


# CLASS 2



Hi!

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Division: \_\_\_\_\_

## CCS

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## PART 1



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## NOTE TO PARENTS

USE

THINK

BUILD

Coding and computational thinking are set to become core life skills for the future just as literacy and numeracy are today. Most advanced countries have included coding as part of the core curriculum and NEP 2020 clearly sets out the roadmap for the Indian education system as well.

The Coding and Computational Skills (CCS) program follows a unique USE-THINK-BUILD (UTB) pedagogical approach.

USE



The first step in the UTB approach is to take the students through an immersive experience that introduces them to their project. Students USE apps, games, websites, visualizations and engage with audio-visual content. This helps them obtain the perspective and user experience of what they would be creating through their project.

THINK



The second step in the UTB approach is to make students THINK. Through independent and group activities and routines, students learn to understand the computational thinking and logic that is required to build their project. This deeper understanding helps them develop skills like observation, visualisation, design, critical thinking, problem solving, and decision making.

BUILD



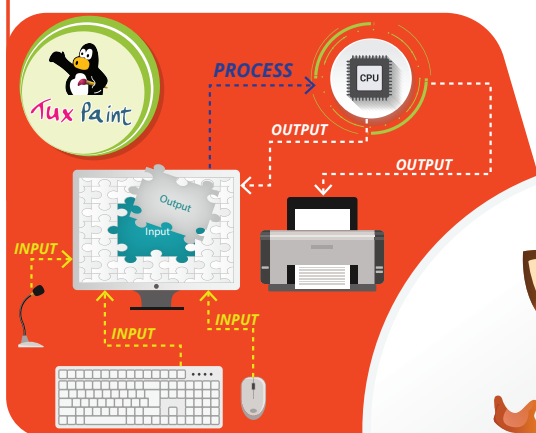
The third and final step in the UTB approach is to make students BUILD their projects - puzzles, artwork, publication, animations, apps, games or websites. Students use age-appropriate, easy to use software and applications to bring their ideas to life. The ability to build, code and showcase their projects is essential to nurturing their creativity and express their ideas.

The LEAD CCS curriculum and progression is benchmarked against international standards and there is a clear skill progression through each grade, making the LEAD CCS program one of the most comprehensive programs available to schools and parents.

## NOTE TO PARENTS

Your child has an exciting year of learning ahead! While learning to code, children need to develop computational thinking. To help them acquire the skills without being discouraged by the technicality of the subject, we have introduced ScratchJr in Class 2. Since ScratchJr is an image-based block programming language, they will find it interesting, entertaining and thus be comfortable with coding from the beginning. Students will also be solving puzzles in GCompris. Given below are some highlights of their learning path in CCS in this school year. By the end of this year, your child will be able to:

Observe, visualise, and use their design skills to draw a computer IPO cycle on the Tux Paint application



Use their observation, decomposition, and patterning skills to write steps to solve maze puzzles on the GCompris application



Observe, visualise, and use their design skills to create a journal and a birthday party invitation using a word processing application



Visualise and use their creativity and multimedia skills to create a mime story, a shooting game, and a frog princess story using the ScratchJr software

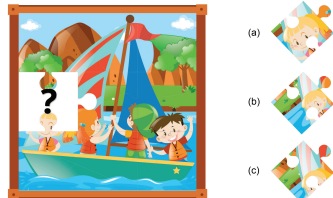
This curriculum will not only improve the coding skills of children, but will also make them good problem-solvers, decision makers, and critical thinkers by developing their analytical and higher-order thinking.



# HOW TO USE THE BOOK

The book is an integral part of the Coding and Computational Skills (CCS) program. Each class has a CCS book that covers the important skills for learners. Specific learning outcomes for each unit can be found at the start of each unit. There are various activities which build computational thinking and cover the requisite skills to be learnt through that unit.

