

# TRACKPAD

Ver. 5.1

5

## TEACHER'S MANUAL

Extended Support for Teachers



[www.orangeeducation.in](http://www.orangeeducation.in)

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

Teacher's Time Table		B R E A K						
Periods / Days								
		0	I	II	III	IV	V	VI
	Monday							
	Tuesday							
	Wednesday							
	Thursday							
	Friday							
	Saturday							
	Sunday							

# 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



## 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.

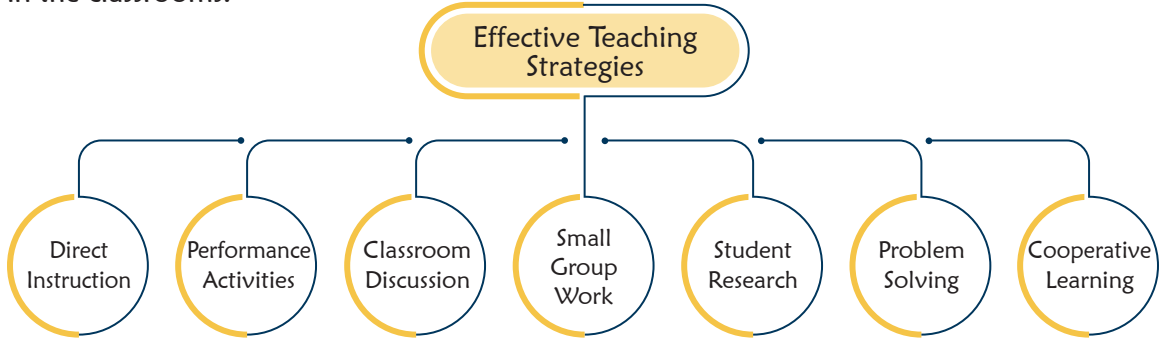
### After the class

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

“Knowing yourself is the beginning of all wisdom.”

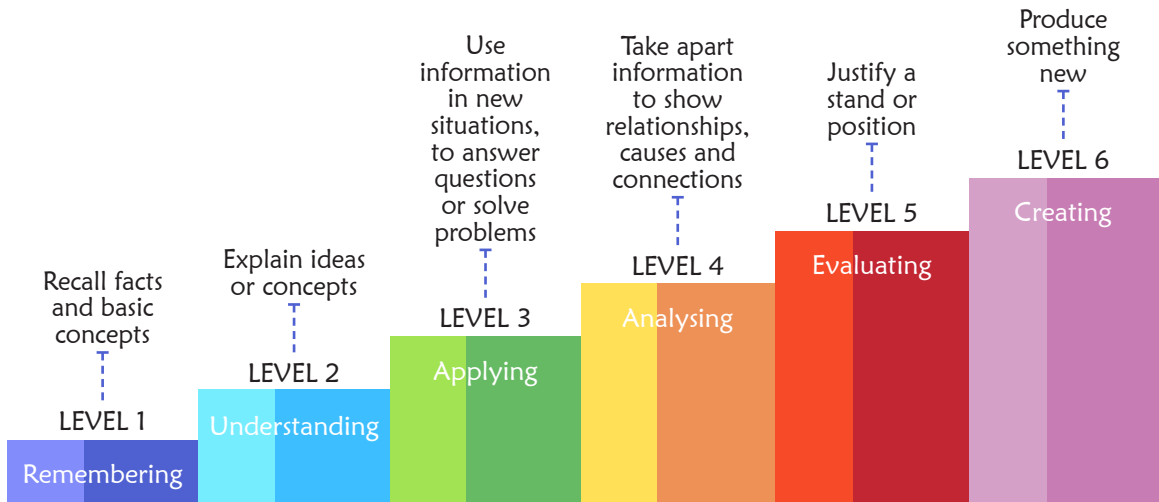
# Teaching Strategies

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. ”

**Teaching Objectives**

Students will learn about

- ✦ File Explorer
- ✦ Viewing Files and Folders
- ✦ Setting a Theme
- ✦ Disk Cleanup
- ✦ Components of File Explorer
- ✦ Color Settings in Windows 11
- ✦ Control Panel

**Teaching Plan**

Number of Periods	
Theory	Practical
2	2

Before starting the chapter, ask the students to read the comic given on page 7 to understand the recap of the topic.

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 File Explorer covering Ribbon, address bar, Navigation pane and right pane.

Explain briefly about each of these components of File Explorer.

Make the students aware of how to view file and folders.

