

TRACKPAD

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4

TEACHER'S MANUAL

Extended Support for Teachers



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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.

“ If you have no confidence in self,
you are twice defeated in the race of life. ”

1 Computers—Storage and Memory Device

Teaching Objectives

Students will learn about

- ✦ Data and Information
- ✦ Memory
- ✦ Measuring the Computer's Memory

Teaching Plan

Number of Periods	
Theory	Practical
2	0

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.

Explain to the students about data and information.

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 Memory** (Pen Drive, Memory Card).

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 and DVD.
- Q. Define a pen drive and 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 12 to 14 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 14 of the main course book to imbibe Experiential Learning skills. Help the students to solve these questions.

In Creative Assignment, activities like **Hands-On** and **Fun in Lab** given on pages 14 and 15 of the main course book will enhance the ability of the students and serve as a Creativity & Innovativeness and Experiential Learning activity.

Suggested Activity

Ask the students to research and collect information about some secondary storage devices like floppy disks, which have now become obsolete.

Teaching Objectives

Students will learn about

- ✦ Components of Windows 10 Desktop
- ✦ Desktop Background
- ✦ Icons
- ✦ Taskbar

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that operating system is one of the most important software as without this software we cannot use our computer at all.

Give a brief introduction of Microsoft Windows.

Familiarise the students with the components of Windows 10 desktop covering Icons, Desktop background and Taskbar.

Introduce desktop background as the image in the background of the icons.

Demonstrate the steps to change desktop background and colour scheme.

Introduce icons as the small images of various files/folders, programs or applications.

Familiarise the students with some important icons on the desktop like This PC, Recycle Bin and Folder.

Demonstrate to the students the steps to sort icons on the desktop. Show to the students how to use the 'This PC' icon.

Introduce the students to the taskbar and its components covering Start button, Quick launch bar and clock.

Explain the use of the following to the students:

- Start Button
- Quick Launch Bar
- Changing Volume of the Speaker
- Clock
- Show Desktop Button
- Changing Position of the Taskbar

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 importance of an operating system?
- Q. Give examples of some popular operating systems.
- Q. Which company developed Windows operating system?
- Q. What are the important features of Windows 10?

- Q. What is desktop?
- Q. Define icons.
- Q. What is taskbar?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 25 to 27 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 28 of the main course book to imbibe Coding & Computational Thinking skills. Help the students to solve these questions. In Creative Assignment, activity like **Fun in Lab** given on page 28 of the main course book will enhance the ability of the students and serve as a Digital Literacy and Experiential Learning activity.

Suggested Activity

Ask the students to draw the various shapes of a mouse pointer and the action being performed at that time on an A3 sheet of paper.

3 Editing in Word 2019

Teaching Objectives

Students will learn about

- ✦ Features of Word 2019
- ✦ Saving a Document
- ✦ Deleting Text
- ✦ Cutting/Copying Text
- ✦ Spell Check
- ✦ Creating a New Document
- ✦ Selecting Text
- ✦ Inserting Text
- ✦ Undo/Redo
- ✦ Thesaurus

Number of Periods	
Theory	Practical
1	2

Teaching Plan

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

Share with the students that to edit text, first it needs to be selected.

Familiarise the students with the features of Word 2019.

Demonstrate to the students the steps to create a new document.

Demonstrate to the students the steps involved in:

- Saving a document
- Deleting text
- Cutting/Copying text
- Selecting text
- Inserting text

Introduce Undo as a feature used to cancel the command and Redo as a feature to reverse the action of Undo.

Familiarise the students with the icons and the shortcut keys to Undo and Redo actions.

Introduce the students to Spelling and Grammar Check feature of Word 2019.

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

Demonstrate to the students the method of using Spelling and Grammar Check feature of Word 2019.

Demonstrate to the students the method of using Thesaurus feature of Word 2019.

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 are letter, word, text and 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?

Q. What are the shortcut keys to open, save and print a document?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 36 to 38 of the main course book as **One Touch Learn** and **Let's Do It**. After solving the course book exercises, tell the students to solve **Crack the Code** activity given on page 38 of the main course book to imbibe Experiential Learning skills. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on page 39 of the main course book will enhance the ability of the students and serve as an Interdisciplinary, and Creativity & Innovativeness activity.

Suggested Activity

Ask the students to write a paragraph on My Favourite Festival in Word 2019, check for spelling and grammar mistakes and paste a printout in the computer notebook/practical file.



Teaching Objectives

Students will learn about

- ✦ Changing Font and Font Size
- ✦ Highlighting Text
- ✦ Applying Text Effects
- ✦ Changing Case
- ✦ Line Spacing and Paragraph Spacing
- ✦ Difference Between Editing and Formatting
- ✦ Changing Font Color
- ✦ Bold, Italic and Underline
- ✦ Aligning the text
- ✦ Adding Bullets and Numbering
- ✦ Printing a Document
- ✦ Shortcut Keys

Teaching Plan

Number of Periods	
Theory	Practical
1	3

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 Word 2019 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:

- Aligning the text

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.

Explain line spacing and paragraph spacing to the students.

Demonstrate the steps to print a document.

Explain the difference between editing and formatting.

Explain some shortcut keys used in Word 2019.

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 Word 2019 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. 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 50 and 51 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 52 of the main course book to imbibe Experiential Learning skills. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on page 52 of the main course book will enhance the ability of the students and serve as a Experiential Learning and Environmental Awareness activity.

Suggested Activity

Ask the students to collect write a paragraph on My Favourite Sport in Word 2019 applying various formatting features to make the paragraph attractive.

