

Code to Enhance Learning
Learn to Code with Scratch
Course Framework

The Code to Enhance Learning curriculum focuses on concepts that are needed to learn computational thinking. Moreover, the objectives of lessons are designed in a way that it empowers them to express their learnings (from class or surroundings) which would help them be confident about their learning. The broad goals of the course are,

1. Students will be conversant with distinguished programming language.
2. Student will learn about the computational concepts to write programs in distinguished programming language.
3. Students will learn about the practices to develop computational thinking.
4. Student will learn about the mindsets to develop computational thinking.
5. Students will be able to express their learning about them and surroundings by making animation and applications.

In this course, students will learn 10 different computational concepts like sequence, event, loops, etc. They will start tinkering with the block based programming of Scratch developed by MIT Media labs used in 130+ countries to make basic animation, games and applications to express and solve contextual problems.

Thus, the program aims to create a fun and learning experience for kids to master computational thinking by giving opportunities to express themselves and solve problems related to self and surrounding.

Lesson Number	Lesson Name	Objective	Learning Outcome	Unplugged/ Unplugged	Blocks	Concept	Time
1	My Sprite speaks	Students (We) will make a sprite speak and move on the stage.	<ol style="list-style-type: none"> 1. Interpret the concrete instructional blocks 2. Explain the instructional blocks of Scratch in sequence to show speech bubble and play sound 3. Sequence the concrete instructional blocks to show speech bubble and play sound 4. Evaluate the instructional blocks of Scratch in sequence to show speech bubble and play sound 	Plugged	Say Play	Sequence	90

2	Colorful Shapes	Students (We) will be able to create different geometrical shapes. (Line, rectangle, square, circle, parallelogram, trapezium, polygon)	<ol style="list-style-type: none"> 1. Interpret the concrete instructional blocks of Scratch 2. Explain events created to make the application with geometrical shapes 3. Create events to make the application with geometrical shapes 4. Evaluate the events in the application with geometrical shapes 	Plugged	set pen color pen down pen up clear turn ___ degrees	Events	90
3	My car	Student (We) will make a car move on the road.	<ol style="list-style-type: none"> 1. Interpret the concrete instructional blocks of Scratch 2. Explain loops created for the repeated instruction to animate a car moving on the road 3. Use loops for the repeated instructions to animate a car moving on the road 4. Evaluate the loops in the instruction to animate a car moving on the road 	Plugged	glide in _ secs x= and y=	Loops	90
4	Colorful Pattern	Students will make patterns using a given geometrical shape.	<ol style="list-style-type: none"> 1. Identify the concrete instructional blocks 2. Explain the instructions in nested loops for a pattern with geometrical shape 3. Use nested loops to create pattern with a geometrical shape 4. Evaluate the instructions in nested loop for a pattern with geometrical shape 	Plugged	Move, Turn, Repeat Loop, Event (when key is pressed), change pen color, change pen size, go to (x=0, y=0),	Nested Loops	

5	Shooting Game	Students will create a shooting game.	<ol style="list-style-type: none"> 1. Identify concrete instructional blocks 2. Identify conditional instructions in a shooting game 3. Use conditionals to make a shooting game 4. Evaluate instructions with conditions in a shooting game 	Plugged	set rotation style (left-right) Sensing (touching sprite), if block, if on edge bounce	Conditionals	90
6	Make a Story	Students will create an animation to share about name calling.	<ol style="list-style-type: none"> 1. Define Broadcasting 2. Identify the concrete instructional blocks 3. Explain parallel instructions to make an animation 4. Use parallelism to make an animation 5. Evaluate parallelism to make an animation 	Plugged	broadcast, when I receive,	Parallelism & Broadcasting	90
7	Which angle would it be?	We will make an application to identify the name of a given angle.	<ol style="list-style-type: none"> 1. Identify instructional blocks for operators in Scratch 2. Interpret the instructional blocks for operators in Scratch 3. Follow the instructions with operators to find the output 4. Use the operators to identify the type of given angle 5. Evaluate instructions with operators to identify the type on given angle 	Plugged	<, >, =	Operators (Comparative & Logic)	90

8	Tables	We will make an application where the user has to help a character to say multiplication tables.	<ol style="list-style-type: none"> 1. Identify new instructional blocks 2. Follow instructions with variables to say the table of a random number. 3. Use the variables to say table of a random number by user 4. Evaluate instructions with variables to say table 	Plugged	set voice speak broadcast and wait	Data (variables)	90
9	E-Library Catalogue	We will make a catalogue for the library.	<ol style="list-style-type: none"> 1. Define List 2. Identify instructional blocks 3. Follow the statements to operate a list to make a catalogue 4. Use the list to make a e-catalogue of the library 5. Evaluate instructions with list to make an e-catalogue of the library. 	Plugged	add to List item of List item# of List delete of List	Data (list)	90
10	Quiz	We will make a quiz using functions.	<ol style="list-style-type: none"> 1. Identify instructional blocks 2. Follow instructions with functions to ask a question for the quiz 3. Use the functions to make a quiz 4. Evaluate instructions with functions to make a quiz 	Plugged	make a block	Functions	90