

THE CLASSROOM BECOMES THE ARCADE.

Thirty-six lessons in which students ship **eight complete games** on a screen of 8192 pixels — every line real, typed Python. It ends with two boards playing Pong against each other over radio, running code **your students wrote**.

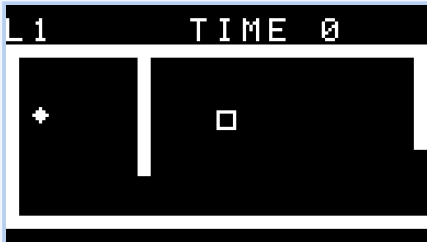
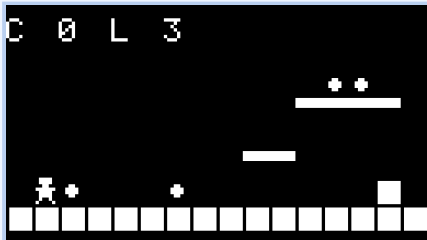
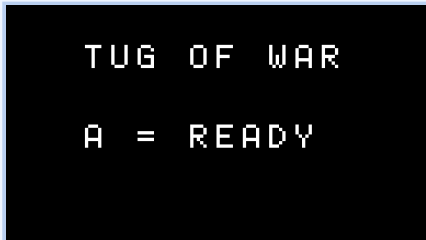
NEW COURSE · PYTHON · GRADES 5–9 · NOW BOOKING

WHO Ages 10–15 Grades 5–9	WHAT 36 lessons 6 units · 8 games	HOW LONG Full year 45–60 min each	KIT 1 board per student	NO BOARD? Runs in the browser	CURRICULUM Coding & Robotics CAPS-aligned
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HOW IT BUILDS

From one pixel to a two-player network game.

Every lesson carries exactly one game idea and one Python idea, and every unit ends with a finished game that has the student's name on it. Nothing below is an illustration — each screen is the real course program, run.

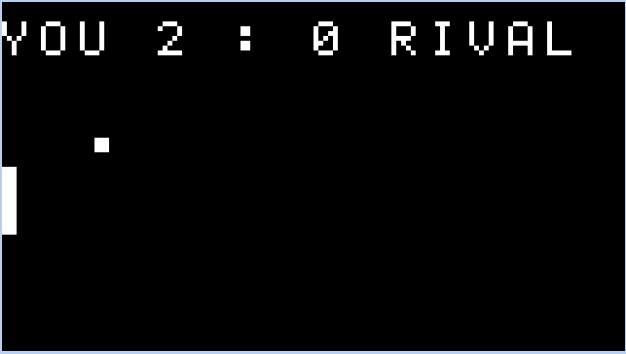
UNIT 1 LESSONS 1–6 The Game Loop  Lesson 6 · Star Catcher's title screen Pixels, the update–draw–show heartbeat, buttons, velocity, collision. By lesson 6 they ship Star Catcher — title screen, three lives, rising difficulty, sound. ONE BOARD · FIRST TYPED PYTHON	UNIT 2 LESSONS 7–12 Tilt & Motion  Lesson 10 · Tilt Maze, level 1 The board itself becomes the controller: deadzones, smoothing, real gravity. Two games — Tilt Maze, steered by tilting the board, then Sky Jumper, an endless climber with a camera. MOTION SENSOR · TWO GAMES	UNIT 3 LESSONS 13–18 Virtual Pet  Lesson 16 · sheenPet, well fed Their first object: sheenPet, a creature whose needs are a Python class — fed by buttons, sunned by a real light sensor, and asleep the moment the room goes dark. LIGHT SENSOR · TOUCH · FIRST CLASS
UNIT 4 LESSONS 19–24 Snake & Blockfall  Lesson 23 · Blockfall's opening frame The algorithm unit: a snake that is a list, falling pieces that are data, rotation that is maths. The classics, rebuilt from first principles — then remixed with their own rules. LISTS & GRIDS · TWO CLASSICS	UNIT 5 LESSONS 25–30 Platformer  Lesson 30 · Pixel Runner, world 1 Sprites drawn as strings, levels typed as text, a camera that follows the hero: Pixel Runner is a genuine side-scroller with enemies, coins, lives and a flag — and level 2 is theirs to design. SPRITES · TILEMAPS · CAMERA	UNIT 6 LESSONS 31–36 Radio Multiplayer  Lesson 35 · versus arcade, the ready check Two boards, one shared world: a message protocol, a ball that exists on exactly one screen at a time, fairness by handshake — Duel Pong and a tug-of-war, then a Game Jam of their own. RADIO · TWO PLAYERS · GAME JAM



