

TOUCHPAD

Prime Ver. 2.2

5

TEACHER'S MANUAL

Extended Support for Teachers



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Teacher's Time Table		B R E A K						
Periods / Days								
		0	I	II	III	IV	V	VI
Monday								
Tuesday								
Wednesday								
Thursday								
Friday								
Saturday								

DEVELOPMENT MILESTONES IN A CHILD

Development milestones are a set of functional skills or age-specific tasks that most children can do at a certain age. These milestones help the teacher identify and understand how children differ in different age groups.



Age
5 - 8 Years

Physical

- First permanent tooth erupts
- Shows mature throwing and catching patterns
- Writing is now smaller and more readable
- Drawings are now more detailed, organised and have a sense of depth

Cognitive

- Attention continues to improve, becomes more selective and adaptable
- Recall, scripted memory, and auto-biographical memory improves
- Counts on and counts down, engaging in simple addition and subtraction
- Thoughts are now more logical

Language

- Vocabulary reaches about 10,000 words
- Vocabulary increases rapidly throughout middle childhood

Emotional/ Social

- Ability to predict and interpret emotional reactions of others enhances
- Relies more on language to express empathy
- Self-conscious emotions of pride and guilt are governed by personal responsibility
- Attends to facial and situational cues in interpreting another's feelings
- Peer interaction is now more prosocial, and physical aggression declines

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

Age
9 - 11 Years

Physical

- Motor skills develop resulting in enhanced reflexes

Cognitive

- Applies several memory strategies at once
- Cognitive self-regulation is now improved

Language

- Ability to use complex grammatical constructions enhances
- Conversational strategies are now more refined

Emotional/ Social

- Self-esteem tends to rise
- Peer groups emerge

Age
11 - 20 Years

Physical

- If a girl, reaches peak of growth spurt
- If a girl, motor performance gradually increases and then levels off
- If a boy, reaches peak and then completes growth spurt
- If a boy, motor performance increases dramatically

Cognitive

- Is now more self-conscious and self-focused
- Becomes a better everyday planner and decision maker

Emotional/ Social

- May show increased gender stereotyping of attitudes and behaviour
- May have a conventional moral orientation

Managing the children's learning needs according to their developmental milestones is the key to a successful teaching-learning transaction in the classroom.

“Family is the most important thing in the world.”

TEACHING PEDAGOGIES



Lesson Plans

A lesson plan is the instructor's road map which specifies what students need to learn and how it can be done effectively during the class time. A lesson plan helps teachers in the classroom by providing a detailed outline to follow in each class.

A lesson plan addresses and integrates three key components:

- ✦ Learning objectives
- ✦ Learning activities
- ✦ Assessment to check the student's understanding

A lesson plan provides an outline of the teaching goals:

Before the class

1. Identify the learning objectives.
2. Plan the lesson in an engaging and meaningful manner.
3. Plan to assess student's understanding.
4. Plan for a lesson closure.

During the class

Present the lesson plan.

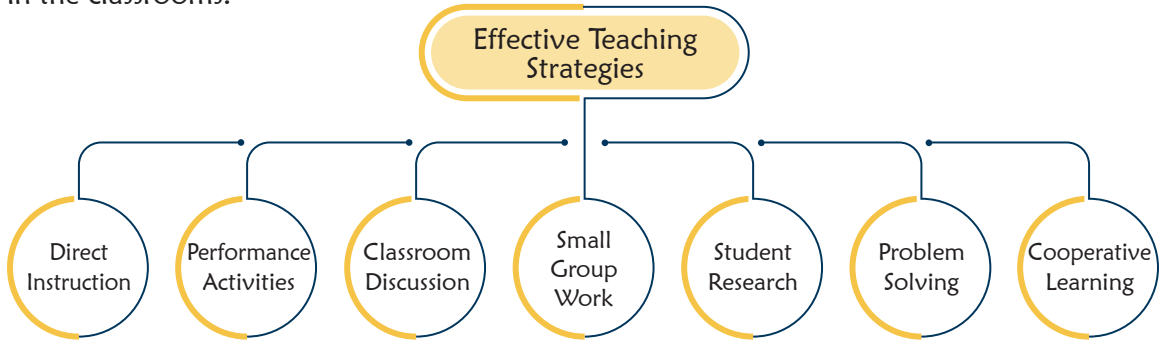
After the class

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

“Knowing yourself is the beginning of all wisdom.”

