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TOUCHPAD®

PRIME Ver. 1.2

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						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

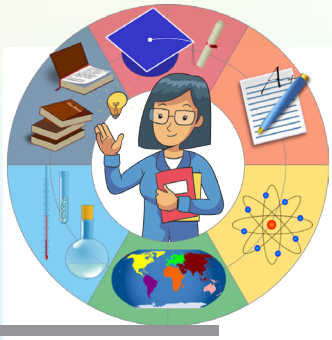
"If you cannot do great things, do small things in a great way."

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.

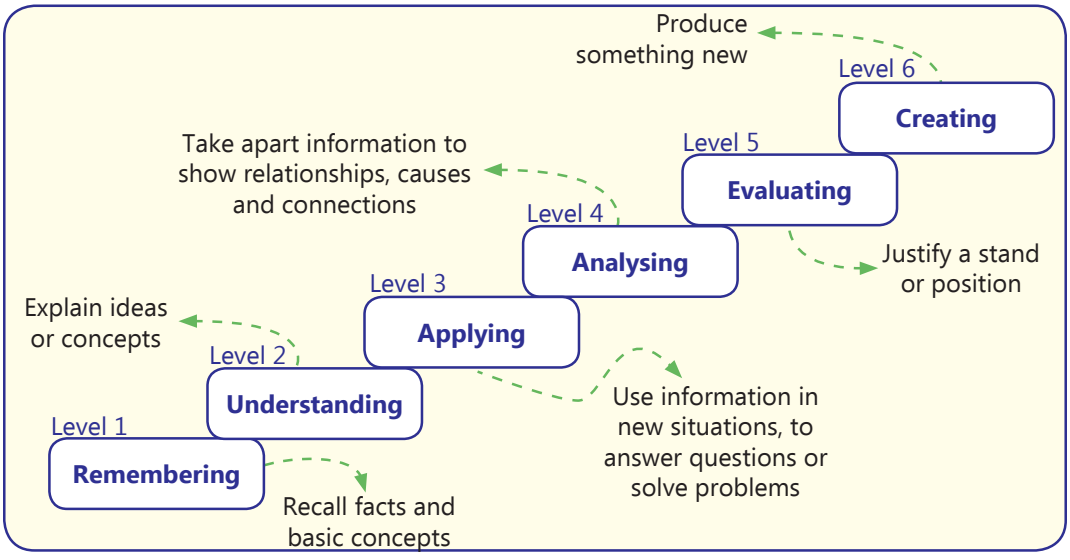
"Knowing yourself is the beginning of all wisdom."

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 PRIME Ver 1.2

Class-5

1. The Computer—An Overview

Teaching Objectives

Students will learn about

- ☞ Data and information
- ☞ Characteristics of a computer
- ☞ Limitations of a computer
- ☞ Working of a computer
- ☞ Input devices
- ☞ Processing devices
- ☞ Output devices
- ☞ Motherboard

Teaching Plan

Number of Periods: 3

While teaching this chapter, tell the students that the computer is an electronic device which accepts input, processes the data and produces the output.

Tell the students about the meaning of data and information as well as the difference between the two (processed data is information).

Make the students recall about

- Characteristics of a computer covering speed, accuracy, diligence, versatility, compactness, reliability and power of remembering.
- Limitations of a computer covering lack of decision-making ability, lack of intelligence, lack of feelings and time take in planning and programming.

Share with the students that a computer needs input, processing, output and storage devices as hardware and programs as software to work.

Ask the students to recall the Input-Process-Output (IPO) cycle taken by a computer for functioning.

Tell the students that a computer accepts data and instructions through input devices like:

- Keyboard (having alphanumeric, control, function, special and punctuation keys)
- Mouse (allows point, click and drag-drop)
- Scanner (covering hand-held scanner, flatbed scanner and sheetfed scanner)

- Webcam
- Graphic tablet
- Joystick
- Microphone
- Touch screen (See Suggested Activity also)

Tell the students that a computer processes data through CPU (having three components – Arithmetic Logic Unit, Control Unit and Memory Unit).

Tell the students that a computer shows results through output devices like:

- Monitor or Visual Display Unit (VDU)
- Printer (impact printers like dot matrix printers and non-impact printers like inkjet printer, laser printer, etc.)
- Plotters (both flatbed plotter and drum plotter)
- Speakers (See Suggested Activity also)

Show a motherboard to the students and tell them it is the system or the main circuit board of the computer.

Give a brief introduction about the ports available at the back of the CPU box to the students.

