Class 1

Lesson Plan

Digicode AI

1. Computer—A Smart Machine

Teaching Objectives

Students will learn about

- ☞ Natural and Man-Made Things
- ☞ Computer—A Wonderful Machine
- ☞ Types of Computers
- ☞ What are Machines?
- ☞ Computer and Man

Number of Periods	
Theory	Practical
1	2

Teaching Plan

Encourage the students to name some things which they see around themselves.

Make them understand some of these things are natural like sun, moon, star, mountains, cat, dog, tree, boy, girl, etc. The other things are man-made like chair, table, TV, fan, pencil, eraser, board, building, washing machine, mobile, etc.

Explain to the students that machines are made by man.

Give examples of some machines around us like refrigerator, air conditioner, television, mobile, car, etc. and their use.

Share with them that computer is also a machine.

Tell them the various things we can do with the computer like doing sums, drawing, listening to music, watching movies, learning, etc.

Encourage them to tell why computer is different from other machines (other machines can only do the work for which they are made but computer can do many kinds of work).

Share with them that computer is also a machine.

Encourage them to tell why computer is different from other machines (other machines can only do the work for which they are made but computer can do many kinds of work).

Make the students understand that there are certain things which man can do better than computers covering:

IMPRINT 1

- **Feelings** – Computer does not have feelings and does not understand emotions.
- **Instruction** – Computer cannot work without our instructions.
- **Decision** – Computer cannot take its own decisions.

Explain to the students about the different types of computers covering:

- **Desktop computer** – kept on desk or table
- **Laptop computer** – can be kept on lap also and is portable
- **Hand-held computer** – smaller than a laptop and has a touchscreen, such as tablet and smartphone

Tell the students that all these types of computers are called Personal Computers or PCs.

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. Is computer a machine?

Q. Name some natural things.

Q. Name some man-made things.

Q. Who makes machines?

Q. Are machines natural?

Q. Discuss briefly the use of an air conditioner/refrigerator/washing machine/television/mobile/car.

Q. What does a computer need to run?

Q. How is a computer different from other machines?

Q. State any two features of a computer.

Q. Name two things which man can do better than computers.

Q. Name any two types of computers.

Q. Which is the largest type of computer?

Q. Which is the smallest type of computer?

Q. Can we keep all computers in our pocket?

Q. Name two computers which we can keep in our pocket.

Q. Name the computer which we keep on a desk or a table.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 13, 14, and 15 of the main course book. After solving the course book exercises, tell the students to solve Tech Twister activity given on pages 15 of the main course book to imbibe interdisciplinary and problem & logical reasoning skills. Help the students to solve these questions.

In Creative Assignment, activities like Tech Twister given on page 15 of the main course book will enhance the ability of the students and serve as a creativity & innovativeness, communication and digital literacy activity.

Suggested Activity

Show pictures of some machines (calculator, fan, sewing machine, set top box, cycle, clock, microwave, stapler, electronic toy, etc.) and ask the students what they are used for?

2. The Mouse and The Keyboard

Teaching Objectives

- Mouse
- Mouse Pad
- How to Use a Mouse?
- Keys on the Keyboard
- Mouse Buttons
- How to Hold a Mouse?
- Keyboard
- What is a Cursor?

Number of Periods	
Theory	Practical
1	2

Teaching Plan

While teaching this chapter, tell the students that a mouse helps us to tell the computer what to do and keyboard is used to write on computer screen.

Share with the students some uses of a computer mouse.

Show to the students that the small arrow moving on the screen is called pointer.

Make the students understand that there are two types of computer mouse:

- **Two-buttoned mouse –** has two buttons – left button and right button.
- **Scroll mouse –** has two buttons (left and right) and a scroll wheel.

Show to the students the correct way of holding the mouse with reference to the position of fingers and palm (shown in the main course book).

Show to the students that a computer mouse can be used for:

- **Pointing –** by moving the pointer.
- **Clicking –** by pressing mouse buttons.
- **Single-clicking or Clicking –** pressing and releasing the left button quickly, used to select an icon.
- **Double-clicking –** pressing and releasing the left button twice quickly, used to open a program.
- **Right-clicking –** pressing and releasing the right button quickly, used to display a shortcut menu.

IMPRINT 1

- **Dragging –** moving the mouse while keeping the left button pressed, used to move objects on screen. Ensure that the scope of Teacher's Corner given at the end of the chapter has been covered.

