ATOMIC ENERGY EDUCATION SOCIETY

COMPUTER SCIENCE STUDY MATERIAL

CLASS II

SYLLABUS FOR CLASS II

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1.Introduction to Computer

Learning Objectives

Students will be able to:

Understand what a computer is
How human brain is different from a computer
Differentiate between a normal machine and a smart machine
List the wonders of Computers

Hello Friends !

I hope you must be eagerly waiting to learn more about computers in this class. Let's learn some interesting things about the Computers.

What is a Computer ?

Have you seen the flour mill, or Aata Chakki, kids? To obtain the flour, we must travel to the mill. In a bag or a tumbler, we transport grains or pulses. The store owner feeds the grains into the flour mill, and we soon have flour.

Hence, there are three procedures required to extract flour from grains.

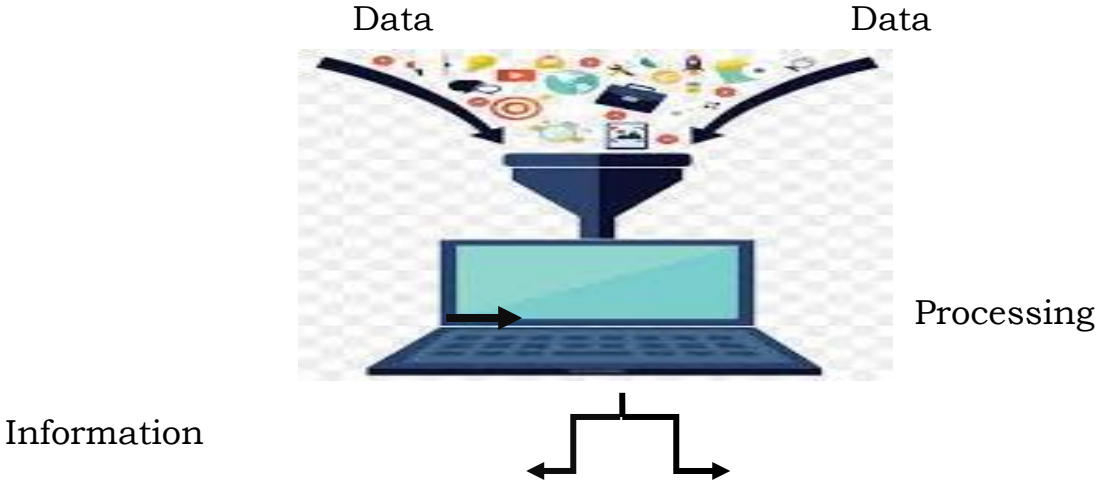
1. Carry the grains & pulses
2. Feeds the grains to the flour machine
3. We get the flour.

Grains **Flour Mill** **Flour**

Similarly, the computer works just like a flour mill.

A computer is an electronic machine which accepts commands from the user, processes those commands and generates the result. In other words a computer is an electronic machine that accepts data as input, processes that data using programs, and outputs the processed data as information.

The information can be numbers, words, pictures, movies, or sounds. Computers can process huge amounts of data very quickly.



Human Vs Computer

The human brain is the most complex system in the universe. It can think, reason, and make decisions. It can recognize patterns and learn new skills. It is capable of storing and retrieving vast amounts of information, and it can process millions of pieces of data in a fraction of a second.

Humans can also be creative and imaginative, while computers are limited to the data they are given. Computers can never truly understand the world the way a human brain can.

1. Computers rely on electricity, whereas humans rely on food.

2. Computers have a better ability for multitasking whereas human cannot.

3. Computers are good at computations and logic, while humans are good at reasoning and imagination.

4. The information processing ability of the brain is low. Computer has the ability to process large amounts of information.

Machine Vs Smart Machines

Machines have been around for centuries and have been used to do many things, from powering factories to propelling cars. They are powerful and reliable, but lack the ability to think for themselves.

Smart machines, on the other hand, are a newer technology that can think for themselves. They can be programmed to make decisions and can even learn from their mistakes. One of the earliest visible examples of smart machines was Deep Blue, a chess-playing computer developed by IBM that gained attention when it defeated world chess champion Garry Kasparov in 1996.

The difference between machines and smart machines is that machines are limited to the tasks they are programmed to do, while smart machines can adapt and learn. Smart machines are also more efficient and reliable than regular machines, making them a powerful tool for businesses and individuals alike. Smart machines include robots, self-driving cars (Driverless car) and other systems that are designed to work through tasks without human intervention.

Wonders of computers

The main characteristics of computers are explained below

1. Speed

The computer can process data very fast, at the rate of millions of instructions per second.

Some calculations that would have taken hours and days to complete otherwise, can be completed in a few seconds using the computer. For example, calculation and generation of result and report cards of hundreds of students of a school.

2. Accuracy

Computer provides a high degree of accuracy. For example, the computer can accurately give the result of division of any two numbers up to 10 decimal places.

3. Diligence

When used for a longer period of time, the computer does not get tired or fatigued. It can perform long and complex calculations with the same speed and accuracy from the start till the end.

4. Storage Capability

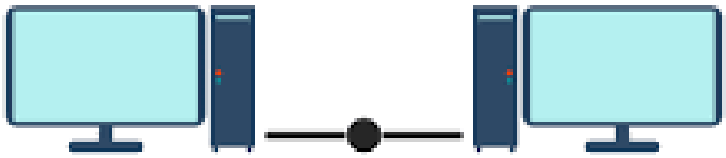
Large volumes of data and information can be stored in the computer and also access whenever required.

5. Versatility

Computer is versatile in nature. It can perform different types of tasks with the same ease. At one moment you can use the computer to type a letter

document and in the next moment you may play music or send a mail.

6. Communication



Computers have the ability to communicate. Two computers can be connected to send & receive data. Friends& family can connect over the internet and share files, photos & videos online.

7. Multitasking

Multitasking is also a computer characteristic. Computers can perform several tasks at a time. For example you can listen to songs, download movies, and prepare word documents all at the same time.

Exercise

Q1. Answer the following questions.

1) What is a computer?
2) Write differences between a computer and a human?
3) List any five wonders of computers.
4) What are the major differences between machines and smart machines?

Q2. Fill in the blanks.

Brain, powerful and reliable, electronic, smart machines, data, input

1) A computer is an _____ machine.
2) A computer accepts data as _____.
3) Computers can process huge amount of _____ very quickly.
4) The human _____ is the most complex system in the universe.
5) Machines are _____.
6) Deep blue is a _____.

Q3. Read the sentences carefully and identify the features of computer.

1) Perform several tasks at a time _____
2) Calculation and generation of result in a few seconds _____
3) Work for a long time without getting tired _____
4) Storage of large information and data_____
5) Can perform different types of tasks with the same ease_____

2. Parts of a Computer

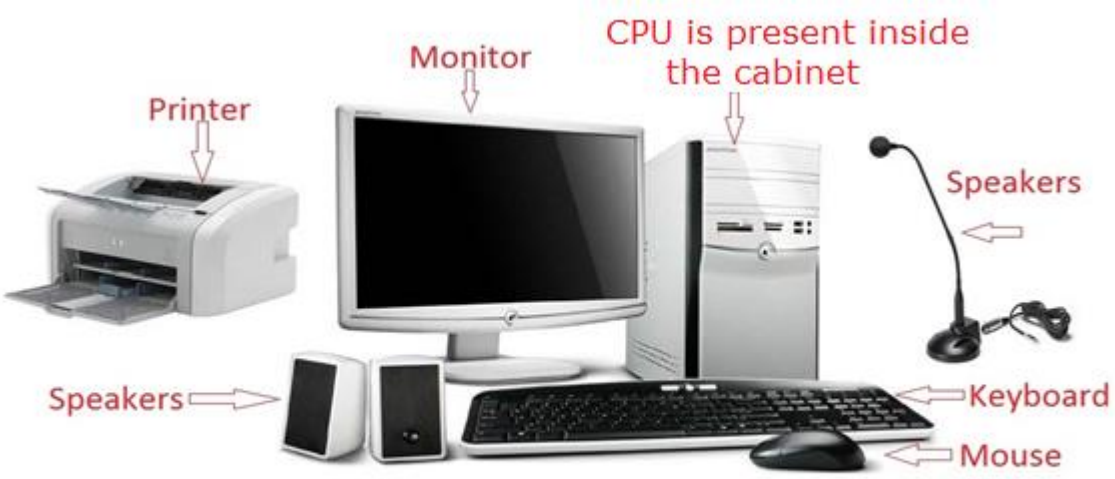
Learning Objective:

Students will be able to:

- Learn the different parts of computer
- Learn the process cycle of computer
- Learn the different Storage devices

A computer has many parts. The main parts of a computer are the system unit, monitor, keyboard, mouse and speakers.

A system unit is the main part of the computer and these are housed inside the computer casings (cabinet). A common misconception is that many people call the casings as CPU. The CPU (Central Processing Unit) is a small chip inside the system unit. The outside of the system has the provisions for buttons, ports and interface units to use USB, monitor, keyboard, mouse etc.



Basic parts of a Computer

Input and Output Devices

Input devices

Input means to provide or give something to the computer. The input devices are used to give the data and instructions to the computer. The data is nothing but a numbers, text or combination of both. Instructions are the actions to be performed.

Some of the common input devices are keyboard, mouse, scanner, web camera and microphone.

Keyboard

The Keyboard has many small buttons called keys. You can give commands to the computer by it. You can type any letter or number by pressing these keys. It looks like a typewriter.

A standard keyboard has 104 keys. Different keys have different functions.

Mouse

Mouse is known as also known as a pointing device. It is an input device that helps the movement of the cursor on the monitor. It has two buttons and a Scroll wheel for the

movement and selection purpose.

Microphone

A microphone is also called as mic. It is used to record voice, music and sound into the computer. It can also be used in video conferencing or online classes.

Web camera

Web Camera or web cam is used to capture pictures and video images from outside and input them into the computer.

Scanner

A scanner is an input device that helps to scan images, printed text, handwriting or an object into a computer. For example, we can scan a photographs or signature for making identity card.

Output devices

The result of the process is called as output. The output devices are used to display the results of a computer in the form of texts, images or sounds to the user. Some of the output devices are monitors, printers and speakers.

