TOUCHPAD

Play Ver. 2.1

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."

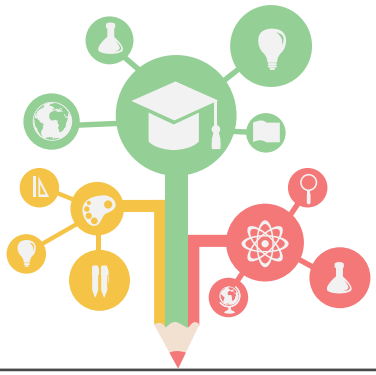
Age 9 - 11 Years	
Physical	• Motor skills develop resulting in enhanced reflexes
Cognitive	• Applies several memory strategies at once • Cognitive self-regulation is now improved
Language	• Ability to use complex grammatical constructions enhances • Conversational strategies are now more refined
Emotional/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

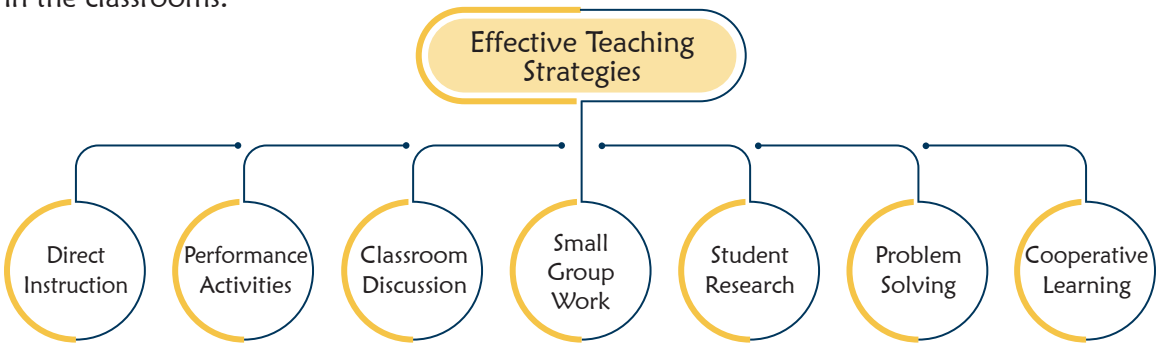
After the class

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

> "Knowing yourself is the beginning of all wisdom."

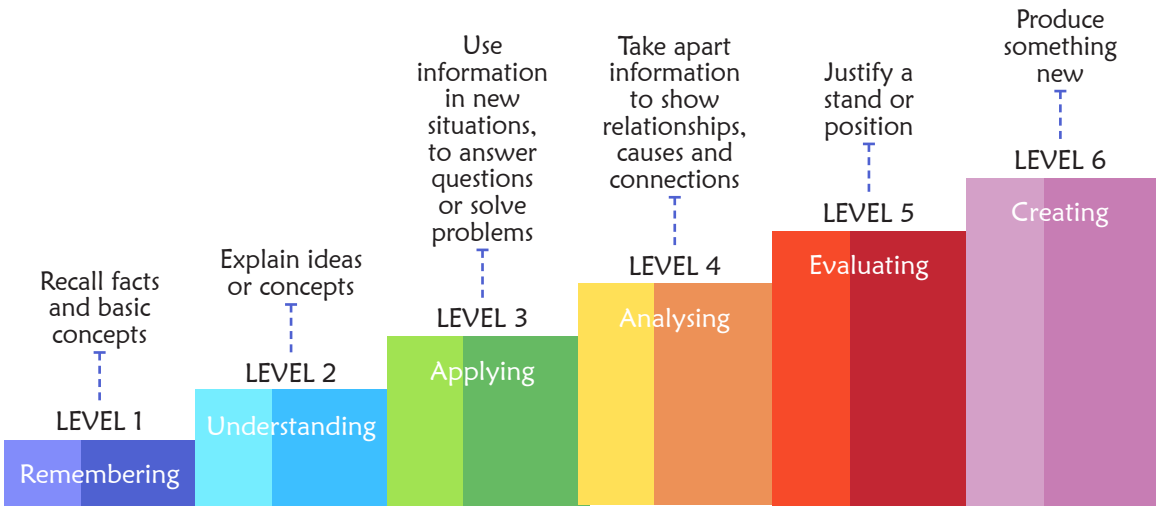
Teaching Strategies

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

1 A Computer System

Teaching Objectives

Students will learn about:

- Hardware
- Software
- How Does a Computer Work?

