



TOUCHPAD[®]

PLUS Ver. 3.1

Teacher's Manual

Extended Support for Teachers



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Periods Days	0	I	II	III	IV	BREAK	V	VI	VII	VIII
Monday										
Tuesday						B				
Wednesday						R				
Thursday						E				
Friday						A				
Saturday						K				



DEVELOPMENT MILESTONES IN A CHILD

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

Age 5 - 8 Years	
Physical	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Vocabulary reaches about 10,000 words• Vocabulary increases rapidly throughout middle childhood
Emotional/Social	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none"> • Motor skills develop resulting enhanced reflexes
Cognitive	<ul style="list-style-type: none"> • Applies several memory strategies at once • Cognitive self-regulation is now improved
Language	<ul style="list-style-type: none"> • Ability to use complex grammatical constructions enhances • Conversational strategies are now more refined
Emotional/Social	<ul style="list-style-type: none"> • Self-esteem tends to rise • Peer groups emerge

Age 11 - 20 Years	
Physical	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Is now more self-conscious and self-focused • Becomes a better everyday planner and decision maker
Emotional/Social	<ul style="list-style-type: none"> • 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."

1. Categories of Computers and Software

Teaching Objectives

Students will learn about

- ☞ Categories of Computers
- ☞ Some others Special Computers
- ☞ Software

Number of Periods

Theory

3

Practical

1

Teaching Plan

While teaching this chapter, tell the students that how computers are classified on basis of them:

- Type
- Purpose
- Size, speed, processing power and price

Tell the students about classification of computers on basis of their type or functioning:

- Analog Computers
- Digital computers
- Hybrid computers.

Explain to the students about classification of computers on basis of their purpose:

- General purpose computers
- Special purpose computers

Tell the students about classification of computers on basis of their size, speed and processing power:

- Microcomputers – a. Desktop b. Laptop c. Tablet
- Minicomputer
- Mainframe computer
- Supercomputers

Share with the students the importance and usefulness of some other special computers:

- Embedded computers –
 - a. Digital camera
 - b. ATM
 - c. Microwave
- Handheld computers –
 - a. Smartphone
 - b. PDA
 - c. Smart watch
 - d. Gaming consoles

Introduce to the students about Software and their internal components like:

- **System Software**
- **Application Software**

Tell the students about the types of system software like, **Operating, Programming, and Utility Software**.

Share with the students the functions of an operating system:

- Arranging files and folders
- Assigning tasks to CPU
- Managing memory
- Managing resources
- Managing devices
- Security

Tell the students about the types operating systems:

- Single-user OS
- Multi-user OS
- Multi-tasking OS
- Multi-processor OS
- Real time OS

Share with the students about the types of application software like, **General Purpose** like:

- Word processor
- Spreadsheet software
- Presentation software
- Graphics software
- Database Management System (DBMS) software
- DeskTop Publishing (DTP) software
- Multimedia software

Share with the students about Customised Software.



Extension

Ask the students some oral questions based on this chapter.

- Q. Name some ways in which computers are classified.
- Q. What is a minicomputer?
- Q. What is a microcomputer?
- Q. Differentiate between analog and digital computers?
- Q. What are mainframe computers? What are they used for?
- Q. What is a software?
- Q. How many types of software are there?
- Q. What is a system software?
- Q. What is an application software?
- Q. Give examples each of:
 - a. Operating Software
 - b. Programming Software
 - c. Utility Software

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 17 and 18 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Pages 18 and 19 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 19 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to prepare a collage of different models of computers classified on the basis of size, speed and processing power.

2. Advanced Features of Ubuntu

Teaching Objectives

Students will learn about

- | | |
|--------------------------|-----------------|
| ☞ Ubuntu Features | ☞ Settings |
| ☞ Date and Time Settings | ☞ Dock Settings |

- ☞ Mouse & Touchpad Settings
- ☞ Sound Settings
- ☞ Components of an Open Application Window

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that Ubuntu is the foundation of a computer to work with an ease.

Tell the students about some Ubuntu features:

- Sneak
- Aero Flip
- Shake

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

Share with the students about steps involved in using the feature of Time and Date setting and how to modify it.

Show the students about dock settings and steps involved in using this feature.

Explain to the students how to change Mouse and touchpad setting and steps involved in using it.

Demonstrate the students about the Sound settings and steps involved in modifying.