Monitor (Visual Display Unit) The monitor or computer screen looks like a TV screen. It displays

the outputs such as texts and images. It can also be used to watch movies, songs and play games etc. The two types of monitors are

- Monochrome Monitor (Single Colour)
- Colour Monitor

Printer

It is used to print the output on paper. We can print the letters, pictures and other documents. The different types of printers are used for printing in colours or black.

The print out received from the printer is called a hardcopy.

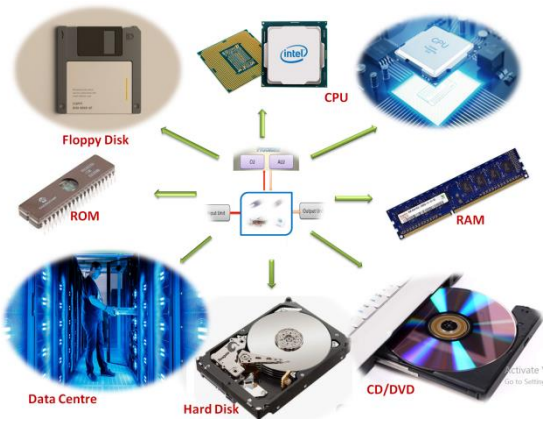
Speakers

Speakers are used in a computer to hear sound and music. We use speakers to listen songs, voices of people and other sound from the computer. They always come in pairs and attached to the computer.

Memory and Storage Devices

A computer memory is the place where our data and instructions are stored. It can store data either permanently or temporarily. There are two types of computer memory. They are

1. Primary memory



2. Secondary memory

Let us see the details of the devices used for the above storage of data and information in the above mentioned memories.

Primary Memory

Primary memory is also known as main memory. It is located on the mother board of the computer. It is fast in processing.

The two types of primary memory are as follows

a. RAM – It stands for Random Access Memory. It is a volatile memory i.e., it retains data only when power is there. It is a temporary memory.
b. ROM – It stands for Read Only Memory. The permanent resident programs are stored in ROM

Secondary Memory

We can store our information in the computer for future purpose. The secondary memory is known as backup memory. It helps to store the data and instructions permanently. It is slower compared to primary memory. Some of the secondary storage devices are Hard Disk, Compact Disk, Pen Drive etc. Let us see the purpose of these devices.

1. Hard disk

It is the main storage device that is used to store large amount of data and information. It is fixed permanently inside the CPU. The drive is the place where the actual disks are kept. So hard disk can also be called as Hard Disk Drive (HDD). A hard disk which can be transported easily is called portable hard disk.

2. Floppy Disk

Floppy disk is a removable storage medium and it was one of the oldest storage medium. It is an obsolete device and not available with latest computers. It's storage capacity is very less.

3. CD-ROM

The full form of CD-ROM is Compact Disk-Read Only Memory. It is a portable disk so that data can be transferred easily from one computer to other. It is a circular in shape and helps to store data and information.

4. DVD

The shape of the DVD is similar to CD-ROM. It can store large amount of information as compared to CD. The full form of DVD is Digital Video Disc. A DVD can store a film of more than 2 hours easily.

5. Pen Drive

It is also called as flash drive. It is the most popular medium for backup of data. It can be used to transfer data easily. Pen drive is a very small in size and easily portable. It stores data much more than CD or DVD.

Exercise

A. State true or false

1 CPU is also known as computer casings (cabinet).

2 Web camera is an input device.

3 A standard keyboard has 150 keys.

4 The result of the process is called as input.

5 The print out on the paper is called as hardcopy.

B. Match the following

1	IPO Cycle	a. Input device
2	Monitor	b. a small chip
3	Microphone	c. Computer
4	CPU	d. Mouse
5	Pointing device	e. Output device

C. Answer the following questions

1 What is the use of input devices?

_____

2 Name any three input devices.

_____

3 What is data?

_____

4 What is the use of printer?

_____

5 What is a CPU?

_____

A. State true or false

a. RAM is a primary memory.

b. The secondary memory is called as backup memory.

c. The full form of DVD is Digital Visual Display.

d. Floppy disk stores data more than hard disk.

e. Hard disk is fixed inside the CPU.

B. Match the following

a. RAM	a. Hard disk
b. CD-ROM	b. Pen drive
c. Secondary memory	c. Random Access Memory
d. Flash drive	d. Obsolete device
e. Floppy disk	e. Circular in shape

C. Write the name of the following devices.

1.  _____

2. 

_____

3. 

_____

4. 

_____

5. 

_____

D. Answer the following questions

a. Define computer memory.

_____

b. What are the two types of memory?

_____

c. Name any three secondary storage devices?

_____

d. Which device is called as flash drive?

_____

e. Write the full form of the following

CD-ROM _____

HDD _____

DVD _____

RAM _____

Lab activity

1. Demonstrate the uses of various input and output devices
2. Practice the handling of mouse and keyboard
3. Show various secondary storage devices and ask them to identify.
4. Ask students to draw CD-ROM or floppy disk and colour it.
5. Play a documentary movie regarding the students to be affection with an animal.

3. Function of Computers

Learning Objective:

Students will be able to:

- Learn the about CPU
- IPO Cycle of computer

The CPU cabinet contains the Central Processing Unit (CPU). The CPU is the brain of the computer. The CPU controls all the other parts of the computer, such as the keyboard, the mouse, and the monitor. All these parts are connected to the CPU cabinet through wires.

CPU:

CPU stands for Central Processing Unit. It is the brain of the computer and this is the most important part in the computer. The CPU carries out the commands given by the user and gives the results accordingly.

Input-Process-Output Cycle

Computer system works based on a stored program concept. They cannot think and act. It takes *input* from the user. It makes changes to the input as per the requirement of the user and this is called *process*. The processed data is given as result i.e., *output.*

The machine which follows the input→process→output is called as IPO Cycle. The IPO Cycle in a computer is as follows

Let us take an example of our human body to understand the same. When someone asks a question our ears and eyes acts as an input unit, the brain acts as a processing unit and then the mouth acts as an output unit to reply back.

		
Input (What is 2+3?)	Processing (2+3=5)	Output (5)

IPO Cycle to make a Cake

The cake batter is the input. Baking the batter in the oven is the process and cake is the output.

Exercise

D. ill up the input, process and output for the following

1 IPO Cycle to make clay models

INPUT PROCESS OUTPUT

_____ _____ _____

2 IPO Cycle to make fresh Juice

INPUT PROCESS OUTPUT

_____ _____ _____

3 IPO Cycle to wash dirty cloths

INPUT PROCESS OUTPUT

_____ _____ _____

4. Types of Computers

Learning Objective:

Students will be able to:

- Learn the different type of Computers
- Know the uses of different type of computers

A computer is an electronic machine that performs computational task. There are different types of computers available for various purposes. Let us see the type of computers based on its size, speed and memory.

Super Computers

Super computer is a powerful computer in terms of speed and memory. It can perform the tasks very quickly as compared to other computers.


PARAM 8000 - India's first Super Computer

It is also called as parallel computers. The full form of PARAM is **PARA**llel **M**achine. Super computers are used in research centers and big companies.

Desktop Computers

It is named as desktop computer because it can be placed easily on desk as the size of the computer is small. These computers are very

popular and it is used at offices, schools, shops, banks etc. It is not easily transportable because it is heavy.

Laptop Computers

Laptop is also a personal computer but it looks like a small briefcase.It can be carried easily from one place to another. It is named as laptop because it can be placed on the user's lap. It is small and light in weight. It can work on batteries as well as main power supplies.

Tablet PC

Tablet PC or hand held computer is a special type of computer which comes with different facilities. It can be held easily in the hands of the user. The memory, speed and other facilities of the tablet PC may not be equal to the laptop or desktop computers. Generally it has the facility of touch screen, camera, microphoneetc.It is small in size and can be easily carried in pockets and bags

Smart Phone

A mobile which provides additional features such as camera, touch screen, operating system, applications, internet facility in addition to basic phone facilities are called as Smartphone. We can perform many operations in smartphones which can be performed on computers.

Exercise

E. State true or false

a. A computer is a mechanical device.

b. PARAM 8000 is a super computer developed by India

c. Laptop can work on batteries as well as power supply.

d. Tablet PC has more computing power than super computer.

e. We cannot work with internet using smartphones.

F. Choose the best answer

a. Which of the following devices has the built in camera for clicking images and recording videos?

a. Smartphone b. Desktop c. Super computer

b. _____ device can fit easily on lap

a. Desktop b. Laptop c. Super computer

c. Which of the following is a super computer?

a. PARAM 8000 b. IBM c. HP

d. Which of the following is most popular general purpose computer usually available in office, school, banks etc.?

a. Laptop b. Desktop c. PARAM

e. _____ Computers are used in advanced laboratories, industries and research organizations?

a. Super computers b. Desktop c. Laptop

G. Answer the following questions

a. What is the full form of PARAM?

_____

b. Why it is named as desktop computers?

_____

_____

c. Write any two advantages of Laptop computers?

_____

_____

d. What are the additional facilities available in Tablet PC?

_____

_____

e. Name any five applications that you have seen in smartphones?

_____

_____

Lab activity

1. Demonstrate various types of computers and its differences.
2. Show the videos of Super computers and the office/bank where the more number of computers are used for their work.
3. Play a cartoon/video of the computer/car manufacturing company.

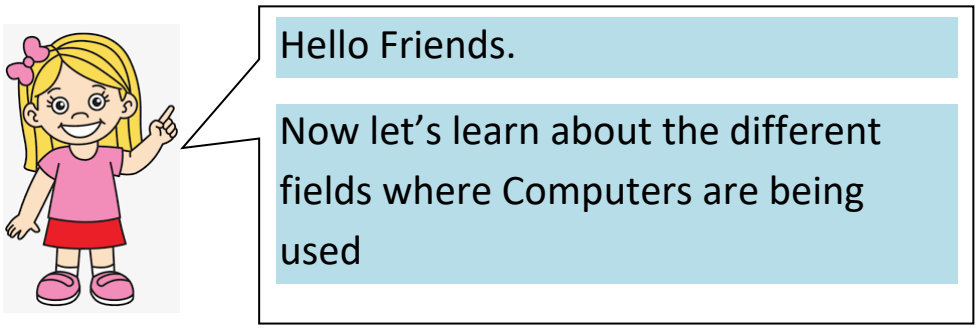
5. Applications of Computer

Learning Objectives

Students will be able to:

Understand how computers are used in various fields like

- Rockets
- Automobiles
- Hospitals
- Hotels
- School



Rockets

Computers have a major role in space research. Computer systems have revolutionized the way rockets are designed and launched. With their advanced computing power, engineers can simulate and analyze trajectories in real time, allowing for more precise calculations and improved safety.

