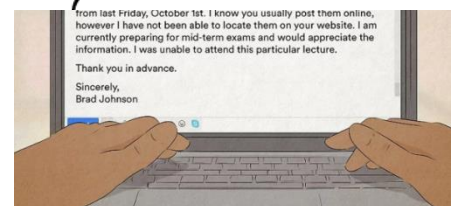

Music and Movies

We can listen to music.

We can watch cartoons and movies.

Messages

We can write letters and send messages to our relatives and friends through a computer.

Test your knowledge

I. Fill in the blanks

1. We can _____ pictures on a computer.

2. We can _____ games on it.

3. We can send _____ through it.

4. We can listen _____ on it.

5. We can _____ sums on it.

II. Write "True" or "False"

1. We can do calculations on a computer.   [   ]

2. We can listen to songs on a computer.   [   ]

3. We cannot watch movies on a computer.   [   ]

4. We cannot draw pictures on a computer.   [   ]

5. We can watch movies on a computer.   [   ]

-III. Write any two things that we do on a computer.

_____

_____

_____

CHAPTER 5

Applications of a Computer

Learning Objectives

Students will be able to:

- ✓ understand the use of computers at home
- ✓ learn about the uses of computers in schools, office, bank, airport
- ✓ understand the types of computers

Hi Friends.

In the previous chapter you learnt about different types of machines.

Now let's learn how computers can help us in our daily life

A computer is a smart and useful machine that can do many things. It can make our work faster and easier and can also be used for entertainment.

Uses of Computer at Home

Many of us may have a computer at home. Some of the things which we can do with a computer are :
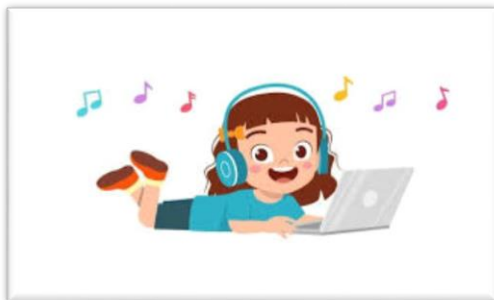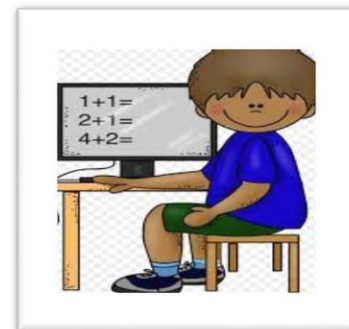
Type Letters

Play games

Send emails

Draw Pictures

Listen to music

Solve sums

WORDS OF WISDOM

Advantages of Computer Games

- Cultivates problem-solving skills.
- Increases vocabulary and memory.
- Improves spelling and reading skills.
- Playing games make kids happy.

Uses of Computer in School

Computers are widely used in schools. They are used by teachers to teach in classes and labs, to make question papers and to prepare progress cards

Teaching-learning

Uses of Computer in Office and Banks

Computers are widely used in offices and banks to type letters, print reports, give presentations, withdraw money etc.

Presentation

ATM

Uses of Computer at other places

At hospitals: To store patients details

At Railway station and Airports:

To book tickets and in Check-in

At Shops, Restaurants & Shopping Malls:
For keeping records of items and in preparing bills

EXCERCISE

Q1. MULTIPLE CHOICE QUESTIONS

A) We can play _____on a computer

 1. Text   2. Games   3. Sums   4. Letter

B) We can write _____on a computer

1. Games   2. Pictures   3. Drawings   4. Letters

 C) Computer are used in _____to keep record of money.

1. Banks   2. Shops   3. Malls   4. Online

D) We can draw _____on a computer

 1. Games   2. Letters   3. Pictures   4. Mails

 E) A computer can be used to book_____ Online.

1. Tickets   2. Sums   3. Mails   4. Drawings

Q2. State true or false.

 1) A Computer can do cleaning of your room. _____.

2) We cannot draw pictures on a computer._____.

3) A computer works on Fuel. _____.

4) A computer cannot store all types of Information._____.

