TRACKPAD

iPro Ver. 4.1

5

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."

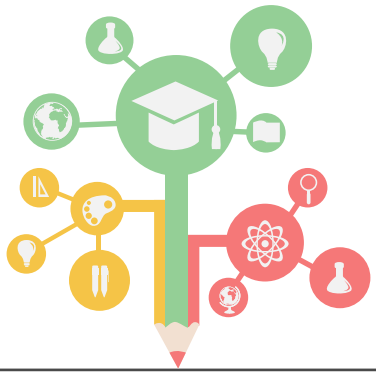
Age 9 - 11 Years	
Physical	• Motor skills develop resulting in enhanced reflexes
Cognitive	• Applies several memory strategies at once • Cognitive self-regulation is now improved
Language	• Ability to use complex grammatical constructions enhances • Conversational strategies are now more refined
Emotional/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

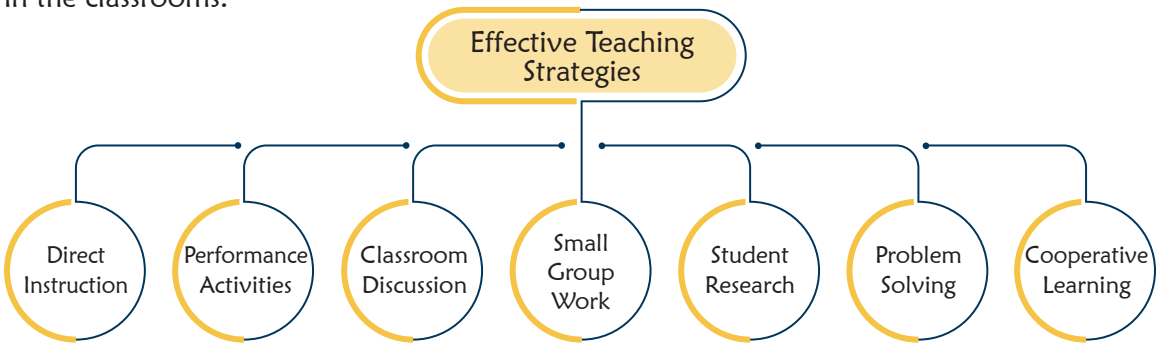
After the class

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

"Knowing yourself is the beginning of all wisdom."

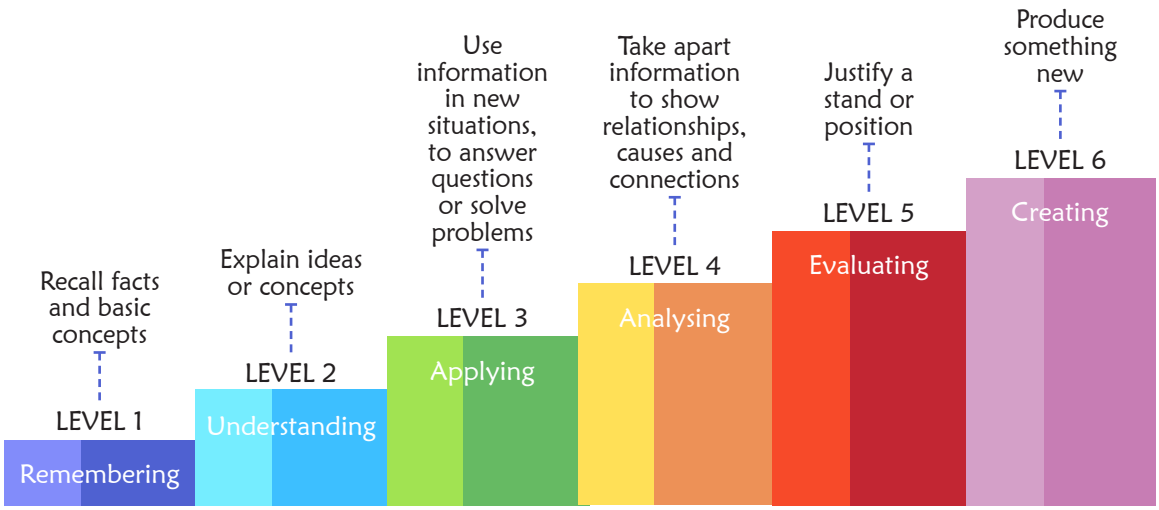
Teaching Strategies

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 5

LESSON PLAN

1 Evolution of Computers

Teaching Objectives

Students will learn about

- History of Computers
- Characteristics of a Computer
- Computer Generations
- Limitations of a Computer

Number of Periods	
Theory	Practical
2	0

Teaching Plan

While teaching this chapter, tell the students that the computer is an outcome of labour of a number of minds.

