2

TRACKPAD

iPro Ver. 4.0

Teacher's Manual

Extended Support for Teachers

ORANGE
www.orangeeducation.in
www.thetouchpad.com

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 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.

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During the class:

Present the lesson plan.

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After the class:

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

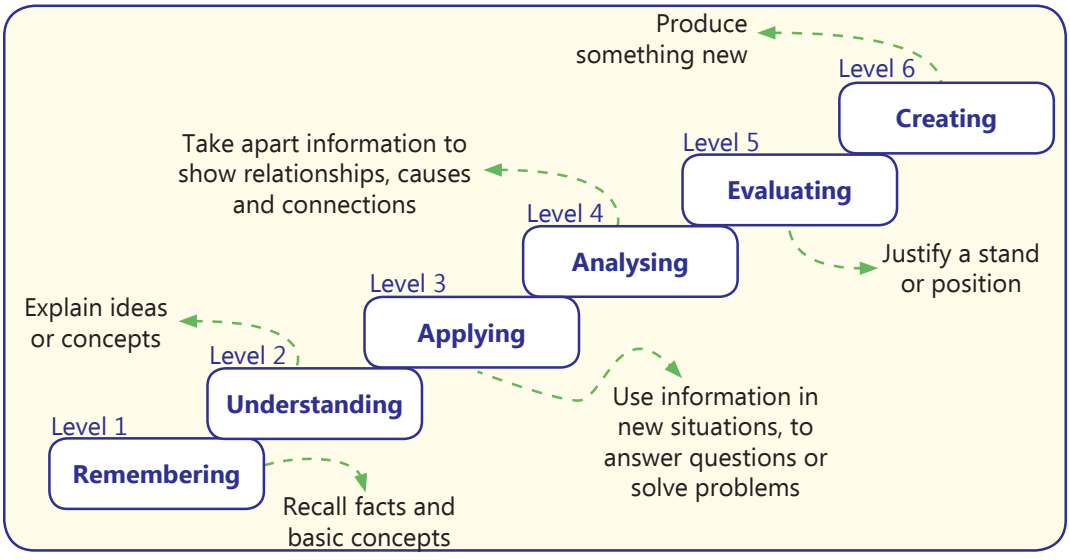
"Knowing yourself is the beginning of all wisdom."

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 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."

LESSON PLAN

Touchpad iPRO Ver 4.0

Class-2

1. Computer—An Electronic Device

Teaching Objectives

Students will learn about

- Working of machines
- Advantages of a computer
- Disadvantages of a computer
- Working of a computer
- Teaching & learning using computers
- Human vs computers

Number of Periods

3

Teaching Plan

While teaching this chapter, tell the students that a computer works according to the commands or instructions given by us.

Tell the students about the working of some machines like:

- **Juicer** – We put fruit pieces inside it, the juicer squashes the fruits and gives out fresh juice.
- **Washing machines** – We put dirty clothes inside it, the machines wash them and give out clean clothes.

Share with the students that in both these cases, the first step is input, the second step is process and the third step is output.

Tell the students that similarly the computer takes instructions (2, 3, +), adds them (2+3) and gives the result (5).

Share with the students that this cycle of working of machines is called Input-Process-Output cycle or IPO cycle.

Introduce the term 'Input' as giving instructions to the computer.

Tell the students that keyboard and mouse are used as input devices in a computer. Introduce the term Process as action performed by computer on the instructions given by us.

Tell the students that the Central Processing Unit (CPU) is the processing device of a computer and is called the brain of the computer.

Introduce the term 'Output' as a result given by the computer after processing.

Tell the students that monitor and printer are used as output devices in a computer.

Explain to the students about advantages and disadvantages of a computer and also how they differ from humans.

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 does IPO stand for?

Q. What is Input-Process-Output cycle?

Q. Define Input, Process and Output.

Q. Name two input and output devices.

Q. Which part of the computer is called brain of the computer?

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

Q. Discuss the advantages of a computer briefly.

Q. What are the advantages of a computer?

Q. Differentiate between the work ability of a man and a computer.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 14 and 15 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 15 and 16 of the main course book to imbibe problem solving & logical reasoning skills. Help the students to solve these questions.

In Creative Assignment, activities like Hands On and Fun in Lab given on page 16 of the main course book will enhance the ability of the students and serve as an art integration, ethical & moral reasoning and experiential learning activity.

Suggested Activity

Show some more machines with input and output to the students and ask the students to arrange these in correct order of the IPO cycle.

