

# CLASS 5



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, students learn Scratch in Class 5. Since Scratch is a block-based programming language, they will find it interesting, entertaining and thus be comfortable with coding from the beginning.

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:

Use their abstraction, decomposition, and coding skills to create applications such as Calculator, Treasure Collector, and Snakes and Ladders through the Scratch software



Visualise and use their design and creativity skills to spread awareness about the importance of clean water through YouTube



Visualise, record, classify, and analyse data for planning a birthday party using a Spreadsheet application






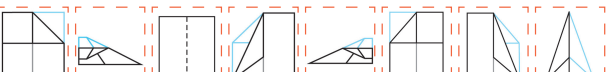

Visualise and use their coding and multimedia skills to create a website on the wonders of the world using HTML and CSS

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 grade has a CCS book that covers the important skills for learners. Specific learning outcomes for each unit can be found at the starting 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> <b>Learning Outcomes</b> <ul style="list-style-type: none"> <li>• Create a storyboard to make a video.</li> <li>• Create a presentation.</li> <li>• Record and edit a video.</li> </ul> </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>  <b>Introduction</b> </div> <p><b>Welcome to Planning a Birthday Party Using a Spreadsheet!</b></p> <p>In this unit, we will learn the benefits of using a <b>spreadsheet</b> to analyse data and show it through charts.</p> <p>You will learn how to</p>														
<p><b>Observations</b> table is used to list the recordings from the videos/apps reviewed in class.</p>	<table border="1"> <thead> <tr> <th>S. No.</th><th>Observations</th></tr> </thead> <tbody> <tr><td>1.</td><td></td></tr> <tr><td>2.</td><td></td></tr> <tr><td>3.</td><td></td></tr> <tr><td>4.</td><td></td></tr> <tr><td>5.</td><td></td></tr> <tr><td>6.</td><td></td></tr> </tbody> </table>	S. No.	Observations	1.		2.		3.		4.		5.		6.	
S. No.	Observations														
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<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>  <b>Skill Time 1</b> </div> <p><b>Creating and Sorting a List</b></p> <p>Aditi wants to use the computer to organise her list. She is using a <b>spreadsheet</b> to add the data in a list form. Data in a spreadsheet can be entered as text, numbers, or formulas. The data can be sorted and categorised alphabetically. This is called <b>data sorting</b>. It can be done in either</p>														
<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>  <b>Activity</b> </div> <p>1.1. Given below are the steps to create a paper aeroplane. Each step has been given a number. Arrange the numbers in two different ways to create algorithms for paper aeroplanes.</p> 														
<p><b>Did You Know</b> contains interesting facts related to the topic covered.</p>	<div> <b>Did You Know?</b>  </div> <p>The Scratch Day Competition, held by MIT, chooses winners in multiple categories. 'Best Animation Project' is one of those.</p>														

# HOW TO USE THE BOOK

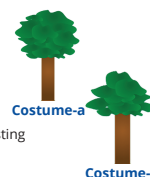
**Quick Tips** give additional information about the concept.



## Quick Tip:

Scratch drawing tools can be used to

- create a new costume.
- duplicate the existing costume.
- make modifications and convert the existing costume into a new costume.



**Diary Entry** is used to keep a check on the skills that students have learned through the Skill Time.

## Diary Entry

## I Can



Move the sprite left and right using keyboard input.



Make the sprite jump using keyboard input.



**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.

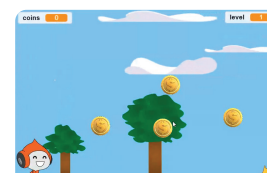
## Project

Create a Treasure Collector game. Follow the guidelines given below.

1. The game should have a landing page with instructions.
2. On clicking the 'Click Here' button, the game will start.
3. The aim of the player is to collect the coins while jumping over the hurdles coming its way.
4. The game should show the number of coins collected.
5. The game ends when the following conditions are met:
  - The player touches the hurdle.
  - All the coins added in the game are collected successfully.



Landing page



Main game screen








**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. State whether the following statements are true or false.

- (a) The 'ask' block stores the user's response in the question variable.
- (b) The Control block helps carry out repeated operations for a set number of times.
- (c) The Sensing blocks help the calculator application print numbers on the screen.

# ANNUAL LEARNING PLAN

PART 1	Unit Name	USE	THINK	BUILD	Unit No.
	Publishing a Video	Video Editor app, YouTube	Visualisation Design Creativity	Create an awareness video on 'Clean water is vital' and publish it on YouTube.	1
	Planning a Birthday Party	Spreadsheet	Analysis Classification Problem-solving	Perform data analysis and representation using a spreadsheet for planning a birthday party.	2
	Calculator Application	Scratch	Abstraction Coding Decomposition	Create a real-life calculator using Variables and Operators blocks in Scratch.	3
	Treasure Collector Game	Scratch	Abstraction Coding Decomposition Creativity	Create a gravitational effect for a sprite and move it to collect a treasure using various blocks in Scratch.	4
PART 2	Unit Name	USE	THINK	BUILD	Unit No.
	Snakes and Ladders Game	Scratch	Decomposition Creativity Logical thinking Coding	Create a two-player snakes and ladders game using functions in Scratch.	5
	Home Page	HTML, Text Editor	Visualisation Coding Decomposition	Create a web home page using HTML.	6
	Image Map Site	HTML, CSS, Text Editor, Internet	Visualisation Coding Decomposition Multimedia	Create a website consisting of multiple pages using HTML.	7

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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.