TOUCHPAD

PLus Ver. 4.0

3

Teacher's Manual

Extended Support for Teachers

ORANGE
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Teacher's Time Table

Periods / Days	0	I	II	III	IV	BREAK	V	VI	VII	VIII
Monday										
Tuesday										
Wednesday										
Thursday										
Friday										
Saturday										

Development Milestones in a Child

Development milestones are a set of functional skills or age-specific tasks that most children can do at a certain age. These milestones help the teacher identify and understand how children differ in different age groups.

Age
5 - 8 Years

Physical	• First permanent tooth erupts • Shows mature throwing and catching patterns • Writing is now smaller and more readable • Drawings are now more detailed, organised and have a sense of depth
Cognitive	• Attention continues to improve, becomes more selective and adaptable • Recall, scripted memory, and auto-biographical memory improves • Counts on and counts down, engaging in simple addition and subtraction • Thoughts are now more logical
Language	• Vocabulary reaches about 10,000 words • Vocabulary increases rapidly throughout middle childhood
Emotional/ Social	• Ability to predict and interpret emotional reactions of others enhances • Relies more on language to express empathy • Self-conscious emotions of pride and guilt are governed by personal responsibility • Attends to facial and situational cues in interpreting another's feelings • Peer interaction is now more prosocial, and physical aggression declines

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

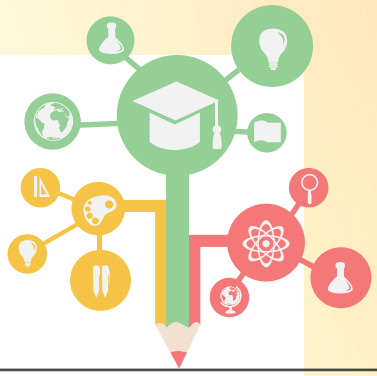
Age 9 - 11 Years	
Physical	• Motor skills develop resulting in enhanced reflexes
Cognitive	• Applies several memory strategies at once • Cognitive self-regulation is now improved
Language	• Ability to use complex grammatical constructions enhances • Conversational strategies are now more refined
Emotional/ Social	• Self-esteem tends to rise • Peer groups emerge

Age 11 - 20 Years	
Physical	• If a girl, reaches peak of growth spurt • If a girl, motor performance gradually increases and then levels off • If a boy, reaches peak and then completes growth spurt • If a boy, motor performance increases dramatically
Cognitive	• Is now more self-conscious and self-focused • Becomes a better everyday planner and decision maker
Emotional/ Social	• May show increased gender stereotyping of attitudes and behaviour • May have a conventional moral orientation

Managing the children's learning needs according to their developmental milestones is the key to a successful teaching-learning transaction in the classroom.

"Family is the most important thing in the world."

Teaching Pedagogies



Pedagogy is often described as the approach to teaching. It is the study of teaching methods including the aims of education and the ways in which such goals can be achieved.

Lesson Plans

A lesson plan is the instructor's road map which specifies what students need to learn and how it can be done effectively during the class time. A lesson plan helps teachers in the classroom by providing a detailed outline to follow in each class.
A lesson plan addresses and integrates three key components:

- Learning objectives
- Learning activities
- Assessment to check the student's understanding

A lesson plan provides an outline of the teaching goals:

Before the class

1. Identify the learning objectives.
2. Plan the lesson in an engaging and meaningful manner.
3. Plan to assess student's understanding.
4. Plan for a lesson closure.

During the class

Present the lesson plan.

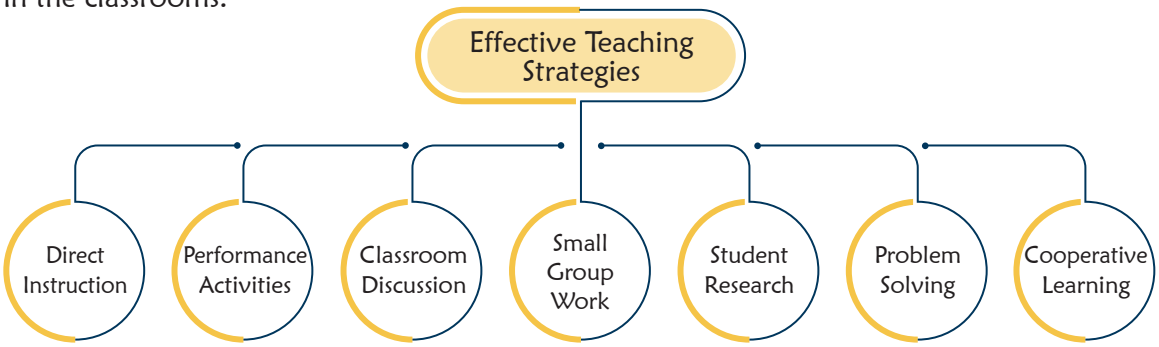
After the class

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

"Knowing yourself is the beginning of all wisdom."