 5) A computer can solve sums._____

Q 3. Look at the pictures below and tick (√) the picture in which computers are used and put a cross (X) where computers are not used.
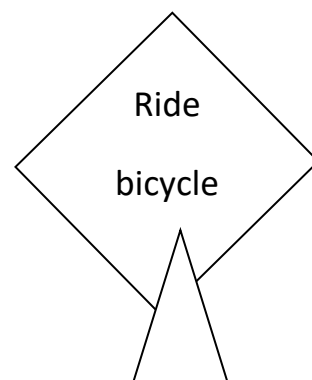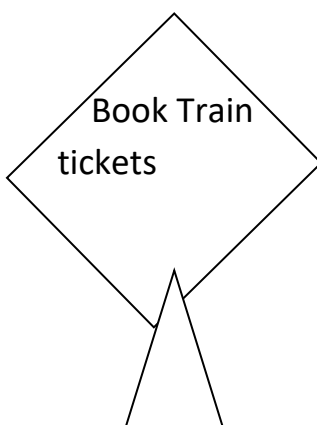
Colour the kites that tell you the uses of a computer

Draw Pictures

Drink Milk

Play Games

Withdraw Money from ATM

Book Train tickets

Ride bicycle
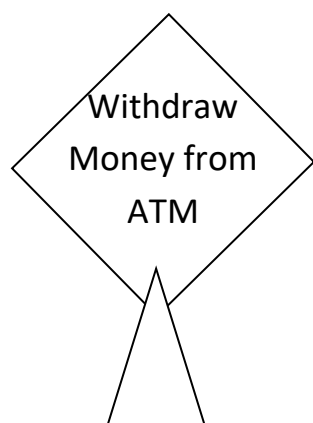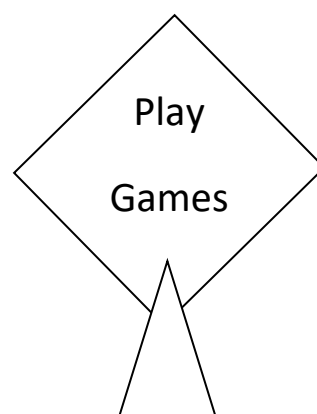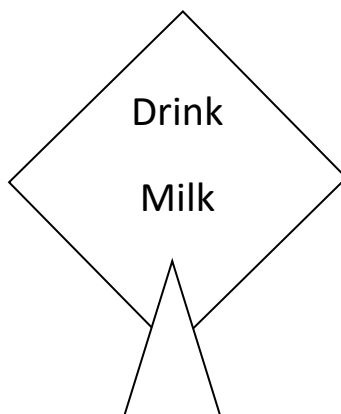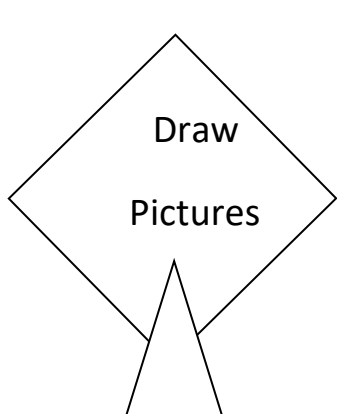
CHAPTER 6

Working with a Computer

Learning Objectives

Students will be able to:

✓ Start and shut down of computer device.

Nethu: Hello Hovi! Shall we work on a computer to create a drawing?

Hovi: No Nethu, I don't know how to start the computer.

Nethu: Hey, it is very simple. Let me tell you in simple steps about working with a computer. You will be more interested to start. Do you know how to start a TV?

Hovi: Yes, of course. But a computer has many parts.

Nethu: It is something like a TV only. If you want to work on a computer, first you should know how to start and shut down a computer.

Starting a Computer

Let us see how to start a computer and work on it. The steps to be followed to start the computer is as follows

Step 1: Turn on the main power supply.	Step 2: Switch on the UPS.
Step 3: Switch on the CPU.	Step 4: Switch on the Monitor.
	Switching ON the monitor

Step 5: After a few minutes, the computer will show the desktop screen of windows. Now you are ready to work with the computer system.

A computer system is a collection of hardware and software that performs a specific task.