Computer systems also allow for remote monitoring of the rocket during its flight, allowing engineers to adjust parameters in real time and ensure that the mission is successful.

Do you know?
In India, Indian Space Research Organization (ISRO) launches Rockets from Satish Dhawan Space Centre, Sriharikota, in Andhra Pradesh.

Automobiles

Today, computer is an integral part of automobiles like Motorcycle, Car, and Bus etc. in their design and manufacturing. Car companies use computers to design new models, test them for safety. In addition, automobiles are now packed with electronic systems that rely on computers for their operation, including safety features, advanced sensors, navigation system, entertainment, and even self-driving features.

Do you know?
The Pithampur city near Indore (M.P.) has the nickname the **Detroit of India** for its heavy concentration of automotive industry.

Hospitals

Computers are used in almost every aspect of hospital operations, from patient records to medical imaging.

In patient records, computers are used to store and organize information like patient history

and medical history. This information is used to make decisions about patient care and treatment. Computers also help doctors and nurses keep track of medications, test results, and other important data.

Computer-aided imaging is also used in hospitals. This technology allows doctors to view detailed images of a patient's body, such as X-rays, **Computed Tomography (CT)** scans, and **Magnetic resonance imaging** (MRI). This helps doctors make accurate diagnoses and can even be used to detect cancer early on. The use of computers in hospitals is transforming the way healthcare is delivered. It is improving accuracy and reducing the risk of human error.

Hotels

Computers have revolutionized the hospitality industry. From check-in to check-out, hotels have become increasingly automated. Guests can now access their room with a simple swipe of their keycard. Room service orders can be placed with a few clicks of a mouse. Even check-out can be done with the touch of a button. In addition, computers have made it easier for hotels to keep track of their inventory (stock of items). By tracking what items are in stock and what needs to be replenished (to replace what has been used up and make something full again), hotels can ensure that their guests are always served with the freshest ingredients.

School

Computers have become an integral part of modern education. In classrooms, they help facilitate learning and provide access to a wealth of information. Computers can also help teachers better manage their classes, track student progress, prepare lesson plan, design e-content, prepare presentations, and easily communicate with other educators.

Computers can also be used to assign and collect work from students. We can easily assign work through email, and students can submit their work digitally. This eliminates the need for paper and Teachers makes it easier to track student progress. Computers can also be used to engage students in the classroom. Through interactive activities, games, and simulations, students can explore topics in greater depth. This can help to keep students engaged and motivated. Finally, computers will continue to provide access to a wealth of information. Through the internet, students will be able to access a variety of resources, including educational videos, articles, and research materials.

Exercise

1. Write the answer for the following

1. What are the full form of ISRO ?
2. Where is Satish Dhawan Space Centre located ?
3. Which city is known as Detroit of India ?
4. Write the full form of CT in CT Scan ?
5. MRI stands for _____

2. Write short answer for the following

1. What are the uses of computers in launching of rockets?
2. What are the applications of computers in Automobile industry?
3. List few uses of computers in hospitals.
4. Where computers are used in Hotels?
5. Name the applications of computers in schools.

6.WordPad

Learning Objectives

Students will be able to:

- Understand the work of a Word Processor
- Start WordPad
- Type text in WordPad
- Format text in WordPad
- Save and close a file in WordPad

Hello Friends !

Have you ever thought how the books and letters are typed on a computer? In this chapter you are going to see and practice of your own. Let's go.

You can write letters, notes, assignments, project report on a computer using some special programs. These programs or apps are known as Word Processor.

You must be thinking what a word processor is and what are its uses?

Word Processing programs

A word processor is a computer program that you can use to create, edit, view, and print text documents. With WordPad, you can type letters, reports, and other simple documents. You can also change how the text looks, change the size of

the text and copy and paste text within and between documents.

WordPad, Word perfect, MS Word are such word processor programs. WordPad is a basic word processor that is included in Windows.

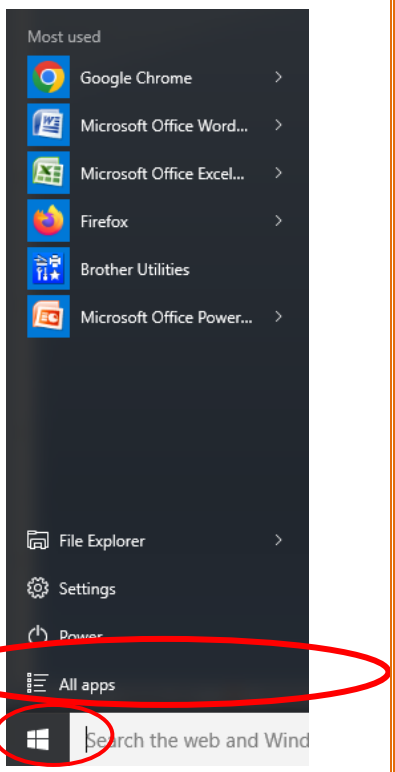
Introduction to WordPad

Wordpad is one of the basic and most popular word processors. It was developed by Microsoft Corporation. Using Wordpad, we can create, edit, print and save files quickly and easily.

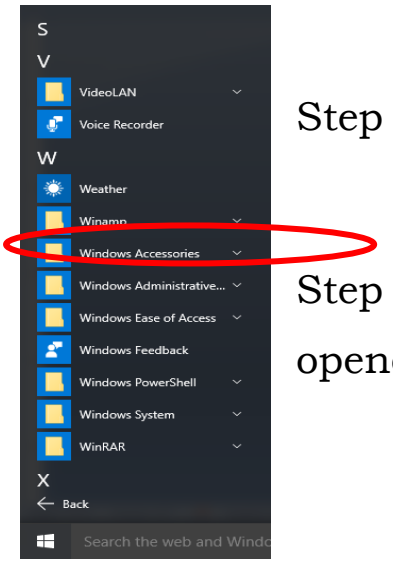
Starting WordPad

Step 1. Click on the Start button

Step 2. Click on All apps

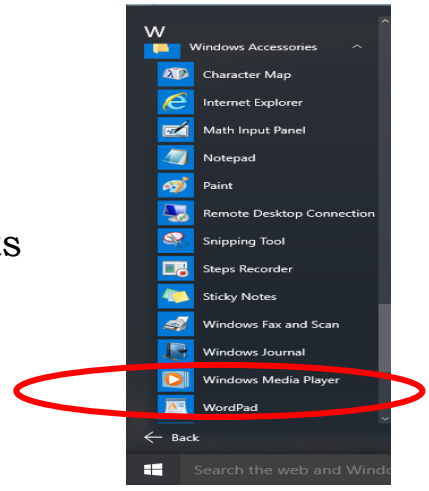


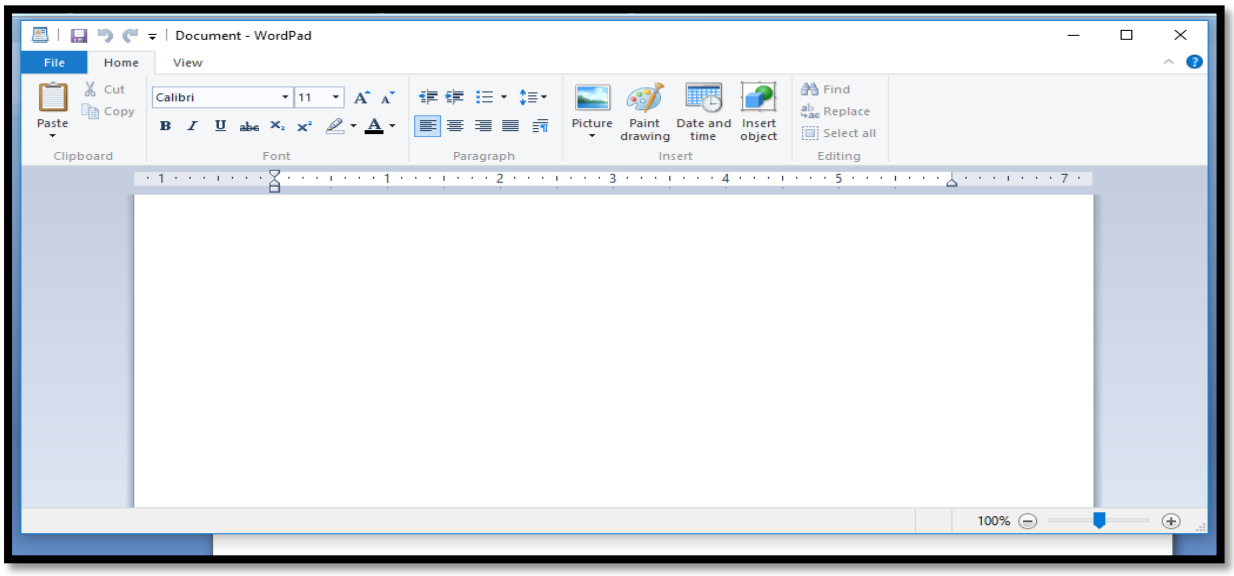
Step 3. Click on Windows Accessories



Step 4. Click on WordPad

Step 5. WordPad window gets opened

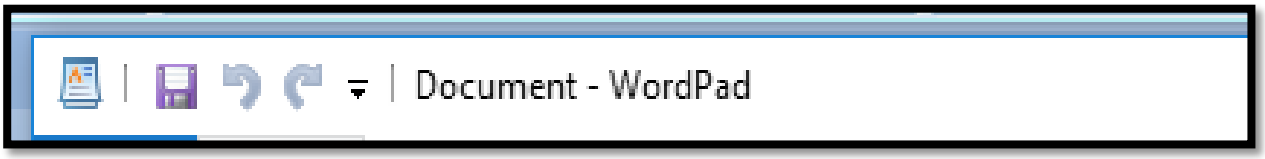




Components of WordPad

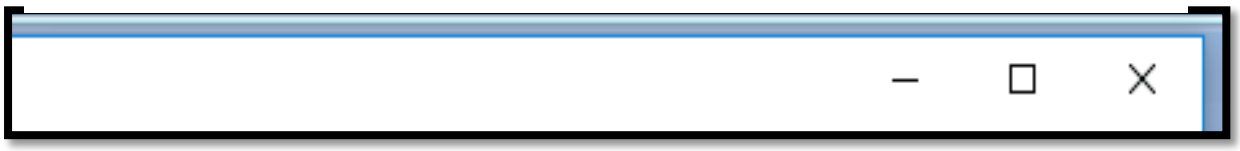
Title Bar

The title bar shows the text "Document - WordPad."