Show the students about the components of an open application window:

Title bar, Control buttons, Menu bar, Toolbar, Work area, Scroll bars (Vertical and Horizontal), Border and Status bar.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is a settings application?
- Q. How can you change date and time?
- Q. How can you change a mouse's settings?
- Q. What are the steps to change the sound setting?
- Q. What is a dock?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 26 and 27 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Pages 27 and 28 in the main course book.



Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 29 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to use the date and time settings. Also ask them to use dock to change settings.

3. More on LibreOffice Impress

Teaching Objectives

Students will learn about

- ✎ Using Templates
- ✎ Adding Video
- ✎ Animation
- ✎ Adding Audio
- ✎ Slide Transition
- ✎ Running a Slide Show

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching this chapter, tell the students that LibreOffice Impress 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.

Demonstrate the steps to choose a template and use it.

Show to the students how to add Audio and the steps involved in adding it into a presentation.

Tell the students how to add video and the steps involved in adding it into a presentation.

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

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

Demonstrate the application of transitions to slides in a presentation.

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.

Share with the students that running a presentation is called Slide Show.

Demonstrate to the students the various steps involved in running a slide show

Extension

Ask the students some oral questions based on this chapter.

- Q. What is a template?
- Q. What is an Animation?
- Q. What is a Transition?
- Q. How to add animation in a slide?
- Q. How to add transition in a presentation?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 36 and 37 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Page 38 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 38 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

1. Divide the class into two teams. Ask one team to prepare charts on various types of pollution.
2. Ask the other team to prepare a presentation on the same topic. Make the students share the benefits enjoyed and limitations faced by each team while working on their project.
3. 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.

4. More on Writer

Teaching Objectives

Students will learn about

- ☞ Find and Replace
- ☞ Page Margin
- ☞ Watermark
- ☞ Inserting Mathematical Equations
- ☞ Line Spacing and Paragraph Spacing
- ☞ Page Orientation
- ☞ Header and Footer
- ☞ Mail Merge

Teaching Plan

Number of Periods	
Theory	Practical
2	3



While teaching this chapter, tell the students that formatting refers to the appearance of a document. 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 Writer 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.

Tell the students that page margin is the white space all around the printed area of the paper.

Make the students understand how they can modify page margin settings for their document.

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

Further tell them that the paragraph spacing means the blank space between two consecutive paragraphs in a document.

Introduce to the students the concept of orientation as the side of the paper along which the content of the document will be printed.

Tell the students about different types of orientations.

Show them the steps involved in changing the page orientation in a document.

Explain the students how to insert and format:

- **Watermark**
- **Header and Footer**
- **Mathematical Equations**

Also show the steps involved in adding the same in a document.

Introduce to the students Mail Merge as the feature used to create personalized letters to be sent to many persons.

Tell them the various steps involved in creating a mail merge.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is the difference between Find and Replace features?
- Q. What is the meaning of Line Spacing?
- Q. What is the meaning of Paragraph Spacing?
- Q. What do you mean by page orientation?
- Q. What do you mean by Mail Merge?
- Q. How is mail merge helpful?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 48, 49 and 50 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Pages 50 and 51 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Hands-On and Lab Session section on Page 51 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

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

5. More on LibreOffice Calc

Teaching Objectives

Students will learn about

- Starting LibreOffice Calc
- Creating a New Workbook
- Modifying Data
- Inserting Rows/Columns
- Splitting Cells
- Customise Worksheet Tab
- Components of LibreOffice Calc
- Entering Data in a Worksheet
- Column Width and Row Height
- Merging Cells
- Formatting Spreadsheets
- AutoFill

Number of Periods

Theory

2

Practical

3

Teaching Plan

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

Familiarize the students with the various components of LibreOffice Calc window covering:

Title Bar, Menu Bar, Toolbar, Formula Bar, Name Box, Worksheet Window, Worksheet Tab, Worksheet Tab Scrolling Buttons, Status Bar, Row, Column, Row and Column Heading Buttons, Cell, Active Cell, Mouse Pointer, Workbook and Cell Range.

Demonstrate to the students the steps to:

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



Tell the students that to enter data in a cell, simply click on the cell and enter data.

Tell the students the methods of modifying data by cut, copy and paste.

Explain to the students the steps involved in changing row height and column width – both manually and automatically.

Tell the students that Calc allows inserting blank rows and columns at the required place in the worksheet.

Demonstrate to the students how two or more cells can be merged into one and also how a cell can be split up into two or more cells.

