

nexgen

Computer Science Course Book with **AI BUILT** in

Windows 11 & MS Office 2021

KEY

Computers in Our Lives

Topics Covered

- Natural and Man-made Things
- About Computer



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UNDERSTAND

Tick (✓) if you know this.

- The trees outside my window are natural things.
- The water I drink is a natural thing.
- The chair I am sitting on is a man-made thing.



About Computer

Computers are smart machines that can help us learn, play, and create.., which runs on electricity. We can use computers to perform.



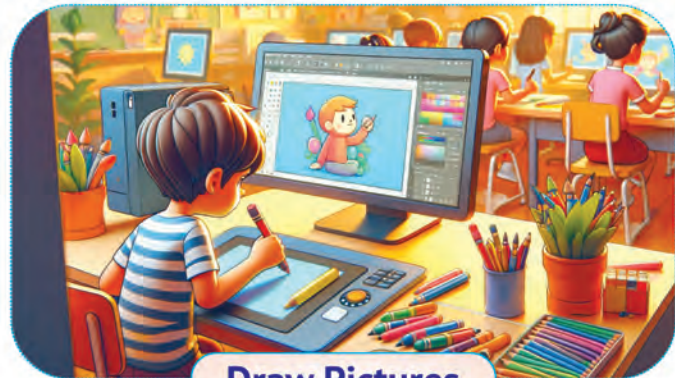
Learn any subject



Watch Videos



Communicate with friends



Draw Pictures



Play Games



Send e-mails

QUESTION TIME

What are two things you can do on a computer to learn new things ?

1

LEARN ANY SUBJECT

2

DRAW PICTURES

#Hashtag

- # **Machine** : A machine is a device that uses power to do work.
- # **Computer** : Computers help us learn, work and play.

ReLearn

- Computers can help you learn and play.
- You can use a computers to :
 - Learn about new animals, plants and places.
 - Practice your reading and writing.
 - Play fun games.
- Computers are a lot of fun and they can also help you learn new things. Ask your parents or teacher to show you how to use a computer.

Assess Yourself

1. Write 'N' for Natural things and 'M' for Man-made things in the given box.



N



M

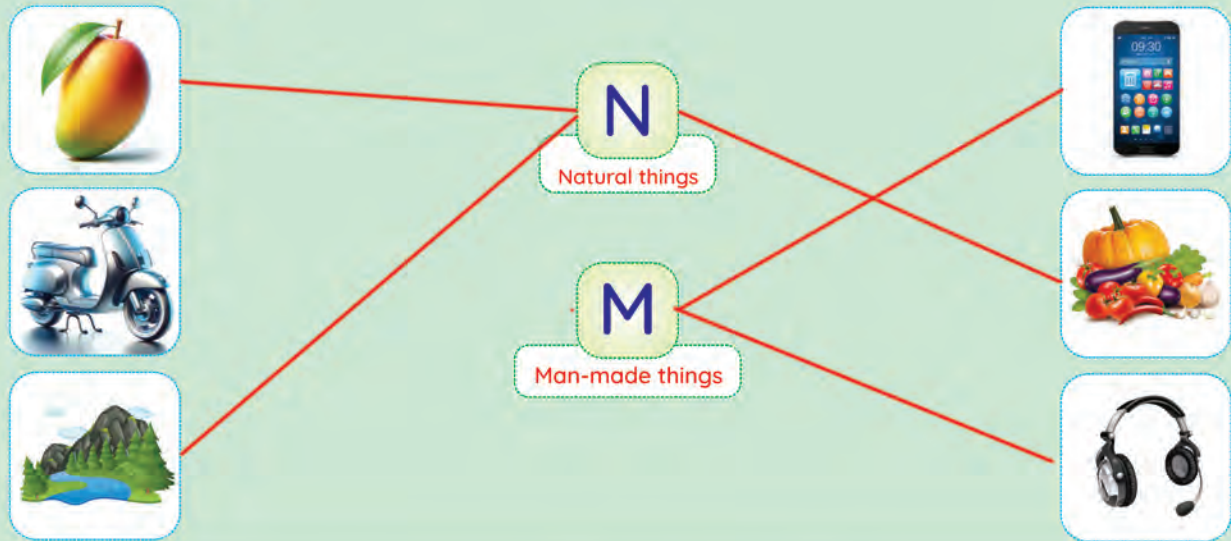


N

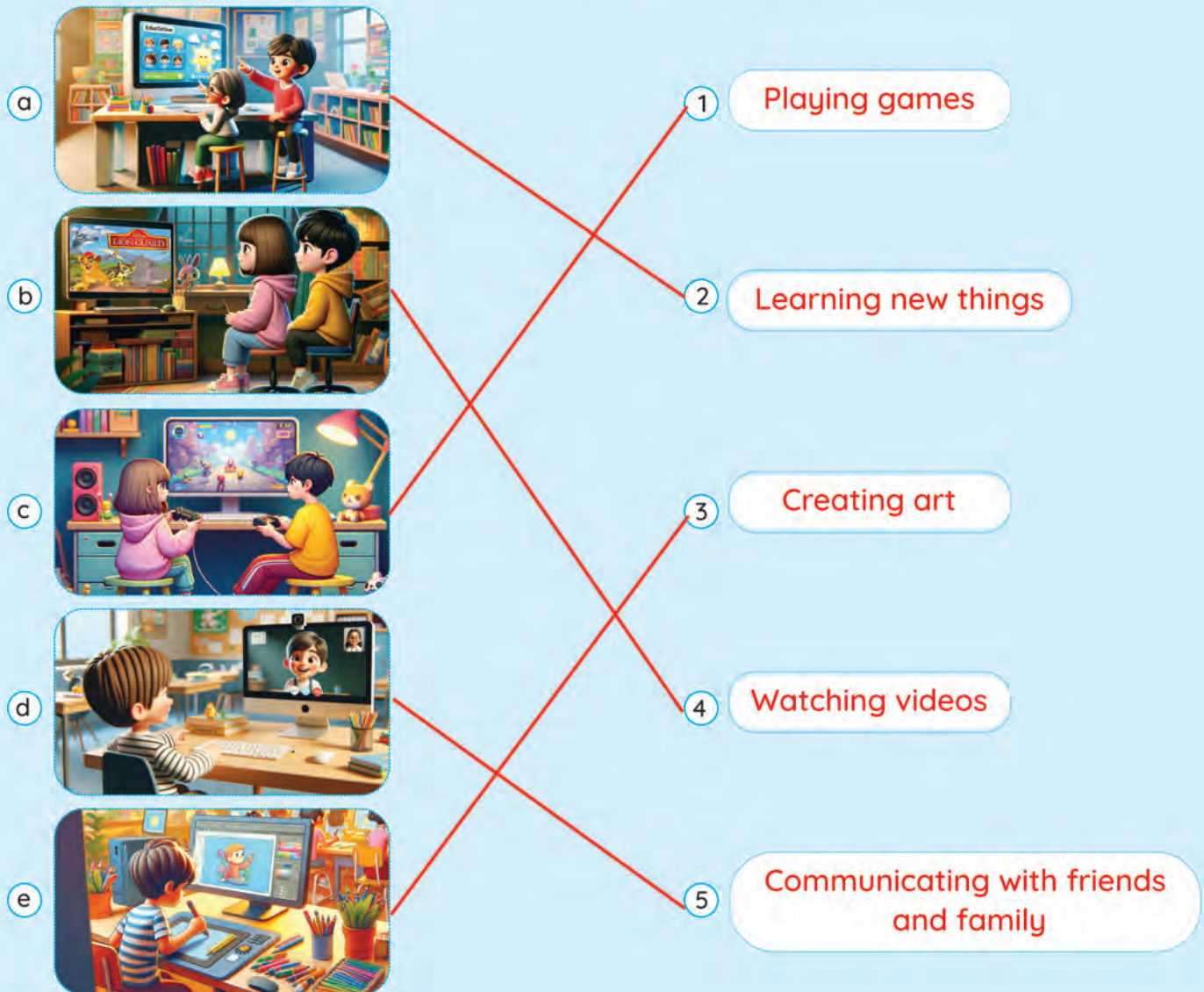


M

2. Match the following.



3. Match the following computer activities with the pictures.



Activity : Learning the Parts of a Computer.

Materials:

Computers for each student (or a projector and a large screen)

Pictures of different parts of a computer (keyboard, mouse, monitor, CPU, etc.).

Instructions:

1. Show the students the pictures of the different parts of a computer.
2. Ask the students to identify each part of the computer.
3. Explain what each part of the computer does.
4. Let the students practice pointing to the different parts of the computer on their own computers (or on the projector screen).

{ CODING ACTIVITY }

File Edit View Program Help

Observe the given shapes and answer the following questions.



- 1 How many **different colours** can you recognise ?
- 2 Which is the **biggest number** ?
- 3 How many **different shapes** can you recognise ?

6

9

5



For The Teacher

- 1 Try to make your explanations of the computer or activity as fun and interactive as possible. You could use papers to make, any activity and to engage students' interest.
- 2 Let the students play games that involve using the computer mouse and keyboard.

Applications and Uses of Computer

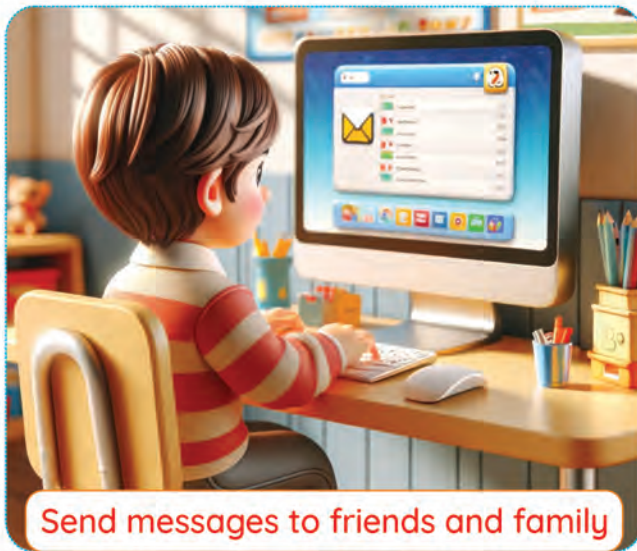
Topics Covered

- Features of Computer
- Uses of Computer
- Place where computers are used



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Send messages to friends and family



To Play Games

Truth Time

The 'wheel' is known to be the first machine on Earth.

UNDERSTAND

Tick (✓) if you know this.

- A computer is a machine that can do many things.
- Can a computer help you draw pictures?
- A computer can help us learn and play.



Places where computers are used

Let's see few places where computers are used regularly :



School :

Computers can help us

- Learn about different subjects.
- Do our home work.
- Create projects.



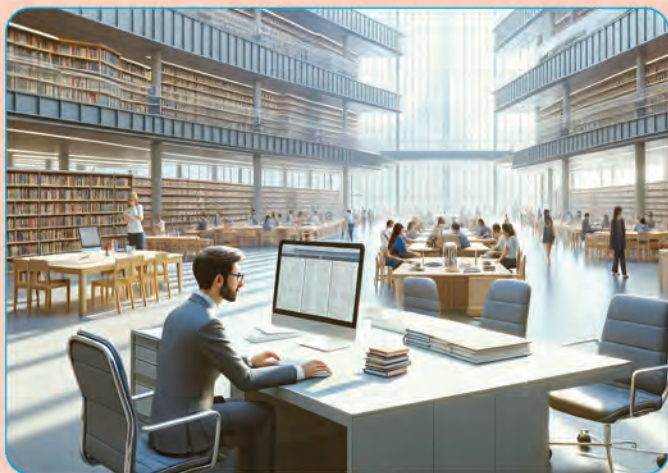
Home : Computers can help us

- Play games
- Talk to our friends and family.
- Watch videos
- Learn new things



Stores : Computers can help us

- Buy things
- Get information about products.
- We can get invoice.



Libraries : Computers can help us

- Find books
- To use the internet
- Other resources
- Do our homework



Offices : Computers can help us

- Creating presentations
- Managing data
- Employee Information
- People do their jobs
- Writing letters



① **What can a computer do?**

- | | |
|------------------------------|---------------------|
| a) Play games | b) Watch videos |
| c) Help you learn new things | d) All of the above |

d

② **Which of these is a computer?**

- | | |
|-------------|----------------------|
| a) A T.V. | b) A Phone |
| c) A Laptop | d) None of the above |

d

Assess Yourself

1. Match the Following.

				
1	2	3	4	5

a) Monitor	b) Computer	c) Mouse	d) Keyboard	e) CPU
------------	-------------	----------	-------------	--------

Connections shown in the image:
 1 (Mouse) connects to c) Mouse
 2 (Keyboard) connects to d) Keyboard
 3 (Monitor) connects to a) Monitor
 4 (CPU) connects to e) CPU
 5 (Computer) connects to b) Computer

2. Choose the correct option.

- a) Which of the following is NOT a primary use of computers ? d
- | | |
|------------------------------|---------------------|
| a) Play games | b) Watch videos |
| c) Help you learn new things | d) All of the above |
- b) What can you do with a computer? d
- | | |
|-----------------------|------------------|
| a) Eat it | b) Wear it |
| c) Play outdoor games | d) Write stories |
- c) Where can you find a computer? d
- | | |
|-----------------|---------------------|
| a) In a school | b) In a library |
| c) In an office | d) All of the above |
- d) Who uses computers? a
- | | |
|-------------|-----------|
| a) Teachers | b) Fishes |
| c) Lions | d) Birds |

3. Write 'T' for True and 'F' for False.

a We can use a computer to play games.