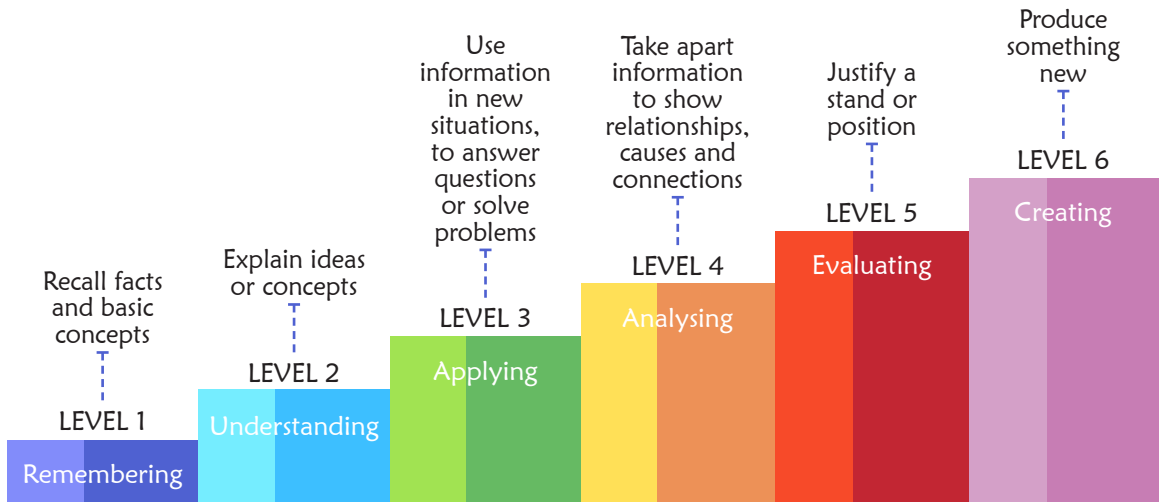
Teaching Strategies

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



Bloom's Taxonomy

Bloom's Taxonomy was created by Dr Benjamin Bloom and several of his colleagues, to promote higher forms of thinking in education instead of rote learning. There are three domains of learning: cognitive (mental), affective (emotional), and psychomotor (physical). However, when we refer to Bloom's Taxonomy we speak of the cognitive domain. Bloom's Taxonomy is a list of cognitive skills that is used by teachers to determine the level of thinking their students have achieved. As a teacher, one should attempt to move students up the taxonomy as they progress in their knowledge.



Teachers should focus on helping students 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.

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you are twice defeated in the race of life. ”

