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TOUCHPAD®

PRIME Ver. 2.0

Teacher's Manual

Extended Support for Teachers

ORANGE™

www.orangeeducation.in
www.thetouchpad.com

Teacher's Time Table

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

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 to 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 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 needs 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.

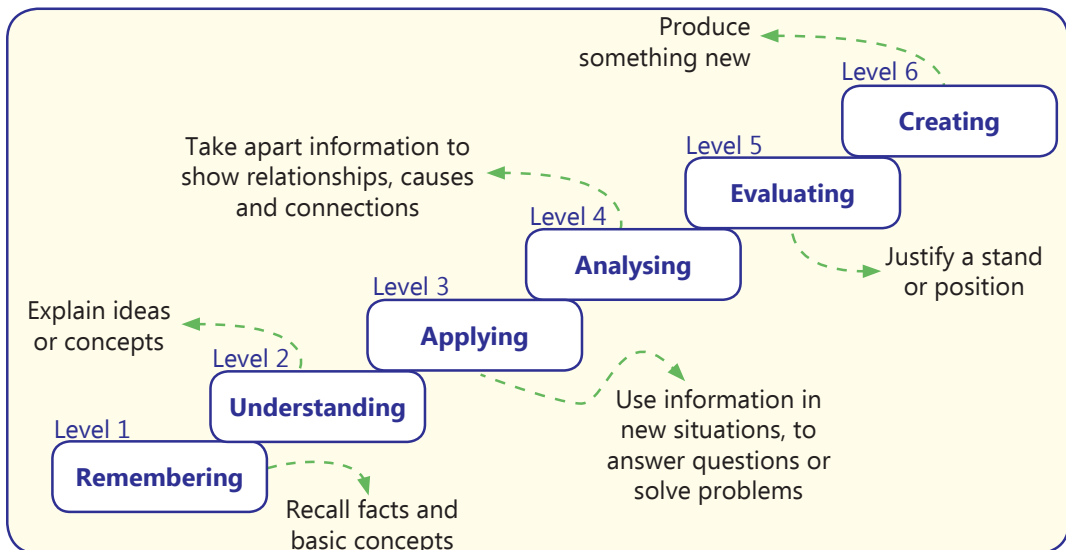"Knowing yourself is the beginning of all wisdom."

Teaching Strategies

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

```
                    Direct
                  Instruction
                                        Classroom
   Performance                          Discussion
    Activities
                        Effective
                        Teaching
    Student            Strategies        Small
    Research                           Group Work

        Problem                    Cooperative
        Solving                     Learning
```

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.

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                                            Produce
                                         something new
                                                              Level 6
                                                                 Creating
   Take apart information to
   show relationships, causes            Level 5
        and connections
                              Level 4        Evaluating

                                 Analysing                  Justify a stand
                    Level 3                                   or position
   Explain ideas
   or concepts           Applying
               Level 2
                                            Use information in
       Understanding                         new situations, to
   Level 1                                  answer questions or
                                              solve problems
      Remembering

                     Recall facts and
                     basic concepts
```

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.

LESSON PLAN

Touchpad PRIME Ver 2.0
Class-4

1. Computer Memory

Teaching Objectives

Students will learn about

☞ Memory

☞ Measuring the computer's memory

Teaching Plan
Number of periods: 2

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.

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 10, 11 and 12 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 12 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 12 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment 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

Teaching Plan   Number of periods: 3

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 Show Desktop button.

Tell the students about the Live Tiles and Taskbar.

Demonstrate the steps to resize, move and add tile.

Tell the students about File and Folder.

Demonstrate to the students about Icons, This PC and 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 17 and 18 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 18 and 19 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 19 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment 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

Teaching Plan
Number of periods: 3

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.

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 more rows to a table
- Add more columns to a table
- Change width of a column
- Delete rows from a table
- Delete columns from 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.

Demonstrate to the students the steps to move a table and resize a table.

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.

Ask the students to solve the exercise Warm Up! given on page number 28.

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 31, 32 and 33 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 33 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 33 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment 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

Teaching Plan   Number of periods: 4

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.

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

•   Drawing a shape

•   Adding text to the shape

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 Pictures

Ask the students to solve the exercise Warm Up! given on page number 36.

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. What does Bevel do?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 41 and 42 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 42 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 42 and 43 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment 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

☞ Saving a Presentation

☞ Opening a Saved Presentation

☞ Closing a Presentation

☞ Exiting PowerPoint

Teaching Plan   Number of periods: 5

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 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

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:

- Save a presentation
- Exit PowerPoint 2016

Ask the students to solve the exercise Warm Up! given on page number 52.

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 2016?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 54 and 55 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 55 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 55 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

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

6. More on PowerPoint 2016

Teaching Objectives

Students will learn about

☞ Slide Layout

☞ Inserting WordArt

☞ Inserting a Picture from a File

☞ Viewing a Presentation

☞ Deleting a Slide

Teaching Plan

Number of periods: 5

Before starting the chapter, ask the students to solve the question in Let's Plug In given on Page 63 of the main course book.

While teaching this chapter, tell the students that PowerPoint is a program that allows creating interesting and exciting presentations.

Introduce slide layout as arrangement of text, image, WordArt, Charts, etc. on a particular slide.

Share with the students the names of some commonly used slide layout options.

Demonstrate to the students the steps involved in changing the slide layout.

Tell the students that just like in Word document, WordArt can be added in a PowerPoint slide also.

Show to the students that the steps involved in Word and PowerPoint are almost similar.

Similarly, demonstrate to the students that Pictures from other files can also be added to a slide just like those inserted in Word.

Introduce SmartArt as a diagrammatic representation of some information. Tell the students about different types of SmartArt diagrams and the situations when each of them is used.

Explain to the students the names of different types of slide views in MS PowerPoint covering Normal View, Outline View, Slide Sorter View and Reading View.

Ask the students to solve the exercise Warm Up! given on page number 60.

Extension

Ask the students some oral questions based on this chapter.

Q. Define slide layout.

Q. What is WordArt?

Q. Can pictures be inserted on a slide?

Q. What is the use of SmartArt?

Q. When is Normal / Outline / Slide Sorter / Reading View used?

Evaluation

After explaining the chapter, let the students do the Mind Drill given on Page 66, 67 and 68 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Pages 68 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 68 and 69 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Create a PowerPoint presentation on the topic "Are we conserving natural resources?". Use pictures to increase the effectiveness of the presentation.

7. More Blocks in Scratch

Teaching Objectives

Students will learn about

☞ Block Categories

☞ Setting the Sprite Position

☞ Programs in Scratch

Teaching Plan   Number of periods: 3

Explain the Block categories and its types using appropriate examples:

• Motion blocks

• Looks blocks

• Sound blocks

• Control blocks

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

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 control block?

Q.   How to change sprite's position?

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 Pages 78 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 77 and 78 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment 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

Teaching Plan

Before starting the chapter, ask the students to solve the question in Let's Plug In given on Page 94 of the main course book.

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.

Ask the students to solve the exercise Warm Up! given on page number 81.

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 86 and 87 in the main course book as Rapid Fire and Evaluation Time. Tell the students to try sections under Activity Time given on Page 87 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 88 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment 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.