TOUCHPAD

Prime Ver. 2.2

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."

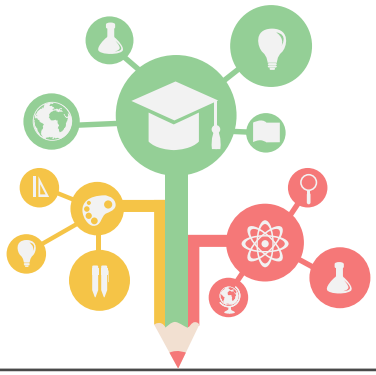
Age 9 - 11 Years	
Physical	• Motor skills develop resulting in enhanced reflexes
Cognitive	• Applies several memory strategies at once • Cognitive self-regulation is now improved
Language	• Ability to use complex grammatical constructions enhances • Conversational strategies are now more refined
Emotional/ 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.

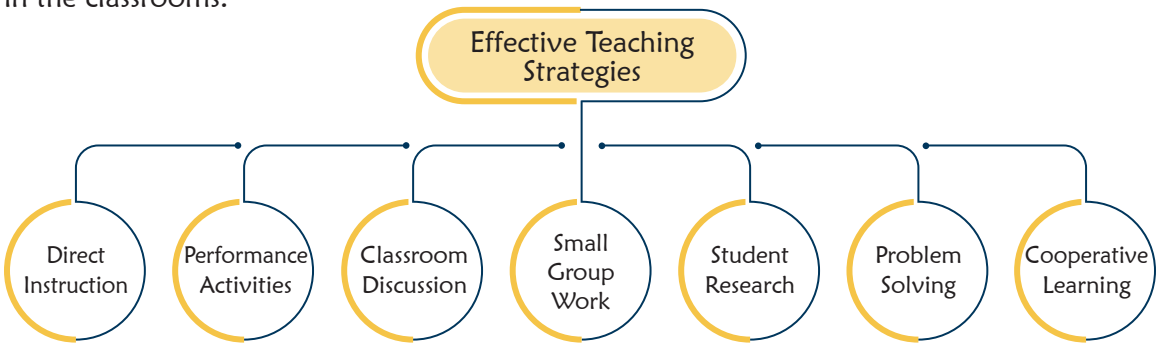
After the class

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

"Knowing yourself is the beginning of all wisdom."

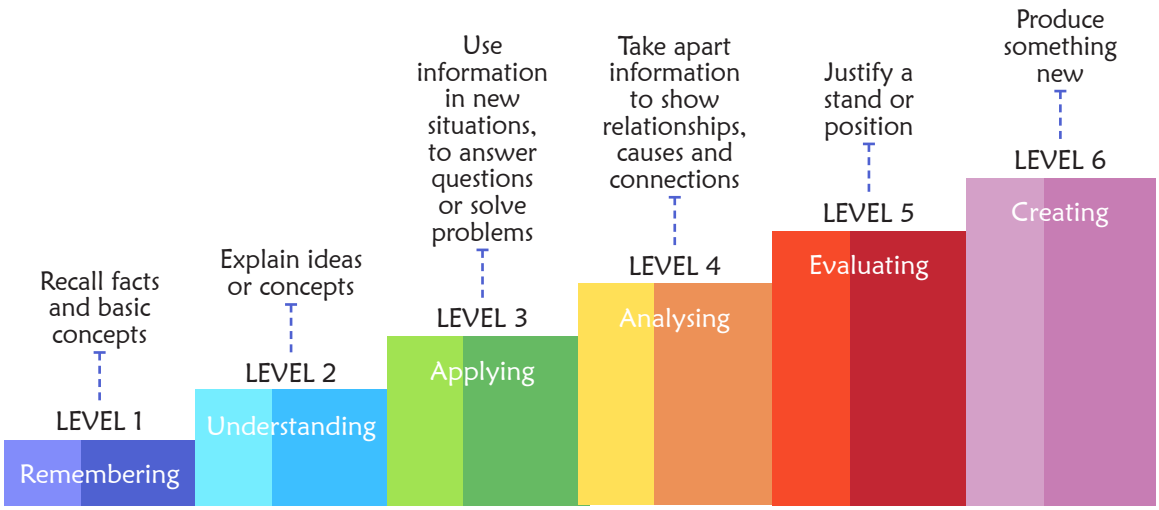
Teaching Strategies

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



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.



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."

CLASS 2

LESSON PLAN

1 Discover Computers

Teaching Objectives

Students will learn about

- Computer: A Smart Machine
- Humans and Computers
- Uses of Computers
- Types of Computers

Number of Periods	
Theory	Practical
2	0

Teaching Plan

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

Tell the students that the computer is a human-made machine and very much different from human. Share with the students the features of a computer covering:

- **Accuracy** – does not make mistake.
- **Storage** – stores information and does not forget it.
- **Work Process** – does not get tired and work for long hours.
- **Speed** – works at a very high speed.

