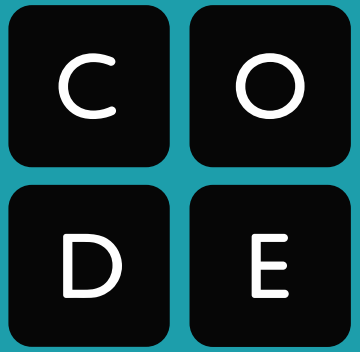


Bringing Computer Science to Your District

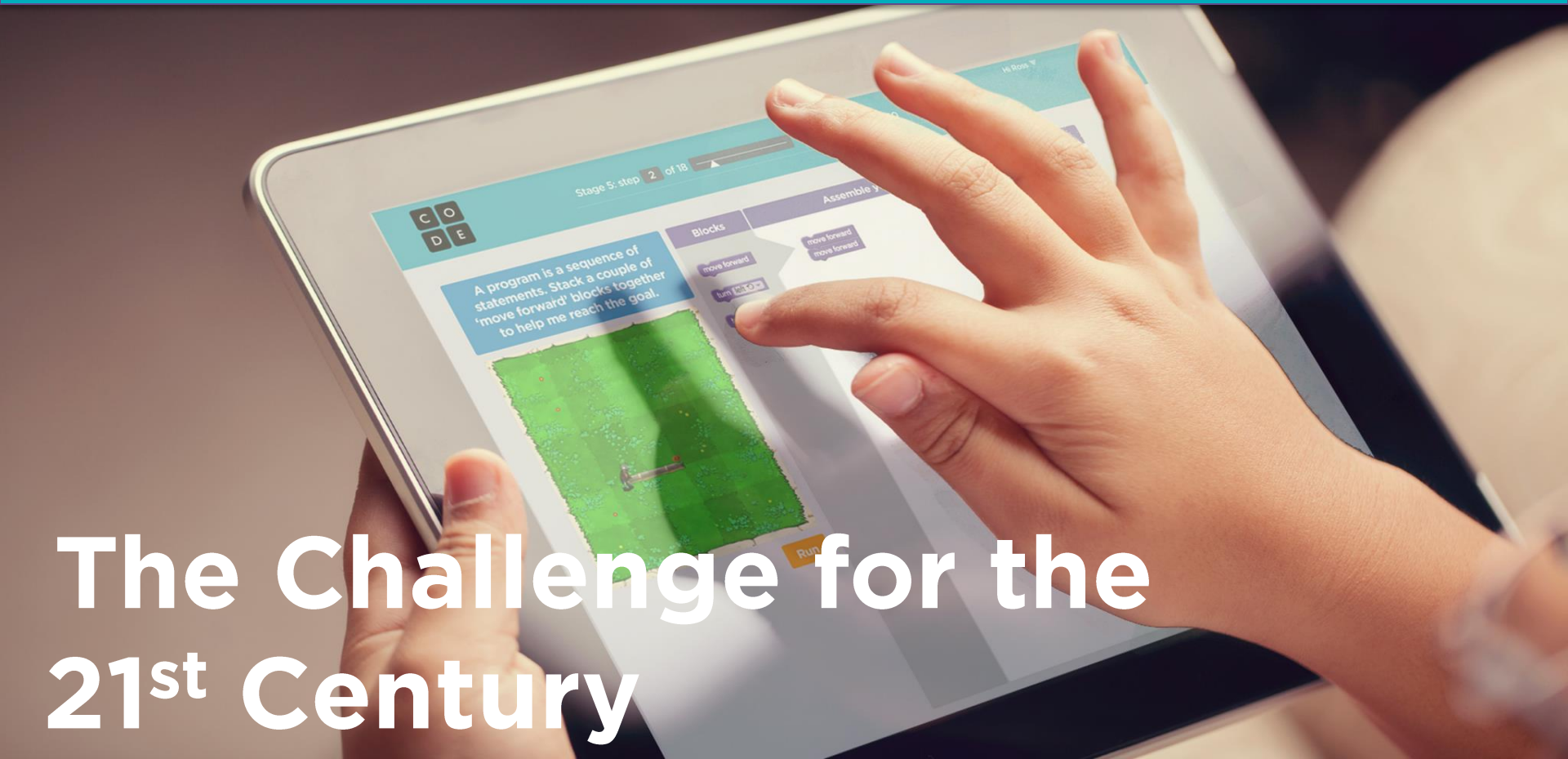
Code.org – Anybody Can Learn

Objectives

Attendees will be able to:

1. Explain why increasing CS opportunities are important for students, parents, school systems, and the nation.
2. Describe Code.org's course package and professional development model.
3. Comprehend the partnership timeline.
4. Understand the commitments required to make the partnership successful.