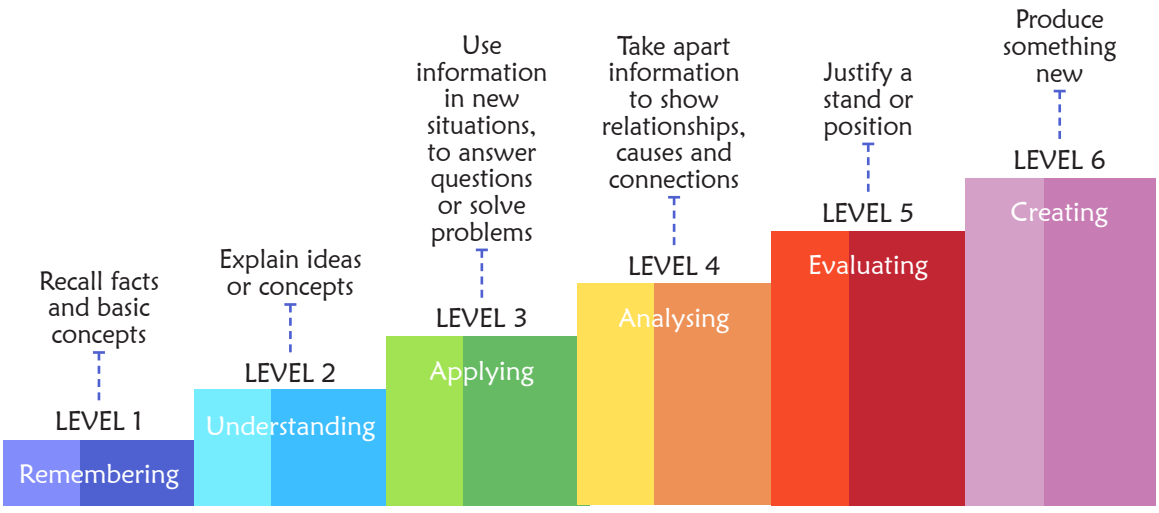
Teaching Strategies

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



Bloom's Taxonomy

Bloom's Taxonomy was created by Dr Benjamin Bloom and several of his colleagues, to promote higher forms of thinking in education instead of rote learning. There are three domains of learning: cognitive (mental), affective (emotional), and psychomotor (physical). However, when we refer to Bloom's Taxonomy we speak of the cognitive domain. Bloom's Taxonomy is a list of cognitive skills that is used by teachers to determine the level of thinking their students have achieved. As a teacher, one should attempt to move students up the taxonomy as they progress in their knowledge.



Teachers should focus on helping students to remember information before expecting them to understand it, helping them understand it before expecting them to apply it to a new situation, and so on.

> "If you have no confidence in self,
> you are twice defeated in the race of life."

Class 3

LESSON PLAN

PLUS Ver. 4.0

1. Computer Hardware and Software

Teaching Objectives

Students will learn about

- ☞ Computer Hardware
- ☞ Computer Software

Number of Periods	
Theory	Practical
2	0

Teaching Plan

While teaching this chapter, ask the students to solve the 'Take Off' given on page 11 of the main course book.

Begin with telling the students that a computer is an electronic machine made up of various devices that help enter data, process it and give the results. Basically, a computer works on the IPO cycle.

Tell the students that the parts of the computer that can be touched are called hardware.

Tell them about computer hardware and how it is divided into four groups.

Explain the meaning of the terms input and input devices.

Tell them how keyboard, mouse, scanner, etc. are used to input data into a computer.

Make the students understand what processing devices are.

Let them know that CPU is the brain of the computer.

Tell them how CPU processes data with the help of Arithmetic Logic Unit (ALU) – for arithmetic and logical calculations, Memory Unit (MU) – for storing data and instructions and Control Unit (CU) – for coordinating between all parts of the CPU.