Explain some worksheet formatting features of Excel like:

- **Word wrap** – displaying multiple lines of text in a cell.
- **Format numbers** – applying various data types to the cells.
- **Cell borders** – boundary around a cell or a series of cells.
- **Cell styles** – Pre-defined cell border, colour and formatting.
- **Cell fills** – adding colours or shades in the cells.

Show to the students the steps involved in applying all of these formatting features on a worksheet.

Explain to the students that worksheet tab can be customized by changing its default name and colour.

Introduce to the students AutoFill feature of Excel as automatically filling a series of data in the worksheet and the steps involved in the same.

Tell the students that to enter data in a cell, simply click on the cell and enter data.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is LibreOffice Calc?
- Q. What are the features of LibreOffice Calc?
- Q. Name any five components of LibreOffice Calc.
- Q. Define Formula Bar / Name Box / Row / Column / Cell / Active Cell / Cell Range.
- Q. State the situation when Number / Text / Date and Time data type used for.
- Q. State the shortcut key to save an Calc worksheet.
- Q. What is the difference between Cut and Copy options?
- Q. Define merging of cells.
- Q. Define splitting of cells.
- Q. Name any three number formats available in Calc.
- Q. What is meant by border of a cell?
- Q. What is the use of AutoFill feature?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 66 and 67 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Pages 67 and 68 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 68 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

1. Ask the students to design their class time-table in Excel 2016.
2. Ask the students to prepare a table in this format for their family members.

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

6. Formulas, Functions and Charts in Calc

Teaching Objectives

Students will learn about

- Formula Basics
- Cell Referencing in Formulas and its Types
- Charts in Calc
- Order of Operation
- Functions

Number of Periods

Theory

3

Practical

3

Teaching Plan

While teaching this chapter, tell the students that Calc has some built-in formulas called functions.

Share with the students the basic elements and rules of writing a formula in Calc.

Show to them the different methods of copying and pasting a formula.

Introduce cell referencing as use of cell address while writing a formula.

Explain the students about the order of operation in Calc.

Make them understand the different types of cell referencing and the difference between the three – Absolute, Relative and Mixed.

Tell the students about rules for using Functions and different categories of Functions in Excel.

Demonstrate the use of mathematical functions – SUM, PRODUCT, MOD, SQRT, INT, POWER and COUNT.



Demonstrate the use of text functions – CONCATENATE, LEFT, RIGHT, LEN, UPPER and LOWER.

Demonstrate the use of statistical functions – MAX, MIN and AVERAGE.

Demonstrate the use of date functions – TODAY, MONTH, YEAR and DAY

Show the different components of chart in Calc.

Familiarize the students with the different types of chart options available.

Demonstrate the steps of:

- Creating a chart.
- Modifying a chart by changing its type, layout and design.

Extension

Ask the students some oral questions based on this chapter.

Q. What are Functions in Calc?

Q. Name the different elements of a formula in Calc.

Q. What is the order of operation followed in Calc?

Q. Define cell referencing.

Q. Name some important categories of Functions.

Q. State the purpose of SUM / SQRT / MOD / COUNT / LEN / RIGHT / TODAY / MAX Function.

Q. What is the syntax of PRODUCT / INT / POWER / CONCATENATE / LEFT / UPPER / LOWER / MIN / AVERAGE function?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 80, 81 and 82 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Pages 82 and 83 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 83 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to enter their last mark sheet in Calc and calculate total marks scored, average marks scored, maximum and minimum marks amongst all the marks and the number of subjects using various Functions used in Calc.

7. Introduction to Tupi 2D

Teaching Objectives

Students will learn about

- Features of Tupi 2D
- Starting Tupi 2D Software
- Creating a New Tupi 2D Project
- Opening an Existing Tupi 2D Project
- Installing TupiTube Desk
- Components of the Tupi 2D Window
- Saving a Project in Tupi 2D
- Exiting Tupi 2D

Number of Periods

Theory

2

Practical

3

Teaching Plan

Tell the students about Tupi 2D and features of it.

Show the steps to install TupiTube Desk and start the application.

Explain the components of Tupi 2D window: Menu bar, Toolbox, Toolbar, Workspace, Paint Area Action Toolbar, Modules Tab, Left side bar and right side bar along with the functions.

Show the students how to create a document in Tupi 2D with labelled steps.

Demonstrate to the students the steps involved to create shapes in Tupi 2D.

Show the students the steps involved in:

- Saving a program
- Opening an existing project
- Exiting Tupi 2D

Extension

Ask the students some oral questions based on this chapter.