Our Vision:
every school
every student
opportunity



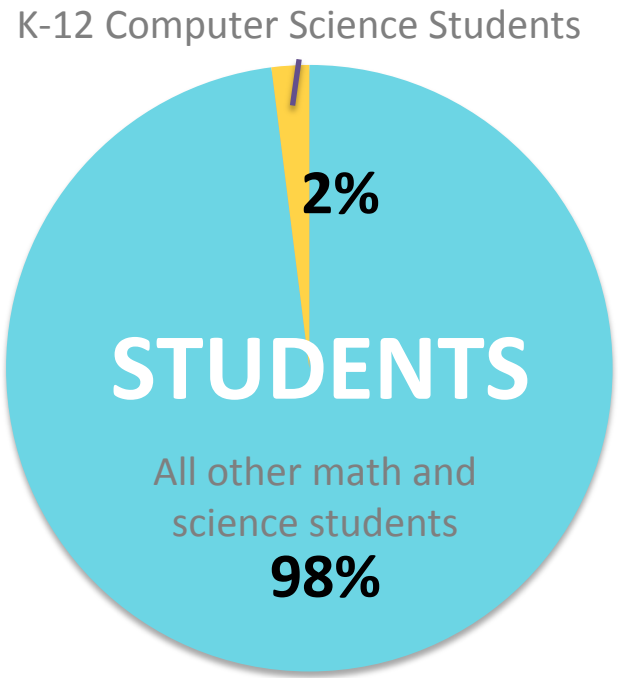
The Challenge for the 21st Century

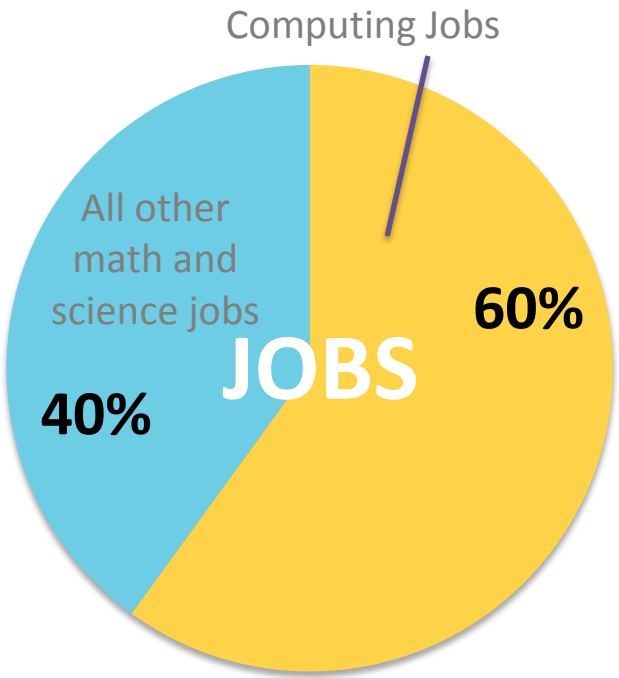
What is computer science?

