DigiVerse

Teacher's Resource Manual & Answer Key

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CONTENTS

1. Computer: An Electronic Machine

Subject: Computer

Duration (Periods): 2

Lesson Name: Computer: An Electronic Machine

Overview: Computer is a smart machine that needs electricity to work. We use a computer to complete various tasks. Computer is a man-made machine.

Prior Knowledge: The students are aware of natural and man-made things.

Learning Outcomes:

At the end of the lesson, the student will be able to:

- differentiate between natural and man-made things.
- understand the meaning of machines.
- recognise and define a computer.

Teaching Aids:

- https://www.youtube.com/watch?v=PDqcFqdarzk
- https://storyweaver.org.in/en/stories/254460-brilliant-computer?mode=read

Learning Segments:

LESSON LINK **Time:** 05 minutes **Purpose:** Brief introduction/discussion to pique students' interest.	Greet the class and introduce the topic: • There are two types of things, natural and man-made. • Natural things exist in nature. • Man-made things are made by humans.
LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	Period 1 • Explain the difference between natural and man-made things. • State the examples of natural and man-made things. • Discuss the meaning of machines. • Tell the students that computer is an electronic machine. • Discuss various uses of a computer. Period 2 • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.

LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 1]

A. Identify and write the name of the following.
   1. Fan   2. Bicycle

B. Fill in the blanks using the words in the box.
   1. Natural things   2. refrigerator   3. Pen   4. computer

C. Write T for True and F for False statements.
   1. F   2. T   3. T   4. T

D. Answer the following questions.
   1. A machine is a device that makes our work easier. It helps us to complete a task quickly. It is a man-made thing.
   2. Computer is a smart machine that needs electricity to work. We use a computer to complete various tasks.
   3. Four examples of man-made things are: Microwave, Washing Machine, Sewing Machine and Bicycle.
   4. The machines which require electricity to work are known as electronic machines.

2. Computer: Types and Uses

Subject: Computer

Duration (Periods): 2

Lesson Name: Computer: Types and Uses

Overview: We use different types of computers to complete different tasks.

Prior Knowledge: The students have basic awareness about a computer.

Learning Outcomes:

At the end of the lesson, the student will be able to:
   • recognise the types of computers.
   • state the uses of computers.
   • list the merits and demerits of computers.

Teaching Aids:
- https://i.pinimg.com/originals/91/67/3d/91673d805d8e4a01f7963545b4d4517f.jpg
- https://ict123.wordpress.com/topics/introduction-to-a-computer/uses-of-computer/

Learning Segments:

LESSON LINK **Time:** 05 minutes **Purpose:** Brief introduction/ discussion to pique students' interest.	Greet the class and introduce the topic: • There are different types of computers. • Examples are desktop, laptop, tablet, smartphone, etc.
LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	<u>Period 1</u> • Discuss the different types of computers. • Point to the pictures in the book and say the name of each type of computer. • Discuss the uses of a computer. • Encourage the students to say one use of any type of computer. • Ensure that the students have understood the usage of each device. Clear their doubts, if any. <u>Period 2</u> • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.
LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 2]

A. Identify and write the name of the following.
    1. Tablet   2. Laptop
B. Fill in the blanks using the words in the box.
    1. Desktop   2. instructions   3. music   4. electricity
C. Write T for True and F for False statements.
    1. F   2. T   3. T   4. F

D. Answer the following questions.
1. Smartphone has a smaller screen than a tablet. We use a smartphone to make phone calls, watch videos, play games, etc. It is the most commonly used computer these days.
2. The merits of a computer are:
   - A computer works very fast.
   - It never gets tired.
   - It can solve difficult sums within seconds.
   - It can store a lot of information.
   - We can perform many tasks on a computer.
3. The demerits of a computer are:
   - A computer needs instructions to work.
   - It cannot take decisions.
   - It cannot hear or speak like us.
   - It cannot work without electricity.
   - It cannot be carried from one place to another.
4. We use a computer to draw pictures, listen to music, store information, watch cartoons, play games and perform calculations.