Let them know about colour settings in Windows 11.

Explain to them how a theme is set in Windows 11.

Tell the students about Control Panel and steps involved in using the feature of it.

Also make them understand what Disk Cleanup tool is. Explain the steps involved in the process of Disk Cleanup.

Ask the students to solve the exercise **Quiz Bee** given on page number 11.

Ask the students to solve the exercise **I Know** given on page number 12.

### Extension

Ask the students some oral questions based on this chapter.

- Q. Explain File Explorer.
- Q. What are the components of File Explorer?
- Q. How can files and folders be viewed?
- Q. How does Windows 11 let us change the colour settings?
- Q. Write the steps to set a theme.
- Q. What is a control panel?
- Q. Write the steps to open Control Panel window.
- Q. What is a disk cleanup?

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 13, 14 and 15 in the main course book in the form of Assess Yourself. Tell them to solve the creativity and critical thinking skills developing exercise as Coding Zone given on page 15.

Take the students to the computer lab and let them practise the activity given in the Lab Activity section on page 15 in the main course book. This will enhance the ability of the students and serve as a critical thinking activity.

### Suggested Activity

Ask the students to prepare a note on any one gadget provided by Windows 11 on an A4 sheet of paper.

## 2

## Word 2021 – Advanced Features

### Teaching Objectives

Students will learn about

- ✦ Changing the Font Style and Size
- ✦ Highlighting the Text
- ✦ Bullet List and Numbered List
- ✦ Aligning the text
- ✦ Line Spacing
- ✦ Column Formatting
- ✦ Finding and Replacing the Text



Number of Periods	
Theory	Practical
2	3

## Teaching Plan

Before starting the chapter, ask the students to read the comic given on page 16 to understand the recap of the topic.

Begin with description of a Word processing software.

Introduce the students to the latest Word processing software, i.e. Word 2021.

Demonstrate to the students the method of changing font and font size.

Tell the students the steps involved in changing colour of the selected text in the document.

Share with the students about the Bold, Italic and Underline features and the method of applying these features to the text. Demonstrate to the students the method of:

- Applying text effects
- Changing text alignment
- Highlighting the text

Introduce bullets as small symbol used to mark items in a list.

Show to the students the method of adding bullets or numbers to the items in a list.

Explain to the students that line spacing means the blank space between two lines in a paragraph.

Further tell them about column formatting.

Tell the students that a particular word or phrase in a document can be looked for with the help of Find feature.

Tell them that Word can go one step ahead and can replace that particular word or phrase by another word or phrase as required by the user using the Replace feature.

Demonstrate the steps to use Find and Replace features.

Ask the students to solve the exercise **I Know** given on page number 20.

Ask the students to solve the exercise **Quiz Bee** given on page number 21.

## Extension

Ask the students some oral questions based on this chapter.

- Q. Define Word 2021.
- Q. What is the default font / font size of text in a document?
- Q. What is the difference between bold and italic format of the text?
- Q. What are text effects?
- Q. Define text alignment.
- Q. What are the different types of text alignment options?
- Q. Why is shading added to text?

- Q. What are bullets?
- Q. When are bullets or numbers added to text?
- Q. What is the meaning of Line Spacing?
- Q. What is the difference between Find and Replace features?

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 23, 24 and 25 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 26.

Take the students to the computer lab and let them practise the activity given in the Fun Activity and Lab Activity section on pages 25 and 26 in the main course book. This will enhance the ability of the students and serve as a creativity and technology literacy activity.

Ask the students to try Video based question given on page 25 in the computer lab to enhance media literacy skills.

### Suggested Activity

Ask the students to create an electronic invitation (personalized) for inviting middle school teachers to a thanks giving performance organized by Grade 6-8 students.

## 3 Formatting in PowerPoint

### Teaching Objectives

Students will learn about

- ✦ Using Templates
- ✦ Modifying Background
- ✦ Working with Pictures
- ✦ Inserting Shapes
- ✦ Applying WordArt

### Teaching Plan

Before starting the chapter, ask the students to read the comic given on page 27 to understand the recap of the topic.

While teaching this chapter, tell the students that PowerPoint 2021 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.

Number of Periods	
Theory	Practical
2	2

Begin with how PowerPoint helps us make our presentations more interesting.

Make the students aware of how using templates can help create a quick presentation.

Let them know how background of the presentation can be modified.

Make it clear to the students how adding colourful and attractive pictures to our presentation makes it more interesting.

Explain to the students the steps of inserting shapes in the presentation using PowerPoint 2021.

