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TOUCHPAD®

PRIME Ver. 2.1

Teacher's Manual

Extended Support for Teachers

ORANGE™
www.orangeeducation.in
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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 to 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 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 needs 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.

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During the class:

Present the lesson plan.

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After the class:

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

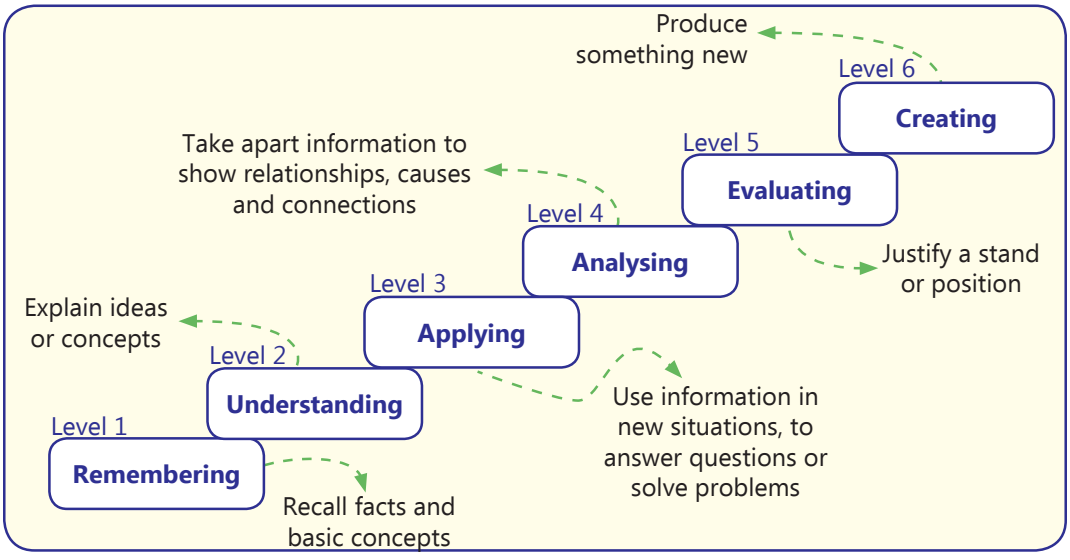
"Knowing yourself is the beginning of all wisdom."

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."

LESSON PLAN

Touchpad PRIME Ver 2.1

Class-3

1. Discover Computers

Teaching Objectives

Students will learn about

- ☞ Types of Computers
- ☞ Features of a Computers

Teaching Plan

Number of periods: 2

While teaching this chapter, tell the students that a computer is an electronic machine made up of various devices that help to enter data, process it and give the results.

Tell the students that there are four types of computers:

- Microcomputer
- Minicomputer
- Mainframe computer
- Supercomputer

Explain all types of computers to the students along with examples.

Demonstrate to the students, the features of computer, like:

- Speed
- Accuracy
- Diligence
- Memory
- Multi-tasking

Ask the students to solve the exercise Warm Up! given on page number 8.

Extension

Ask the students some oral questions based on this chapter.

Q. How many types of computers are there?

Q. What is a Microcomputer?

Q. What is a Minicomputer?

Q. What is a Mainframe computer?

Q. What is a Supercomputer?

Q. Write about the features of computer:

a. Speed b. Accuracy c. Diligence

d. Memory e. Multi-tasking

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 9 and 10 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 11 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 11 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to prepare a comparative table on chart paper comparing different types of computer on various parameters with the help of examples and pictures/drawings.

2. Hardware and Software

Teaching Objectives

Students will learn about

- ☞ Computer System
- ☞ Computer Hardware
- ☞ Input Devices
- ☞ Output Devices
- ☞ Processing Device
- ☞ Storage Device
- ☞ IPO Cycle
- ☞ Computer Software

Teaching Plan

Number of periods: 3

Tell the students that the parts of the computer that can be touched are called hardware.

Tell them about Computer Hardware and how it is divided into four groups.

Tell them that a computer works through Input-Process-Output (IPO) cycle.

Explain the meaning of the terms input and input devices.

Tell them how keyboard, mouse and scanner are used to input data into a computer.