T

b Computers are used to cook food.

F

c Teachers use computers to teach students.

T

d We can watch cartoons on a computer.

T

e Computers are used to water plants.

F

5. Identify the given places where computers are used.



Schools



Stores



Home

4. Answer in one or two words.

a

What is the name of the thing that can work 24 hours a day, 7 days a week?

Clock

b

Name a place where you can learn new things.

School

c

Name a place where we can book tickets.

Ticket Counter

{ CODING ACTIVITY }

File Edit View Program Help

Colour and complete the pattern.

Lab Activity

Visit the computer lab and do the following action with the help of your teacher.

- (a) Learn how to start the computer and off the computer.
- (b) Watching cartoon video and listen to rhymes.



For The Teacher

- 1 Show students different parts of a computer, such as the monitor, keyboard, mouse, CPU, and printer.
- 2 Explain the students how to handle each part of the computer properly. For example, tell them to be careful not to spill anything on the computer and to avoid touching the screen with their fingers.
- 3 If possible, use a projector to show the students a close-up view of the different parts of the computer.
- 4 Ask the students questions about the different parts of the computer and how to handle them properly.

Periodic Assessment

1

(Based on Chapters 1 & 2)

1. Tick (✓) the correct option.

a) Which of these is a natural-made thing ?



b) Which of these is a man-made thing ?



c) Which of these works on electricity ?



2. Write 'T' for True and 'F' for False.

- | | |
|-----------------------------------|---------------------------------------|
| a) A car is a man-made thing. | ☒ T |
| b) A tree is a nature-made thing. | ☒ T |
| c) A river is a man-made thing. | ☐ F |
| d) A cloud is a man-made. | ☐ F |
| e) A rock is a man-made. | ☐ F |

3. Write 'N' for natural things and 'M' for man-made things.



Parts of Computer

Topics Covered

- Parts of a Computer : CPU, Monitor, Keyboard, Mouse
- Additional Parts of a Computer : Speaker, Printer



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Write any two parts of a computer.

1

Monitor

2

Key Board

Truth Time

Computers can store a lot of information and they can access it very quickly.



Additional Parts of a Computer

Now, we can learn about some additional parts of a computer.

Speakers

- **Speakers** are like little boxes that make sound come out of your computer.
- You can listen to music, games, and other sounds through your speakers.



Speakers

Printer

- A **Printer** is a device that prints text and images onto paper.
- It is typically connected to a computer, but can also be used with other devices, such as smart phones and tablets.



Printer

#Hashtag

- # **CPU** : The CPU is also known as the processor or microprocessor.
- # **Cable** : A cable is a bundle of wires that can carry electricity, data, or other signals.

Search me in Google



How many types of printers are commonly used ?



Computers are made up of many different parts, each of which plays an important role. Here are some of the most important parts of a computer:

- **Monitor** : The monitor is the screen that displays the output of the computer.
 - **CPU** : The CPU, also known as the **Central Processing Unit**, is the brain of the computer. It is responsible for carrying out all of the instructions that you give the computer.
 - **Mouse** : A small device that helps to control the computer screen.
- Keyboard** : A board with 50 various keys like numbers, alphabets and function keys.

Assess Yourself

1. Choose the correct option.

- a) Which part of the computer helps you to see what you are typing? ii
- i) CPU ii) Monitor iii) Keyboard
- b) Which part of the computer helps you to move the cursor around on the screen? iii
- i) CPU ii) Monitor iii) Mouse
- c) Which part of the computer is used to print documents and pictures? i
- i) Printer ii) Monitor iii) Keyboard
- d) Which of these is used to listen music? ii
- i) CPU ii) Speakers iii) Monitor

2. Match the following.

a) Speaker

i)



ii)



b) Printer

3. Write the parts of the computer.



4. Competency-based / Application-based question :

Jhansi is using a computer to watch videos. Which part does she have to use to listen to the audio and why and what is the use of the part?

Speakers - The sound comes out to listen

Lab Activity

Visit the computer lab and ask the students to explain what each part of the computer does. And ask them to list the uses of a computer.



For The Teacher

- 1 There are many songs about the parts of the computer available online or in children's books. Singing a song in a fun and engaging way to introduce the different parts of the computer to young children.
- 2 There is a great way for children to express their creativity and to show what they have learned about the different parts of the computer. You can provide them with paper and crayons or markers, or you can let them use a computer drawing program.

Using Keyboard

Topics Covered

- Keyboard
- Types of Keys : Alphabet Keys, Number Keys, Special Keys



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UNDERSTAND

Tick (✓) if you know this.

- The space bar on a keyboard is the longest key.
- The first keyboard were made of wood and metal.

T
F



Tick (✓) which key do we press to start a new line on the keyboard?

①

Spacebar Key

☐

②

↵ Enter

☒

Hashtag

- # The earliest keyboards didn't need electricity. They were part of typewriters!
- # Most keyboards have around 104 keys. That's a lot of buttons to press!

ReLearn

- A keyboard is an input device that allows users to enter text and commands into a computer.
- It is made up of many different keys, including alphabet keys, number keys, symbol keys, and special keys.
- **Alphabet keys** : Used to type letters.
- **Number keys** : Used to type numbers.
- **Symbol keys** : Used to type symbols, such as punctuation marks and mathematical symbols.
- **Special keys** : Used for special functions, such as spacebar, enter, capslock, backspace and delete keys.

Assess Yourself

1. Choose the correct option.

a) Which of these keys is used to add a space between words?

i)

Spacebar Key

ii)

Delete

iii)

← Backspace

i

b) Which of these keys is used to erase the letter to the left of the cursor?

i)

Delete

ii)

↵ Enter

iii)

← Backspace

iii

c) How many ENTER KEYS are there in the keyboard ?

i) 1

ii) 2

iii) 3

ii

d) Which of the following key is called a SPECIAL KEY ?

i) Spacebar Key

ii) Arrow Key

iii) Numbers Key

ii

2. Write 'T' for 'TRUE' and 'F' for 'FALSE'.

a) A keyboard is used to type letters and numbers.

T

b) The spacebar is used to make a big jump.

F

c) There are letters and numbers on a keyboard.

T

d) You have to shout at the keyboard for it to work.

F

e) The keyboard can fly like a bird.

F

3. Competency-based/Application - based questions:

If you want to type a letter to your friend which type of keys will you use?

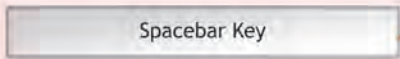
Capital and small letters

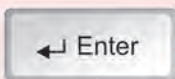
3. Match the following.

a) 

b) 

c) 

d) 

e) 

1) Arrow keys

2) Keyboard

3) Spacebar Key

4) Enter Key

5) Number Keys

FUN Activity

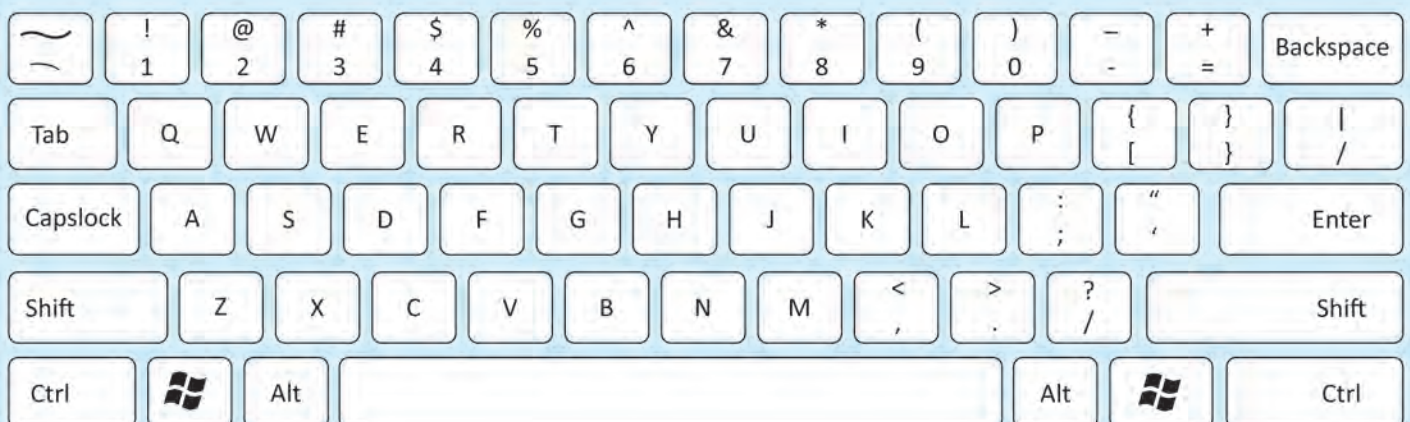
Colour the following keys according to the colour code.

Caps Lock - Purple

Backspace - Red

Spacebar - Orange

Enter- Green



Periodic Assessment

2

(Based on Chapters 3 & 4)

1. Choose the correct option.

a) I can show you the whole world in front of you who am I ?

i) Computer

ii) Internet

iii) Monitor

iii

b) I help you hear and enjoy the world around.

i) Speaker

ii) Mouse

iii) Keyboard

i

c) I am a brain of a computer.

i) Mouse

ii) Monitor

iii) CPU

iii

2. Match the following.

i)

← Backspace

a) Used to enter text in upper case.

ii)

↵ Enter

b) Used to add space to between words.

iii)

Spacebar Key

c) Used to erase incorrect letters.

iv)

Caps Lock [A]

d) Used to move the cursor to the next line.

3. Collect and paste the parts of a computer.



Printer



Speakers



Computer with parts

Using a Mouse

Topics Covered

- Mouse
- Mouse Pointer
- Parts of a Mouse
- Holding a Mouse
- Mouse Pad
- Action of a Mouse



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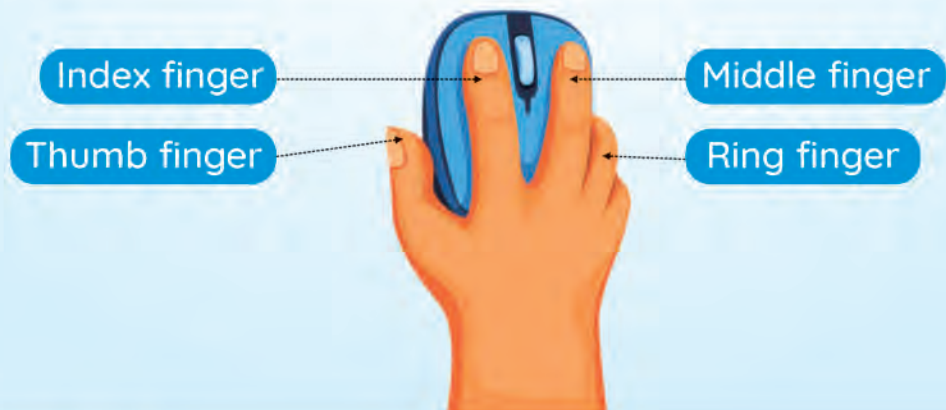




Holding a Mouse

Lets learn about how to hold a mouse.

- 1 Place your palm on the base of the mouse.
- 2 Put your thumb on the side of the mouse closest to the computer.
- 3 Put your index finger on the left button.
- 4 Put your middle finger on the right button.
- 5 Hold the mouse loosely in your hand with a relaxed grip.



Mouse Pad

- A **Mouse Pad** is like a special mat where you place your mouse.
- It helps the mouse move smoothly and work better on the table.



Which finger is placed on the left button of the mouse ?

Index Finger

Click and Drag

- Click and drag is a way to move things on the computer screen using the mouse.
- To click and drag, press the left mouse and first click on the thing you want to move.
- Then, hold down the mouse button and drag the thing to its new place.



Scroll

- The **Scroll wheel** of a mouse is the wheel that is located between the left and right buttons.
- It is used to scroll up and down on a page or document without having to use the scroll bar.
- The scroll wheel is useful for us because it allows us to quickly and easily move through long pages or documents without having to constantly grab.



i UNDERSTAND

Tick (✓) if you know this.

- The Mouse has two buttons and a wheel.
- Computer mouse are used by people all over the world to interact with their computers.

T

F

Hashtag

- # **Pointing** : To point in a line with a mouse, simply place the cursor at the starting point of the line and then move the mouse in the direction of the line. The cursor will follow the movement of the mouse.
- # **Dragging** : Move something from one point to another.

- A Mouse has two buttons and a wheel.
- **Moving** : The mouse lets you move the pointer (little arrow) on the screen.
- **Clicking** : With the left button, you can select or open things.
- **Right-Click** : Pressing the right button shows more options for things on the screen.
- **Double-Click** : Quickly pressing the left button twice opens stuff up.
- **Scrolling** : The middle wheel lets you move up or down on pages easily.
- **Dragging** : By holding the left button and moving the mouse, you can pull things around on the screen.