Tell the students about the early counting tools like knots tied on a rope, marks carved in clay, fingers, pebbles, etc.

Explain to the students about invention of Abacus – the first calculating device.

Share with the students the importance and usefulness of Abacus even today and is being taught in schools also.

Give a brief account of these calculating machines:

- Pascaline Adding Machine
- Leibniz Step Reckoner

Tell the students about Charles Babbage, the father of computers, and his invention of Difference Engine which was later improved by him into Analytical Engine, the first working model of a mechanical computer.

Inform the students about Lady Ada Lovelace, accredited as the first computer programmer as the programmer to the Analytical Engine of Charles Babbage.

Share with the students about Herman Hollerith who built Tabulating Machine and later his company became a part of IBM.

Explain to the students about the concept of generations of computers and need for classification on this basis.

Share with the students the characteristic features of the different generations of computers covering:

- First Generation (1940s) – MARK-I, ENIAC, UNIVAC
- Second Generation (1950s)
- Third Generation (1960s)
- Fourth Generation (1970s)
- Fifth Generation (Present)

Familiarise the students with characteristics of a computer covering speed, accracy, diligence, storage capacity, versatility, compactness, reliability and power of remembering.

Explain to the students the limitations of a computer.

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. Name some early counting tools.

Q. What is Abacus?

Q. Who invented adding machine?

Q. Which is the first mechanical calculator?

Q. Which is the first mechanical computer?

Q. Who is called the father of computers?

Q. Why is Lady Ada Lovelace famous?

Q. How many generations of computers are there?

Q. What was the technology used in First / Second / Third / Fourth / Fifth generation of computers?

Q. Give three characteristics of computers.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 15 to 17 of the main course book as **One Touch Learn** and **Let's Do It**. After solving the course book exercises, tell the students to solve **Crack the Code** activity given on page 17 of the main course book to imbibe Digital Literacy skill. Help the students to solve these questions.

In Creative Assignment, activities like **Hands-On** and **Fun in Lab** given on pages 17 and 18 of the main course book will enhance the ability of the students and serve as a Art Integration and Digital Literacy activity.

Suggested Activity

Ask the students to prepare a collage of different models of computers depicting its evolution over the generations.

2 Computer Software

Teaching Objectives

Students will learn about

- Software
- Application Software
- Difference Between System Software and Application Software
- Operational Support System
- System Software

Number of Periods	
Theory	Practical
2	0

Teaching Plan

While teaching this chapter, tell the students that a computer system consists of two components – **hardware and software**.

Make the students understand that the software refers to step-by-step instructions for the computer.

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.

Tell the students about some commonly used system software / operating system and their versions. Explain the importance of application software to the students.

Share with students some examples of application software (covering Paint, Windows Media Player, Word, PowerPoint and Adobe Photoshop) and the purposes for which these software are mainly used.

Explain to the students the difference between system software and application software.

Tell the students that an Operational Support System (OSS) is a group of computer programs used by Telecommunication Service Providers (TSP) for monitoring, controlling, analysing and managing a computer or telephone network system.

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. Define software.

Q. Name the different types of software.

Q. What is system software?

Q. Give examples of some commonly used operating systems.

Q. What is application software?

Q. Name some application software and their use.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 27 to 29 of the main course book as **One Touch Learn** and **Let's Do It**. After solving the course book exercises, tell the students to solve **Crack the Code** activity given on page 29 of the main course book to imbibe Problem Solving & Logical Reasoning skills. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on page 29 of the main course book will enhance the ability of the students and serve as a Digital Literacy and Communication activity.

Suggested Activity

Ask the students to collect information about some more application software and the purpose for which they are used.

3 Advanced Features of Word 2019

Teaching Objectives

Students will learn about

- Text Formatting Tools
- Page Formatting Tools
- Text Editing Tools

Number of Periods	
Theory	Practical
2	3

Teaching Plan

While teaching this chapter, tell the students that formatting the text means changing the appearance and arrangement of the text.

Explain to the students about text formatting tools like Font, Bold, Alignment, Text Highlight Color and Change Case.

Demonstrate to the students the method of:

- Using format painter
- Applying superscript and subscript
- Applying shadow effect
- Applying borders
- Applying artistic borders
- Applying shading

Introduce various text editing tools to the students.

