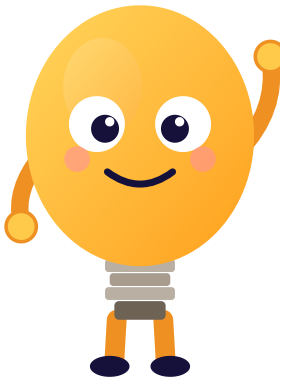
VOLUME 1

CODING ADVENTURES

with Lumie™

The Ultimate Guide to Coding Environments for Kids Ages 10–13



Where Curious Kids Become Creative Coders.

Every great programmer starts somewhere. Whether your child wants to build games, create websites, design apps, or explore robotics, this guide ranks 17 of the best coding environments from easiest to most advanced—so you can find the right next step and help them build real, lasting skills.

★ LUMIE'S TIP

It's okay to try lots of platforms! You'll find your superpower through curiosity and practice.

BEGINNER FRIENDLY

1 Scratch ★☆☆☆☆

Drag colorful blocks to build games, animations, and stories.

Best: First-time coders • **Age:** 8–12
Lang: Blocks

scratch.mit.edu

2 Blockly Games ★☆☆☆☆

Puzzle games that teach loops, conditionals, and clean logic.

Best: Pure logic prep • **Age:** 8–12
Lang: Blocks

blockly.games

3 Code.org ★☆☆☆☆

Free libraries and Hour of Code tracks trusted worldwide.

Best: School foundations • **Age:** 8–13
Lang: Blocks, JS, Python

code.org

4 GlowCode ★☆☆☆☆ ★ Pick

Write real HTML/CSS/JS, see it update live, with real-time hints when code breaks.

Best: Real web dev • **Age:** 10–13
Lang: HTML, CSS, JS

glowcode.us

GETTING COMFORTABLE

5 Microsoft MakeCode ★★☆☆☆

Code micro:bit boards, circuits, and retro arcade games.

Best: Hardware / retro games • **Age:** 10–13
Lang: Blocks, JavaScript

makecode.com

6 Khan Academy Computing ★★☆☆☆

Free CS, JavaScript, and SQL lessons with clear instruction.

Best: Learning CS concepts • **Age:** 10–15
Lang: JavaScript, SQL, HTML

khanacademy.org/computing

7 MIT App Inventor ★★☆☆☆

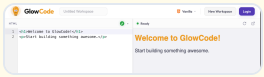
Design Android apps with blocks, test instantly on your phone.

Best: Smartphone apps • **Age:** 10–12
Lang: Blocks

appinventor.mit.edu

BEST BEGINNER PATH

1 **Scratch** — Start with blocks →



2 **GlowCode** — Move to real code →

3 **Code.org** — Learn with guided tracks →

4 **MakeCode** — Explore electronics & games

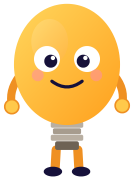
PARENT TIPS

- ★ Follow your child's interests.
- ★ Let them build projects they care about.
- ★ Encourage experimentation and tolerate mess.
- ★ Celebrate small wins and keep it positive.
- ★ Practice a little each week.

Take your time, have fun, and build amazing things! ★

CONTINUE YOUR CODING JOURNEY

★ LUMIE'S TIP
Building projects you care about is the best way to learn and have fun while coding.



LEVELING UP

8 CodeCombat ★★★☆☆
Write code to control a hero and level up in an RPG.
Best: RPG gaming style • **Age:** 9–13
Lang: Python, JS
codecombat.com

9 Swift Playgrounds ★★★☆☆
Learn Apple's Swift with interactive 3D puzzles.
Best: iOS eco apps • **Age:** 10–13
Lang: Swift
apple.com/swift/playgrounds

10 Minecraft Education ★★★☆☆
Automate builds and script mods inside the sandbox world.
Best: STEM integration • **Age:** 10–13
Lang: Blocks, Python
education.minecraft.net

11 Construct 3 ★★★☆☆
Browser-based 2D engine, visual scripting plus code.
Best: 2D web puzzles • **Age:** 10–15
Lang: JavaScript
construct.net

12 Snap! ★★★☆☆
Build custom blocks and nested functions in-browser.
Best: CS advanced theory • **Age:** 10–12
Lang: Blocks (Snap!)
snap.berkeley.edu

13 mBlock ★★★☆☆
Program Arduino boards, sensors, and smart machines.
Best: Robotics & IoT • **Age:** 10–13
Lang: Blocks, Python
mblock.cc

ADVANCED BUILDERS

14 Replit ★★★★☆
A collaborative cloud editor for real-world programs.
Best: Real cloud projects • **Age:** 10–13
Lang: 50+ languages
replit.com

15 Roblox Studio ★★★★☆
Build 3D worlds and publish games to Roblox instantly.
Best: 3D worlds creator • **Age:** 10–13
Lang: Lua
create.roblox.com

16 Godot Engine ★★★★☆
Free, open-source engine for custom 2D & 3D games.
Best: Indie game dev • **Age:** 11–15
Lang: GDScript
godotengine.org

17 GameMaker ★★★★☆
Export multi-platform 2D games with visual actions.
Best: 2D action games • **Age:** 11–13
Lang: GML
gamemaker.io

QUICK COMPARISON

#	Platform	Best For	Age	Language	Difficulty	Format	Cost
1	**Scratch**	First-time coders	8–12	Blocks	★☆☆☆☆	Web-Based	Free
2	**Blockly Games**	Pure logic prep	8–12	Blocks	★☆☆☆☆	Web-Based	Free
3	**Code.org**	School foundations	8–13	Blocks, JS, Python	★☆☆☆☆	Web-Based	Free
4	**GlowCode**	Real web dev	10–13	HTML, CSS, JS	★☆☆☆☆	Web-Based	Free
5	**Microsoft MakeCode**	Hardware / retro games	10–13	Blocks, JavaScript	★★☆☆☆	Web-Based	Free
6	**Khan Academy Computing**	Learning CS concepts	10–15	JavaScript, SQL, HT…	★★☆☆☆	Web-Based	Free
7	**MIT App Inventor**	Smartphone apps	10–12	Blocks	★★☆☆☆	Web-Based	Free
8	**CodeCombat**	RPG gaming style	9–13	Python, JS	★★★☆☆	Web-Based	Freemium
9	**Swift Playgrounds**	iOS eco apps	10–13	Swift	★★★☆☆	Download	Free
10	**Minecraft Education**	STEM integration	10–13	Blocks, Python	★★★☆☆	Download	Paid
11	**Construct 3**	2D web puzzles	10–15	JavaScript	★★★☆☆	Web-Based	Freemium
12	**Snap!**	CS advanced theory	10–12	Blocks (Snap!)	★★★☆☆	Web-Based	Free
13	**mBlock**	Robotics & IoT	10–13	Blocks, Python	★★★☆☆	Web-Based	Freemium
14	**Replit**	Real cloud projects	10–13	50+ languages	★★★★☆	Web-Based	Freemium
15	**Roblox Studio**	3D worlds creator	10–13	Lua	★★★★☆	Download	Free
16	**Godot Engine**	Indie game dev	11–15	GDScript	★★★★☆	Download	Free
17	**GameMaker**	2D action games	11–13	GML	★★★★☆	Download	Freemium

Keep exploring. Keep coding. The world is waiting for what you'll create! 💡