FACILITATOR GUIDE

From Click to Code to Change

Educate to Innovate · 60 minutes · Grades 7–11 teachers

Presenters: Jasmine Coleman (STEM Transformational Teacher Lead) and Danielle Serna (Humanities Transformational Teacher Lead), ASU Preparatory Academy – Casa Grande.

Run of show

0–4 min	**Mystery artifact**	Hold up the music IC. Do not explain it. "What is this? What is inside it?" Take guesses, write none of them down, move on.
4–10 min	**CLICK**	Tables complete the circuit that is missing one wire. Name input → path → output out loud.
10–25 min	**CODE**	micro:bit guitar build. Circulate; do not rescue. Announce the hard stop at minute 20 and again at 24.
25–30 min	**THE PIVOT**	"How many devices like this are already on you right now?" Count out loud. Shift from the device in hand to the systems around it.
30–38 min	**TRACE**	Supply chain on sticky notes: materials → places → people → disposal. Danielle leads the historical and human thread.
38–46 min	**IMAGINE**	Circular economy loop. What would a responsible version of this device look like?
46–53 min	**NAME IT**	Reveal Action-Oriented Pedagogy and Principled Innovation, then name Arizona semiconductor entry points.
53–58 min	**TRANSFER**	Teachers pick a grade band and write one CLICK, one CODE and one CHANGE move on the planning card.
58–60 min	**CLOSE**	"You just lived the arc. Your students can too." Point to the QR code and end on time.

Protect the pivot. *Every minute CODE runs long is taken from CHANGE, which is the part teachers cannot get from any other session on the program.*

Say it out loud

Into CLICK. “Nobody explain anything yet. Just make it work, then tell me what path the electricity took.”

CLICK → CODE. “This chip plays what its designer decided. The next one plays what you decide.”

The hard stop. “Stop where you are, even mid-debug. What you did not finish is not the point of this hour.”

THE PIVOT. “Count the devices on your body right now. Every one of them holds a chip like the one you just held.”

Into TRACE. “So where did it come from? And when it breaks, where does it go?”

Into CHANGE. “Career-connected learning is not preparing students to enter an industry. It is preparing them to shape it.”

Close. “You did not just watch a lesson. You lived the arc. That arc is Action-Oriented Pedagogy.”

BEFORE THE SESSION

Setup, safety and packing

Do the pre-build the night before, not in the room

Setup

- Print station cards in color; one per table group. Print planning cards, one per teacher.
- Pre-build 2–3 Snap Circuits stations, each with ONE snap wire pulled out and set beside it.
- Pre-tape 30 paper circuit cards so teachers only add the battery and clip (saves 6 minutes).
- Pre-build the Brick Circuits plates with a starting tile pattern; leave the ink pads closed until minute 30.
- Flash the guitar starter program onto every micro:bit before the session. Do not flash live.
- Bring one bright incandescent or halogen lamp for the solar cell — conference lighting is too dim.
- Put fresh AA batteries in the Snap Circuits holders. Test every station the night before.
- Tape the QR code to each table so nobody has to ask for the link.

Safety

- **Coin cells.** Button batteries cause serious internal injury if swallowed. An adult hands them out and collects them. Never leave loose cells on a K–5 table. Keep them bagged until the moment of use.
- **Fan blade.** Leave the fan blade off the Snap Circuits motor, or point it away from faces. The flying-fan builds launch it.
- **Ink.** Use washable ink pads. Wipe plates before tiles dry together.
- **Volume.** The micro:bit speaker and Snap Circuits alarm IC are loud. Warn the room before the first tone.

Pack list

- [ ] Station cards (3, color) + planning cards (30)
- [ ] Snap Circuits kit + loose snap wires
- [ ] Fresh AA batteries (8+)
- [ ] Paper circuit cards (35), LED stickers (40)
- [ ] Copper tape roll, binder clips (40)
- [ ] CR2032 coin cells (35) in a labeled bag
- [ ] micro:bits (8–10) + USB cables + battery packs
- [ ] Crocodile clip leads (30), foil, cardboard, glue sticks, scissors
- [ ] Brick Circuits boxes (8), ink pads, wipes, wafer worksheets (35)
- [ ] Bright lamp + extension cord
- [ ] Sticky notes (2 pads), markers (10)
- [ ] Printed QR codes for tables (8)
- [ ] Backup: laptop with MakeCode open offline

If you fall behind

- **Running long in CODE?** Demo the guitar at the front and have tables watch. Keep the pivot on time.
- **Not enough Snap Circuits stations?** Run paper circuits as the whole-room CLICK and keep one Snap Circuits sound build up front for the chip bridge.
- **No time to stamp in TRACE?** Stamp one plate at the front and pass the wafer sheet around.
- **Room has no outlets near tables?** Skip the solar cell station; use the lamp demo only.
- **Under 20 participants?** Merge to two tables per station and add 2 minutes to TRANSFER.