TOUCHPAD

Prime Ver. 2.2

1

Teacher's Manual

Extended Support for Teachers

ORANGE
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Teacher's Time Table

Periods / Days	O	I	II	III	IV		V	VI	VII	VIII
Monday						B				
Tuesday						R				
Wednesday						E				
Thursday						A				
Friday						K				
Saturday										
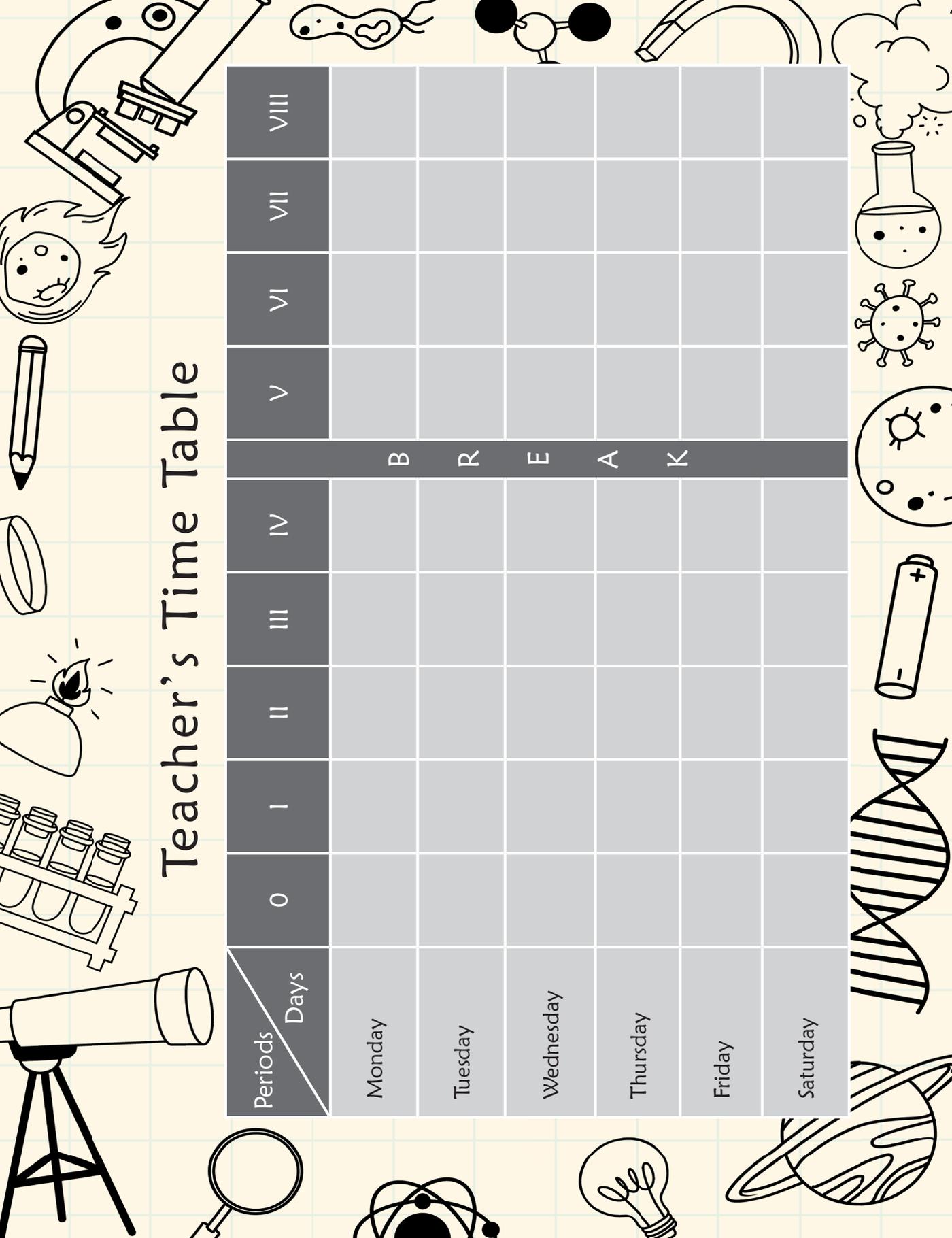
DEVELOPMENT MILESTONES IN A CHILD

Development milestones are a set of functional skills or age-specific tasks that most children can do at a certain age. These milestones help the teacher identify and understand how children differ in different age groups.