Key sections of this book:

<p><b>Learning Outcomes</b> list the expected measurable learning outcomes achieved by the student that will be covered through the unit.</p>	<div><div>Learning Outcomes</div><div><ul style="list-style-type: none"><li>Identify an IPO cycle.</li><li>Encode and decode messages.</li><li>Draw the IPO cycle of a computer.</li></ul></div></div>
<p><b>Introduction</b> gives a brief of the skills and projects that the students are going to cover in the unit.</p>	<div><div><div>Introduction</div><div>Welcome to the IPO Cycle!</div><div>In this unit, we will learn about the IPO (Input Process Output) cycle of a computer. We will identify the different parts of an IPO cycle. We will also understand how they work. You will learn how to</div></div></div>
<p><b>Observations</b> table is used to list the recordings from the videos/apps reviewed in class.</p>	<div><div>Observations</div><div><div></div><div></div><div></div><div></div><div></div><div></div></div></div>
<p><b>Skill Time</b> contains the Use-Think-Build approach to enable learning. It contains activities that are to be done in the class.</p>	<div><div><div>Skill Time 1</div><div>Identifying the Position of a Character</div><div>In the egg carton game shown here, we will learn how to identify the position of the paper puppets in the grid system.</div></div></div>
<p><b>Activity</b> is primarily for building skills through which students can identify the extent to which they have attained the learning outcomes of the unit.</p>	<div><div><div>Activity</div><div><div>3.1 Which piece will complete the picture given below? Circle the correct option.</div><div><div></div></div></div></div></div>

# HOW TO USE THE BOOK

**Did You Know** contains interesting facts related to the topic covered.

## Did You Know?

Dumb charades is a popular game which is similar to a mime story. In this game, players take turns to act out a scene. However, they are not allowed and expressions to speak. A player needs to use actions to describe a word or scene. The other players try to guess what he/she is trying to say.



**Quick Tips** give additional information about the concept.

## Quick Tips:

- To move the character more than 1 grid square, change the number of steps in the Motion block.
- For a complete rotation, turn the character 12 times.



**QR Codes** are available at various points in the workbook to enhance learning through content and enable rewards (badges and certificates) on completing specific levels.



For Videos



For Certificates and Badges

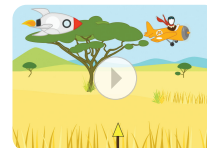


For Documents

Each unit has a **Project** at the end where project guidelines and ideas are given. The project incorporates all the learning from the unit that students can implement.

## Project

- It is time to create a shooting game. Follow the guidelines given below:
- There should be an arrow.
  - The arrow should shoot on a tap.
  - The game should have at least two flying vehicles.
  - The game should end when the arrow hits a vehicle.






**Practice Questions** are primarily for home practice and for students to identify the extent to which they have attained the learning outcomes of the unit.

## Practice Questions

1. Piku and Miku are playing in the snow. Number the scenes in the correct order to complete the story.



# ANNUAL LEARNING PLAN

PART 1	Unit Name	USE	THINK	BUILD	Unit No.
	The IPO Cycle	Tux Paint	Observation Design Skills Visualisation	Draw a detailed computer IPO cycle.	1
	Fun with Puzzles	GCompris	Observation Visualisation	Create simple algorithms (set of instructions) to move a character through a maze using commands.	2
	Time to Mime	ScratchJr	Visualisation Design Skills	Create a mime story of a Lion and a Rat by adding multiple scenes.	3
	Game Zone	ScratchJr	Design Creativity Multimedia	Create a car racing game with two or more car characters and make them run when tapped. Challenge: Create a shooting game with a shooting character and birds.	4
PART 2	Unit Name	USE	THINK	BUILD	Unit No.
	The Frog and Princess Story	ScratchJr	Design Creativity Coding	Create a Frog princess story with two scenes (Day scene and Night scene). Start the conversation between the characters and change the characters across scenes.	5
	My Journal	Word Processor	Design Visualisation	Create your own journal.	6
	Birthday Invite	Word Processor	Observation Creativity Visualisation	Create a birthday party invitation.	7

Contents		Page No.
<b>Annual Learning Plan</b>		<b>07</b>
<b>UNIT 1</b>	 The IPO Cycle	<b>09</b>
<b>UNIT 2</b>	 Fun with Puzzles	<b>24</b>
<b>UNIT 3</b>	 Time to Mime	<b>38</b>
<b>UNIT 4</b>	 Game Zone	<b>50</b>

The CCS book contains important skills that students learn in class. Each unit comprises of a few skill times and a final project. A Skill Time includes many plugged and unplugged activities. Students should complete the activities in the book after seeing a video or demonstration by the teacher in class as per the LEAD learning plan.

Students should read the CCS book at home for revising the concepts taught at school. They can scan the QR codes at home to watch the videos, read the documents, and download the badges and certificates. Students should also refer to it while preparing for assessments.