NCF ALIGNED

Snapshot

A Book on Computer Science

2

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PREFACE

The computer has become an integral part of our society. It has influenced almost every aspect of our lives; be it work or leisure. It is only through computers that we are able to organise and execute even the simplest of tasks.

Snapshot is a series of five books for classes 1 to 5, which brings together 'knowledge' as well as 'knowledge application'. Each book is based on Windows 10 and MS Office 2016. The books are integrated with National Curriculum Framework (NCF) 2022.

In classes 1 and 2, students will gain basic knowledge of computer and its devices. They will also get to implement their creativity in Tux Paint and MS Paint.

In classes 3, 4 and 5, students will enhance their skills by gaining knowledge about MS Word, MS Excel, MS PowerPoint, LOGO, Scratch, E-mail, Internet, Artificial Intelligence and Logical Reasoning.

Through this book, we want to promote modern ways of teaching in which the student gets to comprehend and implement knowledge as well as technical skills. Rather than restricting the inflow of knowledge to verbal teaching, we have included all kinds of activities to further add to the independence of students so that they can learn better.

Each chapter is introduced in a systematic manner. The illustrations, application screenshots, activities and exercises are curated in simple language to assist the teaching-learning process.

—Author

Integrated with NCF 2022

PLAY-BASED LEARNING	Inclusion of word puzzles such as word search, crosswords, word jumbles PL
ETHICS and VALUES	Ethics and values like empathy, respect for others, equality, and justice EV
SOCIAL and EMOTIONAL LEARNING (SEL)	Self-awareness, Self-management, Decision-making, Social awareness, Relationship skills SEL
COMMUNICATION	Exchange of information, thoughts, and ideas CM
EXPERIENTIAL LEARNING	Hands-on approach, learning through experience EL
CREATIVITY	Imagination, organization, problem-solving, innovation CR
TECHNOLOGY and EDUCATION	Extensive use of technology in teaching and learning TE
CRITICAL THINKING	Application of logic and reasoning in decision-making CT

DIGITAL AID

Student's Assist

Audio and Video eBook

- ◊ Features of a computer
- Student Worksheets

Teacher's Assist

Test Paper Generator

- ◊ Random and Manual Question Paper
- ◊ Download papers in Word format
- Lesson Plans
- Worksheets
- Answer Key

Salient Features

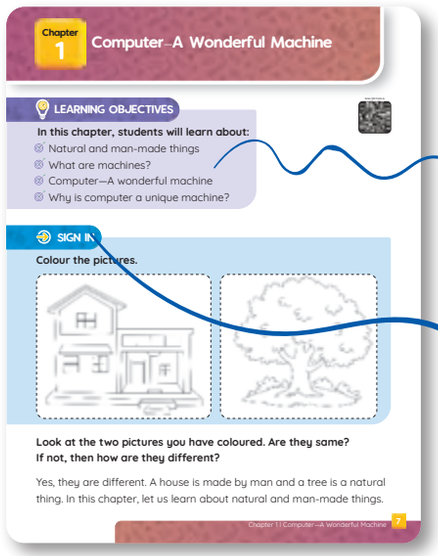
News Feed
(Additional Information)

Learning Objectives
(Lesson Outline)

Activity Time
(Creative Learning)

Sign In
(Link to the Concept)

Refresh
(Summary of the Lesson)


Chapter 1 Computer–A Wonderful Machine

LEARNING OBJECTIVES

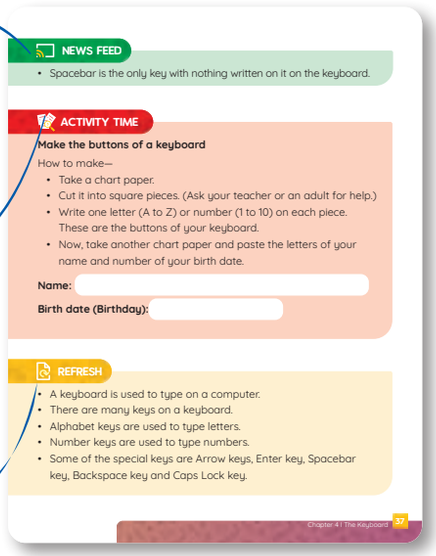
In this chapter, students will learn about:
- Natural and man-made things
- What are machines?
- Computer–A wonderful machine
- Why is computer a unique machine?

SIGN IN

Colour the pictures.

Look at the two pictures you have coloured. Are they same? If not, then how are they different?

Yes, they are different. A house is made by man and a tree is a natural thing. In this chapter, let us learn about natural and man-made things.


NEWS FEED
- Spacebar is the only key with nothing written on it on the keyboard.

ACTIVITY TIME

Make the buttons of a keyboard

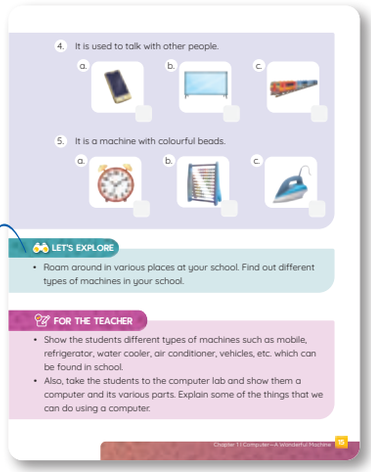
How to make—
- Take a chart paper.
- Cut it into square pieces. (Ask your teacher or an adult for help.)
- Write one letter (A to Z) or number (1 to 10) on each piece. These are the buttons of your keyboard.
- Now, take another chart paper and paste the letters of your name and number of your birth date.

Name:

Birth date (Birthday):

REFRESH
- A keyboard is used to type on a computer.
- There are many keys on a keyboard.
- Alphabet keys are used to type letters.
- Number keys are used to type numbers.
- Some of the special keys are Arrow keys, Enter key, Spacebar key, Backspace key and Caps Lock key.

Let's Explore
(Practical Implementation)

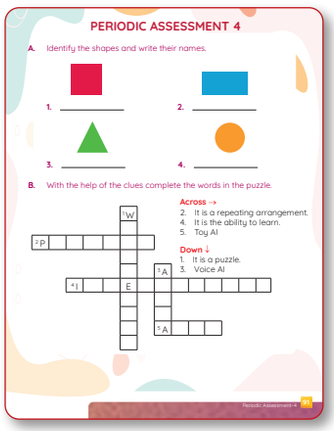

4. It is used to talk with other people.

5. It is a machine with colourful beads.

LET'S EXPLORE
- Roam around in various places at your school. Find out different types of machines in your school.

FOR THE TEACHER
- Show the students different types of machines such as mobile, refrigerator, water cooler, air conditioner, vehicles, etc. which can be found in school.
- Also, take the students to the computer lab and show them a computer and its various parts. Explain some of the things that we can do using a computer.

Periodic Assessments
(Revision of Lessons)


PERIODIC ASSESSMENT 4

A. Identify the shapes and write their names.

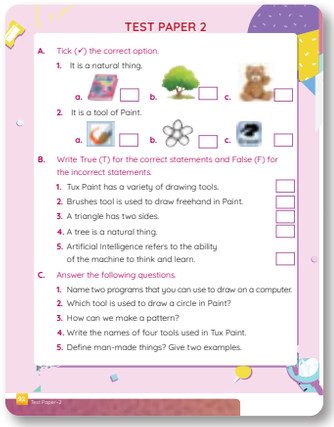
1. _____ 2. _____ 3. _____ 4. _____

B. With the help of the clues complete the words in the puzzle.

Across →
2. It is a repeating arrangement.
4. It is the ability to learn.
5. Toy AI

Down ↓
1. It is a puzzle.
3. Voice AI

Test Papers
(Evaluation of Knowledge)


TEST PAPER 2

A. Tick (✓) the correct option.

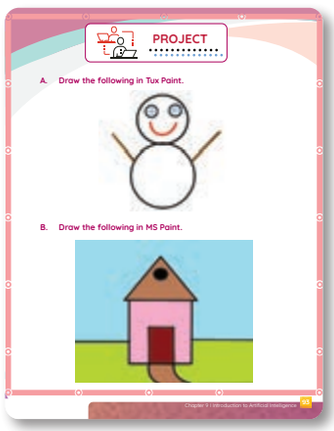
1. It is a natural thing.
a. b. c.

2. It is a tool of Paint.
a. b. c.

B. Write True (T) for the correct statements and False (F) for the incorrect statements.
1. Tux Paint has a variety of drawing tools.
2. Brushes tool is used to draw freehand in Paint.
3. A triangle has two sides.
4. A tree is a natural thing.
5. Artificial Intelligence refers to the ability of the machine to think and learn.

C. Answer the following questions.
1. Name two programs that you can use to draw on a computer.
2. Which tool is used to draw a circle in Paint?
3. How can we make a pattern?
4. Write the names of four tools used in Tux Paint.
5. Define man-made things? Give two examples.

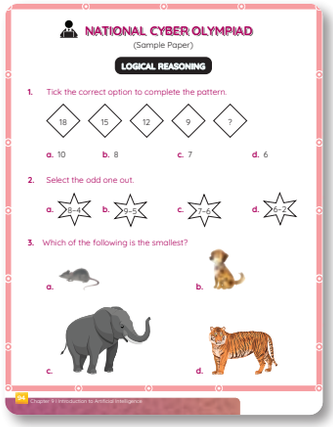
Project
(Application of Knowledge)


PROJECT

A. Draw the following in Tux Paint.

B. Draw the following in MS Paint.

National Cyber Olympiad
(Preparation for Cyber Competition)


NATIONAL CYBER OLYMPIAD
(Sample Paper)

LOGICAL REASONING

1. Tick the correct option to complete the pattern.
18 15 12 9 7
a. 10 b. 8 c. 7 d. 6

2. Select the odd one out.
a. b. c. d.

3. Which of the following is the smallest?
a. b. c. d.

CONTENTS

Chapter 1

More on Computer—A Wonderful Machine

LEARNING OBJECTIVES

Scan QR Code to watch

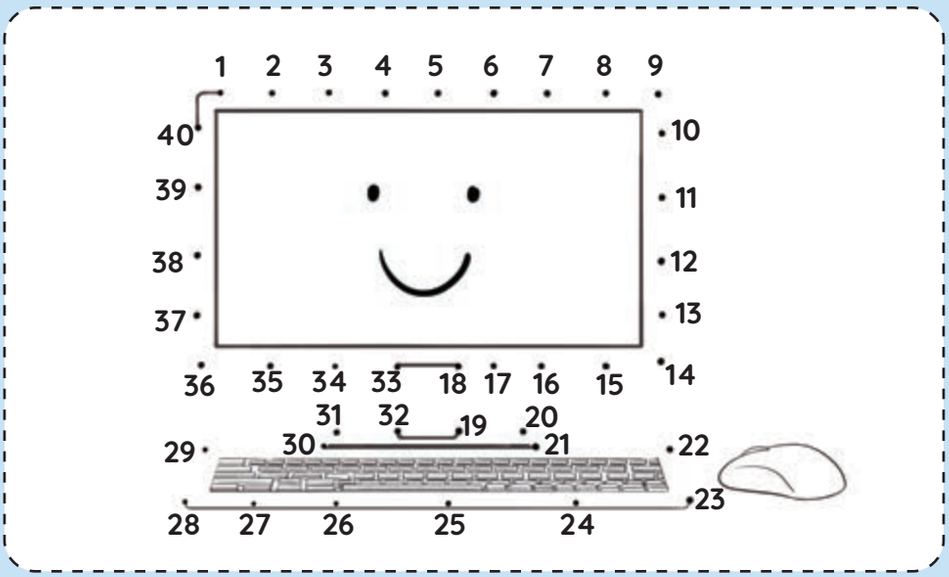
In this chapter, students will learn about:

- Features of a computer
- Use of computers in different places

SIGN IN

CR

Join the dots to complete the picture. Colour it.



Nowadays, a computer is an important part of our life. A computer is a smart machine that helps us to do many things. We use a computer to do our assignments, play games, watch movies, listen to music, draw and paint. It is used in different places. It has many features that make it a smart machine. Let us learn about the different features and the places where it is used in this chapter.

FEATURES OF A COMPUTER

A computer has many features that help us to do lots of activities in an easier and faster way. Some of these features make a computer work better than a human in some activities.

Speed

A computer can work very fast.

A human cannot work as fast as a computer.

Accuracy

A computer does not make mistakes.

A human can make mistakes.

Work Process

A computer can work for a long time. It does not get tired.

A human cannot work for a long time without getting tired.

Storage and memory

A computer can store lots of information and never forgets it.

A human may forget the information stored in the mind.

Multitasking

A computer can do many things at the same time.

A human cannot do many things at the same time.

A computer can do many things that a man can do. However, there are things that a computer cannot do.

Feelings

A computer does not feel. It does not react when you pinch it.

Human have feelings. They react when you pinch them.

Instruction

A computer needs instructions from a human to do work.

A human does not need instructions.

Decision

A computer cannot make its own decisions.

Humans can make their own decisions.

USES OF COMPUTERS IN DIFFERENT PLACES

Computers are used in different places. It helps us to do the work faster and easier.

At home, computers are used for:

- doing assignment.
- searching for information.
- watching movies and listening to music.
- playing games.

In schools, computers are used for:

- teaching.
- making timetables, report cards and other teaching records by teachers.
- maintaining record of books in the library.
- doing practical work in the lab by students.
- teaching and showing informative videos.

In offices, computers are used for:

- sending and receiving messages.
- typing and printing documents.

CM

NEWS FEED

The message that we send from one computer to another is called email. Email stands for electronic mail.

In shops and restaurants, computers are used for:

- keeping records of items or stock.
- making bills.

In hospitals, computers are used for:

- preparing and maintaining medical records of patients.
- examining X-rays and medical records.
- performing operations.

At railway stations and airports, computers are used for:

- booking and cancellation of tickets.
- sharing train and flight information.
- maintaining records of passengers.

In banks, computers are used for:

- maintaining details of bank accounts.
- withdrawing money from ATM.

CM

NEWS FEED

ATM stands for Automated Teller Machine.

Computers are also used in many professional fields.

In designing field

- It is used to design many things such as clothes and buildings.
- It is also used to design many machines such as aeroplanes and cars.

In publishing and entertainment field

- It is used to design and develop books, newspapers and magazines.
- It is used to draw different cartoons to make animated movies.

In space research and science lab

- It is used to find information about space.
- It is used to control the movement of satellites in space.
- It is also used in launching and monitoring satellites.

ACTIVITY TIME

CT

Unjumble the letters to find the names of places where computers are used.

1. OOSSCHL
2. BNASK
3. FOFISCE
4. PHOSITSAL
5. PAIRORST
6. SOPSH

REFRESH

- A computer is used to do our assignments, play games, watch movies, listen to music, draw and paint.
- A computer can do work faster than a human.
- A computer can store more information than a human.
- A computer can work for a longer period than a human.
- A computer can do many things at the same time.
- A computer cannot feel, and make decisions and it needs instruction.
- Computers are used in different places such as homes, schools, offices, shops, restaurants, banks, railway stations, airports, etc.
- Computers are used in various fields such as designing, publishing, space research and science lab.

BROWSE

A Tick (✓) the activities that can be done on a computer. Cross out (✗) the activities that cannot be done on a computer.

1. 
Eat

2. 
Play music

3. 
Type text

4. 

Book tickets

5. 
Dance

6. 
Make bills

7. 
Play football

8. 
Play video games

9. 
Study

B Fill in the blanks using the words given below.

many	feel	information	decisions	longer	faster

1. A computer can work _____ than a human.
2. A computer can store more _____ than a human.
3. A computer can work for a _____ period than a human.

4. A computer can do _____ things at the same time.

5. A computer cannot _____ and make _____.

C Write True (T) for the correct statements and False (F) for the incorrect statements.

1. We use a computer to do our assignment. ☐
2. Nowadays, we do not use computers to do our work. ☐
3. A computer can feel. ☐
4. A computer needs instructions to work. ☐
5. We use computers in many places such as hospitals, schools, shops, etc. ☐

D Choose the correct option.

1. A computer is used to store a large amount of _____.

   a. information ☐ b. food ☐ c. clothes ☐

2. A computer does not _____.

   a. feel ☐ b. need food ☐ c. both a and b ☐

3. A computer can work _____.

   a. slow ☐ b. for short hours ☐ c. faster ☐

4. A computer is used at the hospital for _____.

a. booking tickets ☐ b. performing operations ☐ c. doing assignments ☐

5. A computer is used in many fields such as _____.

a. designing and publishing ☐ b. space research ☐ c. both a and b ☐

E Answer the following questions.

1. Write any three features of a computer.

2. Write two things that a computer cannot do.

ACTIVITY TIME

CT

Match the uses of a computer with the correct places.

1. Booking tickets — a.

2. Teaching students — b.

3. Printing bills c. 

4. Maintaining records d. 

5. Maintaining guest records e. 

LET'S EXPLORE

TE EL SEL

- In the computer lab with the help of your teacher, perform some activities on the computer such as doing sum, drawing pictures, playing games, watching and listening to song and music.
- Observe how a computer is used in any of the following places. Make a list.
  - » At Home
  - » In School
  - » At Shop
  - » At Restaurant

FOR THE TEACHER

- Ask the children to name the places where they have seen a computer.
- Show how to listen to music, watch cartoons and play games on a computer.
- Show how computers are used in library.
- Show videos to explain how computers are used at different places such as shops, offices, hospitals, banks, etc.
- Explain how rail and air ticketing is done by computer with the help of videos.

