

LESSON PLAN

Touchpad iPRIME Ver 1.1

Class-7

1. Computer–Hardware Components

Teaching Objectives

Students will learn about

- ☞ Hardware
- ☞ New trends in hardware

Teaching Plan

Number of periods: 5

While teaching this chapter, tell the students that a computer system is made up of two components hardware and software.

Explain to the students what is hardware and some of the internal hardware components of a computer:

- CPU
- Motherboard
- Disk Drive
- SMPS
- Ports
- Modem
- Sound Card
- Video Card

Familiarize the students with the various external hardware components of computer system covering

- **Input Devices**
 - o Keyboard
 - o Mouse
 - o Scanner–Hand-Held Scanner, Flatbed Scanner, Sheetfed Scanner
 - o Webcam
 - o Graphic Tablet
 - o Joystick
 - o Microphone
 - o Touchscreen
- **Output Devices**
 - o Monitor
 - o Printer–Dot matrix printer, Inkjet Printer, Laser Printer
 - o Plotters
 - o Speakers
 - o Projector
- **Storage Devices**
 - o Hard disks
 - o Compact Disc
 - o Flash Drive
 - o Pen Drive
 - o Memory Card

Tell the students about new trends in hardware such as:

- Wireless Devices
- Virtual keyboard
- 3D Camera
- Skylake
- LaCie SAFE Hard Drive
- Portable Printers
- Finger Mouse

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 Hardware
- Q. What are the internal hardware components of a computer system
- Q. Name any five external hardware components
- Q. Differentiate between Hand-held and Sheetfed Scanner
- Q. Name any two types of printers and how they differ from each other.
- Q. What is finger mouse?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 17 and 18 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 19 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 19 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 list of hardware devices in the computer lab and classify them as input/output devices

2. Number System

Teaching Objectives

Students will learn about

- ☞ Number system
- ☞ Decimal to Binary conversion
- ☞ Binary to Decimal conversion
- ☞ Operations on Binary numbers

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that a number system is simply a method of counting. Introduce base or radix as the total number of digits used in a number system.

Inform them that there are four important types of number systems – Decimal (base 10), Binary (base 2), Octal (base 8) and Hexadecimal (base 16).

Make the students recall the method of writing expanded form of a number under Decimal number system.



Inform them that just like decimal number system:

- Add one more bullet In decimal number system, the numbers are expressed using ten digits, 0 to 9 and expanded with base 10.
- In octal number system, the numbers are expressed using eight digits, 0 to 7 and expanded with base 8.
- In hexadecimal number system, the numbers are expressed using fifteen digits, 0 to 9 and A to F, and expanded with base 16.
- Show to the students the method of converting:
- Decimal number to Binary number by successive division by 2 and arranging the remainders in reverse order (Refer Suggested Activity 1 also).
- Binary number to Decimal number by multiplying digits with 2 raise to the power of place of that digit starting from 0 on the left (Refer Suggested Activity 2 also).

Share the rules of binary addition, subtraction, multiplication and division.

Show to the students the method of carrying out mathematical operations on binary numbers and verifying the results by corresponding conversions to decimal numbers.

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 numbers system?
- Q. What is the radix of decimal / binary / octal / hexadecimal number system?
- Q. Which digits are used to express a decimal / binary / octal / hexadecimal number?
- Q. What is the value of addition of binary digits 1 and 1?
- Q. What is the value of subtraction of binary digits 0 and 1?
- Q. Which number system is used by computers?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 25, 26 and 27 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 27. Help the students to solve these questions.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 27 will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

1. Convert the last four digits of your parents' mobile numbers into binary number.
2. Ask the students to prepare a comparative chart with four columns, the first one listing the digits used in Hexadecimal number system and in the remaining three columns, their equivalent value under decimal, binary and octal number systems.



3. Computer Virus

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

Teaching Plan

Number of periods: 2

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 33, 34 and 35 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 35 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 36 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.