3. Computer Parts

Subject: Computer

Duration (Periods): 2

Lesson Name: Computer Parts

Overview: A computer can perform the tasks efficiently but with the help of various parts.

Prior Knowledge: The students are aware of computer parts such as keyboard, mouse, CPU, etc.

Learning Outcomes:

At the end of the lesson, the student will be able to:
- identify various parts of a computer.
- name the various parts of a computer.

Teaching Aids:
- https://www.superteacherworksheets.com/computer-parts/computer-bw-labeled_PARTS.pdf
- https://www.englishwsheets.com/computer-parts-12.html

Learning Segments:

LESSON LINK **Time:** 05 minutes **Purpose:** Brief introduction/discussion to pique students' interest.	Greet the class and introduce the topic: • A computer has various parts. • Some basic parts of a computer are; monitor, keyboard, mouse and CPU.
LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	<u>Period 1</u> • Take the students to the computer lab and show them the various parts. • Point to each part and explain the usage of it. • Use placards to introduce the students to the other parts of a computer such as CD, pen drive, printer, scanner, headphones, speakers, etc. • Ensure that the students have understood the usage of each device. Clear their doubts, if any. <u>Period 2</u> • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.
LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 3]

A. Identify and write the name of the following.
   1. Printer   2. Pen drive

B. Fill in the blanks using the words in the box.
   1. monitor   2. CD   3. speakers   4. CPU

C. Write T for True and F for False statements.
   1. F   2. F   3. F   4. T

D. Answer the following questions.
1. A keyboard is a device using which we can type letters and numbers on the computer.
2. CPU stands for Central Processing Unit. It is the brain of the computer. CPU is the main part of a computer.
3. A mouse is used to select or draw and select things on a computer.
4. A pen drive is also known as thumb drive or flash drive. It is used to store data. Pen drives are faster and more durable than a CD.

4. Computer Mouse

Subject: Computer

Duration (Periods): 2

Lesson Name: Computer Mouse

Overview: A computer mouse is used to perform things on the computer screen.

Prior Knowledge: The students have seen a computer mouse.

Learning Outcomes:

At the end of the lesson, the student will be able to:
*   identify a computer mouse.
*   hold a mouse properly and perform tasks on the computer screen.

Teaching Aids:
*   https://i.pinimg.com/originals/2a/0f/43/2a0f43f8094e5126316216c142b60180.jpg
*   https://oakdome.com/k5/file-downloads/how-to-hold-the-mouse.php

Learning Segments:

LESSON LINK	Greet the class and introduce the topic:
Time: 05 minutes **Purpose:** Brief introduction/discussion to pique students' interest.	• A computer mouse is used to draw or select things on the computer. • It is also known as the pointing device.

LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	<u>Period 1</u> • Take the students to the computer lab and demonstrate the usage of a computer mouse. • Instruct the students to correctly hold the mouse with their dominant hand. • Show the mouse pad and explain why it is used. • Demonstrate the type of mouse clicks. • Show the mouse pointer to the students. <u>Period 2</u> • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.
LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 4]

A. Identify and write the name of the following.
   1. Computer Mouse   2. Mouse Pad

B. Fill in the blanks using the words in the box.
   1. left   2. drag   3. mouse pad   4. Cable

C. Write T for True and F for False statements.
   1. T   2. F   3. F   4. T

D. Answer the following questions.
   1. A computer mouse is a device used to perform things on the computer. It has a long cable that looks like a tail and it has buttons. We can draw or select things on the computer using a mouse.
   2. The mouse pointer is an arrow on the screen that moves with the movement of the mouse on the mouse pad. It is also known as the cursor.
   3. We keep pressing the left mouse button and then move it across the screen, this is called dragging.
   4. The mouse has a scroll wheel in the middle. It can be rolled up or down to the move the page up or down on the screen. This is called scrolling.

5. Keyboard

Subject: Computer

Duration (Periods): 2

Lesson Name: Keyboard

Overview: A keyboard is used to type letters, words, numbers and symbols on the computer screen.

Prior Knowledge: The students have seen a computer keyboard.

