

# Codingal

Codingal curriculum is tailored for K-12 children and complements their learnings at school by allowing them to use coding to develop a deeper understanding various subjects and concepts. This makes coding a learning-aid and makes the learning process fun and interactive.

Our curriculum is designed to inspire children to create through code. A practice that has been proven to develop a child's creativity, logical thinking and problem-solving skills.

Our curriculum combines the power of code with STEAM (Science, Technology, Engineering, Arts and Maths) education. This unique pedagogic approach encourages children to apply their learnings at school and their coding skills to solve real-world problems.

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# Curriculum designed to make kids love coding



Codingal's demo class helped me develop a keen interest in coding. So I decided to learn app and web development. Coding is now super fun for me, and it has improved my thinking and logical skills.

Dishita Karkare

Grade 5 | Bengaluru, India



My journey with Codingal started a few weeks ago. My teacher is very nice and understanding. She even gives me assignments to help me understand the concepts. I'm really excited about learning more about coding with Codingal.

Abdul Hannan

Grade 3 | Nigeria



The teachers are friendly and my son is able to understand the concepts easily. In just three classes, he was able to create basic steps in a program used to make animations. I think Codingal can help him grow and understand how to progress in a field which is much-needed nowadays and will be even more so in the future.

Mr. Samar Shareef

Abuja Nigeria



## What your kid will learn

### Grade 1-3

#### 20 classes

#### **Rising Coding Star**

An ideal course to help kids quicky grasp the basics of coding and start writing code using blocks.

60+ Activities 3 Quizzes

per class

- Block-based coding
- Sequencing
- Algorithms
- Time and direction
- ✓ Loops, variables, operators
- Arithmetic operators
- ✓ Game development on Play Lab
- Animation using Sprite Lab

- Prising Coding Star Certificate
- $\Psi$  Lifetime community access

44 classes

#### **Coding Champion**

A course to advance your coding skills and build a deeper understanding of complex coding concepts.

100+ Activities 7 Quizzes

per class

- All Rising Coding Star learnings +
- Functions, variables, data types
- ✓ UI develoment
- Animation and storytelling
- Conditional statements
- Complex loops
- App development using App Lab
- Basic JavaScript

- Coding Champion Certificate
- The Game development certificate
- ♀ Lifetime community access

92 classes

#### **Coding Prodigy**

A perfect course for kids who want to excel at coding and build complex games and applications.

184+ Activities 15 Quizzes

per class

- All Coding Champion learnings +
- Cryptography
- ✓ Intricate pattern designing
- Advanced app development
- Advanced game development
- Coding, decoding, debugging
- Game Lab, Scratch game development
- Unique capstone project
- Game, app development certificates
- Scholarships for top five performers
- ♀ Lifetime community access

152 classes

#### **Coding Grandmaster**

A course for those who want to master the art of coding and create a better future through code.

450+ Activities 25 Quizzes

per class

- All Coding Prodigy learnings +
- Advanced Scratch game development
- Andriod game development
- Website development
- Artificial intelligence, machine learning
- Speech, image recognition
- Sensors
- Python
- Coding Grandmaster Certificate
- Python development certificate
- ♀ Al game developer certificate
- Scholarships for top five performers
- ♀ Lifetime community access



# **Rising Coding Star**

3+

Classes	Skill level	<u>Price</u>
20	Beginner	₹800
<u>Activities</u>	Age group	per class
60+	Grade 1-3	
Quizzes		





#### Key learnings

- Sprite Lab (code.org)
- Play Lab (code.org)
- Artist (code.org)



#### **Benefits**

- Foundation of coding
- Logic building
- Code flow, methodology
- Game development



