6

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

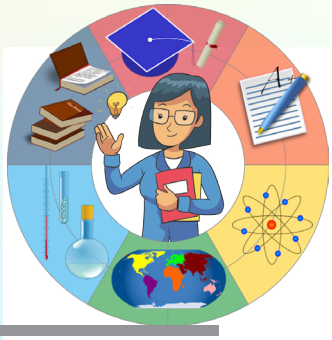
"If you cannot do great things, do small things in a great way."

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.

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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.

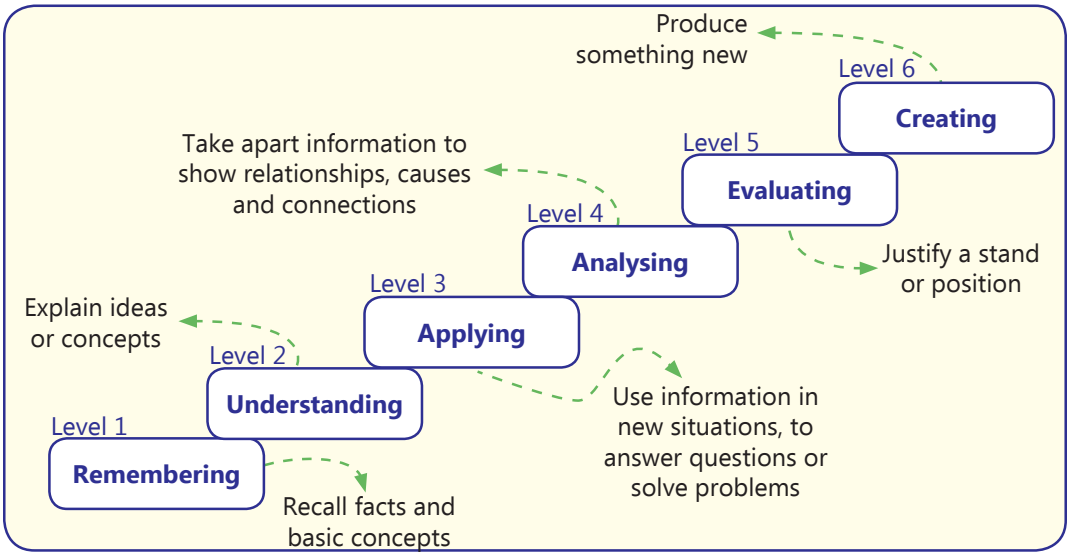
"Knowing yourself is the beginning of all wisdom."

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 PLAY Ver 1.1

Class-6

1. Categories of Computers and Computer Languages

Teaching Objectives

Students will learn about

- ☞ Categories of Computers
- ☞ Computer Languages
- ☞ Working of Language Translators
- ☞ Some other Special Computers
- ☞ Language Translator

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that computer needs a special language through which we can communicate with it.

Ask the students to learn some important computer terms like:

- Program – a set of instructions given to CPU in a pre-defined sequence to complete a task.
- Computer language – means by which data and instructions are transmitted to the computer.
- Syntax – the grammar of a computer language.
- Programming – process of writing a program.
- Programmers – people who write computer programs.

Tell the students that computer languages are categorized as low-level languages (machine dependent) and high level languages (machine independent).

Share with the students that low level languages are further classified as machine language (first generation language made up of 0s and 1s) and assembly language (second generation language made up of alphanumeric symbols).

Make the students learn that the high level languages are further classified as third generation languages (examples: BASIC, COBOL, FORTRAN, PASCAL, etc.), fourth generation languages (examples: Visual Basic, Oracle, SQL, JAVA, C++, etc.) and natural language or fifth generation languages (involving artificial intelligence).

Tell the students the advantages and disadvantages of high level languages over low level languages.

Introduce the concept of language translators as software that convert a high level language into a machine language covering:

- Assembler – used to translate assembly language into machine language.
- Compiler – used to convert source program at once into machine language before executing it.
- Interpreter – used to convert source program one line at a time into machine language before executing it.

Introduce algorithms as set of steps in a sequential and ordered manner to solve any problem or to complete a task.

Encourage the students to write algorithms involving some basic tasks like getting ready for school or involving mathematical problems like addition and subtraction of numbers (refer Suggested Activity also).

Introduce flowcharts as diagrammatic representation of an algorithm.

Explain the shapes and usage of flowchart symbols covering Start / Stop box, Process box, Decision box, Input / Output box, Flow lines and Connectors.

Make the students learn the rules for drawing a flowchart.

Encourage the students to draw flowcharts for the algorithms written earlier.

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 program?

