

# Curriculum Snapshot for Grade 1-2

Brought to you by a team from **Google**, **MIT**, **Harvard University**, **IIT Delhi**, & **Microsoft**. We've been teaching kids to code since 2010. Join **100k+ parents** giving their kids the competitive edge with Camp K12.





**Top 1% Certified Teachers**Hand-picked and trained by IIT / MIT team.



Certificate of Achievement
Get certified by Google / IIT Alumni.

# Our 12-Months Learning Path for Grade 1-2



Game Development

Session 1 - 36



Al & Game Development

Session 37 - 72



Mobile App Development

Session 73 - 108



3D Games & Virtual Reality

Session 109 - 144



Independent Project



**36 classes** (~3 months)

- Build personal portfolio site with projects
- ✓ Beginner certification



72 classes (~6 months)

- ✓ Publish AI Game with Computer Vision
- ✓ Developer certification



108 classes (~9 months)

Publish Mobile App to Play Store



144 classes (~12 months)

- ✓ Publish 3D/VR Mobile game
- ✓ Mastery Coder certification





































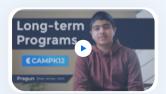
# Join 100k+ happy parents

We've been teaching kids to code since 2010. World's best teachers, curriculum creators, and curricula for your child.



**Video: Parent Testimonials** https://youtu.be/VrztbrEIMe0

**Video: Student Testimonials** https://youtu.be/VrztbrEIMe0





# Vaneeta

Mother of 9th Grader





"Camp K12 was a fantastic, constructive experience for Ansh in which he learned more about coding than he has in the previous three years in school and other coding courses. The course content was made extremely accessible to people from all around the world."



# Raiesh

Father of 7th grader







"Camp K12 is an excellent online learning option for kids. Right from onboarding to online class, excellent process, guidance and follow-up by support staff. My son gets up at 5AM CST on his own to attend the online sessions, which shows how interesting the sessions are.... "



# Chandan

Father of 1st grader





"My child Aarav has been coding with Camp K12 for 6 months now. Everyday I see him developing games and applying the logic taught by his mentors and he enjoys the everyday assignments. I would like to thank teachers for the great job they are doing! "

# Our Founder - coding since age 12



# **Anshul Bhagi**

MIT Computer Science Harvard MBA, ex-Google







# **Our Curriculum Creators - master coders and educators**



### Prasanth

Harvard University, MIT, ex-Primary School Teacher









### Rishabh

IIT Delhi (Computer Science) Software Developer @ IBM















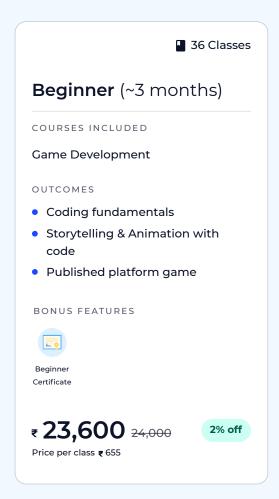


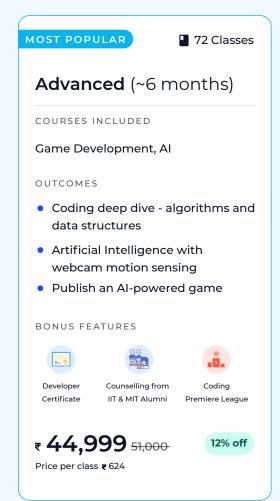


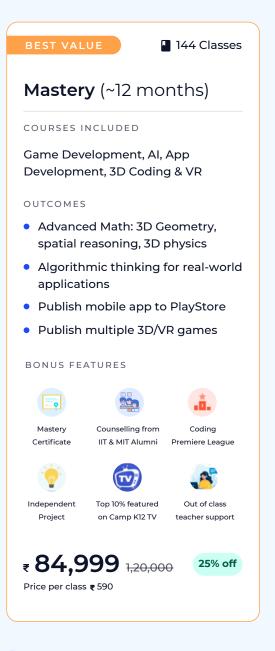


# **Curriculum Plans** for Grades 1 - 2

0-Cost EMI Options available. 100% refund on unused classes if you're not satisfied, no lock-ins.







# In addition, all Camp K12 students get FREE access to:



Their very own Personal Website / Portfolio



Mobile App with daily logic puzzles and contests



World's 1st 3D + AR/VR Coding platform for kids, for home use



**#CampK12Talks:** Monthly webinar with guests from Google, Microsoft, Twitter, and more





# Game **Development**

# Skills You Will Unlock

Mathematical and Computational Ideas

Storyboarding

Logical Thinking Creativity

Communication

Collaboration and Critical Thinking

Design Process

# What You Will Learn



Coding

**Fundamentals** 



MIT Scratch

Platform



2D Math & Geometry

# **LEVEL 1** CLASS 1-12

#### Story-Telling, Sound and 2D Animations



# Jungle look

- Design your own background
- Add your characters



#### **Ghost Dance**

- Change the costumes of your characters
- Explore Sound and Music with Coding

#### **Motion and Mathematics**



## Move scratchy

- Co-ordinate Axis (x and y)
- Gliding Movement



# Google Doodle

- Creative designing
- Character building

## Game Designing and Fundamentals of Block Coding



#### Swimming and Water Game

- Introduction to if-else conditional statements
- Collisions and examples in Game Design