THE GROWTH YOU CAN MEASURE

Lesson 1 draws a pixel. Lesson 36 ships a network game.

Both columns below are real lessons from this course, printed exactly as students meet them — the first program of the year against the finished two-player Pong they build in the final unit.



Lesson 34 • Duel Pong, mid-rally — two boards, one ball, real radio

THE SAME STUDENT, FIRST LESSON AGAINST LAST

	LESSON 1	LESSON 34
The program	A blinking title	Two-player Pong
Lines of Python	28	158
Inputs it reads	—	Buttons + radio
State it tracks	1 counter	Ball • scores • serve • presence
The big idea	show() flips the frame	One authority per fact

Nothing in between is a worksheet. All 36 programs run — in the browser simulator inside each lesson, on the board in class, and in an automated build that replays every game's rules before a single page could be printed.

INSIDE EVERY LESSON

Play it, read it, break it, rebuild it.

LEARNING GOAL	One game idea, one Python idea. Never two of either.	THE CONCEPT	Written for the student, in plain language, with the awkward parts left in.
LIVE DEMO	The full game runs inside the lesson — press Run, play it, then go find the line that did that.	THE PROGRAM	Complete, commented Python — the same bytes that just ran, printed to be broken.
YOUR TURN	A change to make, with a picture of the result they are aiming at.	KEY TERMS	A flip deck: velocity, edge detection, state machine, tilemap, protocol.
CHECK YOURSELF	A question with a real answer, explained — not a definition to recall.	THINK ABOUT IT	A written reflection. Several have no comfortable answer.

Every game in this course was played before it was printed.

Every program executes

All 36 games run in the real simulator during the course build — with scripted replays standing in for button-mashing hands, and a stand-in partner board sending real radio.

The rules are refereed

Snake's growth, Blockfall's line clears and Pong's physics are re-verified frame by frame against independent rule models. A game that runs but cheats never ships.

Same bytes everywhere

The listing in the lesson, the code in the simulator and the program on the board are byte-identical. Nothing is retyped, so nothing can quietly drift.

THE CAPSTONE

Game Jam.

The final lesson hands over a clean, commented game template and sixty minutes. Students design on paper first — one genre, one mechanic, one twist — then build, playtest and pitch.

00:00	The design doc. Three boxes on paper: the genre, the one mechanic, the one twist. No code until all three are filled in.
+20:00	Playable. The template's title screen now belongs to their game, and something — however ugly — is fun to touch. That deadline is the whole discipline.
+40:00	Polished. The juice pass: sound on every event, a flash on every hit, a difficulty curve — the same checklist Star Catcher taught in lesson 6.
+50:00	Playtest swap. Every game is played by someone who did not write it, and the feedback lands on paper, not over shoulders.
+60:00	The showcase. Boards up, room plays, four stars on the rubric: FUN FINISHED CRAFT LEARNED .

BRING IT TO YOUR SCHOOL

Book a pilot year.

We train your teacher on the first unit, supply the boards, and leave all thirty-six lessons in your LMS. Class needs no internet at all — a room, the boards, and one teacher willing to lose at Duel Pong in public.

WEB

COURSE

AGES

BOARD

www.sheen.bot

Pixel Arcade

10–15 · Grades 5–9

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