Demonstrate to the students the method of:

- Use find and replace to find a particular word or phrase or to substitute all or only selected occurrences

Introduce various page formatting tools to the students.

Demonstrate to the students the method of:

- Using header and footer in a document
- Writing in a single column and to insert column break in Word
- Inserting page break
- Inserting line break
- Use of tabs
- Use of indentation
- To set page margin
- To change the orientation of the document
- To set page size

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. Define formatting a text.

Q. What do you mean by highlighting text?

Q. What is the difference between bold and italic format of the text?

Q. What are text effects?

Q. Why is shading added to text?

Q. What is the use of format painter?

Q. When we need to use superscript and subscript?

Q. How to apply shadow effect?

Q. What is Find and Replace?

Q. Define Header and Footer.

Q. What is the use of Column Break?

Q. What is the difference between Page break and Line break.

Q. Explain Page margin, Page orientation and Page size.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 43 to 45 of the main course book as **One Touch Learn** and **Let's Do It**. After solving the course book exercises, tell the students to solve **Crack the Code** activity given on page 45 of the main course book to imbibe Digital Literacy skill. Help the students to solve these questions.

In Creative Assignment, activities like **Hands-On** and **Fun in Lab** given on page 46 of the main course book will enhance the ability of the students and serve as a Art Integration, Interdisciplinary and Digital Literacy activity.

Suggested Activity

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

4 Graphics in Word 2019

Teaching Objectives

Students will learn about

- Shapes
- Inserting Pictures
- Inserting WordArt
- Inserting Symbols

Number of Periods	
Theory	Practical
1	3

Teaching Plan

While teaching this chapter, tell the students that although Word is a word processor, yet it allows three types of graphics to work upon – Shapes, WordArt and Pictures.

Familiarise the students with various categories of Shapes under Illustrations group of Home tab explaining use of Lines, Basic Shapes, Flowchart, Stars and Banners and Callouts.

Demonstrate to the students the steps involved in the process of:

- Drawing a shape
- Adding text to the shape

Tell the students the various types of modifications that can be done on the inserted shape – changing outline color, changing fill colour, adding shape effects like 3-D rotation and bevel.

Introduce WordArt as application to create text effects which are not possible through text formatting.

Demonstrate to the students the steps to:

- Insert WordArt in a document
- Insert Pictures (from a file and online)
- Insert Symbols (punctuations or special characters not found on keyboard)

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. Name any three categories of Shapes in Word 2019.

Q. What do you mean by formatting a shape?

Q. What does Add Text option do?

Q. What does Bevel do?

Q. Define Symbols.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 53 to 55 of the main course book as **One Touch Learn** and **Let's Do It**. After solving the course book exercises, tell the students to solve **Crack the Code** activity given on page 56 of the main course book to imbibe Digital Literacy skill. Help the students to solve these questions.

In Creative Assignment, activities like **Hands-On** and **Fun in Lab** given on pages 56 and 57 of the main course book will enhance the ability of the students and serve as a Creativity & Innovativeness and Art Integration activity.

Suggested Activity

Ask the students to write a paragraph in Word 2019 on 'Festivals of India'. The paragraph must be supported with relevant pictures.

5 Presentation Software—Special Effects

Teaching Objectives

Students will learn about

- Using Built-in Templates
- Specifying Alignment
- Inserting WordArt
- Inserting SmartArt
- Enhancing the Look of a Presentation
- Inserting Pictures
- Inserting Shapes
- Running a Slide Show

Number of Periods	
Theory	Practical
2	2

Teaching Plan

While teaching this chapter, tell the students that PowerPoint is a presentation software that can be used to create slides.

Introduce slide as a collection of text, image, ClipArts, charts, etc.

Demonstrate to the students the steps involved in using built-in templates.

Explain to the students the points to enhance the look of a presentation.

Introduce theme as a set of predefined layouts that can be used to add a professional touch to the presentations.

Tell the students that the Design tab in PowerPoint provides a variety of options for designing and formatting a presentation.

Demonstrate to the students the steps to:

- choose a theme
- change theme colour schemes
- change theme fonts
- change theme backgrounds

Tell the students about alignment and its type, such as left, right, center and justify.

Familiarise the students with the steps to insert a picture from a file and online.

Demonstrate to the steps:

- to add WordArt
- to insert shapes
- to insert a SmartArt
- to run a slide show

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. Define slide.