Assess Yourself

1. Choose the correct option.

a Which of these is a mouse pointer ?

i)



ii)



iii)



ii

b Which of these actions is used to click on icons and open programs

i)



ii)



iii)



i

c Which of these actions is used to scroll the page ?

i)



ii)

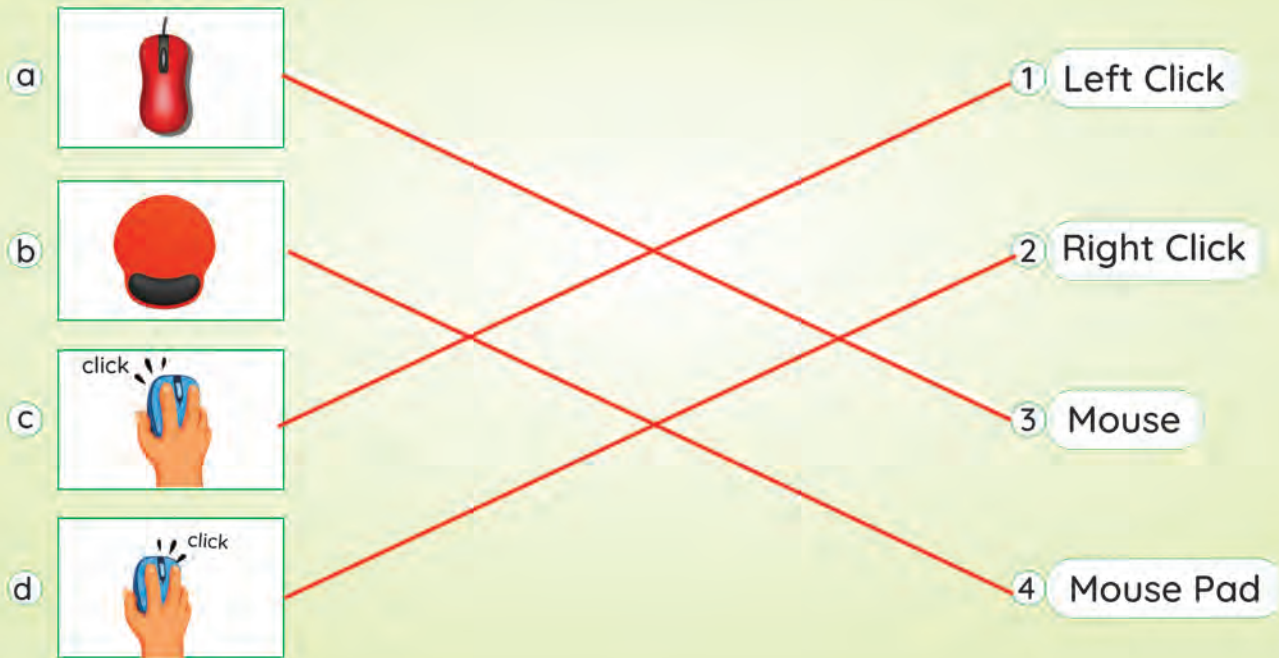


iii)



ii

2. Match the following.



3. Fill in the blanks using the help of the given box.

Smooth surface Pointing Two

a) What is a computer mouse used for?

Pointing

b) What is a mouse pad for?

Smooth Surface

c) How many buttons does a computer mouse have?

Two

4. Competency-based/Application - based questions:

a) What do we do to open something on the computer screen?

Click on things on the screen like buttons and pictures

b) What do we do to move the cursor?

Scroll up and down



Discussion Hub

- Divide the group into small teams of 3-4 people.
- Give each team a few minutes to brainstorm a list of all the different ways that they use a mouse.



Lab Activity

Questioning by teacher in lab :

- Can you show me how to click on something on the screen with the mouse?
- Can you show me how to right-click on something on the screen with the mouse?
- Can you show me how to scroll up and down on a web page with the mouse ?

{ CODING ACTIVITY }

File Edit View Program Help

Remove the Xs from the following letters to form a word.

a) XXPXXXOXXXXIXXXXNXXXXXTXXXEXXXXXRXX

POINTER

b) XXXSXXXXCXXXXXRXXXXXOXXXXLXXXXXXLXX

SCROLL



For The Teacher

- 1 Show the students image of the computer mouse and ask them to identify the different parts.
- 2 Ask the students to practice using the mouse to perform simple tasks, such as clicking on different icons on the screen, double-clicking on a file to open it, and right-clicking on a file to open a context menu.

Introduction to Paint

Topics Covered

- Introduction to Paint
- Opening Paint
- Parts of the Paint Window
- Drawing different shapes
- Tools of a Paint



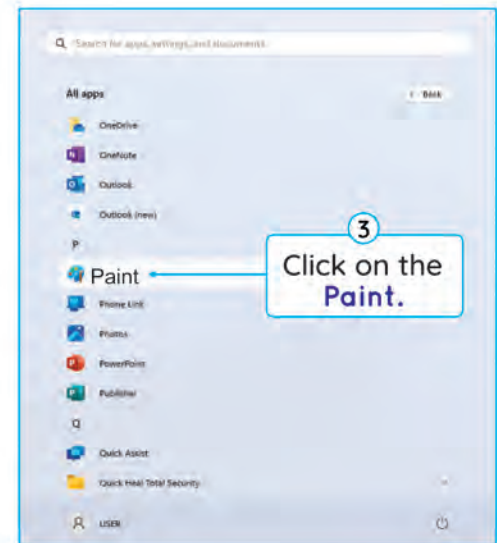
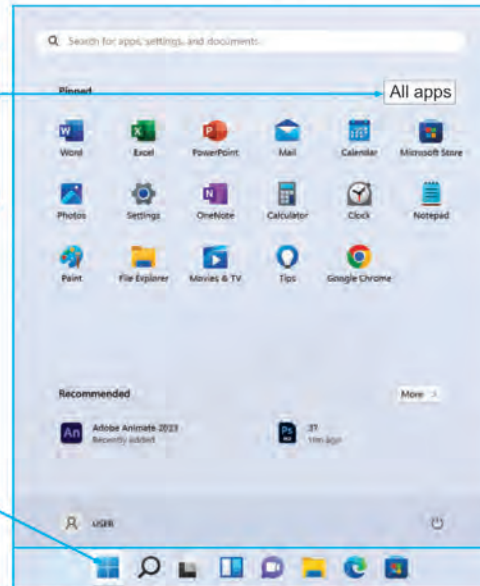
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(or)

2 Click on the **All apps** button. An alphabetical list of all programs will be displayed.

1 Click on the **Start** button.



3 Click on the **Paint**.

1 Click on the windows icon

It's usually located at the bottom left corner of the screen.
It looks like a small Windows logo.



2 Type Paint

Once you click on the Windows Icon, a search bar will appear.
Start typing "**Paint**" in the search bar.

3 Click on "Paint" App

As you type, you should see the "**Paint App**" appear in the search results.
Click on it to open the program.



The paint window will appear on the screen.

i UNDERSTAND

Tick (✓) if you know this.

- We can use paint to draw cartoons.
- Do you know there are two options to open paint program.



#Hashtag

- # **Paint** : You can use paint tools to create different shapes and create art.
- # **Group** : Tools in a paint program are organized into groups.

ReLearn

- **Titlebar** : The title bar displays the name of the program and the current file name.
- **Menu Bar** : The menu bar contains a list of menus that you can use to access the different features of Paint.
- **Tool Bar** : The toolbar contains icons for the different tools that you can use in Paint.
- **Drawing Area** : The drawing area is the area where you can draw and paint.
- **Color palette** : The color palette displays the different colors that you can use to paint.
- **Status Bar** : The status bar displays information about the current image, such as the file size and dimensions.

Assess Yourself

1. Choose the correct option.

a) Which tool is used to erase mistakes in drawings in Paint?

i)



ii)



iii)



i

b) Which tool is used to draw straight lines in Paint?

i)



ii)



iii)



i

c) Which tool is used to draw a freehand shape ?

i)



ii)



iii)



iii

d) Which shape is used to draw a circle ?

i)



ii)



iii)



iii

2. Fill in the blanks using the magic box.

rectangle, drawing area, 5, menu bar



a) Where we can draw pictures in paint ?

Drawing area

b)

Menu bar

Where can we save files?

c)

The rectangle tool is used to draw

Rectangle

d)

There are

5

groups in the Home tab of Paint Window.

3. Match the following.

a)

Title Bar

b)

Menu Bar

c)

Shapes Group

d)

Colours Group

1)



2)

Untitled - Paint

3)



4)

File View

4. Competency-based / Application-based questions.

- a) Akshay has finished his detailed drawing of a picturesque scene with trees and mountains.

Now, he aims to add vibrant colors to bring it to life.

Which tool should he employ to efficiently fill closed areas with color?

Fill tool

- b) Athahar has started to draw a cartoon now she has made a mistake in drawing, how can she erase the drawing? By which tool she can erase the mistake?

Eraser tool

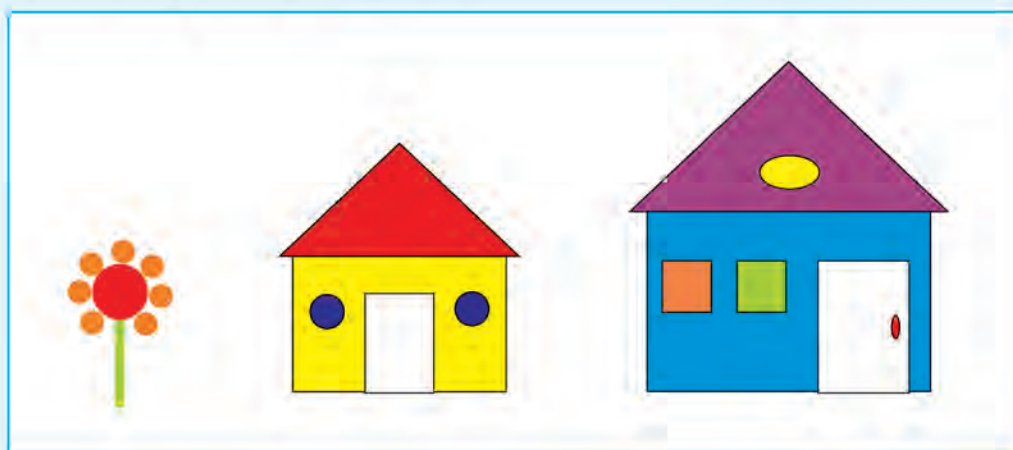
Lab Activity

- Visit your computer lab and perform the following activities :

Drawing :

1. Draw a rectangle using the rectangle tool.
2. Draw a circle using the circle tool.
3. Draw a line.
4. Now, fill the rectangle with the color you like.
5. If you made any mistake erase with erase tool.

- Draw the following scene in Paint :



1. Draw the following in your notebook.

ABC 123

2. Take an A4 Sheet and draw the National Flag on the paper and color it.



CODING ACTIVITY
File Edit View Program Help

Count the number of squares and circles in the given picture :

squares **22**
circles **20**



For The Teacher

- 1 Show the students how to access the Paint program on the computer.
Demonstrate how to click on the Start menu, type "Paint," and then click on the Paint app to open it.
- 2 Demonstrate to them how to use shapes, and color them.

Periodic Assessment

3

(Based on Chapters 5 & 6)

1. Match the following.

a Mouse

b Scrolling

c Mouse Pad

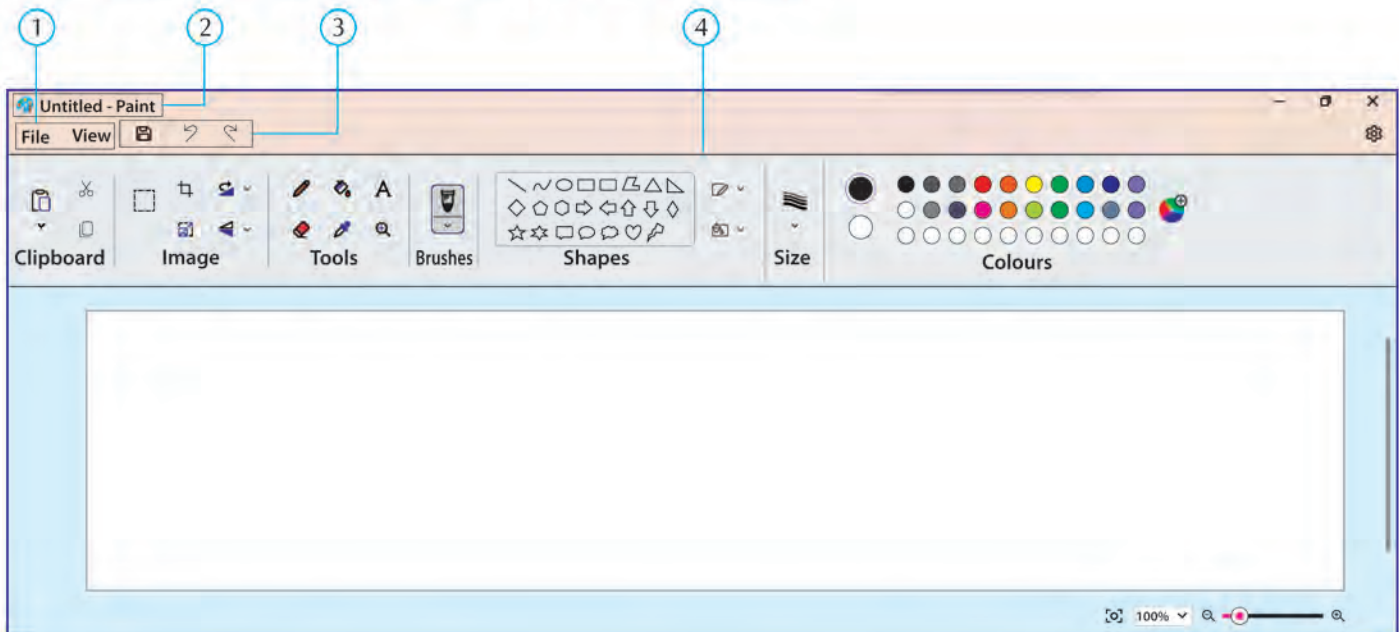
1

2

3



2. Label the components of Paint Window.



1 Menu bar

3 Quick Access Toolbar

2 Title bar

4 Ribbon

Introduction to Tux Paint

Topics Covered

- Introduction to Tux Paint
- Starting Tux Paint
- Components of the Tux Paint Window
- Using the Paint Tool
- Using the Erase Tool
- Using the Lines Tool
- Using the Stamp Tool
- Saving a File
- Opening a New File
- Quitting Tux Paint



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i UNDERSTAND

Tick (✓) if you know this.