Q. Who is a programmer?

Q. What do you mean by computer language?

Q. What is the meaning of syntax?

Q. What are the categories of computer languages?

Q. Define compiler / interpreter/ assembler.

Q. What is the purpose of developing algorithms and flowcharts?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 14, 15 and 16 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 16 will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to write algorithms and draw corresponding flowcharts to:

- Calculate area of circle, $A = \pi r^2$
- Calculate Volume of cube, $V_{cube} = (\text{side})^3$
- Calculate Volume of cuboid, $V_{cuboid} = \text{length} \times \text{breadth} \times \text{height}$

2. Computer Software

Teaching Objectives

Students will learn about

- ☞ Software
- ☞ Types of Software

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that a computer is an electronic device that performs diverse operations with the help of instructions to process the data in order to achieve desired results.

Tell the students that a computer system is made up of hardware (physical components) and software (set of instructions that make the computer perform tasks).

Make them understand the different types of software as System Software (comprising of Operating System, Programming Software and Utility Software) and Application Software (comprising of General Purpose Software and Customised Software).

Tell the students about different types of General Purpose Software like word processors, spreadsheets, presentation software, DBMS, DTP software, image processing software and multimedia processors (refer 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?

Q. What is software?

Q. What are the different types of software?

Q. How is system software different from application software?

Q. What is the benefit of using customized software?

Q. Give examples each of:

- Utility software
- Word processor
- Presentation software
- DBMS, etc.
- Operating system
- Spreadsheets
- DTP software

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 22 and 23 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 23 will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to collect pictures of interfaces of various types of application software and paste them on a chart paper in a hierarchical chart.

3. More on Windows 7

Teaching Objectives

Students will learn about

- ☞ Windows Media Player
- ☞ Using Pictures Folder
- ☞ Using Removable Storage Devices
- ☞ Features of Windows 7

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that Windows 7 is an operating system.

Tell the students about some unique and new features introduced in Windows 7 – Sneak, Aero Flip, Shake, Snap and Jump Lists (refer Suggested Activity also).

Explain to the students about the usefulness and settings provided in Control Panel for covering

- System and Security
- Hardware and Sound
- Programs
- Appearance
- Clock, Language and Region

Demonstrate to the students the steps needed to change date and time of the computer system.

Explain the meanings and use of Taskbar, Notification Area and Start Menu.

Show the students about various settings that can be made in Taskbar and Start Menu.

Explain to the students the various settings that can be made for mouse pointer under Buttons, Pointers and Pointer Options tabs of Mouse Properties dialog box.

Demonstrate the various ways in which sound settings of the speakers attached to the computer can be controlled.

Open a window of MS Word and explain the various components of the window covering title bar, control buttons, ribbon, work area, scroll bars, status bar and border.

Tell the students about the importance of Disk Cleanup utility and steps to run this utility on the computer system.

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 an operating system?

Q. What is Windows 7?

Q. What is the use of these features of Windows 7?

- Sneak
- Aero flip
- Jump list

Q. What is Control Panel?

Q. What is the difference between Taskbar and Notification Area?
Q. Can we change date and time of the computer system?
Q. What are the various tabs in Mouse Properties dialog box?
Q. Name some components of an open window.
Q. What is the use of Disk Cleanup utility?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 29 and 30 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 30 will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to collect information from the Internet about earlier versions of Windows like Windows XP and Windows Vista. Tell them to make a comparative table about the various features available in these earlier versions and Windows 7.

4. Tables in MS Word

Teaching Objectives

Students will learn about

- ☞ Inserting a Table
- ☞ Selecting Cells, Rows, Columns and Table
- ☞ Adding and Deleting Columns
- ☞ Merging Cells
- ☞ Moving and Resizing Tables
- ☞ Table Styles
- ☞ Performing Calculations in Table
- ☞ Entering Data in a Table
- ☞ Adding and Deleting Rows
- ☞ Changing Column Width and Row Height
- ☞ Splitting Cells
- ☞ Border and Shading
- ☞ Aligning Text in Table

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that a table is an arrangement of text in the form of columns and rows.

Also tell them that an intersection of a row and a column is called a cell.

Demonstrate to the students the method of inserting a table in a Word document.

Show to the students how to select a cell, a group of cells, a row, a column or the whole table.

Demonstrate to the students the steps to:

- Add more rows to a table
- Add more columns to a table
- Change width of a column
- Delete rows from a table
- Delete columns from a table

Introduce merging of cells as combining two or more cells in the same row or the same column into a single cell.