- Q. What is Tupi 2D?
- Q. How to create a document in Tupi 2D?
- Q. How to save a project in Tupi 2D?
- Q. How to open an existing project in Tupi 2D?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 89 and 90 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Page 91 in the main course book.



Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 91 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create any shape in Tupi 2D using the tools taught in this chapter.

8. Algorithm and Flowchart

Teaching Objectives

Students will learn about

- ☞ Algorithm
- ☞ Characteristics of a Good Algorithm and Flowcharts
- ☞ Uses of an Algorithm
- ☞ Writing an Algorithm
- ☞ Defining Flowcharts
- ☞ Solving Problems using Algorithms and Flowcharts

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students about how humans communicate and their language. Also give an introduction of problem solving techniques, algorithm, flowchart, etc.

- **Program** – a set of instructions given to CPU in a pre-defined sequence to complete a task.
- **Computer language** – means by which data and instructions are transmitted to the computer.
- **Syntax** – the grammar of a computer language.
- **Programming** – process of writing a program.
- **Programmers** – people who write computer programs.

Introduce algorithms as set of steps in a sequential and ordered manner to solve any problem or to complete a task.

Encourage the students to write algorithms involving some basic tasks like getting ready for school or involving mathematical problems.

Introduce flowcharts as diagrammatic representation of an algorithm.

Explain the shapes and usage of flowchart symbols covering Start / Stop box, Process box, Decision box, Input / Output box, Flow lines and Connectors.

Make the students learn the rules for drawing a flowchart.

Encourage the students to draw flowcharts for the algorithms written earlier.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is an algorithm?
- Q. What is a flowchart?
- Q. Define the symbols used in a flowchart.
- Q. What is the role of start and stop symbol?
- Q. What is the role of connectors or flowlines?
- Q. What is a decision box?
- Q. What is the role of input and output box?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 98 and 99 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Page 100 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 100 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to find some questions which can be solved using algorithm and flowchart. Also, ask the students to collect more information about the computer languages and translators.

9. Introduction to BASIC-256

Teaching Objectives

Students will learn about

- | | |
|---|-------------------------|
| ☞ Computer Languages | ☞ Language Translator |
| ☞ Working of Language Translator | ☞ Installing BASIC-256 |
| ☞ Opening BASIC-256 | ☞ BASIC-256 Environment |
| ☞ Creating your First BASIC-256 Program | ☞ Saving a Program |
| ☞ Running a Program | ☞ Opening a Program |
| ☞ Elements of BASIC-256 Programming | |
| ☞ Statements | |



Teaching Plan

Tell the students that computer languages are categorized as low-level languages (machine dependent) and high level languages (machine independent).

Share with the students that low level languages are further classified as machine language (first generation language made up of 0s and 1s) and assembly language (second generation language made up of alphanumeric symbols).

Make the students learn that the high level languages are further classified as third generation languages (examples: **BASIC**, **COBOL**, **FORTRAN**, **PASCAL**, etc.), fourth generation languages (examples: Visual Basic, Oracle, SQL, JAVA, C++, etc.) and natural language or fifth generation languages (involving artificial intelligence).

Tell the students the advantages and disadvantages of high level languages over low level languages.

Introduce the concept of language translators as software that convert a high level language into a machine language covering:

- **Assembler** – used to translate assembly language into machine language.
- **Compiler** – used to convert source program at once into machine language before executing it.
- **Interpreter** – used to convert source program one line at a time into machine language before executing it.

While teaching this chapter, tell the students that BASIC-256 is a very simple programming language used for calculations and business applications.

Show to the students the steps to be taken to start Basic-256.

Basic-256 provides you a simple yet powerful development environment. Let's learn about the Basic-256 environment:

- **Title Bar:** It gives us the information about the program in which we are working.
- **Editor:** It is identified as the area where we write our Basic-256 programs. When we open a saved program, it will show up in this editor. We can then modify it and save it for later use. We can also open and work with more than one programs at a time. Each program you are working with will be shown in a different Editor window. The editor window that contains the program you are currently working on is known as an active Editor window.
- **Toolbar:** It is used to give commands. It contains commands like New, Open, Save, Save As, Cut, Copy, Paste and Run. We can use these commands by clicking on the command buttons.
- **Help Area:** When we write a program in the Editor, this area displays the tips and hints for the program.
- **Surface:** This is an open area where we can move and organize our Editor windows for each Small Basic program.