Make the students understand that there are certain things which man can do better than computers covering:

- **Feelings** – computer does not have feelings and does not understand emotions.
- **Instruction** – computer cannot work without our instructions.
- **Decision** – computer cannot take its own decisions.

Tell the students why computer is used:

- **In Offices** - To send message or email and maintain records.
- **In Banks** - To store the record of customer's account and their money.
- **In shops and Restaurants** - To prepare bills and keep a record of items bought and sold.
- **In Hospitals** - To store the records of patients and medicines.

- **In school** - To prepare report cards, take tests store records of students and teachers.

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

- **Desktop computer** – kept on desk or table
- **Laptop computer** – can be kept on lap also and is portable
- **Hand-held computer** – smaller than a laptop and has a touchscreen

Tell the students that all these types of computers are called Personal Computers or PCs.

Ask the students to solve the exercise Warm Up! given on page number 10.

Extension

Ask the students some oral questions based on this chapter.

Q. What is a computer?

Q. How has the word 'computer' been derived?

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. Which is the largest type of computer?

Q. Which is the smallest type of computer?

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 Mind Drill given on Page 12, 13 and 14 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 14 and 15 in the main course book.

Take the students to the computer lab and let them practice the activity given in the and Hands-On, Find Out and In the Lab section on Page 16 in the main course book. This 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

- Switching ON a Computer

✦ Switching OFF a Computer

Number of Periods	
Theory	Practical
1	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:

(i) Switch on main power supply button

(ii) Switch on UPS (invertor of the computer) button

(iii) Switch on power supply button of CPU

(iv) 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.
- 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:

(i) Click on Start button.

(ii) Click on Shut Down button and wait.

(iii) Switch off monitor button.

(iv) Switch off UPS button.

(v) Switch off main power supply button.

Ask the students to solve the exercise Warm Up! given on page number 19.

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

Q. Which menu is used to shut down a computer?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 21 and 22 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 23 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Hands On, Find Out and In the Lab section on Page 23 and 24 in the main course book. This will enhance the ability of the students and serve as a creativity, critical thinking, information and technology 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 a computer works according to the commands or instructions given by us.

Tell the students about the working of some machines like:

- **Washing Machine** – We place dirty clothes inside the washing machine, start it, and after the process is complete, it gives out clean clothes.
- **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.

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

Introduce the term Input as giving instructions to the computer.

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

Introduce the term Process as action performed by computer on the instructions given by us.

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 as result given by the computer after processing.

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

Ask the students to solve the exercise Warm Up! given on page number 28 and 30.

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?

Q. Why is CPU called brain of the computer?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 31, 32 and 33 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 33 and 34 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 34 in the main course book. This will enhance the ability of the students and serve as a Initiative 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 Fun with Keyboard

Teaching Objectives

Students will learn about

- Alphabet keys
- Number keys
- Special keys

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that keyboard and mouse are used to perform various functions.

Show to the students a keyboard and demonstrate:

- A keyboard has 104 keys
  - — **Alphabet keys** – used to type letters, words and sentences.
  - — **Number keys** – used to type numbers.

Tell the students that there are some special keys in details:

- **Backspace key** – used to erase letters and numbers on the left side of the cursor.
- **Spacebar key** – used to give a bla nk space when you type words, letters or numbers.
- **Enter key** – used to start a new line or a paragraph.
- **Caps Lock key** – used to type in capital letters
- **Arrow keys** – used to move the cursor up, down, right and left.
- **Delete key** – used to erase letters and numbers to the right of the cursor.
- **Shift key** – used with other keys for different purposes like with alphabet keys to type in capital letters with caps Lock turned off and with number keys and symbol keys to type the symbols in the upper row of that key.
- **Symbol keys** – used to type special signs like @,$, %, *, etc. and punctuation marks like ?, ! :, " ", etc.

Ask the students to solve the exercise Warm Up! given on page number 38.

Extension

Ask the students some oral questions based on this chapter.

Q. Name the two commonly used input devices.

Q. How many keys are there on a standard keyboard?

Q. State one use of Shift key.

Q. What is Escape / Tab / Caps Lock key used for?

Q. How many Shift / Function keys are there on a keyboard?

Q. What is the use of Function / Symbol keys?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 41, 42 and 43 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 43 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Hands-On and In the Lab section on Page 44 in the main course book. This will enhance the ability of the students and serve as a creativity and critical thinking activity.

