WELCOME!

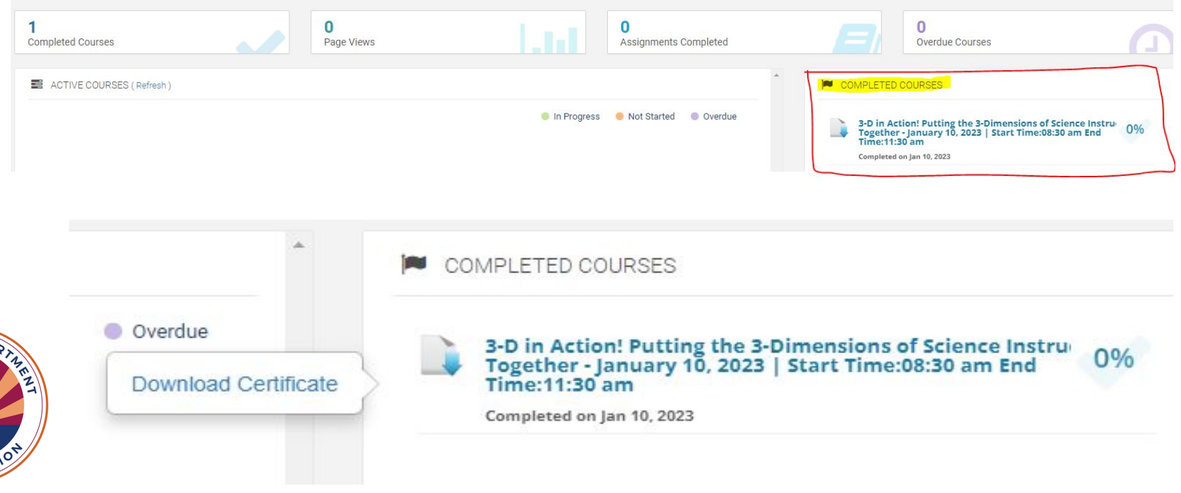
Please review this information while we wait for all to join!

Attendance, Resources & PD Clock Hours

- **You must stay on the whole time- .5 hours- to receive credit**

- **Please follow the directions below to obtain your PD certificate**

  - In the new ADE Professional Learning and Development (APLD) system when you login to your ADEConnect account you will see a list of active courses and completed courses, as demonstrated in this screenshot:



Click on the completed course for which you want to obtain your certificate. When you click on the course link, a small pop-up will appear that says “Download Certificate.” Click that link and it will download your certificate as a PDF, see screenshot to the left.

Celebrate Computer Science Education Week with ADE!

December 4, 2023

What is Computer Science Education Week?

CSEd week is an annual call to action to inspire K-12 students to learn computer science, advocate for equity and celebrate the contributions of students, teachers, and partners to the field.

#CSEverywhere @azedschools

Welcome!

SARAH SLEASMAN
K-12 ACADEMIC STANDARDS
DIRECTOR OF SCIENCE & STEM

ALECIA HENDERSON
K-12 ACADEMIC STANDARDS
COMPUTER SCIENCE & EDTECH
SPECIALIST

CHRISTEL BRUNO
K-12 ACADEMIC STANDARDS
STEM SPECIALIST

Introducing today's special guests:

Hannah Weissman
Director of Policy
Code.org
Hannah.Weissman@code.org

Beth Nickel
Chief Academic Officer
Arizona Science Center
Nickelb@azscience.org

2023

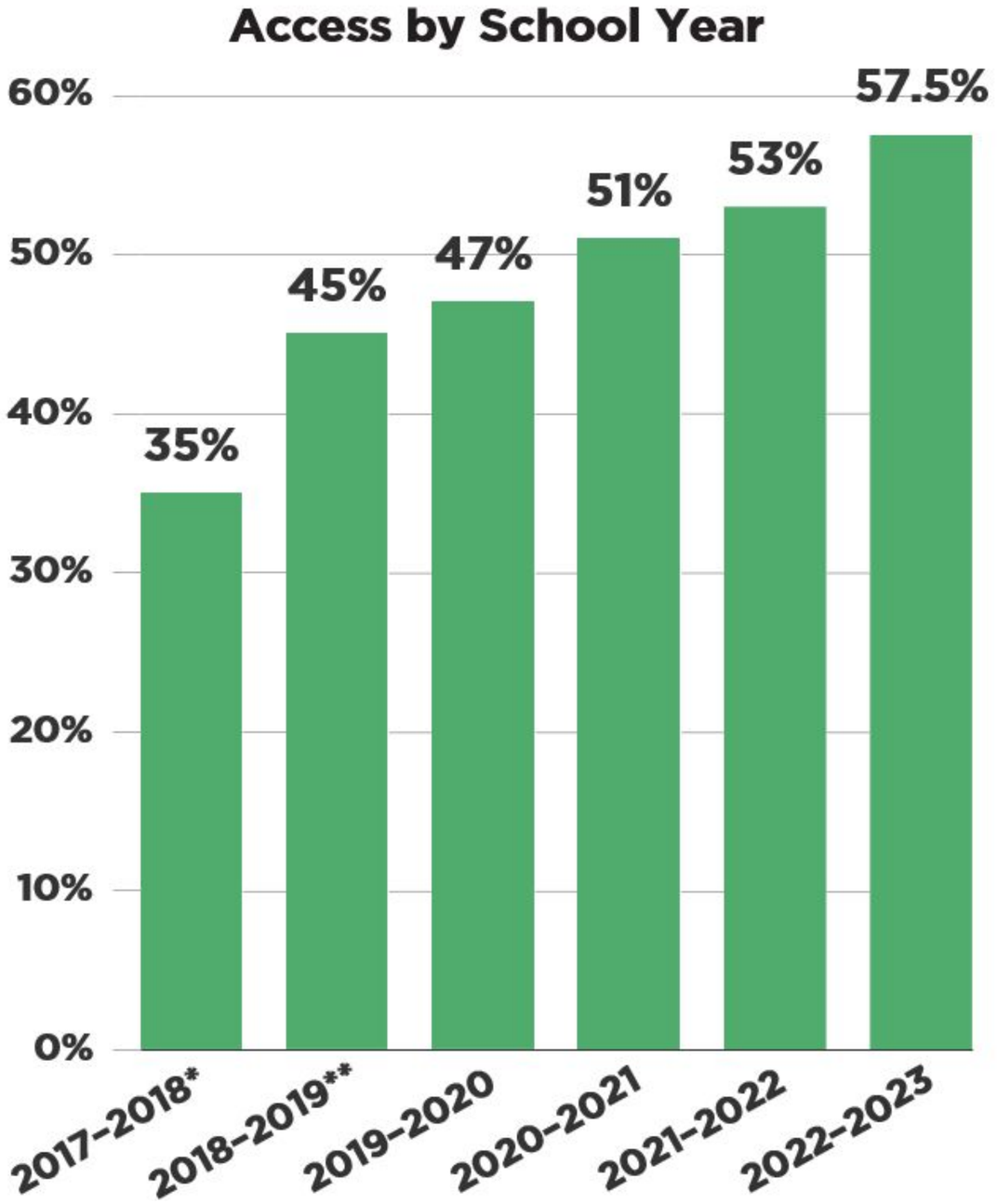
State of Computer Science Education

CODE

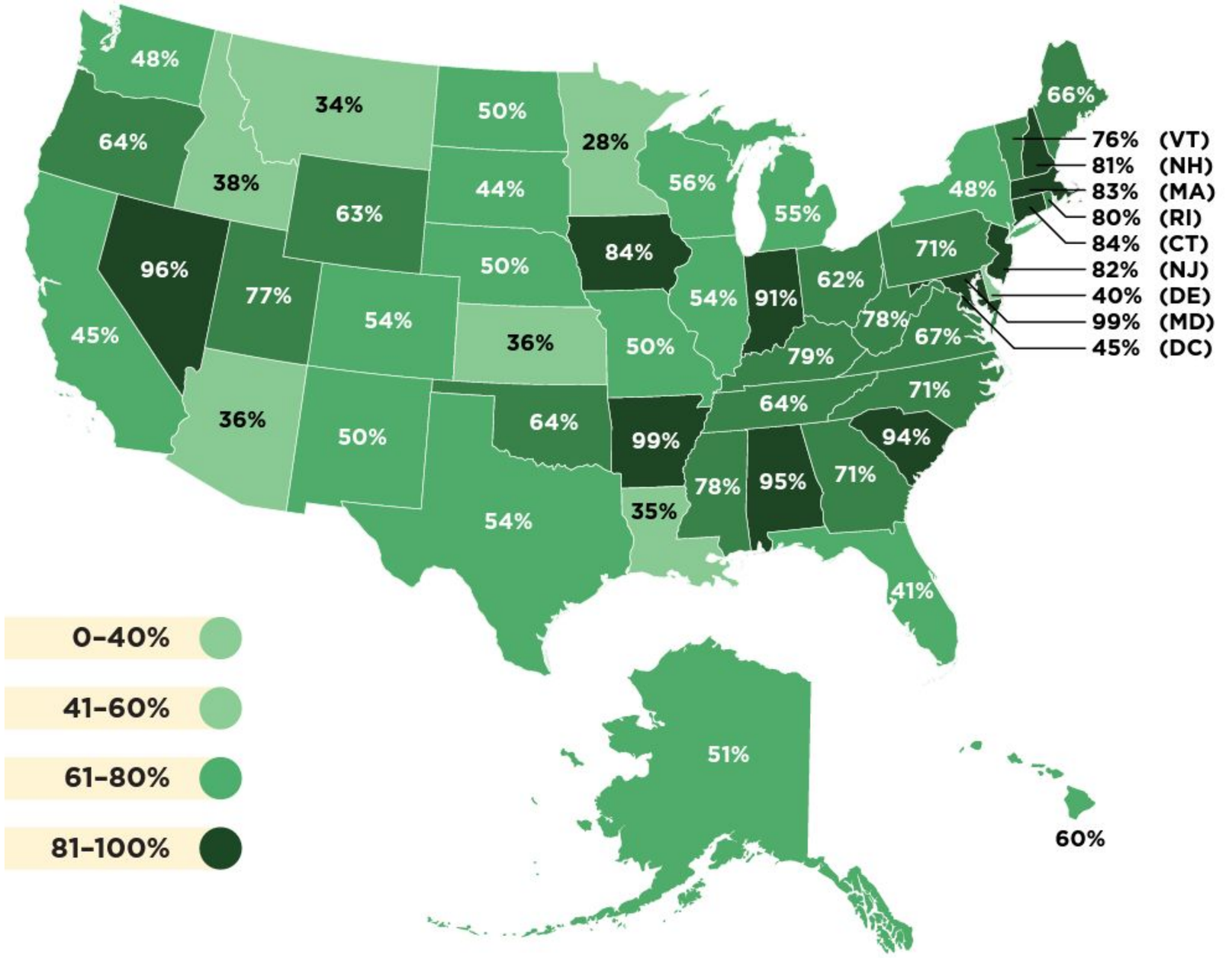
CSTA

ECEP Expanding Computing Education Pathways

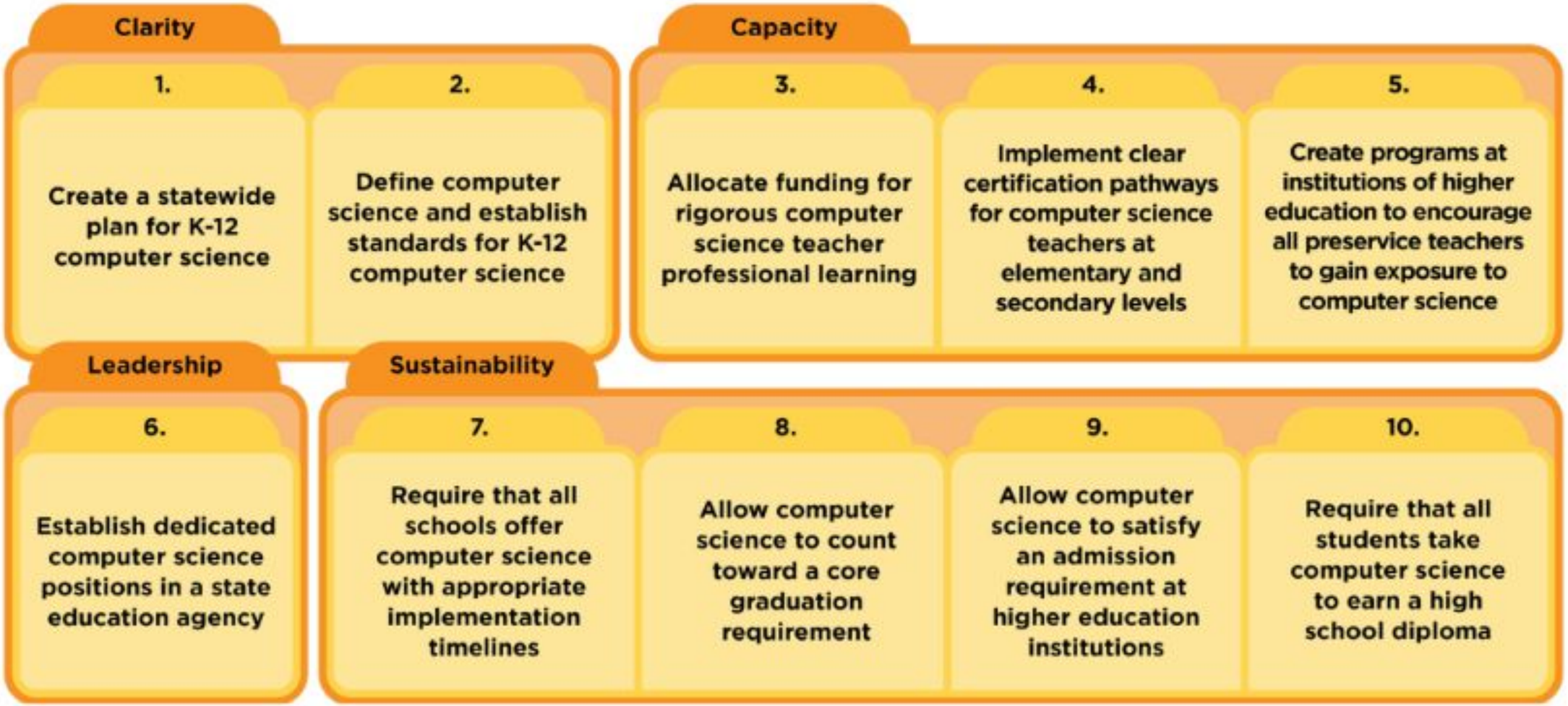
2023 is the year of the **largest growth** since 2018



