PLUGGING INTO POWER
FAMILY AND COMMUNITY ENGAGEMENT FOR EQUITABLE CS EDUCATION

Why should ALL kids learn Computer Science?

Computer Science teaches important life skills...

Learning Computer Science (CS) helps young people develop "computational thinking" skills that are also important life skills such as critical thinking, problem solving, decision making, and perseverance. Computational thinking skills are also useful for other academic subjects. For example, CS involves solving problems by looking for patterns or breaking problems into smaller, more manageable parts. These same skills of recognizing patterns and systems thinking are used in Math, Social Studies, Science, and Language Arts.

...that prepare kids for college, career, and beyond.

Computer science is for everyone, not just programmers or "techies." People have used their CS education to pursue passions outside of tech or to address key problems in society. CS learning provides opportunities for project-based learning, real-world problem solving, and entrepreneurship, while helping students develop critical reasoning, communication, and collaboration skills beneficial to all children's personal development.

All kids should know about the good AND bad of tech.

Learning CS demystifies technology and prepares kids to become well-informed consumers and creators, able to think critically about how computers can both help and harm. Without knowing about the potential dangers, kids may become susceptible to misinformation, scams, cybersecurity, etc.

Can computers be biased?

Technology, and specifically computer technology, can be incredibly helpful. But did you know that it can also be hurtful? For example, in 2017 a viral video showed an automatic soap dispenser that failed to dispense any product onto his dark skin, while a white coworker who used the same dispenser had no problems. This example shows how technology can have negative consequences depending on how it is designed and who is designing it. The same is true for algorithms designed for computer apps used in hospitals or banks, or in the AI we use today. Depending on what dataset is used to train AI and who is designing it, we may see very different results (see, for example, Joy Buolamwini's research on current AI facial recognition tools that had less than 1% error rate for light-skinned men but above 30% error rate for dark-skinned women). With technology rapidly evolving, it is crucial that future tech creators reflect the gender and race of all its users. Yet, a 2024 survey shows that only 12% and 16% of all tech workers are Black or Latine and only 18% of CS degrees are held by women. This is why it's essential that all kids learn CS, and not just a select few.

In the US, only 6% of high school students ever take a Computer Science class.

Why isn't Computer Science (CS) required learning in school?

Unlike core subjects like math or writing, CS is not a required K-12 course in most states, which means that many kids don't learn CS and many schools don't offer a CS class taught by a well-prepared teacher. And even if schools have computers or iPads, that doesn't mean kids are learning CS. For example, some schools only use computers to teach typing, do math drills, or to take computer-based tests. Even worse, in schools where CS courses are available, there are racial and gender disparities in who takes those CS classes. Sometimes we have pre-conceived notions about who should take CS, and then only certain students are encouraged to study CS, so it's important to challenge those stereotypes about what a computer scientist looks like. Other reasons might have more to do with students' course schedules, or some schools don't even offer CS courses at all. CS and AI are emerging career fields that lead to high-paying and high-demand jobs that can address socio-economic inequality and empower youth. More importantly, it is imperative that all students learn CS to become critical users and thoughtful creators of technology. Learn more about these issues shared above and why so few girls, African Americans, and Latine are learning CS by reading the book *Stuck in the Shallow End* and graphic novel *Power On*! (links below).

Learn more:

- **Computational Thinking for Parents and Families (handout)**
  csforca.org/computational-thinking-for-parents-and-families
- **In the Age of AI, California Students Urgently Need Access to CS (EdSource article)**
  edsource.org/2025/age-of-ai-california-students-urgently-need-access-to-computer-science/727237
- **State of Computer Science Education (report)**
  advocacy.code.org/stateofcs
- **Stuck in the Shallow End (book)**
  mitpress.mit.edu/9780262533461/stuck-in-the-shallow-end
- **Power On! (graphic novel available in English, en Español (¡Conectados!), 한국어, & audiobook)**
  poweronbook.com