- Problem Solving, Abstraction, Creativity, Data, Algorithms, Programming, Modeling
- *Creating* technology, not just *consuming* it
- Give student ***computational thinking skills*** enabling better performance in every subject

Why CS is important

The Job/Student Gap



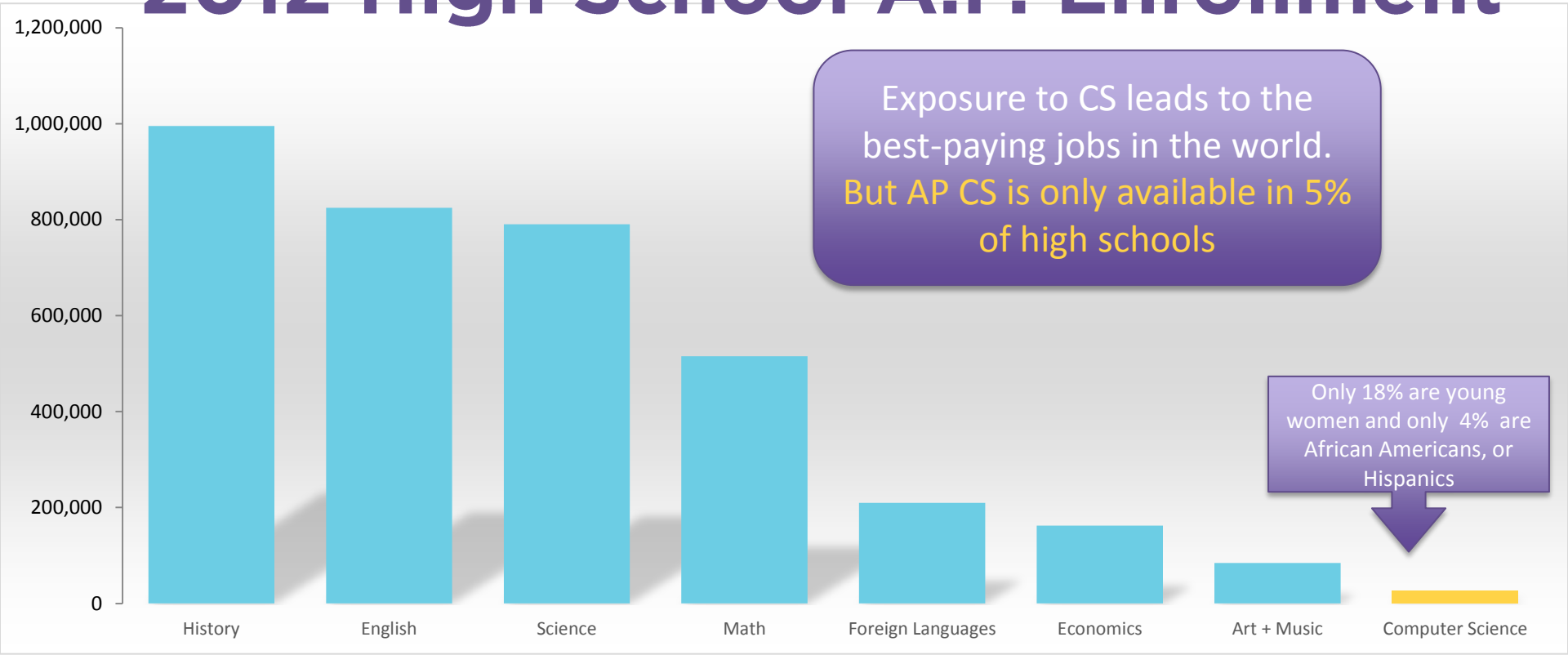


Sources: College Board, Bureau of Labor Statistics, National Science Foundation

Technology is foundational in every field

"Knowledge of computer programming is as important as knowledge of anatomy when it comes to medical research or clinical care"
Larry Corey, Fred Hutchinson Cancer Research Center

2012 High School A.P. Enrollment



Sources: College Board

Code.org's Computer Science Program

Different Kind Of Partnership

- This is a NEW subject from most students/teachers/administrators
- All students get access; not just voc. ed students
- Implementation details matter a lot:
  - Marketing
  - Technology
  - Engaging Teachers
- Creating a lasting CS program that the district owns after the partnership

Proving use of blended learning

- The holy grail: Learning CAN feel like a game
- We can make teacher's lives MUCH easier
- Web-based models significantly reduce IT hassle

33,081,101
have tried an
HOUR of CODE™
Anybody can learn.