Show to the students the steps to merge two or more cells. Introduce splitting of cells as dividing one cell into two or more cells, Show to the students the steps to split a cell. (See Suggested Activities also)

Demonstrate to the students the steps to move a table and resize a table. Tell the students that MS Word 2010 allows to apply borders to tables and cells as well as to shade the cells and table.

Make the students understand that Word offers some built-in formats as Table Styles to apply to a table.

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 table?

Q. Define a cell.

Q. What is the shape of the mouse pointer while selecting a cell / row / column / table?

Q. Can more rows or columns be added to a table?

Q. Define merging / splitting of cells.

Q. What is the difference between moving a table and resizing a table?

Q. What is the use of Table Styles feature of MS Word?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 42, 43 and 44 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 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 comparative mark sheet for your marks in different subjects for last three classes.

5. Mail Merge

Teaching Objectives

Students will learn about

- Mail Merge
- Creating Mail Merge

Teaching Plan

Number of periods: 2

While teaching this chapter, tell the students introduce to the students Mail Merge as the feature used to create personalized letters to be sent to many persons.

Explain the advantages of mail merge and how it helpful in creating personalized letters to be sent to many persons

Explain the components of mail merge. Tell them the various steps involved in creating a mail merge (refer 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 do you mean by Mail Merge?

Q. How is mail merge helpful?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 49 and 50 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. Help the students to solve these question.

In Creative Assignment, activities like Fun in Lab given on Page 50 will enhance the ability of the students and serve as Subject Enrichment activities.

Suggested Activity

Ask the students to create an electronic invitation (personalized) for inviting middle school teachers to a thank you performance organized by Grade 6-8 students.

6. Formatting Effects in PowerPoint 2010

Teaching Objectives

Students will learn about

- ☞ Working with Slide Master
- ☞ Applying Themes
- ☞ Changing Theme Fonts
- ☞ Specifying Alignment
- ☞ Enhancing the look of a Presentation
- ☞ Changing Theme Colour Schemes
- ☞ Changing Theme Backgrounds
- ☞ Using Fill Effects

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that MS PowerPoint 2010 is used to create electronic presentations.

Tell the students that a theme is a set of predefined layouts that can be used to add a professional touch to the presentations.

Demonstrate the steps to choose a theme, change theme colours, fonts and backgrounds.

Show to the students how sound and audio files can be inserted into a presentation.

Demonstrate the steps involved in inserting a video file into a presentation (refer Suggested Activity also).

Explain to the students that transitions are used to determine how the presentation moves from one slide to the next.

Tell the students about the various categories of slide transitions available in MS PowerPoint.

Demonstrate the application of transitions to slides in a presentation.

Introduce animation as the feature that gives a moving effect to text and other objects on the slide.

Show to the students the steps involved in applying custom animation to various objects on a slide.

Tell the students the animation effects applied to different objects on a slide can be reordered.

Share with the students that running a presentation is called Slide Show.

Demonstrate to the students the various steps involved in running a slide show.

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 theme?

Q. What do you mean by customizing a theme?

Q. Can you change background, colour, fonts, etc. of a theme?

Q. What type of audio files can be inserted into a presentation?

Q. Can we add video files on a slide?

Q. Define transition.

Q. How many transitions can be applied to a slide?

Q. What happens if more than one slide transitions are added to a slide?

Q. What is meant by animation in MS PowerPoint?

Q. Can we reorder the animations applied to different objects on a slide?

Q. What is a Slide Show?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 60 and 61 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 62 will enhance the ability of the students and serve as Subject Enrichment activities.

Suggested Activity

Divide the class into two teams. Ask one team to prepare charts on various types of pollution. Ask the other team to prepare a PowerPoint presentation on the same topic. Make the students share the benefits enjoyed and limitations faced by each team while working on their project.

7. Table and Charts in PowerPoint

Teaching Objectives

Students will learn about

- ☞ Table in PowerPoint
- ☞ Creating a Chart
- ☞ Charts in PowerPoint
- ☞ Formatting a Chart

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that Excel 2016 has chart is an effective way to display data in pictorial form.

Show the different components of an Excel chart.

Familiarize the students with the different types of chart options available.

Explain each chart type to the students with examples:

- Line chart
- Pie chart
- Bar chart
- Area chart
- Scatter chart

Demonstrate the steps of:

- Creating a chart.
- Modifying a chart by changing its type, layout and design.

Tell the students that Excel 2016 provides easy options for sorting data and highlighting the required information in a worksheet.

Introduce sorting as arranging the data in ascending or descending order.

Demonstrate to the students the various steps involved in sorting of data in an Excel worksheet.

Share with the concept and use of Custom Sort feature.

Introduce filtering as hiding unwanted data from a set of data.