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

Ask the students to solve the exercise **I Know** given on page number 28.

Ask the students to solve the exercise **Quiz Bee** given on page number 33.

### Extension

Ask the students some oral questions based on this chapter.

- Q. How can we make our presentations more interesting?
- Q. What provides us a quick way to create a presentation using templates?
- Q. Write the steps to use a template in a presentation.
- Q. What is gradient fill?
- Q. What do you mean by picture or texture fill?
- Q. In how many ways can we insert pictures in PowerPoint 2021?
- Q. What are the steps to insert shapes in PowerPoint 2021?
- Q. What is WordArt?
- Q. Write the steps to apply WordArt to the existing text in PowerPoint 2021.

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 34 and 35 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 36.

Take the students to the computer lab and let them practise the activity given in the Lab Activity section on pages 36 in the main course book. This will enhance the ability of the students and serve as an information and technology literacy activity.

Ask the students to try Video based question given on page 36 in the computer lab to enhance media literacy skills.

### Suggested Activity

Ask the students to prepare a PowerPoint presentation on the topic My Class. Make the students realize the benefits enjoyed and limitations faced by them while being in a class.



### Teaching Objectives

Students will learn about

- ✦ Inserting Audio and Video Files
- ✦ Inserting SmartArt
- ✦ Animation
- ✦ Transition

Number of Periods	
Theory	Practical
2	3

### Teaching Plan

Before starting the chapter, ask the students to read the comic given on page 38 to understand the recap of the topic.

Begin with the introduction of PowerPoint as a visual and graphical application software primarily used to create presentations.

Let the students know that PowerPoint 2021 provides the facility to insert audio and video files to the slides that can be played while presenting.

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

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.

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

Make the students understand that PowerPoint provides built-in graphical layouts called SmartArt graphics.

Let the students know the process of deleting boxes, adding boxes in the organisation chart and changing layout of in the chart under SmartArt.

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.

Explain to the students that Transition effects make the switch from one side to another side seamless else the abrupt switching of slides can be unpleasant during a presentation.

Make the students aware of transition effects of PowerPoint.

Ask the students to solve the exercise **I Know** given on page number 43.

Ask the students to solve the exercise **Quiz Bee** given on page number 45.

## Extension

Ask the students some oral questions based on this chapter.

- Q. What is PowerPoint?
- Q. What is the function of SmartArt graphics?
- Q. What is an Animation?
- Q. What is a Transition?
- Q. How can animation be added in a slide?
- Q. How can transition be added in a presentation?
- Q. How can audio be added in a presentation?
- Q. How can video be added in a presentation?
- Q. How many categories of transition effects does PowerPoint have?

## Evaluation

After explaining the chapter, let the students do the exercises given on pages 48, 49 and 50 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 51.

Take the students to the computer lab and let them practise the activity given in the Lab Activity section on pages 50 and 51 in the main course book. This will enhance the ability of the students and serve as a information and technology literacy activity.

Ask the students to carry out the Group Discussion session given on page 50 in the class only to enhance social interaction and communication skills.

## Suggested Activity

Divide the class into two teams. Ask one team to prepare presentation on different planets of the solar system. Use appropriate animation and transition effects.

# 5

## Excel 2021 – An Introduction

### Teaching Objectives

Students will learn about

- ✦ Excel 2021
- ✦ Uses of Excel 2021
- ✦ Starting Excel 2021
- ✦ Components of Excel 2021 Window
- ✦ Creating a New Workbook

- ✦ Entering Data in the Worksheet
- ✦ Working with Worksheet
- ✦ Opening a Workbook
- ✦ Saving a Workbook
- ✦ Closing a Workbook
- ✦ Exiting Excel 2021

Number of Periods	
Theory	Practical
2	3

## Teaching Plan

Before starting the chapter, ask the students to read the comic given on page 52 to understand the recap of the topic.

While teaching this chapter, tell the students that Excel 2021 is an application software that helps us store and analyse data.

Make the students aware of uses of Excel 2021.

Let the students know how to start Excel 2021.

Explain to the students various components of Excel 2021 Window.

Make the students aware of how to create a workbook.

Let the students know how to enter data in a worksheet.

Explain to the students how to add worksheets in Excel.

Make the students aware of how to rename a worksheet.

Let the students know how to open a workbook in Excel 2021.

Explain to the students how to save a workbook in excel 2021.

Make the students aware of how to close a workbook in Excel 2021.

