TOUCHPAD

Ver. 4.0

2

Teacher's Manual
Extended Support for Teachers

ORANGE
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Teacher's Time Table

Periods / Days	0	I	II	III	IV	BREAK	V	VI	VII	VIII
Monday										
Tuesday										
Wednesday										
Thursday										
Friday										
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.
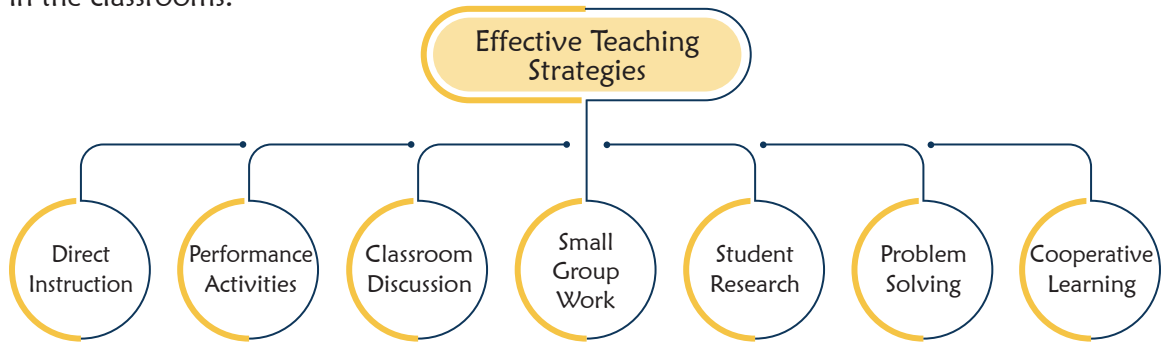
During the class

Present the lesson plan.

After the class

Reflect on what worked well and why. If needed, revise the lesson plan.
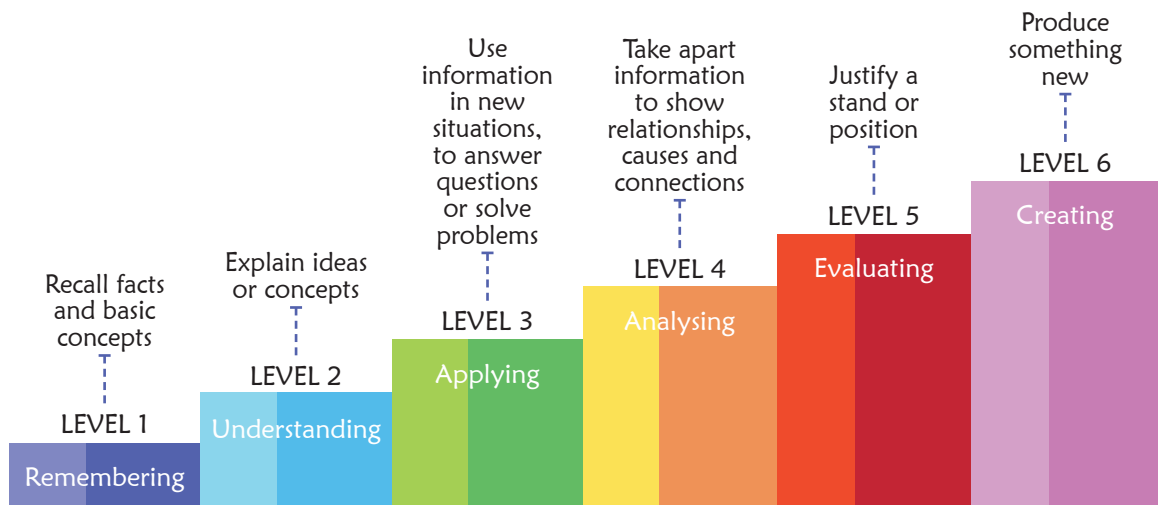
" Knowing yourself is the beginning of all wisdom. "

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."

1 Applications of a Computer

Teaching Objectives

Students will learn about

✦ Features of a computer

✦ Types of computers

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that a computer is an electronic machine which helps us to solve many problems.

