TOUCHPAD

Prime Ver. 2.2

4

Teacher's Manual

Extended Support for Teachers

ORANGE
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Teacher's Time Table

Periods / Days	0	I	II	III	IV	BREAK	V	VI	VII	VIII
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

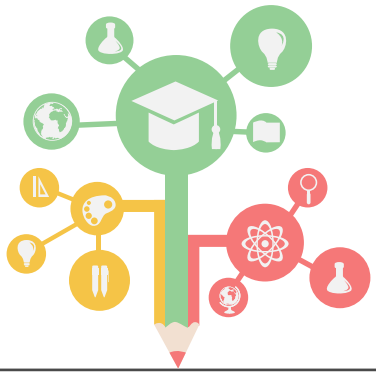
Age 11 - 20 Years

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



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.

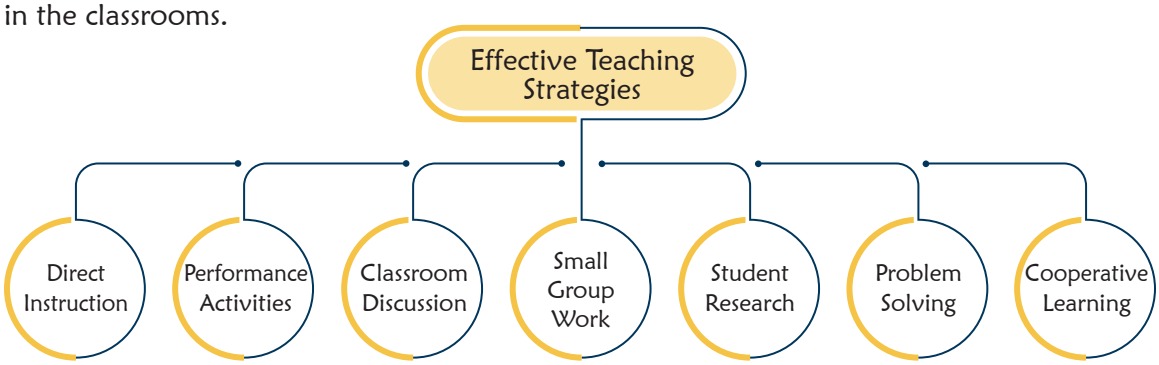
After the class

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

"Knowing yourself is the beginning of all wisdom."

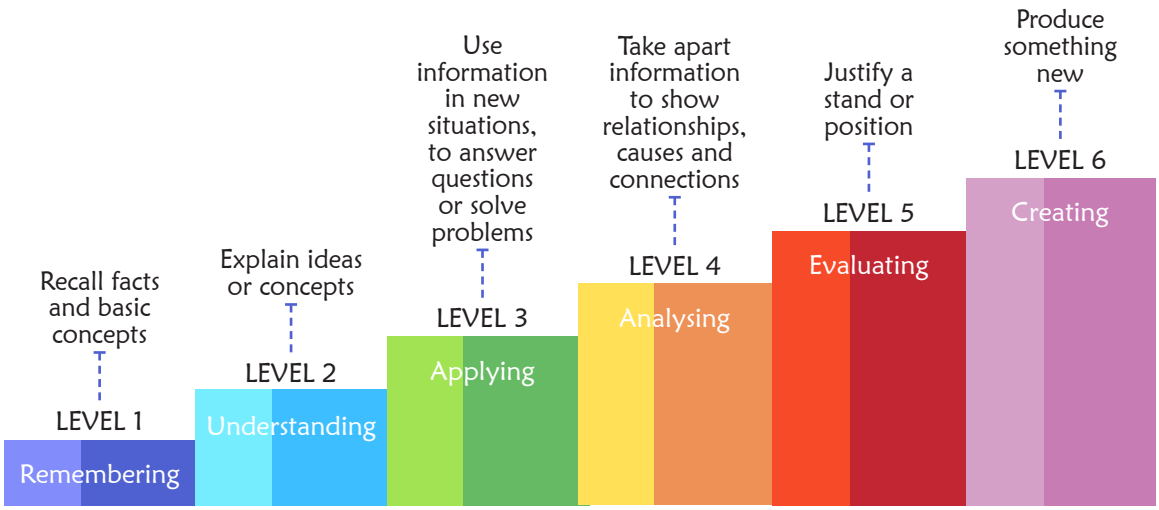
Teaching Strategies

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 Computer Memory

Teaching Objectives

Students will learn about

- Memory
- Measuring the computer's memory

Number of Periods	
Theory	Practical
2	0

Teaching Plan

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.

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 Drive (Pen Drive, Memory Card) (See Suggested Activity also)

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.

Tell the students readout the words given on page number 11 to learn new words related to computer.

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 / DVD.
Q. What is a pen drive / 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 Mind Drill given on Page 11, 12 and 13 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 13 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 13 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 research and collect information about some secondary storage devices like floppy disks, which have now become obsolete.

2 More About Windows 10

Teaching Objectives

Students will learn about

- Windows 10 Desktop
- Start Button

Number of Periods	
Theory	Practical
2	0

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.

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

Explain briefly about each of these components of Windows 10.