Control Buttons

The three control buttons found in the upper right corner of the WordPad window allow you to minimize, maximize, restore or close it.

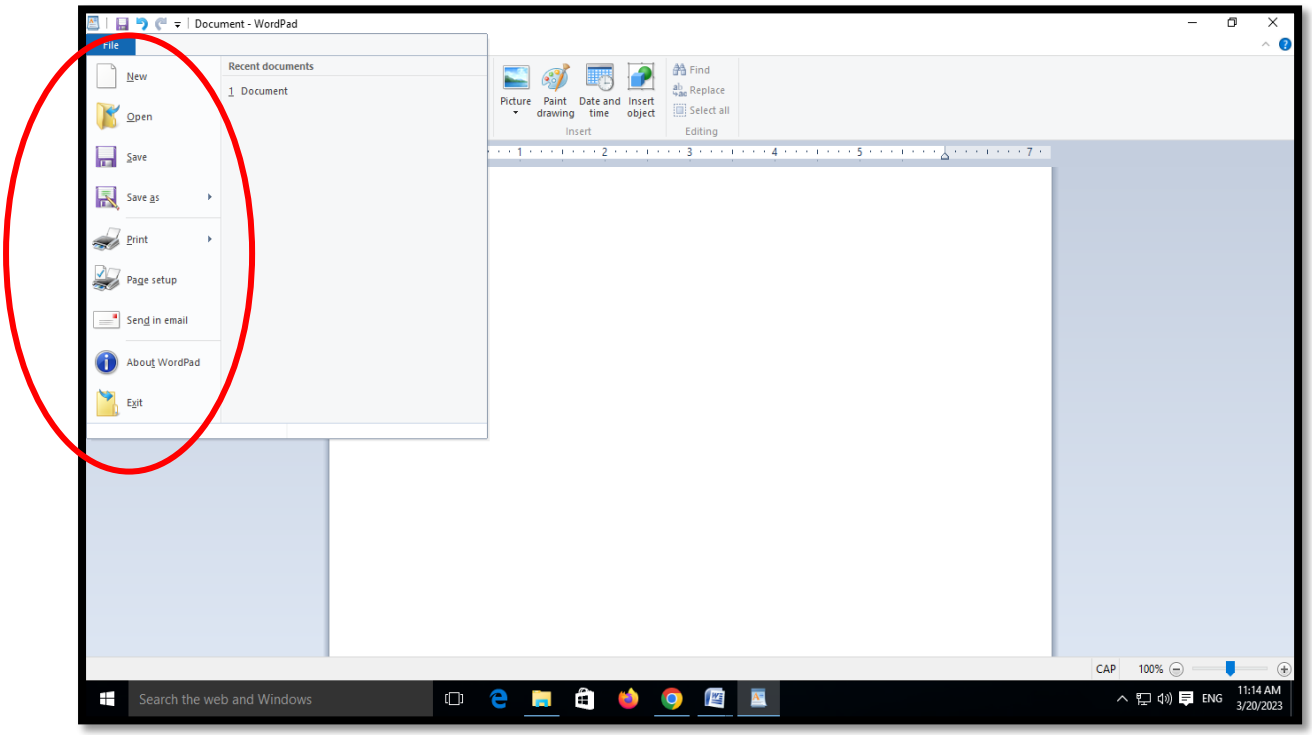


Menu Bar

The menu bar is located immediately below the title bar and provides access to Wordpad's option menus. There are three options, File, Home and View.

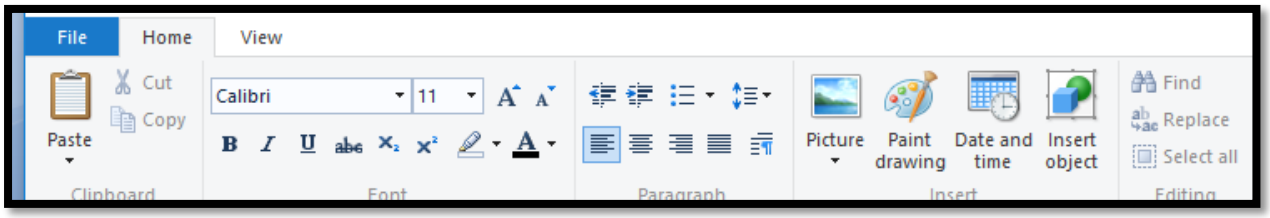
Toolbar

The toolbar gets activated when we click File option of the Menu Bar. It provides button and shortcuts to frequently used menu options such as“ New”, “open”, "Open," "Save" , “ Save As”, and "Print."



Format Bar

The format bar is located immediately below the Menu bar and provides options for text formatting, such as font selection, Bold, Italic, Underline, text color, alignment etc.



Editing and Formatting

Inserting Text in WordPad

Step 1. Click anywhere on the page

Step 2. Start typing words by pressing keys on the keyboard.

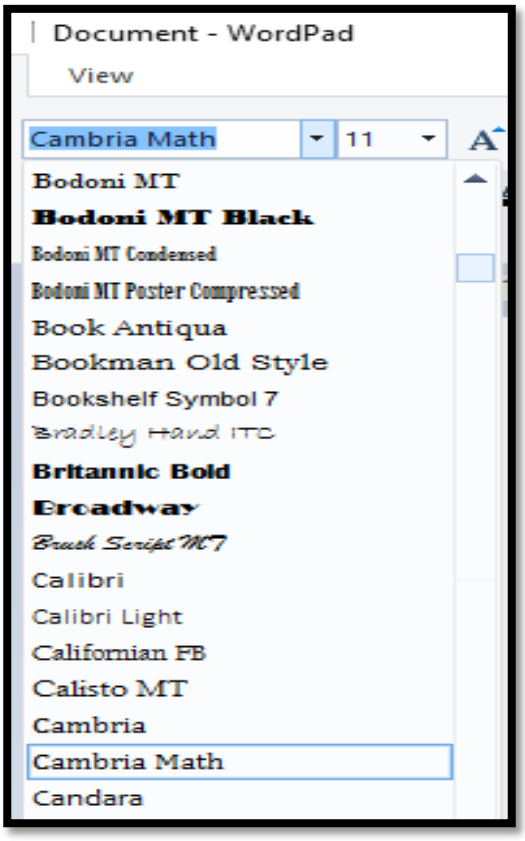
Step 3. Press the space bar only once between two wards. Press the space bar after a full stop.

Step 4. Press Enter key only after completing the line.

Step 5. Save the file after typing the text.

Formatting Text in WordPad

Formatting means changing the way the text looks. It may be changing the font style, font size, font colourof the text.



Formatting the font

Font means style and shape of letters or words used in a document. We can change the font to give a different look to the text. Many fonts are available in WordPad.

We can follow the steps given below to change the font :

Step 1. Select the text whose font you want to change.

Step 2. On the Format menu, click Font.

Step 3. From the Font box select the font you want to use.

To change the font size

Font size means size of the letters, words, numbers etc. By changing the font size, we can increase or decrease the size of each character.

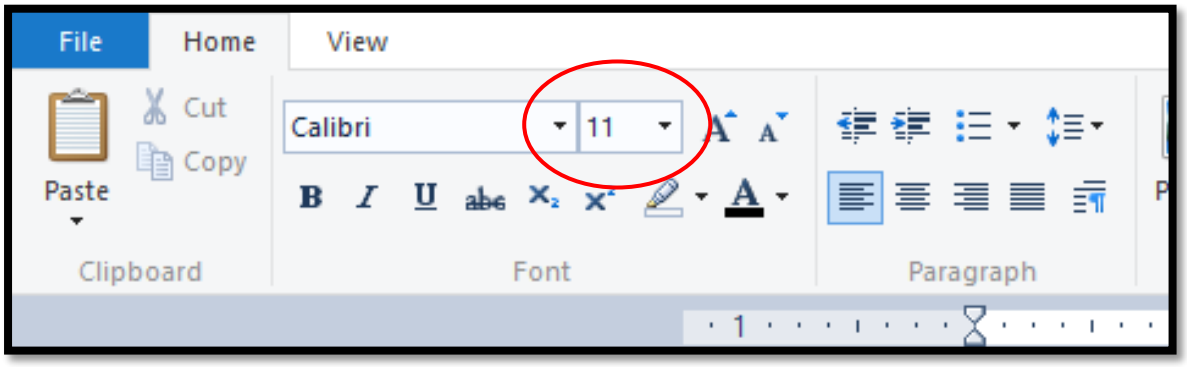
We can follow the steps given below to change the font size:

Step 1. Select the text whose font size you want to change.

Step 2. in the Format menu, click font size

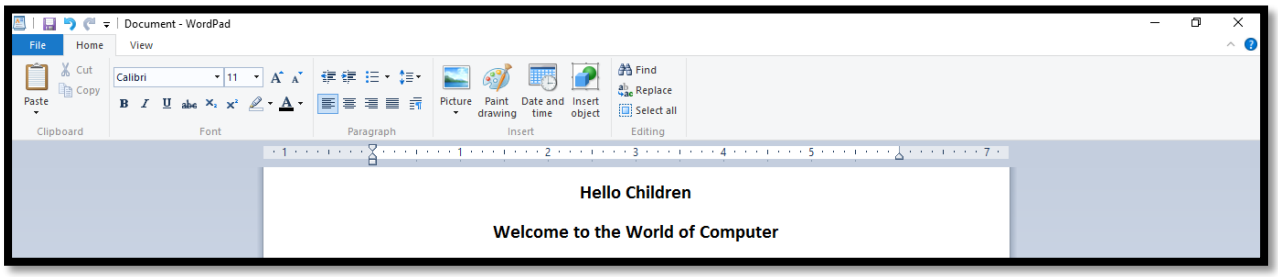
Step 3. A list showing different font size appears.