Learning Outcomes:

At the end of the lesson, the student will be able to:
- recognise different keys on the keyboard and their functions.
- use special keys to modify the text / move the page up or down.

Teaching Aids:
- https://i.pinimg.com/originals/f7/1a/58/f71a587f6fff9c5eb83af0b6b8697947.jpg
- https://i.pinimg.com/originals/a2/a6/ad/a2a6ad3b4f3269e40193ad6df93c90ed.jpg

Learning Segments:

LESSON LINK **Time:** 05 minutes **Purpose:** Brief introduction/discussion to pique students' interest.	Greet the class and introduce the topic: • A keyboard is used to type text on the computer screen. • There are 104 keys on a keyboard.
LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	Period 1 • Take the students to the computer lab and demonstrate the usage of a computer keyboard. • Point to different sets of keys such as alphabet keys, number keys and special keys. • State that there are 26 alphabet keys and 20 number keys on a keyboard. • Explain the usage of different types of keys. Period 2 • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.

LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 5]

A. Identify and write the name of the following.
   1. Backspace   2. Caps Lock

B. Fill in the blanks using the words in the box.
   1. 104   2. cursor   3. Space bar   4. Enter

C. Write T for True and F for False statements.
   1. F   2. T   3. F   4. T

D. Answer the following questions.
   1. A keyboard is a device that is used to type words, letters, numbers or symbols on a computer screen. It has 104 keys on it.
   2. A cursor is a small blinking line on the screen. It shows the place where the typed words, numbers or symbols will appear.
   3. The arrow keys are also known as cursor keys. We use the arrow keys to move the cursor up, down, left or right.
   4. The different keys on the keyboard are: alphabet keys, number keys and special keys.

6. Using Paint

Subject: Computer

Duration (Periods): 2

Lesson Name: Using Paint

Overview: Paint program is used to draw different drawings using several tools.

Prior Knowledge: The students are familiar with the concept of drawing and painting.

Learning Outcomes:

At the end of the lesson, the student will be able to:
   • identify various groups present in the Paint program.
   • use different tools to create drawings.

Teaching Aids:
- https://www.youtube.com/watch?v=dMrPEx2LT7o
- https://www.kidpid.com/fun-with-ms-paint/

Learning Segments:

LESSON LINK **Time:** 05 minutes **Purpose:** Brief introduction/discussion to pique students' interest.	Greet the class and introduce the topic: • Paint is a drawing program that comes with Windows computers. • We use the Paint program to create different drawings.
LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	Period 1 • Take the students to the computer lab and start the Paint program. • Point out and explain the different components of the Paint window. • Discuss the various elements such as Tools group, Shapes group, Colors group and Drawing Area. • Demonstrate drawing different shapes, lines and filling colours in them. Period 2 • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.
LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 6]

A. Identify and write the name of the following.
   1. Tools group   2. Shapes group

B. Fill in the blanks using the words in the box.
   1. Pencil   2. Freehand   3. Shapes   4. seven

C. Write T for True and F for False statements.
   1. T   2. F   3. T   4. T

D. Answer the following questions.
1. Paint is a drawing program that comes with Windows computers. It's like a digital canvas where we can use simple tools to draw pictures. We can use different colours, draw lines and shapes, add text, etc.
2. The steps to make a freehand drawing are:
   • Select the Pencil tool from the Tools group.
   • Select any colour from the Colors group.
   • Click and drag the mouse in the Drawing Area to make a freehand drawing.
3. The shapes group is one of the components of Paint that has many shapes to choose from, e.g. circle, rectangle, triangle, line, etc.
4. Fill with color tool is used to fill colours in a closed shape or area.

7. Using Tux Paint

Subject: Computer

Duration (Periods): 2

Lesson Name: Using Tux Paint

Overview: Tux Paint is a drawing software that offers creative tools for making drawings.

Prior Knowledge: The students have basic knowledge of using a computer.

Learning Outcomes:

At the end of the lesson, the student will be able to:
• identify the components of the Tux Paint screen.
• use different tools of Tux Paint.