- Tux Paint lets us make fun drawings and color them in. ✓
- Drawing Canvas is where we make our pictures and fill them with colors. ✓

Using the Paint Tool

We use the **Paint Tool** in Tux Paint to draw freehand shapes or any pre-defined shapes. To draw a picture in Tux paint, follow the given steps.



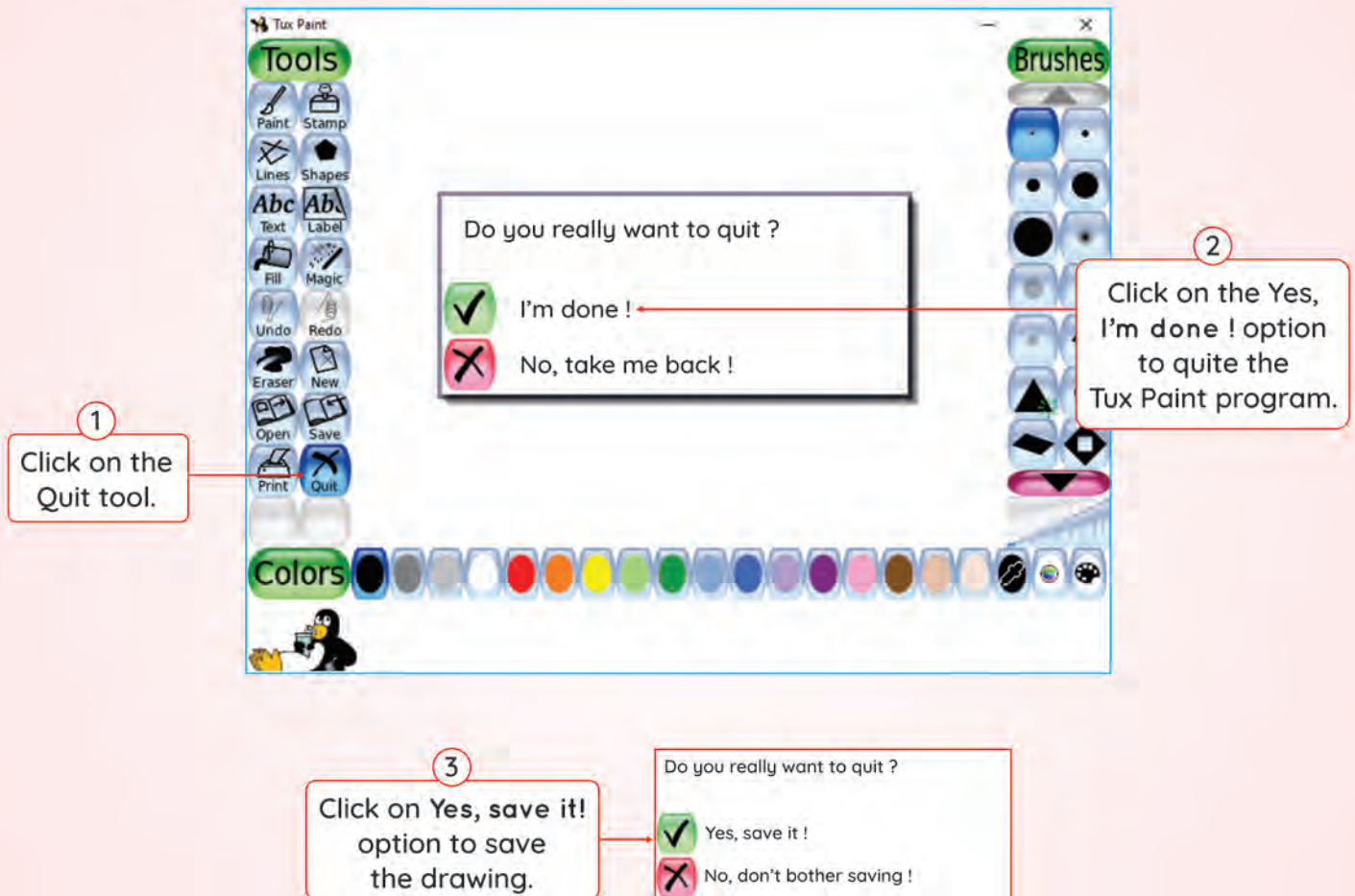
The brush shape selected by you will appear on the Drawing Canvas.

Drawing Different Objects using the Paint Tool

Using the paint tool, we can draw different objects like a orange or a hut.
To draw an apple, follow the given steps :

Quitting Tux Paint

After finishing the drawing we can **quit** the program, by following the simple steps :



If you choose **Yes, I'm done!** option, you will be asked to **save** the drawing before quitting.

Click on **No, don't bother saving!**

To quit the Tux Paint program without saving.

Keyboard Short Key

To quit Tux Paint : **Alt + F4**



Which part of the Tux Paint Window is used for drawing?

Paint Tool

- **Paint Tools** : Tux Paint has a variety of paint tools that you can use to draw different shapes and lines. To use a paint tool, simply click on it and then drag your mouse on the canvas.
- **Eraser** : The eraser tool lets you erase any mistakes that you make. To use the eraser tool, simply click on it and then drag your mouse over the part of the drawing that you want to erase.
- **Stamp Tool** : The stamp tool lets you add pre-drawn images to your drawings. To use the stamp tool, simply click on the stamp that you want to use and then click on the canvas where you want to place it.
- **Lines Tool** : The lines tool lets you draw straight lines. To use the lines tool, simply click on it and then drag your mouse on the canvas.
- **Quit Tool** : The quit tool lets you exit Tux Paint. To use the quit tool, simply click on it.

Hashtag

- # **Stamp** : Tux Paint has fun stamps that can be used to make your drawing more exciting.
- # **Canvas** : The canvas in Tux Paint is a special space where you can draw and colour with lots of cool tools.

Assess Yourself

1. Choose the correct option.

a) Which tool is used to draw freehand lines and shapes ?



i

b) Which tool is used to erase mistakes ?



ii

c) Which of the following buttons is used to exit Tux Paint ?

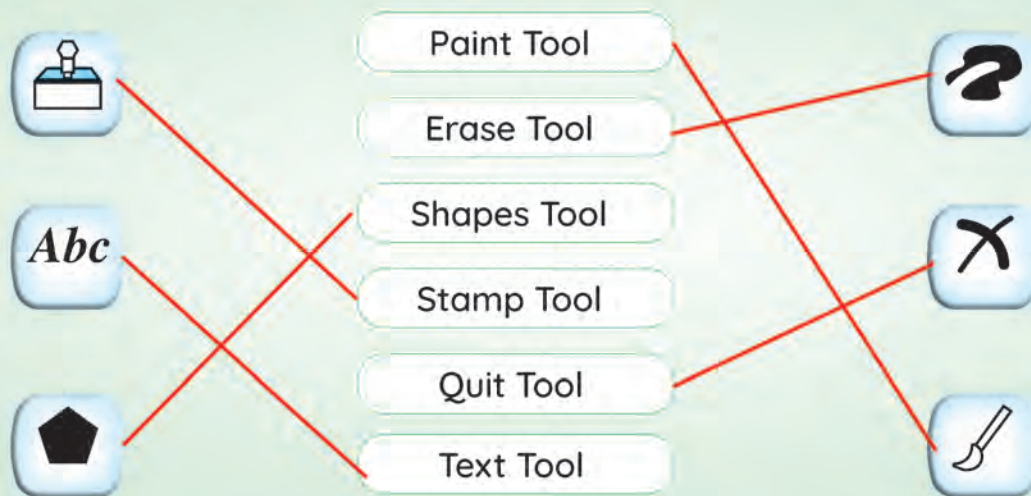


iii

2. Write 'T' for 'TRUE' and 'F' for 'FALSE'.

- a) The toolbar have different types of tools. T
- b) A large area in the centre is called 'canvas'. T
- c) Line tool is used to make freehand drawings. T
- d) Quit tool is used to close the drawing. T
- e) Paint tool is used to draw a shape of your choice. F

3. Match the name of tool with its picture.



3. Competency-Based / Application-Based question

Anvitha wants to draw a tree using Tux Paint. She is not sure about the correct order of steps. So let's help her put the correct order in front of the given below.

- a) Place the pointer on the Drawing Canvas and drag the mouse to draw a tree.
- b) Click and choose any color from the Colours box.
- c) Open Tux Paint.
- d) Click on an appropriate brush in the Selector area.
- e) Click on the Paint tool in the Toolbar.

5

4

1

3

2

Introduction to ScratchJr

Topics Covered

- About ScratchJr
- Advantages of ScratchJr
- Starting the ScratchJr
- Components of the ScratchJr Window
- Adding a Text
- Adding a New Character
- Changing the Background



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What is SCRATCHJr used for?

What do you need to use SCRATCHJr?

#Hashtag

- # **Animation** : Animation is making characters move and interact with each other over time.
- # **Graphics** : The Visual image or design.

ReLearn

- SCRATCHJr is a programming language for children.
- It is used to create stories and games.
- The SCRATCHJr window has various components, including the stage, change background, green flag, and character.
- Changing the background can be useful to set the scene, create different moods, or make projects more visually appealing.

Assess Yourself

1. Choose the correct option.

a) What is the button used to start the project ?



iii)



b) Where do you drag blocks to create scripts ?



iii)



c) What is the button used to add text to the Stage area?



iii)



2. Write 'T' for 'TRUE' and 'F' for 'FALSE'.

- | | | |
|---|---|---|
| a | You can use SCRATCHJr to create stories and games. | T |
| b | You need to know how to code to use SCRATCHJr. | F |
| c | The SCRATCHJr window has a stage where the action takes place. | T |
| d | SCRATCHJr is a complex programming language that is difficult to learn. | F |
| e | The SCRATCHJr window has a stage, a change background button, and a green flag. | T |

Lab Activity

- Visit your lab today and draw a scenery you like the most with the help of the characters in the library.



FUN Activity

- Create Your Own Pet from characters of Library in A4 Sheet and paste it here



For The Teacher

- 1 Tell the students how to open ScratchJR and explain the components of it.
- 2 Create a SCRATCHJr project with your students.

AI Around Us

Topics Covered

- What is Artificial Intelligence ?
- Goals of Artificial Intelligence
- AI Around Us



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Truth Time

AI systems are capable of learning and adapting without being explicitly programmed.

#Hashtag

- # AI is used to make video games more realistic and challenging.
- # AI can be used to create robots that can do amazing things, like walk, talk, and even play games like us.

ReLearn

- AI is a type of technology that allows computers to think and learn like humans.
- The goal of AI is to create machines that can perform tasks that are typically done by people.
- Examples of AI around us include:
 - Self-driving cars
 - Siri or Alexa
 - Amazon Echo
 - IBM Watson
 - AlphaGo

Assess Yourself

1. Choose the correct option.

a What is the goal of AI ?

- i) To help people
- iii) To be creative

- ii) To learn and grow
- iv) All of the above

iv

b Can AI learn new things ?

- i) Yes, like we learn in school
- iii) No, they just sleep all-day

- ii) No, they only eat ice cream
- iv) Yes, but only if they want to

i

c What can some AI do?

- i) Swim in the ocean
- iii) Fly like a bird

- ii) Chat with us or play games
- iv) Grow like a plant

ii

2. Have a look at these AI-enabled Devices.

For each Device write any one place where we can use the AI.