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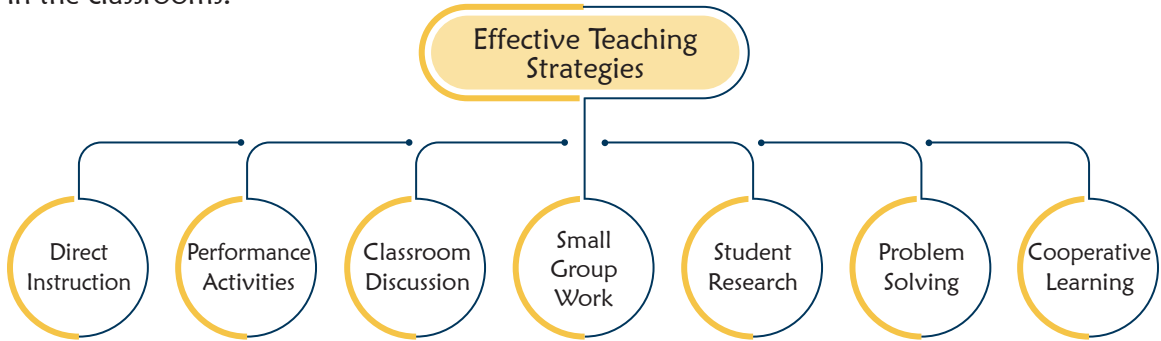
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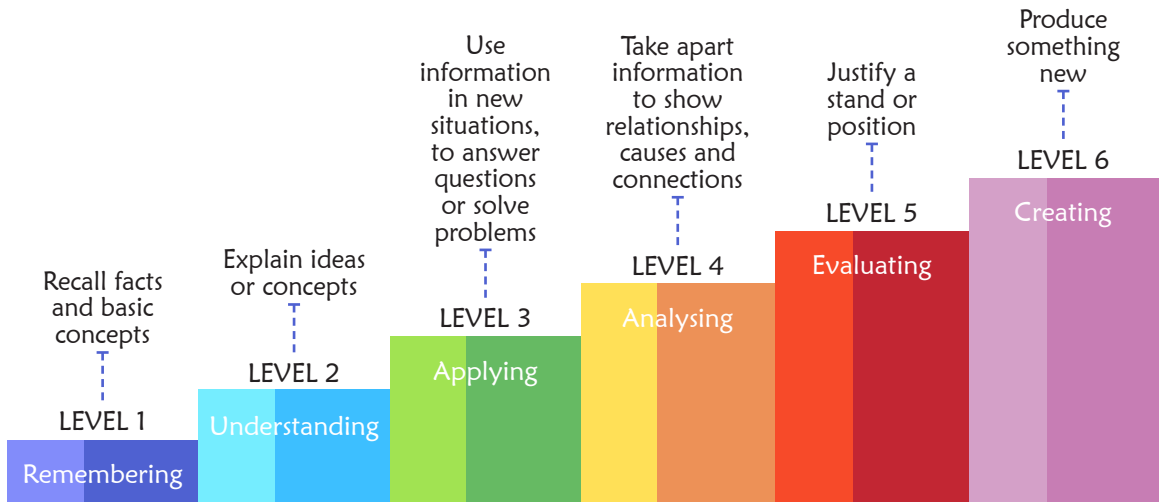
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Managing Files and Folders

Teaching Objectives

Students will learn about

- ✦ Windows 10 Desktop
- ✦ This PC Icon
- ✦ File or Folder

Teaching Plan

Number of Periods	
Theory	Practical
2	1

While teaching this chapter, tell the students that the windows 10 desktop is the main interface that appears after booting, featuring the Start menu, Taskbar, Background, and icons.

Tell the student that when you click on **This PC** icon, it opens a window which displays all the files and folders on your computer.

Introduce file as an item that contains a collection of related information, a folder as a collection of files and a sub folder as a folder within a folder.

Demonstrate to the students the steps to:

- Selecting a file/folder.
- Creating a file/folder.
- Renaming a file/folder.
- Copying a file/folder.
- Moving a file/folder.
- Deleting a file/folder.
- Searching a file/folder.

Ask the students to solve the exercise Warm Up! given on page number 12.

Tell the students readout the words give on the page 12 to learn new words related to computer.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is Windows 10?
- Q. Define This PC icon.
- Q. What is a file?
- Q. What is a folder?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 13 to 15 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 15 in the main course book.

Take the students to the computer lab and let them practice the activity given in In the Lab section on Page 16 in the main course book. This will enhance the ability of the students and serve as a Creativity activity.

Suggested Activity

Ask the students to make a folder on desktop and add files in the folder. Rename the files in that folder and copy them to some other folder.

2

Advanced Features of Word 2016

Teaching Objectives

Students will learn about

- ✦ Spelling and Grammar
- ✦ Theasaurus
- ✦ Find and Replace Text
- ✦ Page Formating
- ✦ Paragraph Formatting
- ✦ Mail Merge

Teaching Plan

While teaching this chapter, tell the students that Spelling and Grammar Check feature of 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 Word.

Number of Periods	
Theory	Practical
3	1

Explain the student Thesaurus is a collection of words with their synonyms.