Chapter 2

How Computers Work

LEARNING OBJECTIVES

Scan QR Code to watch a video

In this chapter, students will learn about:

- How machines work
- Input
- Process
- Output

SIGN IN

CT CR

Look at the pictures. Join the matching pairs.

1. 
2. 
3. 
4. 
5. 

a. 
b. 
c. 
d. 
e. 

A machine cannot work on its own. It needs command or instruction from us to work. Most of the machines in our daily life works on the instruction received from us.

HOW MACHINES WORK?

Let us look at how some of the machines work.

Camera

Input	Process	Output
		
Setting the camera	Clicking	Photo

Pencil Sharpener

Input	Process	Output
		
Blunt Pencil	Sharpening	Sharp Pencil

Washing Machine

Input	Process	Output
		
Dirty clothes	Washing	Clean clothes

Computer

Similarly, a computer also cannot work on its own. It works according to the command given by us.

Input	→	Process	→	Output
3, 4, +		3 + 4		7
Numbers, common		Addition		Result

A computer works in a cycle of three steps: **input-process-output.** This is known as the **IPO cycle**. 'I' stands for Input, 'P' stands for Process and 'O' stands for Output.

INPUT

The instruction or the command that we enter into a computer is called input. Input can be in the form of numbers, letters or symbols. Keyboard and mouse are some of the input devices.

Mouse

Keyboard

NEWS FEED

CM

Devices that have touch screen such as tablets are used for both input and output.

PROCESS

The actions a computer performs on receiving a command or an instruction is called processing. It is done with the help of **Central Processing Unit (CPU)** which is known as the brain of the computer. The CPU does all the calculations and thinking.

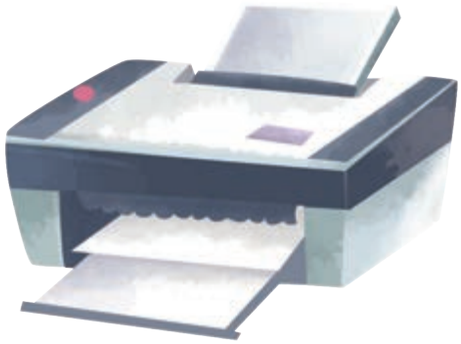
CPU box

CPU

OUTPUT

The final result we get after processing is called the output. The output is displayed on the monitor. Monitor and printer are some of the output devices.

Monitor



Printer

Let us discuss the working of a computer with this example.

INPUT	PROCESSING	OUTPUT
3, 4, + Here, the numbers 3 and 4 and the symbol + are the instruction or the input. The instruction is to add 3 and 4.	3 + 4 Now, the CPU will work on the instruction, i.e., will add the numbers 3 and 4.	7 This is the final result we get after processing the instruction. 3 + 4 = 7.

NEWS FEED

CM

The information or output we see on the monitor is known as a soft copy. The same output when printed on paper becomes hard copy.

ACTIVITY TIME

CT CR

Complete the table.

Input	Process	Output
17, 5, –		12
	3 × 9	
11, 4, +		15
	3 + 7	
	15 ÷ 3	
3, 1, ×		3

REFRESH

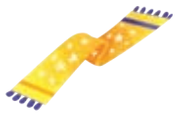
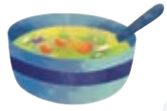
- A machine needs instruction or command to work.
- A computer works in a cycle of three steps: input, process and output.
- Input is the command or the instruction given to the computer.
- Input can be in the form of numbers, letters or symbols.
- Processing is the actions performed by the CPU after receiving the input.
- Output is the final result we get after processing.
- Result is displayed on the monitor.

BROWSE

A **Tick (✓) the objects that are input and cross out (✗) the objects that are output.**

1. 
2. 
3. 
4. 
5. 
6. 

7. 

8. 
9. 

B **Fill in the blanks using the words given below.**

input	IPO	Output	result	mouse

1. A computer works in a cycle of three steps known as _____ cycle.
2. The instruction or the command that we enter into a computer is called _____.
3. A _____ in an input device.

4. Output is the final _____.

5. _____ is displayed on the monitor.

C Write True (T) for the correct statements and False (F) for the incorrect statements.

1. A machine does not need instruction to work. ☐
2. A computer can process without input. ☐
3. Input can be in the form of numbers, letters or symbols. ☐
4. CPU does all the calculating and thinking. ☐
5. Input is displayed on the monitor. ☐

D Choose the correct option.

1. Which cycle does a computer follow?

   a. OPI ☐ b. IPO ☐ c. PIO ☐

2. 'I' in the IPO cycle stands for _____.

   a. Input ☐ b. Insert ☐ c. Increase ☐

3. 'P' in the IPO cycle stands for _____.

   a. Progress ☐ b. Process ☐ c. Program ☐

4. 'O' in the IPO cycle stands for _____.

   a. Out ☐ b. On ☐ c. Output ☐

5. It is used to display output.

   a. Monitor ☐ b. Mouse ☐ c. CPU ☐

E Answer the following questions.

1. What is input?

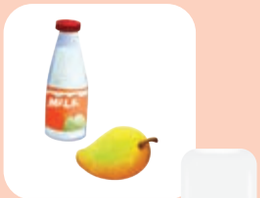
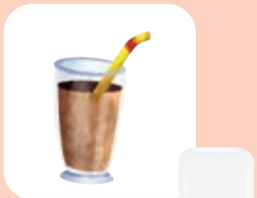
2. What is output?

ACTIVITY TIME

CT

Write I for input, P for process and O for output.

1.

2.



3.



4.

5.

19

11, 8, +

11 + 8

LET'S EXPLORE

TE EL

- Visit the computer lab and with the help of your teacher, observe the IPO cycle on the computer using the calculator application. Type the input given on **ACTIVITY TIME** on Page 22 on the computer and check the output.
- Make a list (at least five each) of the input and output products that you see:
  1. At your school
  2. At your home

FOR THE TEACHER

- Explain the concept of Input-Process-Output cycle giving real life example such as sharpening a pencil.
- Ask the students to think and give examples of IPO cycle they see.

Chapter 3

Parts of a Computer—Devices

LEARNING OBJECTIVES

Scan QR Code to watch a video

In this chapter, students will learn about:

- Input devices
- Processing devices
- Output devices
- Storage devices

SIGN IN

CT CR

Match the picture with the correct name.

1. 
2. 
3. 
4. 
5. 

a. **Mouse** b. **Printer** c. **Monitor** d. **CPU** e. **Keyboard**

A computer is made up of many parts. These parts of a computer can be categorised into four main groups: Input devices, Processing devices, Output devices and Storage devices. Let us learn about these devices.

INPUT DEVICES

The devices that are used to enter the instructions or commands for the computer are called **input devices**. They tell the computer what to do. Some of the input devices are keyboard, mouse, scanner and microphone.

Keyboard

A keyboard is an input device with various buttons called **keys**. It is used to enter instructions and commands to the computer by typing text and numbers.

Keyboard

Mouse

A mouse is a small input device. It has two buttons on it. The instructions and commands to the computer are sent with the click of these buttons. It is used to select objects, draw pictures and play games.

Mouse

Scanner

A scanner is an input device through which documents and images from the paper are sent to a computer.

Scanner

Microphone

A microphone is a device that is used to record sounds such as music and voice. These recordings are stored on a computer.

Microphone

PROCESSING DEVICE

The devices that read and understand the input given to the computer and return the output to the output devices are called **processing devices**. CPU is the main processing device. It is the brain of a computer. CPU is fixed inside the CPU box.

CPU box

OUTPUT DEVICES

The devices that are used to display or give the result are called output devices. Some of the output devices are monitors, printers, speakers, headphones and headsets.

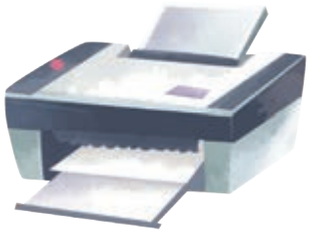
Monitor

Monitor

A monitor is an output device that looks like a television screen. It is also known as the **screen** or the **Visual Display Unit (VDU)**. The information or the input that we type is displayed on the screen. It also displays the result or the output after the computer processes it.

Printer

A printer is an output that is used to print the work shown on the monitor. It transfers the text or pictures on the screen onto paper. The commonly used printers are inkjet printers and laser printers.



Inkjet Printer

Laser Printer

Speakers

Speakers are one of the most common output devices used to listen to music, voice and sound on a computer.

Speaker

Headphones

Headphones are small speakers used to listen to music and sound without disturbing others.

Headphones

Headset

A headset is similar to headphones but it has a microphone attached to it.

Headset

STORAGE DEVICES

The devices that are used to store (save) data and information in the computer are called **storage devices**. Some of the common storage devices are hard disk, Compact Disc (CD), Digital Versatile Disc (DVD) and Pen Drive.

Hard Disk

A hard disk is a rectangular box. It is fixed inside the CPU box. It can store a large amount of data and information.

Hard Disk

Compact Disc (CD) and Digital Versatile Disc (DVD)

CDs and DVDs are portable storage devices. They are circular in shape. Their storage capacity is less than a hard drive. A DVD has more storage capacity than a CD.

DVD CD

CM

NEWS FEED

A hard disk that is connected externally to the computer is called Portable Hard Disk. This type of hard disk is used to store or transfer large amount of data.

Pen Drive

It is a small storage device that can be used with any computer. It is also known as a Flash drive. Pen drive comes in different storage capacities. It has more storage capacity than a DVD but less capacity than a hard drive.

Pen Drive

CM

NEWS FEED

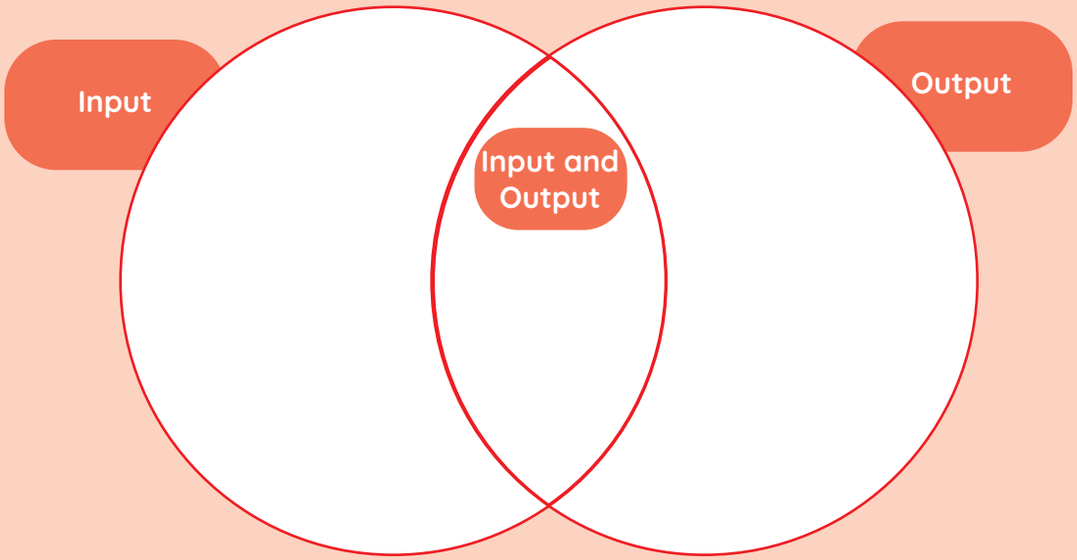
A CD can be played on a CD drive or a DVD drive but a DVD can be can be played only on a DVD drive.

ACTIVITY TIME

CT CR

Sort each of the devices in the correct place in the given diagram.

Printer DVD Speakers Keyboard Headset Pen drive
Monitor Hard disk Scanner Headphones Mouse

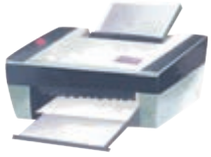


REFRESH

- The parts of a computer are divided into four categories—input devices, output devices, processing devices and storage devices.
- Devices that are used to enter instructions or commands are input devices.
- Keyboard, mouse, scanner and microphone are input devices.
- Devices that process the input and return with the output are processing devices.
- CPU is a processing device.
- Devices that are used to display the output are output devices.
- Monitor, printer, speakers, headphones and headset are the output devices.

BROWSE

A Tick (✓) the input devices and cross out (✗) the output devices.

1. 
2. 
3. 
4. 
5. 
6. 

7. 
8. 
9. 

B Fill in the blanks using the words given below.

Speakers	Output	Storage	Hard drive	Input

1. _____ devices are used to enter commands.
2. _____ devices are used to display the result.
3. _____ are used listen to sound.
4. _____ devices are used to store information.
5. _____ is fixed inside the CPU box.

C Write True (T) for the correct statements and False (F) for the incorrect statements.

1. The parts of a computer are divided into four categories.
2. Input devices are used to process the instructions.
3. Mouse is an input device.
4. Printer is an output device.
5. The storage capacity of a pen drive is more than a hard drive.

D Choose the correct option.

1. It is used to type text.

a. 

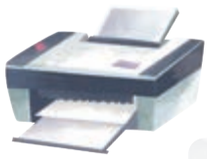
b. 

c. 

2. It is a processing device.

a. 

b. 

c. 

3. It is used to send information from paper to the computer.

a. 

b. 

c. 

4. It is used to transfer information from the computer to paper.

a. 

b. 

c. 

5. It is also known as flash drive.

a. 

b. 

c. 

E Answer the following questions.

1. What is the difference between an input device and an output device?

2. What is a processing device?

ACTIVITY TIME

PL

Circle the names of eight computer parts in the word grid given below.








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

LET'S EXPLORE

TE EL CR

- Visit the computer lab and look at the computer system. Identify the devices that are used for input, processing and output.
- Using a microphone, record your voice into the computer. Play and listen to your recording through the speaker.
- Draw and colour any two input and two output devices.

FOR THE TEACHER

- Show the students the IPO cycle on computer using calculator application.
- Show the students the different types of input, output and storage devices.
- Explain the uses of different input, output and storage devices.

PERIODIC ASSESSMENT 1

A. Identify the following images and write 'I' for input, 'P' for processing, 'O' for output, and 'S' for storage devices.

1. _____

2. _____

3. _____

4. _____

B. Find the following words in the puzzle. Words are hidden → and ↓.

ACCURACY DECISION INFORMATION INPUT
MULTITASKING OUTPUT PROCESS SPEED STORAGE

I	S	P	E	E	D	W	U	D	K	F	S
N	F	N	E	S	T	O	R	A	G	E	T
P	P	P	C	O	U	T	P	U	T	A	O
U	N	A	C	C	U	R	A	C	Y	I	R
T	K	D	E	C	I	S	I	O	N	H	A
W	E	K	A	P	R	O	C	E	S	S	G
I	N	F	O	R	M	A	T	I	O	N	E
M	U	L	T	I	T	A	S	K	I	N	G

Chapter 4

The Keyboard and its Functions

LEARNING OBJECTIVES

Scan QR Code to watch a video

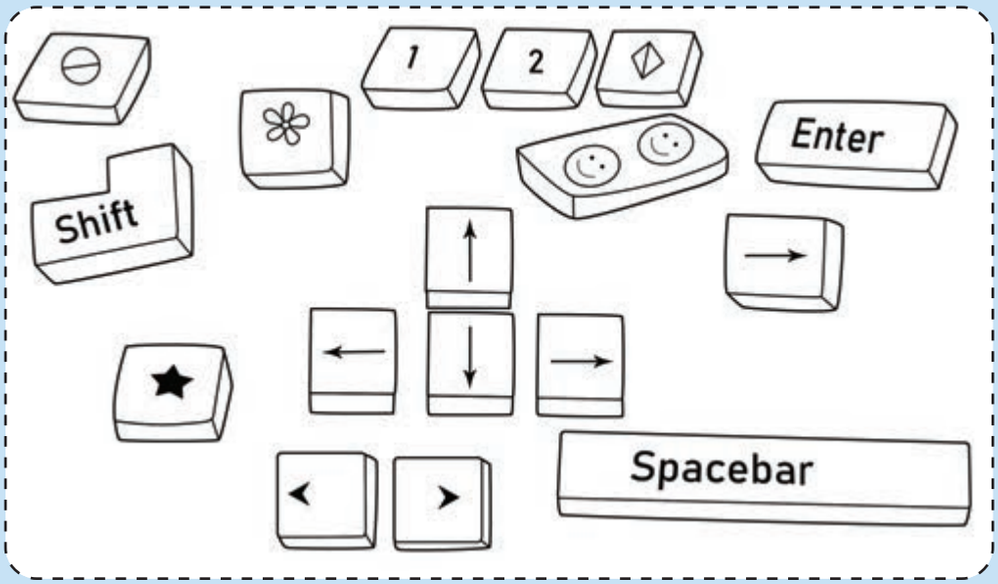
In this chapter, students will learn about:

- Alphabet keys
- Number keys
- Special keys
- Combination keys

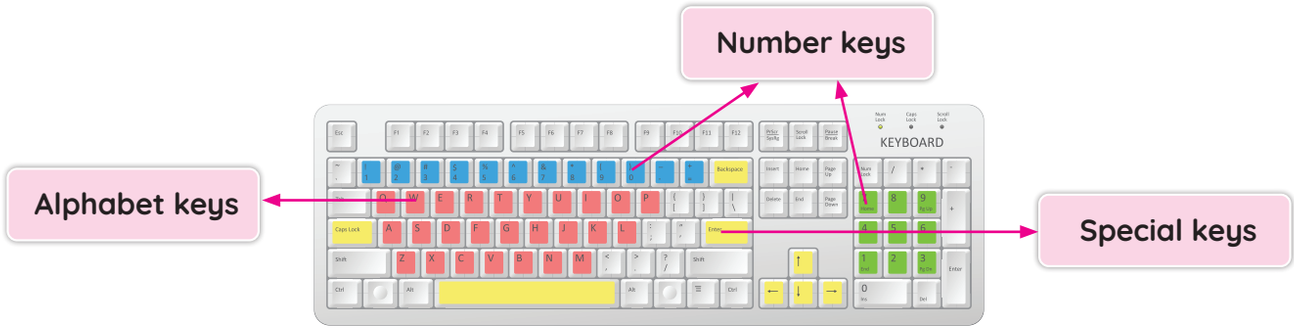
SIGN IN

CR

Colour the keys that you see on a keyboard with your favourite colour.