Share with the students the features of a computer covering:

● Accuracy & Speed – does not make mistake and works at a very high speed

● Storage – stores information and does not forget it

● Work Process – does not get tired and work for long hours

Make the students understand that there are certain things which human can do but not the computers, covering:

● Feelings – computer does not have feelings

● Instruction – computer cannot work without instructions

● Decision – computer cannot take its own decisions

Explain to the students about the different types of computers covering:

● Desktop computer – kept on desk or table

● Laptop – can be kept on lap also and is portable

● Tablet – smaller than a laptop and has a touchscreen

● Smartphone – mobile phone which has computer facilities

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 a computer?

Q. State any two features of a computer.

Q. Name two things which man can do better than computers.

Q. Name any two types of computers.

Q. Can we keep all computers in our pocket?

Q. Name two computers which we can keep in our pocket.

Q. Name the computer which we keep on a desk or a table.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 11 and 12 of the main course book as **Exercise**.

In Creative Assignment, activities like **HANDS ON** and **In the Lab** given on Page 12 of the main course book will enhance the ability of the students and serve as a Creativity and Technology Literacy activity.

Suggested Activity

Show the pictures of different types of computers to the students and ask the name of each type of computer.

2 Operating a Computer

Teaching Objectives

Students will learn about

✦ How to start a computer

✦ How to shut down a computer

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that we need to follow proper steps to switch on and shut down a computer.

Share with the students the steps to switch on a computer as:

1. Switch on main power supply button

2. Switch on UPS (invertor of the computer) button

3. Switch on power supply button of CPU

4. Switch on monitor

Explain to the students that:

- The first screen that appears on the monitor is called desktop.
- Small pictures on the desktop are icons.
- Long bar at the bottom of the desktop is called Taskbar.
- Start button is on the left corner of the taskbar and used to open different programs.
- Start menu has Shut Down button which is used to shut down the computer.
- Rectangular box that opens when we start a program is called Window.
- Control buttons on every window include Maximize and Minimize buttons to resize the window and Close button to close the window.

Share with the students the steps to shut down a computer as:

1. Click on Start button.
2. Click on Shut Down button and wait.
3. Switch off monitor button.
4. Switch off UPS button.
5. Switch off main power supply button.

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 the first step to switch on a computer?

Q. What is the first step to shut down a computer?

Q. What is the last step to shut down a computer?

Q. What are icons?

Q. Where is taskbar located?

Q. Where is Start button / Clock located on the taskbar?

Q. Do we need to switch off the CPU button while shutting down a computer?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 16 and 17 of the main course book as **Exercise**.

In Creative Assignment, activities like **HANDS ON** and **In the Lab** given on Pages 17 and 18 of the main course book will enhance the ability of the students and serve as a Creativity and Information Literacy activity.

Suggested Activity

Ask the students to draw images showing the steps to switch on a computer and to shut down a computer in their computer notebook.

3   Working of a Computer

Teaching Objectives

Students will learn about
✦ Working of Machines
✦ IPO Devices

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that the action takes place with the inputs is known as processing and the results that we get after processing is known as output.

Tell the students that a computer works according to the commands or instructions given by us.

Share with the students that this cycle of working of machines is called Input-Process-Output cycle or IPO cycle.

Tell the students about the working of some machines like:

● **Juicer** – we put fruit pieces inside it, the juicer squashes the fruits and gives out fresh juice.

Share with the students that in both these cases, the first step is input, the second step is process and the third step is output.

Introduce the term Devices as the parts made for a computer.

Tell the students about Input devices, the devices that are used to enter data into a computer.

Tell the students that keyboard and mouse are used as input devices in a computer.

Introduce the term Processing Device as the device that works on the input.

Tell the students that Central Processing Unit (CPU) is processing device of a computer and is called Brain of the computer.

Introduce the term Output Devices as the devices which help us to get the results.

Tell the students that monitor and printer are used as output devices in a computer.

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 does IPO stand for?

Q. What is Input-Process-Output cycle?

Q.   Define Input / Process/ Output.

Q.   Name two input / output devices.

Q.   Which part of the computer is called Brain of the computer?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 23 to 25 of the main course book as **Exercise**.

In Creative Assignment, activity like **HANDS ON** and **In the Lab** given on Page 25 of the main course book will enhance the ability of the students and serve as a Creativity and Information Literacy activity.

Suggested Activity

Show some more machines with input and output to the students and ask the students to arrange these in correct order of the IPO cycle.