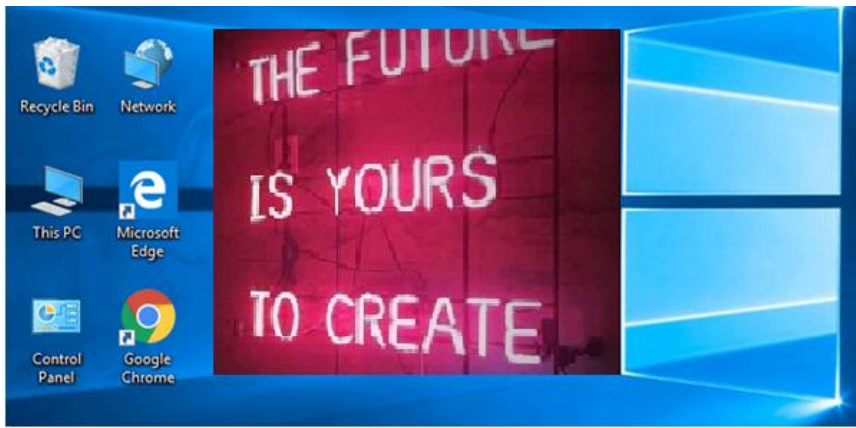Note: UPS is an Uninterruptible Power Supply that provides power for a short time even if the incoming power is interrupted.

Windows Desktop

A screen that appears after loading windows is called desktop.

Icons: A small picture on the desktop is called as icon and each icon represents an application.

Task bar: A horizontal bar that contains the icons and active programs is called task bar.
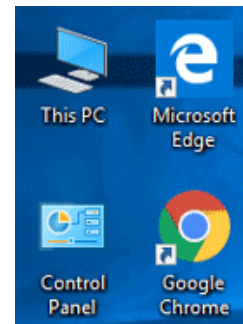
Windows icon and Search button at the left side of task bar. Windows icon is used to bring the start menu. The same is available as a key in keyboard.
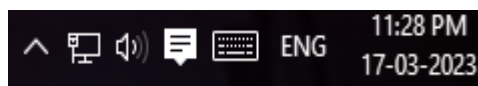
 Date and time are at the right side of the task bar

Shutting down the Computer

Shutting down a computer is to stop the operation of a computer to turn off the power.

Improper way of shutting down the computer will cause loss of data or lead to malfunctioning of the system.

To completely shut down the computer, follow these steps carefully:

Step 1. Click left button of mouse on the Windows icon on desktop or Windows key on keyboard

Step 2: Select Power

Step 3: Click on Shut down,

Step 4: It closes all the apps and turns off the PC. Now the black screen appears.

Step 5: Switch off the monitor.

Step 6: Switch off the CPU.

Step 7: Switch off the UPS.

Step 8: Switch off the main power supply.

Exercise

A. Choose the correct answer.

1. Which of the following devices gives uninterrupted power?
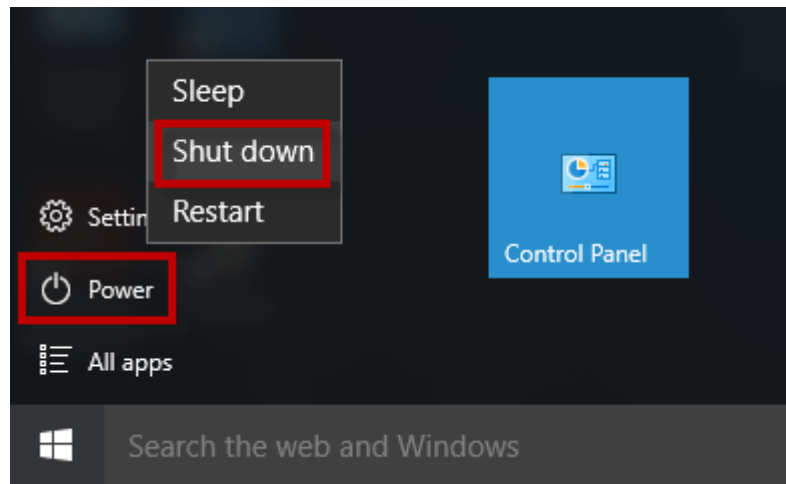
    a. CPU   b. UPS   c. Monitor   d. Speakers

2. A small picture on desktop, associated with an application, is called

    a. Icons   b. Windows   c. Word   d. Rectangle

3. Which of the following icon brings up the start menu?

    a.   b.   c.   d.