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that a computer is an electronic machine made up of various devices that help enter data, process it and give the results.

Let the students know that all the physical components of a computer system are called hardware.

Explain the meaning of the term 'input devices'.

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

Make the students aware of the fact that a computer converts the input into meaningful information through CPU (Central Processing unit), a processing device.

Tell them how CPU runs all the programs and manages all the operations.

Explain the meaning of the term 'output devices'.

Tell them how monitor, printer, speakers and projector are used to give output data from a computer.

Make the students understand the meaning of the term 'storage devices'.

Tell them examples of some commonly used storage devices.

Let the students know that computer hardware cannot work by itself. It needs step-by-step instructions to perform a task. These step-wise instructions are called software.

Tell them that a computer works through Input-Process-Output (IPO) cycle.

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?

Q. Define hardware.

Q. What are input devices?

Q. What is processing device?
Q. What are output devices?
Q. Name some input, and output devices.
Q. What are storage devices?
Q. Give examples of some storage devices.
Q. Define software.
Q. How many types of software are there? Name them.
Q. What is a system software?
Q. Define application software.
Q. How does a computer work?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 12 and 13 of the main course book as **Exercise**.

Suggested Activity

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

2 Computer Memory

Teaching Objectives

Students will learn about:

- Memory
- Measuring the Computer's Memory

Number of Periods	
Theory	Practical
2	2

Teaching Plan

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

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)
- Flash Drive (Pen Drive, Memory Card)

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 the use of memory?
Q. What is primary memory?
Q. Name the different types of primary memory.
Q. Expand RAM/ROM.
Q. What is the difference between primary and secondary memory?
Q. Name the categories in which secondary storage devices are divided.
Q. What are the different types of CDs?
Q. Expand CD/DVD.
Q. Define pen drive and 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 16 to 18 of the main course book as **Exercise**.

Take the students to the computer lab and let them practise the activity **IN THE LAB** given on page 18 of the main course book. It will enhance the ability of the students and will serve as an Information Literacy and Critical Thinking 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 Let's Know About Windows 10

Teaching Objectives

Students will learn about:

- Windows 10
- Sorting Desktop Icons
- Changing Desktop Background
- Desktop
- Hiding Desktop Icons

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell 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 Operating System.

Tell the students the about the useful features of Windows 10.

Make the students aware of the concept of desktop.

Introduce the students to the taskbar and its components covering Start button, Opened program icons, Show desktop button and clock.

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

Show to the students that how some or all of the icons on the desktop can be hidden.

Demonstrate to the students the steps to change desktop background.

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 operating systems.

Q. Which company developed Windows operating system?

Q. What are the important features of Windows 10?

Q. What is desktop?

Q. Define icons.

Q. What is taskbar?

Q. How can desktop icons be sorted?

Q. How can desktop icons be hidden?

Q. How can desktop background be changed?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 23 and 24 of the main course book as **Exercise**.

Take the students to the computer lab and let them practise the activity **IN THE LAB** given on page 25 of the main course book. It will enhance the ability of the students and will serve as a Technology Literacy activity.

Suggested Activity

Ask the students to draw the desktop of Windows 10 and label its parts on an A3 sheet of paper.

4 Introduction to Word 2016

Teaching Objectives

Students will learn about:

- Uses of Word 2016
- Parts of Word 2016
- Saving a Document
- Printing a Document
- Starting Word 2016
- Working with Word 2016
- Opening a Saved Document
- Closing Word 2016

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Microsoft Word is word processing software.

Make the students aware of the various uses of Word 2016.

Demonstrate to the students the steps involved in starting Word 2016.

Show the students the various parts of Word 2016 window covering Title Bar, Quick Access Toolbar, Ribbon, Rulers, Scroll Bars, Text / Document Area, Tabs, Window Control Buttons, Zoom Slider and Status Bar.

Demonstrate to the students the steps involved in:

- Creating a new file
- Inserting text
- Cutting/Copying and Pasting text
- Thesaurus
- Opening a saved document
- Closing Word 2016
- Selecting text
- Undo/Redo
- Spell check
- Saving a document
- Printing a document

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 Microsoft Word?

Q. What are the various uses of Word 2016?

Q. Name some important parts of Word 2016 window.

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 2016?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 33 and 34 of the main course book as **Exercise**.

