TOUCHPAD

Ver. 2.1

1

Teacher's Manual

Extended Support for Teachers

ORANGE
www.orangeeducation.in

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

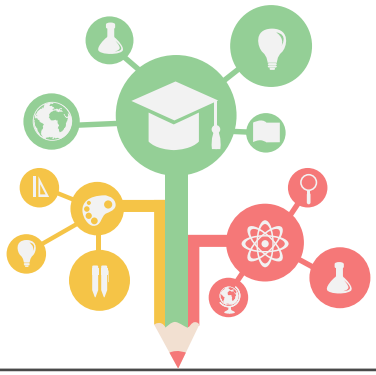
Age 11 - 20 Years

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.

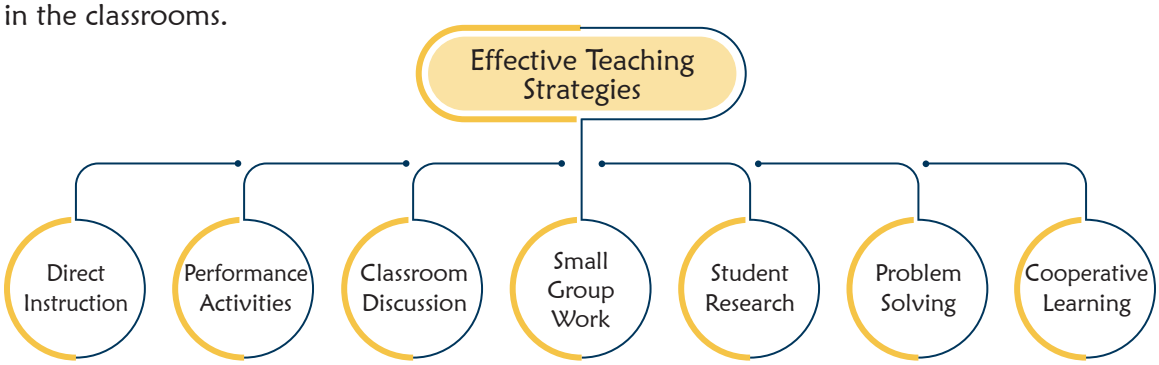
After the class

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

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

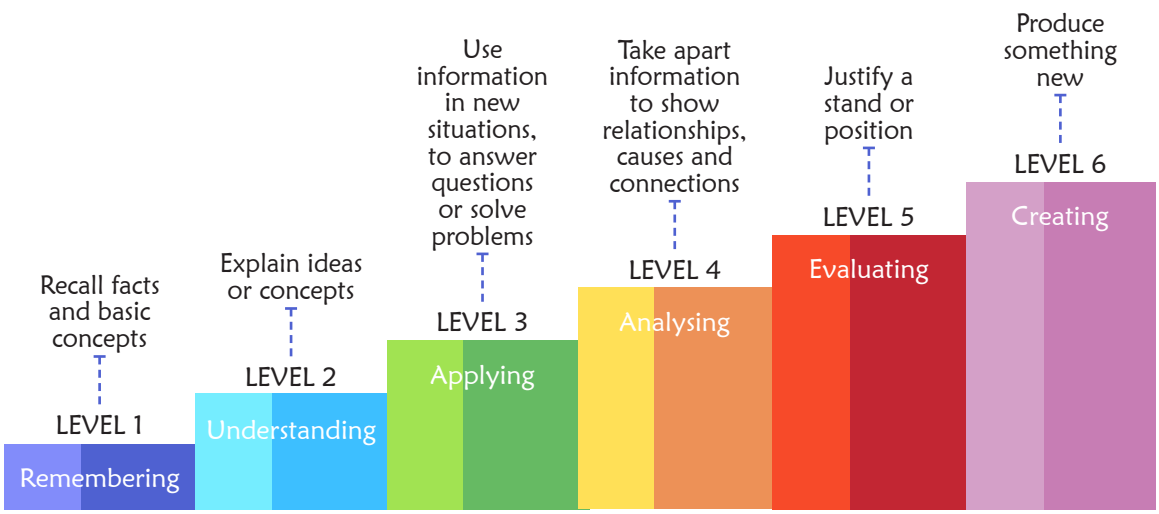
Teaching Strategies

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 1

LESSON PLAN

1 Computer—A Machine

Teaching Objectives

Students will learn about

- Natural and Human-made Things
- Computer—A Smart Machine
- Feature of a Computers
- Machines
- Difference Between Computers and Machines
- Types of Computers