Show to the students that a keyboard has small buttons on it called keys.

Make the students count that a computer keyboard has 101 to 104 keys.

Tell the students that the keys on a keyboard are divided into three categories:

- **Alphabet keys –** 26 in number (A to Z)
- **Number keys –** 10 in number (0 to 9)
- **Special keys –** Enter, Spacebar, Backspace, etc.

Show to the students the position of various categories of keys on the keyboard.

Make the students understand that the alphabet keys (A to Z) on the keyboard are also used to write in small letters (a to z).

Share with the students that the number keys are used to type numbers and there are two sets of number keys on a keyboard.

Show to the students that there are some special keys also on the computer like:

- **Spacebar key –** longest key at the bottom, used to give blank space between letters and words.
- **Enter key –** also called Return key, two in number, used to move to the next line.
- **Backspace key –** used to erase what we have typed.
- **Cursor Control keys –** Show to the students the four arrow keys (up, down, left and right) on the keyboard, used to move the cursor.

Open WordPad and show to the students the small blinking line called cursor.

Make the students understand that the cursor shows the place where the typed letters will appear.

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 mouse used for?

Q. Name the pointing device.

Q. Name the two types of mouse.

Q. Which finger must be placed on the left button / right button?

Q. What are the small buttons on a keyboard called?

Q. How many keys are there on a keyboard?

Q. Name the categories in which the keys on a keyboard are divided into.

Q. Name some special keys.

Q. What is a cursor?

Evaluation:

After explaining the chapter, let the students do the course book exercises given on pages 22 to 24 of the main course book as Tech Twister and Byte Task. After solving the course book exercises, tell the students to solve Tech Twister activity given on page 24 of the main course book. Help the students to solve these questions.

In Creative Assignment, activities like Byte Task on page 24 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity:

Ask the students to draw a picture of a mouse representing single-click, double click, right-click, drag and Ask the students to paste a picture of computer keyboard in the computer notebook and label Number keys, Alphabet keys, Enter keys, Spacebar key, Backspace key and Cursor Control keys on it.

3. Introduction to Paint

Teaching Objectives

Students will learn about

- Steps to Start Paint
- Drawing Lines
- Drawing Rounded Rectangle
- Drawing Freehand
- Saving a Drawing
- Components of Paint Window
- Drawing Rectangles
- Drawing Curve
- Filling Colours
- Closing Paint

Number of Periods	
Theory	Practical
1	2

Teaching Plan

Before starting the chapter, ask the students to Join the lines of a rainbow and colour it. in 'Tech Set Go" given on page 26 of the main course book.

While teaching this chapter, tell the students that Paint is a program used to draw and colour.

Familiarize the students with Paint window showing Tools group, Shapes group, Colors group and Drawing Area.

Demonstrate to the students the steps to start Paint.

Tell the students about the uses of Tools group (contains tools), Colors group (contains colour options), Shapes group (contains shapes), Drawing Area (Blank area to draw and color) and Ribbon (Long horizontal bar).

Demonstrate the steps to:

- Draw straight lines using Line shape.
- Draw rectangles using Rectangle shape.

Tell the students that Rounded Rectangle shape is used to draw rectangles and squares with rounded corners.

Demonstrate to the students the steps involved in use of Rounded Rectangle shape.

Share with the students that Curve shape is used to draw curved lines.

Show to the students the steps involved in use of Curve shape.

Tell the students that Paint allows to draw freehand using Brushes Tool and Pencil Tool.

Explain to the students the use of Brushes tool and steps involved in using the tool.

Show the students the use of Pencil tool and steps involved in using the tool.

Demonstrate the steps to Fill colours in closed shapes using Fill with Color tool

Explain the students the steps involved in saving a drawing.

Tell the students that close button from Title bar is used to close Paint.

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 Paint?

Q. What is the use of Line / Rectangle shape?

Q. How can the width of the Brush be changed?

Q. Under which category is the Paint program listed?

Q. Name the groups present on Paint window.

Q. What does the Colors / Shapes / Tools group contain?

Q. What is the use of Brushes / Fill with Color tool?

Q. What is the use of Pencil tool?

Q. What is the use of Brushes tool?

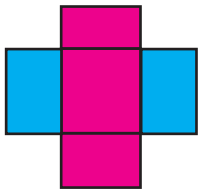
Evaluation

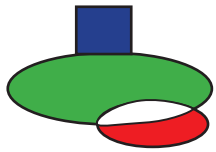
After explaining the chapter, let the students do the course book exercises given on Pages 33 and 34 of the main course book as Exercise.