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 data and information?
Q, Differentiate between data and information.
Q. Name any three characteristics of a computer.
Q. State any two limitations of a computer.
Q. What is the principal cycle on which a computer works?
Q. Expand IPO.
Q. What are input devices?
Q. Name some input devices.
Q. What are the different types of keys present on a standard keyboard?
Q. How many keys are present on a standard keyboard?
Q. What is CPU?
Q. Name the components of CPU.
Q. What are output devices?
Q. Name some output devices.
Q. What is a motherboard?
Q. What are ports used for?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 14 and 15 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Pages 15 and 16 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 16 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 prepare a collage of different types and models of input / output devices.

2. 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.

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

Extension

Ask the students some oral questions based on this chapter.

Q. What is computer memory?
Q. What is primary memory?
Q. Name the different types of primary memory.
Q. Expand RAM / ROM.
Q. What are the different types of RAM?
Q. What is the difference between primary and secondary memory?
Q. Name the categories in which secondary storage devices are divided into.
Q. What are the different types of CDs and DVDs?
Q. Expand CD / 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 course book exercises given on Pages 21, 22 and 23 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 23 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 23 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 research and collect information about some secondary storage devices like floppy disks, which have now become obsolete.

3. Windows 7

Teaching Objectives

Students will learn about

- Files and folders
- Organizing files and folders
- Selecting files and folders
- Creating a new file or folder
- Deleting a file or folder
- More on Windows 7
- Windows Explorer
- Opening files and folders
- Copying and moving files and folders
- Renaming a file or folder
- Restoring a deleted file or folder

Teaching Plan

Number of periods: 4

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

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

Introduce to the students the Windows Explorer as a file manager that manages files and folders.

Demonstrate to the students the steps to open Windows Explorer.

Familiarize the students with the various components of Windows Explorer covering Toolbar, Navigation pane, File List pane, Status bar, Address bar, Search, Back and Forward.

Tell the students that Windows 7 has some default folders to organize similar files.

Demonstrate to the students the steps to:

- Open a file and a folder
- Select a file and a folder (including selecting a single file, selecting multiple files, selecting all files and deselecting a file)
- Copying a file and a folder (using Copy-Paste features)
- Moving a file and a folder (using Cut-Paste features)
- Creating a new file and a folder
- Renaming a file and a folder
- Deleting a file and a folder
- Restoring a file and a folder

Share with the students some new features of Windows 7 covering:

- Touch screen (just like android touch screen mobile phones)
- Jump List (jump directly to documents, pictures, songs or websites used frequently)
- Sneak (shows you on the Taskbar a preview of the windows that are opened).

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

Extension

Ask the students some oral questions based on this chapter.

Q. What is a file / folder / subfolder?

Q. Define a computer icon.

Q. What is Windows Explorer?

Q. Name the default folders of Windows 7 for organizing data.

Q. Which key is used to select multiple files?

Q. Which key is pressed to invert the selection?

Q. What is the difference between copying a file and moving a file?

Q. What is Sneak feature of Windows 7?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 34, 35 and 36 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 37 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Hands-On and Fun in Lab given on Page 37 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 about some more features of Windows 7 other than those discussed in the chapter.

4. Graphics in MS Word 2010

Teaching Objectives

Students will learn about

- ☞ Shapes
- ☞ Inserting WordArt
- ☞ Inserting pictures
- ☞ Inserting symbols

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 ClipArt (pre-designed pictures of MS Word 2010)
- Insert Pictures (from a file) (See Suggested Activity also)
- Insert Symbols (punctuations or special characters not found on keyboard)

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 2010.
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.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 46, 47 and 48 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Pages 48 and 49 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 49 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Encourage the students to do Project Work A given at the end of the main course book.

Suggested Activity

Ask the students to write a paragraph in MS Word 2010 on 'Festivals of India'. The paragraph must be supported with relevant pictures.

5. Tables in MS Word

Teaching Objectives

Students will learn about

- Inserting a table
- Selecting cells, rows, columns and tables
- Adding and deleting rows
- Adding and deleting columns
- Changing column width
- Merging cells
- Splitting cells
- Moving and resizing tables
- Border and Shading
- Table styles

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

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 move a table and resize a table. Tell the students that MS Word 2010 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.

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 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 MS Word?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 58 and 59 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Pages 59 and 60 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 60 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Encourage the students to do Project Work B given at end of the main course book.

Suggested Activity

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

6. More on MS PowerPoint 2010

Teaching Objectives

Students will learn about

- Slide layout
- Inserting pictures
- Slide views
- Inserting WordArt
- Inserting SmartArt

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 71 and 72 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises,

tell the students to solve Crack the Code activity given on Page 73 of the main course book. Help the students to solve these questions.

