3

TOUCHPAD

Play Ver. 2.0

Teacher's Manual

Extended Support for Teachers

ORANGE
www.orangeeducation.in
www.thetouchpad.com

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

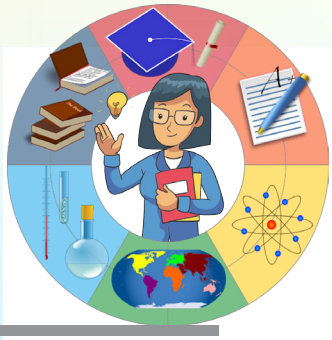
"If you cannot do great things, do small things in a great way."

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.

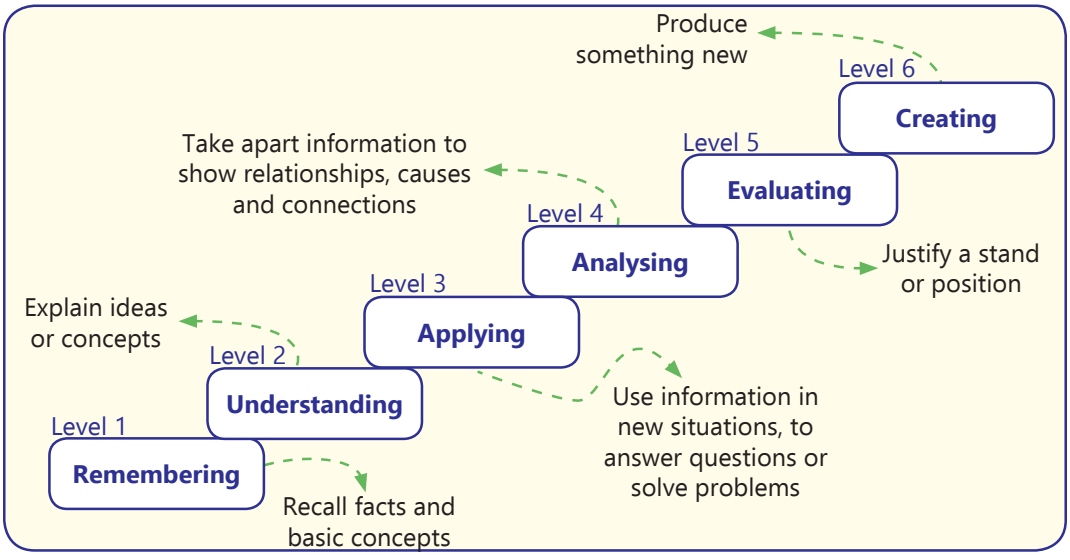
"Knowing yourself is the beginning of all wisdom."

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 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 PLAY Ver 2.0
Class-3

1. A Computer System

Teaching Objectives

Students will learn about

- ☞ Hardware
- ☞ Software
- ☞ How Does a Computer Work?

Number of Periods	
Theory	Practical
2	2

Teaching Plan

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

Let the students know that all the physical components of a computer system are called hardware.

Explain the meaning of the term 'input devices'.

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

Make the students aware of the fact that a computer converts the input into meaningful information through CPU (Central Processing unit), a processing device.

Tell them how CPU runs all the programs and manages all the operations.

Explain the meaning of the term 'output devices'.

Tell them how monitor, printer and speakers are used to give output data from a computer.

Make the students understand the meaning of the term 'storage devices'.

Tell them examples of some commonly used storage devices and basic features of each of the storage device.

Let the students know that computer hardware cannot work by itself. It needs step-by-step instructions to perform a task. These step-wise instructions are called software.

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

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. Define hardware.

Q. What are input devices?
Q. What are processing devices?
Q. What are output devices?
Q. Name some input, processing and output devices.
Q. What are storage devices?
Q. Give examples of some storage devices.
Q. Define software.
Q. How many types of software are there? Name them.
Q. What is a system software?
Q. Define application software.
Q. How does a computer work?

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.

Ask the students to try Competency-based/Application-based questions to imbibe elements like experiential learning and technology literacy in them.

Suggested Activity

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

2. Computer Memory

Teaching Objectives

Students will learn about

- ☞ Memory
- ☞ Measuring the Computer's Memory

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that like human beings, computers also have memory to store all data and instructions for performing various tasks.