Tell the students the devices that show us the result of processing done by the CPU are called output devices.

Explain that the result can be in any of these forms: display on the monitor, print by the printer, sound from the speakers.

Explain the meaning of the terms output and output devices.

Make the students understand the meaning of the term storage.

Tell them examples of some commonly used storage devices and basic features of each of the storage device.

Make the students aware of computer software.

Ask the students to solve the exercise 'Double Tap' given on page number 14.

Share some examples of software with the students.

Introduce the students to the two broad categories of software as system software and application software.

Tell the students the importance of system software for the functioning of the computer system.

Extension

Ask the students some oral questions based on this chapter.

Q. How does a computer work?

Q. Explain Computer Hardware.

Q. What are input devices?

Q. Write a note on: Keyboard / Mouse / Scanner / Joystick / Touchscreen / Microphone / Web Camera and Light Pen.

Q. What are processing devices?

Q. Why is CPU called the brain of the computer?

Q. Explain parts of a CPU.

Q. What are output devices?

Q. Write a note on: Monitor / Speakers / Headphones / Printer.

Q. Define a plotter, projector and smartboard.

Q. What is storage?

Q. Give examples of some storage devices.

Q. What is a software?

Q. Explain application software and system software.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 16 and 17 in the main course book. Tell the students to try sections such as 'Scratch Your Brain', 'Go Online' and 'A Better Me' given on page 18 in the main course book.

Take the students to the computer lab and let them practise the activity given in the DIY In The Lab section on page 18 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 complete the elements like 'Art Integration Learning' given on page 12 and 'Experiential Learning' given on page 15 at home and show it to him/her the next day.

Suggested Activity

Ask the students to prepare a comparative table on chart paper comparing different groups of hardware on various parameters with the help of examples and pictures/drawings.

2. Windows 10

Teaching Objectives

Students will learn about

- ☞ Windows 10 Desktop
- ☞ Control Buttons
- ☞ Task View

Number of Periods	
Theory	Practical
2	1

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take Off' given on page 22 of the main course book.

Begin with explaining the students that operating system is one of the most important software as without this software we cannot use our computer at all.

Give a brief introduction of Microsoft Windows.

Let the students know about the Windows 10 Desktop and its components.

Make the students aware of the concept of desktop.

Demonstrate to the students the steps to sort icons on the desktop.

Introduce the students to the taskbar and its components covering Start button, Opened program icons and Notification Area.

Give a brief description of desktop background.

Demonstrate to the students the steps involved in changing the desktop background.

Tell the students about control buttons and Task View.

Ask the students to solve the exercise 'Double Tap' given on page number 25.

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 the importance of an operating system?

Q. Give examples of some popular operating systems.

Q. Which company developed Windows operating system?

Q. What is Windows 10 desktop?

Q. Define icons.

Q. What is taskbar?

Q. What is notification area in Windows 10?

Q. What are the steps to change the desktop background?

Q. What is Taskview?

Q. What are control buttons?

Evaluation

After explaining the chapter, let the students do the exercises given on page 27 in the main course book. Tell the students to try sections such as 'Scratch Your Brain' and 'A Better Me' given on page 28 in the main course book.

Take the students to the computer lab and let them practise the activity given in the DIY In The Lab section on page 28 in the main course book. This will enhance the ability of the students and serve as a productivity and information literacy activity.

Ask the students to complete the elements like 'Art Integration Learning' given on page 25 at home and show it to him/her the next day.

Suggested Activity

Ask the students to change desktop background and the position of taskbar.

3. Let's Learn Paint 3D

Teaching Objectives

Students will learn about

- Paint 3D
- Components of Paint 3D Window
- Creating 3D Shapes
- Rotating a 3D Shape
- Adding Text
- Opening a Saved Drawing
- Starting Paint 3D
- Creating 2D Shapes
- Selecting a Shape
- Changing Colour of a Shape
- Saving the Drawing

Number of Periods	
Theory	Practical
2	2

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take Off' given on page 30 of the main course book.

Begin with the introduction of Paint 3D and the steps involved in starting Paint 3D.