A keyboard is an input device of the computer. It has 104 keys. These keys are used to type letters, numbers and symbols. Let us learn more about these keys and their functions.



Keyboard

NEWS FEED

CM

A standard keyboard is known as the QWERTY keyboard.

ALPHABET KEYS

The keys with the letters A to Z on them are the **alphabet keys**. There are 26 alphabet keys. We type letters, words and sentences using these alphabet keys. Alphabet keys are not arranged in alphabetical order.

Alphabet keys

NUMBER KEYS

The keys with the numbers 1 to 9 and 0 on them are the **number keys**. There are 10 number keys. We type numbers such as our birth date, age, phone number, etc., with these keys. Number keys are present at two places on the keyboard—

- Above the alphabet keys
- On the right side of the keyboard. This is called the **Numeric keypad**.

Number keys

Numeric Keypad

SPECIAL KEYS

There are keys on a keyboard on which numbers and alphabets are not written. These keys have different symbols on them. These are the **Special Keys** which do specific functions.

Symbol Keys

Keys with special signs and symbols are the **symbol keys**. These keys are placed in two places on a keyboard.

Symbol keys

- Some of the symbol keys are placed to the right of the alphabet keys. Each key has two symbols on it.
- Some of the symbols such as !, @, #, $, ^, &, *, (,) are placed over the numbers on the number keys.

Symbols on Number keys

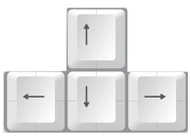
Function Keys

There are 12 **function keys**. These keys have the letter 'F' and a number on them. F1 to F12 are placed at the top of the keyboard. Each key performs different functions.

Function keys

Arrow Keys

The **Arrow keys** are special keys that are used to move the cursor. There are four arrow keys.



- **Up Arrow key**: It is used to move the cursor up.
- **Down Arrow Key**: It is used to move the cursor down.
- **Left Arrow Key**: It is used to move the cursor left.
- **Right Arrow Key**: It is used to move the cursor right.

Tab Key

The **Tab Key** is used to move the cursor several spaces at a time.

Escape key

The **Escape key** is used to cancel a task. This key is labelled as '**Esc**'. It is placed on the top-left corner of the keyboard.

Delete Key

The **Delete key** is used to erase or delete text to the right side of the cursor.

CM

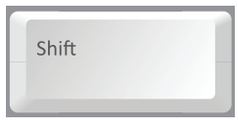
NEWS FEED

Three of the most used keys on a keyboard are the 'Spacebar' key, the letter 'e' key and the 'Backspace' key.

COMBINATION KEYS

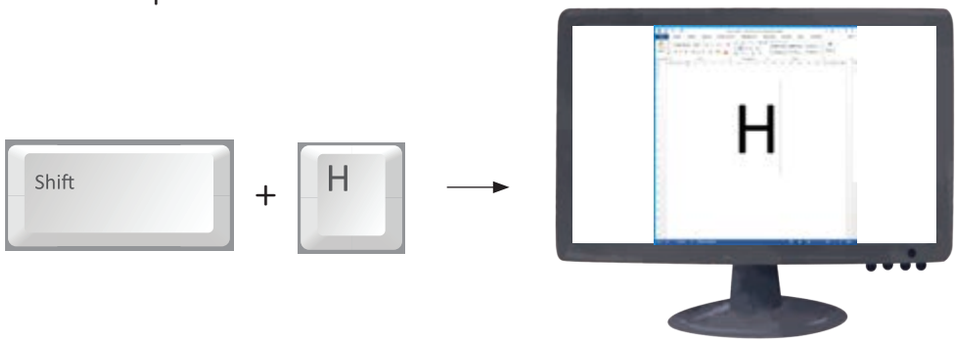
A **combination key** is using two or more keys to perform a particular function. The keys are pressed at the same time or one after the other while holding down one key.

Shift key is one of the keys that is used with other keys to perform different functions.

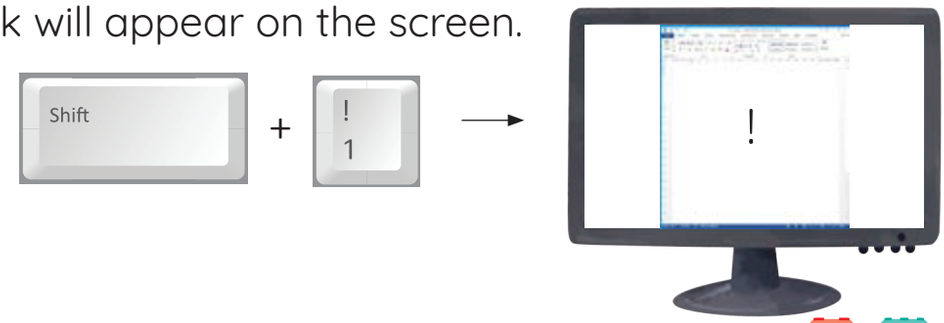


Here are some of the uses of the **Shift key** in combination with other keys.

- **To type letters in capital when the Caps Lock is turned off**
  Press and hold the shift key along with an alphabet key to type in capital. For example:



- **To type the upper symbols of the symbol keys**
  Press and hold the shift key along with the number key 1.
  An exclamation mark will appear on the screen.



ACTIVITY TIME

CT CR

Match the pictures with matching words.

1.		a. Function key
2.		b. Escape key
3.		c. !
4.		d. A
5.		e. Tab key

REFRESH

- A keyboard is an input device of the computer.
- A keyboard has 104 keys.
- We type letters, words and sentences using the alphabet keys.
- We type numbers such as our birthday, age, phone number, etc. with number keys.
- Symbol keys are the keys with special signs and symbols.
- Arrow keys are used to move the cursor.
- Shift key is used with other keys to perform different functions.

BROWSE

A **Tick (✓) the symbol keys and cross out (×) the function keys.**

1. 

2. 

3. 

4. 

5. 

6. 

7. 

8. 

9. 

B **Fill in the blanks using the words given below.**

input **combination** **Symbol** **Delete** **12** **number**

1. A keyboard is an _____ device.
2. _____ key is pressed to delete the text on the right of the cursor.
3. There are _____ function keys.

4. _____ keys are placed over the numbers on the number keys.

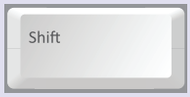
5. A _____ key is using two or more keys to do a particular function.

C Write True (T) for the correct statements and False (F) for the incorrect statements.

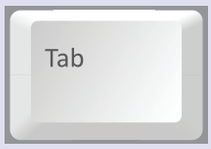
1. Number keys are located below the alphabet keys. ☐
2. We type our phone numbers using the alphabet keys. ☐
3. To type a symbol over the numbers, we need to press Tab key along with the number key. ☐
4. We press the left arrow key to move the cursor left. ☐
5. The Shift key is used with other keys to perform special functions. ☐

D Choose the correct option.

1. Which of the key is used to give several spaces between letters or words?

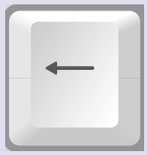
a. 

☐ b. 

☐ c. 

☐

2. Which of the key is used to move the cursor down?

a. 
☐ b. 
☐ c. 
☐

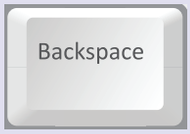
3. Which of the key is used to move the cursor right?

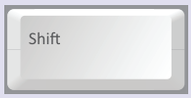
a. 

b. 

c. 

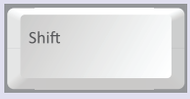
4. Which of the key is used to delete text to the left of the cursor?

a. 

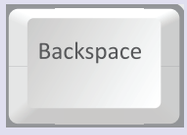
b. 

c. 

5. Which of the key is used to cancel a task?

a. 

b. 

c. 

E Answer the following questions.

1. What are special keys? Name any four.

2. Write two uses of Shift key.

ACTIVITY TIME

CT CR

Colour the keyboard with the given colour code.

Alphabet keys: **Red**	Number keys: **Green**
Spacebar key: **Orange**	Delete key: **Pink**
Arrow keys: **Brown**	Backspace key: **Black**
Enter key: **Blue**	Caps lock Key: **Yellow**

LET'S EXPLORE

TE EL

In the computer lab, with the help of your teacher do these activities.

- Look at the keyboard and identify the different keys.
- Now, using the keyboard type—
  - » your name. Write the first letter of your name in capital.
  - » your roll number. Put a comma (,) between your name and roll number.
  - » your address. Remember to use Spacebar to give space between words.

FOR THE TEACHER

- Give a brief introduction on the origin of the keyboard.
- Tell the students that there are many types of keyboard. The commonly used is the QWERTY keyboard.
- Explain the function of various keys.

Chapter 5

The Mouse and its Functions

LEARNING OBJECTIVES

Scan QR Code to watch a video

In this chapter, students will learn about:

- What is a mouse
- Types of mouse
- Holding and moving a mouse
- Functions of a mouse

SIGN IN

CT CM

Which of the sentences talk about a real mouse? Tick (✓) them.

1. It is a living thing. ☐
2. It is furry and soft. ☐
3. It is a non-living thing. ☐
4. It needs to eat food. ☐
5. It needs electricity or batteries. ☐
6. It is hard and made of plastic. ☐
7. It moves on its four legs. ☐
8. It moves when our hand pushes it. ☐
9. It is an animal. ☐
10. It is a tool. ☐

We have learnt that a mouse is an input device. It is used to give commands or instructions to the computer. Let us learn more about a mouse in this chapter.

WHAT IS A MOUSE?

A mouse is a pointing device. It is connected to the computer by a cable. The mouse pointer that looks like an arrow is displayed on the screen. A mouse helps us to:

- Point at things on the monitor
- Click and select things on the monitor
- Move or drag things on the monitor
- Draw pictures

Mouse

A mouse is generally kept on a **mouse pad**. This helps the mouse to move well.

NEWS FEED

CM

The computer mouse was invented by Douglas Engelbart in 1963.

TYPES OF MOUSE

There are different types of mouse.

Scroll Mouse

Scroll mouse has a scroll wheel in the middle of the left and the right button. The scroll is used to move the page up and down.
A scroll mouse is of two types:

1. Ball Mouse

A ball mouse has a rubber ball under it. This ball rolls and helps to move the mouse pointer.

2. Optical Mouse

In an optical mouse, an LED sensor is used at the bottom instead of the rubber ball. This LED sensor helps the pointer to move on the screen. When we pick up the mouse, we can see red light under it. This is the most popular type of mouse.

Optical mouse

There is an optical mouse that has no wire. It runs on batteries. This type of mouse is called **wireless mouse**.

Wireless mouse

CM

NEWS FEED

The optical mouse was first introduced in April 1999 by Microsoft.

HOLDING AND MOVING A MOUSE

- Place your palm on the mouse. Hold it with your thumb on one side and the ring finger and little finger on the other side.
- Place your index finger on the left button and your middle finger on the right button.
- Move the mouse and you will see that the pointer on the screen moves as you move the mouse.

FUNCTIONS OF THE MOUSE

A mouse has various functions. It is used to move the cursor from place to place, close and open an item, select an item or drag and drop.

Let us learn how a mouse does these functions.

Selecting an Item

Click is to press once and release the left button. It is also called single-click. It is used to select an item.

How to do it:

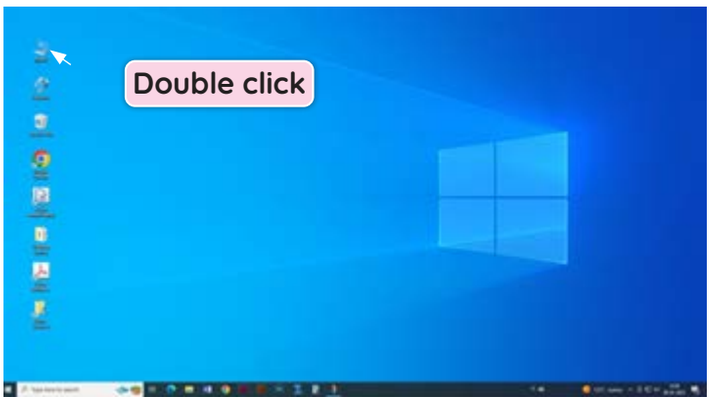
- Point the pointer at any item on the monitor.
- Then press the left button and release it.
- The item you have clicked on will be selected.

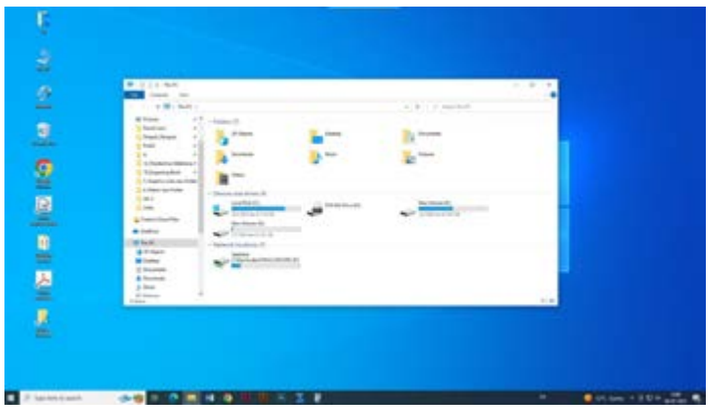
Opening an Item

Double-click is to press twice and release the left button. This is used to open an item.

How to do it:

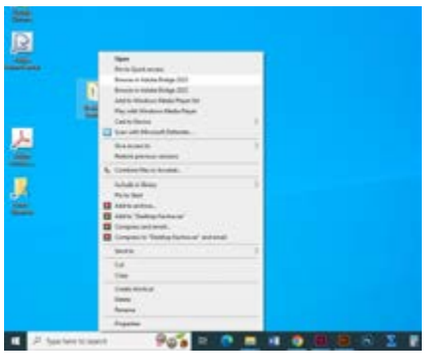
- Point the pointer on any item (for example, a computer).
- Then double-click on it.
- The item will open.





Right-Click—opens a list of commands for the selected item

Right-click is to press the right button once and release it. It is used to open a list of commands for the selected item.



How to do it:

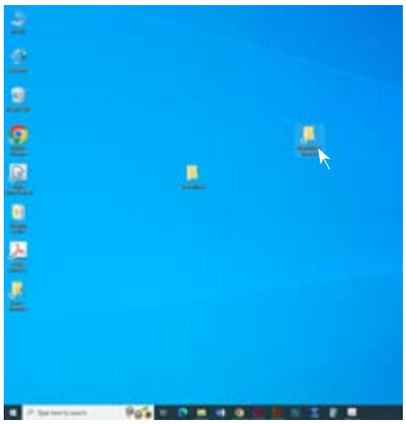
- Place the pointer on the picture of the computer and right-click.
- A list of commands will appear.

Drag

Drag means to move the mouse while keeping the left button pressed. It is used to move an item from one location to another.

How to do it:

- Place the pointer on an item.
- Then press and hold the left button.
- Now, drag the pointer to the place where the item is to be placed.
- Release the button and the item is moved to the new place.



ACTIVITY TIME

CR

Draw and colour a mouse. Label its parts.

REFRESH

- A mouse is a pointing device.
- A scroll mouse has a scroll wheel in the middle of the left and right buttons.
- Single-click is used to select an item on the computer.
- Double-click is used to open a selected item.
- Right-click is used to open a list of commands.
- Drag means to move the mouse while keeping the left button pressed.

BROWSE

A **Fill in the missing letters.**

1. 

__ __ L __ M __ __ S __

2. 

O __ T __ C __ L __ __ U__ __

3. 

__ I__ __ LE __ S __ O__ __ __

B Fill in the blanks using the words given below.

scroll	open	Drag	pointing	mouse pad

1. A mouse is a _____ device.
2. A mouse is generally kept on a _____.
3. Scroll mouse has a _____ wheel in the middle of the left and the right button.
4. Double-click is used to _____ a selected item.
5. _____ means to move the mouse while keeping the left button pressed.

C Write True (T) for the correct statements and False (F) for the incorrect statements.

1. While holding a mouse, the index finger is placed on the left button and the middle finger on the right button. _____
2. In an optical mouse, an LED sensor is used at the bottom instead of the rubber ball. _____
3. The right button is pressed twice and released for a double-click. _____
4. Single-click is used to open a selected item. _____
5. Right-click is used to open a list of commands. _____

D Match the following.

1.		a.	To select an item
2.		b.	To open a list of commands
3.		c.	Pointer
4.		d.	To move an item
5.		e.	To open an item

E Answer the following questions.