Explain the meaning of the terms process, processor and processing.

Tell them how CPU processes data with the help of Arithmetic Logic Unit (ALU) – for arithmetic and logical calculations, Memory Unit (MU) – for storing data and instructions and Control Unit (CU) – for coordinating between all parts of the CPU.

Explain the meaning of the terms output and output devices.

Make the students understand the meaning of the term Storage.

Tell the students the devices that help us to enter data into the computer and give orders are called input devices.

Explain some of the input devices are keyboard, mouse, scanner, joystick, touchscreen, microphone, web camera, light pen, etc.

Tell the students the devices that show us the result of processing done by the CPU are called output devices.

Explain that the result can be in any of these forms: display on the monitor, print by the printer, sound from the speakers.

Demonstrate to them the difference between hard copy and soft copy.

Tell to the students about computer software and its types.

Explain to the students the difference between Application software and System software.

Ask the students to solve the exercise Warm Up! given on page number 16, 18 and 20.

Extension

Ask the students some oral questions based on this chapter.

Q. What are input devices?

Q. Name some input devices.

Q. What is a Keyboard / Mouse / Scanner / Joystick / Touchscreen / Microphone / Web Camera and Light Pen?

Q. What are output devices?

Q. What is the difference between hard copy and soft copy?

Q. Name some output devices.

Q. What is a Monitor / Speakers / Headphones / Printer?

Q. Name different types of Printers.

Q. What is a Plotter / Projector and Smartboard?

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 22 in the main course book.

Suggested Activity

Ask the students to collect information about some more input/output devices and the purpose for which they are used.

3. Exploring the World of Windows 10

Teaching Objectives

Students will learn about

- ☞ Features of Windows 10
- ☞ Windows 10 Desktop
- ☞ Task View
- ☞ Control Buttons

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that operating system is one of the most important software as without this software we cannot use our computer at all.

Give a brief introduction of Microsoft Windows.

Tell the students the about the useful features of Windows 10.

Demonstrate to the students the steps to start Windows 10.

Make the students aware about the concept of desktop.

Demonstrate to the students the steps to sort icons on the desktop.

Introduce the students to the taskbar and its components covering Start button, Opened program icons and Notification Area.

Demonstrate to the students the steps involved in changing the position of the taskbar.

Tell the students about Control buttons and Taskview.

Ask the students to solve the exercise Warm Up! given on page number 27.

Extension

Ask the students some oral questions based on this chapter.

Q. What is the importance of an operating system?
Q. Give examples of some popular operating systems.
Q. Which company developed Windows operating system?
Q. What are the important features of Windows 10?
Q. What is desktop?
Q. Define icons.
Q. What is taskbar?
Q. Can the position of the taskbar be changed?
Q. What are Control Buttons?
Q. What is Taskview?
Q. What are the steps to change the desktop background?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 29 and 30 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 30 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 30 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to change desktop background and the position of taskbar.

4. Fun with Paint

Teaching Objectives

Students will learn about

- ☞ Starting Paint
- ☞ Callout Shape
- ☞ Resizing an Image
- ☞ Flipping an Image
- ☞ Zooming an Image
- ☞ Copying and Pasting
- ☞ Saving the Drawing
- ☞ Opening an old Drawing
- ☞ Setting a drawing as Desktop Background
- ☞ Saving a File in Different Formats
- ☞ Color Picker Tool
- ☞ Selecting an Image
- ☞ Skewing an Image
- ☞ Rotating an Image
- ☞ Cropping an Image
- ☞ Cutting and Pasting

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that Paint is a simple program for painting on computer.

Make the students recall the steps to start Paint.

Ensure that the students are able to recall the components of Paint window.

Discuss with the students the basic Paint tools covering Pencil Tool, Eraser Tool, Fill with Color Tool, Text Tool and Brushes Tool

Make them recall the use of Line Shape, Rectangle Shape, Oval Shape, Rounded Rectangle Shape, Polygon Shape and Curve Shape.

Demonstrate to the students the meaning of and steps involved in:

- Resizing an image
- Skewing an image
- Flipping an image
- Rotating an image

- Zooming an image
- Cropping an image

Make the students understand the difference between Copying-Pasting an image and Cutting-Pasting an image.