Let the students know how to exit Excel 2021.

Ask the students to solve the exercise **Quiz Bee** given on page number 56.

Ask the students to solve the exercise **I Know** given on page number 61.

## Extension

Ask the students some oral questions based on this chapter.

- Q. What is Excel 2021?
- Q. What are the uses of Excel 2021?
- Q. Name any five components of Excel 2021.
- Q. Define Formula Bar / Name Box / Ribbon / File Tab / Cell / Active Cell / Status Bar.
- Q. How do view options help us?

- Q. State the shortcut key to save an Excel worksheet.
- Q. Which button should be clicked to exit Excel 2021?

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 61, 62 and 63 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 63.

Take the students to the computer lab and let them practise the activity given in the Lab Activity section on page 63 in the main course book. This will enhance the ability of the students and serve as an information and technology literacy activity.

### Suggested Activity

Ask the students to design their class time-table in Excel 2021.

## 6

## Editing in Excel 2021

### Teaching Objectives

Students will learn about

- ✦ Selecting a Range of Cells
- ✦ Editing Cell Contents
- ✦ Undo and Redo Commands
- ✦ Deleting Cell Contents
- ✦ Deleting Cells, Rows Or Columns
- ✦ Inserting Cells, Rows Or Columns
- ✦ Copying the Data
- ✦ Moving the Data
- ✦ Autofill
- ✦ Changing the Column Width and Row Height

### Teaching Plan

Before starting the chapter, ask the students to read the comic given on page 67 to understand the recap of the topic.

Begin with introduction of editing in Excel 2021.

Let the students know about selecting a range of cells like selecting a cell, selecting a row, selecting a column, selecting multiple cells and selecting a n entire worksheet.

Number of Periods	
Theory	Practical
2	3

Explain to the students that cell contents can be edited in two ways, i. e. by replacing the text or by modifying the text.

Make the students aware of Undo and Redo commands which are present in Excel 2021 and are used to reverse the last action.

Let the students know the steps of deleting contents in Excel 2021.

Explain to the students how cells, rows or columns are deleted in Excel 2021.

Make the students aware of inserting cells, rows or columns in Excel 2021.

Let the students know that Excel 2021 allows us to copy data from a worksheet and paste it at another location in the same worksheet or even to other worksheets if required.

Explain to the students that Excel 2021 allows us to cut the data in a worksheet and paste it at another location in the same worksheet or other worksheets if required.

Make the students aware of the AutoFill feature of Excel 2021.

Let the students know how to change the column width and row height in Excel 2021.

Ask the students to solve the exercise **Quiz Bee** given on page number 71 and 72.

Ask the students to solve the exercise **I Know** given on page number 75.

### Extension

Ask the students some oral questions based on this chapter.

- Q. How can we know in Excel 2021 that the cell has become active?
- Q. Name the shortcut key to select a row in Excel 2021.
- Q. What is clicked to select an entire worksheet in Excel 2021?
- Q. In how many ways can cell contents in Excel 2021 be edited?
- Q. What are Redo and Undo commands used for?
- Q. How can we modify the text in Excel 2021?
- Q. What is the use of AutoFill feature?
- Q. What is Fill Handle?
- Q. How can we change the column width and row height in Excel 2021?

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 77 and 78 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 80.

Take the students to the computer lab and let them practise the activity given in the Lab Activity and Fun Activity section on pages 79 and 80 in the main course book. This will enhance the ability of the students and serve as a technology literacy and critical thinking activity.



Ask the students to try Self Reflection session given on page 76 to highlight elements like flexibility and collaboration on part of the students.

### 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

## 7

## E-Mail and Malware Safety

### Teaching Objectives

Students will learn about

- ✦ What Is E-Mail?
- ✦ E-mail Address
- ✦ Creating an E-mail Account
- ✦ Components of an E-mail Window
- ✦ Using an E-mail Account
- ✦ Malware
- ✦ How can we Protect Our Computers?
- ✦ Antivirus Software

### Teaching Plan

Number of Periods	
Theory	Practical
3	3

Before starting the chapter, ask the students to read the comic given on page 81 to understand the recap of the topic.

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

Let the students know that E-mail, i.e. electronic mail is used to send messages to multiple people, sitting at different geographical locations within a few seconds.

Make the students aware of the advantages of an e-mail.

Explain to the students what an e-mail address is and why we need to create an e-mail account.

Make the students aware of components of an e-mail window.

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)

Tell the students that a computer malware can destroy the programs and files saved in a computer.