1. What are the two types of scroll mouse?

2. What are the functions of a mouse?

ACTIVITY TIME

PL

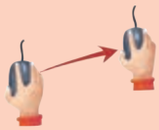
Find the words related to a mouse in the word grid given below.
The words are hidden →, ↓ and ↘.








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




LET'S EXPLORE

TE EL CR

- In the computer lab, use a mouse to open or select a file.
- Collect pictures of different types of mouse and paste them on a chart paper. Write their names and one feature of each type.

FOR THE TEACHER

- Show the students how to hold a mouse.
- Show them the working of the mouse.
- Explain the different types of mouse.

PERIODIC ASSESSMENT 2

A. Identify the following images and write their names.

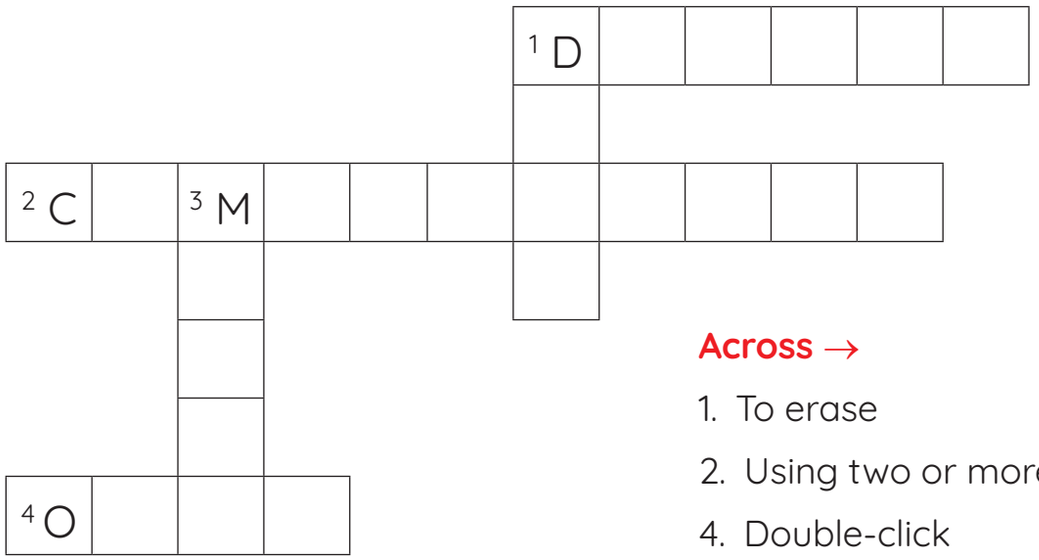
1. _____

2. _____

3. _____

4. _____

B. Read the clues and complete the words in the puzzle.



Across →

1. To erase
2. Using two or more keys together
4. Double-click

Down ↓

1. To move the mouse
3. A pointing device

TEST PAPER 1

A. Tick (✓) the correct option.

1. Output is displayed on _____.
   a. monitor ☐ b. mouse ☐ c. CPU ☐
2. 'O' in IPO stands for _____.
   a. input ☐ b. insert ☐ c. output ☐
3. _____ is used to type text.
   a. Mouse ☐ b. Scanner ☐ c. Keyboard ☐
4. To cancel a task _____ key is used.
   a. Shift ☐ b. Escape ☐ c. Backspace ☐

B. Write True (T) for the correct statements and False (F) for the incorrect statements.

1. Nowadays, we do not use computers to do our work. ☐
2. CPU does all the calculating and thinking. ☐
3. The storage capacity of a pen drive is more than a hard drive. ☐
4. We press the left arrow key of keyboard to move cursor left. ☐
5. Single-click is used to open a selected item. ☐

C. Answer the following questions.

1. What is input?
2. Write two uses of Shift key.
3. What is a processing device?
4. Write two things that a computer cannot do.
5. What are the functions of a mouse?

Chapter 6

How a Computer Operates

LEARNING OBJECTIVES

Scan QR Code to watch a video

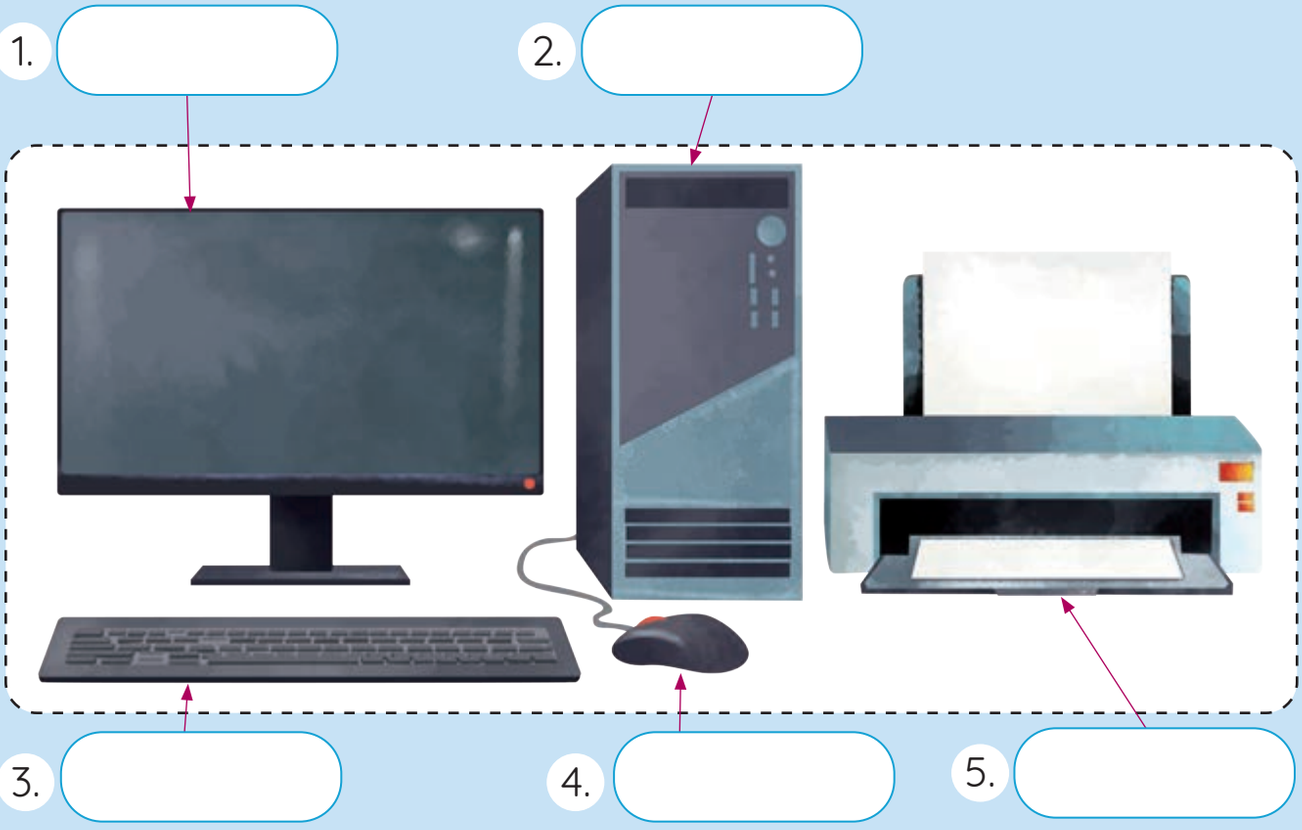
In this chapter, students will learn about:

- How to start a computer
- How to start, minimize, maximize and close a program
- How to shut down a computer

SIGN IN

CT CM

Identify the different parts of the computer.



We have learnt about the various features, functions and parts of a computer. Now let us learn how to use a computer. We can switch ON and OFF a computer. Switching ON a computer is to **Start** and switching OFF is to **Shut Down** a computer.

HOW TO START A COMPUTER

To start a computer, follow these steps:

1. Switch ON the power supply button.

2. Switch ON the UPS.

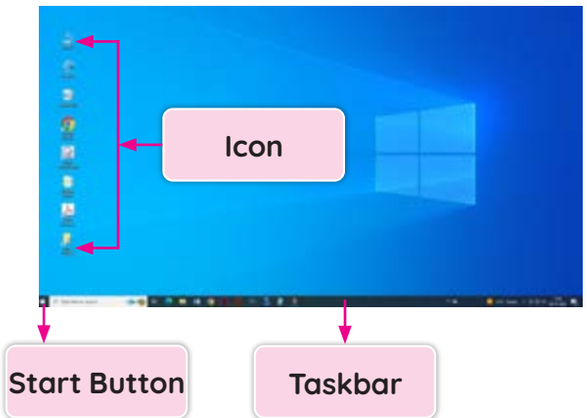
3. Switch ON the power supply button of the CPU.

4. Switch ON the monitor button and wait for some time.

A screen will appear and that is called the **desktop.**

On the desktop, there are small pictures. These pictures are known as **Icons.**

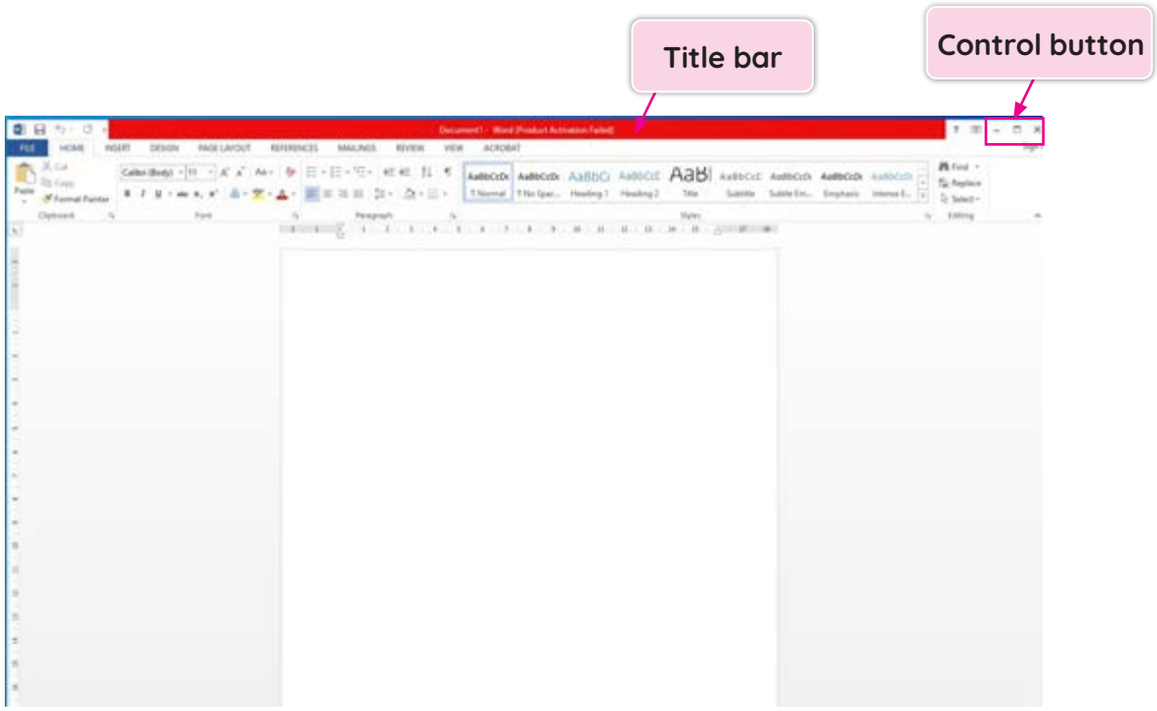
On the bottom of the desktop, there is a thin bar. This bar is known as the **Taskbar**. It contains the **Start** button in the left corner.



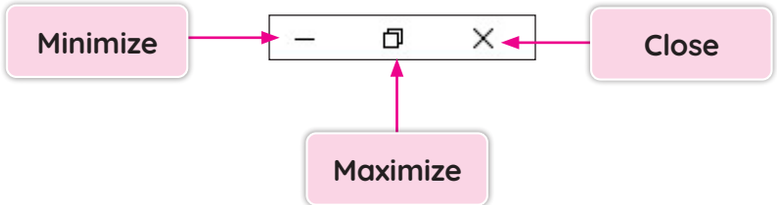
HOW TO START, MINIMIZE, MAXIMIZE AND CLOSE A PROGRAM

To open different programs, we use the Start button.

- When we click on the **Start** button, the Start menu appears.
- Then, we select the program we want to open and click on it.
- The program opens in a rectangular box. This is the window.



The top bar of the window is called the **Title bar**. There are three buttons on the top right corner of the Title bar. These are the **Minimize, Maximize** and **Close** Buttons. These are the control buttons. These are used to change the size of the window or to close it.



- **Minimize button**: Clicking on this button will hide the window in the taskbar.
- **Maximize button**: Clicking on this button will fill the entire screen with the program window.
- **Close button**: Clicking on this button will close the program.

NEWS FEED

CM

A desktop computer with all parts of the CPU inside the monitor is called All-In-One Desktop.

HOW TO SHUT DOWN A COMPUTER

The computer should be shut down properly after our work is finished. We should close all the programs that are open before shutting down the computer.

To shut down a computer, follow these steps:

1. Click on the **Start** button.
2. Click on **Power**.
3. Click on **Shut down**.

Now, wait for the computer to turn OFF. The screen will become black.

NEWS FEED

CM

A CPU switches off automatically when we shut down a computer.

4. Then **Switch OFF** the monitor button, UPS button and the main power supply.

ACTIVITY TIME

CT

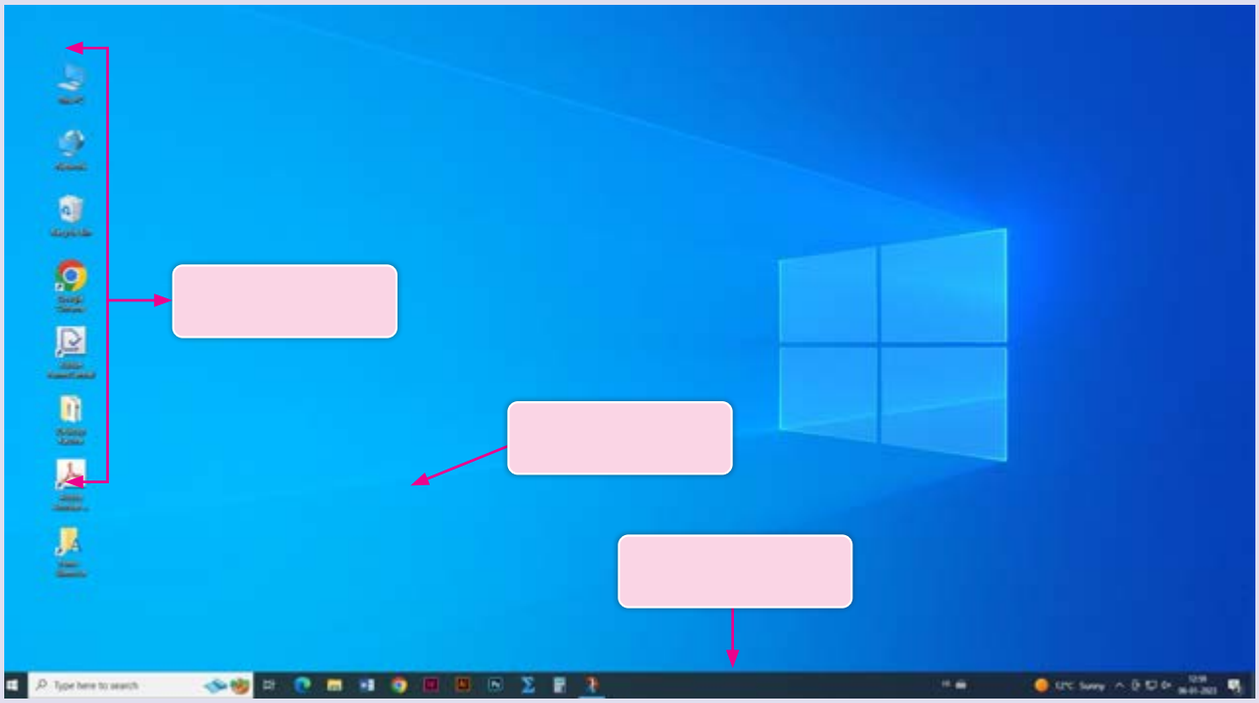
Number the pictures in the correct sequence to shut down a computer system.

REFRESH

- We need to follow the proper steps to start a computer properly.
- Desktop is the screen that appears when we on the monitor.
- Icons are the small pictures on the desktop.
- Taskbar is present at the bottom of the desktop.
- We should shut down the computer properly after completing the tasks.

BROWSE

A **Identify the parts on the screen and label them.**



B **Fill in the blanks using the words given below.**

Start	three	Title	Minimize	Icons

1. _____ are the small pictures on the desktop
2. Taskbar contains _____ button.
3. The top bar of the window is called the _____ bar.
4. The Title bar has _____ control buttons.
5. Clicking on _____ button will shrink the window.

C Write true (T) for the correct statements and false (F) for the incorrect statements.

1. We can start a computer without switching ON the main power button.
2. The screen that appears on starting a computer is known as the desktop.
3. The bar at the bottom of the desktop is called Taskbar.
4. The first step to shut down a computer is to OFF the main power button.
5. We can shut down a computer by clicking the Start button.

D Match the following.