Show to the students the various steps involved in applying Filters in a worksheet.

Share with the students that Filters once applied can be easily removed and tell them the method of removing filters.

Introduce Conditional Formatting as highlighting the required information.

Tell the students about basic difference between Filtering (unwanted information gets hidden) and Conditional Formatting (required information gets highlighted).

Explain the various criteria detailed under Conditional Formatting.

Demonstrate the steps involved in applying conditional formatting on a worksheet.

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 charts in Excel.

Q. What is a legend?

Q. What are gridlines in a chart?

Q. When is a Line / Column / Pie / Bar / Area chart used?

Q. In Excel, can we change the type of an existing chart?

Q. What is the difference between sort and custom sort features?

Q. What are filters?

Q. How can filters be removed in a worksheet?

Q. What do you understand by conditional formatting feature?

Q. How is conditional formatting different from filtering data?

Q. When is the conditional formatting criteria Highlight Cell Rules / Data Bars / Icon Sets used?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 73 and 74 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 74 and 75 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

From the previous mark sheets of Grade 1 to 6, collect data about your attendance in various Grades. Plot a Line Chart in Excel from the data.

Ask the students to enter their height and weight along with similar information for their nine friends. Sort the data with primary criteria as heights in ascending order and secondary criteria as weights in descending order.

Highlight the cells where the heights are less than the height of the student or weight is more than the weight of the student preparing the worksheet.

8. Introduction to BASIC-256

Teaching Objectives

Students will learn about

- Installing BASIC-256
- BASIC-256 Environment
- Saving a Program
- Opening a Program
- Statements
- Opening BASIC-256
- Creating your First BASIC-256 Program
- Running a Program
- Elements of BASIC-256 Programming

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that **BASIC-256** is a very simple programming language used for calculations and business applications. Its name stands for **Beginners All-purpose Symbolic Instruction Code. BASIC-256** is a advanced version of BASIC.

Show the purpose and use of all the components of BASIC-256 Environment to all the students.

Tell the steps to students involved in:

- Install BASIC-256 to the students
- Creating your first BASIC-256 program

Explain the steps involved in:

- Opening BASIC-256
- Saving a Program
- Running a program

Demonstrate the purpose of all the elements of BASIC-256 programming to all the students.

Show the use of Statements in BASIC-256 to the students.

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 BASIC-256?

Q. Write the steps involved in :

- Install BASIC-256 to the students
- Creating your first BASIC-256 program
- Opening BASIC-256
- Saving a Program
- Running a program

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 87, 88 and 89 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 89 will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create a program in BASIC-256 to:

1. calculate area of a rectangle.
2. Area of a square.
3. Volume of a cone.

9. Internet and E-mail

Teaching Objectives

Students will learn about

- The Internet
- How the Web Works?
- Using URLs
- Emoticons, Acronyms and Netiquettes
- World Wide Web
- Using Web Browser
- E-mail

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that the internet is a computer network that connects hosts and end systems throughout the world.

Give a brief history of the beginning of internet as ARPANET.

Introduce the concept of World Wide Web (WWW) with reference to basic terms covering web, web servers, posting/uploading, etc.

Explain to the students the process of how the web works.

Introduce web browser as software application designed to find hypertext documents on the web.

Show to the students the steps involved in the process of launching the web browser.

Tell the students about Uniform Resource Locator or URL (unique internet address) and their use while navigating on internet.

Make the students recall E-mail as the process of exchanging messages electronically through communications network by using a computer.

Share with the students the advantages and disadvantages of e-mail.

Explain the components of an e-mail address to the students.

Demonstrate in detail the steps involved in:

- Creating an e-mail account
- Signing in to an e-mail account
- Sending an e-mail (with reference to fields like To, Cc, Bcc and Subject)
- Attaching files to an e-mail
- Reading a received e-mail
- Signing out from the e-mail account (tell them the importance of this step)

Introduce the terms emoticons (representation of facial expressions), acronyms (word formed from initial letters of a multi-word name) and netiquettes (set of rules to be followed for internet communication).

Write some commonly used emoticons and acronyms on the class board to elaborate the concept.

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 World Wide Web?
Q. Define web server.
Q. How the web works?
Q. Expand URL.
Q. Define an e-mail.
Q. What do you understand by emoticons?
Q. What is an acronym?
Q. What are netiquettes?
Q. State any three netiquettes.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 100 and 101 as One Touch Learn and Let's Do It.

In Creative Assignment, activities like Fun in Lab given on Page 101 will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create an e-mail account. Tell them to design a birthday invitation card in Adobe Photoshop and send this card as an attachment to ten friends and/or relatives.