

Enabling Digital Fluency

Ages 13 to 18



WHOCODES



Objective

The WhoCodesProgram learning platform is looking to introduce “Computer Science Fundamentals” (CSF) curriculum for kids in the age group 13-18 years

EduJoy Learning proposes a customized curriculum designed for students in 13-18 years age group which builds CSF concepts in a fun and engaging manner

Audience

- Batch : 13-18 Years

Detailed Implementation Plan

Classroom Overview

Overview

- 18 Classes (customized for 13-18 age group)
- Develops Critical Thinking, Collaboration, Creativity and Communication

Core concepts:

- Digital Citizenship
- Sequencing, Loops, Events
- Conditionals
- Binary and Data
- Games and animations

Attitudinal goals:

- Programming is fun
- It's okay not to get it right the first time
- I can solve problems if I keep trying

Key teaching tips:

- Use the stories as a read-aloud and discuss the scenarios as a class
- Use pair programming where possible and encourage students to help each other
- Work through sample problems with students as a class
- Celebrate persistence as well as successes
- Remind students that they can go back and fix mistakes

Standards Mapping

This curriculum references CS Fundamentals which was written using both the K–12 Computer Science Framework [[k12cs.org](https://www.k12cs.org)] and the 2017 Computer Science Teachers Association (CSTA) standards as guidance.

Materials

- Laptop/Desktop (1:1)
 - Internet Connection
 - Google Classroom
 - Code.org
 - Zoom
- Headphones (1:1)

Classroom Methodology and Tools

Teacher:

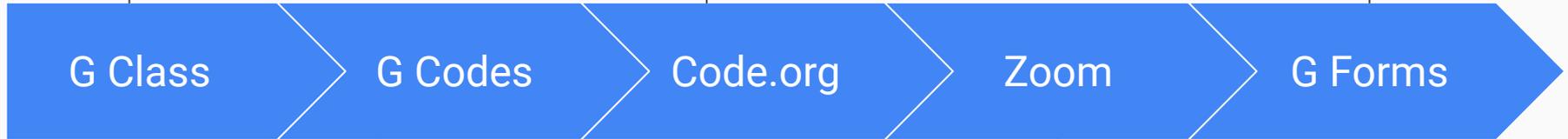
Creates **Google Classroom** and account for each Student

Teacher:

Loads the Activity for each Student before the class

Teacher:

Assesses assignments and shares personalized feedback using G Class



Teacher:

Shares **Google codes** for each student and ensures access

Teacher:

Delivers lesson and facilitates knowledge and sharing

60 Minutes Detailed Plan

Teacher:

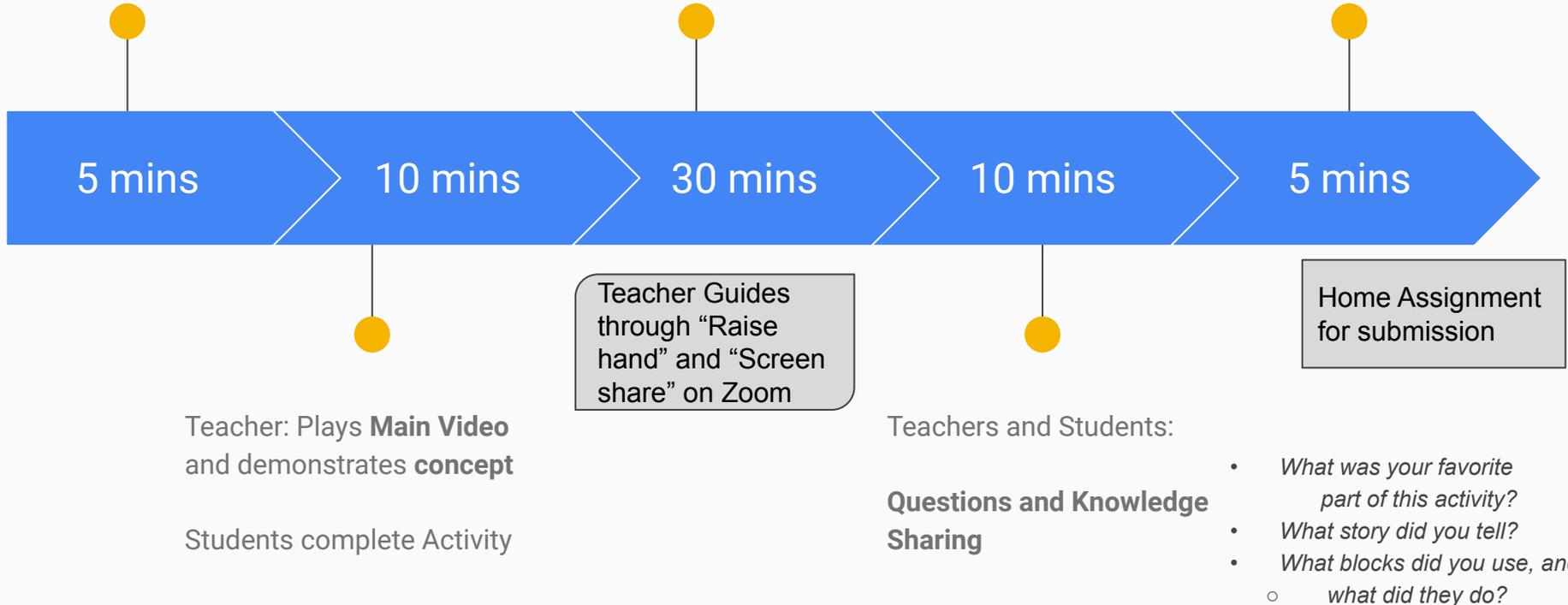
Recapitulation of Previous concepts

Students complete “add on” activities/puzzles

Guided by Teacher

Wrap up: by Teacher

Students submit project for assessment. Personalized feedback shared



Coding Camp (13-18 years)

	Class Name	Activity	Platform	Objective
T	Intro to App Lab	Puzzles	Code.org	Students build a dummy App in App Lab. Introduction to Code.org, Google classroom and Coding/Computer Science
1	Sequence and Debugging	Puzzles	Code.org	Students will develop sequential algorithms step through the existing code to identify errors and fix them
2	Digital Citizen-1 and Loops	PPT, Video, Puzzles, Game	Code.org	Students learn about passwords and online behaviour and also the concept of repetitions
3	Binary and Art Loops	Puzzles, Video	Code.org	Students art loops and learn how computer stores information. Also have fun with Minecraft
4	Build your Game - 1	Play Lab	Code.org	Students will create their own games using Play Lab demonstrating concepts learnt so far!
5	Events and Star Wars Game	Puzzles	Code.org	Introduces events and build your own game!

Coding Camp (13-18 years)

	Class Name	Activity	Platform	Objective
6	Build your Dance party and Loops!	Puzzles	Code.org	Students learn Nested loops and build own dance party animation
7	Conditionals	Puzzles	Code.org	Students learn conditions and how to apply them
8	Digital Citizen-2 and Binary images	Puzzles, PPT, Video	Code.org	Students learn about binary images and how to draw them.
9	Build your own Games - 2	Puzzles	Code.org	Students will create their own games using Play Lab demonstrating concepts learnt so far!
10	Games and Animations Intro	Game Lab	Code.org	Students are introduced to Game Lab and begin to use it to position shapes on the screen
11	Shapes and Parameters	Game Lab	Code.org	Students develop familiarity with shapes and different parameters on how to modify them

Coding Camp (13-18 years)

	Class Name	Activity	Platform	Objective
12	Variables	Game Lab	Code.org	Students learn variables on how to store information
13	Random Numbers and Sprites	Game Lab	Code.org	Students learn how to make programs behave differently each time and the concept of sprites
14	Text and Draw Loop	Game Lab	Code.org	Introduction to text on the screens and animations and motions
15	Sprint Movement	Game Lab	Code.org	Students learn how to control sprite movements using counter pattern
16	Animation Project	Game Lab	Code.org	Students combine different programming patterns to make a complete animation
F	Final Project		Code.org	Final project demonstrating concepts learnt. Demo to Parents and Certificates Handling