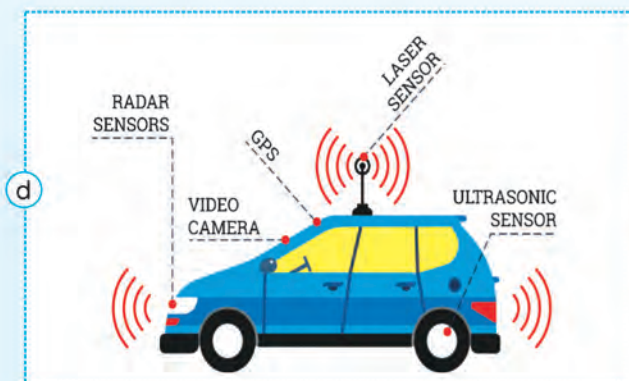
Home



Office



Play

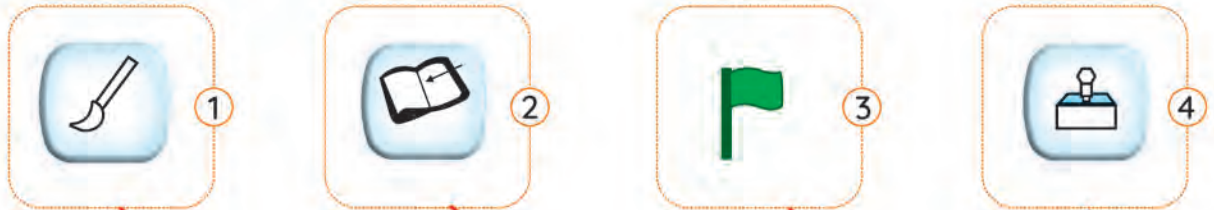


Driving

Periodic Assessment 4

(Based on Chapters 7 - 9)

1. Match the following.



a) Stamp tool

b) Brush tool

c) Save a file

d) Green flag

2. Write 'T' for True and 'F' for False.

a) AI can be used to replicate human emotions.

F

b) AI is used to create self-driving cars.

T

c) You need to know how to code to use SCRATCHJR.

F

d) AI is used in facial recognition software.

T

e) AI can be used to predict the future.

F

3. Choose the correct option.

a) What is the button used to start the project ?

i)



ii)



iii)



i

b) Which of the following buttons is used to exit Tux Paint ?

i)



ii)

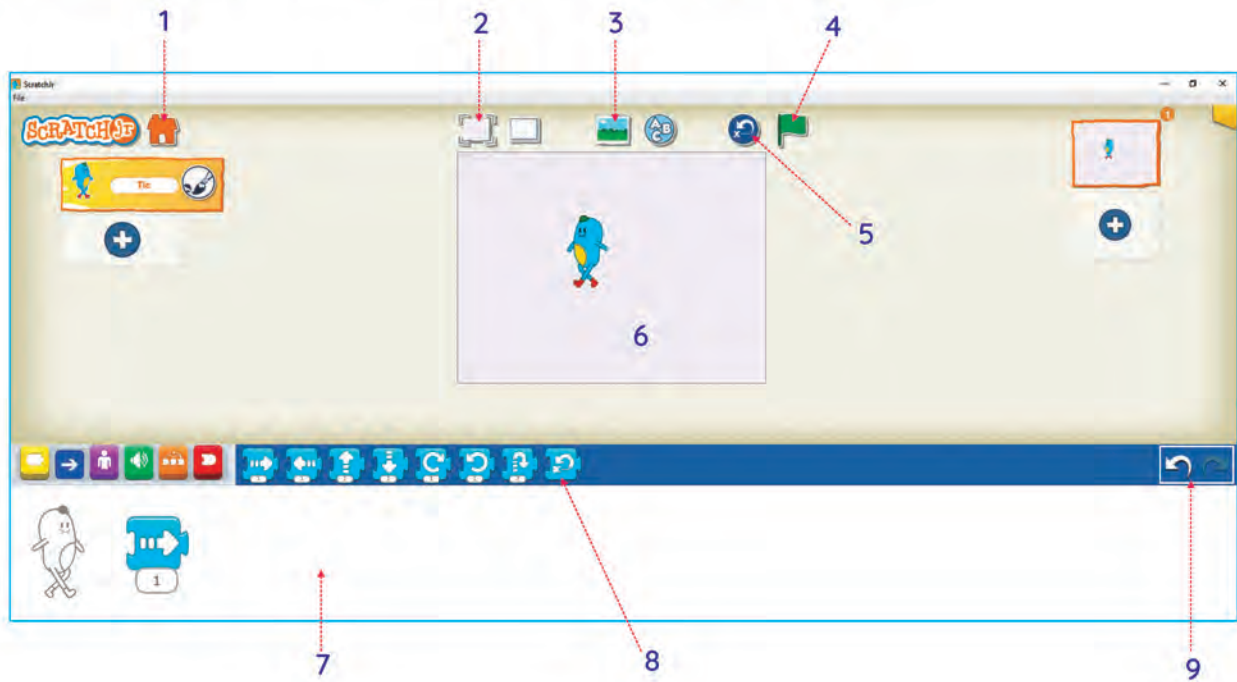


iii)



iii

4. Label the following parts from the SCRATCHJR Window.



- 1 Save
- 2 Presentation mode
- 3 Background
- 4 Green flag
- 5 Reset characters
- 6 Stage
- 7 Programming area
- 8 Block palette
- 9 undo and Redo buttons

nexgen

Computer Science Course Book with AI BUILT in

Windows 11 & MS Office 2021

KEY

Computer - a Smart Machine

Topics Covered

- Computer - a Smart Machine
- Computers and Humans
- Types of Computers
- Places where Computers are used



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- Fast: Computers can perform tasks much faster than humans.
- Different types: Computers come in many different shapes and sizes, including desktops, laptops, tablets, smartphones, and supercomputers.
- Used in many places: Computers are used in a wide variety of settings, including homes, schools, hospitals, offices, banks, shops, airports, railway stations, police stations, publishing house, science, and defense.

Assess Yourself

1. Tick (✓) the correct option.

A Which of these is a type of computer?

- i) Banana ii) Desktop iii) Radio



B Where can we find computers?

- i) Only in schools ii) Only in offices iii) Many places like schools and hospitals



C What is the smallest type of computer?

- i) Desktop ii) Laptop iii) Tablet



2. Write 'T' for True and 'F' for False.

a Computers can be used to play games.

T

b Computers can be used to write letters.

T

c Computers can make decisions on their own.

T

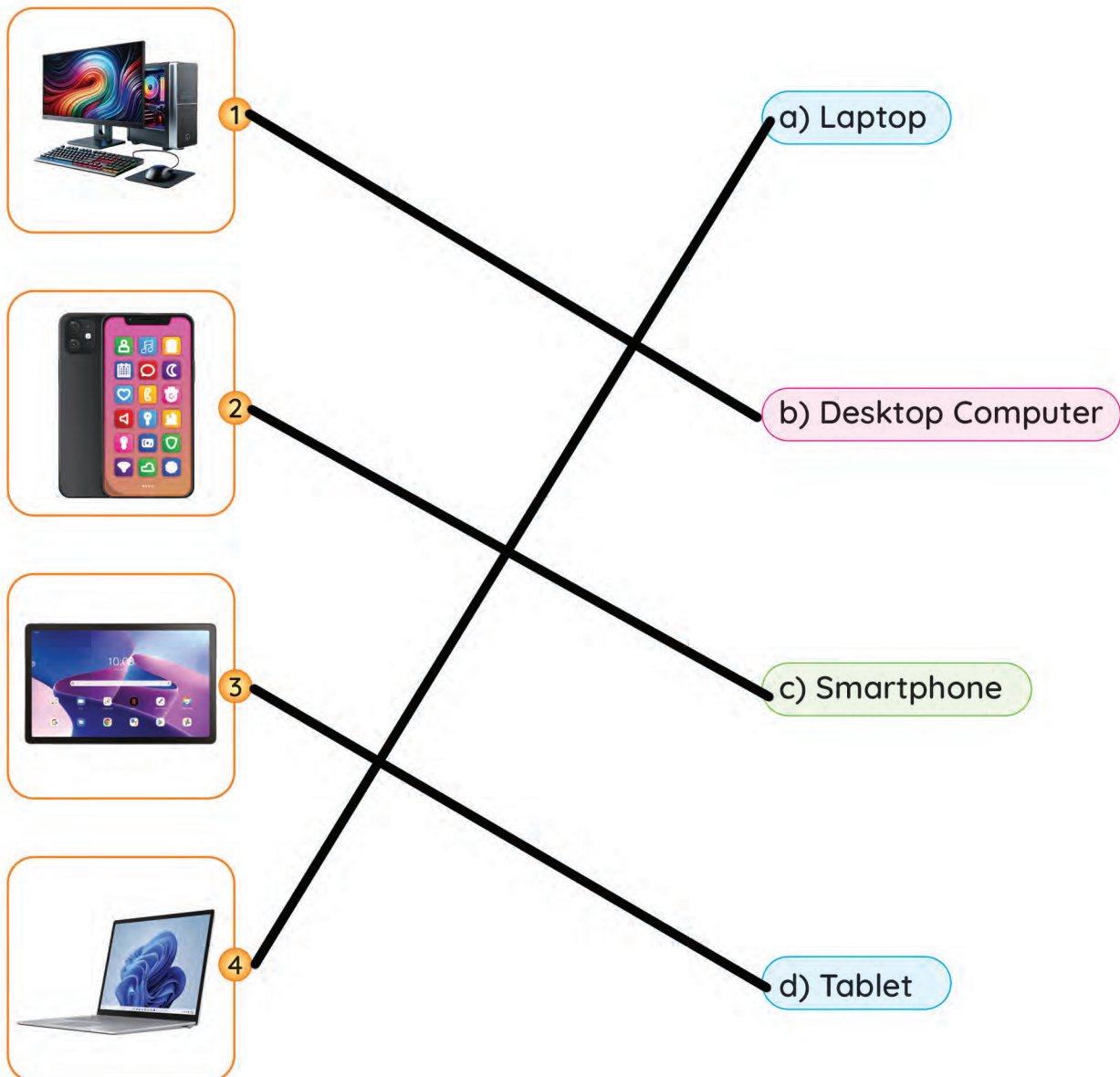
d Computers need electricity to work.

T

3. Write 'H' below the qualities of Human and 'C' below the qualities of computer.

- | | | |
|---|--|---|
| a | Does not have any feelings. | C |
| b | Can make decisions on its own. | C |
| c | Can make mistakes. | C |
| d | Works faster and does many things at a time. | H |
| e | It needs your order to work. | H |

4. Match the following.



Operating a Computer

Topics Covered

- How to Start a Computer ?
- Opening a Program
- How to Shut Down a Computer ?



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By which switch can we be On the computer ?

1

#Hashtag

- # **Booting** : This is the process of starting a computer and getting it ready for use.
- # **Maximize** : When you maximize something, it means you make a window of an application bigger, so it fills up the whole screen and becomes as large as possible.

ReLearn

- Turning on a computer is called starting it.
- The screen you see after turning on a computer is called the desktop.
- There are small pictures on the desktop called icons.
- Turning off a computer is called shutting it down.

Assess Yourself

1. Choose the correct option.

A What is the name of the button that we use to turn on the computer?

- i) Start button ii) Taskbar iii) Power button



B What is the name of the bar at the bottom of the screen that shows the running programs?

- i) Task bar ii) Title bar iii) Icons



C What is the name of the small picture on the desktop that represents a program or file?

- i) Power button ii) Taskbar iii) Icon



2. Write 'T' for True and 'F' for False.

a The screen that appears after we switch on the computer is called the desktop.

T

b The taskbar is the bar at the top of the screen.

F

c The Start menu is a list of all of our programs.

T

d To shut down a computer, we need to click the Shutdown button.

T

3. Competency-based / Application -based question.

Kaushal wants to move a window on the screen but he is not sure about the correct order of steps to follow.

Help him by putting the correct order in front of the steps given below.

a Make sure the window is not maximized.

b

b Click and hold the left mouse button on the title bar.

a

c Click on the 'Restore Down' button.

c

FUNActivity

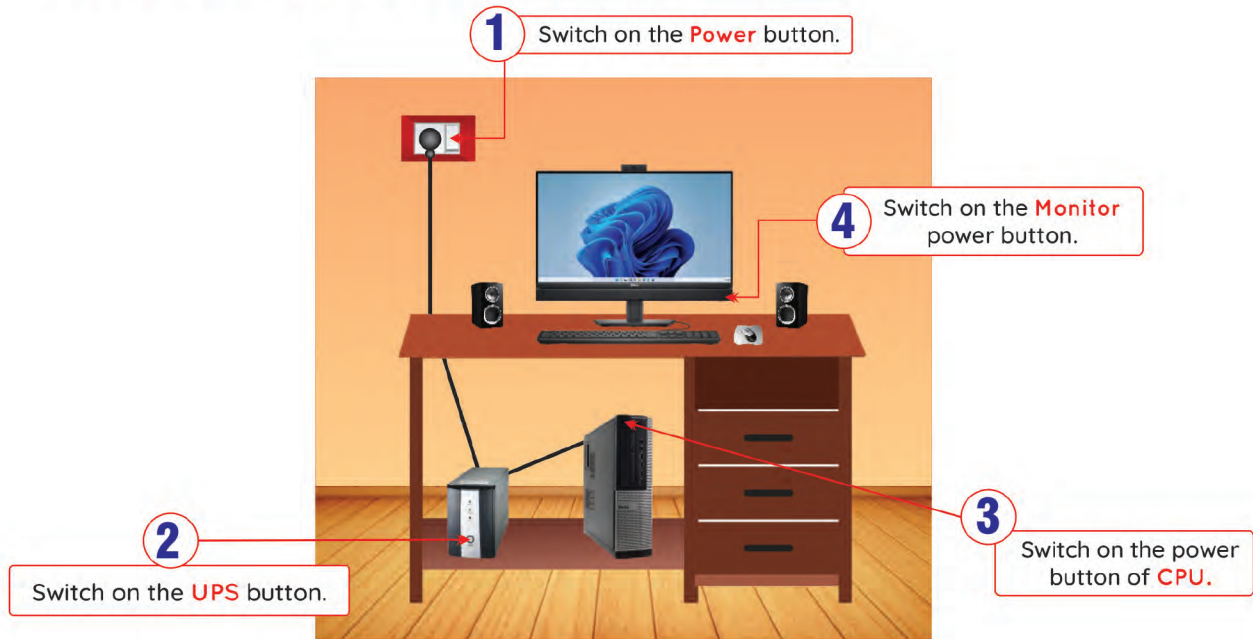
PERIODIC ASSESSMENT

1

(Based on chapters 1 & 2)