In Creative Assignment, activity **IN THE LAB** given on Page 35 of the main course book will enhance the ability of the students and serve as Technology Literacy and Creativity activity.

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 More on Paint

Teaching Objectives

Students will learn about:

- Selecting an Image
- Rotating an Image
- Copying/Cutting and Pasting
- Flipping an Image
- Zooming an Image

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that they will learn more features of paint like copy, paste, flip and rotate,

Tell the students that Select command is used to select a drawing or part of a drawing and have two types of selection which are Rectangular selection and Free form selection.

Show to the students how a drawing or part of a drawing can be selected.

Tell the students that Rectangular selection is used to select the drawing in rectangular form.

Demonstrate to the students the steps involved in using Rectangular selection.

Explain the students that Free form selection is used to select the drawing in free form.

Demonstrate to the students the steps involved in using Free form selection.

Demonstrate to the students the meaning of and steps involved in:

- Flipping an image
- Rotating an image
- Zooming an image

Make the students understand the difference between Copying-Pasting an image and Cutting-Pasting an image.

Demonstrate to the students the steps involved in both these activities (Copy-Paste and Cut-Paste).

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 use of Select command?

Q. What do you understand by the term flipping an image?

Q. What is the meaning of zooming an image?

Q. What is the difference between Cut-Paste and Copy-Paste?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 40 and 41 of the main course book as **Exercise**.

In Creative Assignment, activities like **Hands-On** and **IN THE LAB** given on Pages 41 and 42 of the main course book will enhance the ability of the students and serve as Technology Literacy, Communication and Creativity activity.

Suggested Activity

Ask the students to create a beautiful scene of a village using Paint.

6 Pivot Animator

Teaching Objectives

Students will learn about

- Uses of Pivot Animator
- Components of Pivot Animator App
- Saving an Animation Project
- Creating a Figure in Pivot Animator
- Getting Started with Pivot Animator
- Creating Simple Animation
- Exporting an Animation
- Loading the Figure

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching this chapter tell the students that **pivot Animator** is a free and simple tool to make animations with stick figures.

Explain the uses of Pivot Animator, such as creating short stories, designing custom characters, and exporting animations as GIFs or videos.

Discuss the steps involved in downloading and installing Pivot Animator from its official website.

Show the steps involved in starting Pivot Animator v5.

Make the students aware about all the components of Pivot Animator app window:

- **Title Bar:** Displays the app name and project title.
- **Menu Bar:** Provides options to manage projects.
- **Frame Controls:** Allows adding, deleting, and navigating frames.
- **Player Controls:** Lets users play, pause, and loop animations.
- **Background Button:** Adds or changes backgrounds.
- **Add Figure Button:** Allows adding new stick figures.
- **Figure Controls:** Used to move, rotate, or resize figures.
- **Add Frame Button:** Adds a new frame to the animation sequence for smooth motion.
- **Frame Panel:** Displays animation frames in a timeline.
- **Canvas:** Refers to the area where you create and animate your stick figures.
- **Figure:** Refers to the stick figures made of segments and joints in your animation.
- **Segment Handle:** Lets you reposition or resize a figure's segment.
- **Origin Handle:** Acts as the pivot point for rotating the figure.
- **Status Bar:** Shows information like the current frame number, speed, and active tool.

Show the steps involved in creating a simple animation with example.

Demonstrate the steps involved in saving an animation project with an example.

Show to the students the steps involved in exporting an animation project to turn your project into a finished file, like a GIF or video.

Explain the steps involved in creating a custom figure in Pivot Animator with an example.

Demonstrate the steps involved in loading the custom figure to use it for creating an animation.

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 Pivot Animator used for?
Q. How does adding frames help in animation?
Q. What is the difference between saving and exporting an animation?
Q. How do you create a custom figure?
Q. Name of 3 components of Pivot Animator window.
Q. Which component of Pivot Animator let you play, pause, stop and loop the animation?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 55 and 56 in the main course book as **Exercise**.

Take the students to the computer lab and let them practise the activity given in **IN THE LAB** section on page 56 in the main course book. This will enhance the ability of the students and serve as a Technology Literacy activity.

Suggested Activity

Ask students to create a simple animation of a stick figure walking and save it as a GIF.

Let them present their animations in class and discuss challenges faced during the process.

7 Introduction to Internet

Teaching Objectives

Students will learn about:

- Uses of Internet
- Internet Terms
- Requirements for an Internet Connection
- Microsoft Edge

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Internet is a network in which millions of computers are connected to each other to share information and is an abbreviation of an International Network.