Demonstrate to the students the steps involved in both these activities (Copy-Paste and Cut-Paste).

Tell the students the method to save a drawing.

Show the students the method of how to open an old drawing.

Share with the students that the drawings of Paint can be setup as Desktop Backgrounds also. Demonstrate to the students the steps involved in setting a drawing as desktop background.

Ask the students to solve the exercise Warm Up! given on page number 42.

Extension

Ask the students some oral questions based on this chapter.

Q. What can Paint be used for in computers?

Q. State the use of Pencil / Eraser / Fill with color / Text / Brushes Tool.

Q. Define skewing.

Q. What do you understand by the term flipping an image?

Q. What is the meaning of zooming an image?

Q. What is the difference between Cut-Paste and Copy-Paste?

Q. Can drawings made in Paint be set as Desktop Backgrounds?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 43 and 44 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 44 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 45 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create a drawing of a village scene in Paint.

5. Introduction to Word 2016

Teaching Objectives

Students will learn about

- ☞ Uses of Word 2016
- ☞ Starting Word 2016

- ☞ Components of Word 2016 Window
- ☞ Creating a new Document in Word 2016
- ☞ Entering the Text
- ☞ Saving a Document
- ☞ Opening a Saved Document
- ☞ Exiting Word
- ☞ Selecting the Text
- ☞ Editing the Text
- ☞ Formatting the Text

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that Word 2016 is word processing software in the category of application software.

Make the students aware of the various uses of Word 2016.

Demonstrate to the students the steps involved in starting Word 2016.

Show to the students the various components of Word 2016 window covering Title Bar, Quick Access Toolbar, Ribbon, Rulers, Horizontal and Vertical Scroll Bars, Text / Document Area and Status Bar.

Familiarize the students that while working on MS Word, some frequently used keys other than alphabet and number keys are Spacebar, Enter, Delete and Backspace.

Demonstrate to the students the steps involved in:

- Creating a new Word file
- Saving a document
- Printing a document
- Typing text
- Opening a saved document
- Closing Word 2016

Share with the students that to edit text, first it needs to be selected.

Tell the students about selecting text with the help of mouse and with the help of keyboard.

Show to the students that text can simply be inserted by moving the cursor to the point where text is to be entered and start typing.

Introduce Undo as a feature used to cancel the command and Redo as a feature to reverse the action of Undo.

Familiarize the students with the icons and the shortcut keys to Undo and Redo actions.

Introduce Cutting as moving the text from one place to another and Copying as duplicating text at another place also.

Demonstrate the steps to Cut-Paste and Copy-Paste text in a Word document.

Share with the students the default font and font size in a Word 2016 document.

Demonstrate to the students the method of changing font and font size.

Tell the students the steps involved in changing color of the selected text in the document.

Share with the students about the Bold, Italic and Underline features and the method of applying these features to the text.

Demonstrate to the students the method of:

- Applying text effects
- Changing text alignment
- Applying borders
- Applying artistic borders
- Applying shading

Introduce bullets as small symbol used to mark items in a list.

Show to the students the method of adding bullets or numbers to the items in a list.

Ask the students to solve the exercise Warm Up! given on page number 61.

Extension

Ask the students some oral questions based on this chapter.

Q. What is MS Word?
Q. What are the various uses of Word 2016?
Q. Name some important components of Word 2016 window.
Q. Which company developed Word 2016?
Q. What are the shortcut keys to open / save / print a document?
Q. What are the various ways in which the user can exit from Word 2016?
Q. What is editing?
Q. How is letter / word / text / paragraph selected using a keyboard?
Q. Which key is used to delete a letter?
Q. What is the use of Undo command?
Q. When is Redo command used?
Q. What is the difference between cutting and copying text?
Q. Define formatting a text.
Q. What is the default font / font size of text in a document?
Q. What is the difference between bold and italic format of the text?
Q. What are text effects?
Q. Define text alignment.
Q. What are the different types of text alignment options?
Q. Why is shading added to text?
Q. What are bullets?
Q. When are bullets or numbers added to text?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 65 and 66 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 66 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 66 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create a Word document on Myself. The students should take a printout of the document and paste it in their computer notebook / practical file.