Tell the students that a particular word or phrase in a document can be looked for with the help of Find feature.

Tell them that Word can go one step ahead and can replace that particular word or phrase by another word or phrase as required by the user using the Replace feature.

Explain to the students that line spacing means the blank space between two lines in a paragraph.

Tell the student Page formatting arranges a document's layout for better readability, with various tools available in the Layout tab of Word 2016.

Introduce the student **Orientation** of a paper means the direction in which the text or image appears on a page. Word has two types of page orientations—**Landscape** and **Portrait**. Portrait is the default orientation in Word. To understand the difference between the two orientations, see the given pictures.

Explain the student **Paper size** is the actual length and width of the paper in cm. You need different paper sizes for different types of documents. The default paper size in Word is **Letter**. Also show the steps. And explain the Inserting a page break.

Demonstrate the steps of these:

- Line spacing
- Paragraph spacing

Introduce to the students Mail Merge as the feature used to create personalized letters to be sent to many persons.

Demonstrate the steps of these:

- Creating the main document
- Creating the data source
- Merging the main document and data source

Ask the students to solve the exercise warm Up! given on page number 21.

Tell the students readout the words give on the page 27 to learn new words related to computer.

Extension

Ask the students some oral questions based on this chapter.

- 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?
- Q. What is the difference between Find and Replace features?
- Q. What is the meaning of Line Spacing?
- Q. What is the meaning of Paragraph Spacing?
- Q. What do you mean by page orientation?
- Q. What do you mean by Mail Merge?
- Q. How is mail merge helpful?



Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 28 to 30 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 30 in the main course book.

Take the students to the computer lab and let them practice the activity given in In the Lab section on Page 31 in the main course book. This will enhance the ability of the students and serve as a Creativity activity.

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.

3 More on Powerpoint

Teaching Objectives

Students will learn about

- ✦ Applying Themes
- ✦ Working with Slide Master
- ✦ Changing the Background
- ✦ Inserting SmartArt
- ✦ Animations
- ✦ Slide Transitions

Teaching Plan

Number of Periods	
Theory	Practical
3	2

While teaching this chapter, tell the students that PowerPoint 2016 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.

Show the student steps of changing the background.

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

Show to the students how to insert SmartArt and the steps involved in adding it into a presentation.

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

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

Ask the students to solve the exercise Warm Up! given on page number 41.

Tell the students readout the words give on the page 43 to learn new words related to computer.

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 is Slide Master?
- Q. What is SmartArt?
- Q. What is an Animation?
- Q. What is a Transition?
- Q. How to add animation in a slide?
- Q. How to add transition in a presentation?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 43 to 45 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 45 and 46 in the main course book.

Take the students to the computer lab and let them practice the activity given in In the Lab section on Page 46 in the main course book. This will enhance the ability of the students and serve as a Creativity activity.

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.

Divide the class into two teams. Ask one team to prepare presentation on different planets of the solar system. Use appropriate animation and transition effects.

4

Introduction to Excel 2016

Teaching Objectives

Students will learn about

- ★ Excel 2016
- ★ Features of Excel 2016
- ★ Starting Excel
- ★ Components of Excel 2016 Window
- ★ Changing the active Cell
- ★ Creating a New Workbook

- ✦ Entering Data
- ✦ Working with Worksheet
- ✦ Saving a Workbook
- ✦ Opening a Workbook
- ✦ Closing a Workbook
- ✦ Selecting Cells
- ✦ Entering Date and Time
- ✦ Changing Cell Contents

Number of Periods	
Theory	Practical
4	1

Teaching Plan

While teaching this chapter, tell the students that MS Excel is an application software that helps us to store and analyse data.

Explain the student features of worksheet exccel 2016.

Show the student steps to start excel 2016.

Familiarize the students with the various components of MS Excel 2016 window covering:

Title bar, Quick access toolbar, Ribbon, File tab, Status bar, View bar, Sheet bar, Rows and Columns, Cells, Worksheet, Active cell and Formula bar.

Tell the student you can change the active cell in a worksheet using the mouse or keyboard shortcuts for navigation.