- Rising Coding Star Certificate
- Lifetime community access

Module	Theme	Topics Covered	Outcome
M1 (8 Classes)	Block-based programming	Drag-and-drop function, block-based coding, commands, sequencing, events, time and direction, sounds	Students will learn basic programming constructs including commands and sequences. They'll get familiar with drag-and-drop functions, sprites, and code blocks in Sprite Lab. They will also understand and use the concept of time and direction with the help of various exercises.
M2 (6 Classes)	Events, direction, location, orientation, comments, critical analysis	Events, locations, orientation, conditional statements, critical thinking, comments, print statements, measures, and logic building	Students will use events in different ways and understand the application of time and direction with the help of various activities. They will learn about rotation and work with geometric angles and pixels. They will also start writing more structured code and understand the use of comments.
M3 (6 Classes)	Loops, variables and operators	Understanding loops, variables, declaration, initialisation, addition and subtraction operators	Students will be introduced to Play Lab and start using variables and arithmetic operators in different projects. They will develop an understanding of loops and will be performing various operations using them. This module is designed to help students improve their mathematical and reasoning skills.



# **Coding Champion**

7

ClassesSkill levelPrice44Beginner₹ 750ActivitiesAge Groupper class100+Grade 1-3



#### Key learnings

- Play Lab (code.org)
- Minecraft (code.org)
- App Lab (code.org)



#### **Benefits**

- Improved aptitude
- Critical thinking
- Advance concepts
- Structured codes
- App development



- Coding Champion Certificate
- App development certificate
- Lifetime community access

Modules	Themes	Topics Covered	Outcome	
	All Rising Coding Star modules +			
M4 (6 Classes)	Complex loops, variables, and data types	Complex loops, variables and data types	Students will start working on complex, high-level projects using the concepts and principles learnt in the previous modules. This module is designed to expand the student's imagination and nurture their creativity.	
M5 (6 Classes)	Loops, 'if' statements, functions	Understanding loops, 'if' statements, and other functions in programming	This module is designed to nurturue creativity and problem solving skills. Students will learn complex programming concepts such as functions and conditional statements.	
M6 (6 Classes)	App development - I	App designing and UI: Buttons, random functions, random numbers, basic applications, layouts, and basic JavaScript concepts	Students will learn how to build applications and conceptualize user interaction to design unique, practical user interfaces. They will be introduced to the concept of operating systems, basics of JavaScript, and will build their own apps with clickable buttons.	
M7 (6 Classes)	App development - II	Functions, canvas, Turtle, interactive app structures, and advanced JavaScript concepts in App Lab	The students will continue their journey as app developers and will start having some hands-on experience with apps. The students will be introduced to functions, canvas, Turtle and some advance concepts of JavaScript, and will develop apps that can be shared and used on a smartphone.	



# **Coding Prodigy**

15

ClassesSkill levelPrice92Beginner₹ 700ActivitiesAge groupper class184+Grade 1-3



• App Lab

Scratch

Game Lab

Key learnings

# \* **6** \*

#### **Benefits**

- App, game development
- Conceptual clarity
- Analytical skills
- Capstone project
- Logic building



- Coding Prodigy Certificate
- Game, app development certificates
- Scholarships for top five performers Lifetime community access

Modules	Themes	Topics Covered	Outcome
All Coding Chamption modules +			
M8 (6 Classes)	App Development - II	Data sets, data visualization, designing functions, advanced JavaScript concepts in App Lab	In this module, the students will move close to becoming expert app developers. The student will be introduced to datasets in App Lab and will learn how to visualize data to find patterns.
M9 (6 Classes)	Capstone Project	Course Activity, Testing and Internet Security	The students will build a course project using all the concepts covered in the previous modules.
M10 (6 Classes)	Logic Building	Reasoning, analytics, rational thinking and problem solving skills with the help of coding and decoding	The students will perform activities that are designed to improve logical thinking and that will allow them to write programs easily. They will revisit some mathematical concepts learnt at school and will solve problems designed to improve their aptitude.
M11 (6 Classes)	Game Development - I	Functions, controls, variables, color codes, and mouse movements	The students will be introduced to Game Lab and build a game using loops, controls, mouse movement, counters, and variables.