4   Keyboard and Mouse

Teaching Objectives

Students will learn about

+ Special Keys
+ Mouse Pointer Shapes

+ Functions of Mouse

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that keyboard and mouse are the input devices that are used to give the instructions to the computer.

Show to the students a keyboard and demonstrate that a keyboard has 104 keys.

Explain the students that Special keys are used to perform special functions. Tell them about some special keys in details:

●   **Caps Lock Key** – to type capital letters

●   **Enter Key** – to move to the next line

●   **Backspace Key** – to erase letters, numbers, symbols and words from its left side

●   **Cursor Control Keys** – to move the cursor in four directions

●   **Shift Key** – used with other keys for different purposes

●   **Ctrl and Alt key** – used with another key to perform a particular task, used in combinational keys to perform a particular task

●   **Symbol Keys** – have special signs and symbols

Show to the students a mouse and demonstrate the Functions of Mouse:

- **Click or Single-click** – used to select an item
- **Double-click** – used to open the selected item
- **Right-click** – used to display list of properties of the selected item
- **Scroll** – to move the page up and down
- **Drag and Drop** – used to move an item from one location to another

Explain the shapes of mouse pointers and their purpose.

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. How many keys are there on a standard keyboard?

Q. State one use of Shift key.

Q. What is Caps Lock key used for?

Q. What is the use of Symbol keys?

Q. What is pointer?

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

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 31 to 33 of the main course book as **Exercise**.

In Creative Assignment, activities like **In the Lab** given on Page 33 of the main course book will enhance the ability of the students and serve as a Technology Literacy activity.

Suggested Activity

Ask the students to draw a keyboard on an A4 sheet of paper and label these keys:

- Shift keys
- Enter key
- Symbol keys
- Keys to spell the name of the student

5 Tools of Tux Paint

Teaching Objectives

Students will learn about

- ✦ New Tool
- ✦ Text Tool
- ✦ Open Tool
- ✦ Stamp Tool
- ✦ Save Tool

Teaching Plan

While teaching this chapter, tell the students to recall that Tux Paint is an easy to use program that has lot of tools, animations and effects.

Tell the students that the Tux mascot, is a penguin who guides while working in Tux Paint.

Make the students recall the components of the Tux Paint window covering Toolbox, Colors Palette, Help Area, Selector pane, Up and Down Arrows and Drawing Area or Canvas. Explain the students about New tool which is used to open a new page for drawing from the toolbar.

Demonstrate to the students the steps involved in use of New tool.

Introduce Stamp tool as the tool used to insert different stamps or images from the Selector.

Explain the steps involved in the use of Stamp tool to the students.

Tell the students that just like in Paint, Text tool is used in tux Paint to type some text in the drawing area or canvas.

Demonstrate to the students the steps involved in using Text tool in Tux Paint.

Explain the term Save tool to the students which is used to save the drawing for further use.

Make the students understand that Open tool is used to open an existing drawing in Tux Paint.

Show to the students the steps to use Open tool.

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 the use of Text / Stamp / New / Open tool?

Q. When is New tool used?

Q. Can Open tool be used to open a drawing which was not saved earlier?

Q. What is the use of Selector in Tux Paint?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 39 and 40 of the main course book as **Exercise**.

In Creative Assignment, activities like **In the Lab** given on Page 40 of the main course book will enhance the ability of the students and serve as a Creativity activity.

6 Introduction to Paint

Teaching Objectives

Students will learn about

- Steps to Start Paint
- Drawing Lines
- Drawing Rounded Rectangle
- Erasing a Drawing
- Closing Paint

- Components of Paint window
- Drawing Rectangles
- Drawing Curve
- Saving a Drawing

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that Paint is a program used to draw and colour.

Familiarise the students with Paint window showing Tools group, Shapes group, Colors group, Title bar, Close button, Ribbon and Drawing Area.

Demonstrate to the students the steps to start Paint.

Tell the students about the uses of Tools group (contains tools), Colors group (contains colour options), Shapes group (contains shapes), Drawing Area (Blank area to draw and colour) and Ribbon (Long horizontal bar).

Demonstrate the steps to:

- Draw straight lines using Line shape.
- Draw rectangles using Rectangle shape.