Age 5 - 8 Years

Physical
- First permanent tooth erupts
- Shows mature throwing and catching patterns
- Writing is now smaller and more readable
- Drawings are now more detailed, organised and have a sense of depth

Cognitive
- Attention continues to improve, becomes more selective and adaptable
- Recall, scripted memory, and auto-biographical memory improves
- Counts on and counts down, engaging in simple addition and subtraction
- Thoughts are now more logical

Language
- Vocabulary reaches about 10,000 words
- Vocabulary increases rapidly throughout middle childhood

Emotional/Social
- Ability to predict and interpret emotional reactions of others enhances
- Relies more on language to express empathy
- Self-conscious emotions of pride and guilt are governed by personal responsibility
- Attends to facial and situational cues in interpreting another's feelings
- Peer interaction is now more prosocial, and physical aggression declines

> " If you cannot do great things, do small things in a great way. "

Age 9 - 11 Years

Physical	• Motor skills develop resulting in enhanced reflexes
Cognitive	• Applies several memory strategies at once • Cognitive self-regulation is now improved
Language	• Ability to use complex grammatical constructions enhances • Conversational strategies are now more refined
Emotional/ Social	• Self-esteem tends to rise • Peer groups emerge

Age 11 - 20 Years

Physical	• If a girl, reaches peak of growth spurt • If a girl, motor performance gradually increases and then levels off • If a boy, reaches peak and then completes growth spurt • If a boy, motor performance increases dramatically
Cognitive	• Is now more self-conscious and self-focused • Becomes a better everyday planner and decision maker
Emotional/ Social	• May show increased gender stereotyping of attitudes and behaviour • May have a conventional moral orientation

Managing the children's learning needs according to their developmental milestones is the key to a successful teaching-learning transaction in the classroom.

" Family is the most important thing in the world. "

Teaching Pedagogies

Pedagogy is often described as the approach to teaching. It is the study of teaching methods including the aims of education and the ways in which such goals can be achieved.

Lesson Plans

A lesson plan is the instructor's road map which specifies what students need to learn and how it can be done effectively during the class time. A lesson plan helps teachers in the classroom by providing a detailed outline to follow in each class.

A lesson plan addresses and integrates three key components:

✦ Learning objectives
✦ Learning activities
✦ Assessment to check the student's understanding

A lesson plan provides an outline of the teaching goals:

Before the class

1. Identify the learning objectives.
2. Plan the lesson in an engaging and meaningful manner.
3. Plan to assess student's understanding.
4. Plan for a lesson closure.

During the class

Present the lesson plan.

After the class

Reflect on what worked well and why. If needed, revise the lesson plan.

> "Knowing yourself is the beginning of all wisdom."

Teaching Strategies

Numerous strategies have evolved over the years to facilitate the teaching-learning process in the classrooms.

Effective Teaching Strategies

- Direct Instruction
- Performance Activities
- Classroom Discussion
- Small Group Work
- Student Research
- Problem Solving
- Cooperative Learning
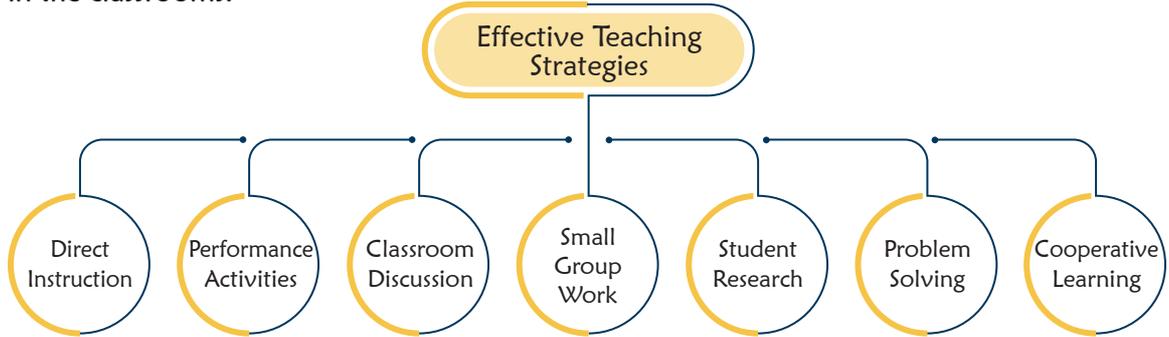
Bloom's Taxonomy