Ask the students to collect write a paragraph on My Favourite Sport in Word 2016 applying various formatting features to make the paragraph attractive.

6. Stepwise Thinking & Scratch Programming

Teaching Objectives

Students will learn about

- ☞ Reasoning and Problem Solving
- ☞ Stepwise Thinking
- ☞ Case Study
- ☞ Scratch
- ☞ Starting Scratch
- ☞ Components of Scratch Desktop
- ☞ Blocks
- ☞ Adding a Sprite
- ☞ Changing the Backdrop
- ☞ Creating a new Project
- ☞ Changing Appearance of the Sprite
- ☞ Saving a Project
- ☞ Opening a Project
- ☞ Exiting Scratch

Teaching Plan

Number of periods: 4

Tell the students about the following in detail using appropriate examples:

- Reasoning
- Problem Solving

Explain the Stepwise Thinking to the students with the steps involved in the process using suitable examples.

Share some Case Study with the students to explain the above taught factors in problem solving approach.

Tell the students about Programming and give a brief introduction about it.

While teaching this chapter, tell the students that Scratch is a block-based programming language.

Demonstrate to the students the steps to start Scratch 3.0.

Make the students understand the features of Scratch.

Familiarize the students with the various components of Scratch window covering Title bar, Menu bar, Sprite, Stage, Blocks Palette, Scripts Area, Coding Area, Blocks Menu, Backdrop, Tabs, Green Flag and Stop button.

Introduce Motion Blocks for changing placement, direction, rotation and movement of sprites.

Tell the students the method of identifying Motion Blocks which are colour coded as blue.

Show to the students the steps to choose a sprite from the Library.

Make the students recall backdrop as background of the stage.

Tell the students the steps to change the backdrop in Scratch.

Demonstrate the use of Motion Blocks by developing new project.

Tell the steps to save a program, opening a project and exiting Scratch.

Ask the students to solve the exercise Warm Up! given on page number 70 and 76..

Extension

Ask the students some oral questions based on this chapter.

Q. What is reasoning?

Q. What is problem solving?

Q. What is stepwise thinking?

Q. What is case study?

Q. What is programming?

Q. What is Scratch?

Q. What are the features of Scratch?

Q. Name the various components of Scratch window.

Q. Define Sprite / Stage / Scripts Area / Green Flag / Stop button.

Q. What is a backdrop in Scratch?

Q. What is the use of Motion block?

Q. What is the colour code for Motion block?

Q. What are the steps to save a project in Scratch?

Q. What are the steps to open a project in Scratch?

Q. What are the steps to exit Scratch?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 79 and 80 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 81 in the main course book.

Take the students to the computer lab and let them practice the activity given in In the Lab section on Page 81 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to write a case study to create a greeting card.

Ask the students to develop a program of speaking and moving cat in Scratch

7. Internet

Teaching Objectives

Students will learn about

- ☞ Internet
- ☞ Uses of Internet
- ☞ Requirements for an Internet Connection
- ☞ Internet Terms
- ☞ Disadvantages of Internet

Teaching Plan

Number of periods: 2

While teaching this chapter, tell the students that computers connected to a network can share data and files efficiently without any delay.

Make the students learn that internet is a global network of millions of computers and computer networks.

Share with the students the various requirements for an internet connection covering computer system, telephone/cable line, modem, web browser and Internet Service Provider (ISP).

Explain the meaning of some common internet terms like URL, Web Browser, Home Page, Website and Web page.

Introduce Uniform Resource Locator (URL) as a unique address or website address used for locating websites.

Tell the students about the disadvantages of Internet.

Ask the students to solve the exercise Warm Up! given on page number 85.

Extension

Ask the students some oral questions based on this chapter.

Q. What is a computer network?

Q. What is Internet?

Q. What are the uses of Internet?

Q. What are the requirements for an Internet connection?

Q. Define URL, Web Browser, Home Page, Website and Web page.

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 86 and 87 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 88 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 88 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to prepare a report on some more uses of Internet and present the observations to the class.