Column A		Column B
1.		a. Step 1
2.		b. Step 2
3.		c. Step 3
4.		d. Step 4

E Answer the following questions.

1. What is a desktop?

2. What is an icon? Name any three icons you see on the desktop.

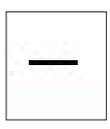
ACTIVITY TIME

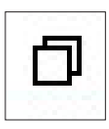
CT

Choose the correct option.

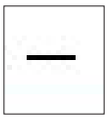
1. It is used to start a program.

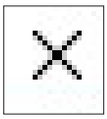
a. 

b. 

c. 

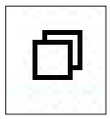
2. It is used to close a program.

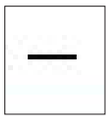
a. 

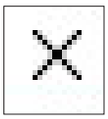
b. 

c. 

3. It is used to minimize a program.

a. 

b. 

c. 

LET'S EXPLORE

TE EL CM

- In the computer lab, learn how to switch on and off the computer with the help of your teacher.
- Make a list of items that require switching ON a power button to start functioning:

1. At School	2. At Home
a.	a.
b.	b.
c.	c.
d.	d.
e.	e.

FOR THE TEACHER

- Show the students how to start and shut down a computer system.
- Explain to them not to touch the main power with a wet hand when they switch on the computer.

Chapter 7

More on Tux Paint

LEARNING OBJECTIVES

Scan QR Code to watch a video

In this chapter, students will learn about:

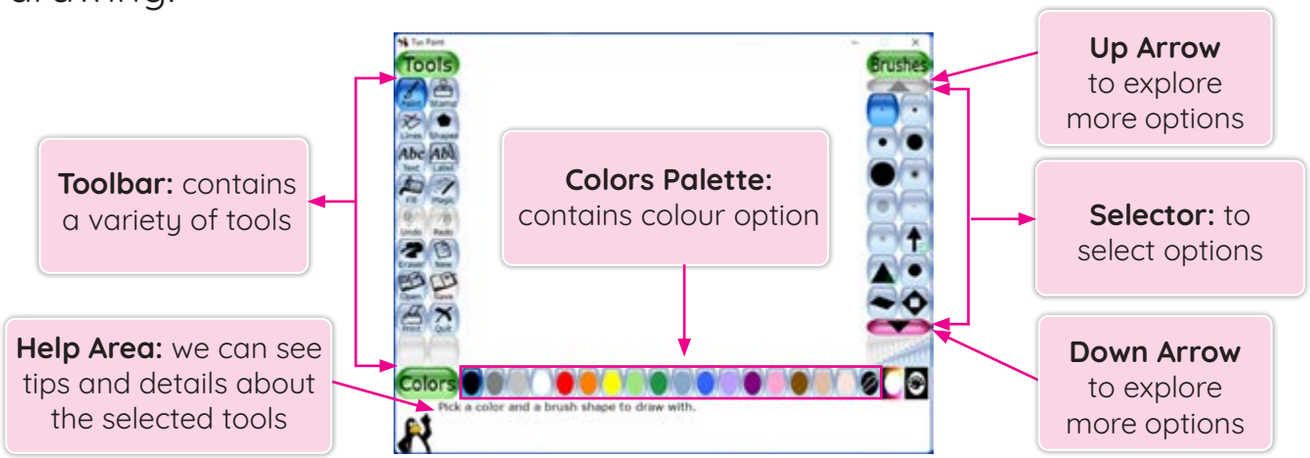
- Open tool
- New tool
- Stamp tool
- Text tool
- Magic tool
- Saving a drawing

SIGN IN

CR

Colour the given picture.

We have learnt in the previous class that we can draw and paint colourful pictures in Tux Paint. In this chapter, let us learn about some more tools of Tux Paint. These tools are used to enhance our drawing.



NEWS FEED

CM

There are 17 colours in the colors palette of Tux Paint.

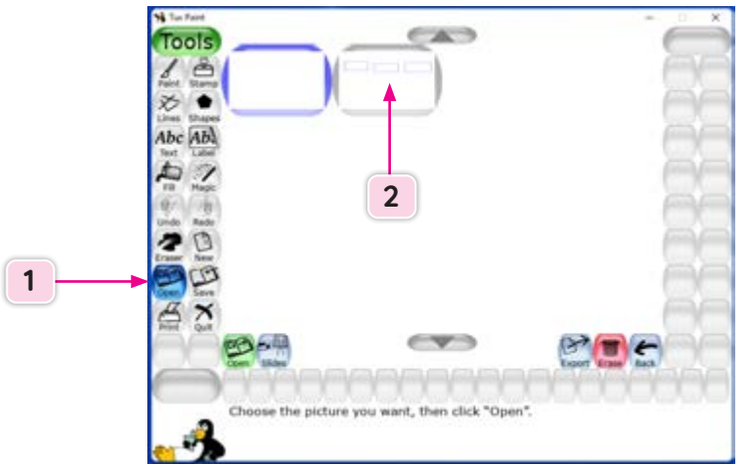
OPEN TOOL

Open tool is used to open an existing drawing or picture.

Follow these steps to use the Open tool:

1. Click on **Open tool** 

on the **Toolbar**.
2. Double-click on the existing image to open it. Once the page has opened, you can continue working on it.



NEW TOOL

The **New tool** is used to open a new page for drawing.

Follow these steps to use New tool:

1. Click on the **New tool** 

on the **Toolbar**.
2. Click on the blank page to start a new drawing. Use the down arrow button  to see options to select a page.
3. You can start drawing or colouring on the new page.

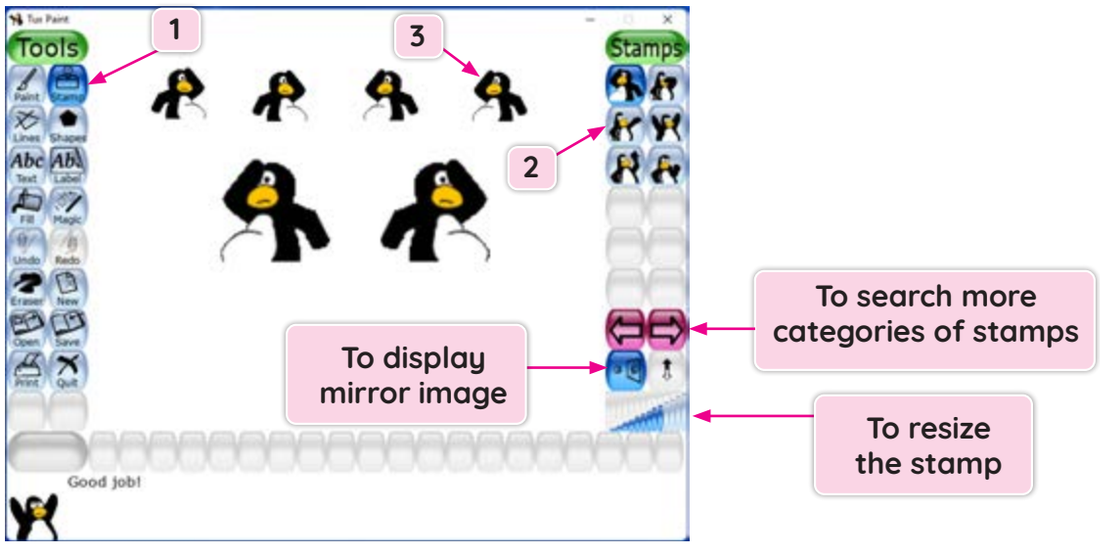
STAMP TOOL

The **Stamp tool** is used to insert or add different images to the drawing. Tux Paint has many categories of stamps for different objects such as plants, animals, food, hobbies etc.

Follow these steps to use the Stamp tool:

1. Click on **Stamp tool** 

on the **Toolbar**.
2. Click on the stamp you like from the **Selector**.
3. Click on the drawing canvas to add the stamp.
   - Click on  to see more categories of stamps.
   - Click on  tool to change the size of the stamp.
   - Click on  tool to add a mirror image of the stamp.

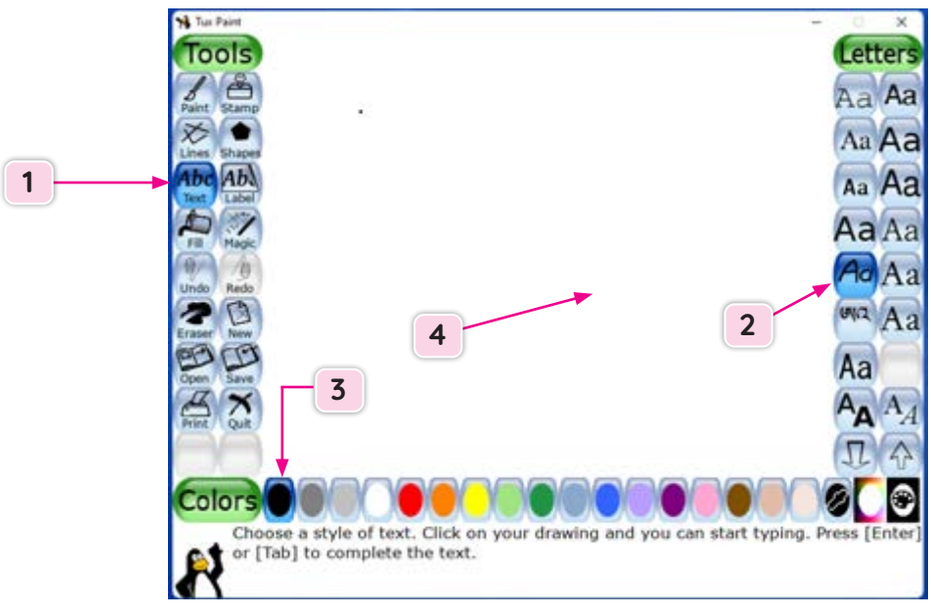


TEXT TOOL

Text tool is used to type text or add text to the drawing. We can use this to type caption, name or heading of the drawing.

Follow these steps to use the Text tool:

1. Click on **Text** tool Abc Text on the **Toolbar**.
2. Select the text style you want to use from the **Selector**.
3. Select any colour from the color palette.
4. Click on the **Drawing Canvas** and type the text.



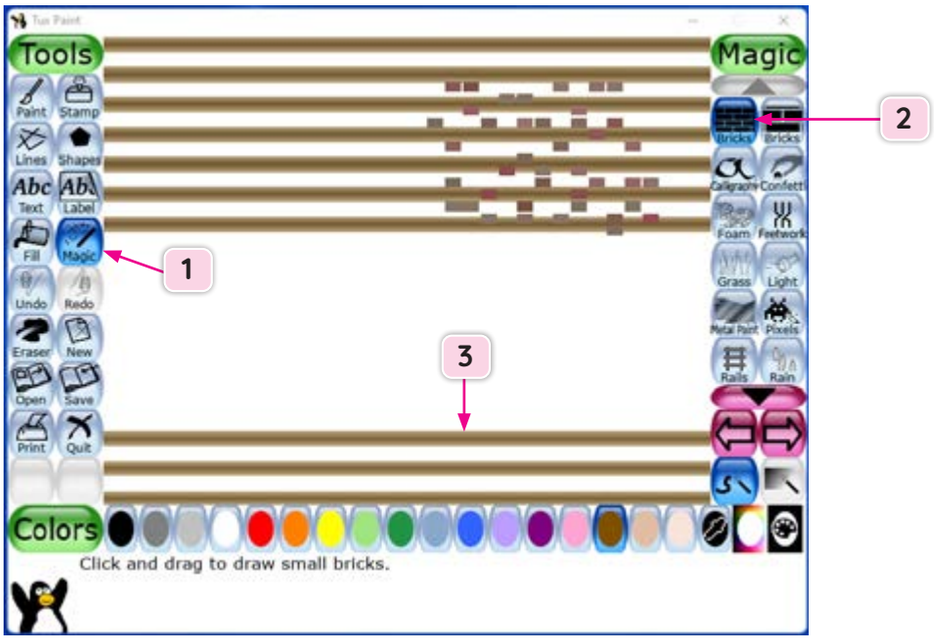
MAGIC TOOL

Magic tool is used to add special effects to a drawing. It allows us to draw different patterns such as rain, rainbow, mosaic, etc. Using this tool, we can also add sound to a drawing.

Follow these steps to use the Magic tool:

1. Click on **Magic Tool** 

on the **Toolbar**.
2. Select the magic effect you want to use from the **Selector**. Use  to see more options of magic effects.
3. Click or drag on the **Drawing Canvas** to see the effect.



NEWS FEED

CM

'Magic tool' has over 75 tools of special effect features.

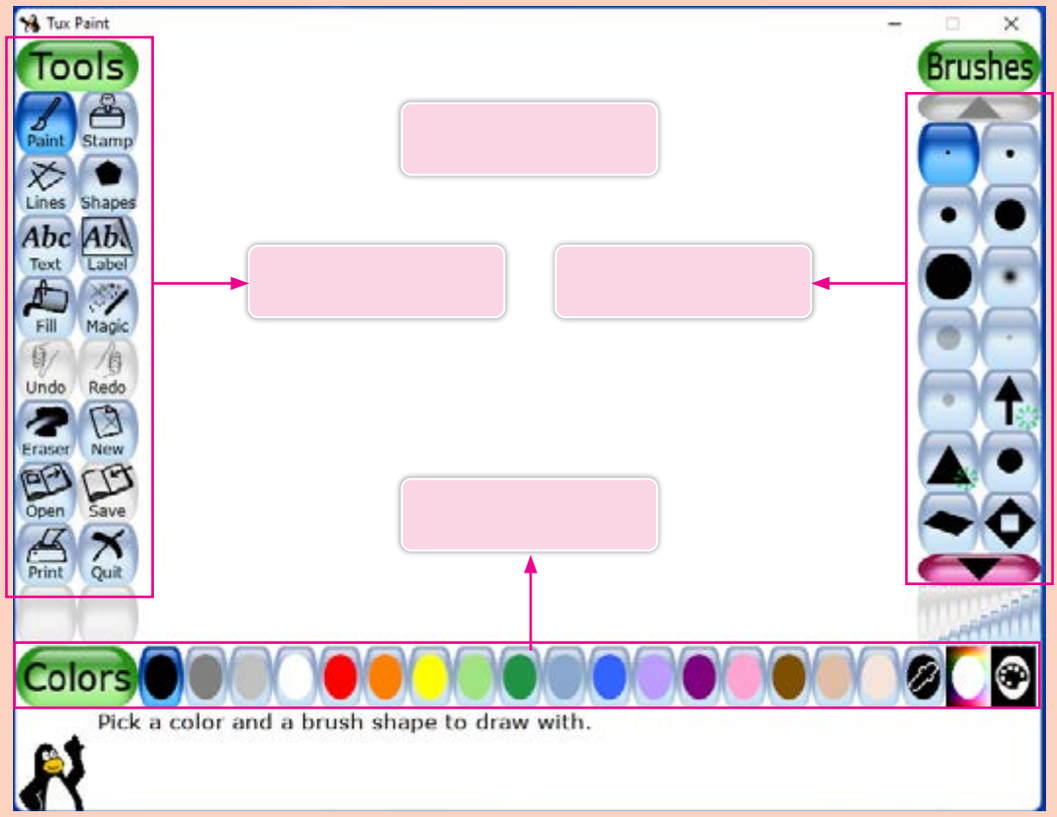
SAVING THE DRAWING

To save a drawing, click on the **Save tool** 

.

ACTIVITY TIME

CT CM



REFRESH

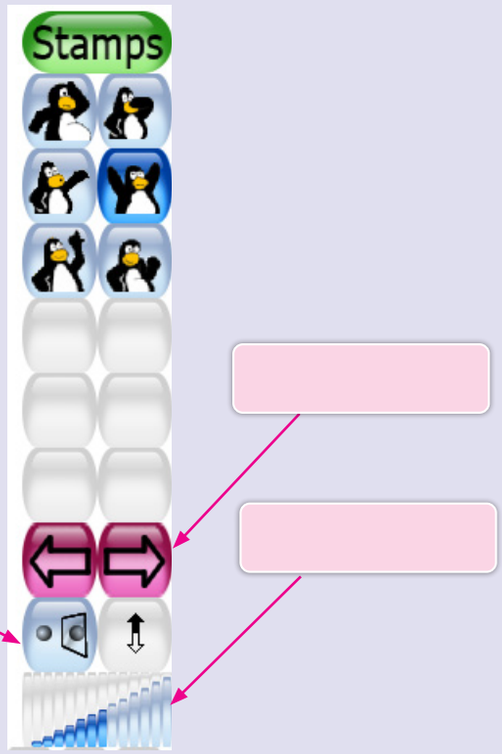
- Open tool is used to open an existing drawing or picture.
- New tool is used to open a new page for drawing.
- Stamp tool is used to insert or add different images in the drawing.
- Text tool is used to type text or add text to the drawing.
- Magic tool is used to add special effects to a drawing.

BROWSE

A **Identify the parts on the screen and write their function.**

1.

2.



B **Fill in the blanks using the words given below.**

Magic patterns caption Stamp Save heading

1. _____ tool is used to add different images.
2. Using Text tool, we can add _____ or _____ of a drawing.
3. Magic tool allows us to draw different _____.
4. _____ tool is used to add special effect.
5. To save a drawing, we click on the _____ tool.

C Write true (T) for the correct statements and false (F) for the incorrect statements.

1. Magic tool is used to write text.
2. Text tool allows us to draw different patterns.
3. Tux Paint has only one category stamp of different objects.
4.  is used to change the size of an image.
5.  is used to add a mirror image of a stamp.