Bloom's Taxonomy was created by Dr Benjamin Bloom and several of his colleagues, to promote higher forms of thinking in education instead of rote learning. There are three domains of learning: cognitive (mental), affective (emotional), and psychomotor (physical). However, when we refer to Bloom's Taxonomy we speak of the cognitive domain. Bloom's Taxonomy is a list of cognitive skills that is used by teachers to determine the level of thinking their students have achieved. As a teacher, one should attempt to move students up the taxonomy as they progress in their knowledge.

Recall facts and basic concepts
LEVEL 1
Remembering

Explain ideas or concepts
LEVEL 2
Understanding

Use information in new situations, to answer questions or solve problems
LEVEL 3
Applying

Take apart information to show relationships, causes and connections
LEVEL 4
Analysing

Justify a stand or position
LEVEL 5
Evaluating

Produce something new
LEVEL 6
Creating

Teachers should focus on helping students to remember information before expecting them to understand it, helping them understand it before expecting them to apply it to a new situation, and so on.

> " If you have no confidence in self,
> you are twice defeated in the race of life. "

LESSON PLAN

1 What are Machines?

Teaching Objectives

Students will learn about

✦ Natural and Human-made Things

✦ Machines

✦ How do Machines Work?

| Number of Periods ||
Theory	Practical
3	0

Teaching Plan

Encourage the students to name some things which they see around themselves.

Make them understand some of these things are natural like sun, moon, star, mountains, cat, dog, tree, boy, girl, etc. The other things are human-made like chair, table, TV, fan, pencil, eraser, board, building, washing machine, mobile, etc.

Explain to the students that machines are made by human.

Give examples of some machines around us like refrigerator, air conditioner, television, mobile, car, etc., and their use.

Make them understand how do machines work.

Tell the students that diffident machines require diffident types of energy to work such as bicycle needs to work human power, car and buses need fuel to work and washing machines and fans need electricity.

Share with them that computer is also a machine.

Encourage them to tell why computer is different from other machines (other machines can only do the work for which they are made but computer can do many kinds of work).

Ask the students to solve the **Warm Up!** exercise given on page number 7 and 9.

Extension

Ask the students some oral questions based on this chapter.

Q. Is computer a machine?

Q. Name some natural things.

Q. Name some man-made things.

Q. Who makes machines?

Q. Are machines natural?

Q. How do machine works?

Q. What is the use of air conditioner / refrigerator / washing machine / television / mobile / car?

Q. What does a computer need to run?

Q. How is computer different from other machines?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 10 to 12 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time and hands-on given on Page 12 and 13 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Find Out, Group Task and In the Lab section on Page 13 in the main course book. This will enhance the ability of the students and serve as a critical thinking, communication and technology literacy activity.

Suggested Activity

Show pictures of some machines (calculator, fan, sewing machine, set top box, cycle, clock, microwave, stapler, electronic toy, etc.) and ask the students what they are used for?

2 Exploring a Computer

Teaching Objectives

Students will learn about

✦ Computer- A Smart Machine

✦ Wonders of a Computer

✦ Where are Computers Used?

Number of Periods	
Theory	Practical
2	0

Teaching Plan

While teaching this chapter, tell the students that computer is a smart machine and makes out work faster and easier.

Show the students what are features of a computer covering:

• It never makes mistakes.

• It can work very fast.

• It can store many things.

- It works on the instructions we provide.
- It never gets tired.
- It can do many tasks at a time.
- It remembers many things.

Tell the students about various functions of a computer covering:
- Type letters, words and sentences
- Calculate sums
- Draw and colour images
- Play games
- Watch cartoons and movies
- Play songs
- Send E-mails
- Store Informations
- Help to Learn English and Maths

Tell the students that computers are used in different places for different kinds of works.