Number of Periods
Theory
3

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 human-made like chair, table, TV, fan, pencil, eraser, board, building, washing machine, mobile, etc.

Ask the students to solve the activity in **LET'S CATCH UP** given on page 8 of the main course book to imbibe Digital Literacy skills.

Explain to the students that machines are made by human.

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

Ask the students to solve the activity in **LET'S CATCH UP** given on page 10 of the main course book to imbibe Digital Literacy skills.

Tell them that computer is also a human-made machine.

Tell them the various things we can do with the computer like solving sums, drawing pictures, listening to music, watching videos, typing letters, 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).

Explain to the students the features of a computer covering features like being fast, committing no mistakes, searching information, doing many types of works, non-tiredness and having large storage.

Explain to the students about the different types of computers, cover the following topics:

- **Desktop computer** – kept on desk or table

- **Laptop** – can be kept on lap also and is portable
- **Tablet** – smaller than laptop and operated by a touchscreen
- **Smartphone** – a mobile phone with the features of a computer

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 human-made things.

Q. Who makes machines?

Q. Are machines natural?

Q. Discuss briefly the use of an sharpener/refrigerator/television/fan.

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 any two types of computers.

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 14 to 16 of the main course book as **Exercise**. After solving the course book exercises, tell the students to solve **Crack The Code** activity given on page 16 of the main course book to imbibe Interdisciplinary and Problem Solving & Logical Reasoning skills. Help the students to solve these questions.

In creative assignment, activities like **Let's Explore**, **Be Creative** and **Practical Time** given on pages 17 and 18 of the main course book will enhance the ability of the students and serve as a Creativity & Innovativeness, Communication, Experiential Learning and Digital Literacy activities.

Life Skills and Values given on page 17 of the main course book has the activity to enhance the ethical and moral value in students.

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 Uses of a Computer

Teaching Objectives

Students will learn about

- Uses of a Computer
- What Computers Cannot do?
- Places Where Computers Are Used

Number of Periods
Theory
3

Teaching Plan

While teaching this chapter, tell the students that computer is a magical machine and makes our work faster and easier.

Tell the students about various functions of a computer as follows:

- Type letters, poems and stories
- Solve sums
- Paint drawings
- Play games
- Watch cartoons and movies
- listen to stories and poems

Ask the students to solve the activity in **LET'S CATCH UP** given on page 21 of the main course book to imbibe Digital Literacy skills.

Share with the students that there are some things which computers cannot do such as think, dance, sing walk, swim, breathe.

Tell the students why the computer is used at different places like:

- At home (watch movies, play games, make school projects, online shopping, etc.)
- At schools (prepare test papers, prepare marksheets, to teach, etc.)
- In offices (maintain records)
- In banks (keep record of money)
- In hospitals (make medical reports, controlling machines while doing surgeries)
- In shops (make bills, storing details of items)

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. Why do we use computers?

Q. Name two things that a computer cannot 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. Why do we use computers at the following places?

- Home
- Schools
- Banks
- Shops
- Offices
- Hospitals

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 23 and 24 of the main course book as **Exercise**. After solving the course book exercises, tell the students to solve **Crack The Code** activity given on page 25 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 **Let's Explore**, **Be Creative** and **Practical Time** given on pages 25 and 26 of the main course book will enhance the ability of the students and serve as a Collaboration & Teamwork, Creativity & Innovativeness, Interdisciplinary, and Experiential learning activities.