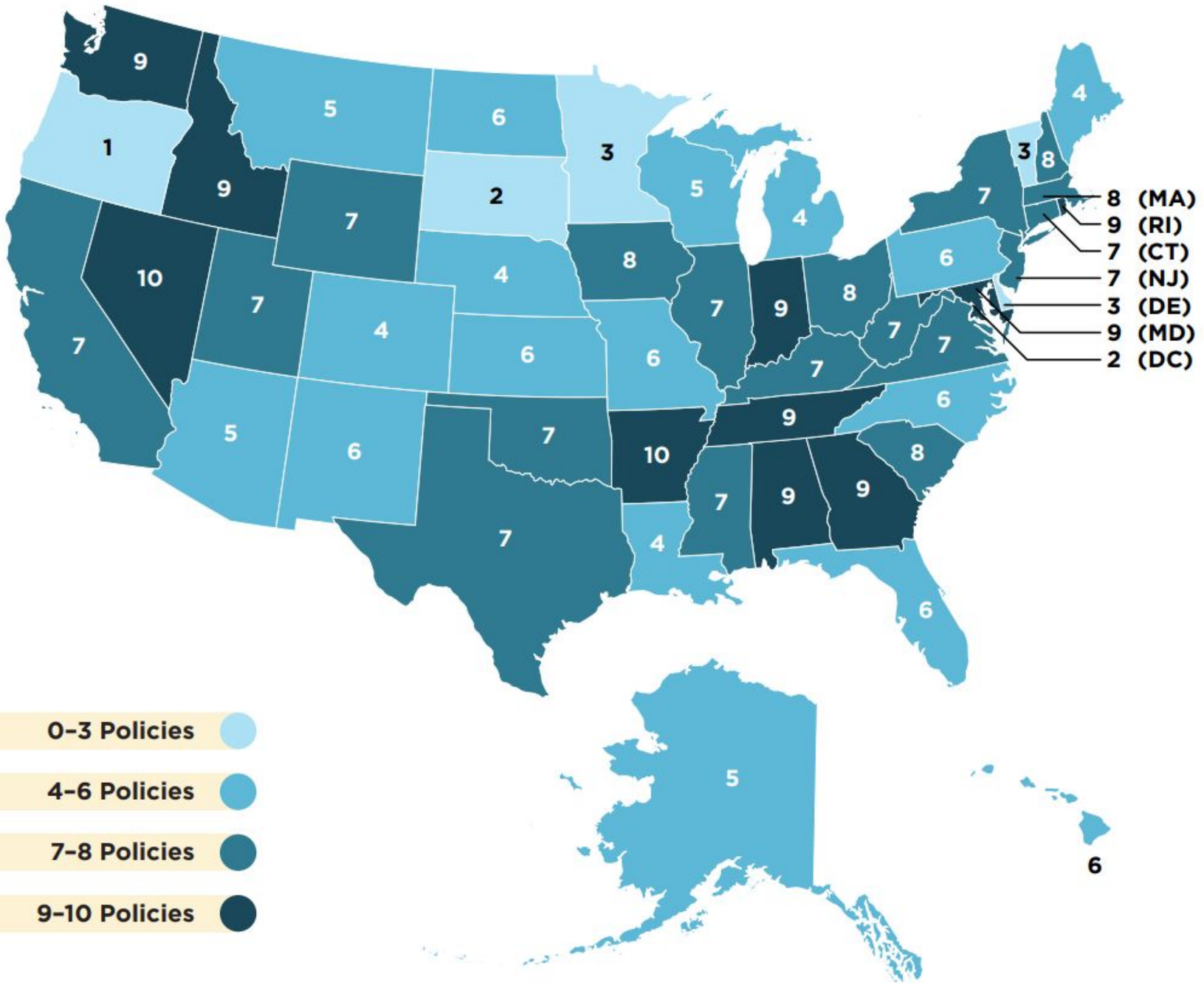
High Schools **Offering CS**



Ten Policies to Make CS Fundamental



Policies Adopted by State



Arizona Policy

1.

Create a **statewide plan** for K–12 computer science

2.

Define computer science and establish standards for K–12 computer science

3.

Allocate funding for rigorous computer science teacher professional learning

4.

Implement **clear certification pathways** for computer science teachers at elementary and secondary levels

5.

Create university programs to **encourage all preservice teachers** to gain exposure to computer science

6.

Establish **dedicated computer science** positions in a state education agency

7.

Require that all schools offer computer science with appropriate implementation timelines

8.

Allow computer science to count toward a core graduation requirement

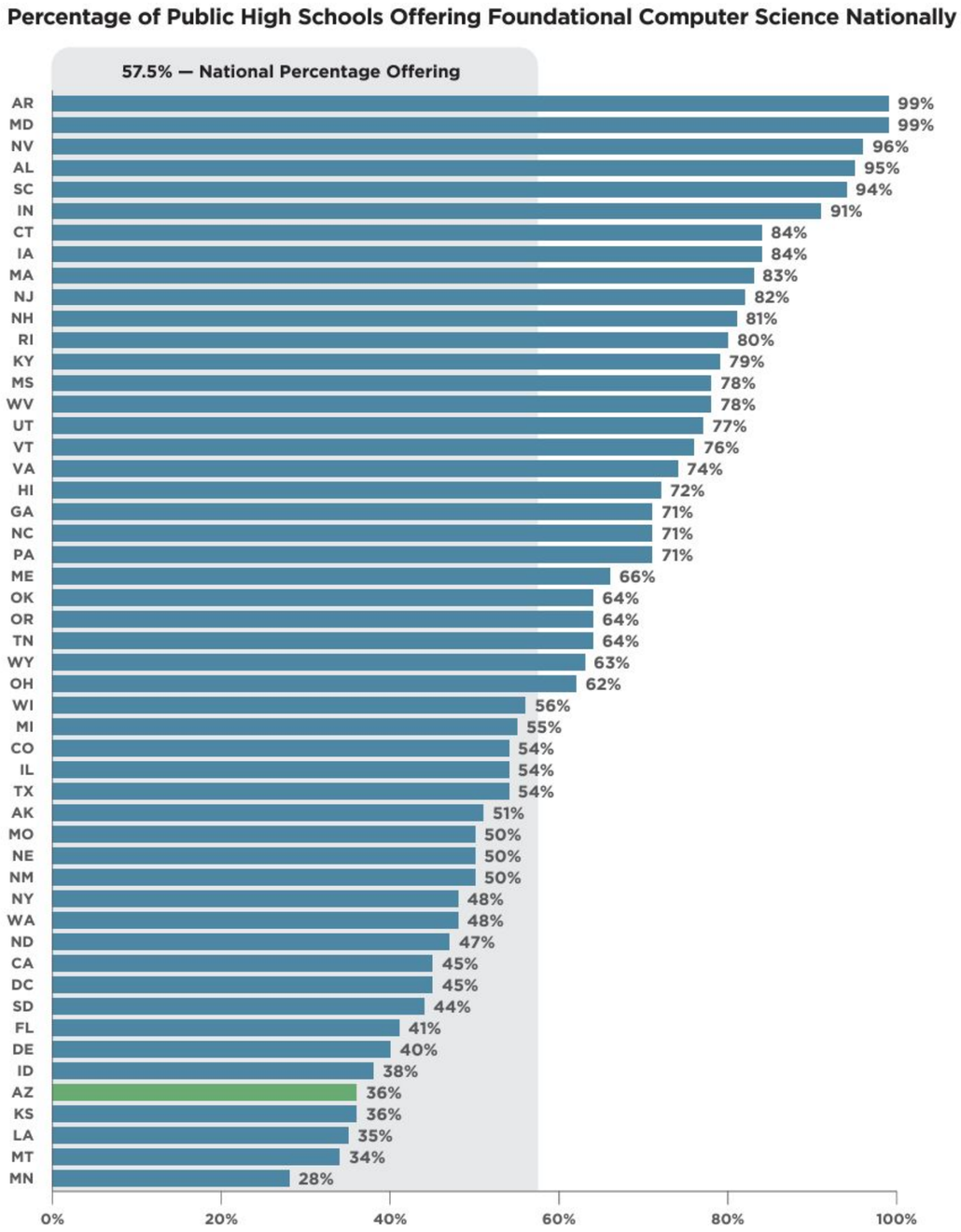
9.