2. Role of Computers

Teaching Objectives

Students will learn about

- ☞ Uses of a computer
- ☞ Computers everywhere
- ☞ Role of computers in education
- ☞ Impact of computers in our daily lives

Number of Periods

3

Teaching Plan

While teaching this chapter, share with the students the various uses of a computer covering drawing, painting, doing homework, doing sums, watching movies, listening to music, playing games, writing letters and stories, etc.

Share with the students the names of the places where computers are used and the reason why computers are used there like:

- **At home** – to play games, watch movies, listen to music, send e-mails, search information, etc.
- **In shops and restaurants** – to make bills, keep a record of items bought and sold, etc.
- **In offices** – to type and print documents
- **In schools** – to make time tables and report cards, teach students, keep fee records, keep record of library books, etc.

Let the students know how computers are used at railway stations, airports, hospitals, banks, science labs, police stations, and in the field of designing publishing and space research.

Make the students aware of role of computers in education.

Share with the students how computer has impacted our daily life.

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 a few things that a computer helps us do.
Q. Are computers used only in schools and at homes?
Q. Name two places other than home and school where computers are used.
Q. What does ATM stand for?
Q. State any two uses of computers at home, railway station and airport.
Q. State any two uses of computers in a school, bank, shop, office and hospital.
Q. What is the role of computers in education?
Q. Explain how computers impact our daily lives.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 22 and 23 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 24 of the main course book to imbibe problem solving and logical reasoning skills. Help the students to solve these questions.

In Creative Assignment, activities like Hands On and Fun in Lab given on page 24 of the main course book will enhance the ability of the students and serve as a an experiential learning activity.

Suggested Activity

Ask the students to discuss with their parents how computers are used for:

- Controlling movement of metro trains
- Launching satellites
- Weather forecasting
- Making robots
- Making animations
- Booking tickets for movies

3. Input and Output Devices

Teaching Objectives

Students will learn about

- ☞ Input devices
- ☞ Output devices
- ☞ Storage devices

Number of Periods
3

Teaching Plan

While teaching this chapter, tell the students that a computer is made up of many devices which are categorised as input devices, output devices and storage devices.

Introduce input devices as the parts that are used to give commands or instructions to the computer or tell the computer what to do.

Share with them pictures / models of some input devices like:

- **Keyboard** – It is used for typing text and numbers through keys.
- **Mouse** – It is used for drawing pictures and selecting objects through click.
- **Scanner** – It is used to send document or images from paper to computer.
- **Microphone** – It is used to record voice, music and sounds.

Introduce output devices as the parts that are used to show result or output after processing. Share with them pictures/models of some output devices like:

- **Monitor or Visual Display Unit (VDU)** – It is used to show the data that is input and its result after computer process through its front portion, screen.
- **Printer** – It is used to print the work done by computer on paper Tell the students about the types of printers as Inkjet printers and Laser printers
- **Speakers** – It is used to listening to music, sound and voice on a computer
- **Headphones** – They work as small speaker and are used to hear sound without disturbing others Headset – used as a combination of microphone and headphones.

Introduce storage devices as the parts that are used to store our work in the computer.

Share with them pictures/models of some storage devices like:

- **Hard Disk** – It is rectangular in shape and fixed inside the CPU box.
- **Compact Disc (CD)** – It is circular in shape and portable storage device.
- **Digital Versatile Disc (DVD)** – It is circular in shape but with more storage capacity than CD.
- **Pen Drive or USB Flash Drive** –It has more storage capacity than DVD but less than Hard Disk. Show to the students CD/DVD Drive and USB ports used to read the files stored in CD/DVD and Pen Drive respectively.

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 are the parts of a computer?

Q. What are input, output and storage devices?

Q. What is a keyboard?

Q. Define VDU.

Q. What is a hard disk?

Q. Give two examples of input, output and storage devices.

Q. What is a USB port used for?

Q. What is the name given to the combination of microphone and headphones?

Q. Expand CD and DVD.

Q. Which has more storage capacity: CD or DVD?

Q. Arrange in increasing order of storage capacity: CD DVD, Pen Drive and Hard Disk.

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 29 and 30 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 30 of the main course book to imbibe coding and computational thinking skills. Help the students to solve these questions.

In Creative Assignment, activities like Hands On and Fun in Lab given on page 31 of the main course book will enhance the ability of the students and serve as a creativity & innovativeness, digital literacy, collaboration and teamwork activity.

Suggested Activity

Ask the students to collect information about a modern storage device – Blue Ray Disc which looks like a CD/DVD but has much more storage capacity than the two.