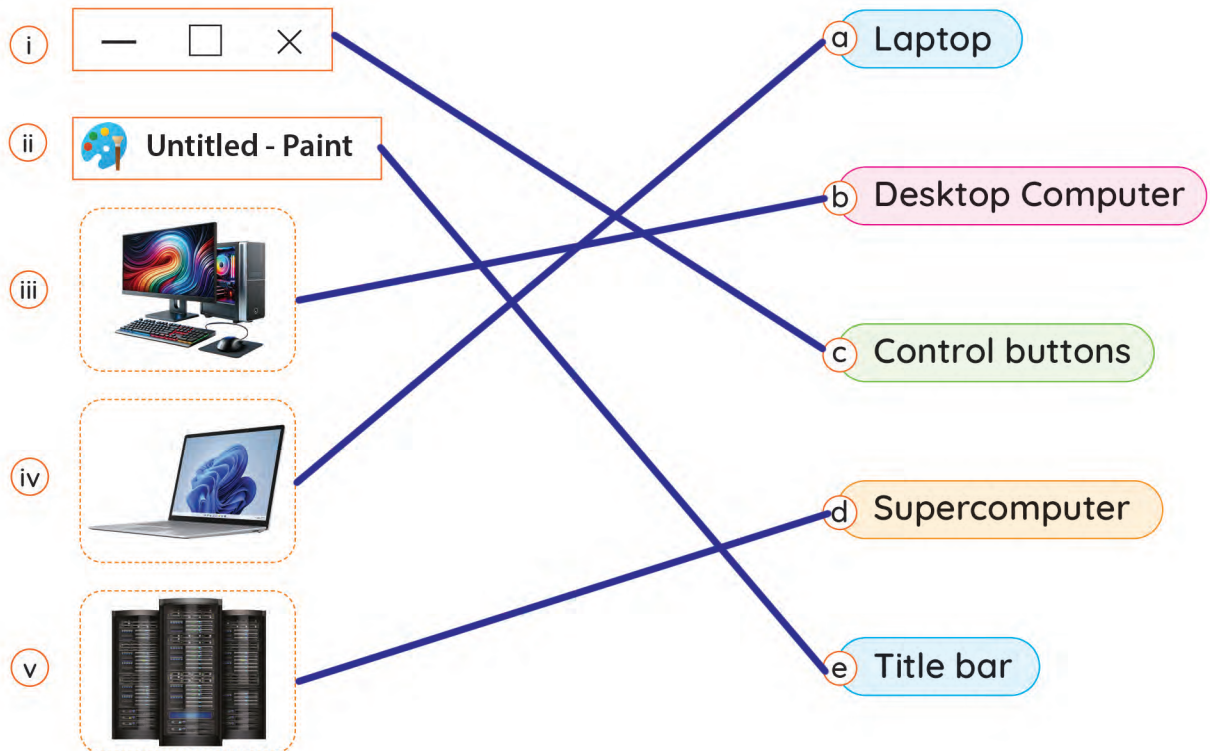
1

Label the steps to start a computer.



2

Match the following.



How Computer Works?

Topics Covered

- IPO Cycle
- Computer Devices



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Give two parts of the computer?

1

2

Hashtag

- # **Processing** : Changing input to output.
- # **Calculate** : To find out something by using mathematics.

ReLearn

A computer works in three steps : input, process, and output. Here's how it happens:

- Input devices give instructions to the computer.
- The processing device works on the input, like thinking really hard about it.
- Then, output devices show the result of all the work done on the input, like showing a picture or some writing on the screen.

Assess Yourself

1. Choose the correct option.

A What are the three main steps in how a computer works?

- i) Instruct, Process, Output
- ii) Input, Process, Output
- iii) Insert, Program, Operate



B What devices show the result of all the work done on the input ?

- i) Input devices
- ii) Output devices
- iii) Processing devices



C What is a processing device of computer?

- i) CPU
- ii) Keyboard
- iii) Monitor



d Which of the following is NOT an example of an input device used to give instructions to a computer?

- i) Keyboard
- ii) Touchscreen
- iii) Printer



2. Fill in the blanks using the words from the help box.

CPU, Printer, Output, Input

a) What is the process of putting information into a computer ?

INPUT

b) What is the process of getting information out of a computer ?

OUTPUT

c) The brain of a computer is the

CPU

d) A **PRINTER** is used to print out information from a computer.

3. Write 'I' for Input, 'O' for output, and 'P' for process in front of the pictures according to their stage in the IPO Cycle.

a)



b)



Lab Activity

- Turn on the computer : Ask your teacher to help you find the power button and press it.
- Open Notepad : Ask your teacher to help you click on the Start button and type "Notepad" in the search bar. Then, press Enter.
- Type five things about yourself : What is your name? How old are you? What is your favorite color? What is your favorite food? What is your favorite thing to do?

Using a Mouse and a Keyboard

Topics Covered

- Types of a Mouse
- Actions of a Mouse
- Types of Keys on a Keyboard



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- **Mouse** : A device used to point at and select items on the monitor. Can be used to single-click, double-click, right-click, drag, and scroll.
- **Caps Lock key** : Used to type text in the upper case.
- **Tab key**: Moves the cursor to the right by bigger space.
- **Esc or Escape key** : Used to close a menu or a dialog box.
- **Cursor control keys** : Used to move the cursor up, down, left, and right.
- **Keyboard** : A device consisting of various keys, including alphabet keys, number keys, and special keys.

Assess Yourself

1. Choose the correct option.

A Which of the following is NOT a type of mouse button ?

- i) Left button ii) Right button iii) Middle button

iii

B What is the purpose of the Caps Lock key ?

- i) To type in capital letters
ii) To type in lowercase letters
iii) To turn off the Keyboard

i

C What is the purpose of the Esc key ?

- i) To close a menu or dialog box
ii) To open a new window
iii) To save a file

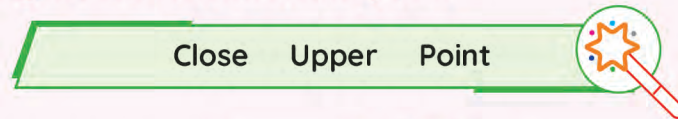
i

D How many keys does a keyboard have ?

- i) 26 ii) 52 iii) 104

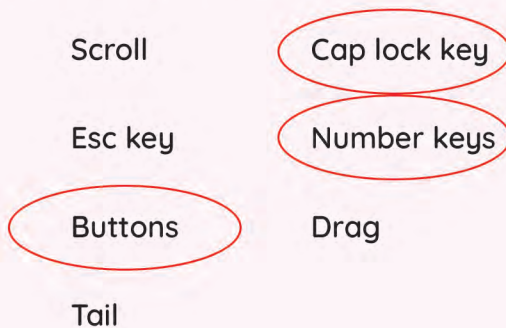
iii

2. Fill in the blanks using the words from the help box.

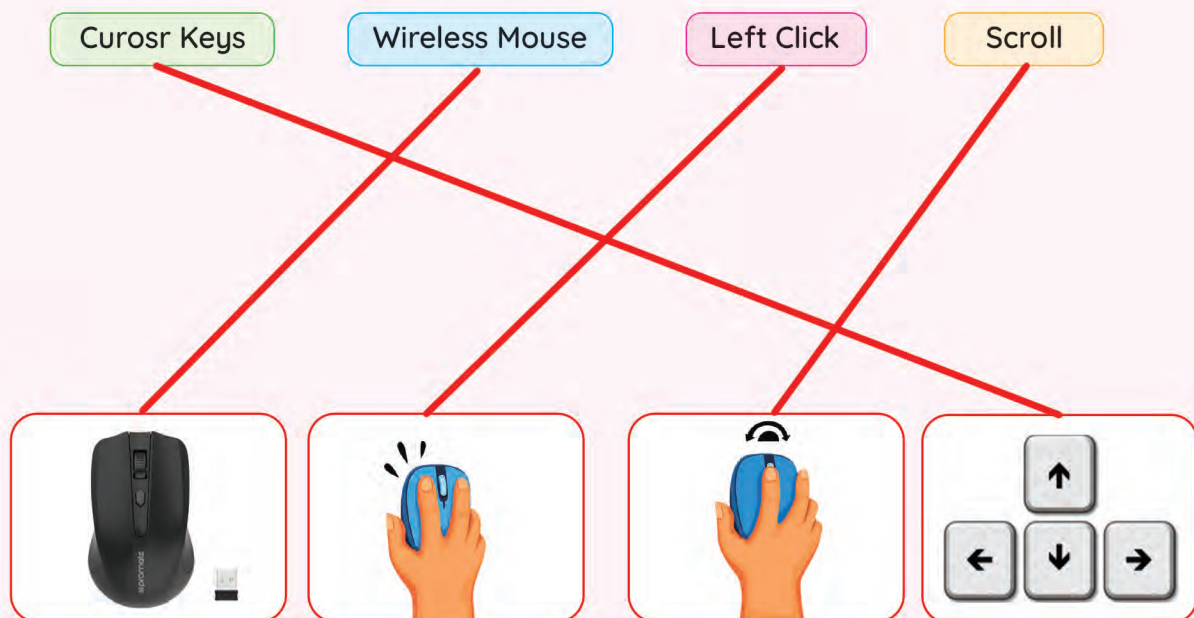


- a) A mouse is an input device used to at or select an item on the monitor.
- b) The Caps Lock key is used to type text in the case.
- c) The Esc or Escape key is used to a menu or a dialog box.

3. Draw a circle around the words related to a keyboard.



4. Match the following.



Lab Activity

Perform the following activities in your computer lab:

- What are the 3 types of clicks? Show it in 'PC'
Open Note Pad, and type the following.
- Type "My Teacher is the Best! , Use the shift key and press 1 to get and '!' mark.
- Type how you come to school daily,
ans. I come to school by BUS, now use backspace to delete the sentence.

{ CODING ACTIVITY }

File Edit View Program Help

The symbols have been coded as follows :

! → A @ → C # → M % → N & → T * → R

Now decode the following :

! % &

@ ! &

* ! &

! &



For The Teacher

- 1 Introduce the mouse and keyboard. Show the students the different parts of the mouse and keyboard, and explain what each part does.
- 2 Chat with the kids about mouse and keyboard buttons. Ask them questions about what they know about the different buttons. Explain the functions of different buttons, such as the numerical keys, the arrow keys, and the function keys.
- 3 Demonstrate how to use the keyboard. Show the students how to place their fingers on the home row keys. Type some simple words and phrases to show them how it works.

★★★★

PERIODIC ASSESSMENT 2

(Based on chapters 3 & 4)

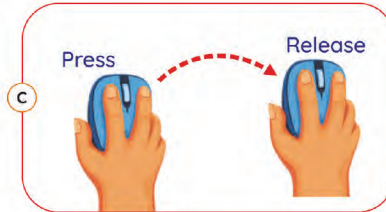
- 1 Write the names of the mouse actions given below.



Left Click



Right Click



Drag

- 2 Write 'I' For Input, 'O' for output and 'P' for process in the boxes.



Input



Process



Output

- 3 Write 'T' For True and 'F' for False in the boxes.

a A mouse pointer is used to select items on the screen.

T

b A mouse can be used to draw pictures.

T

c You can only use the keyboard to type letters and numbers.

F

d The keyboard is the only way to input data into a computer.

F

Typing in WordPad

Topics Covered

- Opening WordPad
- Parts of WordPad Window
- Typing Text
- Changing the Appearance of Text
- Closing the WordPad



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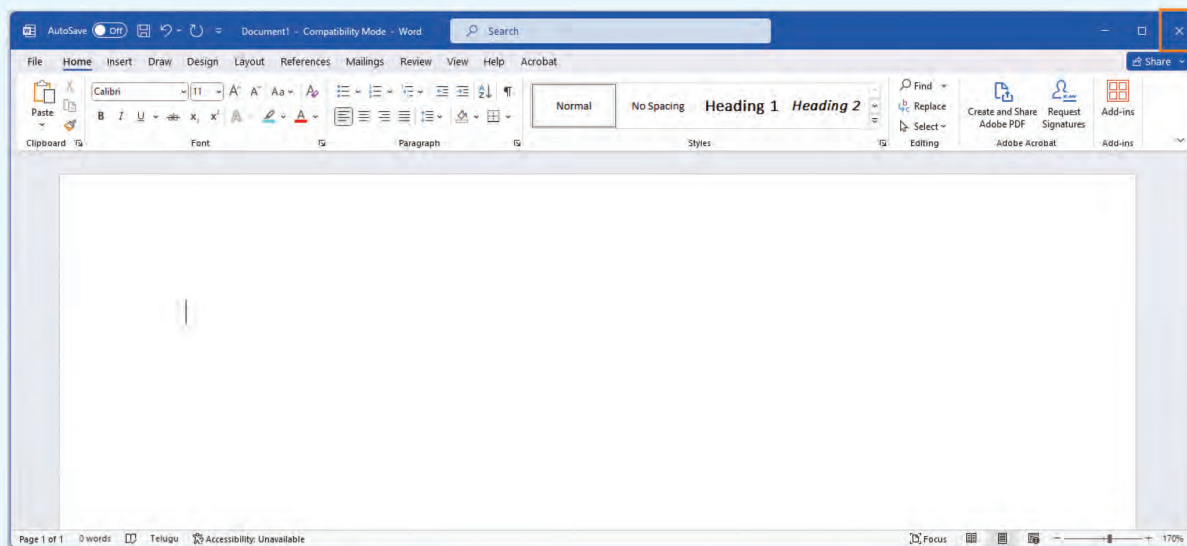




Closing the Wordpad

To close the WordPad, click on the close button  from the top right corner of the Title bar.

