

TOUCHPAD

Ver. 4.0

4

TEACHER'S MANUAL

Extended Support for Teachers



ORANGE

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The image displays a "Teacher's Time Table" template set against a light green background with a faint grid pattern. The central feature is a large rectangular grid designed for scheduling lessons.

	VIII	VII	VI	V	B R E A K	IV	III	II	I	0
Periods / Days										
Monday										
Tuesday										
Wednesday										
Thursday										
Friday										
Saturday										

The grid is surrounded by numerous black-and-white line drawings related to science and education:

- Top Left:** A microscope, a pencil, a lit Bunsen burner, a test tube rack with five tubes, and a telescope on a tripod.
- Bottom Left:** A magnifying glass and a diagram of an atom with a central nucleus and three orbiting electrons.
- Top Right:** A rainbow, a microorganism resembling a tadpole or amoeba, a molecule with two black spheres and one white sphere, and a curved tube.
- Bottom Right:** A DNA double helix, a battery with '+' and '-' terminals, a planet with rings (like Saturn), a virus-like particle with spikes, a round-bottom flask containing liquid and bubbles, and a crescent moon with stars.

[illegible]

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

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 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.

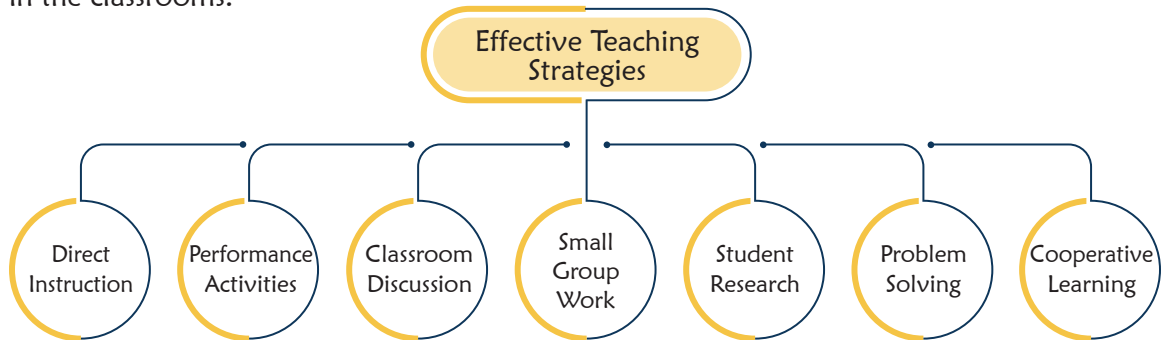
After the class

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

“Knowing yourself is the beginning of all wisdom.”

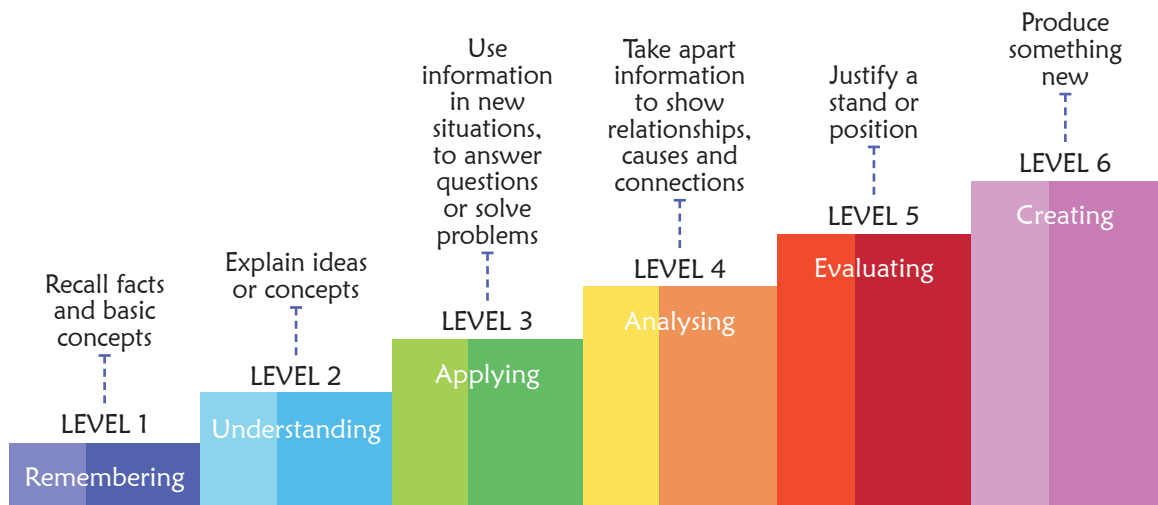
Teaching Strategies

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. ”