4. A horizontal bar that contains active program and icons at the bottom of the desk bar is called

a. Icons   b. screen   c. task bar   d. start bar

5. Closing the operation of the computer is termed as

    a. log in   b. put off   c. shut up   d. shut down

B. Write the correct order of shutting down the computer

1. Switch off the monitor
2. Switch off the CPU
3. Put off main power supply
4. Select windows icon and click on power
5. Switch off the UPS
6. Click on shut down

C. Give short answer for the following

1. Define icons.

   _____

2. Name any five components of desktop.

   _____

3. What do you mean by shut down?

   _____

4. What is a computer system?

   _____

5. Name any two things a computer can do but a TV cannot do?

   _____

   _____

Lab activity

1. Teacher should make students to become familiar with the procedure of switch on the computer and shut down the computer.
2. Practice the various components of the desktop and its functions.
3. Starting and closing of an application.
4. To observe the date and time of the computer system.

CHAPTER 7
Drawing in Paint

Learning Objectives

Students will be able to:

- ✓ Use of Paint Application

MS Paint

Microsoft Paint is a program which enables us to draw and edit the pictures and images on a computer.

Paint brush

Paintbrush is used for drawing, coloring and editing the pictures. We can use Paint Brush like a digital drawing book to make simple pictures.

Steps To open Paint Brush

Click Start-> All Programs ⟶ Accessories ⟶ Paint.
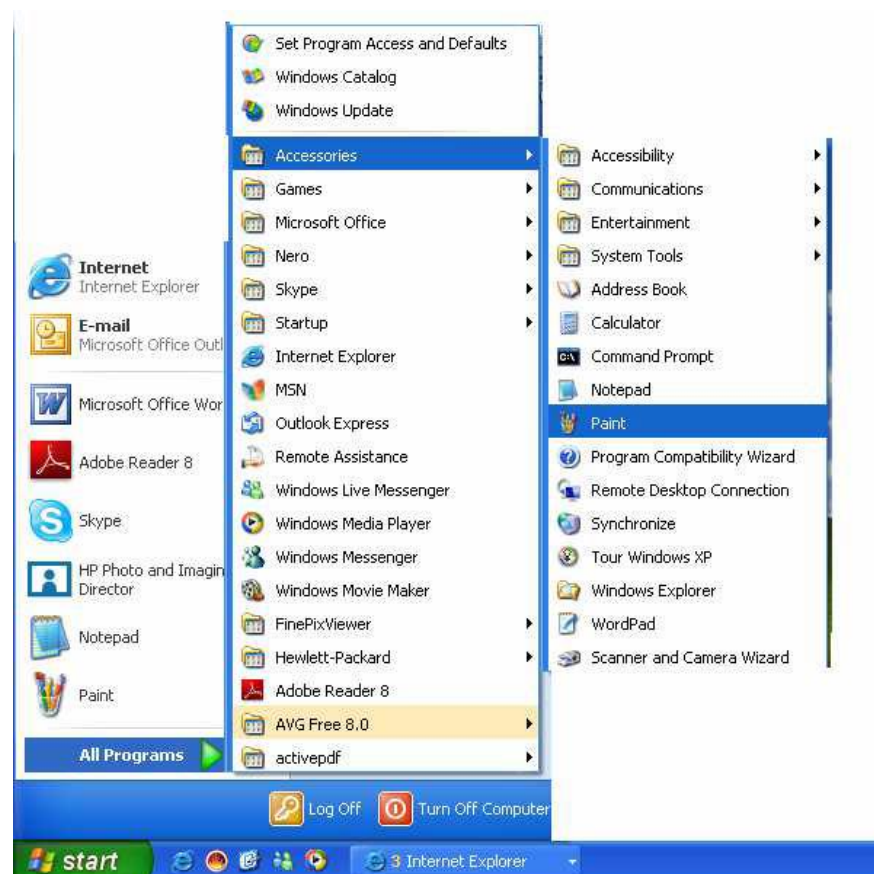
Tools &Colours