Q. What is WordArt?

Q. Can pictures be inserted on a slide?

Q. When is a theme?

Q. Define design tab.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 71 and 72 of the main course book as **One Touch Learn** and **Let's Do It**. After solving the course book exercises, tell the students to solve **Crack the Code** activity given on page 73 of the main course book to imbibe Problem Solving & Logical Reasoning skill. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on pages 73 and 74 of the main course book will enhance the ability of the students and serve as a Environmental Awareness activity.

Suggested Activity

Create a presentation on the topic "Are we conserving natural resources?". Use pictures to increase the effectiveness of the presentation.

6 An Introduction to Scratch Programming

Teaching Objectives

Students will learn about

- Program and Programming Languages
- Choosing a New Sprite
- Deleting a Sprite
- Scratch Blocks
- Creating a New Project
- Opening an Existing Project
- Starting Scratch
- Resizing the Sprite
- Choosing a Backdrop
- Full Screen Mode
- Saving the Project
- Exiting Scratch

Number of Periods	
Theory	Practical
2	3

Teaching Plan

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

Introduce program as a set of instructions given to CPU in a proper sequence to complete a task.

Tell the students that syntax is the grammar of computer language.

Tell the students about computer language and programming.

Demonstrate to the students the steps to start Scratch.

Make the students understand the features of Scratch.

Familiarize the students with the various components of Scratch window covering Title bar, Sprite, Stage area, Backdrop, Sprites info pane, Blocks menu, Coding area, Script, Go button, Menu bar and Tabs.

Show to the students the steps to choose a new sprite from library.

Demonstrate to the students the steps to resize and delete the sprite.

Make the students recall backdrop as background of the stage.

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

Introduce Scratch blocks as codes or commands used to create programs in Scratch.

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.

Demonstrate the use of Motion Blocks by developing a Script.

Explain the use of Events Blocks as used to sense events that run the script and their identifying colour code as yellow.

Share the use of Control Blocks as used to control the scripts and their identifying colour code as amber.

Tell the students about the use of Sound Blocks as used to control sound, its playback and volume and their identifying colour code as dark pink.

Tell the students about Pen Blocks and their identifying colour code as green.

Make the students aware about the full screen mode available in Scratch.

Show to the students the steps to:

- Create a new project
- Save a Scratch project
- Open an existing project
- Exit scratch

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 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. Which buttons icons are used to resize a sprite?

Q. What is a backdrop in Scratch?

Q. What are Scratch blocks?

Q. What is the use of Motion / Events / Control / Sound blocks?

Q. What is the colour code for Motion / Events / Control / Sound blocks?

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

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 85 to 87 of the main course book as **One Touch Learn** and **Let's Do It**. After solving the course book exercises, tell the students to solve **Crack the Code** activity given on page 87 of the main course book to imbibe Coding & Computational Thinking skill. Help the students to solve these questions.

In Creative Assignment, activity like **Fun in Lab** given on page 88 of the main course book will enhance the ability of the students and serve as a Coding & Computational Thinking and Experiential Learning activity.

Suggested Activity

Ask the students to develop the story of thirsty crow in Scratch.

7 Internet Services

Teaching Objectives

Students will learn about

- Requirements to Connect to the Internet
- Services on Internet
- Way to Connect to the Internet
- Netiquettes

Number of Periods	
Theory	Practical
2	0

Teaching Plan

While teaching this chapter, tell the students that a computer network is a connection between two or more computers.

Introduce Internet as a network in which millions of computers are connected to each other to share information and is an abbreviation of International Network.

Explain to the students the various uses of internet.

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

Share with the students the ways to connect with the Internet, such as Dial-up, Broadband Connection, Wi-Fi and Mobile Internet.

Familiarize the students with the services of Internet, like E-mail, online shopping, online chatting, video conferencing and social networking.

Introduce etiquettes as the rules that are expected to be followed while meeting others or communicating with others.

Explain to the students about Network Etiquettes, also known as Netiquettes.

Share with the students some of the Netiquettes which should be followed while working on Internet.

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 ways to connect to internet?

Q. What is mobile internet?

Q. Name some of the services on internet.

Q. Define Netiquettes.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 93 to 95 of the main course book as **One Touch Learn** and **Let's Do It**. After solving the course book exercises, tell the students to solve **Crack the Code** activity given on pages 95 and 96 of the main course book to imbibe Problem Solving & Logical Reasoning skill. Help the students to solve these questions.

In Creative Assignment, activities like **Hands-On** and **Fun in Lab** given on page 96 of the main course book will enhance the ability of the students and serve as a Art Integration, Experiential Learning and Digital Literacy activity.

Suggested Activity

Ask the students to mention the use of each component required for an internet connection.