CLASS 4

LESSON PLAN

1

The Computer—An Overview

Teaching Objectives

Students will learn about

- ✦ Working of a Computer
- ✦ Processing Device
- ✦ Input Devices
- ✦ Output Devices

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that a computer system is made up of two types of parts—Hardware and Software.

Tell the students about the working of computer:

Share with the students that the first step is input, the second step is process and the third step is output.

Share with the students that this cycle of working of machines is called Input-Process-Output cycle or IPO cycle.

Introduce the term Input as giving instructions to the computer.

Tell the students that keyboard, webcam, graphic tablet, joystick, microphone, touchscreen and mouse are used as input devices in a computer.

Introduce the term Process as action performed by computer on the instructions given by user.

Tell the students that Central Processing Unit (CPU) is processing device of a computer and is called Brain of the computer.

Introduce the term Output as result given by the computer after processing.

Tell the students that monitor, plotter, speakers and printer are used as output devices in a computer.

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

Extension

Ask the students some oral questions based on this chapter.

Q. What does IPO stand for?

- Q. What is Input-Process-Output cycle?
- Q. Define Input / Process/ Output.
- Q. Name two input / output devices.
- Q. Which part of the computer is called Brain of the computer?
- Q. Why is CPU called brain of the computer?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 11 to 13 of the main course book as **Exercise**.

In Creative Assignment, activity like **In the Lab** given on Page 12 of the main course book will enhance the ability of the students and serve as a Information Literacy activity.

Suggested Activity

Show some more machines with input and output to the students and ask the students to arrange these in correct order of the IPO cycle.

2 Personalising Windows 10

Teaching Objectives

Students will learn about

- ✦ Getting Started with Windows 10
 - ✦ File/Folder
 - ✦ Creating a New File
 - ✦ Shortcut Menu
- Using the This PC Icon
 - Creating a New Folder
 - Opening a File/Folder

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Windows is a GUI based operating system developed by Microsoft.

Make the students recall desktop as the first screen on which they can work.

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

Explain briefly about each of these components of Windows 10.

Share with the students the usefulness of This PC icon. Tell the students about File and Folder.

Demonstrate to the students the steps to:

- Creating a new folder.



- Creating a new file.
- Opening a file/folder.

Tell the students about Shortcut menu.

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

Extension

Ask the students some oral questions based on this chapter.

- Q. What is Windows 10?
- Q. Name the components of Windows 10 desktop.
- Q. Define Desktop Background.
- Q. What are icons?
- Q. In how many parts is the Start menu divided?
- Q. What is a file?
- Q. What is a folder?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 18 to 20 of the main course book as **Exercise**.

In Creative Assignment, activity **In the Lab** given on Page 20 of the main course book will enhance the ability of the students and serve as an Information Literacy activity.

Suggested Activity

Ask the students to prepare a note on any one Gadget provided by Windows 10 on an A4 sheet of paper.

3

Introduction to Word 2019

Teaching Objectives

Students will learn about

- | | |
|---------------------------|--------------------------|
| ✦ Uses of Word 2019 | Starting Word 2019 |
| ✦ Components of Word 2019 | Working with Word 2019 |
| ✦ Saving a Document | Opening a Saved Document |
| ✦ Printing a Document | Closing Word 2019 |

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Microsoft Word is word-processing software in the category of application software.

Make the students aware of the various uses of Word 2019.

Demonstrate to the students the steps involved in starting Word 2019.

Show the students the various components of Word 2019 window covering Title Bar, Quick Access Toolbar, Rulers, Horizontal and Vertical Scroll Bars, Text / Document Area, Window Control Buttons, Zoom Slider and Status Bar.

Familiarise the students that while working on Word 2019, some frequently used keys other than alphabet and number keys are Spacebar, Enter, Delete and Backspace.