Allow **computer science to satisfy an admission requirement** at higher education institutions

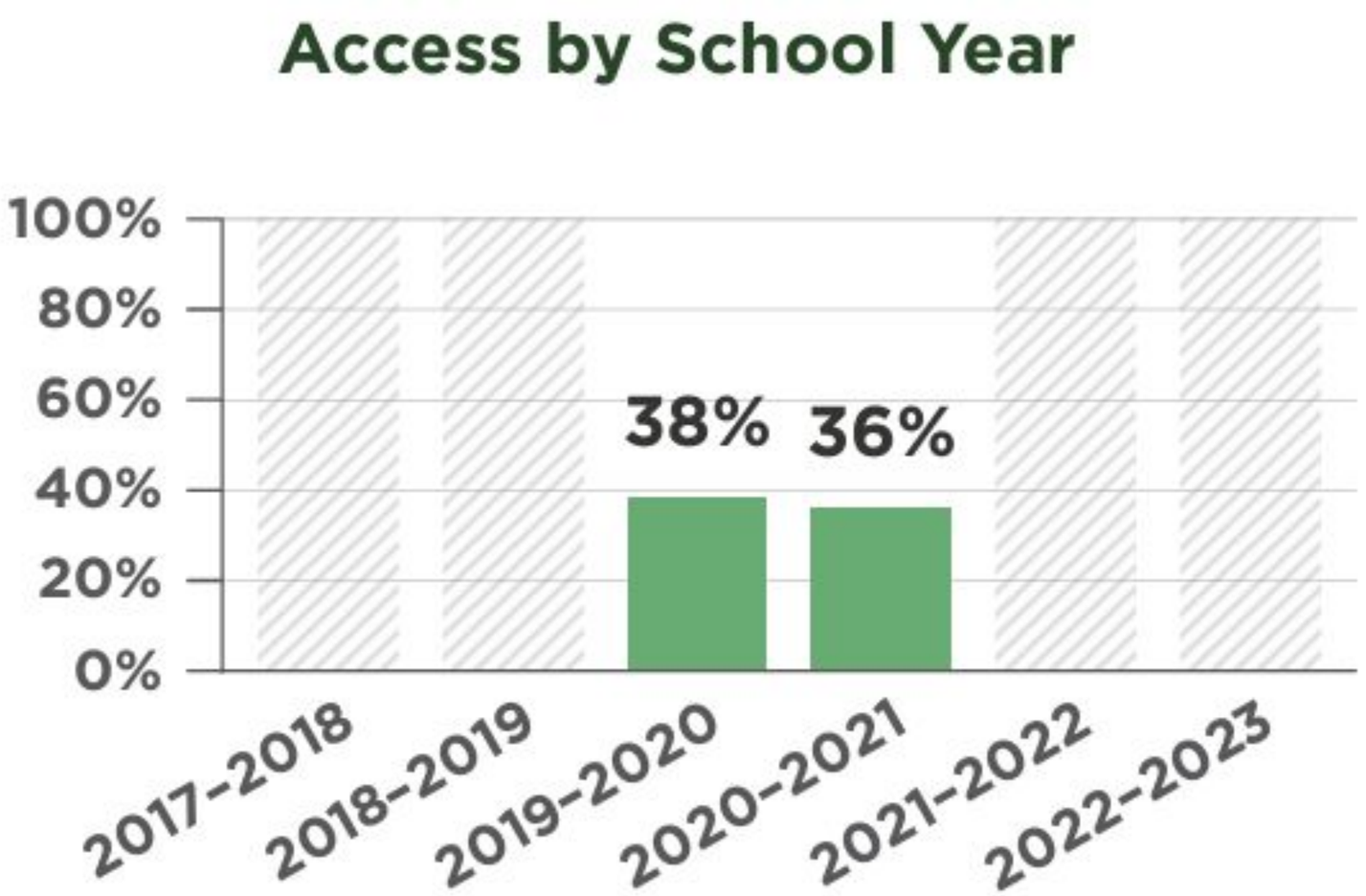
10.