Tell the students why computer is used:
- At home (watch movies, play games, make school projects, online shopping, etc.)
- In schools (store student records, library books record)
- In offices (maintain records)
- In hospitals (make medical reports, controlling machines while doing surgeries)
- In shops (make bills, storing details of items)
- At railway stations and Airports(Ticket Booking, passengers details management)

Demonstrate the students what is the difference between a compute and other machines.

Ask the students to solve the exercise **Warm Up!** given on page number 16.

Extension

Ask the students some oral questions based on this chapter.

Q. Why do we use computers?

Q. Write the use of computer in the following places:

    a. At Home   b. In School   c. At Railway station

    d. In Hospitals   e. In Offices   f. In Shops

Q. Write the difference between a compute and other machines.

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 19 and 20 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 20 in the main course book.

Take the students to the computer lab and let them practice the activity given in the In the Lab section on Page 20 in the main course book. This will enhance the ability of the students and serve as a technology literacy activity.

Suggested Activity

Ask the students to discuss with their parents and elders to learn more about what they use the computer for. Encourage the students to share some more uses of computers with the class.

3 Familiarity with Computer Parts

Teaching Objectives

Students will learn about

✦   Main Parts of a Computer

✦   Other Parts of a Computer

✦   Laptop

Number of Periods	
Theory	Practical
2	1

Teaching Plan

Tell the students that a computer has four main parts:

*   **Monitor –** looks like a television, used to see pictures, games, cartoons, alphabet, numbers and words.
*   **Keyboard** – has small buttons called keys, used for typing numbers and letters.
*   **Mouse** – device with long wire, two buttons and scroll wheel, used to draw pictures.
*   **CPU** – stands for Central Processing Unit, fixed inside CPU box, called brain of the computer, most important part of the computer.

Share with the students that a computer has some other parts also like:

*   **Speakers** – attached to computer, used to hear sounds and music stored in computer.
*   **Printer** – used to print text and images on paper.

Introduce Laptop to the students and tel them its parts.

Ask the students to solve the exercise **Warm Up!** given on page number 26.

Extension

Ask the students some oral questions based on this chapter.

Q.   Name the four main parts of a computer.

Q.   What is the use of Monitor / Mouse / keyboard /CPU?

Q.   What does CPU stand for?

Q.   What is the other name of a monitor?

Q.   Expand VDU.

Q.   Where is CPU fixed?

Q.   Name some other parts of a computer.

Q.   What is the difference between speakers and headphones if both are used to hear sounds?

Q.   Give two examples of input / output / storage devices.

Q.   Name two storage devices.

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 27 and 28 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 29 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Find Out, Group Task and In the Lab section on Page 29 and 30 in the main course book. This will enhance the ability of the students and serve as a information literacy, collaboration, communication and Technology literacy activity.

Suggested Activity

Ask the students to paste pictures of different parts of a computer in their computer notebook and write their names.

4   Exploring the Keyboard and Mouse

Teaching Objectives

Students will learn about

✦   Uses of a keyboard

✦   Types of Keys

✦   Using a Mouse

✦   Uses of Mouse

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that keyboard is used to write on computer screen.

Show to the students that a keyboard has small buttons on it called keys.

Make the students count that a computer keyboard has 101 to 104 keys.

Tell the students that the keys on a keyboard are divided into three categories:

•   **Alphabet keys** – 26 in number (A to Z)

•   **Number keys** – 10 in number (0 to 9)

•   **Special keys** – Backspace and delete, Spacebar, Enter key, Caps Lock, etc.

Show to the students the position of various categories of keys on the keyboard.

Make the students understand that the alphabet keys (A to Z) on the keyboard are also used to write in small letters (a to z).

Share with the students that the number keys are used to type numbers and there are two sets of number keys on a keyboard.

Show to the students that there are some special keys also on the computer like:

- **Backspace and Delete key** – used to erase what we have typed.
- **Spacebar key** – longest key at the bottom, used to give blank space between letters and words.
- **Enter key** – also called Retrun key, two in number, used to move to the next line.
- **Caps Lock Key** - Used to type in capital letter.

Make the students understand that the cursor shows the place where the typed letters will appear.

Tell the students that a mouse helps us to tell the computer what to do.

Share with the students some uses of a computer mouse.

Show to the students that the small arrow moving on the screen is called pointer.

Show to the students the correct way of holding the mouse with reference to the position of fingers and palm (shown in the main course book).