Explain to the students the various uses of the internet.

Share with the students the various requirements for an internet connection covering computer, telephone or cable line, modem or network card, software and the company providing the connection.

Introduce the students to common internet terms like Website (collection of related web pages), Web Page (electronic page on a website), Home Page (main or first page of the website), World Wide Web (largest collection of websites) and Web Browser (software to open websites).

Familiarise the students with the most common web browser, Microsoft Edge and its components covering Title Bar, Menu Bar, Toolbar and Address Bar.

Make the students understand the use of common tools on the toolbar covering Back, Forward, Refresh and Stop buttons.

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 internet?
Q. What are the uses of the internet?
Q. What are the requirements for an internet connection?
Q. Define Website / Web Page / Home Page / World Wide Web / Web Browser.
Q. What does WWW stand for?
Q. Which is the most common Web Browser?
Q. Define Title Bar / Menu Bar / Toolbar / Address Bar.
Q. What is the use of the Back / Forward / Stop / Refresh button in a web browser?

Evaluation

After explaining the chapter, let the students do the course book exercises given on Pages 59 to 61 of the main course book as **Exercise**.

Take the students to the computer lab and let them practise the activity given in **IN THE LAB** section given on Page 61 of the main course book will enhance the ability of the students and serve as a Media Literacy activity.

Suggested Activity

Ask the students to paste a picture of Internet Explorer in their computer notebook / practical file and label its components and tools discussed in the chapter.

8 Stepwise Thinking

Teaching Objectives

Students will learn about:

- Simple Instructions
- Loops
- Decision Making
- Understanding Programs

Number of Periods	
Theory	Practical
2	0

Teaching Plan

While teaching this chapter, tell the students that stepwise thinking means solving a big task by breaking it into small, simple steps.

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.

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

Extension

Ask the students some oral questions based on this chapter.

Q. What are instructions?
Q. Expand the sequence of instructions to make a fruit salad.
Q. What is stepwise thinking?
Q. What is decision making?
Q. Explain a decision making situation involving 'if', 'then' and 'otherwise'.
Q. Define looping.

Evaluation

After explaining the chapter, let the students do the exercises given on pages 67 and 68 in the main course book as **Exercise**.

Take the students to the computer lab and let them practise the activity given in **IN THE LAB** section on page 69 in the main course book. This will enhance the ability of the students and foster Initiative and Technology Literacy skills.

Suggested Activity

Ask the students to write a decision making situation.

9 Introduction to Scratch

Teaching Objectives

Students will learn about:

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

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching the students, tell the students that Scratch is a software which helps to create games, animations and stories.

Scratch is a software which helps to create games, animations and stories to the students the steps to start Scratch 3.0.

Demonstrate to the students the steps to start Scratch.

Familiarise the students with the various components of Scratch window covering Sprites Info pane, Sprite, Stage Area, Blocks Menu, Scripts, Coding Area, Backdrop, Tabs, Go Button and Stop button.

Introduce Motion Blocks for controlling the movement of a sprite.

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 Sprites Info Pane.

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

Demonstrate the use of different Blocks by developing new project.

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

Ensure that the scope of **Teacher's Corner** section 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. What are the uses of Scratch?

Q. Name the various components of Scratch window.

Q. Define Sprite / Stage / Scripts / Block Menu / Stop button.

Q. What are the steps to change 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 78 and 79 in the main course book as **Exercise**.

Take the students to the computer lab and let them practise the activity given in the **In the lab** section on page 80 in the main course book. This will enhance the ability of the students and foster Media Literacy and Technology Literacy skills.

Suggested Activity

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

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
2	0

Teaching Plan

While teaching the chapter, tell the students that Artificial Intelligence has become an important part of daily life.

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

Define the following to the students:

- Smartphones
- Chatbot
- Driverless Cars
- Smart Speakers
- Smartwatches
- Smart TVs
- Smart Doorbells
- Relate all these to their daily life routine.

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

Extension

Ask the students some oral questions based on this chapter.

Q. Define the following:

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

Evaluation

After explaining the chapter, let the students do the exercises given on pages 83 to 85 in the main course book as **Exercise**.

Take the students to the computer lab and let them practise the activity given in the **IN THE LAB** section on page 86 in the main course book. This will enhance the ability of the students and foster Media Literacy skills.

Suggested Activity

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