Introduce the steps of creating first Basic-256 program.

Show to the students the steps involved in saving a program.

Show to the students the steps involved to run, open and share a program.

Explain the elements of Basic-256 programming:

- Variables
- Operators
- Keywords
- Comments

Tell the students about the Statements and its type.

Extension

Ask the students some oral questions based on this chapter.

Q. What are computer languages?

Q. What is Low-Level language?

Q. What is High-Level language?

Q. Give examples of each:

- a. Machine Language
- b. Assembly Language
- c. Third Generation Language
- d. Fourth Generation Language
- e. Fifth Generation Language

Q. What are advantages of HLL?

Q. What are disadvantages of HLL? Q. What is a language translator?

Q. What is an assembler?

Q. What is the difference between a compiler and an interpreter?

Q. Explain the working of language translators.

Q. What is Basic-256?

Q. Define the following:

- a. Title bar
- b. Toolbar
- c. Editor
- d. Help Area
- e. Surface

Q. What is a variable?

Q. What are operators?

Q. What are keywords?

Q. What are comments?

Q. What are statements?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 112 and 113 in the



main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Page 113 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 113 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to create a simple program in Small Basic.

10. More on Scratch

Teaching Objectives

Students will learn about

- ☞ Creating a Simple Game
- ☞ Variables
- ☞ Sensing Blocks
- ☞ Loops

- ☞ Using Operators
- ☞ Conditions
- ☞ Storing User Input

Number of Periods	
Theory	Practical
3	4

Teaching Plan

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

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

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

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

- Types of variables
- Creating variables

Explain the Conditional Blocks to the students and the steps involved in this in detail.

Demonstrate how can one create a game in Scratch using appropriate blocks.

Tell the students about loops in Scratch and how to create programs using the same.

Extension

Ask the students some oral questions based on this chapter.

- Q. What is Scratch?
- Q. What is a sensing block?
- Q. What is a variable?
- Q. What are conditional blocks?

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 122 and 123 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Pages 123 and 124 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 124 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Ask the students to develop the story of Rabbit and Tortoise in Scratch.

11. Intelligence and AI Approaches

Teaching Objectives

Students will learn about

- Intelligence
- Types of Intelligence
- Exploring Intelligence
- AI Approach

Number of Periods

Theory

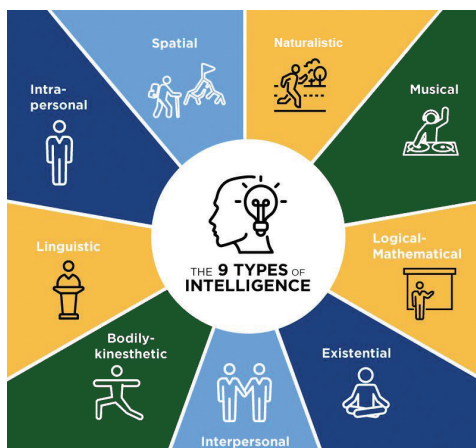
2

Practical

1

Teaching Plan

Define the meaning of Intelligence to the students.



Visual-Spatial Intelligence

- Verbal-Linguistic Intelligence =
- Logical-Mathematical Intelligence

- Bodily-Kinesthetic Intelligence
- Musical Intelligence
- Interpersonal Intelligence
- Existential Intelligence
- Intrapersonal Intelligence
- Naturalistic Intelligence

Make the students do some activities for exploring Intelligence. Define the AI Approach which simulate human attribute:

- Rule Based Approach
- Learning Based Approach

Extension

Ask the students some oral questions based on this chapter.

Q. Define Intelligence.

Q. Define the qualities of these:

- Visual-Spatial Intelligence
- Verbal-Linguistic Intelligence
- Logical-Mathematical Intelligence
- Bodily-Kinesthetic Intelligence
- Musical Intelligence
- Interpersonal Intelligence
- Existential Intelligence
- Intrapersonal Intelligence
- Naturalistic Intelligence

Q. Define the two AI approaches:

- Rule Based Approach
- Learning Based Approach

Evaluation

After explaining the chapter, let the students do the exercises given on Pages 129 and 130 in the main course book as Checkpoint. Tell the students to try different activities under Mind Boggler given on Page 131 in the main course book.

Take the students to the computer lab and let them practice the activity given in the Lab Session section on Page 131 in the main course book. This will enhance the ability of the students and serve as a Subject Enrichment activity.

Suggested Activity

Make a presentation showing different types of intelligence and their qualities.