Teaching Aids:
• https://www.youtube.com/watch?v=YBaNeVIQE3g
• https://www.studiestoday.com/practice-worksheets-computers-cbse-class-1-computer-starting-tux-paint-worksheet-set-258657.html#srcollstop

Learning Segments:

LESSON LINK **Time:** 05 minutes **Purpose:** Brief introduction/ discussion to pique students' interest.	Greet the class and introduce the topic: • Tux Paint is a free drawing software designed for young children. • We can various stamps, colours or tools to create drawings.

LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	**Period 1** • Take the students to the computer lab and start the Tux Paint software. • Point out and explain the components of the Tux Paint window. • Discuss the various tools of Tux Paint. • Demonstrate the process of creating and saving a file in Tux Paint. **Period 2** • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.
LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 7]

A. Identify and write the name of the following.
   1. Lines tool
   2. Eraser tool

B. Fill in the blanks using the words in the box.
   1. Save
   2. Tux Paint
   3. Selector
   4. Shapes

C. Write T for True and F for False statements.
   1. T
   2. F
   3. F
   4. T

D. Answer the following questions.
   1. Tux Paint provides a blank canvas where children can draw, use stamps, add colours and experiment with different tools to create drawings.
   2. Drawing Canvas is the largest area of the screen where we draw pictures.
   3. Colors Palette is a component of the Tux Paint window which displays different colours that we can use in our drawing.
   4. Lines tool is used to draw straight lines on the Drawing Canvas.

8. Reasoning and Critical Thinking

Subject: Computer

Duration (Periods): 2

Lesson Name: Reasoning and Critical Thinking

Overview: We use reasoning and critical thinking to tackle with different situations.

Prior Knowledge: The students are aware of various shapes, patterns and puzzles.

Learning Outcomes:

At the end of the lesson, the student will be able to:
- identify various shapes.
- recognise patterns.
- solve word puzzles.

Teaching Aids:
- https://www.megaworkbook.com/images/content/GeneralAptitude/PictureAnalogies/Choose_Correct_Option/Picture_Analogies_Worksheet_01.png
- https://wmznlejcfq.s3-ap-southeast-1.amazonaws.com/media/worksheets/patterns-worksheet-1.pdf

Learning Segments:

LESSON LINK **Time:** 05 minutes **Purpose:** Brief introduction/ discussion to pique students' interest.	Greet the class and introduce the topic: • When we use our knowledge and experiences to solve a problem, it is called reasoning and critical thinking. • We apply reasoning in our everyday life.
LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	Period 1 • Explain the meaning of reasoning and critical thinking. • Recapitulate the different types of shapes. • Use placards to show different patterns to the students. • Create a word puzzle on the board and ask the students to circle the words hidden in it. Period 2 • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.

LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 8]

A. Complete the given patterns.

1.   2.   3.   4.
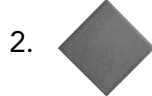
B. Fill in the blanks using the words in the box.
   1. four   2. no   3. word search   4. three

C. Answer the following questions.
   1. Shape is the outline of an object. The different types of shapes are square, rectangle, triangle, circle, etc.
   2. A pattern is a repeated arrangement of colours, numbers, alphabets, shapes, etc.
   3. A word puzzle is also known as a word search. In a word puzzle, words are hidden in a random manner in a word grid.
   4. A triangle is a shape having three sides. Its sides may or may not be equal.

9. Introduction to Artificial Intelligence

Subject: Computer

Duration (Periods): 2

Lesson Name: Introduction to Artificial Intelligence

Overview: Artificial intelligence is the intelligence showcased by machines.

Prior Knowledge: The students can differentiate between natural and artificial things.

Learning Outcomes:

At the end of the lesson, the student will be able to:
   • differentiate between natural and artificial things.
   • define artificial intelligence.
   • state the importance of AI.