Close Button



#Hashtag

- # **Font** : The font is the style of the letters. We can change the font to make our text look different.
- # **Ribbon** : The ribbon is the bar at the top of the screen that has all the buttons you need to edit and format your text.

ReLearn

- WordPad is a program we use to type and fix words on the computer.
- We can make our words look different and cool by picking various fonts and sizes.
- There are three fun styles we can use when we type : bold, italic, and underline.

Assess Yourself

1. Choose the correct option.

A

What is WordPad used for?

- i) To draw and color pictures
- iii) All of these

ii) To write letters and stories

ii

B Which of these is a font style ?

iv

- i) Bold
- ii) Italic
- iii) Underline
- iv) All of these

C What is the backspace key used for in WordPad ?

ii

- i) To delete the character to the left of the cursor.
- ii) To delete the character to the right of the cursor.
- iii) To start a new line.

2. Write 'T' for True or 'F' for False.

a WordPad is a program that you can use to type words on a computer.

T

b The delete key is used to start a new line.

F

c Bold, italic, and underline are all font styles.

T

d WordPad is a program used to draw pictures.

F

e The ribbon is a bar at the top of the screen with all the buttons you need to edit and format your text.

F

3. Write the missing letters.

a S **p** a c **e** b **a** r

b d e **l** e t **e**

c c **l** i **c** k

d a **r** **r** o w

e p o **i** n **t** e **r**

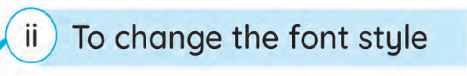
f b l i **n** k

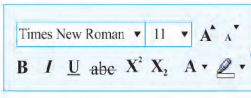
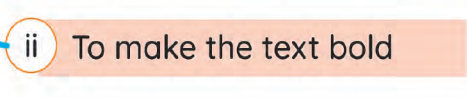
g c a **p** s l o c **k**

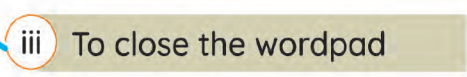
i b a c **k** s **p** a c **e**

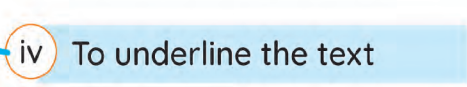
4. Match the following.

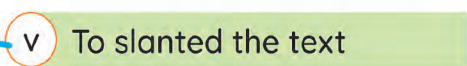
a.  

b.  

c.  

d.  

e.  

f.  

 Lab Activity

- Open WordPad.
- Type the following sentence : The quick brown fox jumps over the lazy dog.
- Change the font of the sentence to Times New Roman.
- Change the font size of the sentence to 14.
- Make the sentence bold and underlined.
- Save your document as “My First WordPad Document.docx”.

CODING ACTIVITY

File Edit View Program Help

Answer the following.

- a. If KING is coded as 1234,
TEN is coded as 563, then what is KITE coded as ?
- b. If BOY is coded as !@#,
GOD is coded as %@*, then what is GOOD coded as ?



For The Teacher

- 1 Teach the students about the different parts of the WordPad window, such as the title bar, the ribbon, and the text area.
- 2 Tell the students type a short story or poem in WordPad.

More on Paint & Paint 3D

Topics Covered



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- Paint
- Saving a Drawing
- Closing Paint
- Opening Paint 3D
- Opening an Existing Drawing
- Paint 3D
- Components of Paint 3D



#Hashtag

- # **Shape** : A closed figure that has boundaries and angles, such as a square, triangle, or circle.
- # **Magnifier** : A tool used to enlarge an object or image.

ReLearn

- The Airbrush tool is like a magic spray that you can use to add different colors to your drawings.
- The Text tool is used to add words to your drawings.
- The Magnifier tool is used to make your drawing look bigger, so you can see it better.
- Paint 3D is a fun drawing app that lets you create 2D pictures using different tools, like brushes, shapes and text.
- The Fill tool is used to fill in the color of your drawing.

Assess Yourself

1. Choose the correct option.

A Which tool in Paint is used to draw a line ?

- i) Pencil Tool ii) Brush Tool iii) Shape Tool



B Which tool in Paint 3D is used to create a 3D cube ?

- i) 2D shape Tool ii) 3D shape Tool iii) Brush Tool



C What can you do with Paint and Paint 3D ?

- i) Draw pictures
ii) Create 3D objects
iii) Add text to your drawings
iv) All the above



2. Write 'T' for True or 'F' for False.

- a Paint and Paint 3D are both drawing programs.
- b You can use Paint to create 3D objects.
- c The brush tool in Paint can be used to draw and paint.
- d The text tool in Paint can be used to add text to drawings.

T

F

T

T

3. COMPETENCY-BASED / APPLICATION - BASED QUESTION:

Aditi wishes to add text to the drawing she has made in Paint.

Help her out by putting the correct order in front of the steps given below.

- a Type the text in the text box.
- b Click and drag the mouse pointer to draw the text box.
- c Change the size and color of the text.
- d Select the Text tool.

C

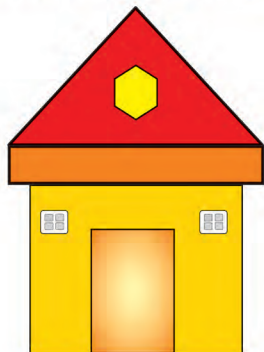
B

D

A

 Lab Activity

- Make the following drawings using different tools in Paint.



- Draw the following 3D Shapes in Paint 3D.

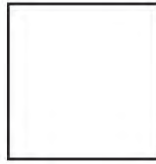


FUN Activity

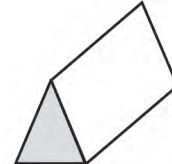
- The following shapes have been created using paint 3D.
Colour all the 2D shapes Blue and all the 3D shapes orange and also write their names.



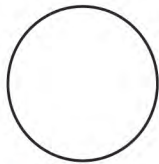
Cone



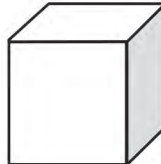
Rectangle



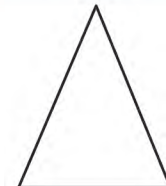
Prism



Circle



Square



Triangle



For The Teacher

- 1 Help the students open the Paint 3D program.
- 2 Show the students how to use all the tools in Paint 3D.
- 3 Encourage the students to talk about the difference between Paint and Paint 3D.

★★★★

PERIODIC ASSESSMENT

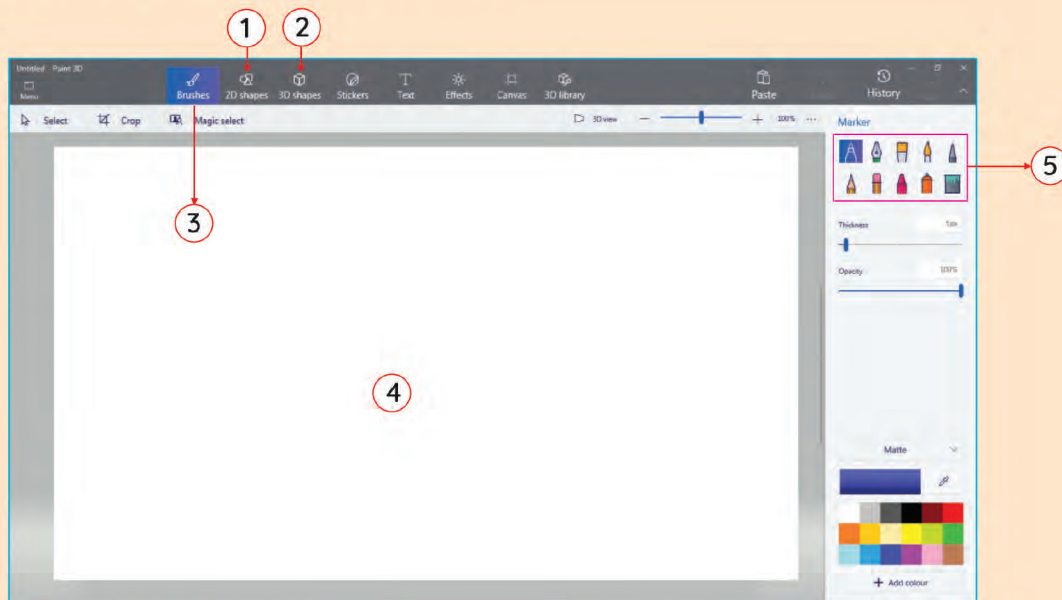
3

(Based on chapters 5 & 6)

1 Match the following commands with their correct operation.

- | | | |
|--------------|---|------------------------|
| a. B | → | iii) <i>Clever Boy</i> |
| b. <i>I</i> | → | ii) Clever Boy |
| c. <u>U</u> | → | v) <u>Clever Boy</u> |
| d. Art Brush | → | iv) Clever Boy |
| e. <u>A</u> | → | i) <i>Clever Boy</i> |

2 Label the given Paint 3D window.



1 2D Shapes

2 3D Shapes

3 Brushes

4 Canvas

5 Brushes Option

More on Tux Paint

Topics Covered



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- Opening Tux Paint
- Using Magic Tool
- Saving a Drawing
- Opening a Saved Drawing
- Using Paint Tool
- Using Text Tool
- Quitting Tux Paint
- Using Fill Tool
- Using Eraser Tool



#Hashtag

- # **Colour palette** : This tool offers a wide range of colour options.
- # **Quit** : This command allows you to exit the program or stop your current activity.

Assess Yourself

1. Choose the correct option.

a Which of these tools can be used to remove any part of a drawing, either completely or partially?

iii



b Which of these tools can be used to add text to a drawing in a variety of fonts, sizes, and colours?

i



c Which tool is used to open a file ?

ii



2. Write 'T' for True or 'F' for False.

a The magic tool can be used to add special effects to your drawings.

T

b The eraser tool can only remove whole lines.

F

c You can save your drawings in Tux Paint.

T

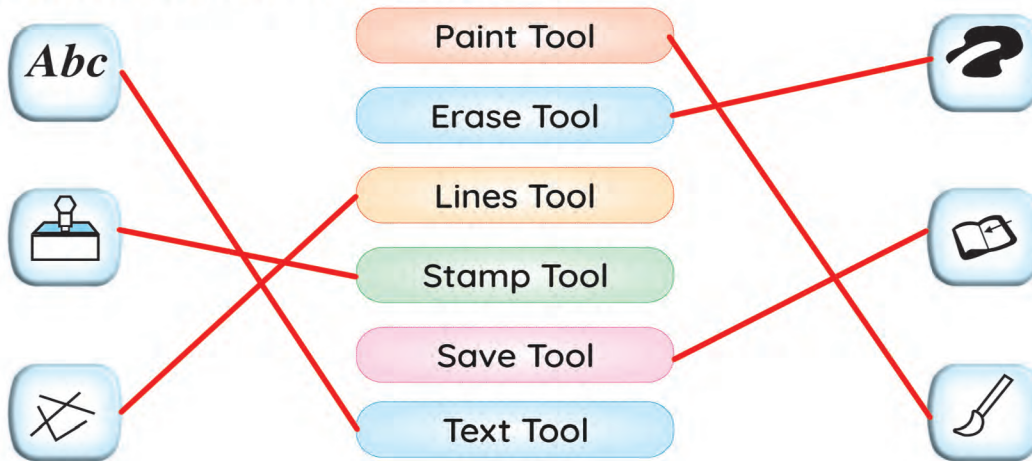
d You can only save your drawing as a Tux file.

F

e The Tux Paint is used to type paragraphs and letters.