In Creative Assignment, activity like Tech Twister given on Page 34 and Byte task given on the page no. 35 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to draw the following shapes in Paint.





Ask the students to draw a picture of a school with its name written on a board at the top of the school building.

4. Reasoning and Critical Thinking

Teaching Objectives

Students will learn about

- Shapes
- Pattern
- Word Search
- Directions

Number of Periods	
Theory	Practical
1	0

Teaching Plan

Before starting the chapter, attempt the activity in 'TECH SET GO' given on page 36 of the main course book.

Introduce Shapes to the students in details which are:

- Square
- Rectangle
- Triangle
- Circle

Ask the students to solve the activity in 'CODE QUEST' given on page number 37 to imbibe Critical Thinking skill.

Tell the students about what pattern is and to identify one. Also, tell them how to solve by giving some examples which will improve their understanding of the topic.

Ask the students to draw the picture to complete the pattern in 'CODE QUEST' given on page number 37 to imbibe Critical Thinking skill.

Show the students what is a word search and how to solve it with the help of critical thinking.

Explain to the students what directions are and how they help us reach a definite location.

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

Extension

Ask the students some oral questions based on this chapter.

Q. What is a shape?

Q. How many shapes are there?

Q. What is a pattern?

Q. What is a word search?

Q. What are directions?

Q. How do directions help us?

Evaluation

After explaining the chapter, let the students do the exercises given on pages 40 and 41 in the main course book. Tell the students to try sections such as 'Tech Twister' and 'Go Online' given on page 41 in the main course book.

Suggested Activity

Ask the students to practise any lesson two times and compare the result.

5. 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 attempt the activity in 'TECH SET GO' given on page 44 of the main course book.

While teaching this chapter, tell the students that Google Blockly is a tool that helps the users to learn block-based programming quickly and easily, in this blocks are dragged and dropped to give instructions.

Tell the students that it is also known as a play-way programming platform where users play games and learn programming simultaneously.

Demonstrate the steps to start Blockly.

Explain the students about the Puzzle game that teaches to:

- join the blocks.
- create stack of blocks.
- change instructions in the variable blocks.
- placing stack of blocks inside a container block.

Demonstrate the steps to play the Puzzle game to the students.

Ask the students to solve the activity in 'CODE QUEST' given on page number 47 to imbibe Critical Thinking and Information Literacy skill.

Explain the students about the Maze game that teaches to:

- join the blocks.
- create loops or blocks to repeat actions.
- change instructions in the variable blocks.
- placing stack of blocks inside a container block.

Demonstrate the steps to play the Maze game to the students.

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

Extension

Ask the students some oral questions based on this chapter.

Q. How to start Blockly?

Q. What is Puzzle game?

Q. What is Maze game?

Q. What does Puzzle game teaches the user?

Q. What does Maze game teaches the user?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 49 and 50 of the main course book.

In Creative Assignment, activities like 'Tech Twister' and 'Code Task' given on page 51 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to play level 6 of the Google Blockly Maze game.

6. Introduction to ScratchJr

Teaching Objectives

Students will learn about

- ☞ Starting ScratchJr
- ☞ Components of ScratchJr Window
- ☞ Adding a New Character
- ☞ Changing the Background
- ☞ Creating a ScratchJr Project
- ☞ Saving a Project

Number of Periods	
Theory	Practical
1	1

Teaching Plan

Before starting the chapter, ask the students to attempt the activity in 'TECH SET GO' given on page 52 of the main course book.

While teaching this chapter, tell the students that ScratchJr is a software which is used to create animated stories and games.

Tell the students about the steps involved in Starting ScratchJr.

Explain the Components of ScratchJr Window to the students like:

- Stage
- Change Background
- Blocks Palette
- Green Flag
- Character
- Reset Character Button
- Save Button
- Plus Button
- Block categories
- Programming Area

Explain the steps involved in the use of Adding a New Character to the students.

Tell them the steps of Changing the Background.

Ask the students to match the following activity in 'CODE QUEST' given on page number 55 to imbibe Critical Thinking and Information Literacy skill.

Demonstrate to the students the steps involved in Creating a ScratchJr Project.

Tell them the steps to saving a project.

Ask the students to solve the following activity in 'CODE QUEST' given on page number 56 to imbibe Technology Literacy skill.