Require that all students take computer science to earn a high school diploma

U.S. Schools Offering Computer Science

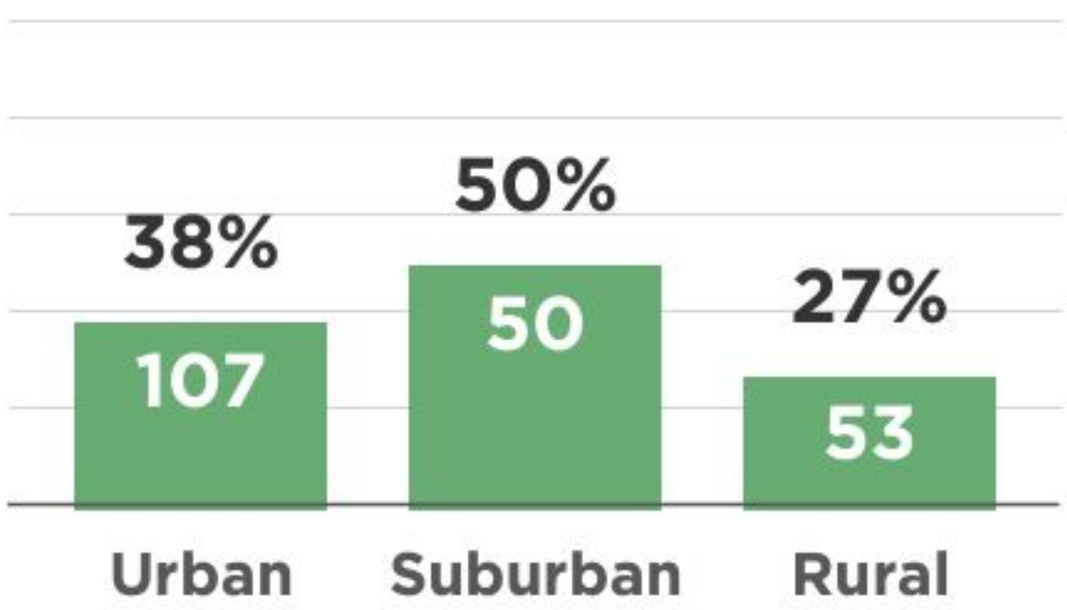


AZ High Schools Offering Computer Science

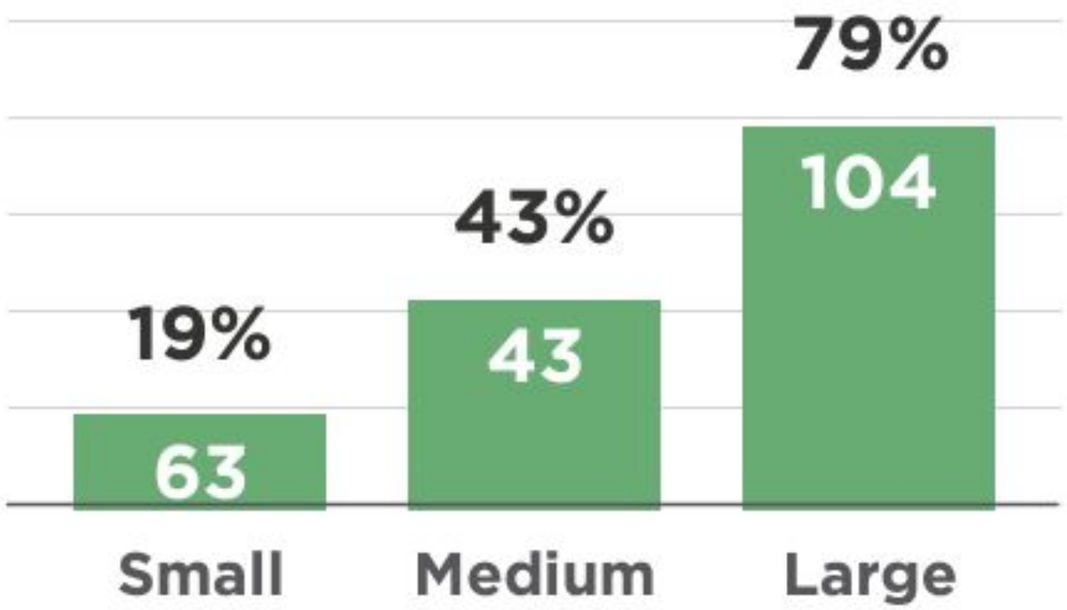


AZ High Schools Offering Computer Science

Access by Geography*



Access by School Size*

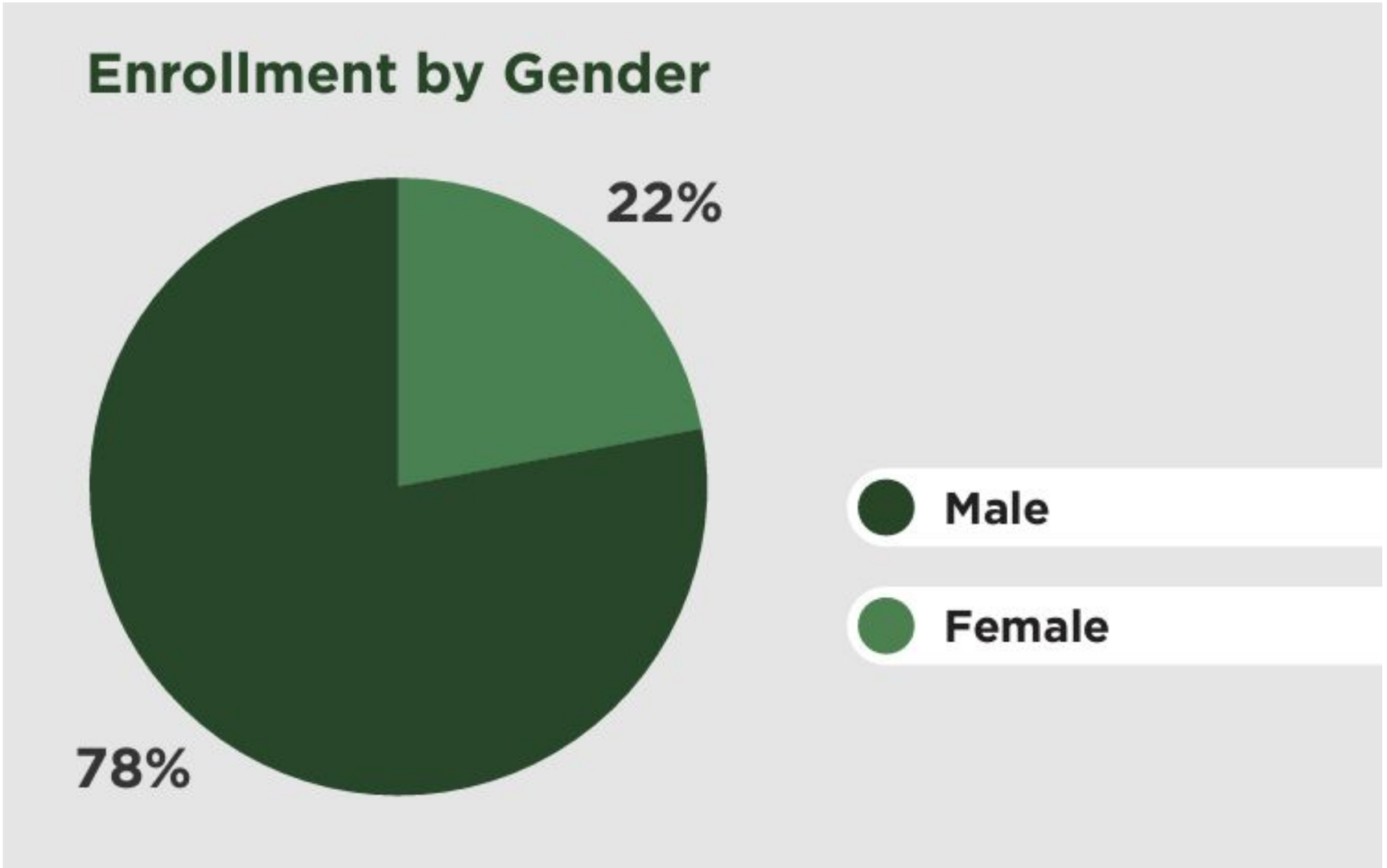


*Data is from the most recent data school year 2020-2021

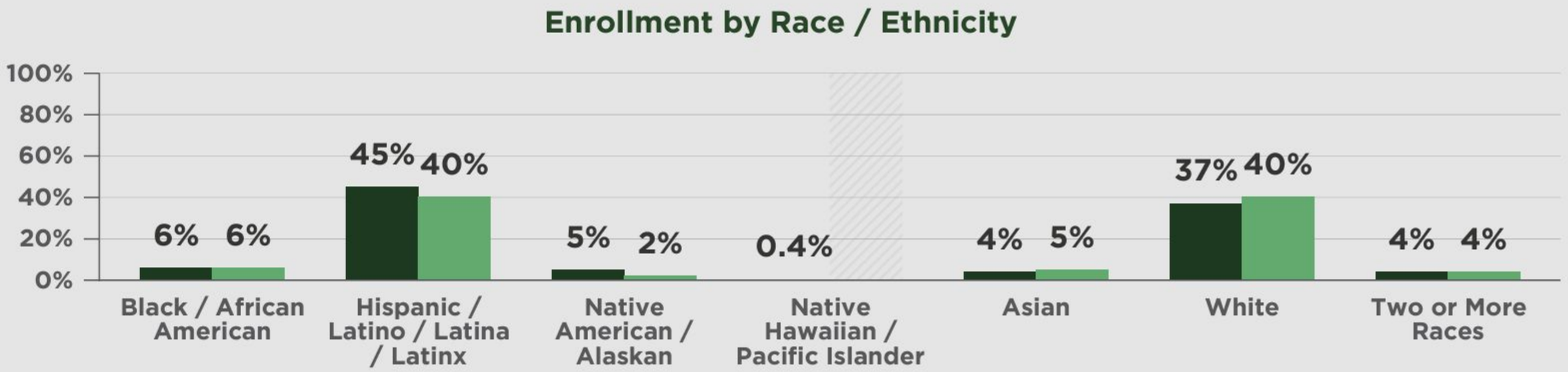
Who is taking CS in Arizona?