D Match the following.

1.	Stamp Tool	a.	
2.	Text Tool	b.	
3.	Open Tool	c.	
4.	Magic Tool	d.	
5.	New Tool	e.	

E Answer the following questions.

1. How can you open an existing drawing in Tux Paint?

2. Which tool do you use to add images to a drawing?

ACTIVITY TIME

CT

Choose the correct option.

1. It is used to type text.

a. 

b. 

c. 

2. It is used to open a new page.

a. 

b. 

c. 

3. It is used to open existing drawings.

a. 

b. 

c. 

4. It is used to add special effects to a drawing.

a. 

b. 

c. 

5. It is used to add or insert pictures.

a. 

b. 

c. 

LET'S EXPLORE

TE EL

Do this activity in the computer lab.

On Tux Paint, draw and colour any object such as a house, a car, a flower, an animal, a table or any object that you like to draw.

- You can use any of the tools—Lines, Shapes, Stamp, Magic.
- Label the objects you have drawn using Text tool.

FOR THE TEACHER

- Explain all the tools of TUX paint.
- Demonstrate the function of the tools by drawing a picture.
- Demonstrate how to add text and magic effects to a picture.

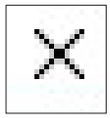
PERIODIC ASSESSMENT 3

A. Identify the following images and write their names.

1. _____

2. _____

3. _____



4. _____

B. Find the following words in the puzzle. Words are hidden → and ↓.

CLOSED CURVES ICONS MAGIC PATTERNS
POLYGON SELECT STAMP TEXT TITLE

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

Chapter 8

More on Paint

LEARNING OBJECTIVES

Scan QR Code to watch a video

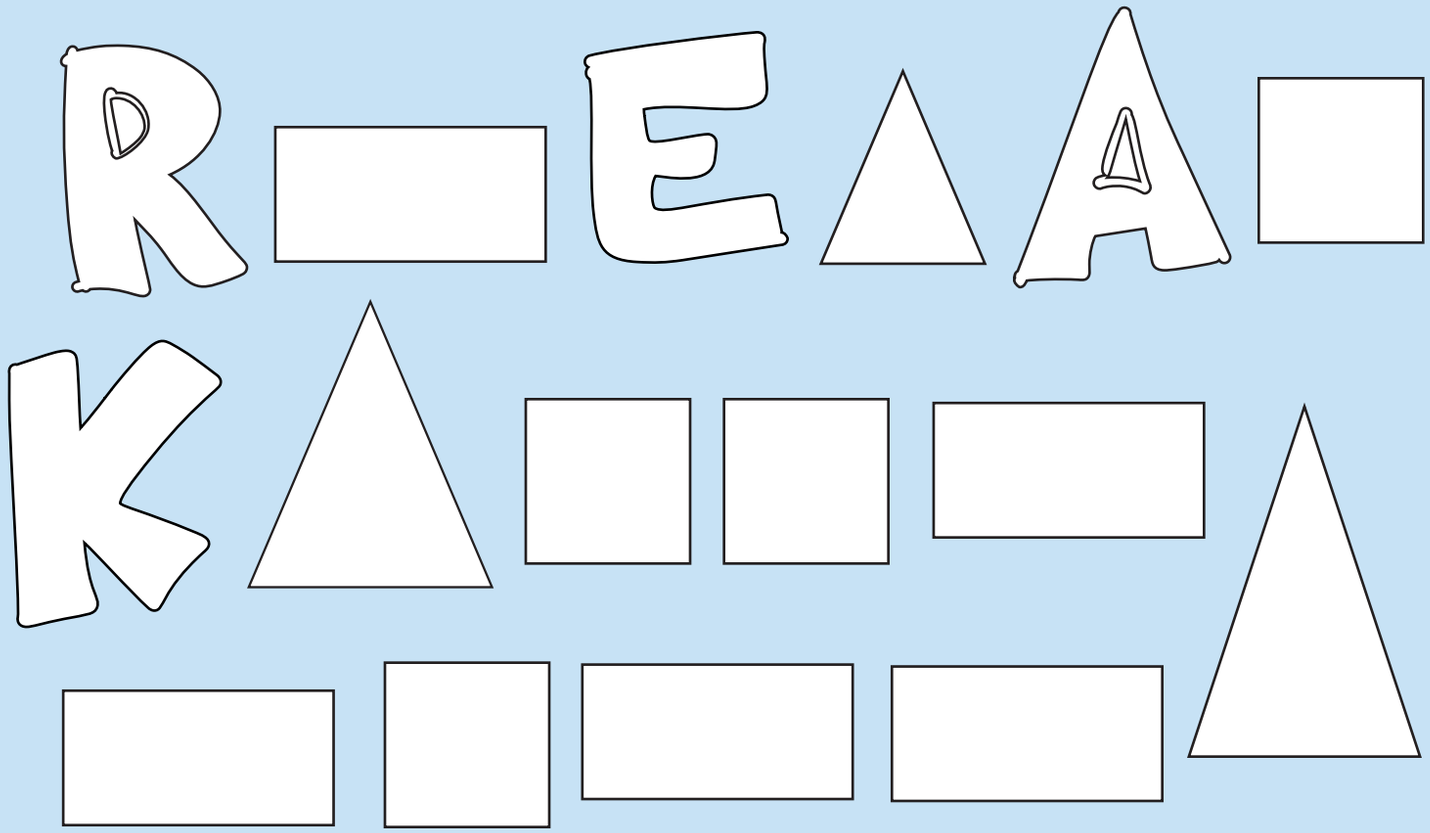
In this chapter, students will learn about:

- Shapes tools (Curve, Rounded rectangle and Polygon)
- Making changes to an existing picture
- Adding text to a picture

SIGN IN

CR CT

Colour the rectangles blue, squares red, triangle orange and the letters black.



We have already learnt in the previous class that Paint is a program for drawing and colouring on the computer. Let us learn more about paint in this chapter.

SHAPES TOOLS

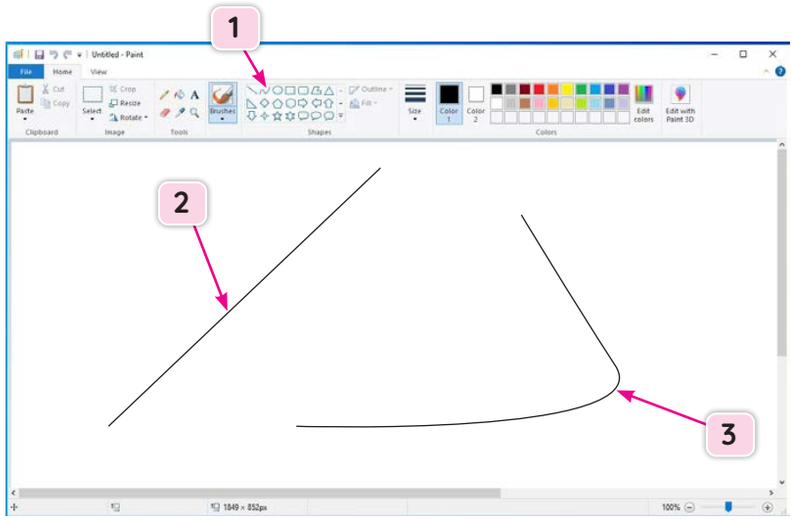
Paint has different shapes in the Shapes Tool. Let us learn how to draw using some of these shapes.

CURVE SHAPE

A **curve shape** is used to draw a curved line.

Follow these steps to draw curved lines using Curve shape:

1. Click on the **Curve** shape on the **Shapes** group.
2. Click and drag the mouse to make a line.
3. Now click on the line and drag it to make a curve. To end, double-click.



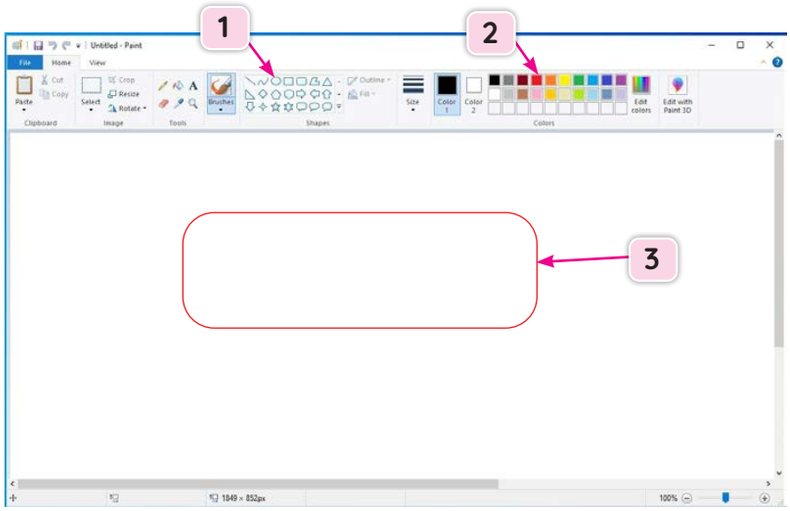
ROUNDED RECTANGLE SHAPE

A **rounded rectangle shape** is used to draw rounded rectangles and squares.

Follow these steps to draw rounded rectangles using the Rounded rectangle shape:

1. Click on the **Rounded rectangle** shape on the **Shapes** group.

2. Click on the **Color** group to select a colour.
3. Now drag the mouse to draw a rounded rectangle.



NEWS FEED

CM

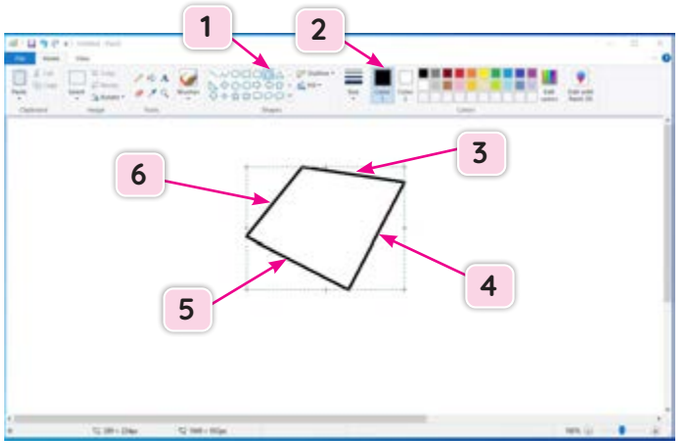
The shape tool in Paint has 29 predefined shapes.

POLYGON SHAPE

Polygon shape is used to draw a polygon or a closed figure.

Follow these steps to draw close figures using Polygon shape:

1. Click on the **Polygon** shape on **Shapes** group.
2. Click on the **Color** group to select a colour.
3. Now click and drag the mouse to draw the first line.
4. Place the pointer and click where the second line should end.
   A line joins this point with the end of the first line.
5. Place the pointer and click where the third line should end.
   A line joins this point with the end of the second line.
6. Place the pointer and click on the starting point of the first line.
   A line joins this point with the end point of the third line. This completes the drawing Double-click to end.

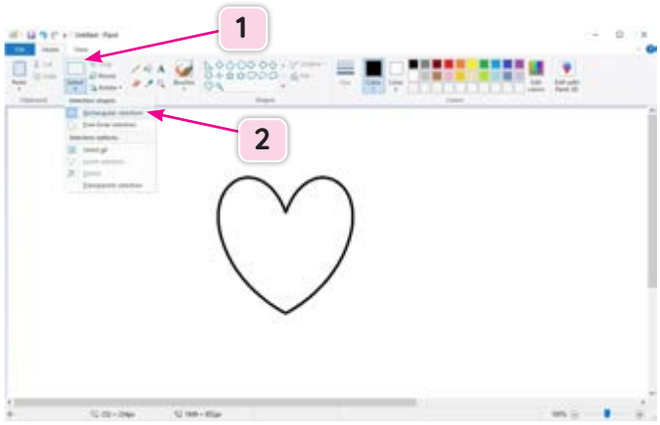


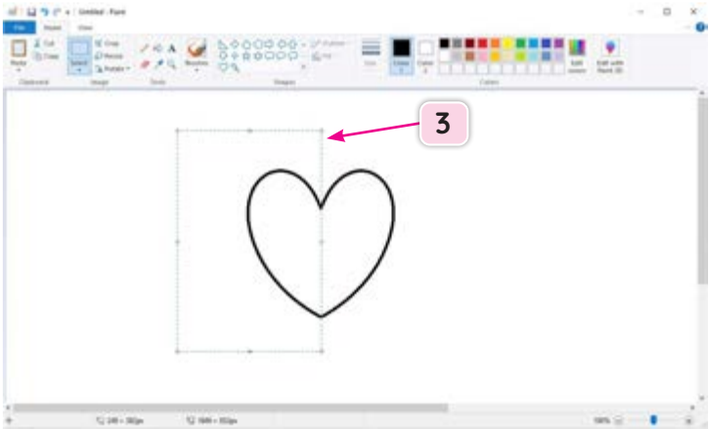
MAKING CHANGES TO AN EXISTING PICTURE

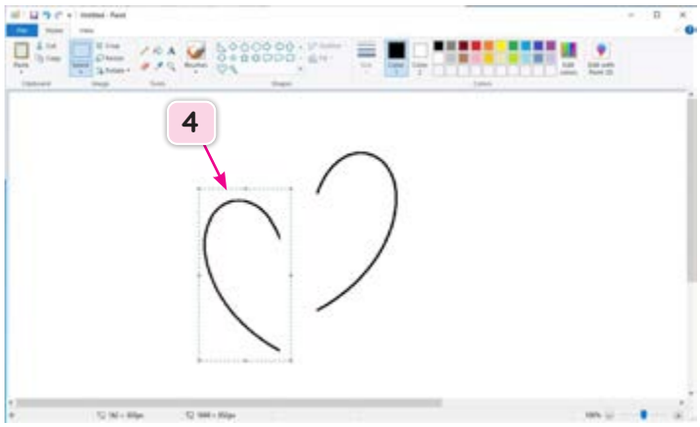
The **Select tool** is used to select a picture or a part of a picture that we want to change. Using this tool, we can move the picture from one place to another.

Follow these steps to select a picture using the Select tool:

1. Click on the **Select tool** on the **Image** group.
2. Click on the **Rectangular Selection**.
3. Click and hold the left button of the mouse. Then drag over the picture to select. Release the button when it is selected.
4. Click on the selected part of the picture and drag the mouse to move it to another area.





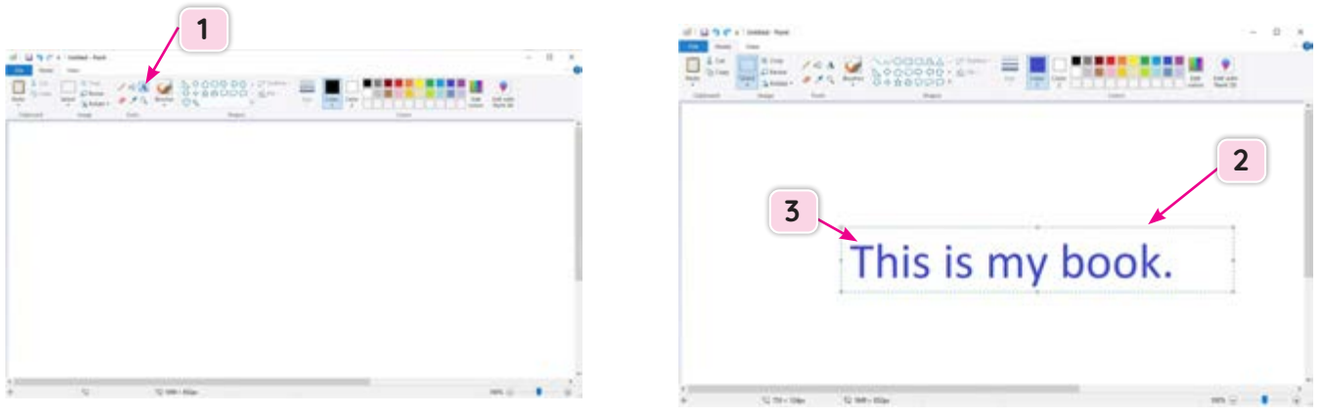


ADDING TEXT TO A PICTURE

A text tool is used to add text or type text in the drawing area.

Follow these steps to enter text using the Text tool:

1. Click on the **Text** tool on the **Tools** group.
2. Click and drag the pointer to the drawing area. A dotted text box will appear with the cursor blinking inside it.
3. Type the text in the text box.



NEWS FEED

CM

We can undo up to three changes in Paint.

ACTIVITY TIME

CT

Ria wants to draw a polygon. Help her by numbering the steps to be followed in the correct order.