Tool box: Options on Home Tab- Paste, Cut, Copy, Select, Crop, Resize, Rotate, Brushes, Shapes, Line, Color options.
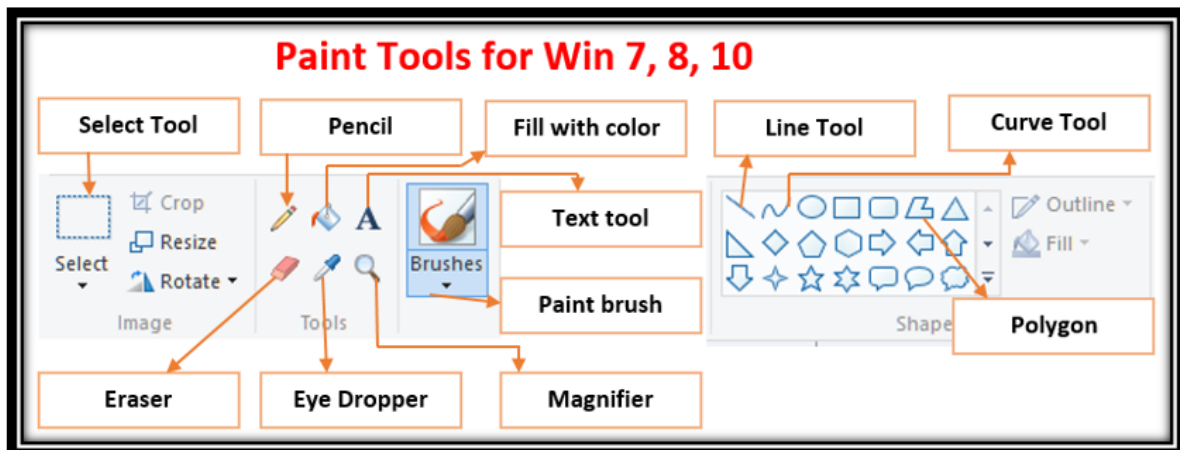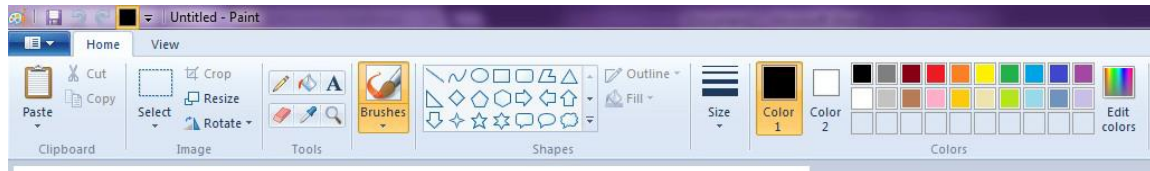
Drawings

Draw an apple using pencil tool as shown in the picture given below.

 Use this tool to draw a freeform line with the selected line width.

To draw a free form line.

1. Click the pencil tool in the tool box.

2. Select a colour from the colour box.

3. You can change the thickness of the line by selecting the lines given in the line patterns.

If we make any mistakes while drawing, we can erase and draw again.

Eraser/Color Eraser-

This tool is useful for erasing part of the image.

To erase an image

1. Select the eraser tool from toolbox.

2. Increase the size of the eraser from size line given in the tool box.

3. Hold the eraser where you want to erase a part of the image or whole

   image.
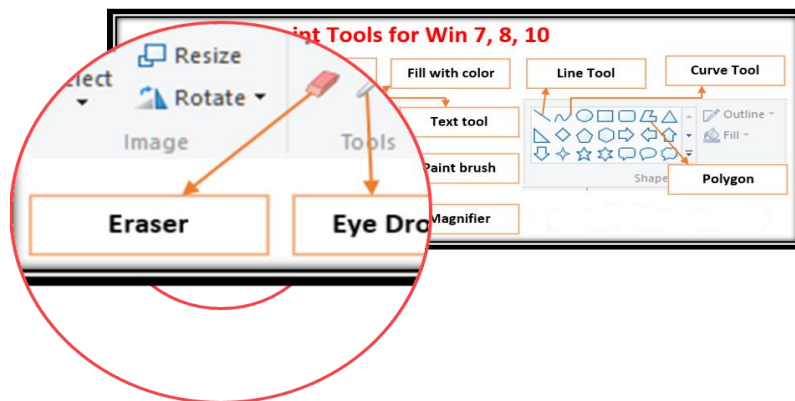
Fill With color- This tool help to fill an area or object with selected colour.

Fill with color

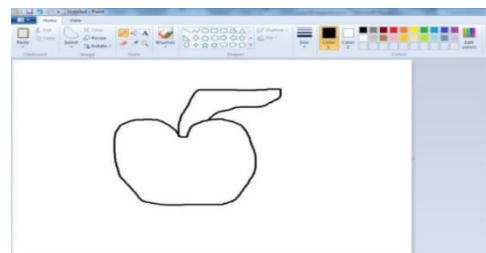1. Select a fill with color tool from toolbox.