Share with the students the usefulness of start button.

Tell the students about the Live Tiles.

Demonstrate the steps to resize, move and add tile.

Demonstrate to the students about Icons and This PC.

Tell the students about the Taskbar.

Explain briefly the steps to students to:

- Pin an application to the Taskbar.
- Unpin an application from the Taskbar.
- Moving the Taskbar.

Tell the students about Recycle Bin and its use.

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 are Live Tiles?

Q. What is an icon?

Q. What is the use of This PC?

Q. What is the use of Taskbar?

Q. What is Recycle Bin?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 18, 19 and 20 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 20 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 20 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 prepare a note on any one Gadget provided by Windows 10 on an A4 sheet of paper.

3 Tables in Word 2016

Teaching Objectives

Students will learn about

- Table
- Inserting a Table
- Entering Data in a Table
- Selecting Row or Column
- Inserting Row or Column
- Deleting Row or Column
- Deleting a Table
- Merging Cells
- Splitting a Cell
- Formatting a Table

Number of Periods	
Theory	Practical
2	0

Teaching Plan

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

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

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

Tell the students the ways of inserting in a word file with using Graphic Grid, Insert Table Option and Quick Table Option.

Tell the students about entering the data in a table.

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:

- Inserting Row or Column
- Deleting Row or Column
- Delete a Table

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

Show to the students the steps to merge two or more cells. Introduce splitting of cells as dividing one cell into two or more cells. Show to the students the steps to split a cell.

Tell the students that Word 2016 allows to apply borders to tables and cells as well as to shade the cells and table.

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

Demonstrate to the students the steps to:

- Table Style
- Changing Row Height & Column Width
- Changing the Text Alignment

Tell the students readout the words given on page number 32 to learn new words related to computer.

Ask the students to solve the exercise Warm Up! given on page number 29.

Extension

Ask the students some oral questions based on this chapter.

Q. What is a table?

Q. Define a cell.

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

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

Q. Define merging / splitting of cells.

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

Q. What is the use of Table Styles feature of Word 2016?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 33, 34 and 35 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 35 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 35 in the main course book. This will enhance the ability of the students and serve as a Creativity and Technology Literacy activity.

Suggested Activity

Ask the students to create a comparative mark sheet for your marks in different subjects for last three classes..

4 Shapes, Graphics and Pictures in Word 2016

Teaching Objectives

Students will learn about

- Shape
- WordArt
- Pictures

Number of Periods	
Theory	Practical
1	2

Teaching Plan

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

Familiarize 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.

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.

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

- Drawing a shape
- Inserting Text in a Shape
- Changing Outline Color of a Shape
- Changing the Fill Color of a Shape
- Adding Shape Effects

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

Demonstrate to the students the steps to:

- Text Fill
- Text Outline
- Text Effects

Tell the students about Pictures.

Demonstrate to the students the steps to Inserting a pictures from a file and Online picture.

Tell the students readout the words given on page number 42 to learn new words related to computer.

Ask the students to solve the exercise Warm Up! given on page number 38.

Extension

Ask the students some oral questions based on this chapter.

Q. Name any three categories of Shapes in Word 2016.

Q. What do you mean by formatting a shape?

Q. What does Add Text option do?

Q. Why we use WordArt?

Q. What does Bevel do?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 43 and 44 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 45 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 45 in the main course book. This will enhance the ability of the students and serve as a Creativity and Technology Literacy activity.

Suggested Activity

Ask the students to write a paragraph in in Word 2016 on 'Festivals of India'. The paragraph must be supported with relevant pictures.

5 Introduction to PowerPoint 2016

Teaching Objectives

Students will learn about

- Starting PowerPoint 2016
- Components of the PowerPoint Window
- Creating a New Presentation
- Slide Layout
- Inserting WordArt
- Inserting a Picture from a File
- Viewing a Presentation
- Deleting a Slide
- Saving a Presentation
- Opening a Saved Presentation
- Closing a Presentation
- Exiting PowerPoint

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that PowerPoint 2016 is a part of Microsoft Office 2016 package or suite.

Share with the students that it is used to create presentations.

Demonstrate to the students the steps to start PowerPoint 2016.

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 to the students the steps involved in the process of creating a new presentation.

Demonstrate the steps to:

- Creating the title slide.
- Entering Text in the Title and Subtitle Text Placeholder
- Inserting a new slide
- Changing the font and font size of the text

Tell the students about the slide layout, Types of built-in slide layout and Changing the slide layout.

Demonstrate to the students the steps involved in the process of inserting and Editing the WordArt.

Explain to the students the method of inserting a picture from a file, along with its steps.

Introduce slide show as full screen view of the presentation.

Show to the students the method of viewing a slide show.

Tell the students how to:

- Deleting a slide
- Saving a presentation
- Opening a Saved Presentation
- Closing a Presentation
- Exiting PowerPoint

Tell the students readout the words given on page number 64 to learn new words related to computer.

Ask the students to solve the exercise Warm Up! given on page number 54 and 57.

Extension

Ask the students some oral questions based on this chapter.

Q. What is PowerPoint 2016?

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?