4. Ethics and Safety Measures in Computing

Teaching Objectives

Students will learn about

- ☞ What is Internet?
- ☞ Computer ethics
- ☞ What is Internet ethics?
- ☞ What is unethical practices?
- ☞ Safety measures while using Computer/Internet
- ☞ Digital Footprints

Teaching Plan

Number of periods: 5

While teaching this chapter, tell the students that what is Internet and what are its advantages & disadvantages

Introduce computer ethics and etiquettes

Share examples of some unethical practices involving computers:

- Plagiarism
- Cyber bullying
- Phishing
- Hacking
- Spamming
- Individual right to privacy
- Soft ware Piracy
- Intellectual property rights
 - Copyright
 - Patent
 - Trademark

Tell the students about the safety measures to be followed while using computer/Internet
Explain to the students what is digital footprints and how to delete digital footprints
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 plagiarism?
- Q. State any two advantages and two disadvantages of internet.
- Q. State any two methods by which a computer may be used unethically.
- Q. State any two types of intellectual property rights.
- Q. What is digital footprint?
- Q. What is the main purpose of computer ethics and etiquettes?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 45, 46 and 47 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 47 and 48 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 48 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 ethical practices to be followed while using computer/Internet and make a chart on the same using MS Word.

5. Spreadsheets–An Introduction

Teaching Objectives

Students will learn about

- ☞ Features of MS Excel 2010
- ☞ Starting MS Excel 2010
- ☞ Components of MS Excel 2010
- ☞ Data types
- ☞ Creating a new workbook
- ☞ Entering data in the worksheet
- ☞ Saving a workbook

Teaching Plan

Number of periods: 5

While teaching this chapter, tell the students that MS Excel is application software that is used to store and analyze data.



Explain to the students the features of MS Excel 2010 in detail. Demonstrate to the students the steps to start MS Excel 2010.

Familiarize the students with the various components of MS Excel 2010 window covering Title Bar, File Tab, Quick Access Toolbar, Ribbon, Formula Bar, Name Box, Worksheet Window, Worksheet Tab, Worksheet Tab Scrolling Buttons, Status Bar, Row, Column, Row and Column Heading Buttons, Cell, Active Cell, Mouse Pointer, Workbook and Cell Range.

Tell the students that MS Excel 2010 offers various data types to be entered in a cell covering Numbers, Text, Date and Time.

Demonstrate to the students the steps to:

- Create a new workbook
- Enter data in a worksheet
- Save a workbook

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

Ask the students some oral questions based on this chapter.

Q. What is MS Excel 2010?

Q. What are the features of MS Excel 2010?

Q. Name any five components of MS Excel 2010.

Q. Define Formula Bar / Name Box / Row / Column / Cell / Active Cell / Cell Range.

Q. State the situation when Number / Text / Date and Time data type used for.

Q. State the shortcut key to save an Excel worksheet.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 55, 56 and 57 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 57 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 58 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 table in this format for their family members.

S.No.	Name	Relation with Me	Date of Birth	Age
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6. More on spreadsheets

Teaching Objectives

Students will learn about

- ☞ Selecting cells in a worksheet
- ☞ Copying/Moving data

- ☞ Using Undo and Redo Features
- ☞ Column width and row height
- ☞ Inserting rows/columns
- ☞ Merging cells
- ☞ Autofill
- ☞ Using formulas to perform calculation
- ☞ Order of operation

Teaching Plan

Number of periods: 4

Show to the students how to create a new workbook in Excel.

Tell the students that to enter data in a cell, simply click on the cell and enter data.

Tell the students the methods of modifying data by cut, copy and paste.

Explain to the students the steps involved in changing row height and column width – both manually and automatically.

Tell the students that Excel allows inserting blank rows and columns at the required place in the worksheet.

Demonstrate to the students how two or more cells can be merged into one and also how a cell can be split up into two or more cells (refer Suggested Activity also).

Explain some worksheet formatting features of Excel like

- Word wrap – displaying multiple lines of text in a cell
- Format numbers – applying various data types to the cells
- Cell borders – boundary around a cell or a series of cells
- Cell styles – Pre-defined cell border, colour and formatting
- Cell fills – adding colours or shades in the cells

Show to the students the steps involved in applying all of these formatting features on a worksheet.

Explain to the students that worksheet tab can be customized by changing its default name and colour.

Introduce to the students AutoFill feature of Excel as automatically filling a series of data in the worksheet and the steps involved in the same.

Tell the students that MS Excel has some built-in formulas called functions.