Step 4. Select the font size you want to use. By default the font size in a WordPad document is 11

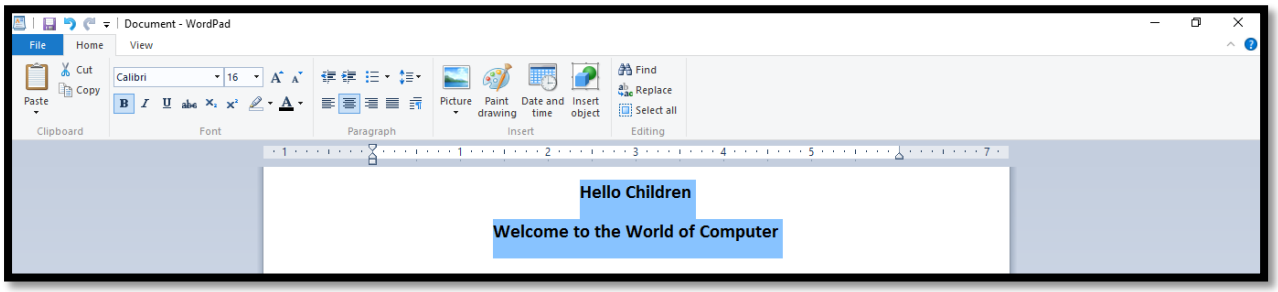


To change the font colour

Step 1. Type the text.

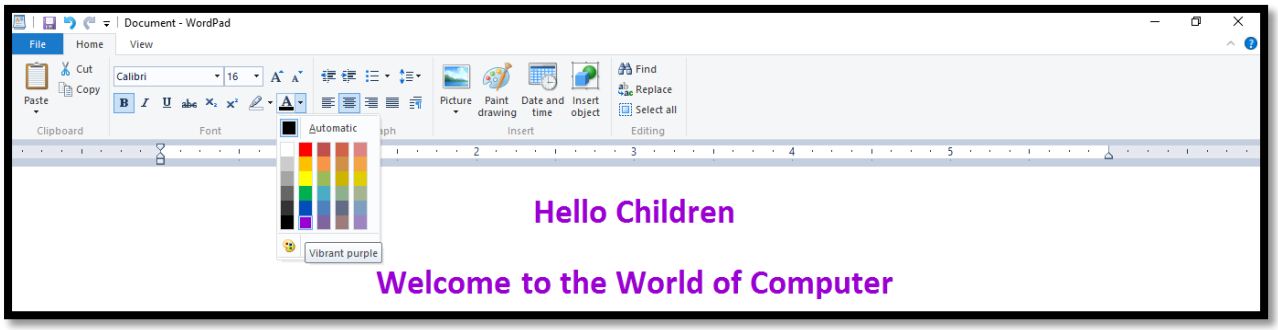


Step 2. Select the text whose colour you want to change.



Step 3. Click the Font Colour from drop down arrow

Step 4. Select the font. Colour. The colour of the text changes. For example purple color.

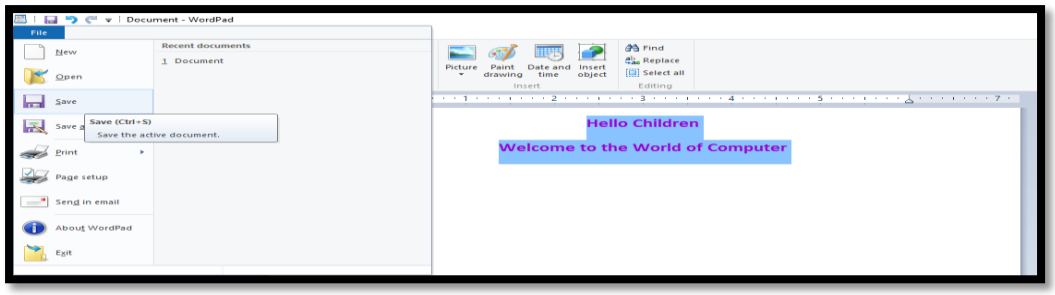


Saving a file

It is important to save the work done for future use. In wordPad , to save a file, follow the given steps:

Step 1. Click on File tab

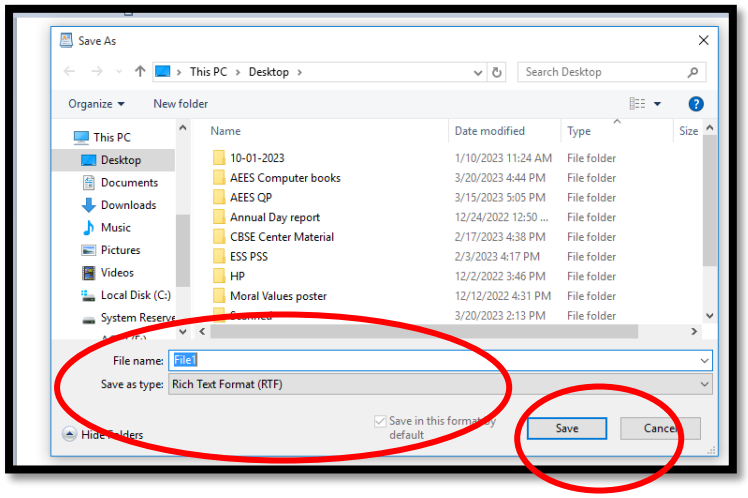
Step 2. Select the Save option.



Step 3. The Save As dialog box appears.

Step 4. Type the name of the file in the file name box.

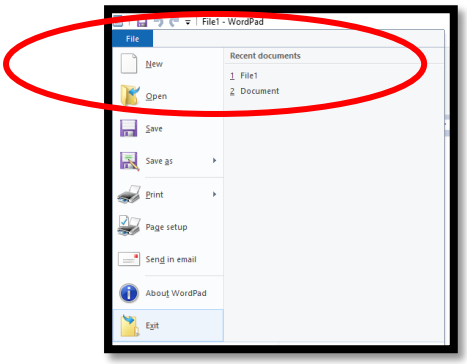
Step 5. Click on the Save button.



Closing a file.

To close a document, we must follow the given steps:

Step 1. Click on File Tab.



Step 2. Select the Exit option. It will close the document.

Exercise

Q1. Fill in the blanks.

Formatting, save, WordPad, menu, word processor

1) You can create, edit, view and print text documents in a _____.
2) _____ was developed by Microsoft Corporation.
3) We can find file, home and view options in _____ bar.
4) _____ means changing the way the text looks.
5) We must _____ a file for future use.

Q2. Answer the following questions.

1) What do you understand by Word Processor?
2) What is WordPad?
3) Name the three control buttons.
4) What do you mean by formatting?
5) Write steps to save a file in WordPad.

Q3. Write 'T' for true and 'F' for false.

1) We can write letters, notes and assignments using word processor _____
2) Font size and colour cannot be changed in a WordPad _____
3) The menu bar shows the text 'Document – WordPad' _____
4) By default the font size in a WordPad document is _____
5) We should save the file after typing the text _____

7. Drawing in MS Paint

Learning Objectives

Students will be able to:

- Start MS Paint
- Learn about components of Paint window
- Learn about Shapes group, Tools group, Colors group, drawing area.
- Draw pictures and fill them with colors.

Hello Friends !

In the previous class you have learnt how to draw pictures using MS paint. Let us learn some more features of MS Paint

A paint program is a software graphics program that allows the user to draw, color, or paint bitmapped images on a computer. MS Paint, Tux Paint, XPaint are such graphics programs.

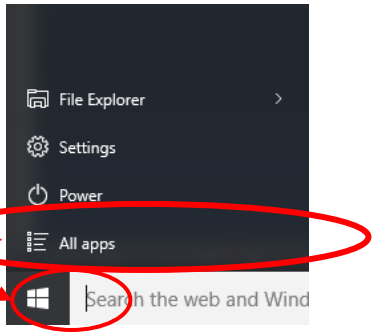
Introduction to MS Paint

Microsoft Paint, also called MS Paint or simply Paint is a computer program made by Microsoft. It allows you to create picture files as well as edit picture files saved on their computer.

MS Paint is a basic graphics program that is included in Windows.