Tell the students about the two types of computer memory – primary memory and secondary memory.

Share with the students that the primary memory of the computer is fixed on the motherboard of the computer.

Explain in detail about the types of primary memory covering:

- Random Access Memory (RAM) – the volatile memory
- Read Only Memory (ROM) – the non-volatile memory

Share with the students the meaning and difference between the two types of RAM – Dynamic RAM and Static RAM.

Give a brief introduction about secondary memory or secondary storage devices covering in detail:

- Magnetic Disk (Hard Disk – Internal and External)
- Optical Disk (CD, DVD, Blue-ray Disk – ROM, R and RW))
- Flash Drive (Pen Drive, Memory Card)

Introduce byte as the basic unit of measuring computer memory and nibble as half a byte.

Share with the students the meaning and relationship between higher units of measurement of computer memory – KB, MB, GB, TB, PB, EB, ZB and YB.

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 computer memory?

Q. What is primary memory?

Q. Name the different types of primary memory.

Q. Expand RAM/ROM.

Q. What are the different types of RAM?

Q. What is the difference between primary and secondary memory?

Q. Name the categories in which secondary storage devices are divided.

Q. What are the different types of CDs and DVDs?

Q. Expand CD/DVD.

Q. Define pen drive and memory card.

Q. Define a byte.

Q. Name any three higher units of measurement of computer memory.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 15 and 16 of the main course book as Exercise.

Ask the students to try Competency-based/Application-based questions to imbibe elements like experiential learning and technology literacy in them.

Take the students to the computer lab and let them practise the activity IN THE LAB given on page 16 of the main course book. It will enhance the ability of the students and will serve as an information literacy and computational thinking activity.

Suggested Activity

Ask the students to research and collect information about some secondary storage devices like floppy disks, which have now become obsolete.

3. Let's Know About Windows 10

Teaching Objectives

Students will learn about

- ☞ Windows 10
- ☞ Sorting Desktop Icons
- ☞ Changing Desktop Background
- ☞ Desktop
- ☞ Hiding Desktop Icons

Number of Periods	
Theory	Practical
2	2

Teaching Plan

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 of the concept of desktop.

Familiarise the students with some important icons on the desktop like Computer, Recycle Bin and Network.

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

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

Show to the students that how some or all of the icons on the desktop can be hidden.

Demonstrate to the students the steps to change desktop background.

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 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. How can desktop icons be sorted?

Q. How can desktop icons be hidden?

Q. How can desktop background be changed?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 21 and 22 of the main course book as Exercise.

Ask the students to try Competency-based/Application-based questions to imbibe elements like experiential learning and technology literacy in them.

Take the students to the computer lab and let them practise the activity IN THE LAB given on page 22 of the main course book. It will enhance the ability of the students and will serve as a technology literacy activity.

Suggested Activity

Ask the students to draw the various shapes of a mouse pointer and the action being performed at that time on an A3 sheet of paper.

4. Introduction to Word 2016

Teaching Objectives

Students will learn about

- ☞ Uses of Word 2016
- ☞ Parts of Word 2016
- ☞ Saving a Document
- ☞ Printing a Document
- ☞ Starting Word 2016
- ☞ Working with Word 2016
- ☞ Opening a Saved Document
- ☞ Closing Word 2016

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Microsoft Word 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 the students the various parts 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 Word 2016, 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 file
- Selecting text
- Inserting text
- Undo/Redo
- Cutting/Copying and Pasting text

- Spell check
- Thesaurus
- Saving a document
- Opening a saved document
- Printing a document
- Closing Word 2016

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 Microsoft Word?

Q. What are the various uses of Word 2016?

Q. Name some important components of Word 2016 window.

Q. Which company developed Word?

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?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 29 and 30 of the main course book as **Exercise**.

In Creative Assignment, activity **In The Lab** given on Page 30 of the main course book 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.

5. More on Paint

Teaching Objectives

Students will learn about

- ☞ Selecting an Image
- ☞ Rotating an Image
- ☞ Copying/Cutting and Pasting
- ☞ Flipping an Image
- ☞ Zooming an Image

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that they will learn more features of paint like copy, paste, flip and rotate,

Tell the students that Select command is used to select a drawing or part of a drawing and have two types of selection which are Rectangular selection and Free form selection.