Demonstrate to the students the steps involved in:

- Creating a new file
- Selecting text
- Inserting text
- Undo/Redo
- Cutting/Copying and Pasting text
- Spell check
- Thesaurus
- Saving a document
- Opening a saved document
- Printing a document
- Closing 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 Microsoft Word?

Q. What are the various uses of Word 2019?

Q. Name some important components of Word 2019 window.

Q. Which company developed Word?

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

Q. What are the various ways in which the user can exit from Word 2019?



Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 30 to 32 of the main course book as **Exercise**.

In Creative Assignment, activity **In the Lab** given on Page 32 of the main course book will enhance the ability of the students and serve as a Information Literacy activity.

Suggested Activity

Ask the students to create a Word document on Myself. The students should take a printout of the document and paste it in their computer notebook / practical file.

4 Formatting in Word 2019

Teaching Objectives

Students will learn about

- ✦ Changing Font, Font Size and Font Colour
- ✦ Bold, Italic and Underline
- ✦ Format Painter
- ✦ Applying Borders and Shading
- ✦ Find and Replace
- ✦ Applying Drop Cap Effect
- ✦ Highlighting Text
- ✦ Applying Text Effects
- ✦ Changing Alignment
- ✦ Changing Case
- ✦ Adding Bullets and Numbering

Number of Periods	
Theory	Practical
2	2

Teaching Plan

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 steps of changing font, font size and font colour.

Introduce highlighting feature of Word as marking important text and placing a coloured 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 steps of:

- Applying text effects
- Changing alignment
- Format Painter
- Applying borders and shading

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 Find and Replace as to find whether a particular word or phrase appears in a document or not.

Demonstrate to the students the steps to find or replace a word or phrase.

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.

Introduce the Drop Cap effect as when the first letter of the first word of a paragraph is bigger than the rest of the text.

Demonstrate to the students the steps to apply Drop Cap effect.

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

Extension

Ask the students some oral questions based on this chapter.

- Q. Define formatting a text.
- Q. What is the default font / font size of text in a MS Word 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. Why is shading added to text?
- Q. What does Change Case option do?
- Q. What are bullets?
- Q. When are bullets or numbers added to text?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 39 to 41 of the main course book as **Exercise**.

In Creative Assignment, activity **In the Lab** given on Page 41 of the main course book will enhance the ability of the students and serve as a Creativity activity.

Suggested Activity

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



5

Graphics and Tables in Word 2019

Teaching Objectives

Students will learn about

- ✦ Shapes
- ✦ Symbols
- ✦ Working with Tables
- ✦ WordArt
- ✦ Table

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that although Word 2019 is a word processor, yet it allows three types of graphics to work upon – Shapes, WordArt and Pictures.

Familiarise the students with various categories of Shapes under Illustrations group of Home tab explaining use of Lines, Basic Shapes, Flowchart, Stars and Banners and Callouts.

Demonstrate to the students the steps involved in the process of:

- Drawing a shape
- Inserting text

Tell the students the various types of modifications that can be done on the inserted shape – changing outline color, changing fill colour, adding shape effects like 3-D rotation and bevel.

Introduce WordArt as application to create text effects which are not possible through text formatting.

Demonstrate to the students the steps to:

- Insert WordArt in a document
- Insert Symbols (punctuations or special characters not found on keyboard)

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 in a table 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 Rows or Columns
- Deleting Cells, Rows, Columns and Table
- Changing Column Width

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 resize a table.

Tell the students that Word 2019 allows to apply borders to tables and cells as well as to shade the cells and table.

Make the students understand that Word 2019 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. Name any three categories of Shapes in MS Word 2019.
- Q. What do you mean by formatting a shape?
- Q. What does Add Text option do?
- Q. What does Bevel do?
- Q. What is ClipArt?
- Q. Define Symbols.
- 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 Word 2019?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 53 and 54 of the main course book as **Exercise**.

In Creative Assignment, activity **In the Lab** given on Page 55 of the main course book will enhance the ability of the students and serve as a Creativity activity.

Suggested Activity

Ask the students to write a paragraph in Word 2019 on 'Festivals of India'. The paragraph must be supported with relevant pictures.