5

The Internet—Web Browser

Teaching Objectives

Students will learn about

- ★ Uses of the Internet
- ★ Requirements to Connect to the Internet
- ★ Internet Terms
- ★ Microsoft Edge
- ★ Search Engines

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that computers connected to a network can share data and files efficiently without any delay.

Make the students recall that the internet is a global network of millions of computers and computer networks.

Explain the various uses of internet covering:

E-mail – an online communication system

Information – through search engines like Google, Yahoo, etc.

Online shopping

Online chatting

Downloading data

Uploading data

Social Networking – Facebook, Instagram, Twitter, YouTube, WhatsApp, etc.

Share with the students the various requirements for an internet connection covering computer system, telephone/cable line, modem, web browser and Internet Service Provider (ISP).

Explain the meaning of some common internet terms like URL, Hyperlink, Offline, Online, Surfing, Website and Web page.

Tell the students about Microsoft Edge.

Familiarise the students with the components of Microsoft Edge covering Current tab, Back/Forward, New tab, Refresh, Favorites, Copilot, Address bar, Settings and more.

Introduce search engine as a software that searches various web pages on the World Wide Web (www) for a particular information.

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. What do you understand by Downloading / Uploading data?
- Q. Define URL / Hyperlink / Offline / Online / Surfing / Website / Web Page.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 60 and 61 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 62 of the main course book to imbibe Interdisciplinary skills. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on page 63 of the main course book will enhance the ability of the students and serve as a Digital Literacy and Experiential Learning activity.

Suggested Activity

Ask the students to prepare a report on some more uses of internet and present the observations to the class.

6

Introduction to PowerPoint 2019

Teaching Objectives

Students will learn about

- ★ Starting PowerPoint 2019
- ★ Creating a New Presentation
- ★ Slide Layout
- ★ Deleting a Placeholder
- ★ Viewing Slide Show
- ★ Opening a Saved Presentation
- ★ Delivering a Presentation
- ★ Components of PowerPoint Screen
- ★ Entering Data on the Slide
- ★ Adding New Slide to a Presentation
- ★ Deleting a Slide
- ★ Saving a Presentation
- ★ Exiting PowerPoint

Teaching Plan

Number of Periods	
Theory	Practical
2	3

While teaching this chapter, tell the students that PowerPoint 2019 is a part of Microsoft Office 2019 package. Share with the students that it is used to create presentations.

Demonstrate to the students the steps to start PowerPoint 2019.

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

Introduce slide as a single page of a presentation.

Demonstrate the steps to:

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

- Deleting a slide.
- Show to the students the method of viewing a slide show.
- Tell the students how to:
 - Save a presentation
 - Opening a saved presentation
 - Exit PowerPoint 2019
 - Deleting a presentation

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 PowerPoint 2019?
- Q. Define Title Bar / Status Bar.
- Q. What do you mean by Ribbon / Placeholder?
- Q. What is a slide in a presentation?
- Q. Which key is pressed to delete a selected placeholder?
- Q. What are the various ways in which a slide show can be started?
- Q. What are the steps to exit PowerPoint 2019?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 71 to 73 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 73 of the main course book to imbibe Experiential Learning skills. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on page 74 of the main course book will enhance the ability of the students and serve as a Experiential Learning and Ethical & Moral Reasoning activity.

Suggested Activity

Ask the students to create a presentation on 'The Cartoon Character I Like The Most'.

7

Stepwise Thinking

Teaching Objectives

Students will learn about

- ✦ Reasoning and Problem Solving
- ✦ Stepwise Thinking
- ✦ Case Study
- ✦ Programming

Number of Periods	
Theory	Practical
4	0

Teaching Plan

Tell the students about the following in detail using appropriate examples:

- Reasoning
- Problem Solving

Explain the Stepwise Thinking to the students with the steps involved in the process using suitable examples.

Share some Case Study with the students to explain the above taught factors in problem solving approach.

Tell the students about Programming and give a brief introduction about it.

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 reasoning?
- Q. What is problem solving?
- Q. What is stepwise thinking?
- Q. What is case study?
- Q. What is programming?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 79 to 81 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 82 of the main course book to imbibe Creativity & Innovativeness and Experiential Learning skills. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on page 82 of the main course book will enhance the ability of the students and serve as a Interdisciplinary activity.

Suggested Activity

Ask the students to write a case study to plan and organise a friend's birthday party.

8

Features of File Management

Teaching Objectives

Students will learn about

- ★ File/Folder
- ★ Organising File/Folder

- ✦ Creating a New File/Folder
- ✦ Copying and Moving a File/Folder
- ✦ Deleting a File/Folder
- ✦ Not Tampering with Other's File/Folder
- ✦ Selecting a File/Folder
- ✦ Renaming a File/Folder
- ✦ Restoring a Deleted File/Folder

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that all the data saved on a hard disk consists of files and folders.

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

Introduce to the students some common folders.

Demonstrate to the students the steps to:

- create a new file/folder
- select a file/folder
- copying and moving a file/folder
- renaming a file/folder
- deleting a file/folder
- restoring a deleted file/folder

Introduce tampering as opening other's files and making any changes to them without informing the file owner.

Explain the points to keep in mind while using 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 is a file / folder / subfolder?
- Q. Define a computer icon.
- Q. What is tampering?
- Q. What are the points to keep in mind while working on a computer?
- Q. What is the difference between copying a file and moving a file?
- Q. How to restore a deleted file?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 91 to 93 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 93 of the main course book to imbibe Interdisciplinary skill. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on page 94 of the main course book will enhance the ability of the students and serve as a Experiential Learning activity.

Suggested Activity

Ask the students to collect information about some more features of Windows 10 other than those discussed in the chapter.