Extension

Ask the students some oral questions based on this chapter.

Q. What is ScratchJr?

Q. What does Block categories mean?

Q. Name any 4 components of ScratchJr Window.

Q. How to add a new character in ScratchJr?

Q. What do you mean by changing the background in ScratchJr?

Q. Which button is used to save a ScratchJr project?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 57 and 58 of the main course book.

In Creative Assignment, activities like 'Tech Twister', 'Code Task' and 'Go Online' given on page 58 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the student to create simple interactive stories using characters and backgrounds.

7. What is AI?

Teaching Objectives

Students will learn about

- What is AI?
- Real Life Examples of AI

Number of Periods	
Theory	Practical
1	1

Teaching Plan

Before starting the chapter, ask the students to identify the images and write their names in 'Tech Set Go' given on page 60 of the main course book.

Encourage the students to name some things which they see around themselves.

While teaching this chapter, tell the students that AI stands for Artificial Intelligence. It is the process of making a machine intelligent. Artificial intelligence, or AI, refers to a computer's ability to think and learn.

Tell the students also that Artificial intelligence is used at various places in real-life.

Make them understand about the followings:

- Google Assistant
- Face Lock
- Robots
- YouTube
- Google Maps

Guide students through the steps to use Google Assistant: pressing the home button, saying "Ok Google," and asking a question.

Show images or diagrams of robots, explaining how they function without human intervention.

Explain how YouTube uses AI to suggest videos based on user preferences and interests.

Discuss Google Maps and how it utilizes AI for navigation and location services.

Ask the students to solve the following activity in 'AI QUEST' given on page number 64. to imbibe Critical Thinking and Media Literacy skill.

Ask student to play the game given on page 64 as Ai Game.

Extension

Ask the students some oral questions based on this chapter.

Q. What does AI stand for?

Q. Can you name one example of AI you use at home?

Q. What is a robot?

Q. Do you know any device that talks to you when you ask it something?

Q. What is the use of Google Maps?

Q. What is special about the face lock feature in a smartphone?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 65 and 66 of the main course book .

In Creative Assignment, activities like 'Tech Twister' given on page 66 and 'Ai Task', 'Tech Value' and 'Go Online' given on page 67 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to paste pictures some real-life examples of AI in their computer notebooks and write their names.

8. Intelligent Machines Around Us

Teaching Objectives

Students will learn about

- ☞ Smart Washing Machine
- ☞ Smart Vacuum Cleaner
- ☞ Smart Refrigerator
- ☞ Smart Speaker
- ☞ Smartwatch

Number of Periods	
Theory	Practical
1	2

Teaching Plan

Before starting the chapter, ask the students to Draw a picture of your favourite smart device in 'Tech Set Go' given on page 68 of the main course book.

Encourage students to name things they interact with daily (like a toy, book, TV, etc.). Discuses common objects present in their surroundings (like toys, household items, etc.) and list them on the board.

While teaching this chapter, tell the students that Machines are all around us. We use machines every day. Now the machines have become smart. Smart machines are devices that can teach themselves how to do tasks. Artificial Intelligence makes machines as smart as humans.

Explain to the students about Smart machines and how we can access it by connecting through our mobile phones:

- Smart Washing Machine
- Smart Vacuum Cleaner
- Smart Refrigerator
- Smart Speakers
- Smartwatch

Also, discuss how a smart washing machine can make laundry easier for families and its benefits.

Describe the functionalities of a smart vacuum cleaner.

Explain the features of a smart refrigerator.

Describe a smart speaker's capabilities (voice assistance, playing music, etc.) and its usefulness in homes.

Explain the basic functions of a smartwatch (like tracking steps, telling time, etc.) and its benefits.

Ask the students to read the 'Ai Fact' given on page 69.

Ask the students to solve the exercise given on page 70 as 'AI Quest'.

Ask them to play the game given on page 71 as 'Ai Game'.

Extension

Ask the students some oral questions based on this chapter.

Q. Can you name one smart machine you might find in your home?

Q. What does a smart washing machine do differently compare to a regular one?

Q. How does a smart vacuum cleaner work?

Q. What are the features of a smart refrigerator?

Q. What does a smart speaker do?

Q. Can you name a feature of a smartwatch?

Evaluation

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

In Creative Assignment, activities like 'Tech Twister', 'Ai Task' and 'Go Online' given on page 73 of the main course book will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to draw or create their version of a smart device and share it in the next class.