#### **Mystery Attack**

- Keyboard Controls
- Co-ordinate Axis (x and y)

## **Introduction to Game Development**





#### Ball, Bat and Bat

- Global Variables
- Broadcast and Receive



#### 3 scene cartoon

- Final Project
  - Game Development

# LEVEL 2 CLASS 13-24

# **Character Designing**



# **Move Scratchy Advanced**

- Keyboard Controls
- Co-ordinate Axis (x and y)

#### **Mouse Control and Mathematics**





# **Dino Jump**

- Gravity and Acceleration
- Jump and Fall Movements"

# Maze Game

- Collision Detection
- Advanced Backgroung Designing

## Story Boarding and Advanced 2D Game Designing



# The Hungry fish game

- Introduction to Loops
- Scores and rewards in Game Design



# The Hungry fish game (Part 2)

- Adding a start and stop condition
- Forever Loop

# Advanced Movements and Introduction to **Physics**





### Fruit catch

- Collision Detection
- Advanced Backgroung Designing





# Ask the Player and Write a Story

- User Input and Output
- Dialogue and Speech

# **Advanced Game Development and Screen Scrolling Game**





# **Race the Cars**

- Scoring Mechanism
- Game Development





# 2 player football game

- Scoring Mechanism
- Game Development
- Movement and Motion
- If-else Conditional Statements

# LEVEL 3 CLASS 25-36

## **Art and Animation**



# Dress Me Up

- Design your own background
- Design your own characters

#### Story Boarding and Advanced 2D Game Designing





# **Ping Pong**

**Mouse Control and Mathematics** 

- Mouse Controls

**Space Rescue** 

- Movements using mouse





# - Advanced Scoring

**Rock Paper Scissors** 

#### - Variables - Operators

#### **Enemy Attack**

- Rewards and Scores
- Spawning

# **Advanced Game Development and Screen Scrolling Game**





### **Boss Fight**

- Advanced Scoring
- Collision Detection

# **Creativity and Databases**





## Paint the Fish

- Cloning Concepts - Colors and Design



#### **Dogde the Obstacle** - Cloning Application

- **Piano Tiles** 
  - Game Dev with Music
  - Databases
  - Application of Global Variables





# Game Development

- · Fundamentals of coding using blocks-based visual programming (MIT Scratch platform)
- · Logic development: Sequencing & Structuring
- · Mathematics: Arithmetic, geometry, and 2D coordinate systems (animations along x and y axes)
- · Coding concepts: Commands, If-else (conditionals), Loops, Variables, Events, Cause-and-effect, Functions
- · Game Dev concepts: Collision Detection, Animation, Graphics







2D Math

& Geometry

Codina **Fundamentals** 

MIT Scratch **Platform** 







(e.g. Mario)

4+ Platformer Games

5+ Arcade Games

Story-telling & Animation



## AI & Game Development

- · Further practice with MIT Scratch and blocks-based coding, kids build advanced games using AI concepts and features
- · Al with Computer Vision: Coding "Fruit Ninja" game using Webcam-based gesture recognition
- · AI with Speech Synthesis: Coding 2D animated stories with automated speech
- · Coding concepts: Moving from basic commands to algorithms
- · Focus on understanding "What is AI" and how it can be applied



[ A]

Webcam

**Motion Sensing** 



MIT Scratch

Intro to **Algorithms Fundamentals** 









Text-to-Speech (e.g. Alexa)

AI-Powered Ninja Game



#### Mobile App Development

- · Learn to design, code, and publish a mobile app using MIT platform loved / used by 10M+ kids
- · Basics of App Design (UI/UX): Layouts, Forms, Buttons, Actions, Screens, and other GUI elements
- · Basics of Mobile App Dev using blocks-based coding
- · Mobile Game Development: Timers, Animations, Canvas, Sprites
- · Working with input from phone sensors (e.g. Accelerometers)
- · Re-inforcing all coding concepts taught in Months 1-6



Kid-friendly Blocks coding



MIT Applnventor Technology



Intro to **Data Structures** 











WhatsApp Clone



# 3D Coding & Virtual Reality Games

- Design, code, publish, and share various 3D games using free 3D / Virtual Reality editor built by Camp K12
- · Build your own Minecraft / Roblox-like world using Blocks-based coding, invite friends to play in it
- · Mathematics: Build child's spatial intelligence; heavy use of 3D Coordinate Systems (x, y, z) and calculations in 3D space
- · Advanced: Publish your projects as Augmented Reality mobile apps







Build your own Coding Concepts Minecraft World



5+ Published **3D Games** 



Lion King **3D Story** 



AR / VR / 360° Mobile App