# **Coding Prodigy**

Modules	Themes	Topics Covered	Outcome
M12 (6 Classes)	Game Development - II	Functions with parameters, declaring multiple variables, conditional statements, and coordinates	Students will build exciting games in Game Lab and will be able to share the games they created with their friends.
M13 (6 Classes)	Game Lab	Draw loop, pattern creation, sprite movements, conditionals and predictionals	In this module, students will learn functional programming in games along with complex concepts including velocity detection, collision detection, sprite interaction, etc.
M14 (6 Classes)	Scratch - I	Platform introduction, events, coordinates, sprites	Students will be introduced to the Scratch programming platform and will start creating code using blocks
M15 (6 Classes)	Scratch - II	Co-ordinates, pen feature, broadcasting	Students will learn how to code with the help of code blocks and will develop various concepts and create different types of projects using all their Scratch learnings



# **Coding Grandmaster**

25

Classes
Skill level
Price

152
Beginner
₹650

Activities
Age group
per class

450+
Grade 1-3



• Scratch

Python

• HTML

• CSS

Thunkable

#### **Benefits**

- Conceptual clarity
- Analytical skills
- Confidence boost
- Capstone project
- Student project



- Coding Grandmaster Certificate
- Python development certificate
- Al game developer certificate
   Scholarships for top five performers
   Lifetime community access

Modules	Themes	Topics Covered	Outcome
All Coding Prodigy modules +			
M16 (6 Classes)	Scratch - III	Broadcast, cloning, 'if, else', number systems	Students will develop a deeper understanding of coding with the help of broadcast, cloning, conditionals statements on Scratch
M17 (6 Classes)	Al - Basics	Basic of AI, text training, sound training, image training	Students will be Introduced to the highly in-demand technology known as atificial intelligence (AI). In this module, they will learn the basics of AI and learn how to implement AI concepts and functionalities in their projects.
M18 (6 Classes)	Al - Advanced	Text and vision training, deep learning, speech recognition	Students will be introduced to the concept of training a model to perform certain tasks. They will also get to work on a trained model and make various projects involving text and vision.
M19 (6 Classes)	Thunkable - Basics	User interface, buttons, webviewer, canvas, labels, basic components of the palette, layout, sensors, PDF reader, translator	In this module, students will be introduced to Thunkable—an app creation platform. Students will develop a better of understanding of Thunkable and will be introduced to the basic components in the palette and how to use them. They will be making simple apps. They will also learn how to upload PDF documents in their app.



# **Coding Grandmaster**

Modules	Themes	Topics Covered	Outcome
M20 (6 Classes)	Thunkable - Basics II	Canvas, sprite, procedure, media, multiscreen, translator, text-to-speech, gyroscope, share component	Students will use more Thunkable functionalities to add multiple screens to their apps and will start using canvas, sensors, and other features. They will be able to make apps like calculators and apps that work with sensors. They'll also learn the share feature and will create an app that can be used to share images.
M21 (6 Classes)	Thunkable - Intermediate	List viewer, local storage, location sensor, maps, speech recognition, drawer navigator	Students will learn Android and iOS game development. They will learn how to use the local storage, location sensors and maps. They will create their own app which can make calls, send texts or emails, and much more.
M22 (6 Classes)	Python - Trinket I	Shape-making, Turtle, loops, conditions	Student will learn Python using block-based coding. They will create some amazing shapes in Python and will also work with Turtle to create various projects.
M23 (6 Classes)	Python - Trinket II	Loops, conditional statements, data types	Student will learn writing syntax in Python language. They will be learning how to use loops and conditionals statements in Python using different data types.
M24 (6 Classes)	HTML, CSS	Introduction to HTML, CSS, various HTML tags, elements, styling	Students will be introduced to the basic construction and working of a website. They will learn about the header, footer and body. They will be creating webpages in HTML, add CSS to them, and combine them to create a website.
M25 (6 Classes)	HTML, CSS	HTML, CSS, creating web pages, static websites	Students will learn advanced HTML concepts and add tables, images and videos to their web pages. They will also learn to make creative web pages using Cascading Style Sheets (CSS). Also, they will be linking multiple web pages and making a website of their own.