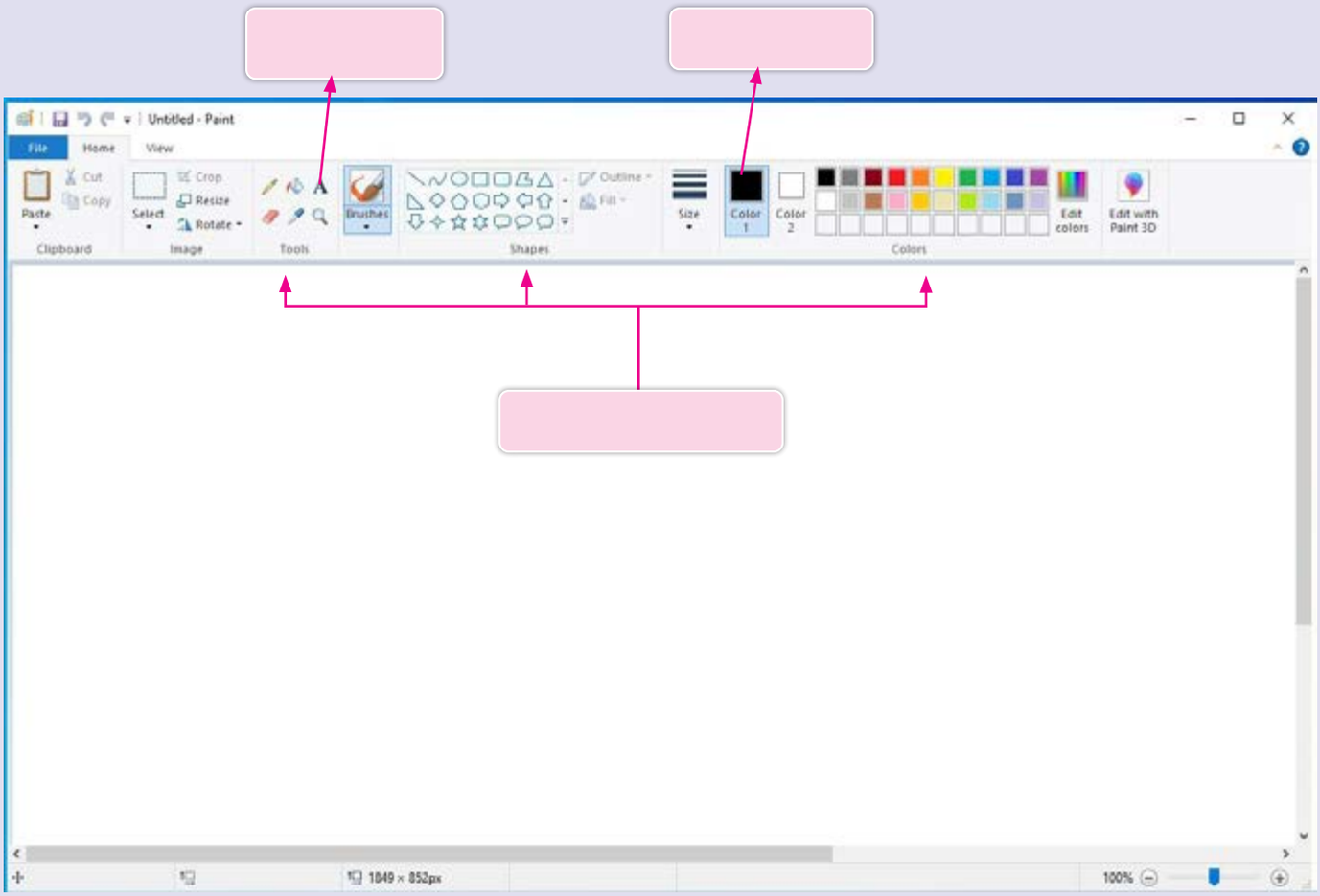
- Click on the Color group to select a colour.
- Place the pointer and click where the second line should end. A line joins this point with the end of the first line.
- Now click and drag the mouse to draw the first line.
- Click on the Polygon shape on Shapes group.
- Place the pointer and click on the starting point of the first line. This completes the drawing.
- Place the pointer and click where the third line should end.

REFRESH

- Paint has different shapes in the Shapes tool.
- Curve shape is used to draw curved lines.
- Rounded rectangle shape is used to draw rounded rectangles and squares.
- Polygon shape is used to draw a polygon or a closed figure.
- The Select tool is used to select a picture or a part of a picture.
- Text tool is used to add text or type text in the drawing area.

BROWSE

A **Identify the parts on the Paint screen and label them.**



B Fill in the blanks using the words given below.

text closed rectangle picture Curve square

1. _____ shape is used to draw curved line.
2. Rounded rectangle shape is used to draw rounded _____ and _____.
3. Polygon shape is used to draw a polygon or a _____ figure.
4. The Select tool is used to select a _____ or a part of the picture.
5. Text tool is used to add _____ in the drawing area.

C Write true (T) for the correct statements and false (F) for the incorrect statements.

Steps to make changes in an existing picture.

1. The first step to make changes to an existing picture is to click on the Select tool on the Image group.
2. The second step is to click and hold the left button of the mouse. Then drag over the picture to select. Release the button when it is selected.
3. The third step is to click on the Rectangular selection.
4. The fourth step is to click on the selected part of the picture and drag the mouse to move it to another area.

D Match the following.

1. 
2. 
3. 
4. Computer
5. 

a. 

b. 

c. 

d. 

e. 

E Answer the following questions.

1. Name three shapes from the Shapes group.

2. How do you make changes to an existing picture?

ACTIVITY TIME

CT

Choose the correct option.

1. To draw a curved line, we click on

a. 

b. 

c. 

2. To draw a closed figure, we click on

a.  b.  c. 

3. To draw a square, we click on

a.  b.  c. 

4. To add text, we click on

a.  b. 

c. 

5. To make select a picture, we click on

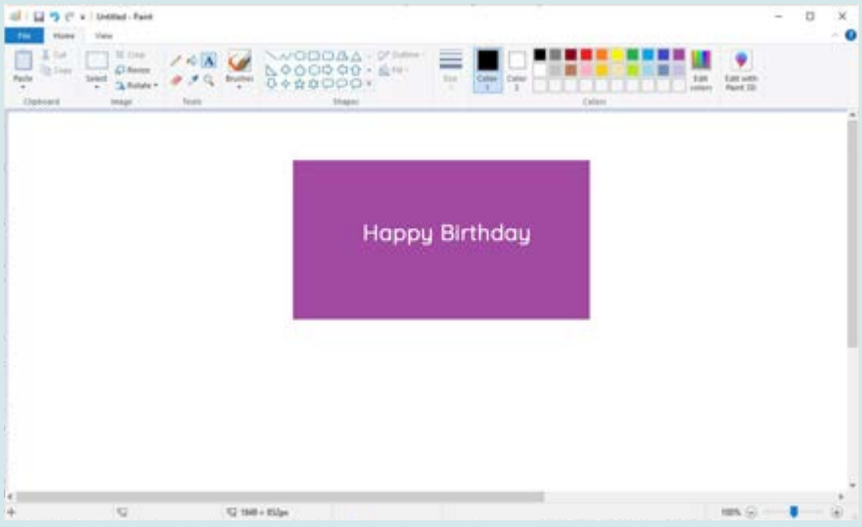
a.  b. 

c. 

LET'S EXPLORE

TE EL CR

Do this activity in the computer lab. Using Paint tool, draw a birthday card for your friend. You can refer to the picture given below.



FOR THE TEACHER

- Explain all the tools of Paint discussed in the chapter.
- Demonstrate the function of the tools by drawing a picture.
- Encourage the students to draw on Paint.

Chapter 9

Analysis and Reasoning

LEARNING OBJECTIVES

Scan QR Code to watch a video

In this chapter, students will learn about:

- Directions
- Number Pyramid
- Number Grid

SIGN IN

CR CT

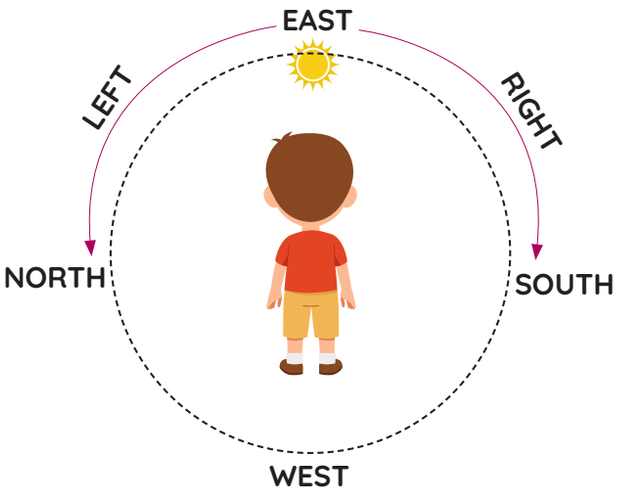
Help the bee to reach the flower. Colour them with matching colours.

We have studied in the previous class, how to analyse shapes and patterns or given objects to find the next object in a list and complete the sequence.

In this chapter, let us learn about directions, number pyramid and number grid.

DIRECTIONS

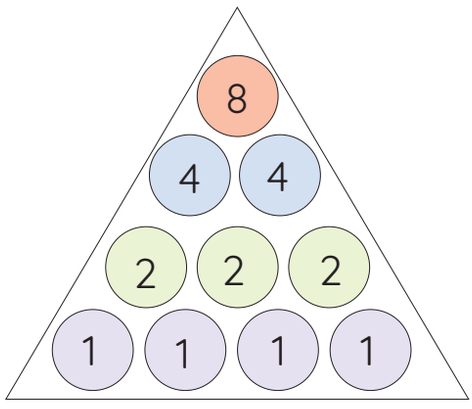
There are four major directions—North, South, East and West. The direction in which the Sun rises in the east. The right side of the east is the south. The left side of the east is the north. The opposite of the east is the west.



These directions help us to determine which way to go. It is easier to locate nearby places when we follow these directions. We can also easily give direction to a place with the help of these directions. For example, we can find the location of the park near our house if we know which direction to go. We can also give directions to our house to our friends using these directions.

NUMBER PYRAMID

In a **number pyramid**, the numbers on the lower row tell us the number that can come on the upper row. For example, in the number pyramid given below, the number in the upper row is the sum of two numbers in the lower row.



NEWS FEED

CM

The device used to find a direction is called a compass.

Here, 1 + 1 = 2, 1 + 1 = 2 and 1 + 1 = 2.

The numbers in the upper row are the sum of two adjoining numbers of the lower row.

We get all the numbers in the upper rows by following the same pattern.

NUMBER GRID

A **number grid** is used to study number patterns. We have to follow the instruction carefully to solve a number grid.

While solving a number grid, we usually start from the centre. The remaining places are filled according to the instruction given in each box.

	-10 less	
-1 less	15	+1 more
	+10 more	

	5	
14	15	16
	25	

NEWS FEED

CM

The compass was first used in China.

ACTIVITY TIME

Write the correct direction phrase from the help box below each sign.

at the traffic lights turn left go straight
cross the street turn right



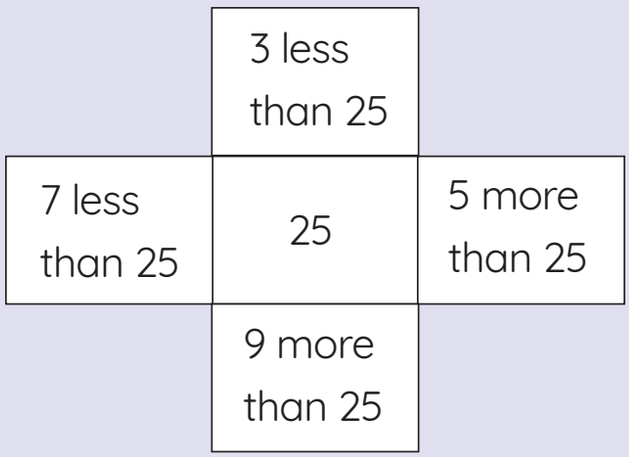


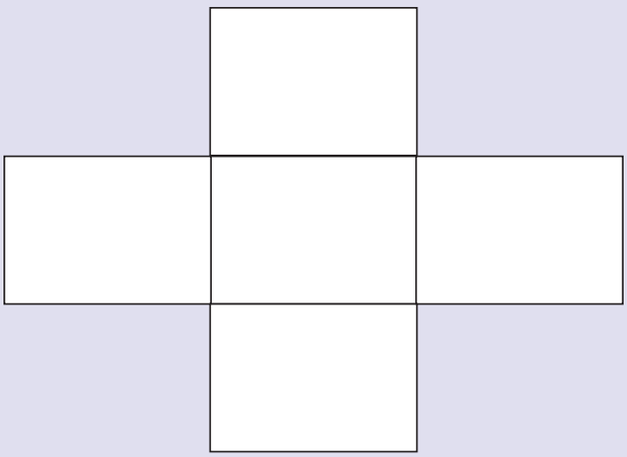
REFRESH

- There are four major directions—North, South, East and West.
- Directions help us to find our way and locate a place.
- In a number pyramid, the numbers on the lower row tell us the number that can come on the upper row.
- A number grid is used to study number patterns.

BROWSE

A **Fill in the missing numbers. Follow the instruction given in each box.**





B **Fill in the blanks using the words given below.**

left **Directions** **patterns** **four** **right**

1. There are _____ major directions.

2. _____ help us to find our way and locate a place.

3. The _____ side of east is the south.

4. The _____ side of east is the north.

5. A number grid is used to study number _____.

C Write True (T) for the correct statements and False (F) for the incorrect statements.

1. There are three directions. _____

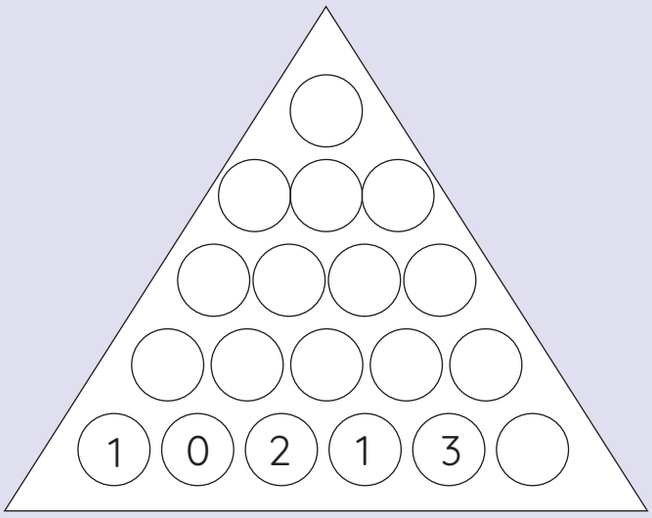
2. The west is on the right side of the east. _____

3. The direction in which the Sun rises in the north. _____

4. In a number pyramid, the numbers in the lower row are not related to the numbers in the upper row. _____

5. We should not follow the instruction to solve a number grid. _____

D Fill in the missing numbers in the pyramid given below.



E Answer the following questions.

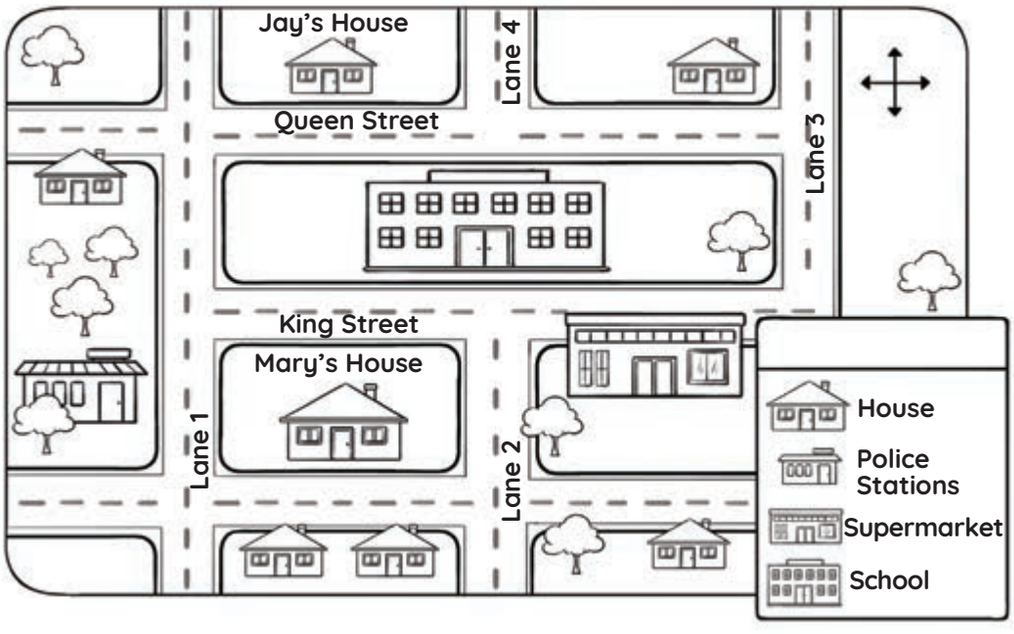
1. Name the four directions.

2. How can you solve a number grid?

ACTIVITY TIME

CT CR CM SEL

Study the map. Write North, South, East or West to complete each sentence.



1. Mary goes towards _____ to go to school.
2. Jay goes _____ to go to Mary's house.
3. Kim goes towards _____ to go to Jay's house.
4. Kim goes towards _____ to go to the supermarket.
5. Jay goes _____ to go to school.
6. A police officer would go _____ to the supermarket.
7. Students at school go towards _____ to go to the park.

LET'S EXPLORE

CT EL

Create a map of your neighbourhood. Keep your house at the center and write what is on the East, West, North and South.

FOR THE TEACHER

- Explain number pyramid and number grid with more examples.
- Show the students how to draw a route from the classroom to the computer lab.

Chapter 10

Artificial Intelligence

LEARNING OBJECTIVES

Scan QR Code to watch a video

In this chapter, students will learn about:

- Artificial Intelligence devices
- Robot
- Voice recognition
- Face detection
- Navigation

SIGN IN

CR CT

Identify and colour the picture given below. How is it different from a dog? Say one characteristic of it.