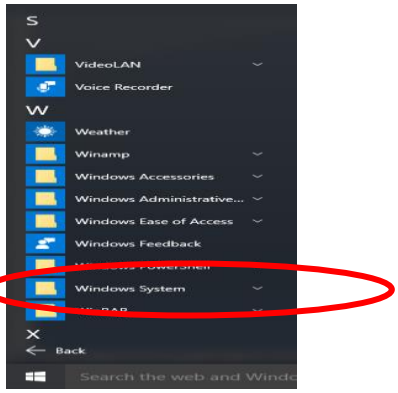
Starting MS Paint

Step 1. Click on the Start button

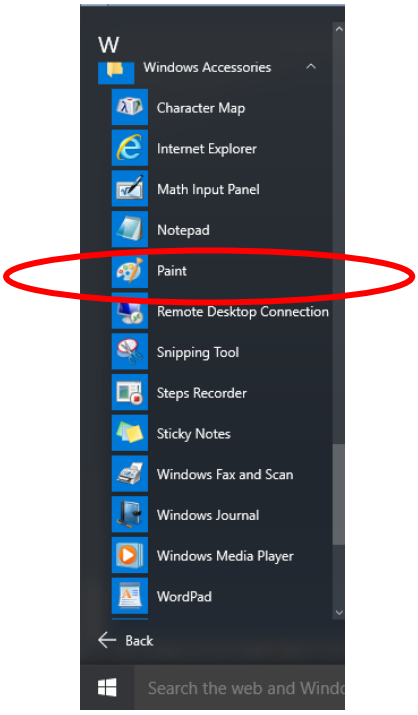


Step 2. Click on All apps

Step 3. Click on Windows Accessories

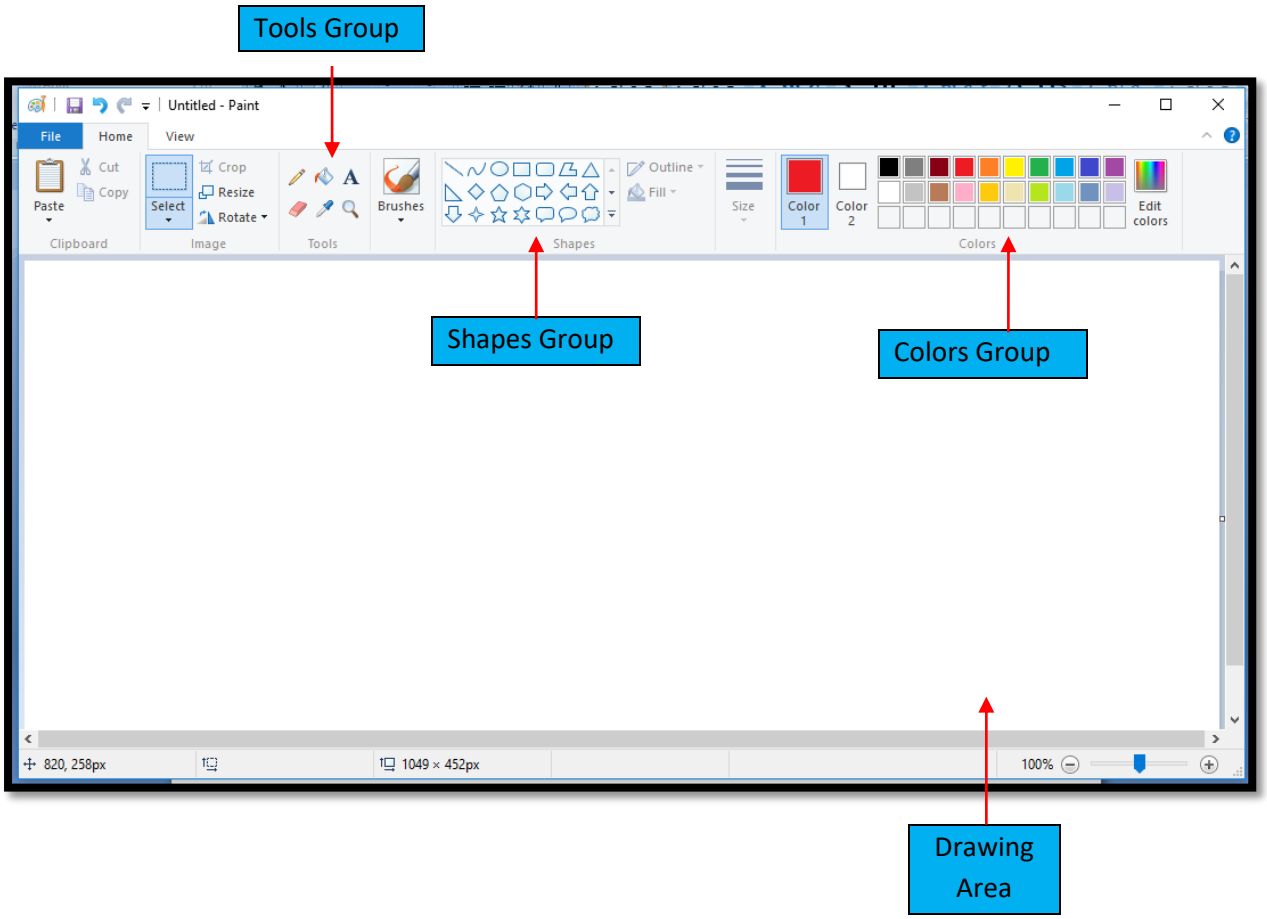


Step 4. Click on Paint



Step 5. Paint window gets opened

Components of MS-Paint



Title Bar

The title bar shows the text "Untitled - Paint."

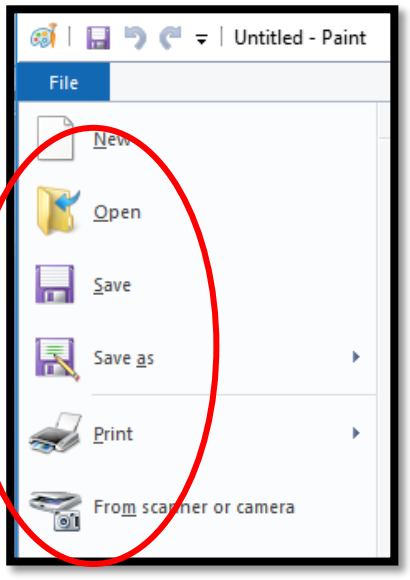
Control Buttons

The three control buttons found in the upper right corner of the Paint window allow you to minimize, maximize, restore or close it.

Menu Bar

The menu bar is located immediately below the title bar and provides access to Paint's option menus. There are three options, File, Home and View.

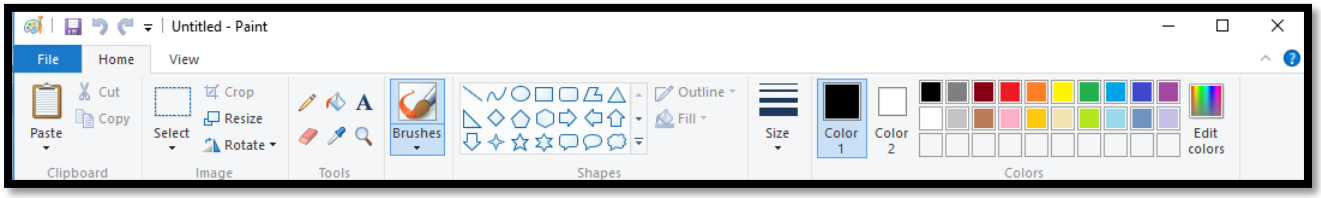
Toolbar



The toolbar gets activated when we click File option of the Menu Bar. It provides button and shortcuts to frequently used menu options such as " New", "Open", "Save" , " Save As", "Print" …

Format Bar

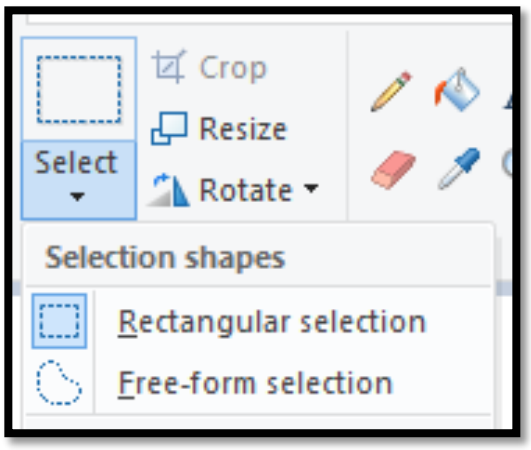
The format bar is located immediately below the Menu bar and provides options for Cut, Copy, Select, Crop, Resize, Rotate etc.



Tools

Microsoft Paint has a collection of painting Tools that you can use for drawing shapes and applying color to areas of your image in various ways. You switch between tools by clicking on the appropriate Icon on the Toolbar.

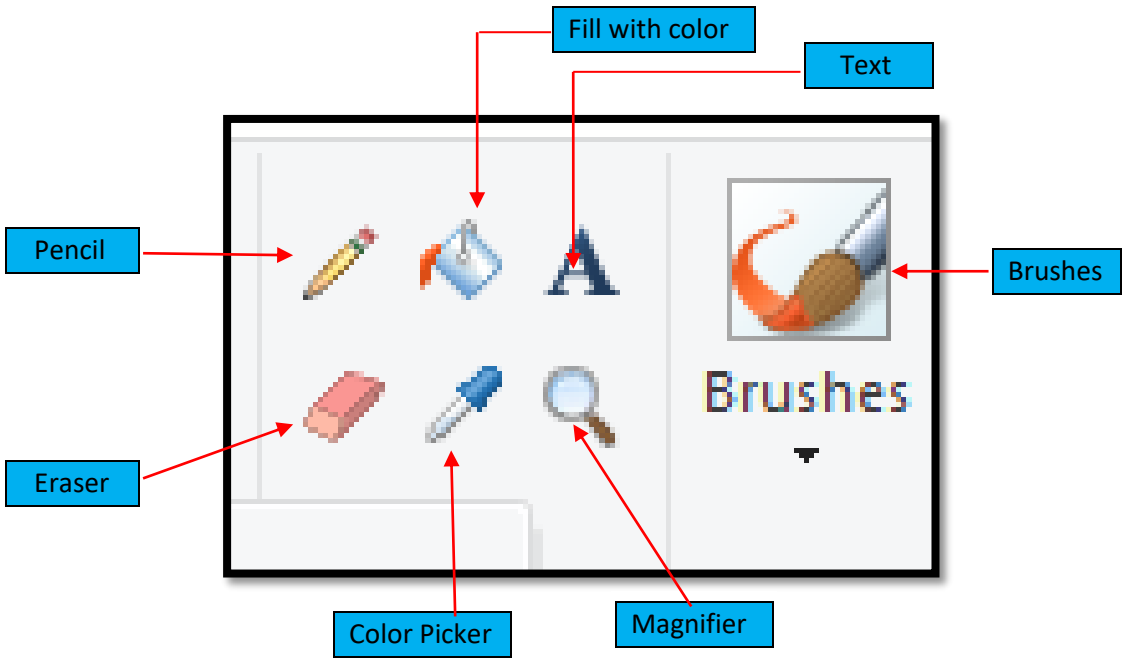
The selection Tools



These tools are used to select portions of the image you're working with. These selections can then be moved around, copied, or edited without affecting the rest of the image. There are two types of selection, Rectangular section and Free-form selection.

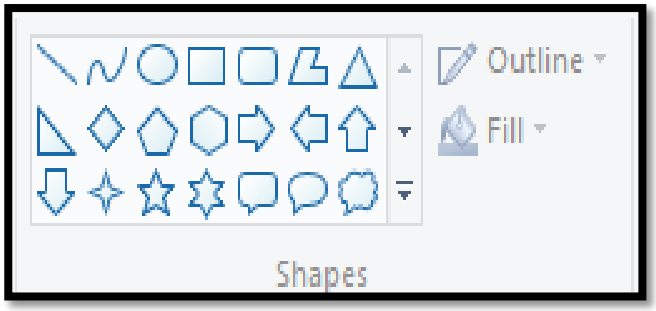
Tools Group

The Tools group contains six drawing tools



Shapes

The Shapes group contains various types of shapes like rectangle, triangle, oval, line, stars and many more



Colors

The colors group contains a number of colors to make our drawings look beautiful and colourful.

