6

TOUCHPAD®

MODULAR Ver 1.0

Teacher's Manual

Extended Support for Teachers

ORANGE™
www.orangeeducation.in
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Teacher's Time Table

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

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During the class:

Present the lesson plan.

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After the class:

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

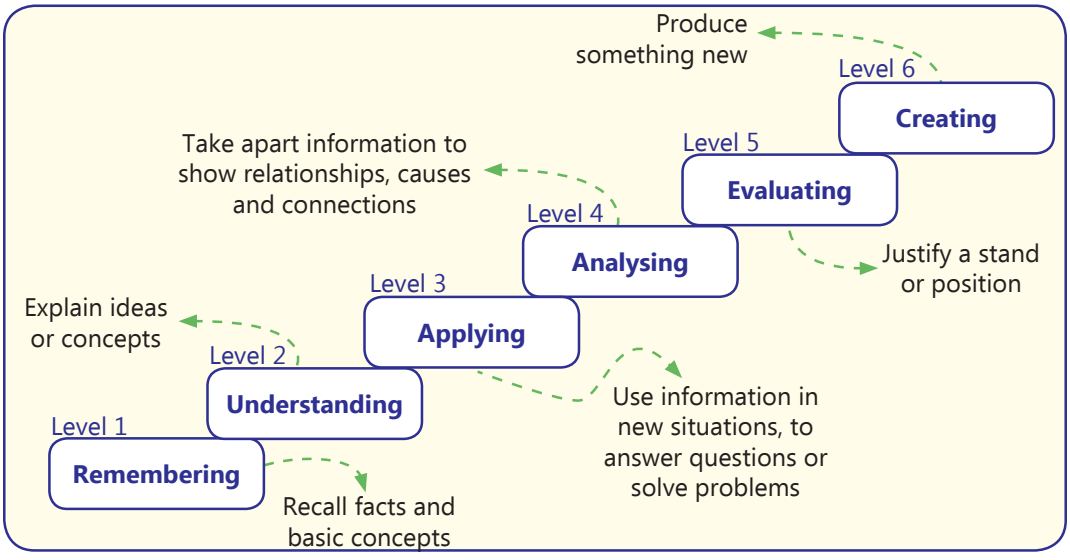
"Knowing yourself is the beginning of all wisdom."

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."

LESSON PLAN

Touchpad MODULAR Ver 1.0
Class-6

1. Classification of Computers and Computer Languages

Teaching Objectives

Students will learn about

- ☞ Categories of Computers
- ☞ Language Translator
- ☞ Computer Languages
- ☞ Working of Language Translators

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that a computer is an electronic device that performs diverse operations with the help of instructions to process the data in order to achieve desired results.

Tell the students about the type of computers with examples:

- explain **Microcomputer** and examples like Desktop computer, Laptop and Tablet.
- explain **Microcomputer** with examples.
- explain **Mainframe Computer** with example.
- explain **Supercomputer** with examples.

Tell the students that computer languages are categorized as low-level languages (machine dependent) and high level languages (machine independent).

Share with the students that low level languages are further classified as machine language (first generation language made up of 0s and 1s) and assembly language (second generation language made up of alphanumeric symbols).

Make the students learn that the high level languages are further classified as third generation languages (examples: **BASIC**, **COBOL**, **FORTRAN**, **PASCAL**, etc.), fourth generation languages (examples: **Visual Basic**, **Oracle**, **SQL**, **JAVA**, **C++**, etc.) and natural language or fifth generation languages (involving artificial intelligence).

Tell the students the advantages and disadvantages of high level languages over low level languages.

Introduce the concept of language translators as software that convert a high level language into a machine language covering:

- **Assembler** – used to translate assembly language into machine language.
- **Compiler** – used to convert source program at once into machine language before executing it.

- **Interpreter** – used to convert source program one line at a time into machine language before executing 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 a microcomputer?
Q. What is a minicomputer?
Q. What is a mainframe computer?
Q. What is a supercomputer?
Q. What are computer languages?
Q. What is Low-Level language?
Q. What is High-Level language?
Q. Give examples of each:
   a. Machine Language
   b. Assembly Language
   c. Third Generation Language
   d. Fourth Generation Language
   e. Fifth Generation Language
Q. What are advantages of HLL?
Q. What are disadvantages of HLL?
Q. What is a language translator?
Q. What is an assembler?
Q. What is the difference between a compiler and an interpreter?
Q. Explain the working of language translators.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 11 and 12 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 Subject Enrichment activity.

Suggested Activity

Ask the students to collect pictures of different types of computers and paste them on a chart paper according to the categories explained in this chapter.