Tell the students that Rounded Rectangle shape is used to draw rectangles and squares with rounded corners.

Demonstrate to the students the steps involved in use of Rounded Rectangle shape.

Share with the students that Curve shape is used to draw curved lines.

Show to the students the steps involved in use of Curve shape.

Explain the students how to erase a drawing.

Explain the students the steps involved in saving a drawing.

Tell the students that close button from Title bar is used 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. 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 course book exercises given on Pages 45 to 47 of the main course book as **Exercise**.

In Creative Assignment, activity like **In the Lab** given on Page 47 of the main course book will enhance the ability of the students and serve as a Creativity activity.

Suggested Activity

Ask the students to draw the following shapes in Paint.
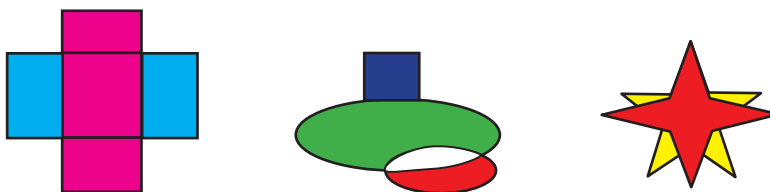
Ask the students to draw a picture of a school with its name written on a board at the top of the school building.

7 Fun with Paint

Teaching Objectives

Students will learn about

✦ Drawing Freehand

✦ Filling Colours

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that Paint is a program used to draw and colour.

Tell the students that Paint allows to draw freehand using Brushes Tool and Pencil Tool.

Explain to the students the use of Pencil tool and steps involved in using the tool.

Show the students the use of Brushes tool and steps involved in using the tool.

Demonstrate the steps to Fill colours in closed shapes using Fill with Color tool.

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 the use of Brushes / Fill with Color tool?

Q.   What is the use of Pencil tool?

Q.   What is the use of Brushes tool?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 51 and 52 of the main course book as **Exercise**.

In Creative Assignment, activity like **In the Lab** given on Page 52 of the main course book will enhance the ability of the students and serve as a Creativity activity.

Suggested Activity

Ask the students to draw a beautiful sky with moon and stars.

8   Blocks in ScratchJr

Teaching Objectives

Students will learn about
- Components of ScratchJr Window
- Categories of Blocks in ScratchJr

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that in this chapter they will learn about blocks of ScratchJr.

Tell the students to recall the Components of ScratchJr Window.

Explain the students that Blocks in ScratchJr are divided into different categories based on their functions.

Introduce the students with Motion Blocks which are used to control the movement of a character and are blue in colour.

Tell them that some of the commonly used Motion blocks are:
- Move Right (moves the character to the right)
- Move Left (moves the character to the left)
- Move Up (moves the character up)

- Move Down (moves the character down)
- Turn Right (rotates the character clockwise)
- Turn Left (rotates the character anti-clockwise)

Introduce the students with Looks Blocks which are used to modify the character's costumes and colours.

Tell them that some of the commonly used Looks blocks are:

- Say (show a specific message)
- Grow (increase the character's size)
- Shrink (decrease the character's size)
- Hide (fade out the character)
- Show (fade in the character)

Introduce the students with Control Blocks which are used to repeat and pause the character.

Tell them that some of the commonly used Control blocks are:

- Wait (pauses the script)
- Stop (stops all of a character's script)

Introduce the students with Sound Blocks which are used to control the sound functions and they are green in colour.

Tell them that some of the commonly used Sound blocks are:

- Pop (plays a "pop" sound)
- Play Recorded Sound (plays a sound recorded by the user)

Explain the students about Events Blocks which control how the blocks in a script will start to run.

Tell them that some of the commonly used Events blocks are:

- Start on Green Flag (starts by clicking Green Flag)
- Start on tap (start by tapping)

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. Tell about some commonly used motion blocks.

Q. What is Say Block?

Q. What is the use of Start on tap?

Q. Tell the uses of Say / Grow / Shrink / Hide / Show.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 58 and 59 of the main course book as **Exercise**.

In Creative Assignment, activities like **HANDS ON** and **In the Lab** given on Pages 59 and 60 of the main course book will enhance the ability of the students and serve as a Creativity and Critical Thinking activity.

Suggested Activity

Ask the students to create two sprites which can take to each other.