F

3. Match the name of tool with its picture.



4. Label the given Tux Paint window.



1 TOOL BOX

2 DRAWING CANVAS

3 COLOUR PALLETTE

4 SELECTOR

5 HELP AREA

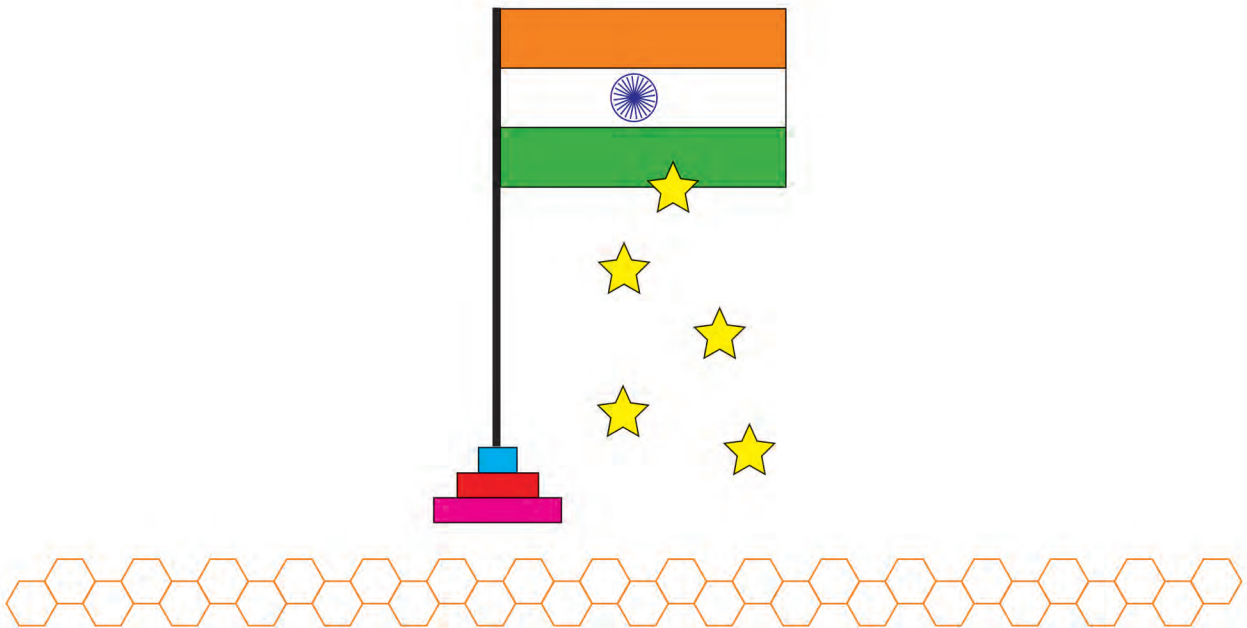
5. Write the uses of the following tools in Tux Paint?

1  OPEN

2  CLOSE

Lab Activity

- Open Tux Paint and draw the following picture using different tools.



{ CODING ACTIVITY }

File Edit View Program Help

Delete the letter 'X' from the given below words, then you get tools in Tux paint.

a SXXXXXXAXXXVXXXXXXXXXXE

SAVE

b XXXXPXXXXXXAXXXIXXNXXXTXX

PAINT

c XXEXXXRXXXXAXXXXSXXXEXXXRXXXX

ERASER



For The Teacher

- Show children how to open Tux Paint.
- Demonstrate the activities step-by-step. Start by demonstrating to the students how to use the magic tool and the stamp tool.

★★★★

More About ScratchJr

Topics Covered

- ScratchJr Programming Language
- Components of ScratchJr Window
- Blocks of ScratchJr



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#Hashtag

- # **Script** : A script in ScratchJr is a set of blocks that tell a sprite what to do.
- # **Blocks** : Blocks are colorful puzzle pieces that you snap together to make characters move, talk, and do all sorts of fun things in your stories and games.

ReLearn

- ScratchJr is a fun way to create your own stories and games.
- Motion blocks make your character move.
- Looks blocks change the way your character looks.
- Event blocks control when your story starts.

Assess Yourself

1. Choose the correct option.

a Which of the following is NOT a type of block in ScratchJr ?

- A) Motion B) Look C) Text

C

b What is the event that stops the script ?

- A) End Block B) Green Flag C) When Tapped

A

c Which block is used to record a sound ?

- A)  B)  C) 

B

d Which of these motion blocks is used to move the character down ?

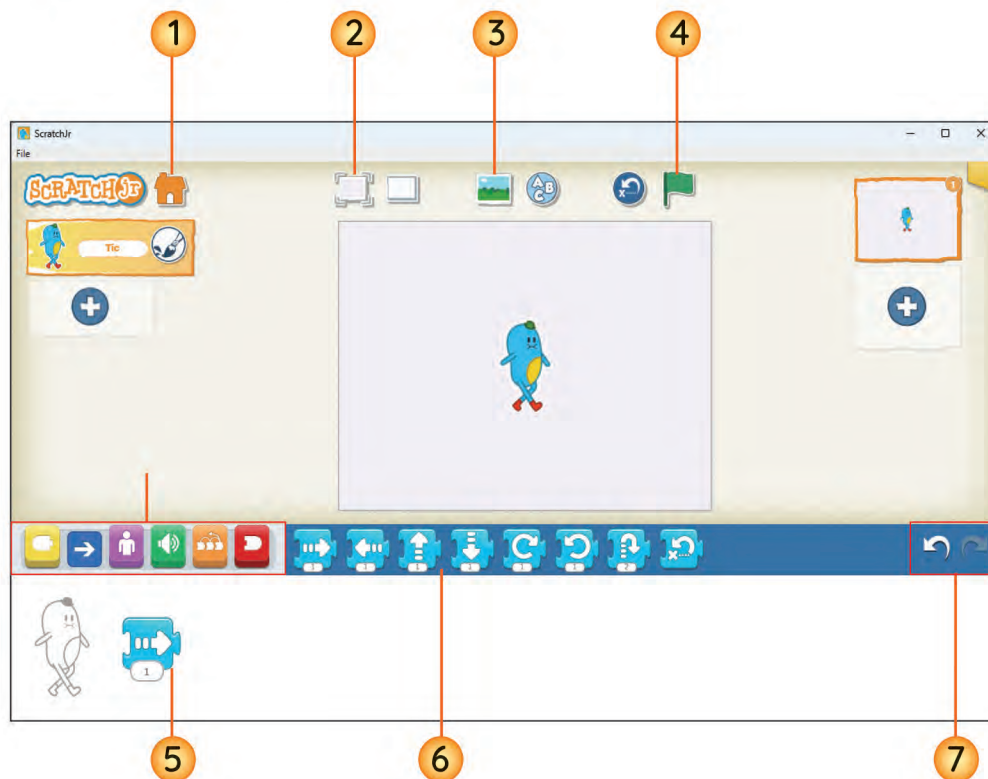
- A)  B)  C) 

C

2. Write 'T' for 'TRUE' and 'F' for 'FALSE'.

- a You can use sound blocks to play sounds in your ScratchJr project. T
- b Control blocks are always the first blocks in a script. T
- c The green flag block is an event block. T
- d You can use a looks block to make your character move. F
- e Motion blocks tell your characters how to move. T

3. Label the given ScratchJr Window.



- | | | | |
|---|------------------|---|-------------------|
| 1 | SAVE | 2 | PRESENTATION MODE |
| 3 | BACK GROUND | 4 | GREEN FLAG |
| 5 | PROGRAMMING AREA | 6 | BLACK PALETTE |
| 7 | UNDO AND REDO | | |

Importance of AI

Topics Covered

- Real Life Applications of Artificial Intelligence



Scan QR Code for
Chapter Animated Video



Truth Time AI can be used to detect fraud and prevent financial crimes.



What is one way that AI is used in the real world ?

①

EDUCATION

Hashtag

- # **Customised** : Modifying something to suit a particular individual or task.
- # **Processed data** : It's when the computer takes information and turns it into something we can understand and use.

ReLearn

- AI, like a smart computer, is now really important in many jobs.
- It helps in jobs that regular people use every day, like making movies, banking, driving cars, and taking care of our health.
- AI is used in different areas like banks, hospitals, space science, schools, and even when we go on trips!

Assess Yourself

1. Choose the correct option.

a How can AI help in tourism ?

- A) By suggesting Best places to visit
- C) By fixing cars

B) By baking cookies

A

b Which of the following is a way that AI is used in education?

- A) To grade homework and tests
- C) Both A and B

B) To create personalized learning plans

C

c How can AI help teachers ?

- A) To grade homework and tests
- C) To drive cars

B) To discover exoplanets

A

2. Fill in the blanks with words given in the magic box below.

planets

interesting

grading



a In the tourism sector, AI helps suggest places for **INTERESTING** people to visit.

b AI helps teachers in homework and tests with an automated system.

GRADING

c In space technology, AI is used to help scientists discover new

 outside our solar system.

3. Look at the pictures. Write any two things where they are using AI.



LABS

HOSPITALS



SCHOOLS

OFFICE

FUN Activity

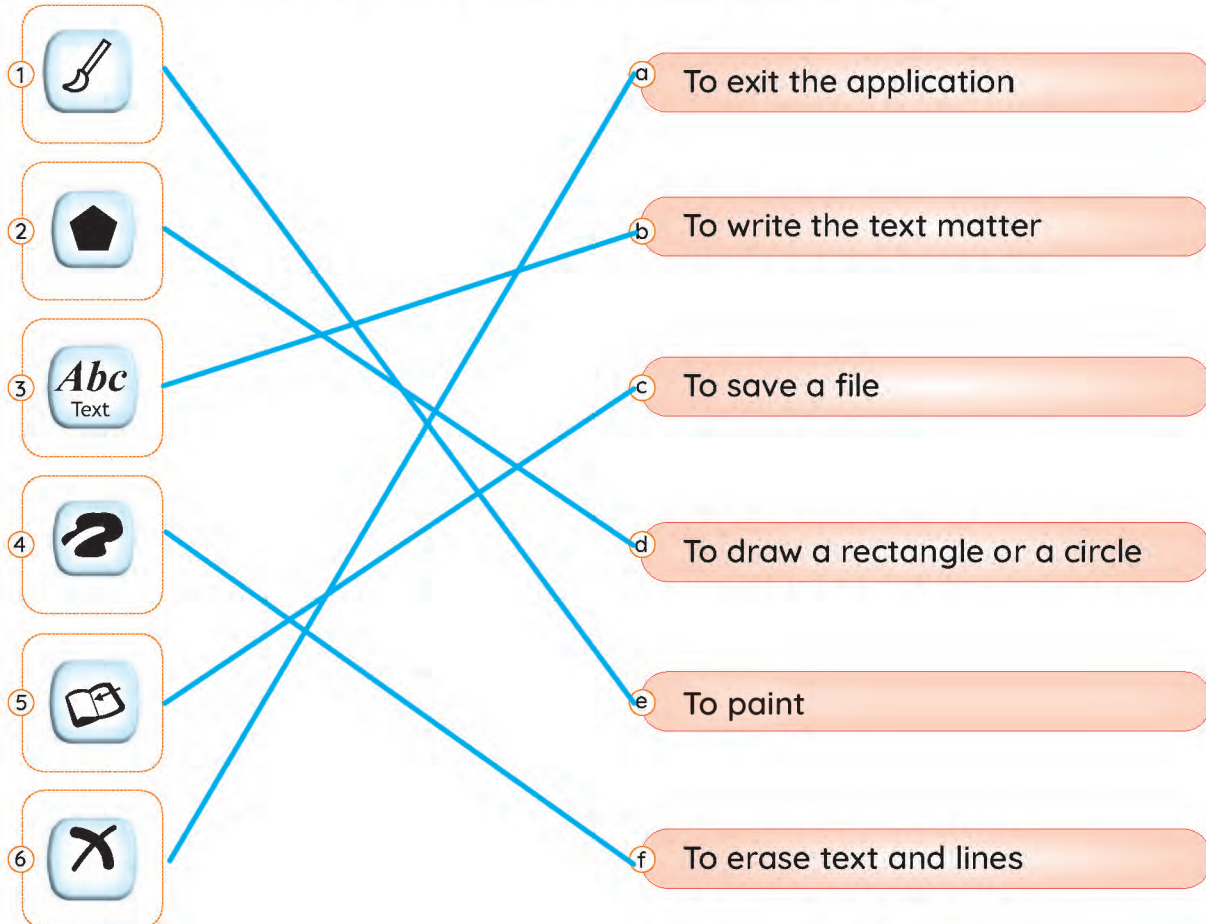
- Draw any computer like a laptop, smartphone or tab and colour it.

PERIODIC ASSESSMENT

3

(Based on chapters 7 - 9)

1 Match the following tools with their following functions.



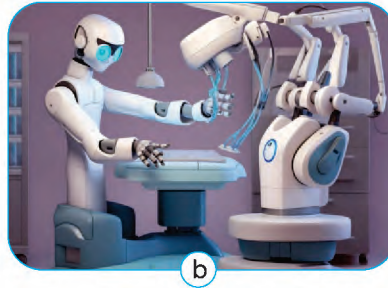
2 Identify the blocks of ScratchJr and write their names.

- a 
- b 
- c 
- d 

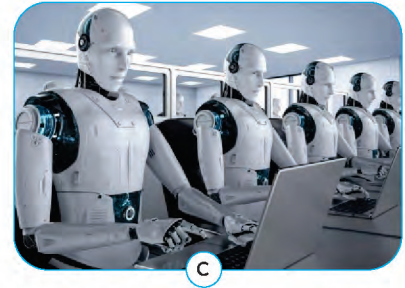
- 3 Look at the images given below, write the sector name in which AI is used.



SCHOOLS



HOSPITALS



INDUSTRIES

- 4 Label the given Tux Paint window.



1 TOOL BOX

2 DRAWING CANVAS

3 COLOUR PALLETTE

4 SELECTOR

5 HELP AREA