Demonstrate the steps of these:

- Creating a new workbook
- Entering data

Tell the student you can switch between worksheets using Ctrl + Page Up and Ctrl + Page Down, as well as rename, add, or remove them in a workbook.

Explain the student steps of saving a workbook, opening a workbook and closing a workbook.

Introduce the selecting cells in a worksheet.

Tell the student In Excel, time is formatted as hours:minutes:seconds AM/PM, while dates like 10/4 are recognized and displayed as 10-Apr by default.

Introduce the student Editing data in a cell means modifying it partially or completely, which can be done by replacing cell contents or using the formula bar.

Ask the students to solve the exercise Warm Up! given on page number 56.

Tell the students readout the words give on the page 58 to learn new words related to computer.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Excel 2016?

- Q. What are the features of Excel 2016?
- Q. Name any five components of Excel 2016.
- 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.
- Q. What is the difference between Cut and Copy options?
- Q. Define merging of cells.
- Q. Define splitting of cells.
- 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?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 59 and 60 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 61 in the main course book.

Take the students to the computer lab and let them practice the activity given in In the Lab section on Page 61 in the main course book. This will enhance the ability of the students and serve as a Technology Literacy activity.

Suggested Activity

Ask the students to design their class time-table in Excel 2016.

Ask the students to prepare a table in this format for their family members.

S.No.	Name	Relation with Me	Date of Birth	Age
-------	------	------------------	---------------	-----

5

Data Processing

Teaching Objectives

Students will learn about

- ★ Data and Information
- ★ Representing Information
- ★ Sorting Data
- ★ Decoding

Number of Periods	
Theory	Practical
2	1

Teaching Plan

Introduce Data and Information to the students in details with the help of proper examples for better understanding.

Tell the students about how to represent information with the help of proper charts and tables.

Let them know how to sort data by giving some examples which will improve their understanding of the topic.

Explain the meaning of Decoding to the students and ask them to use the reference given in the book to understand the concept.

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

Ask the students to solve the exercise Warm Up! given on page number 68.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is a pen block?
- Q. How can you draw a line in Scratch?
- Q. How can you draw a polygon in Scratch?
- Q. How can you draw a rectangle in Scratch?
- Q. How can you draw a square in Scratch?
- Q. How can you draw a circle in Scratch?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on pages 68 to 70 in the main course book. Tell the students to try sections such as Activity Time given on page 70 in the main course book.

Take the students to the computer lab and let them practise the activity given in the In The Lab section on page 70 in the main course book. This will enhance the ability of the students and serve as a critical thinking and technology literacy activity.

Suggested Activity

Ask the students to draw a triangle and circle together in a program.

6

Creating Shapes in Scratch

Teaching Objectives

Students will learn about

- ✦ Pen Block
- ✦ Drawing a Line in Scratch

- ✦ Drawing Polygons in Scratch
- ✦ Drawing a Circle in Scratch

- ✦ Drawing a Square in Scratch

Number of Periods	
Theory	Practical
2	2

Teaching Plan

Tell the students about pen block and explain its use with using appropriate examples. Also, show the steps involved in creating programs using pen blocks.

Show the steps involved in drawing a line in Scratch.

Tell the steps involved in drawing polygons in Scratch.

Explain the steps involved in drawing a square in Scratch.

Ask the students to solve the exercise Warm Up given on page number 74.

Tell the students readout the words give on the page 75 to learn new words related to computer.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is a pen block?
- Q. How can you draw a line in Scratch?
- Q. How can you draw a polygon in Scratch?
- Q. How can you draw a rectangle in Scratch?
- Q. How can you draw a square in Scratch?
- Q. How can you draw a circle in Scratch?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 76 and 77 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 77 in the main course book.

Take the students to the computer lab and let them practice the activity given in In the Lab section on Page 78 in the main course book. This will enhance the ability of the students and serve as a Technology Literacy activity.

Suggested Activity

Ask the students to draw a triangle and circle together in a program.