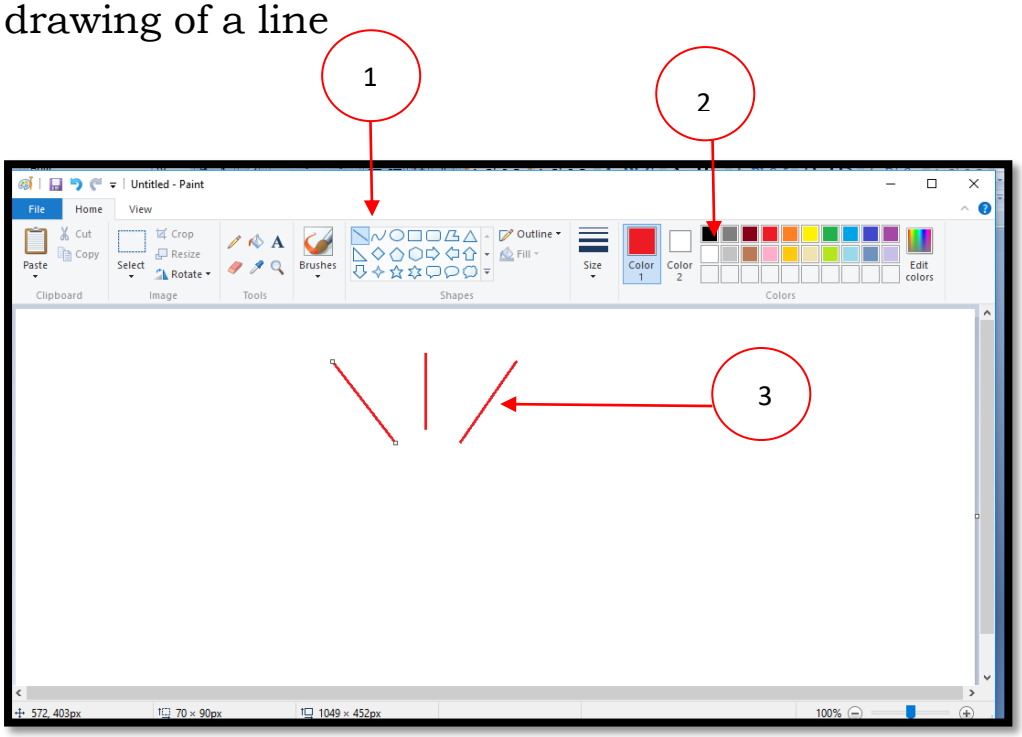
Drawing Lines

To draw lines in Paint, we follow the steps as given below:

Step 1. Click on the Line  shape in the shapes group

Step 2. Choose a color from the colors group

Step 3. Click and drag the mouse to draw a line in the drawing area. Release the mouse button to complete the drawing of a line



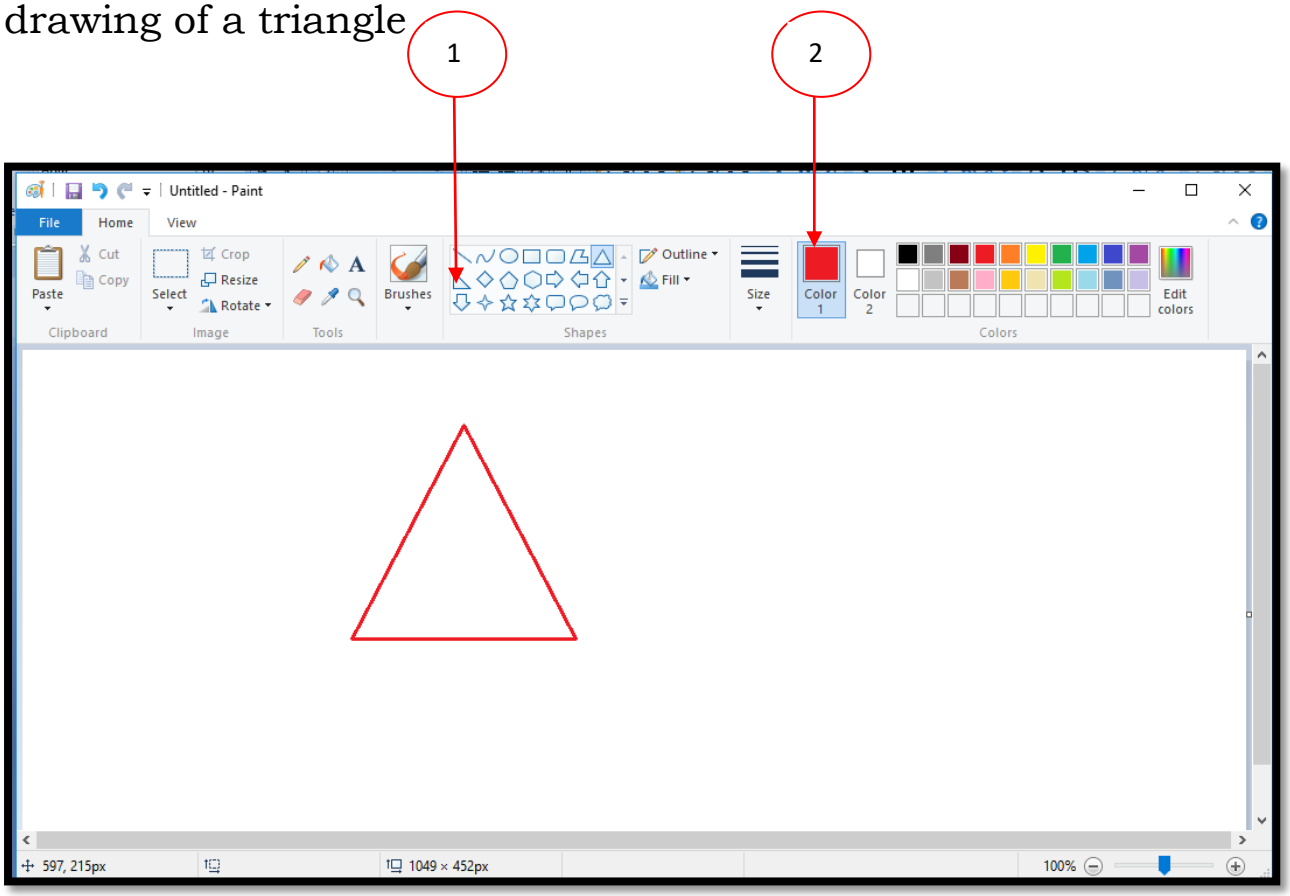
Drawing Triangles

To draw triangles in Paint, we follow the steps as given below:

Step 1. Click on the triangle  shape in the shapes group

Step 2. Choose a color from the colors group

Step 3. Click and drag the mouse to draw a triangle in the drawing area. Release the mouse button to complete the drawing of a triangle



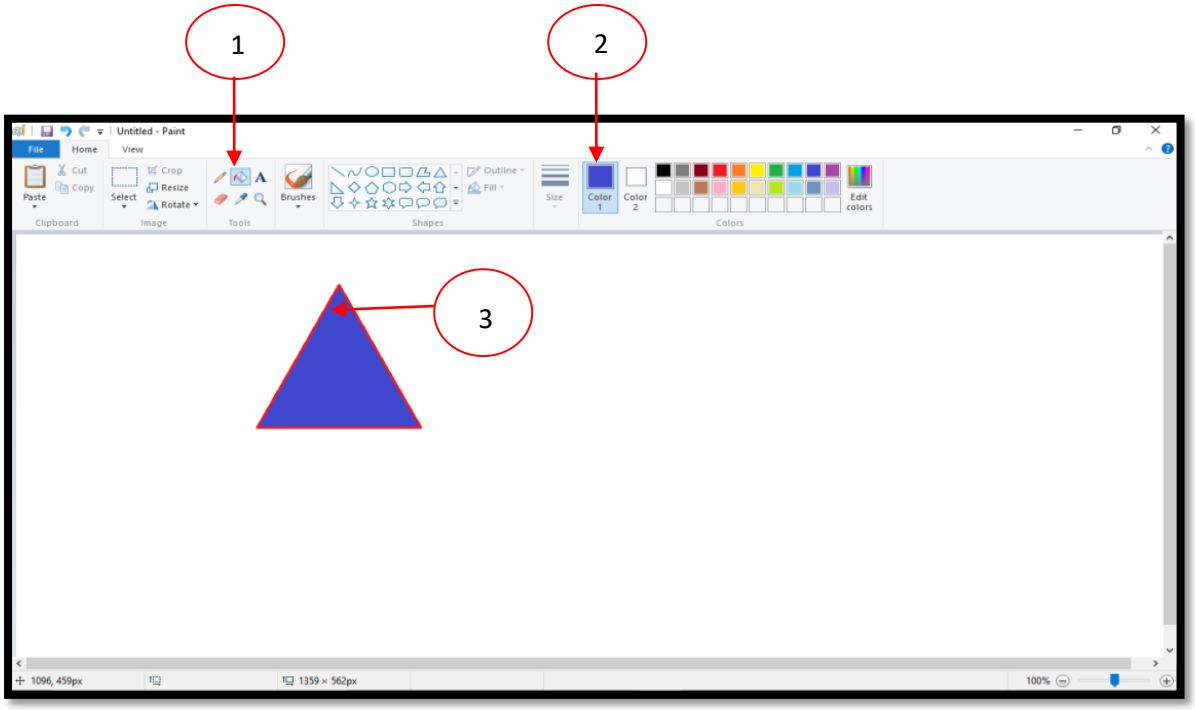
To Fill the colors

To fill any closed shape using Fill with Color tool, we follow the given steps:

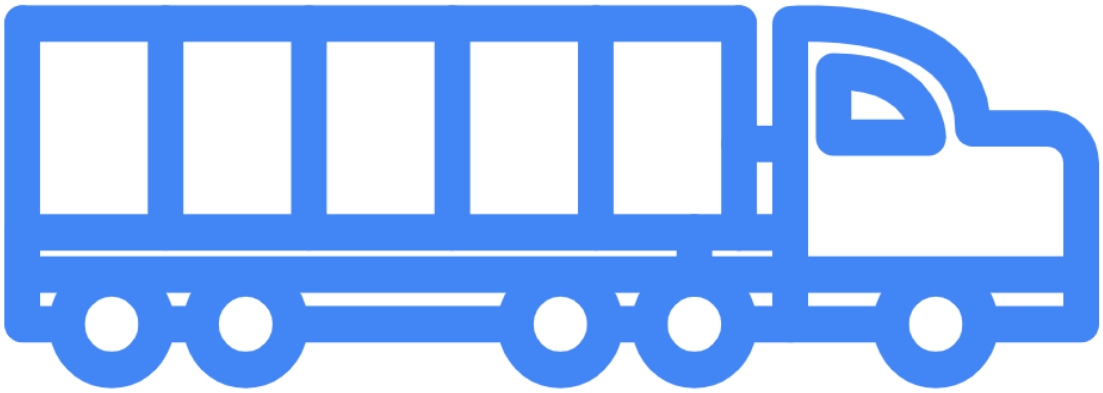
Step1. Click on Fill with color tool in the tools group.