In the most recent data only 2% of public high school students were enrolled in foundational computer science

AZ Participation in Computer Science



AZ Participation in Computer Science

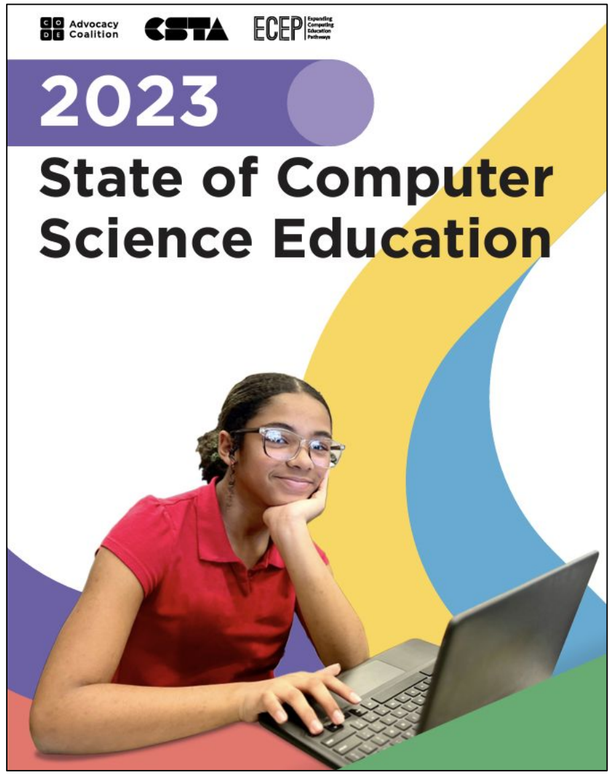


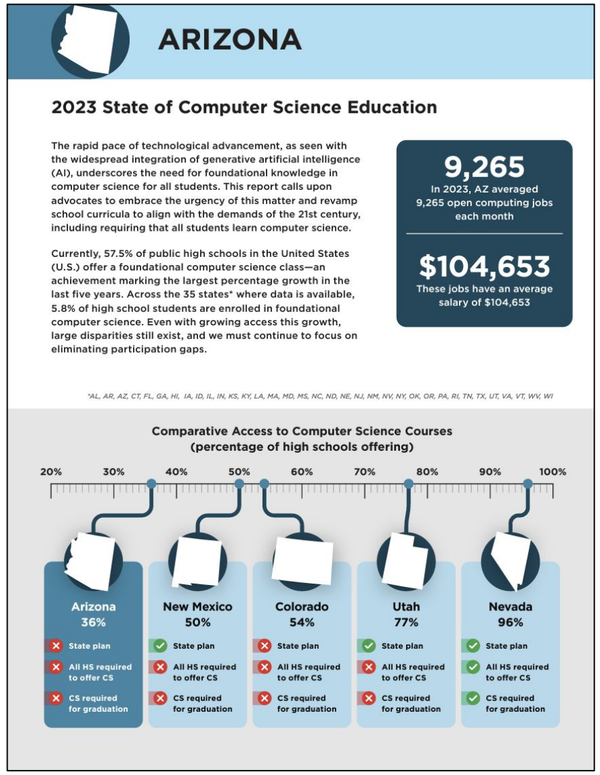
Native American students are 1.5 times less likely to take foundational computer science than their white and Asian peers

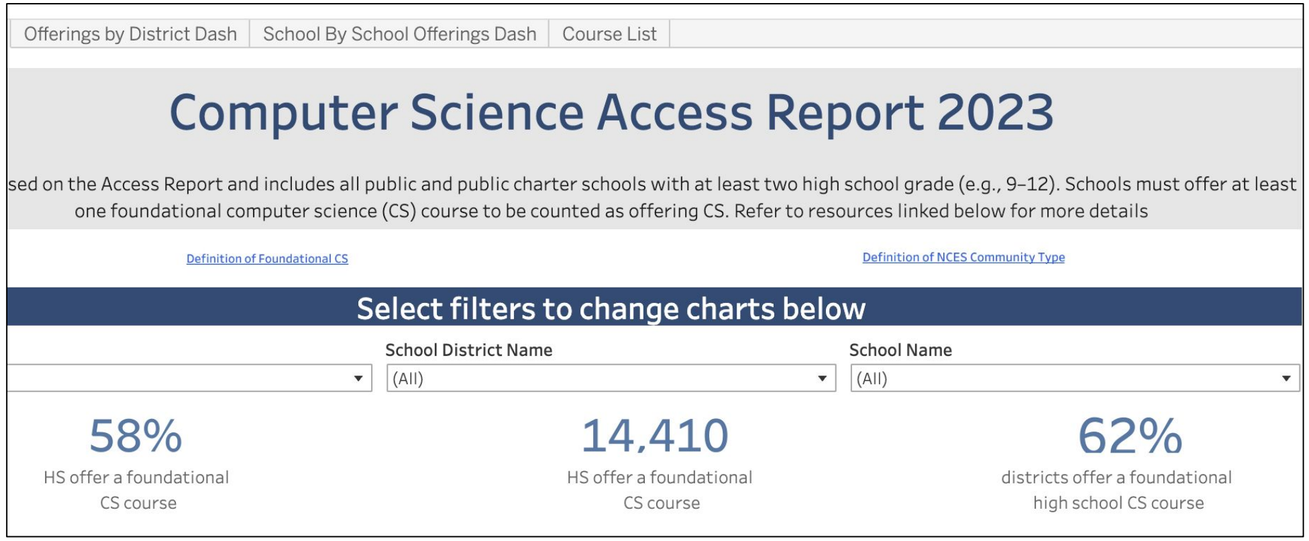
Student Demographics 9–12

Participation in Foundational Courses

advocacy.code.org/stateofcs







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Presented by Beth Nickel
Chief Academic Officer, Arizona Science Center
nickelb@azscience.org

Computer Science in Arizona

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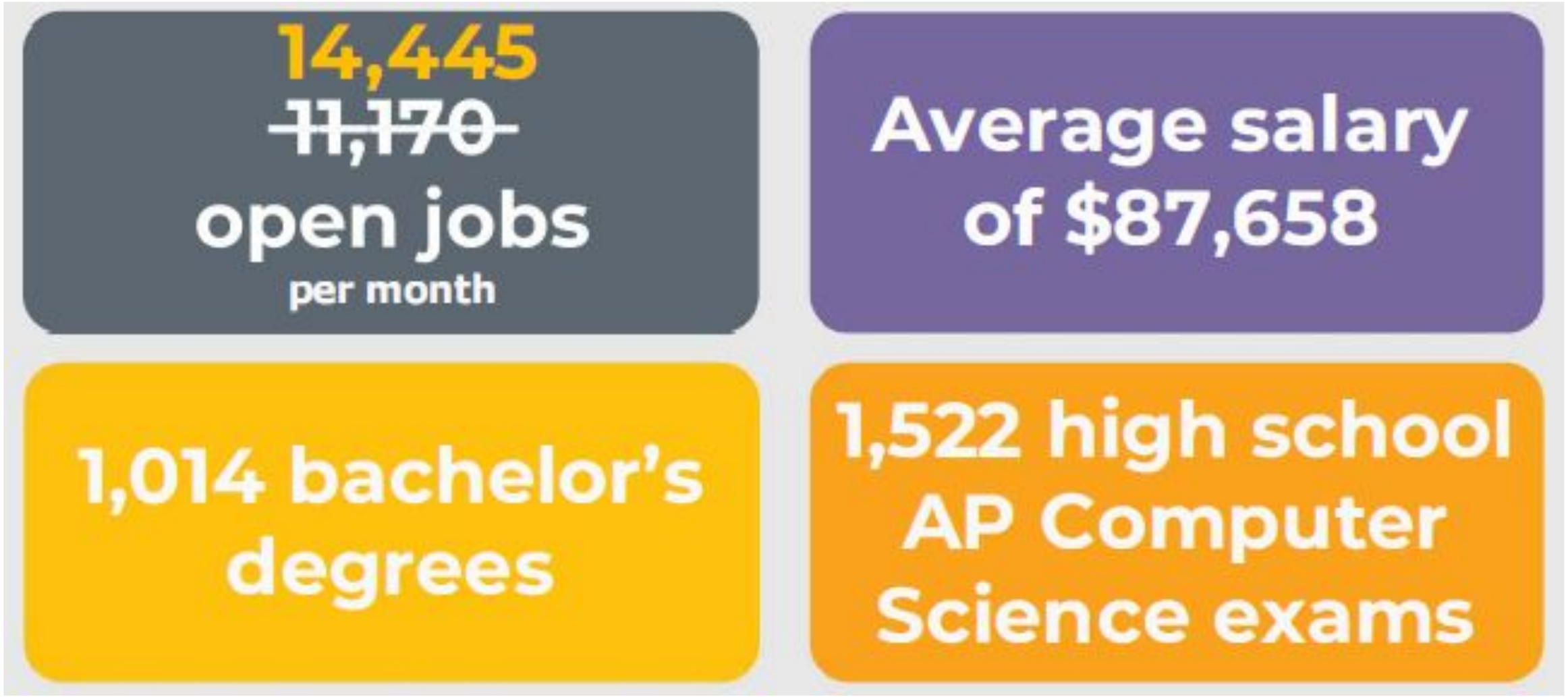