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

Encourage the students to do Project Work C given at end of the main course book.

Suggested Activity

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

7. Introduction to MS Excel 2010

Teaching Objectives

Students will learn about

- ☞ Features of MS Excel 2010
- ☞ Starting MS Excel 2010
- ☞ Components of MS Excel 2010
- ☞ Data types
- ☞ Creating a new workbook
- ☞ Entering data in the worksheet
- ☞ Saving a workbook

Teaching Plan

Number of periods: 5

While teaching this chapter, tell the students that MS Excel is an application software that is used to store and analyse data.

Explain to the students the features of MS Excel 2010 in detail. Demonstrate to the students the steps to start MS Excel 2010.

Familiarize the students with the various components of MS Excel 2010 window covering Title Bar, File Tab, Quick Access Toolbar, Ribbon, Formula Bar, Name Box, Worksheet Window, Worksheet Tab, Worksheet Tab Scrolling Buttons, Status Bar, Row, Column, Row and Column Heading Buttons, Cell, Active Cell, Mouse Pointer, Workbook and Cell Range.

Tell the students that MS Excel 2010 offers various data types to be entered in a cell covering Numbers, Text, Date and Time.

Demonstrate to the students the steps to:

- Create a new workbook
- Enter data in a worksheet
- Save a workbook

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 Excel 2010?

Q. What are the features of MS Excel 2010?

Q. Name any five components of MS Excel 2010.

Q. Define Formula Bar / Name Box / Row / Column / Cell / Active Cell / Cell Range.

Q. State the situation when Number / Text / Date and Time data type used for.

Q. State the shortcut key to save an Excel worksheet.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 80, 81 and 82 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Pages 82 and 83 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 83 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Encourage the students to do project work D given on Page 109 of the main course book.

Suggested Activity

Ask the students to prepare a table in this format for their family members.

S.No.	Name	Relation with Me	Date of Birth	Age

8. More on Internet

Teaching Objectives

Students will learn about

- ☞ Internet
- ☞ Uses of internet
- ☞ Requirements to connect to Internet
- ☞ Common terms

Teaching Plan

Number of periods: 2

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

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

Introduce Uniform Resource Locator (URL) as a unique address or website address used for locating websites.

Explain the various uses of internet covering:

- E-mail – an online communication system
- Information – through search engines like Google, Yahoo, etc.
- Online shopping
- Online chatting
- Downloading data
- Uploading data
- Social Networking – Facebook, Instagram, Twitter, YouTube, WhatsApp, etc.

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

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

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

Extension

Ask the students some oral questions based on this chapter.

Q. What is a computer network?

Q. What is internet?

Q. What are the uses of internet?

Q. What are the requirements for an internet connection?

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

Q. Define URL / Hyperlink / Offline / Online / Surfing / Website / Web Page.

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 90, 91 and 92 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 92 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 92 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 prepare a report on some more uses of internet and present the observations to the class.

9. Programming in Scratch

Teaching Objectives

Students will learn about

- ☞ Changing the appearance of Sprite
- ☞ Drawing shapes
- ☞ Taking decisions
- ☞ Repeating a task
- ☞ Storing values
- ☞ Using operators
- ☞ Sensing Blocks
- ☞ Creating a project

Teaching Plan

Number of periods: 4

While teaching this chapter, tell the students that Scratch is a block-based programming language.

Tell the students that Scratch allows changing the appearance of the selected sprite.

Share with the students the various blocks present under Looks category.

Demonstrate to the students the steps to change appearance of a selected sprite.

Tell the students that Scratch allows drawing shapes.

Share with the students the various blocks present under Pen category.

Demonstrate to the students the steps to draw shapes on the stage with the help of a sprite.

Tell the students that decision making can be done by using If...then...Else Control block.

Share with the students that Forever Control block is used to repeat a script continuously.

Make the students understand that Variable blocks are used to store values and strings.

Demonstrate to the students the steps to create variables.

Explain the use and purpose of various Operator blocks under the categories Arithmetic operators (+, -, *, /), Relational operators (<, >, =) and Logical operators (AND, OR, NOT).

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 Scratch?

Q. Define Sprite / Stage / Scripts Area / Green Flag / Stop button.

Q. What are Looks blocks?

Q. What is the use of Pen blocks?

Q. What is the use of Operators blocks?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 99, 100 and 101 of the main course book as One Touch Learn and Let's Do It. After solving the course book exercises, tell the students to solve Crack the Code activity given on Page 101 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Fun in Lab given on Page 102 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 develop the story of Rabbit and Tortoise in Scratch.