Make the students aware about all the components of Paint 3D window:

- Title bar displays the name of the program and the name of your drawing on the top-left corner.
- Menu displays options such as New, Open, Insert, Save and Save As.
- Canvas is the area where you can create or draw your shape or you can say it is the drawing area of Paint 3D.
- Brushes Tool opens a panel on the right side of the drawing area and displays brush options, and colour palette. It has options Brushes Option and Color Palette.
- 2D Shapes Tool replaces brushes option and displays a 2D shapes library with options like line and curve and 2D shapes to select from.
- 3D Shapes Tool replaces the Brushes options and displays options like Open 3D library, 3D Doodle, 3D Objects and 3D Models to select from.

Show the steps involved in creating 2D and shapes with example.

Demonstrate the steps involved in creating 2D and 3D text with example.

Explain the steps involved in selecting, rotating a shape and changing colour in a shape.

Show to the students the steps involved in saving and opening a drawing.

Ask the students to solve the exercise 'Double Tap' given on page number 35.

Extension

Ask the students some oral questions based on this chapter.

Q. What can Paint 3D be used for in computers?

Q. State the use of Shapes / Text / Brushes Tool.

Q. How can we add 3D shape and text?

Q. How can a drawing be saved?

Q. How can we open a saved drawing?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 37 and 38 in the main course book. Tell the students to try sections such as 'Scratch Your Brain', 'Go Online' and 'A Better Me' given on pages 38 and 39 in the main course book.

Take the students to the computer lab and let them practise the activity given in the DIY In The Lab section on page 39 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 complete the elements like 'Art Integration Learning' given on page 36 in the computer lab and 'Interdisciplinary Learning' given on page 34 at home and show it to him/her the next day.

Suggested Activity

Ask the students to draw a bus using shape tool and also add 3D text in the drawing.

4. Editing in Word 2019

Teaching Objectives

Students will learn about

- ☞ Uses of Word 2019
- ☞ Selecting the Text
- ☞ Saving a Document
- ☞ Exiting Word
- ☞ Components of Word 2019 Window
- ☞ Editing the Text
- ☞ Opening a Saved Document

Number of Periods	
Theory	Practical
2	2

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take Off' given on page 42 of the main course book.

While teaching this chapter, tell the students that Word 2019 is word processing software in the category of application software.

Make the students aware of the various uses of Word 2019.

Show the students the various components of Word 2019 window covering Title bar, Quick Access Toolbar, Ribbon, Tabs, Horizontal and Vertical Scroll bars, Text / Document Area and Status bar.

Familiarize the students that while working on MS Word, some frequently used keys other than alphabet and number keys are Spacebar, Enter, Delete and Backspace.

Demonstrate to the students the steps involved in:

- Inserting the text
- Saving a document
- Cutting and Pasting the text
- Copying & Pasting the text
- Opening a saved document
- Closing Word 2019

Ask the students to solve the exercise 'Double Tap' given on page number 46.

Extension

Ask the students some oral questions based on this chapter.

Q. What is MS Word?

Q. What is a word processor?

Q. What are the various uses of Word 2019?

Q. Name some important components of Word 2019 window.

Q. Which company developed Word 2019?

Q. What are the shortcut keys to open / save / print a document?

Q. What are the various ways in which the user can exit from Word 2019?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 47 and 48 in the main course book. Tell the students to try sections such as 'Scratch Your Brain' and 'Go Online' given on page 49 in the main course book.

Take the students to the computer lab and let them practise the activity given in the DIY In The Lab section on page 49 in the main course book. This will enhance the ability of the students and serve as a productivity and accountability and information literacy activity.

Ask the students to complete the elements like 'Interdisciplinary Learning' given on page 45 and 'Experiential Learning' given on page 46 in the computer lab.

Suggested Activity

Ask the students to create a Word document on Myself. The students should take a printout of the document and paste it in their computer notebook / practical file.

5. Formatting in Word 2019

Teaching Objectives

Students will learn about

- Applying Bold, Italic or Underline
- Text Effects
- Applying Borders
- Adding Bullets and Numbering
- Changing Font, Font Size and Font Colour
- Aligning the Text
- Applying Shading to the selected Text

Number of Periods	
Theory	Practical
2	2

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take off' given on page 51 of the main course book.

Begin with the introduction of formatting as changing the appearance and arrangement of the text.

Make the students aware of the formatting features of Word 2019 like applying Bold, Italic or Underline to change the appearance of the text.

Explain what font is and how font, its size and colour can be changed.

Let the students know about text effects.

Tell them about alignment and what steps should be taken to change alignment.

Make the students understand that borders can decorate a document.

Let them know how to apply an artistic border to a page.