Suggested Activity

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

- Shift keys

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

5 Fun with Tux Paint

Teaching Objectives

Students will learn about

- Parts of the Tux Paint Window
- New Tool
- Stamp Tool
- Text Tool
- Magic Tool
- Open Tool
- Slide Show
- Save Tool
- Quit Tool

Number of Periods	
Theory	Practical
1	3

Teaching Plan

While teaching this chapter, tell the students that Tux Paint has a lot of tools, animations and effects to enhance your creativity in drawing.

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

Make the students recall the components of the Tux Paint window covering Toolbar, Colors Palette, Help Area, Selector, Up and Down Arrows and Drawing Area or Canvas.

Introduce New tool as the tool used to open a new page for drawing.

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

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

Show to the students the method to use Open 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.

Tell the students that Magic tool in Tux Paint is used to add special effects to a drawing.

Show to the students some of the Magic tool effects which can be added to a drawing.

Ask the students to solve the exercise Warm Up! given on page number 54.

Extension

Ask the students some oral questions based on this chapter.

Q. What is the use of Text / Magic / 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 Mind Drill given on Page 55, 56 and 57 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 57 and 58 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Find Out and In the Lab section on Page 58 in the main course book. This will enhance the ability of the students and serve as a creativity and information technology activity.

Suggested Activity

Ask the students to draw a jungle scene in Tux Paint.

6 More on Paint

Teaching Objectives

Students will learn about

- Parts of the Paint Window
- Tools Group
- Selecting a Drawing
- Shapes Group
- Foreground and Background Colour

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, make the students recall that Paint can be used to draw and paint on computer.

Demonstrate the parts of Paint windows along with their purpose.

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

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

Explain and show to the students the use of Color picker tool and steps involved in using the tool.

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

Tell the students that Select command is used to select a drawing or part of a drawing.

Show to the students how a drawing or part of a drawing can be selected.

Demonstrate to the students the steps involved in moving the selected part of an image from one place to another using click and drag feature of the mouse.

Tell the students that the Text tool is used to write some text in the drawing area.

Demonstrate to the students the use of Text tool in Paint.

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

Demonstrate to the students the steps involved in use of Polygon shape.

Tell the students about Foreground and Background colours. Also explain the steps involved in changing these in your drawing.

Ask the students to solve the exercise Warm Up! given on page number 64 and 69.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Paint?

Q. What is the use of Pencil tool?

Q. What is the use of Brushes tool?

Q. What is the use of Magnifier tool?

Q. What is the use of Color Picker tool?

Q. What is the Select command used for?

Q. What do you mean by moving the selected area?

Q. When do we use Text tool in Paint?

Q. What is the use of Rounded Rectangle shape?

Q. What is Curve Shape used for?

Q. When is Polygon shape used?

Q. What is the forground colour?

Q. What is background colour?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 70 and 71 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 72 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 73 in the main course book. This will enhance the ability of the students and serve as a creativity activity.

Suggested Activity

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 Reasoning and Analysis

Teaching Objectives

Students will learn about

- Number Pyramid
- Number Grid
- Secret Message: Decoding

Number of Periods	
Theory	Practical
1	0

Teaching Plan

While teaching this chapter, Introduce Number Pyramids to the students in details with the help of pictures or charts.

Tell the students about Number Grid. Also, tell them how to solve by giving some examples which will improve their understanding of the topic.

Make the students aware of secret message: Decoding.

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

Ask the students to solve the exercise Warm Up! given on page number 78 and 79.

Extension

Ask the students some oral questions based on this chapter.

Q. What is a number pyramid?

Q. What is a grid?

Q. What is a number grid?

Q. Define decoding.

Q. In what forms can the hidden message be present?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 80 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 81 in the main course book.

Take the students to the computer lab and let them practice the activity given In the Lab section on Page 82 in the main course book. This will enhance the ability of the students and serve as a creativity activity.

Suggested Activity

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

8 Artificial Intelligence Around Us

Teaching Objectives

Students will learn about

- Artificially Intelligent Machines
- AI Around Us
- Robots and AI

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, Explain the meaning of Artificially Intelligent machines to the students with proper and simple examples.

Tell the students what AI is, how it has surrounded us and what its purpose is this in real life. Describe in simple words.

Define the following to the students:

- Voice Assistant
- Face Detection
- Navigation

Explain the meaning of Robots to the students with their role around us with examples.

Relate all these to their daily life routine.

Ask the students to solve the exercise Warm Up! given on page number 86.

Extension

Ask the students some oral questions based on this chapter.

Q. What is artificial intelligene?

Q. What should an artificially intelligent machine be capable of?

Q. Define the following:

- Voice Assistant
- Face Detection
- Navigation

Q. What is a robot?

Q. How do robots help us?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 87, 88 and 89 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 89 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 90 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 practise more in Quick Draw.