6

Page Formatting and Mail Merge in Word 2019

Teaching Objectives

Students will learn about

- ✦ Header and Footer
- ✦ Page Break and Line Break
- ✦ Indentation
- ✦ Page Orientation
- ✦ Mail Merge
- ✦ Creating a Data Source
- ✦ Column and Column Break
- ✦ Tabs
- ✦ Page Margin
- ✦ Page Size
- ✦ Creating the Main document
- ✦ Merging the Main Document and Data Source

Teaching Plan

Number of Periods	
Theory	Practical
2	2

While teaching this chapter, tell the students that Word 2019 is an application software that can help us to create attractive and presentable documents.

Show to the students the main course book where book name and chapter name are appearing at the bottom of each page. Tell the students that this is called Footer of a page.

Make them understand that if the same or some other text appears on top of each page, it is called Header.

Demonstrate the steps involved in adding header and footer to a text document and tell them the various type of information can be shown as header and footer.

Explain the students about Column and Column Break as Word 2019 document is written into single column.

Tell the students the steps involved in inserting more than one columns.

Demonstrate the steps involved in inserting Page Break.

Tell the students about Line break and how to add Line break.

Introduce Tabs move the cursor one-half inch by default to the students.

Tell the students that Indentation is the distance of the text from either the left or the right margin.

Explain the steps involved in indenting the text.

Tell the students that page margin is the white space all around the printed area of the paper.

Make the students understand how they can set page margin for their document.

Introduce to the students the concept of orientation as the side of the paper along which the content of the document will be printed.

Tell the students about different types of orientations.

Show to them the steps involved in changing the page orientation in a document.

Demonstrate the students the steps to set page size.

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

Tell them the various steps involved in creating a main document.

Explain the students the steps to create data source.

Demonstrate to the students the steps to merge main document and data source.

Explain to the students how to insert merge fields.

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 page orientation?

Q. What are page margins?

Q. What is the difference between header and footer in a document?

Q. Which tab is used to add header/footer to a document?

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 65 to 67 of the main course book as **Exercise**.

In Creative Assignment, activity **In the Lab** given on Page 67 of the main course book will enhance the ability of the students and serve as a Technology Literacy and Creativity activity.

Suggested Activity

Ask the students to create an electronic invitation (personalised) for inviting middle school teachers to a thank you performance.

7

Introduction to Internet

Teaching Objectives

Students will learn about

- ✦ Uses of internet
- ✦ Internet terms
- ✦ Requirements for an internet connection
- ✦ Microsoft Edge

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Internet is a network in which millions of computers are connected to each other to share information and is an abbreviation of International Network.

Explain to the students the various uses of internet.

Share with the students the various requirements for an internet connection covering computer, telephone or cable line, modem or a network card, software and company providing the connection.

Introduce the students to common internet terms like Website (collection of related web pages), Web Page (electronic page on a website), Home Page (main or first page of website), World Wide Web (largest collection of websites) and Web Browser (software to open websites).

Familiarise the students with the most common web browser, Microsoft Edge and its components covering Title Bar, Current Tab, Back, New Tab, Refresh and Address Bar.

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 internet?
- Q. What are the uses of internet?
- Q. What are the requirements for an internet connection?
- Q. Define Website / Web Page / Home Page / World Wide Web / Web Browser.
- Q. What does WWW stand for?
- Q. Which is the most common Web Browser?
- Q. Define Title Bar / Current Tab / New Tab / Address Bar.
- Q. What is the use of Back / Forward / Stop / Refresh button in a web browser?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 71 to 73 of the main course book as **Exercise**.

In Creative Assignment, activity **In the Lab** given on Page 73 of the main course book will enhance the ability of the students and serve as a Media Literacy activity.

Suggested Activity

Ask the students to paste a picture of Microsoft Edge in their computer notebook / practical file and label its components and tools discussed in the chapter.



8

More Game of Google Blockly

Teaching Objectives

Students will learn about

✦ Bird Game

✦ Turtle Game

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that they will learn about next games in Blockly.

Introduce to the students with Bird game and tell them about its uses.

Demonstrate the steps involved to play the Bird game.

Explain the students about the Turtle game and the uses of this game.

Tell the steps involved to play this game.

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 game uses Rotate the pen?

Q. What does Bird game teaches?

Q. What are the uses of Bird game?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 81 to 83 of the main course book as **Exercise**.

In Creative Assignment, activity like **In the Lab** given on Page 83 of the main course book will enhance the ability of the students and serve as a Media Literacy activity.

Suggested Activity

Ask the students to create a simple animation with loops.