Suggested Activity

Ask the students to discuss with their parents the use of computers for:

- Controlling movement of metro trains
- Launching satellites
- Weather forecasting
- Booking railway tickets

3 Parts of a Computer

Teaching Objectives

Students will learn about

- Main Parts of a Computer
- Additional Parts of a Computer

Number of Periods	
Theory	Practical
2	1

Teaching Plan

While teaching this chapter, tell the students that just as our body has different parts like hands, eyes, brain, etc. similarly, a computer also has various parts.

Tell the students that a computer has four main parts:

- **Monitor** – looks like a television, used to see pictures, games, cartoons, alphabet, numbers and words

- **CPU** – stands for Central Processing Unit, fixed inside CPU box, called brain of the computer, controls all the parts of a computer
- **Mouse** – device with long wire, buttons and scroll wheel, used to point at and select things on the monitor
- **Keyboard** – has small buttons called keys, used for typing numbers and letters

Ask the students to solve the activity in **LET'S CATCH UP** given on page 29 of the main course book to imbibe Digital Literacy and Problem Solving & Logical Reasoning skills.

Explain to the students that a computer has some other parts also like:

- **Speakers** – attached to computer, used to hear sounds and music stored in computer
- **Headphones** – attached to computer, used to hear sounds and music stored in computer without disturbing others
- **Printer** – used to print text and images on paper
- **Scanner** – used to send documents or images from paper to computer, works like a photocopier machine
- **CD and Pen Drive** – are called storage devices and used to save data

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 the four main parts of a computer.

Q. Discuss in brief the use of monitor, mouse, keyboard and CPU.

Q. What does CPU stand for?

Q. Where is CPU fixed?

Q. Name some other parts of a computer.

Q. What is the difference between speakers and headphones if both are used to hear sounds?

Q. What is a scanner?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 30 to 32 of the main course book as **Exercise**. 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 Problem Solving & Logical Reasoning skills. Help the students to solve these questions.

In creative assignment, activities like **Let's Explore**, **Be Creative** and **Practical Time** given on pages 30 and 31 of the main course book will enhance the ability of the students and serve as Experiential Learning, Art Integration and Creativity & Innovativeness activities.

Life Skills and Values given on page 34 of the main course book has the activity to enhance the Communication and Ethical & Moral Reasoning in students.

Suggested Activity

Ask the students to paste pictures of different parts of a computer in their computer notebook and write their names.

4 Using Computers—Do's and Don'ts

Teaching Objectives

Students will learn about

- Things to Do in a Computer Lab
- Things Not to Do in a Computer Lab

Number of Periods
Theory
3

Teaching Plan

While teaching this chapter, tell the students that a computer is a wonderful machine and can perform a variety of tasks. But, you must take care of your computer otherwise a computer won't be able to perform properly.

Introduce things to do in a computer lab and how to conduct properly near a computer.

Also explain things not to do in a computer lab.

Ask the students to solve the activity in **LET'S CATCH UP** given on page 38 of the main course book to imbibe Digital Literacy skills.

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 should we use to clean a computer?

Q. What should we use to cover the computer when not in use?

Q. Which are the things to avoid in a computer lab?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 38 to 40 of the main course book as **Exercise**. After solving the course book exercises, tell the students to solve **Crack The Code** activity given on page 40 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 **Let's Explore** and **Practical Time** given on page 41 of the main course book will enhance the ability of the students and serve as a Collaboration & Teamwork and Experiential Learning activity.

Suggested Activity

Ask the students to prepare a chart of things to do and not to do in a computer lab.

5 Computers Mouse

Teaching Objectives

Students will learn about

- Mouse
- Mouse pad
- Proper Way to Hold a Mouse
- How to Use a Mouse?

Number of Periods	
Theory	Practical
3	1

Teaching Plan

While teaching this chapter, tell the students that a mouse helps us to select things on the monitor.

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.

Ask the students to solve the activity in **LET'S CATCH UP** given on page 45 of the main course book to imbibe Art Integration and Creativity & Innovativeness skills.

Tell students about mouse pad.

Tell them about the mouse buttons.

Explain them the proper way to hold a mouse.

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.
- **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.