Why Teach CS?

Creativity

Reasoning Skills

Spatial Skills

Metacognition

Reading Skills

Math Skills

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Why Teach CS?

Why Teach CS?

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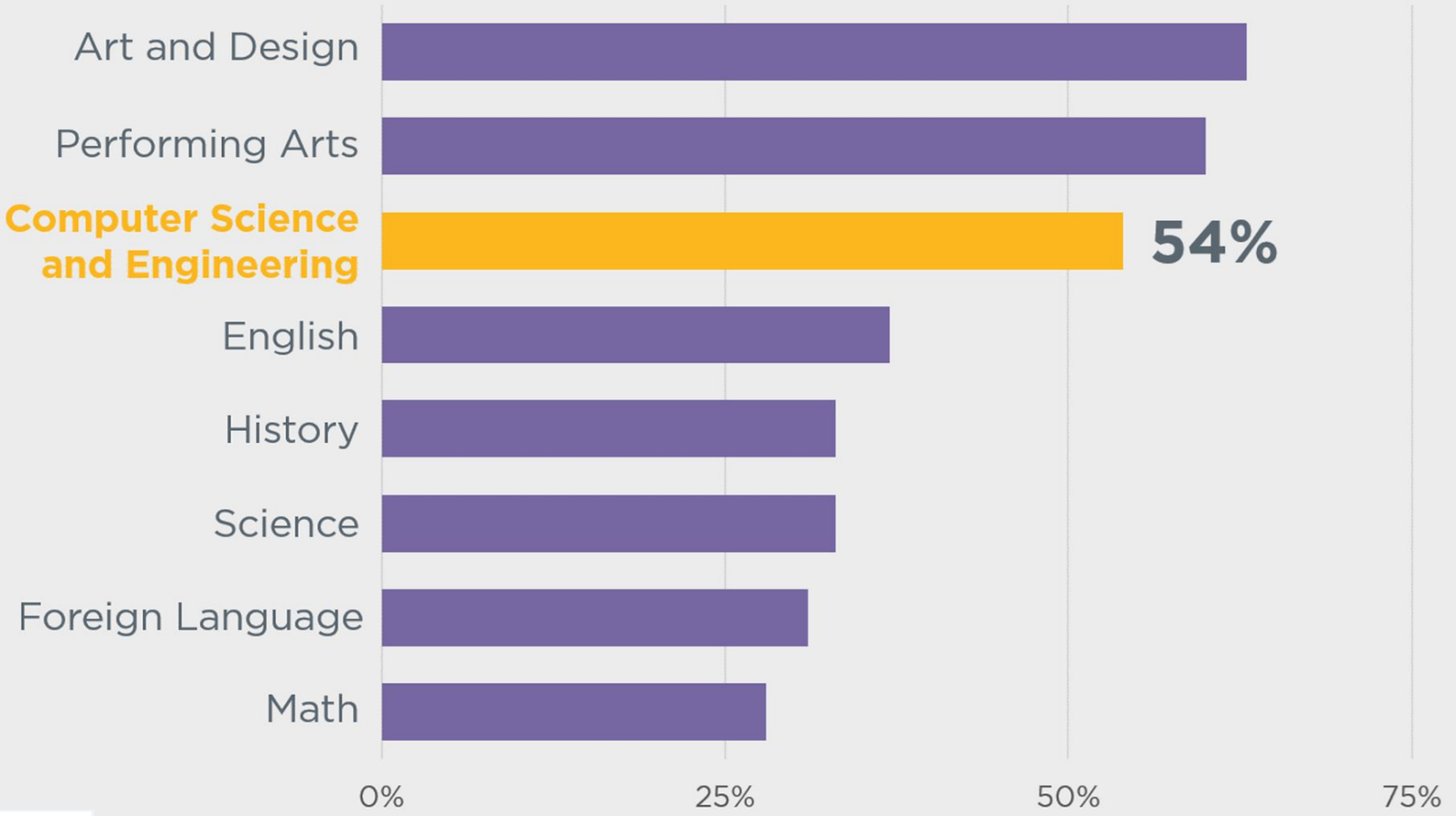
What subjects do students like “a lot”?



Students enjoy **computer science** and the arts **the most**!

Source: Change the Equation

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Code.org Curriculums

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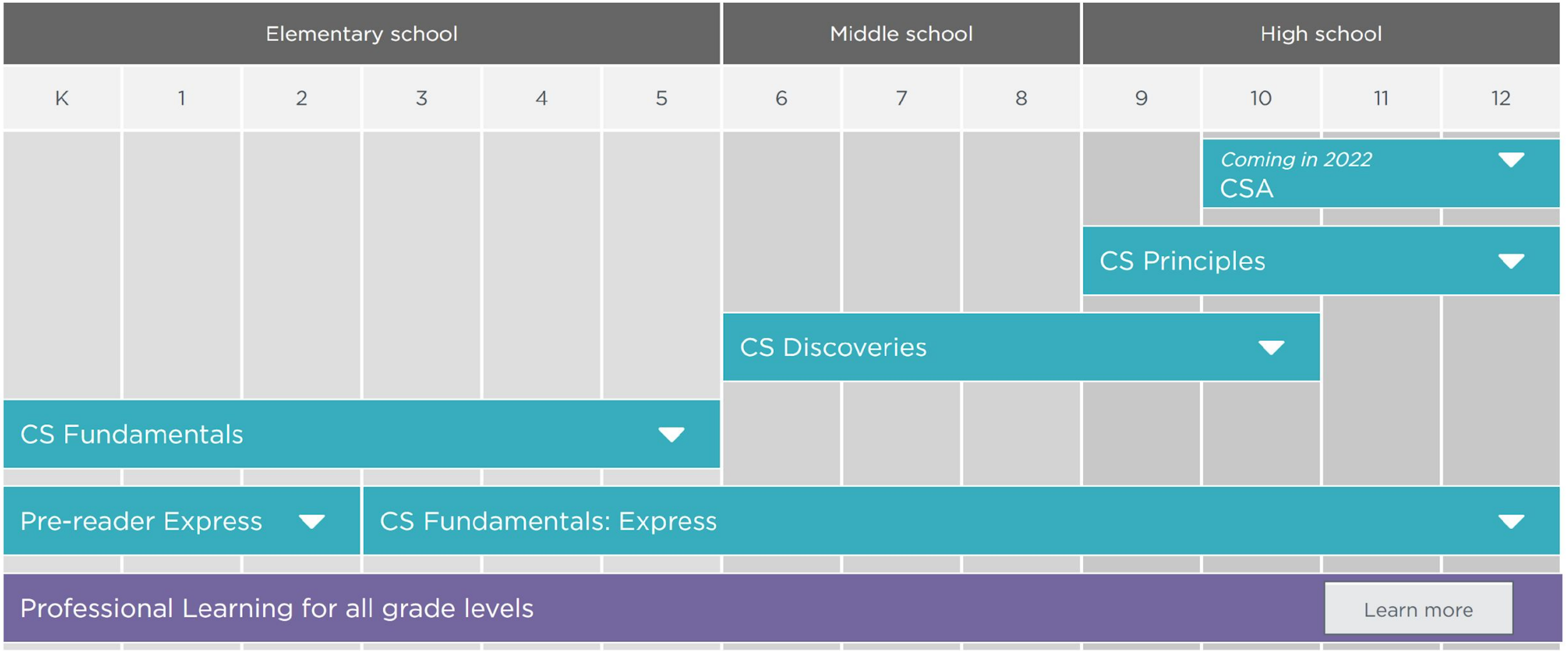