Show to the students that a computer mouse can be used for:

- Clicking – by pressing mouse buttons
- Single-clicking or Clicking – pressing and releasing left button quickly, used to select an icon.
- Double-clicking – pressing and releasing the left button twice quickly, used to open a program.
- Drag and Drop - used to move an icon from one part of the monitor screen to any other part.
- Scroll - used to move a page on the screen up or down.

Ask the students to solve the exercise **Warm Up!** given on page number 35 and 37.

Extension

Ask the students some oral questions based on this chapter.

Q. What are the small buttons on a keyboard called?

Q. How many keys are there on a keyboard?

Q. Name the categories in which the keys on a keyboard are divided into.

Q. What are alphabet / number keys used for?

Q. How many sets of number keys are there on the keyboard?

Q. How many alphabet keys are there on the keyboard?

Q. What is the use of Enter / Spacebar / Backspace key?

Q. Name some special keys.

Q. What is the use of arrow keys?

Q. How many arrow keys are there?

Q. What is a cursor?

Q.   What is a mouse used for?

Q.   Name the pointing device.

Q.   Which finger must be placed on left button/right button?

Q.   Which finger must be used to scroll the wheel?

Q.   Which fingers must be used to hold the sides of the mouse?

Q.   Define pointing/clicking/scrolling.

Q.   What is the meaning of single-click/double-click?

Q.   What is single-click/double-click used for?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 39, 40 and 41 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 36 in the main course book.

Take the students to the computer lab and let them practice the activity given in the In the Lab section on Page 36 in the main course book. This will enhance the ability of the students and serve as a technology literacy activity.

Suggested Activity

Ask the students to paste a picture of computer keyboard in the computer notebook and label Number keys, Alphabet keys, Enter keys, Spacebar key, Backspace key and Arrow keys on it.

Ask the students to draw a picture of a mouse representing single-click, double click and scrolling drag & drop.

5   Let's Use Tux Paint

Teaching Objectives

Students will learn about

✦   Introduction to Tux Paint

✦   Starting Tux Paint

✦   Components of Tux Paint Window

✦   New Tool

✦   Fill Tool

✦   Paint Tool

✦   Shapes Tool

✦   Eraser Tool

✦   Save Tool

✦   Quit Tool

Teaching Plan

While teaching this chapter, tell the students that Tux Paint is a freehand drawing program designed for young children.

Demonstrate to the students the steps involved in starting Tux Paint.

Show to the students the Welcome Screen of Tux Paint with penguin as the mascot.

Familiarize the students with the window of Tux Paint showing the position and explain the use of Toolbar (contains drawing tools), Colors Palette (contains color choices), Selector (to select desired shapes) and Drawing Canvas (drawing and colouring space).

Tell the students about basic tools of Tux Paint covering:

- **New Tool** - used to start a new tool.
- **Fill Tool** - used to pick a color and fill in the image.
- **Paint Tool** – used to draw different freehand shapes.
- **Shapes Tool** – used to draw predefined shapes like circle, rectangle, square, triangle, etc.
- **Eraser Tool** – used to erase unnecessary parts of drawing.
- **Save Tool** - used to save the file.
- **Lines Tool** – used to draw straight lines.
- **Quit Tool** – used to come out of Tux Paint program.

Demonstrate to the students the use of each of these tools.

Ask the students to solve the exercise Warm Up! given on page number 50.

Extension

Ask the students some oral questions based on this chapter.

Q.   What is Tux Paint?

Q.   Name some parts of Tux Paint window.

Q.   What is the use of Toolbar / Drawing canvas / Selector / Colors Palette?

Q.   Name some tools of Tux Paint.

Q.   What is the use of New / Fill / Paint / Shapes / Eraser / Save / Quit Tool?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 51 and 52 in the main course book as Rapid Fire and Evaluation Time. Tell the students given on Page 52 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Find Out, Group Task and In the Lab section on Page 53 in the main course book. This will enhance the ability of the students and serve as a technology literacy, collaboration and communication activity.

Suggested Activity

Ask the students to redraw the shapes drawn in Paint earlier in Tux Paint also.