Teaching Aids:
- https://skyteach.ru/wp-content/uploads/2022/01/artificial-intelligence-a-worksheet.pdf
- https://www.youtube.com/watch?v=ad79nYk2keg

Learning Segments:

LESSON LINK **Time:** 05 minutes **Purpose:** Brief introduction/ discussion to pique students' interest.	Greet the class and introduce the topic: • Artificial intelligence is the human-like intelligence shown by machines or computer-systems. • AI is generated using sets of instructions (programs) created by humans.
LESSON EXECUTION **Time:** 25 minutes **Purpose:** Engagement of both teacher and students to achieve the learning outcomes.	<u>Period 1</u> • Discuss the meaning of artificial intelligence. • State and explain the different types of AI devices. • Explain to the students why AI is important. <u>Period 2</u> • Read out the rubrics in the Skill Drill section and encourage the students to indulge in the task individually. • Ensure that each student has completed the task.
LESSON CLOSURE **Time:** 05 minutes **Purpose:** Summarising the key points and reinforcing the learning outcomes of the lesson.	• Discuss the answers to the questions. • Recapitulate the topics discussed in the lesson.

Answer Key [Chapter 9]

A. Identify and write the name of the following.
   1. Aibo   2. Gululu

B. Fill in the blanks using the words in the box.
   1. Intelligence   2. AI   3. Doctors   4. voice

C. Write T for True and F for False statements.
   1. T   2. F   3. T   4. F
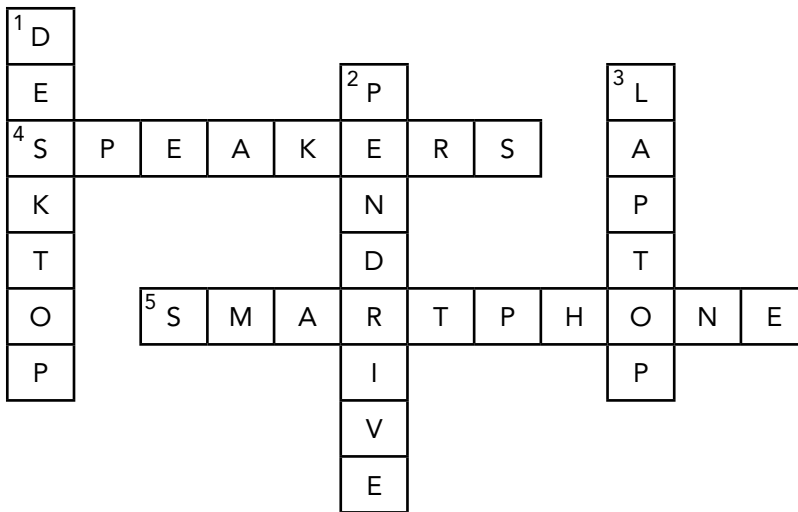
D. Answer the following questions.
1. The ultimate goal of AI is to develop machines with human-like intelligence.
2. Natural things are those things which cannot be made by humans, such things are created by God, whereas artificial things can be created by humans.
   Examples of natural things are rivers, mountains, stars, trees, etc.
   Examples of artificial things are pencil, book, desk, bag, etc.
3. AI is important because it helps in performing many difficult tasks quickly. It works faster than humans and rarely makes mistakes.
4. Aibo is a dog with artificial intelligence that can do a variety of tasks just like a real dog. It responds to our commands, plays with toys, barks like a real dog and recognises different people.

Worksheet 1

A. Identify the following images.
   1. Tablet   2. Printer   3. Headphones   4. Laptop
B. Solve the crossword with the help of the clues.

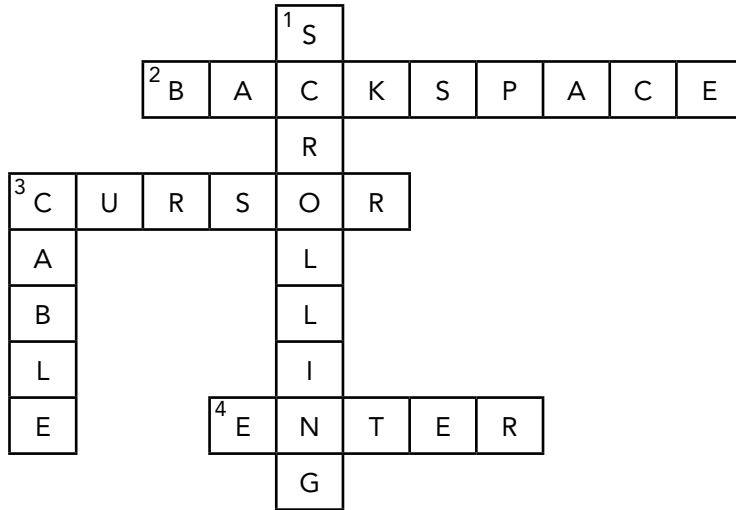|	¹D					²P					³L		
	E					P					A		
⁴	S	P	E	A	K	E	R	S			A		
	K					N					P		
	T					D					T		
	O		⁵S	M	A	R	T	P	H	O	N	E	
	P					I					P		
						V							
						E							