Extension

Ask the students some oral questions based on this chapter.

Q. What is a mouse used for?

Q. Name the pointing device.

Q. What is wireless mouse?

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

Q. Which finger must be used to scroll the wheel?

Q. Which fingers must be used to hold the sides of the mouse?

Q. Define pointing/clicking/dragging.

Q. What is the meaning of single-click/double-click/right-click?

Q. What is single-click/double-click/right-click used for?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 48 to 50 of the main course book as **Exercise**.

After solving the course book exercises, tell the students to solve **Crack The Code** activity given on page 50 of the main course book to imbibe Coding & Computational Thinking skills. Help the students to solve these questions.

In creative assignment, activities like **Let's Explore** and **Practical Time** given on pages 50 and 51 of the main course book will enhance the ability of the students and serve as Experiential Learning and Digital Literacy activities.

Suggested Activity

Ask the students to draw a picture of a mouse representing single-click, double click, right-click, drag.

6 Computers Keyboard

Teaching Objectives

Students will learn about

- Keyboard
- Number Keys
- What is a Cursor?
- Alphabet Keys
- Special Keys

Number of Periods	
Theory	Practical
3	1

Teaching Plan

While teaching this chapter, tell the students that keyboard is used to write on computer screen.

Tell 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.

Ask the students to solve the activity in **LET'S CATCH UP** given on page 53 of the main course book to imbibe Creativity & Innovativeness and Art Integration skills.

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) as well.

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.
- **Arrow Keys –** also called Cursor Control Keys , are in four number (up, down, left and right), 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 are the small buttons on a keyboard called?

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

Q. What are alphabet/number keys used for?

Q. How many sets of number keys are there on the keyboard?

Q. How many alphabet keys are there on the keyboard?

Q. What is the use of Enter/Spacebar/Backspace key?

Q. Name some special keys.

Q. What is the use of cursor control keys?

Q. How many cursor control keys are there?

Q. What is a cursor?

Evaluation

After explaining the chapter, let the students do the course book exercises given on pages 56 and 57 of the main course book as **Exercise**. After solving the course book exercises, tell the students to solve **Crack The Code** activity given on page 58 of the main course book to imbibe Problem Solving & Logical Reasoning and Digital Literacy skills. Help the students to solve these questions.

In creative assignment, activities like **Let's Explore**, **Be Creative** and **Practical Time** given on pages 58 and 59 of the main course book will enhance the ability of the students and serve as Experiential Learning and Creativity & Innovativeness activities.

Life Skills and Values given on page 58 of the main course book has the activity to enhance the Ethical & Moral Reasoning and Communication in students.

Suggested Activity

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

7 Storage Devices

Teaching Objectives on it.

Students will learn about

- Storing Things
- Storage Devices of a Computer

Number of Periods
Theory
3

Teaching Plan

While teaching this chapter, tell the students that the people store things so that they can use them in the future whenever they need them .

Introduce different storage objects used in daily life for storing different things.

Explain 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:

- **Compact Disc (CD)** – circular in shape and portable storage device.
- **Digital Versatile Disc (DVD)** – circular in shape but with more storage capacity than CD.
- **Pen Drive** – having more storage capacity than DVD but less than Hard Disk.
- **Memory Card** – much smaller than a pen drive or a CD, used in mobile phone, digital cameras or other similar devices to increase the storage capacity.

Ask the students to solve the activity in **LET'S CATCH UP** given on page 62 of the main course book to imbibe Digital Literacy skills.

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 storages devices of a computer?

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 62 to 64 of the main course book as **Exercise**. After solving the course book exercises, tell the students to solve **Crack The Code** activity given on page 64 of the main course book to imbibe Interdisciplinary and Problem Solving & Logical Reasoning skills. Help the students to solve these questions.

In creative assignment, activities like **Let's Explore**, **Be Creative** and **Practical Time** given on pages 64 and 65 of the main course book will enhance the ability of the students and serve as Experiential Learning, Creativity & Innovativeness, Communication and Digital Literacy activities.

Suggested Activity

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