Step 2. Choose a color of your choice from the Color group

Step 3. Click inside the shape to fill it with selected color



Color the Truck



Exercise

A. Rearrange the letters to make meaningful words

1. TANPI _____
2. URBHSSE _____
3. RESARE _____
4. WARGIND _____
5. LOOTS _____

B. Fill in the blanks with the help of the given words

Shapes	three	straight	color	tools

1. There are _____ control buttons
2. We choose colors from ____ group
3. Magnifier tool is present in the _____ group
4. Line shape is used to draw ____ lines
5. To draw shapes, we select shapes from the _____ group

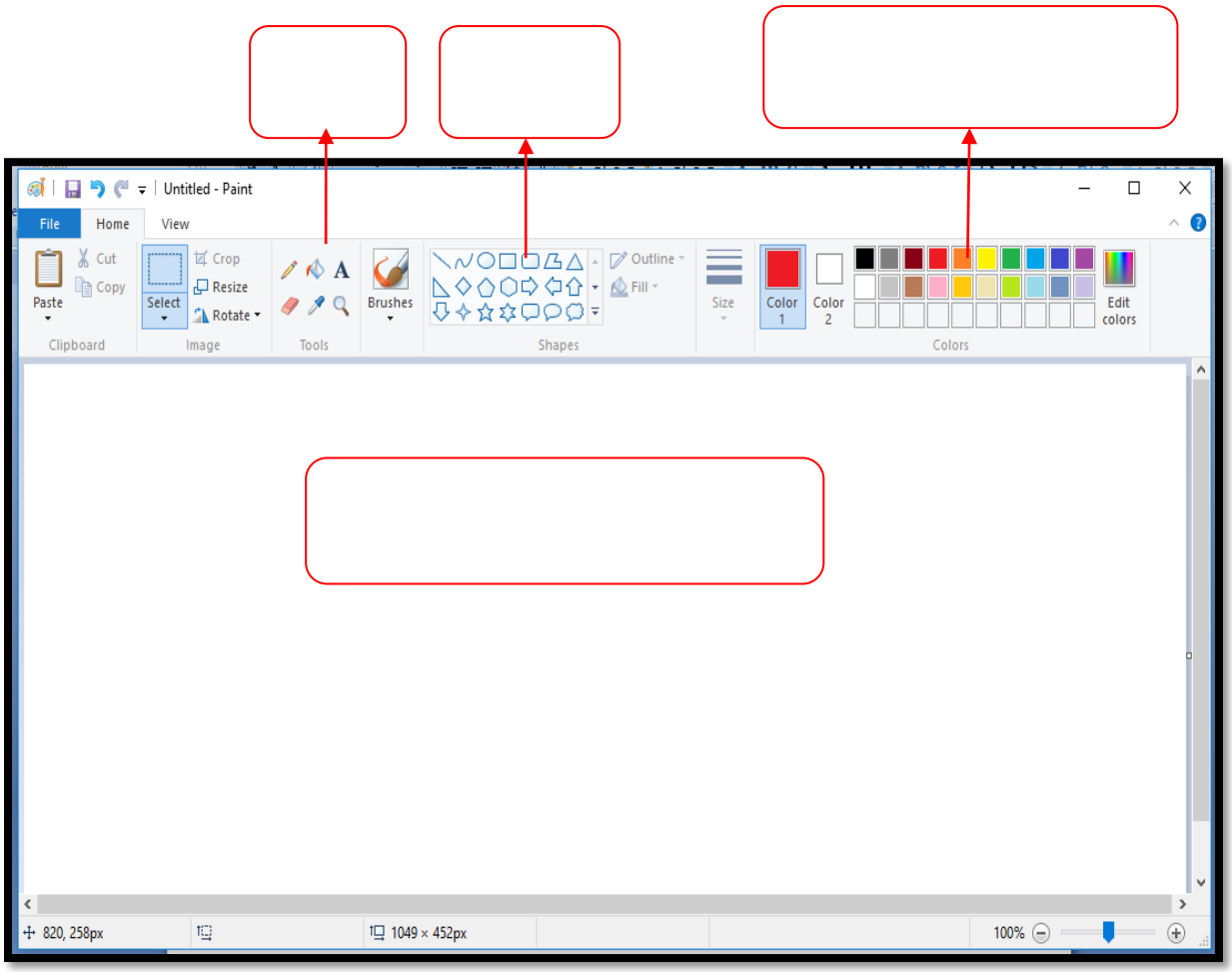
C. Write true or false

1. Paint program is used to draw and paint _____
2. The shapes tool is used to fill colors _____
3. Line tool is used to draw straight lines _____
4. Paint program can be used to type letters _____
5. The tools group consists of drawing tools _____

D. Answer the following questions.

1. Write the steps to open MS paint program.
2. What are the components of a paint window?
3. Which tool is used to fill color in any closed figure?
4. What is shapes group?
5. What are selection tools? What are its types?

E. Label the parts of MS Paint window.



8. Computers and Health

Learning Objective

Students will be able to:

- Understand the use of computer with safety
- Understand the basic rule to work in computer lab
- Correct posture for using computer

Hello Children,

Kids always have fun while working with computers but they need to take precautions to safeguard the computer as well as health. Using computers for the longer duration may cause strain in the eyes, back pain etc. Students should learn how to use the computers safely. They also should practice the correct posture, exercises and good manners in the computer laboratory.

Precautions

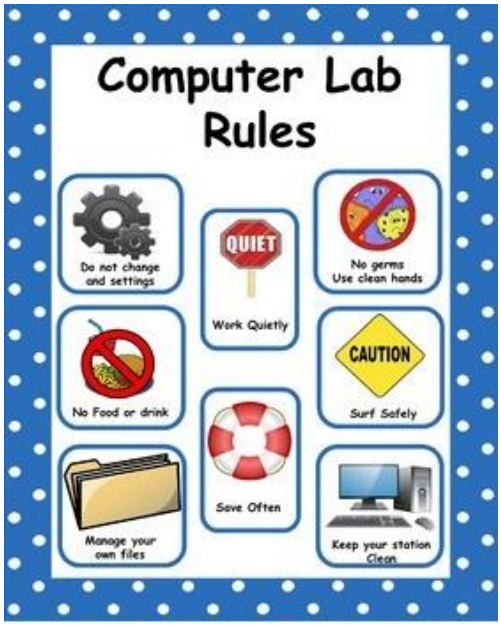
1. Computers are connected with various devices through wires. So don't touch wires or power cables.
2. If you see observe that the wire is damaged or torn, report immediately to the teachers.
3. Don't insert any objects or put fingers into power sockets.

Safety

1. Don't insert any objects such as pencil, eraser, sticks and any sharp items into any sockets, ports, CPU, keyboards, printers and speakers.
2. Don't use water or liquids to clean the computer. Use only dry cloth.

General Guidelines

1. Don't scribble on screen, printer, keyboard, table etc.
2. Handle computers with care. Computers in the lab are the property of school and it will last for years, they should know consequences for not handling the computers properly.
3. Keep your files organized. Save the file properly at the specified folders.
4. Respect the teachers and other elders.
5. Don't change the settings of the computer. After working with the options again change it to original settings.
6. Lab is a place for improving the skills in various aspects. So maintain proper silence and do your work quietly.



7. Don't play games of your choice. Only the games which are included in the syllabus for enhancing the creativity may be allowed under the supervision of teachers.
8. Use internet as per the instructions of teachers.
9. Have frequent breaks while working for long period of time.

Posture

Correct posture while working on the computer prevents injuries, pain and abnormal position of spine and other parts of the body. Some of the common posture related injuries are as follows

1. Back and neck pain, headaches, shoulder and arm pain.
2. Muscle and joint problems
3. Eye strain
4. Muscle fatigue

Correct posture while working on the computer

1. Sit straight with your shoulders rolled back with your feet planted on the floor.
2. Lower legs should form a 90 degree angle at the knees.
3. The distance between eyes and the computer monitor should be between 50 cm and 70 cm.
4. Relax your shoulders and neck while typing on the keyboard and using monitors.
5. Keep your head elevated, otherwise it may lead to neck, shoulder and back pain.
6. Take deep breaths often, it will help you to center your posture and get relax from headache or tiredness.
7. Avoid eye fatigue using the 20/20/20 rule that is at every 20 minutes, look at something away from 20 feet for 20 seconds.
8. Hands are the most active part while working on the computer, so exercise your hands at regular intervals.
9. Keep all the commonly used items near the computer so that frequent change of positions can be avoided.

Suggestions to reduce eyestrain

1. Computer screen should not be more close to the face.
2. Keep the contrast and brightness of the screen as appropriate by adjusting the controls on the monitor.
3. Adjust the monitor to eliminate reflections or glare.
4. If your eyes are blurring or paining then go for the eye examinations to diagnose and treat the problems.
5. Proper lighting arrangements must be maintained in the room.

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.6

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. The average distance from eyes to the monitor is from 50 cm to _____ cm
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.