4

TOUCHPAD®

PLAY 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.

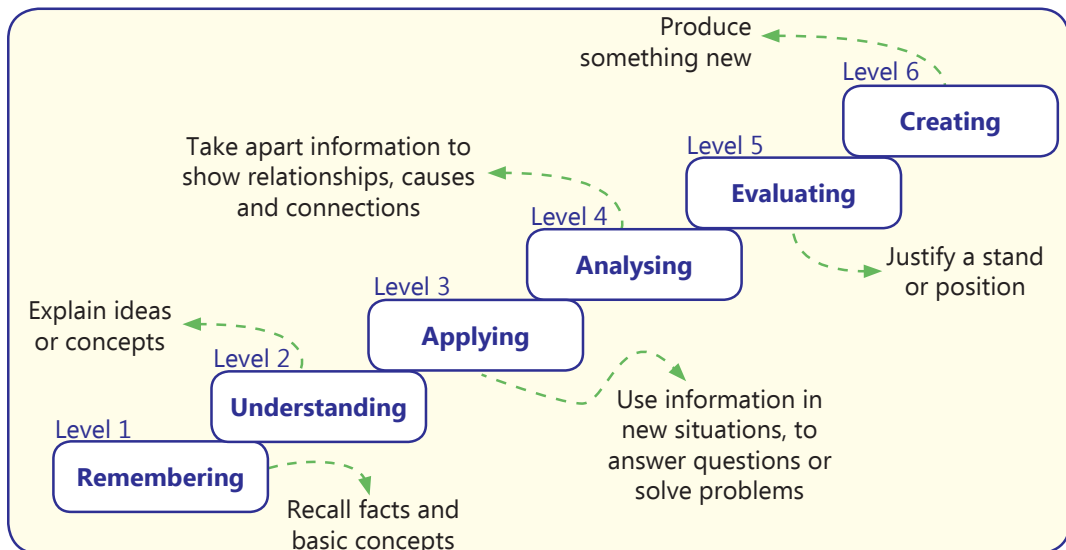"Knowing yourself is the beginning of all wisdom."

Teaching Strategies

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

Effective Teaching Strategies
- Direct Instruction
- Classroom Discussion
- Small Group Work
- Cooperative Learning
- Problem Solving
- Student Research
- Performance Activities

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.

Level 6 — Creating — Produce something new
Level 5 — Evaluating — Justify a stand or position
Level 4 — Analysing — Take apart information to show relationships, causes and connections
Level 3 — Applying — Use information in new situations, to answer questions or solve problems
Level 2 — Understanding — Explain ideas or concepts
Level 1 — Remembering — Recall facts and basic concepts

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 PLAY Ver 1.1
Class-4

1. The Computer—An Overview

Teaching Objectives

Students will learn about

- Data and Information
- Characteristics of a Computer
- Limitations of a Computer
- Working of a Computer
- Input Devices
- Processing Device
- Output Devices

Teaching Plan

Number of periods: 3

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:

'Juicer' will come first then 'washing machine'

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.

Tell the students that similarly computer takes instructions (2, 3, +), adds them (2+3) and gives the result (5).

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.

Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Extension

Ask the students some oral questions based on this chapter.

Q.   What does IPO stand for?

Q.   What is Input-Process-Output cycle?

Q.   Define Input / Process/ Output.

Q.   Name two input / output devices.

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

Q.   Why is CPU called brain of the computer?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 13, 14 and 15 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 15 of the main course book will enhance the ability of the students and serve as a Subject Enrichment 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.

2.   Computer Memory

Teaching Objectives

Students will learn about

☞   Memory   ☞   Measuring the Computer's Memory

Teaching Plan   **Number of periods: 2**

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)   (See Suggested Activity also)

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 into.

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

Q.   Expand CD / DVD.

Q.   What is a pen drive / 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 20, 21 and 22 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 22 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 research and collect information about some secondary storage devices like floppy disks, which have now become obsolete.

3. Personalizing Windows 7

Teaching Objectives

Students will learn about

☞   Getting Started with Windows 7   ☞   Components of Windows 7 Desktop

☞   File/Folder   ☞   Using the Computer Icon

☞ Creating a New Folder   ☞ Creating a New File

☞ Opening a File/Folder   ☞ Shortcut Menu

Teaching Plan   **Number of periods: 3**

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.