Introduce computer virus as a program that can infect the system and/or duplicate itself reducing the storage space.

Make the students aware of symptoms of virus.

Share examples of some computer viruses with the students.

Tell the students about the harms that may be caused by a computer virus.

Let the students know that a worm is a self-propagating program that works without human intervention.

Explain to the students how worms work.

Make the students aware of the symptoms of worms.

Let the students know about the effects of worms.

Explain to the students that Trojan horse conceals itself inside the software that seems legitimate. Trojan horse has the ability to cause serious damage when they enter the computer.

Let the students know how Trojan horse works.

Explain to the students about Ransomware which is used to access the data of the host system illegally by encrypting it.

Let the students know how we can protect our computers. from such malware.

Make the students aware of antivirus software and its features.

Explain to the students the working of antivirus.

Make the students aware of some popular antivirus software.

Ask the students to solve the exercise **I Know** given on page number 83 and 90.

Ask the students to solve the exercise **Quiz Bee** given on page number 88 and 91.

### Extension

Ask the students some oral questions based on this chapter.

- Q. What is e-mail?
- Q. What are the advantages of e-mail?
- Q. Name some websites that provide the facility to create free e-mail accounts.
- Q. How can an e-mail account be created?
- Q. What are the components of an e-mail window?

- Q. What is compose feature of e-mail window?
- Q. What is BCC?
- Q. How can we sign-in a mail?
- Q. What are attachments in a mail?
- Q. What do you mean by log out?
- Q. What is a malware?
- Q. What is a computer virus?
- Q. What are worms?
- Q. What are the symptoms of worms?
- Q. What is Ransomware?
- Q. How can we protect our computers?
- Q. Define antivirus software.
- Q. What are the features of antivirus?
- Q. Name some popular antivirus software.

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 93, 94 and 95 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 96.

Take the students to the computer lab and let them practise the activity given in the Lab Activity section on page 95 and 96 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 create an e-mail account. Tell them to design a birthday invitation card and send this card as an attachment to ten friends and/or relatives.

## 8

## Data Processing

### Teaching Objectives

Students will learn about

- ✦ Data and Information
- ✦ Representing Information
- ✦ Sorting Data
- ✦ Decoding

Number of Periods	
Theory	Practical
2	0

## Teaching Plan

Before starting the chapter, ask the students to read the comic given on page 97 to understand the recap of the topic.

Introduce Data and Information to the students in details with the help of proper examples for better understanding.

Tell the students how to sort data and demonstrate the same with proper examples which are easy to understand.

Tell the students about how to represent information with the help of proper charts and tables.

Let them know how to sort data by giving some examples which will improve their understanding of the topic.

Explain the meaning of Decoding to the students and ask them to use the reference given in the book to understand the concept.

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

Ask the students to solve the exercise **Quiz Bee** given on page number 100.

## Extension

Ask the students some oral questions based on this chapter.

- Q. What is data?
- Q. What is information?
- Q. How can you represent information?
- Q. What is sorting?
- Q. How can you sort data?
- Q. What is a decoding?

## Evaluation

After explaining the chapter, let the students do the exercises given on pages 100 and 101 in the main course book in the form of Assess Yourself.

Take the students to the computer lab and let them practise the activity given in the Lab Activity and Fun Activity section on page 101 and 102 in the main course book. This will enhance the ability of the students and serve as a critical thinking and technology literacy activity.

## Suggested Activity

Ask the students to practise to find out more types of methods to represent information.

### Teaching Objectives

Students will learn about

- ✦ Variables in Scratch
- ✦ Controlling the Movement of a Sprite
- ✦ Project: Chase the Starfish

Number of Periods	
Theory	Practical
2	3

### Teaching Plan

Before starting the chapter, ask the students to read the comic given on page 104 to understand the recap of the topic.

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

Tell the students what are variable using appropriate examples along with:

- Types of variables
- Creating variables

Explain the Sensing block to the students and the steps involved in the use of this block.

Blocks	Functions
	It checks if its sprite is touching the mouse-pointer, the edge, or another sprite. If the sprite is touching the selected object, the block returns a true value; if it is not, it returns 'false'. It is used with an if-then block.
	It checks whether its sprite is touching a specified colour. If it is, the block returns 'true'. It is used with an if-then block.
	It makes an input box (with the specified text above it) and displays it at the bottom of the screen. The user can then enter text into it and submit it. The input is stored in an Answer block after that.
	It holds the most recent text entered with the Ask () and Wait block.
	It checks if the specified key is pressed. If the key is being pressed, the block returns 'true'; if it is not, it returns 'false'.