Bring it to the knowledge of the students that shading can be applied to the selected text to make it visually attractive.

Also explain to them that a bullet is a small symbol used to mark each item in a list and how bullets addition and numbering can be done.

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

Ask the students to solve the exercise 'Double Tap' given on page number 54.

Extension

Ask the students some oral questions based on this chapter.

Q. How can a text be beautified?

Q. Define formatting a text.

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?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 58 and 59 in the main course book. Tell the students to try sections such as 'Scratch Your Brain' given on page 59 in the main course book.

Take the students to the computer lab and let them practice the activity given in the DIY In The Lab section on page 60 in the main course book. This will enhance the ability of the students and serve as a critical thinking and information literacy activity.

Ask the students to complete the elements like 'Art Integration Learning' given on page 52 and 'Interdisciplinary Learning' given on page 56 in the computer lab.

Suggested Activity

Ask the students to write a paragraph on My Favourite Sport in Word 2019 applying various formatting features to make the paragraph attractive.

6. Internet

Teaching Objectives

Students will learn about

- Internet
- Requirements for an Internet Connection
- Disadvantages of Internet
- Uses of Internet
- Internet Terms

Number of Periods	
Theory	Practical
2	3

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take Off' given on page 62 of the main course book.

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 learn that internet is a global network of millions of computers and computer networks.

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, Web Browser, Home Page, Website and Web page.

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

Tell the students about the disadvantages of Internet.

Ask the students to solve the exercise 'Double Tap' given on page number 66.

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. Define URL, Web Browser, Home Page, Website and Web page.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 69 and 70 in the main course book. Tell the students to try sections such as 'Scratch Your Brain', 'Go Online' and 'A Better Me' given on pages 70 and 71 in the main course book.

Take the students to the computer lab and let them practise the activity given in the DIY In The Lab section on page 71 in the main course book. This will enhance the ability of the students and serve as a communication and information literacy activity.

Ask the students to complete the elements like 'Interdisciplinary Learning' given on page 78 in the computer lab and 'Experiential Learning' given on page 64 at home and show it to him/her the next day.

Suggested Activity

Ask the students to prepare a report on some more uses of Internet and present the observations to the class.

7. Stepwise Thinking

Teaching Objectives

Students will learn about

- ☞ Simple Instructions
- ☞ Decision Making
- ☞ Loops
- ☞ Understanding Programs

Number of Periods	
Theory	Practical
2	0

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take Off' given on page 76 of the main course book.

Begin with description of simple instructions and make them understand how the order of instructions is important to do a task successfully.

Explain the Stepwise Thinking to the students with the steps involved in the process using suitable examples.

Tell the students about decision making and give a brief introduction about it.

Introduce Looping to the students with simple example.

Ask the students to solve the exercise 'Double Tap' given on page number 79.

Extension

Ask the students some oral questions based on this chapter.

Q. What are instructions?

Q. Write the sequence of instructions to make a fruit salad.

Q. What is stepwise thinking?

Q. What decision making?

Q. Write a decision making situation involving 'if', 'then' and 'otherwise'.

Q, Define loopinhg.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 80 and 81 in the main course book. Tell the students to try sections such as 'Scratch Your Brain', 'Go Online' and 'A Better Me' given on pages 81 and 82 in the main course book.

Take the students to the computer lab and let them practise the activity given in the DIY In The Lab section on page 82 in the main course book. This will enhance the ability of the students and serve as a creativity and information literacy activity.

Ask the students to complete the elements like 'Art Integration Learning' given on page 78 at home and show it to him/her the next day, and 'Experiential Learning' given on page 79 in the class.

Suggested Activity

Ask the students to write a decision making situation.

8. Let's Learn Scratch

Teaching Objectives

Students will learn about

- Scratch
- Blocks
- Changing the Backdrop
- Creating a New Project
- Opening a Project
- Components of Scratch Window
- Adding a Sprite
- Changing Appearance of the Sprite
- Saving a Project
- Exiting Scratch

Number of Periods	
Theory	Practical
2	3

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take Off' given on page 84 of the main course book.

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

Demonstrate to the students the steps to start Scratch 3.0.

Make the students understand the features of Scratch.

Familiarize the students with the various components of Scratch window covering Sprites Info pane, Sprite, Stage, Blocks Palette, Scripts Area, Coding Area, Blocks Menu, Backdrop, Tabs, Green Flag and Stop button.