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

Tell the students that Rectangular selection is used to select the drawing in rectangular form.

Demonstrate to the students the steps involved in using Rectangular selection.

Explain the students that Free form selection is used to select the drawing in free form.

Demonstrate to the students the steps involved in using Free form selection.

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

- Flipping an image
- Rotating an image
- Zooming 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.

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 can Paint be used for in computers?

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 course book exercises given on Pages 37 and 38 of the main course book as Exercise.

In Creative Assignment, activities like **Hands-On** and **In The Lab** given on Page 44 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create a beautiful scene of a village using Paint 3D.

6. More on Paint 3D

Teaching Objectives

Students will learn about

- ☞ Filling Colours in a Shape
- ☞ Adding Text
- ☞ 3D Library
- ☞ Changing Colour of a Shape
- ☞ Adding Stickers
- ☞ Adding Effects

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that in Paint 3D they can make changes in the shapes.

Tell students the uses of Fill tool (to fill colours in a shape), Edit color option (to change colour of a shape), Text tool (to add text), Stickers tool (to add stickers), 3D Library (to add 3D objects) and Effects option (to add effects).

Demonstrate the steps to:

- Fill colours in a shape
- Add text
- Add 3D objects
- Change colour of a shape
- Add stickers
- Add effects

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 th use of Fill tool?

Q. Which option is used to change colour of a shape?

Q. What is 3D library?

Q. Which option is used to add effects?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 43 and 44 of the main course book as Exercise.

In Creative Assignment, activities like **Hands-On** and **In The Lab** given on Page 44 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create a 3D scene with multiple objects using Paint 3D.

7. Introduction to Internet

Teaching Objectives

Students will learn about

- ☞ Uses of Internet
- ☞ Internet terms
- ☞ Requirements for an internet connection
- ☞ Microsoft Edge

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Internet is a network in which millions of computers are connected to each other to share information and is an abbreviation of an International Network.

Explain to the students the various uses of the internet.

Share with the students the various requirements for an internet connection covering computer, telephone/cable line, modem/network card, software and the company providing the connection.

Introduce the students to common internet terms like Website (collection of related web pages), Web Page (electronic page on a website), Home Page (main or first page of the website), World Wide Web (largest collection of websites) and Web Browser (software to open websites).

Familiarize the students with the most common web browser, Microsoft Edge and its components covering Title Bar, Menu Bar, Toolbar and Address Bar.

Make the students understand the use of common tools on the toolbar covering Back, Forward, Refresh and Stop buttons.

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 internet?

Q. What are the uses of the internet?

Q. What are the requirements for an internet connection?

Q. Define Website / Web Page / Home Page / World Wide Web / Web Browser.

Q. What does WWW stand for?

Q. Which is the most common Web Browser?

Q. Define Title Bar / Menu Bar / Toolbar / Address Bar.

Q. What is the use of the Back / Forward / Stop / Refresh button in a web browser?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 48 and 49 of the main course book as Exercise.

In Creative Assignment, activity **In The Lab** given on Page 49 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to paste a picture of Internet Explorer in their computer notebook / practical file and label its components and tools discussed in the chapter.

8. Introduction to Scratch

Teaching Objectives

Students will learn about

- ☞ Uses of Scratch
- ☞ Components of Scratch Desktop
- ☞ Adding a Sprite
- ☞ Changing Appearance of the Sprite
- ☞ Saving a Project
- ☞ Exiting Scratch
- ☞ Starting Scratch
- ☞ Blocks
- ☞ Changing the Backdrop
- ☞ Creating a new Project
- ☞ Opening a Project

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching this chapter, tell the students that Scratch is a software which helps you to understand and create many games.

Make the students understand the uses of Scratch.

Demonstrate to the students the steps to start Scratch 3.0.

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 Blocks are the code or command used to create a program in Scratch.

Tell the students about different Blocks:

- Motion Block (to move the sprite)
- Events Block (Controls the script)
- Looks Block (to add speech or thought bubbles)

Show to the students the steps to add 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.

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 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 course book exercises given on Pages 59 to 61 of the main course book as **Exercise**.

In Creative Assignment, activity like **In The Lab** given on Page 61 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

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