Q. What are the dotted-line containers on slide layout called?

Q. What is the arrangement of text, graphics and images called?

Q. Which option allows you to change the order of the slides?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 65, 66 and 67 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 67 in the main course book.

Take the students to the computer lab and let them practice the activity given in Find out and In the Lab section on Page 67 and 68 in the main course book. This will enhance the ability of the students and serve as a initiative, information and technology literacy activity.

Suggested Activity

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

6 Visual Processing

Teaching Objectives

Students will learn about

- Picture Puzzle
- Directions and Maps

Number of Periods	
Theory	Practical
1	0

Teaching Plan

While teaching this chapter, Introduce Picture Puzzle to the students in details with the help of proper examples for better understanding.

Tell the students about a puzzle. Also, tell them how to solve the puzzle by giving some examples which will improve their understanding of the topic.

Tell the types of picture puzzle to the students which are:

- Odd One Out
- Mirror Images

Show the students what is direction and how to identify it with the help of analysis.

Explain the meaning of maps to the students and tell them how to use them with the help of directions.

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

Tell the students readout the words given on page number 72.

Ask the students to solve the exercise Warm Up! given on page number 72.

Extension

Ask the students some oral questions based on this chapter.

Q. What is a puzzle?

Q. What is a picture puzzle?

Q. How many types of picture puzzle are there?

Q. What is a direction?

Q. What is a map?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 73 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 74 in the main course book.

Take the students to the computer lab and let them practice the activity given In the Lab section on Page 74 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 practise to find out more types of picture puzzles.

7 More Blocks in Scratch

Teaching Objectives

Students will learn about

- Block Categories
- Setting the Sprite Position
- Programs in Scratch

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, Revise the students about the scratch.

Explain the Block categories and its types using appropriate examples:

- Motion blocks
- Looks blocks
- Sound blocks
- Event blocks
- Control blocks

Show the students how to change the sprite position with suitable example.

Demonstrate the students to create programs in scratch.

Tell the students readout the words given on page number 80 to learn new words related to computer.

Ask the students to solve the exercise Warm Up! given on page number 73.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Scratch?
Q. What are blocks?
Q. What is motion block?
Q. What is looks block?
Q. What is sound block?
Q. What is Event blocks ?
Q. What is control block?
Q. How to change sprite's position?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 81, 82 and 83 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 83 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 83 and 84 in the main course book. This will enhance the ability of the students and serve as a media and technology literacy activity.

Suggested Activity

Ask the students to create a program in Scratch to move sprite 360 degree and reverse to its original position.

8 More About Internet

Teaching Objectives

Students will learn about

- What is Internet?
- History of Internet
- Commonly Used Internet Terms
- Microsoft Edge

Number of Periods	
Theory	Practical
2	0

Teaching Plan

While teaching this chapter, recall about Internet to students and explain the brief history of Internet.

Tell the students the basic common Internet terms:

- World Wide Web
- Web Page
- Website
- URL
- Web Browser
- Hyperlink
- Downloading
- Uploading
- ISP
- Search Engine

Show the students the steps involved in using the search engines.

Tell the students about the Microsoft Edge and parts of Edge.

Tell the students readout the words given on page number 91 to learn new words related to computer.

Ask the students to solve the exercise Warm Up! given on page number 87.

Extension

Ask the students some oral questions based on this chapter.

Q. What is ARPANET?

Q. What do you understand by Downloading / Uploading data?

Q. Define URL / Hyperlink / Downloading / Uploading / Website / Web Page / ISP / Search Engine.

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 92, 93 and 94 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 93 and 94 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 94 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 paste a picture of Microsoft Edge in their computer notebook / practical file and label its components and tools discussed in the chapter.

9 Evolution of AI

Teaching Objectives

Students will learn about

- 1950s
- 1960s
- 1970 to 1990s
- 2000 to 2010
- 2010 to Present

Number of Periods	
Theory	Practical
2	0

Teaching Plan

While teaching this chapter, make sure that the students are well aware of AI and related topics taught in previous classes.

Tell the students about AI around us and its purpose in real life.

Explain the evolution of AI to the students along with its details:

- 1950s
- 1960s
- 1970 to 1990s
- 2000 to 2010
- 2010 to Present

Define the inventions of all these years along with their inventor to the students and how it changes our lives.

Relate all these to their day-to-day routine.

Tell the students readout the words given on page number 100 to learn new words related to computer.

Ask the students to solve the exercise Warm Up! given on page number 100.

Extension

Ask the students some oral questions based on this chapter.

Q. What is AI?

Q. Who was Alan Turing?

Q. Who is known as the father of AI?

Q. Name the first chatbot. When was it created?

Q. What were the major achievements of 1970s in terms of AI?

Q. What is ASIMO?

Q. Which era is termed as a revolution in the field of AI?

Q. Define Google Home.

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 101 and 102 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 102 in the main course book.

Take the students to the computer lab and let them practice the activity given In the Lab section on Page 103 in the main course book. This will enhance the ability of the students and serve as a flexibility and information literacy activity.

Suggested Activity

Ask the students to practise more in Animal Mystery and search similar games.