Also, show some programs or script for displaying the use of the same.

Ask the students to Create a project named as Chase the Starfish using different blocks.

Ask the students to solve the exercise **I Know** given on page number 106.

Ask the students to solve the exercise **Quiz Bee** given on page number 108.

### Extension

Ask the students some oral questions based on this chapter.

- Q. What is Scratch?
- Q. What is a variable?
- Q. What are different types of variables?
- Q. What is a sensing block?

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 109, 110 and 111 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 112.

Take the students to the computer lab and let them practise the activity given in the Lab Activity section on page 111 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 develop the story of Rabbit and Tortoise in Scratch.

## 10 Creating Game in Scratch

### Teaching Objectives

Students will learn about

- ✦ Adding a Backdrop to the Game
- ✦ Adding Text to the Game
- ✦ Create a Sprite for the Game
- ✦ Adding one More Sprite
- ✦ Code the Wheel Sprite
- ✦ Code the Arrow1 Sprite
- ✦ Creating a Variable for the Game
- ✦ Running the Game

Number of Periods	
Theory	Practical
2	3

## Teaching Plan

Before starting the chapter, ask the students to read the comic given on page 113 to understand the recap of the topic.

Define how to create a game in Scratch to the students.

Show the labelled steps to students for:

- Adding a backdrop to the game
- Adding text to the game
- Create a sprite for the game (Draw a circle for the wheel and Divide the circle into parts)
- Adding one more sprite
- Code the wheel sprite (Adding broadcast block)
- Code the Arrow1 sprite
- Creating a variable for the game (Adding block to Arrow1 and More Blocks)
- Running the game

Ask the students to solve the exercise **Quiz Bee** given on page number 114.

Ask the students to solve the exercise **I Know** given on page number 115.

## Extension

Ask the students some oral questions based on this chapter.

- Q. What kind of game is 'Spin the Wheel of Fate'?
- Q. What is to be done in 'Spin the Wheel of Fate' game?
- Q. Write the steps for:
- a. Adding a backdrop to the game
  - b. Adding text to the game
  - c. Create a sprite for the game
  - d. Adding one more sprite
  - e. Code the wheel sprite
  - f. Adding broadcast block
  - g. Code the Arrow1 sprite
  - h. Creating a variable for the game
  - i. Running the game



## Evaluation

After explaining the chapter, let the students do the exercises given on pages 122 and 123 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 125.

Take the students to the computer lab and let them practise the activity given in the Lab Activity section on page 124 and 125 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 create a game for making a lucks draw after choosing a colour.

# 11

## Evolution of Artificial Intelligence

### Teaching Objectives

Students will learn about

- ✦ Artificial Intelligence
- ✦ How Artificial Intelligence Evolved?
- ✦ From 2010 to present

### Teaching Plan

Number of Periods	
Theory	Practical
1	0

Before starting the chapter, ask the students to read the comic given on page 126 to understand the recap of the topic.

Define the term Artificial intelligence to the students with proper examples.

Demonstrate the evolution of AI with examples:

- 1950s
- 1970s
- 1980s
- 1990s
- 2000s

Show the examples to the students for AI devices and development from 2010 to present time, i.e. the following devices:

- Kinect for Xbox 360
- Siri
- Cortana



- Alexa
- Sophia
- Google Home

Ask the students to solve the exercise **I Know** given on page number 128.

Ask the students to solve the exercise **Quiz Bee** given on page number 130.

### Extension

Ask the students some oral questions based on this chapter.

Q. Define Artificial Intelligence.

Q. Define the following year for the evolution of AI:

- 1950s
- 1970s
- 1980s
- 1990s
- 2000s

Q. Define the following:

- Kinect for Xbox 360
- Siri
- Cortana
- Alexa
- Sophia
- Google Home

### Evaluation

After explaining the chapter, let the students do the exercises given on pages 131, 132 and 133 in the main course book in the form of Assess Yourself. Tell them to solve the critical thinking skill developing exercise as Coding Zone given on page 134.

Take the students to the computer lab and let them practise the activity given in the Lab Activity section on page 133 in the main course book. This will enhance the ability of the students and serve as a technology literacy activity.

Ask the students to carry out the Group Discussion session given on page 133 in the class only to enhance social interaction and communication skills.

### Suggested Activity

Ask the students to learn about the AI devices they use in their day-to-day lives.