2. Windows 7

Teaching Objectives

Students will learn about

- ☞ Windows Media Player
- ☞ Using Pictures Folder
- ☞ Using Removable Storage Devices
- ☞ Features of Windows 7

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that Windows 7 is an operating system.

Tell the students about Windows Media Player and how to use it.

Explain the students about using the removable storage devices along with the steps involved in using a pen drive.

Share with the students about the pictures folder and steps involved in using it.

Introduce the students with the features of Window 7:

- Sneak
- Aero flip
- Shake
- Snap
- Jump List

Also share the steps involved in using these features easily.

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 an operating system?

Q. What is Windows 7?

Q. What is the use of these features of Windows 7?

- Sneak
- Aero flip
- Jump list

Q. What is Windows Media Player?

Q. What is a removable storage device?

Q. What is the purpose of pictures folder?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 16 and 17 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 17 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to collect information from the Internet about earlier versions of Windows like Windows XP and Windows Vista. Tell them to make a comparative table about the various features available in these earlier versions and Windows 7.

3. Introduction to MS PowerPoint 2010

Teaching Objectives

Students will learn about

- ☞ Starting MS PowerPoint 2010
- ☞ Creating a New Presentation
- ☞ Using Built in Templates
- ☞ Saving a Presentation
- ☞ Components of PowerPoint Screen
- ☞ Entering Data on the Slide
- ☞ Slide Views
- ☞ Opening a Saved Presentation

Teaching Plan

Number of periods: 5

While teaching this chapter, tell the students that Microsoft PowerPoint 2010 is a part of Microsoft Office 2010 package or suite.

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

Demonstrate to the students the steps to start MS PowerPoint 2010.

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 MS PowerPoint 2010

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 MS PowerPoint 2010?
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 MS PowerPoint 2010?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 24 and 25 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 25 of the main course book 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'.

4. Working with MS PowerPoint 2010

Teaching Objectives

Students will learn about

- Slide Layout
- Inserting ClipArt
- Inserting SmartArt
- Rotating Objects
- Arranging Slides in Slide Sorter View
- Inserting WordArt
- Inserting a Picture
- Moving an Object
- Applying Shadow Effect

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that Microsoft PowerPoint 2010 is a program that allows creating interesting and exciting presentations.

Introduce slide layout as arrangement of text, image, ClipArts, 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 MS Word and MS PowerPoint are almost similar. Similarly, demonstrate to the students that ClipArts and Pictures from other files can also be added to a slide just like those inserted in MS 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.

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 slide layout.

Q. What is WordArt?

Q. Can pictures be inserted on a slide?

Q. When is List / Process / Hierarchy / Matrix SmartArt used?

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

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 30 and 31 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 31 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

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

5. Enhancing A Presentation

Teaching Objectives

Students will learn about

- ☞ Applying Themes
- ☞ Tables in PowerPoint
- ☞ Working with Slide Master
- ☞ Specifying Alignment
- ☞ Using Charts in PowerPoint

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that Microsoft PowerPoint 2010 is a program that allows creating interesting and exciting presentations.

Tell the students that a theme is a set of predefined layouts that can be used to add a professional touch to the presentations.

Demonstrate the steps to choose a theme, change theme colours, fonts and backgrounds.

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

Show to the students how to select a cell, a group of cells, a row, a column or the whole table.

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

Show the different components of a chart.

Familiarize the students with the different types of chart options available.

Demonstrate the steps of:

- Creating a chart
- Modifying a chart by changing its type, layout and design.

Introduce students with Slide Master and the steps involved in using this action into 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. Define slide layout.

Q. How to add a table in PowerPoint?

Q. How to add a chart in PowerPoint?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 44 and 45 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 45 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Divide the class into two teams. Ask one team to prepare charts on various types of pollution. Ask the other team to prepare a PowerPoint presentation on the same topic. Make the students share the benefits enjoyed and limitations faced by each team while working on their project.

6. Advanced Features of MS Powerpoint 2010

Teaching Objectives

Students will learn about

- Slide Transition
- Media Clips
- Importing Data from Other Applications
- Animation
- Adding Action Button

Teaching Plan

Number of periods: 3

While teaching this chapter, tell the students that MS PowerPoint 2010 is used to create electronic presentations.

Tell the students that a theme is a set of predefined layouts that can be used to add a professional touch to the presentations.

Demonstrate the steps to choose a theme, change theme colours, fonts and backgrounds.

Show to the students how sound and audio files can be inserted into a presentation.

Demonstrate the steps involved in inserting a video file into a presentation. (refer Suggested Activity also).

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

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

Demonstrate the application of transitions to slides in a presentation.

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

Show to the students the steps involved in applying custom animation to various objects on a slide.