In the previous class, we have learnt that artificial intelligence is the ability of a machine to learn and think. It is created by humans.

ARTIFICIAL INTELLIGENCE DEVICES

Artificial intelligence devices are machines that have artificial intelligence (AI). These machines can think and work like humans. Some of the features of AI devices are:

- It should be able to recognise images.
- It should be able to recognise and understand human languages.
- It should be able to perform certain tasks.
- It should be able to make decisions.

AI technology was developed to help us perform many of our tasks in a better and easier way. Let us look at some of the AI devices that we use.

ROBOTS

Robots is a machine that is capable of moving independently. It can do specific tasks without or with little help from humans. Some of the robots look like humans.

NEWS FEED

CM

John McCarthy, an American computer scientist and pioneer is known as the **'Father of Artificial Intelligence'**.

Robots assisting in surgery

Robots in factory, assisting in manufacturing of cars

A robot used for cleaning

A robot serving food

Robots are used in factories to assist in manufacturing, packing, transport and assembly. They help in the mass production of goods. They are also used in surgery, space and science research. Robots are used in doing household work such as cleaning and serving food.

VOICE ASSISTANT

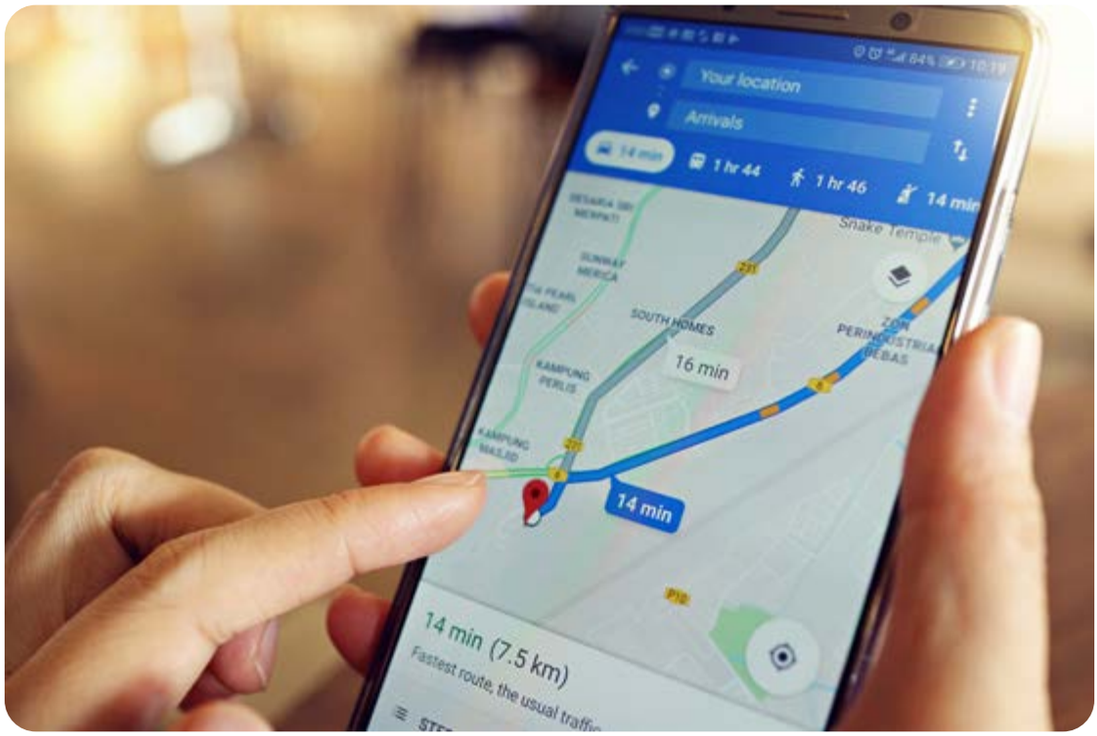
A **voice assistant** is based on the recognition of human language. It is an AI technology which understands the commands given through speech or voice instead of text. Some examples of voice assistants are Siri, Cortana, Alexa and Google Voice Assistant. We call out Siri, Alexa or Google when we want to search for something on our phone without typing the text.

FACE DETECTION

Face detection is a technology that can recognise and identify a human face. It is used for a variety of purposes. One of the most common uses of this technology is in taking pictures. It is also used to unlock a phone.

NAVIGATION

Navigation helps to plan the best route while travelling. Navigation app uses AI to share information about traffic and the best route to a destination. An example of a Navigation app is Google Maps.



NEWS FEED

CM

Artificial Intelligence has been in use for almost **65 years.** The first AI program was written in **1951** by **Christopher Strachey**.

CT CM

ACTIVITY TIME

Match the following.

1. 

2. 

3. 

4. 

5. 

a. AI in navigation

b. AI in factory

c. AI in restaurant

d. AI in cleaning

e. AI in face detection

REFRESH

- Artificial intelligence devices are machines that have artificial intelligence.
- Robots is a machine that is capable of moving independently.
- Robots are used in factories, surgery, space and science research and doing some household work.
- Voice assistant is an AI technology that can recognise and understand the human voice.
- Face detection is an AI technology that recognises a human face.
- Navigation is an AI technology that gives information about traffic flow and directions.

BROWSE

A **Tick (✓) the examples of voice assistants.**

1. 

Google Maps

2. 

Alexa

3. 

Robot

4. 

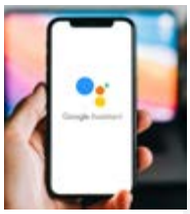
Siri

5. 

Cleaning

6. 

Cortana

7. 

Google Voice Assistant

8. 

Machine

9. 

AI

B Fill in the blanks using the words given below.

human Alexa Google images Robot

1. An artificial intelligence device should be able to reorganise _____.
2. An artificial intelligence device should be able to recognise and understand _____ languages.
3. _____ is used in surgery.
4. _____ is an example of voice assistant.
5. _____ Maps is an example of navigation.

C Write True (T) for the correct statements and False (F) for the incorrect statements.

1. AI is created by humans. _____
2. AI devices are machines that do not have AI. _____
3. Voice assistant is a technology which can understand human language. _____
4. Face detection is used in unlocking phones. _____
5. A robot is a machine that works in place of humans. _____

D Choose the correct option.

1. It is NOT an example of a voice assistant.

   a. Siri ☐ b. Cortana ☐ c. Google Maps ☐

2. It is a feature of an AI device.

   a. Recognise voice ☐ b. Recognise images ☐ c. Both a and b ☐

3. It is an example of a navigation app.

   a. Cortana ☐ b. Google Maps ☐ c. Google Voice Assistant ☐

4. It is a task that a robot can do.

   a. Cleaning ☐ b. Assist in surgery ☐ c. Both a and b ☐

5. It is not a feature of an AI device.

   a. Recognise voice ☐ b. Recognise images ☐ c. Eat food ☐

E Answer the following questions.

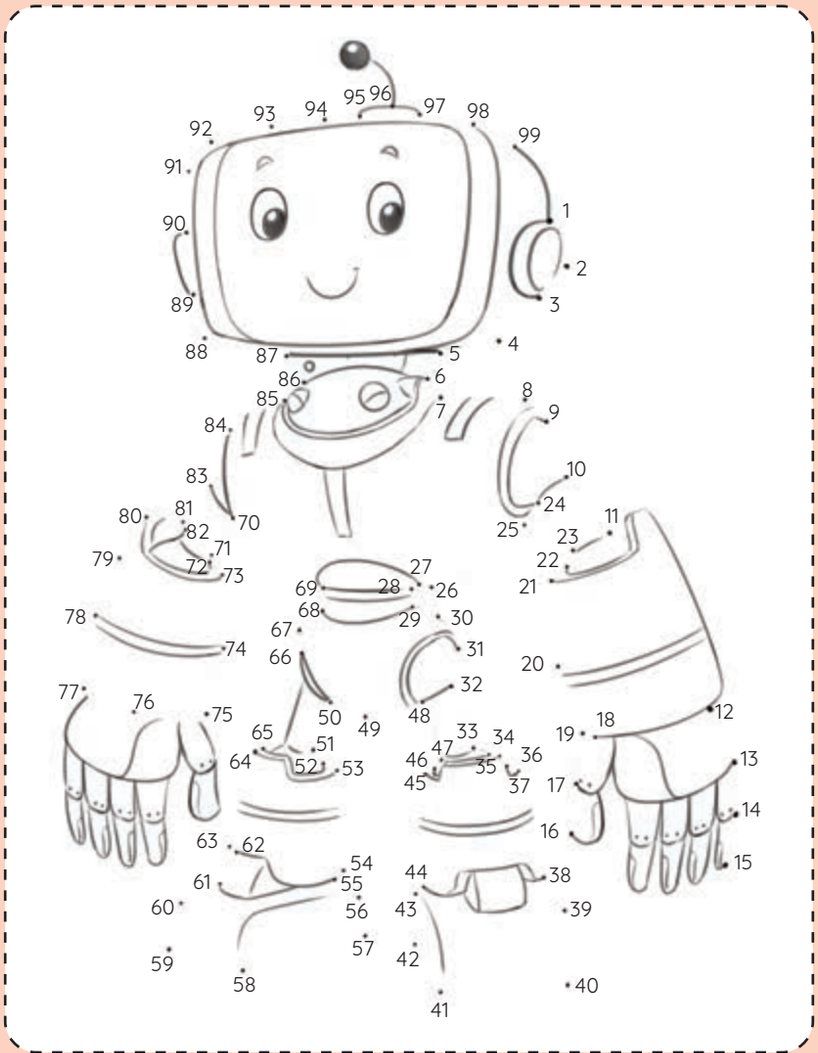
1. Write four examples of AI around us.

2. What is Voice Assistant?

ACTIVITY TIME

CR CM

Join the dots to complete the picture and colour it. Identify the picture.



LET'S EXPLORE

TE EL SEL

1. **In the computer lab, with the help of your teacher:**
   - **Try Voice Assistant**

     Open voice assistant and give any instruction or command. Observe how the assistant responds to your command.

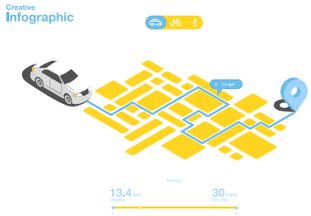
2. **Request your teacher or any adult in your family to use their phone and do this activity.**
   - **Try Navigation**
     - » Open the navigation app or Google Maps app.
     - » Enter the destination, i.e., the place you want to go (try nearby or walkable distance).
     - » To start navigation, click on the start button.
     - » Observe the different information you can see on the screen.

FOR THE TEACHER

- Show the uses of various AI devices to the students.
- Demonstrate how to open an app using Voice Assistant.

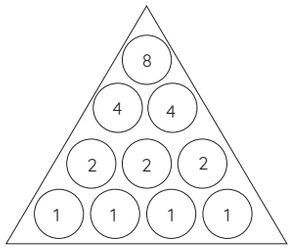
PERIODIC ASSESSMENT 4

A. Identify the following images and write their names.



1. _____

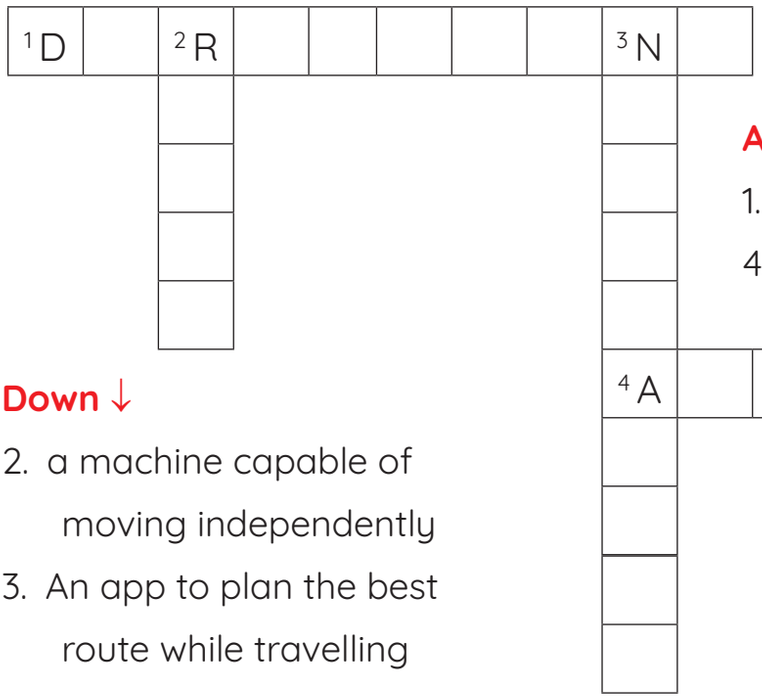
2. _____



3. _____

4. _____

B. Read the clues and complete the words in the puzzle.



Across →

1. Helps us to locate a place
4. A voice assistance

Down ↓

2. a machine capable of moving independently
3. An app to plan the best route while travelling

TEST PAPER 2

A. Tick (✓) the correct option.

1. In Tux Paint, _____ tool is used to add a special effect.

   a. Stamp ☐ b. Text ☐ c. Magic ☐

2. Rounded rectangle shape is used to draw rounded _____, in MS Paint.

   a. square ☐ b. circle ☐ c. triangle ☐

3. The _____ side of the east is north.

   a. left ☐ b. right ☐ c. back ☐

4. _____ is an example voice assistant.

   a. Robot ☐ b. Cortana ☐ c. Google Maps ☐

B. Write True (T) for the correct statements and False (F) for the incorrect statements.

1. The bar at the bottom of the desktop is called Taskbar. ☐
2.  is used to change the size of an image in Tux Paint. ☐
3. The Select tool is used to select the pictures in MS Paint. ☐
4. Sun rises in the north direction. ☐
5. Face detection is used in unlocking phones. ☐

C. Answer the following questions.

1. How can you open an existing drawing in Tux Paint?
2. What is an icon? Name any three icons you see on the desktop.
3. Name three shapes from the Shape group in MS Paint.
4. Write four examples of AI around us.
5. How can you open an existing drawing in Tux Paint?

PROJECT

A. Draw the following in Tux Paint.

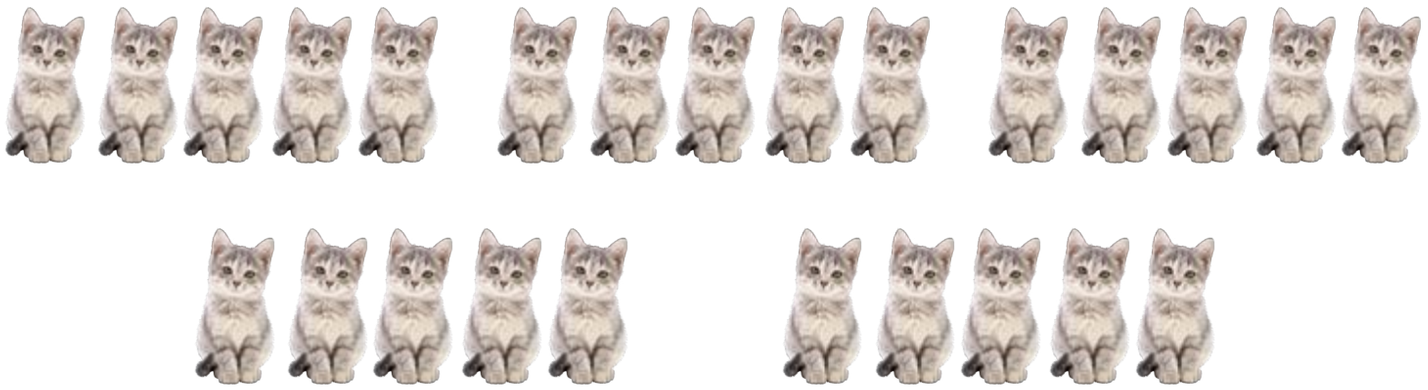
B. Draw the following in MS Paint.

NATIONAL CYBER OLYMPIAD

(Sample Paper)

LOGICAL REASONING

1. Divide the given cats into 5 groups having an equal number of cats. How many cats did you keep in one group?



a. 10 **b.** 8 **c.** 7 **d.** 6

2. Complete the number grid, if same rule is followed column-wise and row-wise.

25	30	35
9	18	27
34	48	?

a. 42 **b.** 52 **c.** 62 **d.** 82

3. Which letter is second to the right of the eighth letter from the right end ILOVECOMPUTER

a. M **b.** V **c.** U **d.** C

4. Computer is a _____ machine.

a. slow **b.** weak **c.** useless **d.** smart

5. Select the icon of MS Paint.

a.  **b.** 

c.  **d.** 

6. Select the incorrect shortcut key and its result.

a.  → H

b.  → !

c.  → _

d.  → 4

7. With the help of a keyboard, Samita can _____.

a. type **b.** point on a menu

c. move cursor **d.** switch ON the computer

8. In _____, computers are very useful to maintain record of patients and examining X-rays.

a. railway stations **b.** schools **c.** hospitals **d.** restaurants

ACHIEVERS SECTION

9. Computer is an advanced machine than a calculator because it _____.

a. can perform additions only.

b. has less memory.

c. can perform more complex mathematical equation.

d. works without electricity.

10. What kind of computer should you use to make a project for your school.

a. Supercomputer

b. Personal computer

c. Mainframe computer

d. None of these