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?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 30, 31 and 32 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 32 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.

4. Fun with Paint

Teaching Objectives

Students will learn about

☞   Starting Paint
☞   Selecting an Image
☞   Rotating an Image
☞   Copying/Cutting and Pasting
☞   Skewing an Image

☞   Drawing Shape
☞   Flipping an Image
☞   Zooming an Image
☞   Resizing an Image

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
●   Flipping an image
●   Zooming an image

●   Skewing an image
●   Rotating 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.
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.   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 course book exercises given on Pages 40 and 41 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 42 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 drawing of a village scene in Paint.

5. 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

Teaching Plan   Number of periods: 3

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 50, 51 and 52 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 52 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.

6. Formatting in MS Word 2010

Teaching Objectives

Students will learn about

- ☞ Changing Font and Font Size
- ☞ Highlighting Text
- ☞ Applying Text Effects
- ☞ Applying Borders
- ☞ Changing Case
- ☞ Applying Drop Cap Effect

- ☞ Changing Font Color
- ☞ Bold, Italic and Underline
- ☞ Aligning the Text
- ☞ Applying Shading
- ☞ Adding Bullets and Numbering

Teaching Plan   Number of periods: 5

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
- Applying borders
- Applying shading

- Changing text alignment
- Applying artistic borders

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 59, 60 and 61 of the main course book as One Touch Learn and Let's Do It.

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

7. More on Scratch

Teaching Objectives

Students will learn about

☞	Starting Scratch

☞	Choosing a Backdrop

☞	Creating a Script

☞	Choosing a Sprite

☞	Understanding Blocks

Teaching Plan

Number of periods: 5

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

Demonstrate to the students the steps to start Scratch 2.0.

Make the students understand the features of Scratch.

Familiarize the students with the various components of Scratch window covering Sprite, Stage, Blocks palette, Scripts Area, Duplicate, Delete, Grow, Shrink, Green Flag, Stop button and Menu bar.

Show to the students the steps to:

●	Choose a sprite from the Library

●	Delete a sprite

●	Resize a sprite

Make the students recall backdrop as background of the stage.

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

Introduce Scratch blocks as puzzle-piece shapes that are used to create code in Scratch.

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.

Demonstrate the use of Motion Blocks by developing Talking and Jumping Sprite (refer Page 67 of the main course book).

Explain the use of Events Blocks as used to sense events that run the script and their identifying colour code as brown.

Share the use of Control Blocks as used to control the scripts and their identifying colour code as gold.

Tell the students about the use of Sound Blocks as used to control sound, its playback and volume and their identifying colour code as pink.

Help the students in developing Buzzing Bug (refer Page 68 of the main course book).

Make the students aware about the full screen mode available in Scratch.

Show to the students the steps to:

- Save a Scratch project
- Quitting the project

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. Which buttons icons are used to resize a sprite?

Q. What is a backdrop in Scratch?

Q. What are Scratch blocks?

Q. What is the use of Motion / Events / Control / Sound blocks?

Q. What is the colour code for Motion / Events / Control / Sound blocks?

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

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 69, 70 and 71 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 71 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 thirsty crow in Scratch.

8. Programming in Scratch

Teaching Objectives

Students will learn about

- Sprite's Direction
- Drawing a Polygon
- Drawing Patterns
- Drawing a Square
- Drawing a Circle and Semicircle

Teaching Plan

Number of periods: 4

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 78, 79 and 80 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 80 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. Introduction to Internet

Teaching Objectives

Students will learn about

☞ Uses of Internet

☞ Requirements for an Internet Connection

☞ Internet Terms

☞ Internet Explorer

Teaching Plan   Number of periods: 2

While teaching this chapter, tell the students that a computer network is a connection between two or more computers.

Introduce Internet as a network in which millions of computers are connected to each other to share information and in an abbreviation of International Network.

Explain to the students the various uses of internet.

Share with the students the various requirements for an internet connection covering computer, telephone/cable line, modem/network card, software and 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 website), World Wide Web (largest collection of websites) and Web Browser (software to open websites).

Familiarize the students with the most common web browser, Internet Explorer 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 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 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 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 84, 85 and 86 of the main course book as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 86 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.