Share with the students the basic elements and rules of writing a formula in Excel.

Show to them the different methods of copying and pasting a formula.

Tell them the order of operation followed in Excel.

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 use of MS Excel software?

Q. Name any five components of an Excel window?



- Q. What is the difference between Cut and Copy options?
- Q. What does it mean when data in a cell is displayed as #####?
- Q. Define merging of cells.
- Q. Define splitting of cells.
- Q. What is wrap text feature of Excel?
- Q. Name any three number formats available in Excel.
- Q. What is meant by border of a cell?
- Q. What is the use of AutoFill feature?
- Q. What are Functions in Excel?
- Q. Name the different elements of a formula in Excel.
- Q. What is the order of operation followed in Excel?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 71 and 72 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 72. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 73 will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to design their class time-table in MS Excel 2010.

7. Database and DBMS- An introduction

Teaching Objectives

Students will learn about

- ☞ Concept of a database
- ☞ Types of databases
- ☞ Advantages of a database system
- ☞ Structure of a database
- ☞ MS Access 2010
- ☞ Components of MS Access 2010
- ☞ Data types in MS Access 2010
- ☞ Types of views in MS Access
- ☞ Rules for writing a field name in MS Access
- ☞ Creating a table

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that the computerized database system was introduced in 1960s.

Introduce:

- Database as organizing data in a manner which helps to store and retrieve a large amount of data efficiently.
- Database Management System as a collection of programs required to store and retrieve data from a database.

Explain to the students the meaning of the two types of databases – Flat File Database and Relational Database.

Share with the students the advantages of a database system.

Draw on board and explain the structure of a database to the students explaining about table, fields, records, primary key, query, report and form.

Introduce MS Access 2010 as a powerful and easy to use Relational Database Management System and is a part of MS Office Suite.

Demonstrate the steps to start MS Access 2010.

Familiarize the students with the various components of MS Access 2010 window covering Quick Access Toolbar, Title Bar, Ribbon, Navigation Pane, Navigation Buttons, Work Area and Objects Tabs.

Demonstrate to the students the two ways of creating a database as:

- Creating a blank database
- Creating a database using Templates

Show the students the method to open an existing database and close a database.

Explain different data types used in MS Access 2010 covering Text, Memo, Number, Auto Number, Date/Time, Yes/No, OLE, Hyperlink and Lookup Wizard.

Discuss with the students the use of the different types of views in MS Access 2010 as Datasheet view and Design view.

Share with the students the rules for defining field names in MS Access 2010.

Tell the students that Tables can be created in three ways.

Demonstrate to the students the steps to create a Table:

- In Design view
- In Datasheet view
- By using Templates

Show to the students the method to exit MS Access 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. Define database.

Q. What is Database Management System?



- Q. Expand DBMS.
- Q. Name the different types of databases.
- Q. What type of database is MS Access 2010?
- Q. Give any two advantages of Database System.
- Q. Define Table / Query / Report / Form.
- Q. Name any three data types used in MS Access 2010.
- Q. What does OLE stands for?
- Q. What are the rules for writing field names?
- Q. What is the use of Field Name / Description in the Table design window?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 88 and 89 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 89 and 90 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 90 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 table storing information about details of their ten friends and sort the records in the table in alphabetical order.

8. More on Access

Teaching Objectives

Students will learn about

- ☞ Forms in MS Access
- ☞ Queries in MS Access
- ☞ Reports in MS Access

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that MS Access is used to create tables and maintain records in a database along with preparing Forms, Queries and Reports.

Introduce Forms as objects used to add, edit and display data from tables in a user friendly manner.

Share with the students that a Form can be displayed in three views – Form View, Design View and Layout View.

Demonstrate to the students the steps to create a Form.

Explain different types of Forms covering Multiple Items, Datasheet, Split Form and Modal Dialog.

Familiarize the students with the Navigation Bar of the Form window to view and navigate between records in a Table.

Tell the students that the appearance of the Form can be formatted using Design and Format tabs.

Introduce Query as the object that can give information which the user might not be able to find by looking at the Table directly.

Explain the different types of Queries as: Select Query, Parameter Query, Action Query, Crosstab Query and SQL.

Tell the students about the relationship between the Primary Key and the Foreign Key.