Start

Beyond one hour: grades K-5

- Short courses for elementary school
  - Free / open-source
  - Online “games” on any modern browser/tablet
  - Video lectures by Mark Zuckerberg, Chris Bosh, Bill Gates
  - Deeply aligned to Common Core Math + ELA, NGSS
  - Free professional development workshops nationwide
  - 99% approval by teachers
- Any district, school, or teacher can participate

Beyond one hour: middle school

- Math and science lesson sets designed to fit into pre-existing courses
- Aligned to Common Core State Standards for Math + the Next Generation Science Standards

Beyond one hour: high school

- Code.org district partnership model:
  - Two levels of courses
    - Exploring Computer Science (Intro)
    - Computer Science Principles (AP)

K5 PD

- Code.org trained affiliates provide full day PD workshops free of charge to interested teachers.
  - Workshops focus on “unplugged” lessons
  - Moderated online forums for support throughout the year
  - Separate workshops for K-1, 2-3, and 4-5 grade bands
- We will ensure space with a local affiliate for teachers from our district partners

MS Blended PD: 3 phases, 12 months

- Spring: Online knowledge building and pedagogy reflection
- Summer: In-person workshop
- School: Online community and in-person workshops

Workshop costs and
teacher stipends covered by Code.org

HS Blended PD: 4 phases, 15 months

- Spring: Online knowledge building and pedagogy reflection
- Summer: In-person workshop
- School: Online community and in-person workshops
- Summer: In-person reflection and follow-up

Workshop costs and teacher stipends covered by Code.org

Partnership Timeline

High Level Timeline

- 2014
  - Summer - Negotiate and sign contract
  - October - Select participating Schools and Teachers
  - December – District wide *Hour of Code™* + marketing courses to school community
- 2015
  - May – PD Phase 1 launches
  - June-August – PD Phase 2
  - Fall – Courses Launch
  - Each Quarter Through 2016 – PD Phase 3
  - Summer of 2016 – PD Phase 4 (HS)

Commitments

Code.org Commitments (at no cost to the district)

- Provide all curricular resources for K-5, 6-8 and high school
- Provide an online platform for curriculum
- Pay teacher stipends (not taxes and benefits) for time spent in professional development (except K-5)
- Organize all professional development activities associated with Code.org courses
- Provide marketing materials for promotion of the courses
- Develop leadership and capacity
- Provide materials to support Hour of Code™ events
- Advocate for state and local policy changes to support computer science
- Leverage our volunteer network to provide grassroots support for computer science in the community

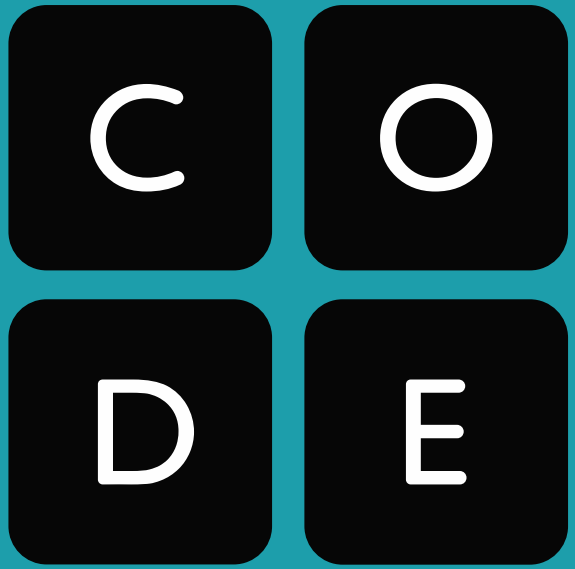
Partner Commitments

District

- Offer computer science curriculum package and courses to students (High school computer science is required, middle/elementary is recommended but optional
- Establish a strong working partnership (marketing, establishing CS program director, holding district-wide Hour of Code™ event each year, implement key program details)
- Participate In Code.org's Professional Development Program (having at least one teacher, counselor and principal from participating schools, provide limited travel support, allow code.org)
- Sustain the program after the term of the agreement (Offer Core Credit (math/science) for Computer Science Principles, Establish or connect with a Community of Practice)
- Allow Code.org and its evaluators to assess the program

Teacher and School

- Participate in all all phases of PD
- Teacher who takes PD teaches a course
- Set up classroom for success (meet minimum technology requirements, provide the necessary materials to support ECS course)
- Promotion to staff, students, and community



@codeorg #hourofcode