4

TOUCHPAD®

PLUS Ver. 1.1

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		V	VI	VII	VIII
Monday						B				
Tuesday						R				
Wednesday						E				
Thursday						A				
Friday						K				
Saturday										

Development Milestones in a Child

Development milestones are a set of functional skills or age-specific tasks that most children can do at a certain age. These milestones help the teacher 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.

↓

During the class:

Present the lesson plan.

↓

After the class:

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

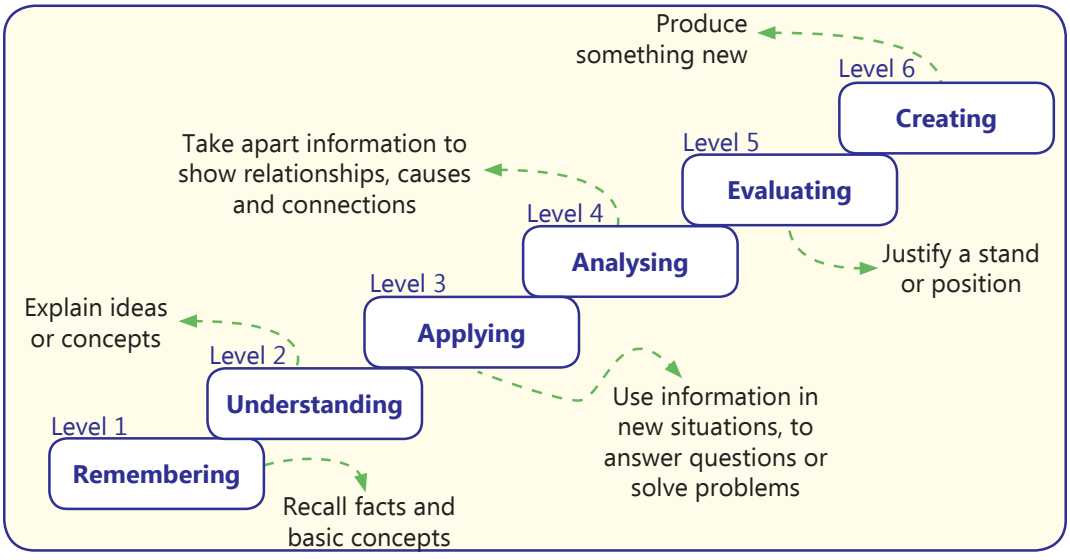
"Knowing yourself is the beginning of all wisdom."

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 4

LESSON PLAN

Touchpad Ver 1.1

1. Evolution of Computers

Teaching Objectives

Students will learn about

- Early counting tools
- Abacus – First calculating device
- Pascaline Adding Machine
- Leibniz Step Reckoner
- Charles Babbage's Analytical Engine
- Lady Ada Lovelace's programs
- Herman Hollerith's Tabulating Machine
- Computer generations

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that the computer is an outcome of labour of a number of minds.

Tell the students about the early counting tools like knots tied on a rope, marks carved in clay, fingers, pebbles, etc.

Explain to the students about invention of Abacus – the first calculating device.

Share with the students the importance and usefulness of Abacus even today and is being taught in schools also.

Give a brief account of these calculating machines:

- Pascaline Adding Machine
- Leibniz Step Reckoner

Tell the students about Charles Babbage, the father of computers, and his invention of Difference Engine which was later improved by him into Analytical Engine, the first working model of a mechanical computer.

Inform the students about Lady Ada Lovelace, accredited as the first computer programmer as the programmer to the Analytical Engine of Charles Babbage.

Share with the students about Herman Hollerith who built Tabulating Machine and later his company became a part of IBM.

Explain to the students about the concept of generations of computers and need for classification on this basis.

Share with the students the characteristic features of the different generations of computers covering:

- First Generation (1940-1955) – MARK-I, ENIAC, UNIVAC
- Second Generation (1956-1964)
- Third Generation (1965-1975)
- Fourth Generation (1976-1985)
- Fifth Generation (1986-Present) (See Suggested Activity also)

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. Name some early counting tools.
Q. What is Abacus?
Q. Who invented Adding Machine?
Q. Which is the first mechanical calculator?
Q. Which is the first mechanical computer?
Q. Who is called the Father of Computers?
Q. Why is Lady Ada Lovelace famous?
Q. How many generations of computers are there?
Q. What was the technology used in First / Second / Third / Fourth / Fifth generation of computers?
Q. Give three characteristic features of First / Second / Third / Fourth / Fifth generation of computers.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 14, 15 and 16 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 16 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Hands-On and Fun in Lab given on Pages 16 and 17 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 prepare a collage of different models of computers depicting its evolution over the generations.

2. Personalizing Windows 7

Teaching Objectives

Students will learn about

- ☞ Getting started with Windows 7
- ☞ Components of Windows 7 desktop
- ☞ Changing desktop background
- ☞ Setting the screen saver
- ☞ Changing the color scheme
- ☞ Gadgets

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Windows is a GUI based operating system developed by Microsoft.