Show to the students the steps to define relationships between tables.

Demonstrate the steps to create a query.

Introduce Report as an object used to organize and present data in a user friendly format for printing purpose.

Demonstrate the steps to:

- Create a Report
- Print a Report

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 Form / Query / Report.
- Q. Name the different views in which a Form can be displayed.
- Q. Name the different types of Forms in MS Access.
- Q. Where is Navigation Bar located?
- Q. Name the different types of Queries.
- Q. Define Primary Key / Foreign key.
- Q. Name any four parameters of Query window.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 99, 100 and 101 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 101 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 102 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Using the Table created in the previous chapter create a query to display names of friends whose name starts with A or D.



9. Lists and Tables in Html

Teaching Objectives

Students will learn about

- ☞ Creating Lists
- ☞ Creating Tables

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that HTML tags are used to create a web page.

Introduce list as collection of related items.

Tell the students that there are three types of lists – Ordered List (Numbered List), Unordered List (Bulleted List) and Definition List (Description List).

Explain the use of tag to create ordered lists, tag to create unordered lists and <DL> tag to create definition lists. (See Suggested Activity 1 also).

Explain the use of <TABLE> tag and its child tags covering <TR>, <TD>, <TH> and <Caption>.

Explain the use of different attributes of <TABLE> tag covering BORDER, BORDERCOLOR, FRAMES, BGCOLOR, BACKGROUND, HEIGHT, WIDTH, CELLSPACING and CELLPADDING.

Discuss the use of different attributes of <TD> tag explaining about ALIGN, BGCOLOR, WIDTH, ROWSPAN, COLSPAN and VALIGN attributes.

Tell the students that all the attributes except ROWSPAN and COLSPAN are taken up by <TR> tag also.

Demonstrate the code to create a table and its data in HTML. (See Suggested Activity 2 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. Define List / Table.
- Q. How many types of Lists can be created in HTML?
- Q. Name the different types of Lists that can be created in HTML.
- Q. What is an Ordered / Unordered / Definition List?
- Q. Name the attributes of tag.
- Q. Name the tags used to create Definition List.
- Q. Name the tags that can be used to create different kinds of tables.
- Q. What are the attributes of <TABLE> / <TD> tag?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 113 and 114 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 114 and 115 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 115 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:

- List of favourite games of 10 friends.
- Table of car names and their models.

10. More on Html

Teaching Objectives

Students will learn about

- ✎ Inserting Images
- ✎ Creating Marquee
- ✎ Linking Web Pages
- ✎ Frames

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that HTML allows inserting images and frames on web pages as well as interlinking them.

Tell the students that HTML supports JPEG, GIF and PNG image formats.

Tell the students that tag is used to insert images and it takes the attributes as SRC, WIDTH, HEIGHT, ALIGN, BORDER and ALT.

Demonstrate to the students the use of tag and its attributes.

Introduce Marquee as the moving objects on a web page to get special attention of the users.

Explain the use of <MARQUEE> tag and its attributes as BEHAVIOUR, DIRECTION and SCROLLAMOUNT.

Make the students understand that a hyperlink is an underlined text or an image which when clicked takes the user to some other location.

Share with the students that <A> is used to create links and the attributes that this tag can take are – LINK, ALINK and VLINK.

Demonstrate the use of <A> tag and its attributes to hyperlink web pages (See Suggested Activity also).

Introduce Frames as a feature to display more than one web page on a single screen of the web browser.

Explain the use of <FRAMESET> tag and <FRAME> tag to create and define frames on a web page.

Tell the students that the <FRAME> tag can take FRAMEBORDER, NORESIZE and SRC as attributes.

Demonstrate the use of <FRAMESET> and <FRAME> tags to create frames on a web page.

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. Which tag is used to insert images on a web page?
- Q. State the use of SRC / WIDTH / ALIGN /ALT attribute of IMG tag.
- Q. Which image formats are supported by HTML?
- Q. What is the use of MARQUEE tag?
- Q. Which tag is used to link web pages?
- Q. Name the attributes that can be taken by FRAME tag.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 132, 133 and 134 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 134 and 135 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Pages 135 and 136 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 an e-shopping web site listing categories of items on home page and details of items on separate category pages.