Worksheet 2

A. Identify the following images.
   1. Computer mouse   2. Arrow keys   3. Mouse pad   4. Enter key

B. Solve the crossword with the help of the clues.

		¹S						
	²B	A	C	K	S	P	A	C	E
		R						
³C	U	R	S	O	R			
A		O						
B		L						
L		L						
E		I						
	⁴E	N	T	E	R			
		G						

Worksheet 3

A. Label the Tools group of Paint program.

Fill with color   Text

Pencil   Brushes

Eraser   Magnifier

Color picker   Tools
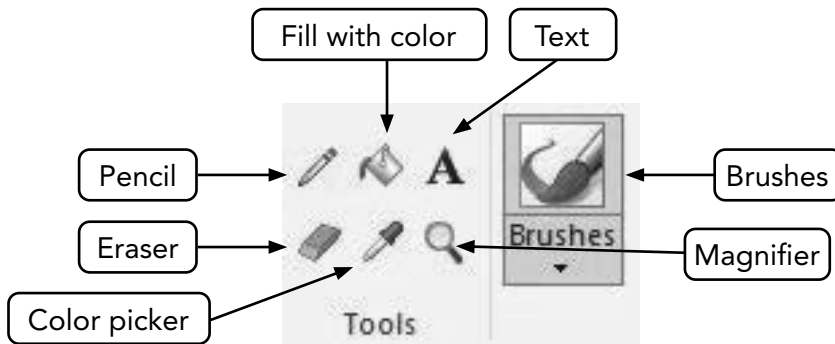
B. Identify the Tux Paint tools and write their names.
1. Paint tool   2. Lines tool   3. Shapes tool   4. Eraser tool

Worksheet 4

A. Colour and complete the given patterns.

1.   2.   3.   4.

B. Identify the following images.
1. Aibo   2. Gululu

Test Paper 1

A. Fill in the blanks.
1. Natural things
2. instructions/electricity
3. CPU
4. mouse pad
5. Space bar

B. Write T for True and F for False statements.
1. T
2. F
3. F
4. T
5. T

C. Answer the following questions.
1. Computer is a smart machine that needs electricity to work. We use a computer to complete various tasks.
2. The merits of a computer are:
   - A computer works very fast.
   - It never gets tired.
   - It can solve difficult sums within seconds.
   - It can store a lot of information.
3. A keyboard is a device that is used to type words, letters, numbers or symbols on a computer screen. It has 104 keys on it.
4. The mouse has a scroll wheel in the middle. It can be rolled up or down to move the page up or down on the screen. This is called scrolling.

Test Paper 2

A. Fill in the blanks.
1. Shapes
2. Selector
3. three
4. Intelligence

B. Write T for True and F for False statements.
1. F
2. T
3. F
4. F

C. Answer the following questions.
1. We can draw many shapes from the Shapes group. It contains various shapes such as circle, rectangle, triangle, line, etc.
2. Tux Paint is a free drawing software for young children. It provides a blank canvas where children can draw, use stamps, add colours and experiment with different tools to create drawings.
3. A pattern is a repeated arrangement of colours, numbers, alphabets, shapes, etc.
4. AI is important because it helps in performing many difficult tasks quickly. It works faster than humans and rarely makes mistakes.

National Cyber Olympiad

1. a.
2. c.
3. c.
4. b.
5. a.
6. d.
7. c.
8. d.
9. d.
10. c.
11. a.
12. b.