Introduce booting as the loading of computer's memory and Windows 7 when the computer is switched on.

Make the students recall desktop as the first screen on which they can work.

Familiarize the students with the components of Windows 7 desktop covering Start button, Icons, Taskbar, Clock and Desktop background.

Explain briefly about each of these components of Windows 7.

Demonstrate to the students the further classification of Taskbar into Start button, Opened program icons and Show Desktop button.

Explain to the students the use of Start button and Start menu.

Share with the students the usefulness of Show Desktop button.

Demonstrate to the students the steps to:

- Update system date and time through Clock.
- Change desktop background.

Introduce the students to the concept and benefit of a screen saver.

Show to the students the steps involved in setting the screen saver.

Explain to the students how the color scheme of the windows can be changed according to the choice of the user.

Introduce Gadgets as mini tools provided by Windows 7 for quick access to various applications.

Demonstrate to the students the method of setting up, personalizing and removing gadgets like Calendar, Clock, Weather, CPU Meter, etc. (See Suggested activity also).

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 Windows 7?

Q. Name the components of Windows 7 desktop.

Q. What is meant by booting?

Q. Define Desktop Background.

Q. What are icons?

Q. In how many parts is the Start menu divided?

Q. Can you change the desktop background?

Q. What is a screen saver?

Q. Define Gadgets.

Q. Name some gadgets provided by Windows 7.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 27, 28 and 29 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 29 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Fun in 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 prepare a note on any one Gadget provided by Windows 7 on an A4 sheet of paper.

3. Editing in MS Word 2010

Teaching Objectives

Students will learn about

- Selecting text
- Deleting text
- Inserting text
- Undo / Redo
- Cutting or Copying text
- Spell check

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching this chapter, tell the students that editing is the process of making changes in the existing text.

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.

Demonstrate to the students the different ways in which text can be deleted according to the requirement of the user.

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.

Introduce the students to Spelling and Grammar Check feature of MS Word.

Show to the students the representation of spelling and grammar mistakes with different colored wavy lines.

Demonstrate to the students the method of using Spelling and Grammar Check feature of MS Word. (See Suggested Activity also)

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 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. What is the use of Spelling and Grammar check feature?

Q. Which button is pressed to skip errors and continue working during Spelling and Grammar check?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 36, 37 and 38 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 38 of the main course

book. Help the students to solve these questions.

In Creative Assignment, activity like Fun in Lab given on Page 39 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 write a paragraph on My Favourite Festival in MS Word 2010, check for spelling and grammar mistakes and paste a printout in the computer notebook / practical file.

4. Formatting in MS Word 2010

Teaching Objectives

Students will learn about

- Changing font and font size
- Changing font color
- Highlighting text
- Bold, Italic and Underline
- Applying text effects
- Aligning the text
- Applying borders
- Applying shading
- Changing case
- Adding bullets and numbering

Number of Periods	
Theory	Practical
1	1

Teaching Plan

While teaching this chapter, tell the students that formatting the text means changing the appearance and arrangement of the text.

Share with the students the default font and font size in a MS Word 2010 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.

Introduce highlighting feature of Word as marking important text and placing a colored rectangle over it.

Show to the students the steps involved in highlighting text.

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

Tell the students that Word has some in-built text styles which can be applied to the selected text.

Demonstrate to the students the method of:

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

Introduce Change Case feature as changing text to upper, lower and other common capitalizations.

Show the students how to change case of the selected text.

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.

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. Define formatting a text.

Q. What is the default font / font size of text in a MS Word 2010 document?

Q. What do you mean by highlighting text?

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 does Change Case option do?

Q. What are bullets?

Q. When are bullets or numbers added to text?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 48, 49 and 50 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 50 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Fun in Lab given on Page 50 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 collect write a paragraph on My Favourite Sport in MS Word 2010 applying various formatting features to make the paragraph attractive.

5. Introduction to MS PowerPoint 2010

Teaching Objectives

Students will learn about

- ☞ Starting MS PowerPoint 2010
- ☞ Components of PowerPoint screen
- ☞ Creating a new presentation
- ☞ Entering data on the slide
- ☞ Adding new slide to a presentation
- ☞ Deleting a placeholder
- ☞ Deleting a slide
- ☞ Viewing slide show
- ☞ Saving a presentation
- ☞ Exiting PowerPoint

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Microsoft PowerPoint 2010 is a part of Microsoft Office 2010 package or suite.

Share with the students that it is used to create presentations.

Demonstrate to the students the steps to start MS PowerPoint 2010.

Familiarize the students with various components of PowerPoint screen covering Title Bar, Ribbon, Quick Access Toolbar, File Tab, Slide, Placeholder, Slides / Outline Pane and Status Bar.

Introduce slide as a single page of a presentation.

Demonstrate the steps to:

- Create a new presentation
- Enter data on a slide in title and subtitle placeholders
- Add new slide to a presentation
- Deleting a placeholder
- Deleting a slide

Introduce slide show as full screen view of the presentation.

Show to the students the method of viewing a slide show.