Tell the students the animation effects applied to different objects on a slide can be reordered.

Share with the students that running a presentation is called Slide Show.

Demonstrate to the students the various steps involved in running a slide show.

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 theme?
Q. What do you mean by customizing a theme?
Q. Can you change background, colour, fonts, etc. of a theme?
Q. What type of audio files can be inserted into a presentation?
Q. Can we add video files on a slide?
Q. Define transition.
Q. How many transitions can be applied to a slide?
Q. What happens if more than one slide transitions are added to a slide?
Q. What is meant by animation in MS PowerPoint?
Q. Can we reorder the animations applied to different objects on a slide?
Q. What is a Slide Show?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 51 and 52 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 52 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Divide the class into two teams. Ask one team to prepare charts on various types of pollution. Ask the other team to prepare a PowerPoint presentation on the same topic. Make the students share the benefits enjoyed and limitations faced by each team while working on their project.

7. Introduction to Basic-256

Teaching Objectives

Students will learn about

- ☞ Installing BASIC-256
- ☞ BASIC-256 Environment
- ☞ Saving a Program
- ☞ Opening BASIC-256
- ☞ Creating a BASIC-256 Program
- ☞ Running a Program

☞ Opening a Program
☞ Statements
☞ Elements of BASIC-256 Programming

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that BASIC-256 is a very simple programming language used for calculations and business applications.

Show to the students the steps to be taken to start Basic-256.

Basic-256 provides you a simple yet powerful development environment. Let's learn about the Basic-256 environment:

- Title Bar: It gives us the information about the program in which we are working.
- Editor: It is identified as the area where we write our Basic-256 programs. When we open a saved program, it will show up in this editor. We can then modify it and save it for later use. We can also open and work with more than one programs at a time. Each program you are working with will be shown in a different Editor window. The editor window that contains the program you are currently working on is known as an active Editor window.
- Toolbar: It is used to give commands. It contains commands like New, Open, Save, Save As, Cut, Copy, Paste and Run. We can use these commands by clicking on the command buttons.
- Help Area: When we write a program in the Editor, this area displays the tips and hints for the program.
- Surface: This is an open area where we can move and organize our Editor windows for each Small Basic program.

Introduce the steps of creating first Basic-256 program.

Show to the students the steps involved in saving a program.

Show to the students the steps involved to run, open and share a program.

Explain the elements of Basic-256 programming:

- Variables
- Operators
- Keywords
- Comments

Tell the students about the Statements and its type.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Basic-256?

Q. Define the following:

a. Title bar b. Toolbar c. Editor d. Help Area e. Surface

Q. What is a variable?

Q. What are operators?

Q. What are keywords?

Q. What are comments?

Q. What are statements?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 62 and 63 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 63 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create a simple program in Small Basic.

8. Internet and E-mail

Teaching Objectives

Students will learn about

- ☞ The Internet
- ☞ How the web works?
- ☞ Using URLs
- ☞ Emoticons, Acronyms and Netiquettes
- ☞ World Wide Web
- ☞ Using web browser
- ☞ E-mail

Teaching Plan

Number of periods: 4

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

Give a brief history of the beginning of internet as ARPANET.

Introduce the concept of World Wide Web (WWW) with reference to basic terms covering web, web servers, posting/uploading, etc.

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

Introduce web browser as software application designed to find hypertext documents on the web.

Show to the students the steps involved in the process of launching the web browser.

Tell the students about Uniform Resource Locator or URL (unique internet address) and their use while navigating on internet.

Make the students recall E-mail as the process of exchanging messages electronically through communications network by using a computer.

Share with the students the advantages and disadvantages of e-mail.

Explain the components of an e-mail address to the students.

Demonstrate in detail the steps involved in:

- Creating an e-mail account
- Signing in to an e-mail account
- Sending an e-mail (with reference to fields like To, Cc, Bcc and Subject)
- Attaching files to an e-mail

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

Introduce the terms emoticons (representation of facial expressions), acronyms (word formed from initial letters of a multi-word name) and netiquettes (set of rules to be followed for internet communication).

Write some commonly used emoticons and acronyms on the class board to elaborate the concept.

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

Ask the students some oral questions based on this chapter.

Q. What is World Wide Web?
Q. Define web server.
Q. How the web works?
Q. Expand URL.
Q. Define an e-mail.
Q. What do you understand by emoticons?
Q. What is an acronym?
Q. What are netiquettes?
Q. State any three netiquettes.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 72 and 73 of the main course book as Exercise.

In Creative Assignment, activity like In The Lab given on Page 73 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create an e-mail account. Tell them to design a birthday invitation card in Adobe Photoshop and send this card as an attachment to ten friends and/or relatives.