6 Let's Use Paint

Teaching Objectives

Students will learn about

✦ Starting Paint

✦ Components of Paint Window

✦ Drawing Shapes

✦ Filling Colours

✦ Drawing Freehand

✦ Saving a Drawing

✦ Closing Paint

Number of Periods	
Theory	Practical
1	2

Teaching Plan

Familiarize the students with Paint window showing Tools group, Shapes group, Colors group and Drawing Area.

Demonstrate to the students the steps to start Paint.

Tell the students about the components of paint window Quick access toolbar, Title Bar, Tabs, Tools Group, Shapes Group, Ribbon and Drawing area.

Demonstrate the steps to:

• Draw straight lines using Line shape.

• Draw rectangles using Rectangle shape.

• Fill colours in closed shapes using Fill with Color tool.

• Drawing Freehand.

Demonstrate to the students the steps to save a drawing.

Show to the students the steps to close Paint.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Paint?

Q. What is the use of Line / Rectangle shape?

Q. What is the use of Brushes / Fill with Color tool?

Q. How can the width of the Brush be changed?

Q. Under which category is the Paint program listed?

Q. Name the groups present on Paint window.

Q. What does the Colors / Shapes / Tools group contain?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 60 and 61 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 61 in the main course book.

Take the students to the computer lab and let them practice the activity given in the In the Lab section on Page 61 in the main course book. This will enhance the ability of the students and serve as a technology literacy activity.

Suggested Activity

Ask the students to draw the following shapes in Paint.
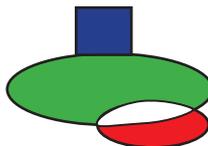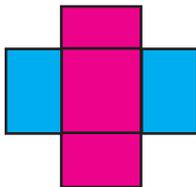
7   Reasoning and Critical Thinking

Teaching Objectives

Students will learn about

✦   Working with Shapes

✦   Recognising Patterns

✦   Word Search

✦   Directions

Number of Periods	
Theory	Practical
2	0

Teaching Plan

Introduce Shapes to the students in details which are:

• **Square** - It has 4 sides. All sides are equal.

• **Rectangle** - It has 4 sides. Only opposite sides are equal.

• **Triangle** - It has 3 sides. The sides may or may not be equal.

• **Circle** - It has 1 curved side. It is a round shapes figure.

Tell the students about what recognising pattern is and to identify one. Also, tell them how to solve by giving some examples which will improve their understanding of the topic.

Show the students what is a word search and how to solve it with the help of critical thinking.

Explain to the students what directions are and how they help us reach a definite location.

Show examples for all the topics for better clarity of the lesson at the end.

Ask the students to solve the exercise **Worm Up!** given on page number 66 and 67.

Extension

Ask the students some oral questions based on this chapter.

Q.   What is a shape?

Q.   How many shapes are there?

Q.   What is a pattern?

Q.   What is a word search?

Q.   What are directions?

Q.   How do directions help us?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 68 and 69 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on page 58 in the main course book.

Suggested Activity

Ask the students to draw a picture of a mouse representing single-click, double click and scrolling drag & drop.

8 Introduction to Artificial Intelligence

Teaching Objectives

Students will learn about

✦   Natural and Artificial Things

✦   Natural Intelligence

✦   Artificial Intelligence (AI)

Number of Periods	
Theory	Practical
2	1

Teaching Plan

Introduce the students with the concept of natural and artificial things. Also, tell them the difference between these two.

Explain the meaning of Natural Intelligence to the students with proper and simple examples.

Tell the students what Artificial Intelligence is and explain the purpose of Artificial Intelligence in real life in simple words.

Define the following to the students:

- Artificially Intelligent Devices
- AI Toy
- AI Machines in Factories

Relate all these to their daily life routine.

Ask the students to solve the exercise **Worm Up!** given on page number 71.

Extension

Ask the students some oral questions based on this chapter.

Q. What is natural thing?

Q. What is artificial thing?

Q. What is natural intelligence?

Q. Define experience.

Q. What is artificial intelligence?

Q. Define artificially intelligent devices.

Q. What is an AI toy?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 73 and 74 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on page 74 in the main course book.

Take the students to the computer lab and let them practise the activity given in the in The Lab section on page 75 in the main course book. This will enhance the ability of the students and serve as a Technology literacy activity.

Suggested Activity

Ask the students to learn more about latest AI toys.