7

Conditional Blocks in Scratch

Teaching Objectives

Students will learn about

- ✦ Blocks Shapes in Scratch
- ✦ Sensing Blocks

- ✦ Variables
- ✦ Creating a Game

- ✦ Conditional Blocks

Number of Periods	
Theory	Practical
3	2

Teaching Plan

Show the students the shapes of blocks:

- Hat Blocks
- Stack Blocks
- Boolean Blocks
- Reporter Blocks
- C Blocks
- Cap Blocks

Explain the Sensing block to the students and the steps involve in the use of this block.

Tell the students what are variable using appropriate examples along with-

- Types of variables
- Creating variables

Explain the Conditional Blocks to the students and the steps involved in this in detail.

Demonstrate ho can one create a game in Scratch using appropriate blocks.

Ask the students to solve the exercise Warm Up! given on page number 83.

Tell the students readout the works give on the page 88 to learn new words related to computer.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Scratch?

Q. Define:

- | | | |
|-------------------|----------------|------------------|
| - Hat Blocks | - Stack Blocks | - Boolean Blocks |
| - Reporter Blocks | - C Blocks | - Cap Blocks |

Q. What is a sensing block?

Q. What is a variable?

Q. What are conditional blocks?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 88 to 90 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 90 in the main course book.

Take the students to the computer lab and let them practice the activity given in In the Lab section on Page 91 in the main course book. This will enhance the ability of the students and serve as a Creativity activity.

Suggested Activity

Ask the students to develop the story of Rabbit and Tortoise in Scratch.

8

Internet and E-Mail

Teaching Objectives

Students will learn about

- ✦ Internet
- ✦ Requirements to Connect to Internet
- ✦ Types of Internet Connection
- ✦ Using Web Browser
- ✦ Using URLs
- ✦ E-mail

Teaching Plan

Number of Periods	
Theory	Practical
3	2

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

Introduce the things required for having an Internet connection like:

- Computer system
- Telephone and cable lines
- Modem
- Web browser
- ISP

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

Tell the student types of internet connection.

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)
- Reading a received e-mail
- Signing out from the e-mail account (tell them the importance of this step)

Ask the students to solve the exercise Warm Up! given on page number 96.

Tell the students readout the works give on the page 101 to learn new words related to computer.

Extension

Ask the students some oral questions based on this chapter.

Q. Define web server.

Q. How the web works?

Q. Expand URL?

Q. Define an e-mail.

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 102 and 103 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 104 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Find Out and In the Lab section on Page 104 in the main course book. This will enhance the ability of the students and serve as a Communication and Technology Literacy 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.

9

Robotics

Teaching Objectives

Students will learn about

- ★ What Are Robots?
- ★ Fields Where Robots Are Used
- ★ Latest Robots

Number of Periods	
Theory	Practical
2	1

Teaching Plan

Let the students know that robots are automatically operated machines that work in place of humans.

Explain that Robotics is a branch of engineering and science that deals with the design, construction and functioning of robots.

Make the students aware of the fields where robots are used like security and surveillance, manufacturing, customer service, cooking, healthcare, space exploration, entertainment and underwater research.

Make the students aware of latest robots like T-HR3, Sophia, Digit, RoboThespian, Nao, Z-Machines, Moley Robotic Kitchen, Paro, Root, Zenbo and Dash & Dot.

Ask the students to solve the exercise Warm Up! given on page number 107.

Extension

Ask the students some oral questions based on this chapter.

- Q. What are robots?
- Q. Define Robotics.
- Q. Name some fields where robots are used.
- Q. Which was the first robot to join the assembly line in 1961?
- Q. Which robot can recognise people from the database of their previous visits?
- Q. What is Sophia?
- Q. What is RoboThespian?
- Q. What does the robot Nao do?
- Q. What is Paro, a talking robot used for?
- Q. What is Zenbo?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on pages 110 to 112 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 112 in the main course book.

Take the students to the computer lab and let them practice the activity given in the In the Lab section on Page 113 in the main course book. This will enhance the ability of the students and serve as a Information Literacy Technology Literacy activity.

Suggested Activity

Ask the students to gather more information about the latest robots and the areas of their use.