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Code.org Professional Learning Opportunities

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CS Fundamentals & CS Fundamentals Deep Dive

Course A *Kindergarten*	Course B *1st Grade*	Course C *2nd Grade*	Course D *3rd Grade*	Course E *4th Grade*	Course F *5th Grade*
12 lessons *~12 hours to complete*	**12 lessons** *~12 hours to complete*	***18 lessons*** *~18 hours to complete*	***18 lessons*** *~18 hours to complete*	***18 lessons*** *~18-20 hours to complete*	**20 lessons** *~20-22 hours to complete*
Concepts					
• *Digital Citizenship* • *Sequencing* • *Loops* • *Events*	• *Digital Citizenship* • *Sequencing* • *Loops* • *Impacts of Computing* • *Events*	• *Digital Citizenship* • *Sequencing* • *Binary* • *Loops* • *Events* • *Data*	• *Sequencing* • *Events* • *Loops* • *Conditionals* • *Binary* • *Digital Citizenship*	• *Sprites* • *Digital Citizenship* • *Impacts of Computing* • *Nested Loops* • *Functions*	• *Variables* • *Data* • *For Loops* • *Internet* • *Sprites* • *Digital Citizenship*

Monthly Workshops at Arizona Science Center - $20

Workshops at Your School/District – Free with 10 participants

Self-Paced On-line Course

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Code.org Professional Learning Opportunities

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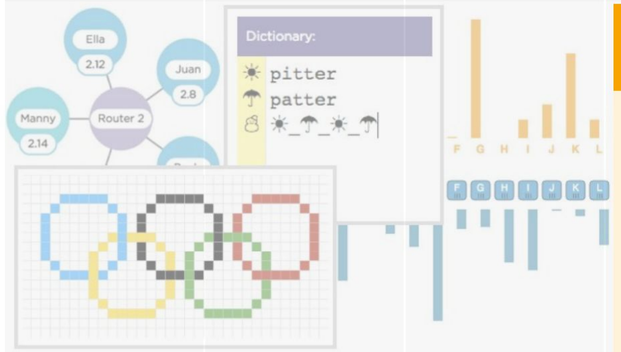
Middle School			High School			
6	7	8	9	10	11	12



[AP] Computer Science Principles

More than a traditional introduction to programming, this higher level course introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world.

Computer Science Discoveries

An introductory course that empowers students to engage with computer science as a medium for creativity, communication, problem solving, and fun. The curriculum can be taught as a semester or full-year course.

CS Discoveries & CS Principles

- 5-day workshop during the summer
- Monthly 1.5 hour workshops during the school year
- $500 cost
- Limited number of full scholarships

Applications Open
January 11, 2022

CS Discoveries – Self-Paced Online Course

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Hour of Code

An easy way to try computer science with your students

December 4-10, 2023

code.org/learn

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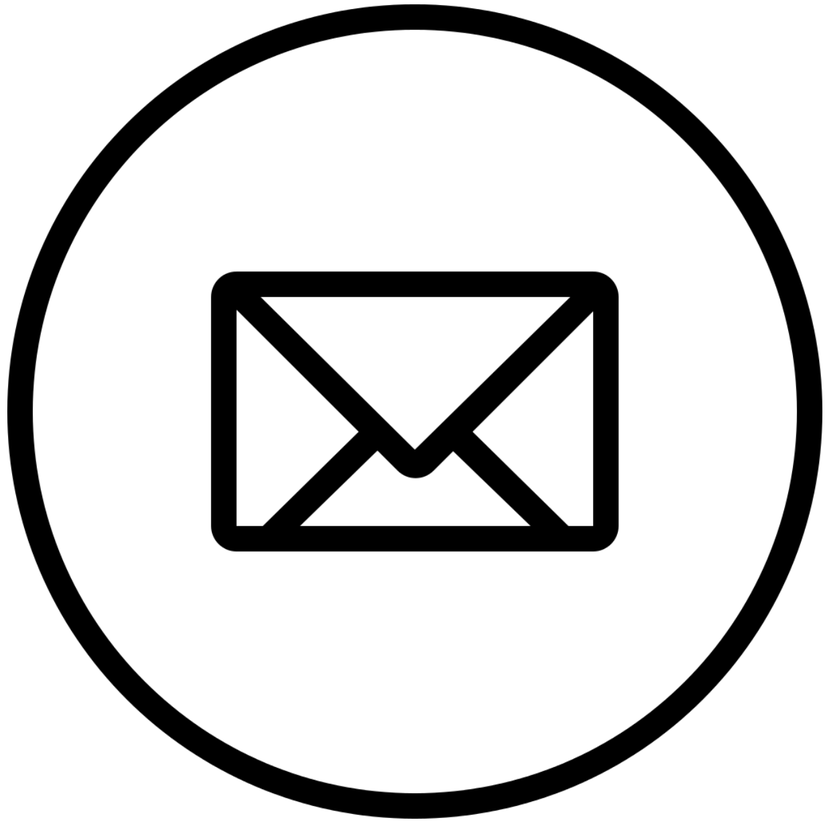
To learn more or register for a workshop

azscience.org/codeorg

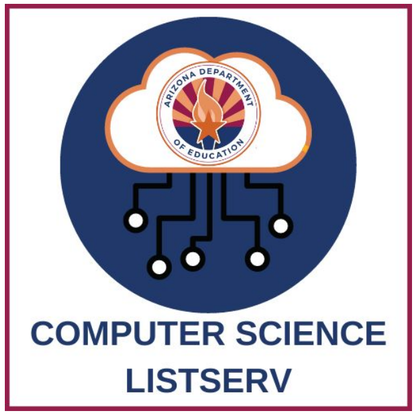
Questions?

Sign up for ADE Listserv!

Educational Technology



Computer Science



Please reach out! We are here to help!

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Sarah Sleasman
Director of Science and STEM
Sarah.Sleasman@azed.gov

Computer Science Standards Webpage