Tell the students how to:

- Save a presentation
- Exit MS PowerPoint 2010

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 MS PowerPoint 2010?
Q. Define Title Bar / Status Bar.
Q. What do you mean by Ribbon / Placeholder?
Q. What is a slide in a presentation?
Q. Which key is pressed to delete a selected placeholder?
Q. What are the various ways in which a slide show can be started?
Q. What are the steps to exit MS PowerPoint 2010?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 58, 59 and 60 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 60 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Fun in Lab given on Page 60 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 presentation on 'The Cartoon Character I Like The Most'.

6. Know About Computer Viruses

Teaching Objectives

Students will learn about

- What is a computer virus?
- How does a computer get infected with virus?
- How do you know your PC has a virus?
- How to prevent from a virus?
- Antivirus software

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that a computer virus can destroy the programs and files saved in a computer.

Introduce computer virus as a program that can infect the system and/or duplicate itself reducing the storage space.

Share examples of some computer viruses with the students.

Tell the students about the harms that may be caused by a computer virus.

Explain to the students the various methods by which a computer system may get infected with virus.

Make the students aware of the symptoms that tell that a computer system is infected by a computer virus.

Explain in detail to the students the various methods by which prevention can be taken from a computer virus.

Introduce the students to the concept of antivirus as a program developed to detect and remove virus from a computer system.

Share the names of some commonly used antivirus programs. (See Suggested Activity also).

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 virus?
Q. State any two harms caused by a computer virus.
Q. State any two methods by which a computer may get infected by Computer Virus.
Q. State any two symptoms that show that a computer system has been infected by a virus.
Q. State any two ways in which the user can prevent from a computer virus.
Q. What is antivirus program?
Q. What is the main purpose of an antivirus program?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 68 and 69 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Pages 69 and 70 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Fun in Lab given on Page 70 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 collect information about any computer virus and narrate it in the class.

7. Visual Processing

Teaching Objectives

Students will learn about

- ☞ Students will learn about
- ☞ Picture Puzzle
- ☞ Directions and Maps

Number of Periods	
Theory	Practical
1	0

Teaching Plan

Introduce Picture Puzzle to the students in details with the help of proper examples for better understanding.

Tell the students about is a puzzle. Also, tell them how solve by giving some examples which will improve their understanding of the topic.

Tell the types of picture puzzle to the students which are:

- Odd One Out

- Find the Differences

Show the students what is direction and how to identify it with the help of analysis.

Explain the meaning of maps to the students and tell them how to use them with the help of directions.

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

Extension

Ask the students some oral questions based on this chapter.

Q. What is a puzzle?

Q. What is a picture puzzle?

Q. How many types of picture puzzle are there?

Q. What is a direction?

Q. What is a map?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 74 and 75 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on page 76 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Fun in Lab given on Page 76 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 practice to find out more types of picture puzzles.

8. Drawing Shapes in Scratch

Teaching Objectives

Students will learn about

☞ Sprite's Direction + Drawing a Square

- ☞ Drawing a Polygon + Drawing a Circle and Semicircle
- ☞ Drawing Patterns

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching this chapter, tell the students that Scratch is a block-based programming language. Tell the students that Scratch allows changing the appearance of the selected sprite. Share with the students the various blocks present under Looks category. Demonstrate to the students the steps to change appearance of a selected sprite. Tell the students that Scratch allows drawing shapes.

Share with the students the various blocks present under Pen category. Demonstrate to the students the steps to draw shapes on the stage with the help of a sprite. Tell the students that decision making can be done by using If...then...Else Control block.

Share with the students that Forever Control block is used to repeat a script continuously. Make the students understand that Variable blocks are used to store values and strings. Demonstrate to the students the steps to create variables.

Explain the use and purpose of various Operator blocks under the categories Arithmetic operators (+, -, *, /), Relational operators (<, >, =) and Logical operators (AND, OR, NOT).

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

Q. What are Looks blocks?

Q. What is the use of Pen blocks?

Q. What is the use of Operators blocks?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 83, 84 and 85 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activity like Fun in Lab given on Page 85 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 the story of Rabbit and Tortoise in Scratch.

9. Evolution of AI

Teaching Objectives

Students will learn about

- 1950-1960
- 1961-1970
- 1971-2000
- 2000-2010
- 2010-Present

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, make sure that the students are well aware about AI and related topics taught in previous classes.

Tell the students what is AI which around us and what is the purpose of this in real life in simple words.

Explain the evolution of AI to the students along with their details:

- 1950-1960
- 1961-1970
- 1971-2000
- 2000-2010
- 2010-Present

Define the inventions of all these years along with their inventor to the students and how it changes out lives.

Relate all these to their daily life routine.

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. Define the evolution of AI in the following years:

- 1950-1960
- 1961-1970
- 1971-2000
- 2000-2010
- 2010-Present

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 94 and 95 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on pages 95 and 96 of the main course book. Help the students to solve these questions.

In Creative Assignment, activity like Hands-On and Fun In Lab given on Page 96 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 practice more in Mystery Animal and search similar games.