Introduce Motion Blocks for changing placement, direction, rotation and movement of sprites.

Tell the students the method of identifying Motion Blocks which are colour coded as blue.

Show to the students the steps to choose a sprite from the Library.

Make the students recall backdrop as background of the stage.

Tell the students the steps to change the backdrop in Scratch.

Demonstrate the use of Motion Blocks by developing new project.

Tell the steps to save a program, opening a project and exiting Scratch.

Ask the students to solve the exercise 'Double Tap' given on page number 87.

Extension

Ask the students some oral questions based on this chapter.

Q. What is Scratch?

Q. What are the features of Scratch?

Q. Name the various components of Scratch window.

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

Q. What is a backdrop in Scratch?

Q. What is the use of Motion block?

Q. What is the colour code for Motion block?

Q. What are the steps to save a project in Scratch?

Q. What are the steps to open a project in Scratch?

Q. What are the steps to exit Scratch?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 90 and 91 in the main course book. Tell the students to try sections such as 'Scratch Your Brain' given on pages 91 and 92 in the main course book.

Take the students to the computer lab and let them practise the activity given in the DIY In The Lab section on page 92 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 complete the elements like 'Interdisciplinary Learning' given on page 89 in the computer lab.

Suggested Activity

Ask the students to develop a program of speaking and moving cat in Scratch.

9. Google Blockly Games

Teaching Objectives

Students will learn about

- ☞ Starting Blockly
- ☞ Puzzle Game
- ☞ Maze Game

Number of Periods	
Theory	Practical
1	1

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take off' given on page 95 of the main course book.

Begin with the description of Google Blockly Games.

Explain to the students that Google Blockly games help us learn block-based programming quickly and easily.

Let the students know how to start Blockly.

Make the students aware of Puzzle game.

Tell the students that the Puzzle game teaches the user to:

- Join blocks
- Create stacks of blocks
- Change instructions in the variable blocks
- Place stack of blocks inside a container block

Explain to the students how to play the Maze game.

Ask the students to solve the exercise given on page 98 as 'Double Tap'.

Extension

Ask the students some oral questions based on this chapter.

Q. What are Google Blockly games?

Q. What is play-way programming platform?

Q. Write the steps to start Blockly.

Q. What is Puzzle game?

Q. What does Puzzle game icon teach the user?

Q. Define Maze game.

Q. Name the blocks used in Maze game.

Q. What does the Maze game icon teach its user?

Evaluation

After explaining the chapter, let the students do the exercises given on page 101 in the main course book. Tell the students to try sections such as 'Scratch Your Brain' and 'Go Online' given on page 102 in the main course book.

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

Ask the students to complete the elements like 'Interdisciplinary Learning' given on page 98 and 'Art integration Learning' given on page 100 at home and show it to him/her the next day.

Suggested Activity

Try some making some other blockly game at home.

10. AI-Enabled Devices

Teaching Objectives

Students will learn about

- Smartphones
- Chatbot
- Smart Doorbells
- Smart Speakers
- Smartwatches
- Smart TVs
- Driverless Cars

Number of Periods	
Theory	Practical
1	1

Teaching Plan

Before starting the chapter, ask the students to solve the question in 'Take Off' given on page 104 of the main course book.

Explain the meaning of AI enabled devices to the students with proper and simple examples.

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

Define the following to the students:

- Smartphones
- Smartwatches
- Chatbot
- Smart TVs

- Driverless Cars
- Smart Doorbells
- Smart Speakers

Relate all these to their daily life routine.

Ask the students to solve the exercise given on page 106 as 'Double Tap'.

Extension

Ask the students some oral questions based on this chapter.

Q. Define the following:

- Smartphones
- Smartwatch
- Chatbot
- Smart TV
- Driverless Car
- Smart Doorbell
- Smart Speakers

Evaluation

After explaining the chapter, let the students do the exercises given on pages 106 and 107 in the main course book. Tell the students to try sections such as 'Scratch Your Brain' and 'Go Online' given on pages 107 and 108 in the main course book.

Take the students to the computer lab and let them practise the activity given in the DIY In The Lab section on page 108 in the main course book. This will enhance the ability of the students and serve as a an information and technology literacy activity.

Ask the students to complete the elements like 'Experiential Learning' given on page 105 at home and show it to him/her the next day.

Suggested Activity

Ask the students to research about more smart devices around them.