2. Choose a color you want to fill in a picture from colour platelets.

3. Click fill with colour tool in the image.

We can also colour the picture with Paint brush.

Brushes-This tool paints the image with various kinds of brushes available in toolbox.
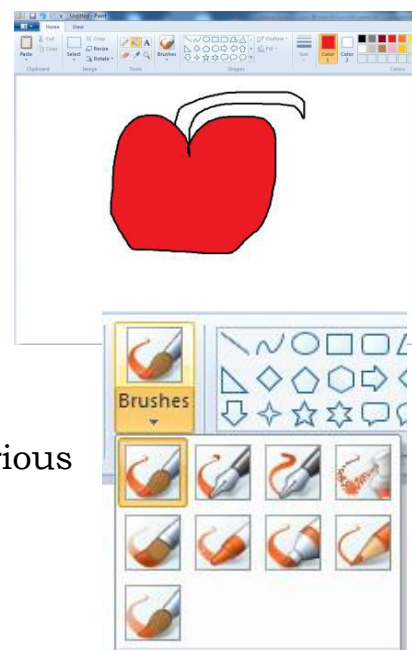
Exercise

I. Tick (√) the correct option.

1. _____ tool is used to draw a line.
     a) Paint brush   b) Pencil   c) Eraser

2. _____ tool is used to erase an image.
     a) Paint brush   b) Pencil   c) Eraser

II. Match the names of the tools with their pictures.

Paint brush

Eraser

Fill with colour
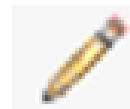
Pencil

CHAPETR 8

Computer Etiquette's

Tips to take care of a computer

You should always remember some points on how to use the computer right way in the computer laboratory.

1. Always listen to the instructions of the teacher.

2. Remove your shoes and socks outside the computer lab and keep it properly at the assigned place and enter in line.

3. Sit properly in front of the computer and wait for the instruction. Maintain proper distance from the monitor. Sitting close to the monitor may cause stress to the eyes.

4. Do not eat or drink near the computer system.

5. Don't fight, run or play inside the computer lab

6. Keep your fingers, pencils and pens off the screen and other parts of the computer system. Don't scribble on any place.

7. Press the keys of the keyboard gently because pressing the keys hard will damage the keys. Operate the mouse

smoothly using the mouse pad as it helps the mouse to work properly.

8. Always clean your computer with a soft and dry cloth.

9. Don't play with the wires attached to the computer and other devices.

10. Don't bring pen drive, CD, DVD or any other devices to the computer lab without the permission of the teacher.

11. Shut down the computer properly.

12. Leave the computer and chairs as it was when you entered the lab or follow the instructions of teacher carefully.

Do's and Don'ts

Let us see the summary of the things which we should follow in the computer laboratory and also the things to be avoided.

Do's	Don'ts
Keep your computer lab clean	Don't through papers or any items in the lab
Treat your computer with care	Don't switch off CPU directly
Learn to type correctly and position your hands correctly	Don't drink or eat on a computer table
Sit straight while working on the computer	Don't sit close to the monitor
Share the computer with your partner	Don't snatch mouse or keyboard
Be safe. Computer works on electricity	Don't insert any things like pencil, scale etc. into a computer

Exercise

A. State true or false

1. You can play inside the computer laboratory.

2. We need to shut down the computer properly.

3. Keep your shoes and socks inside the lab.

4. You can keep snacks near computer and eat it whenever required.

5. Sitting very close to the monitor can cause stress to eyes.

B. Fill in the blanks

1. Maintain proper_____ from the monitors

2. Clean your computer with a _____ cloth.

3. _____ pressing the keys of the keyboard will spoil the keys.

4. Don't play with the _____ attached to the computer.

5. Mouse will work smoothly while operating on _____

C. Give short answer for the following

1. Name any three computer related items that we should not bring to computer laboratory.

   _____

2. How will you operate mouse?

   _____

3. Write any two important do's in the computer laboratory.

   _____

   _____

4. Write any two things which we should not do in computer laboratory.

   _____

Lab activity

1. Demonstrate the do's and don'ts inside the laboratory.
2. Ask students to create a chart with do's and don'ts.