

# Annual Program Update

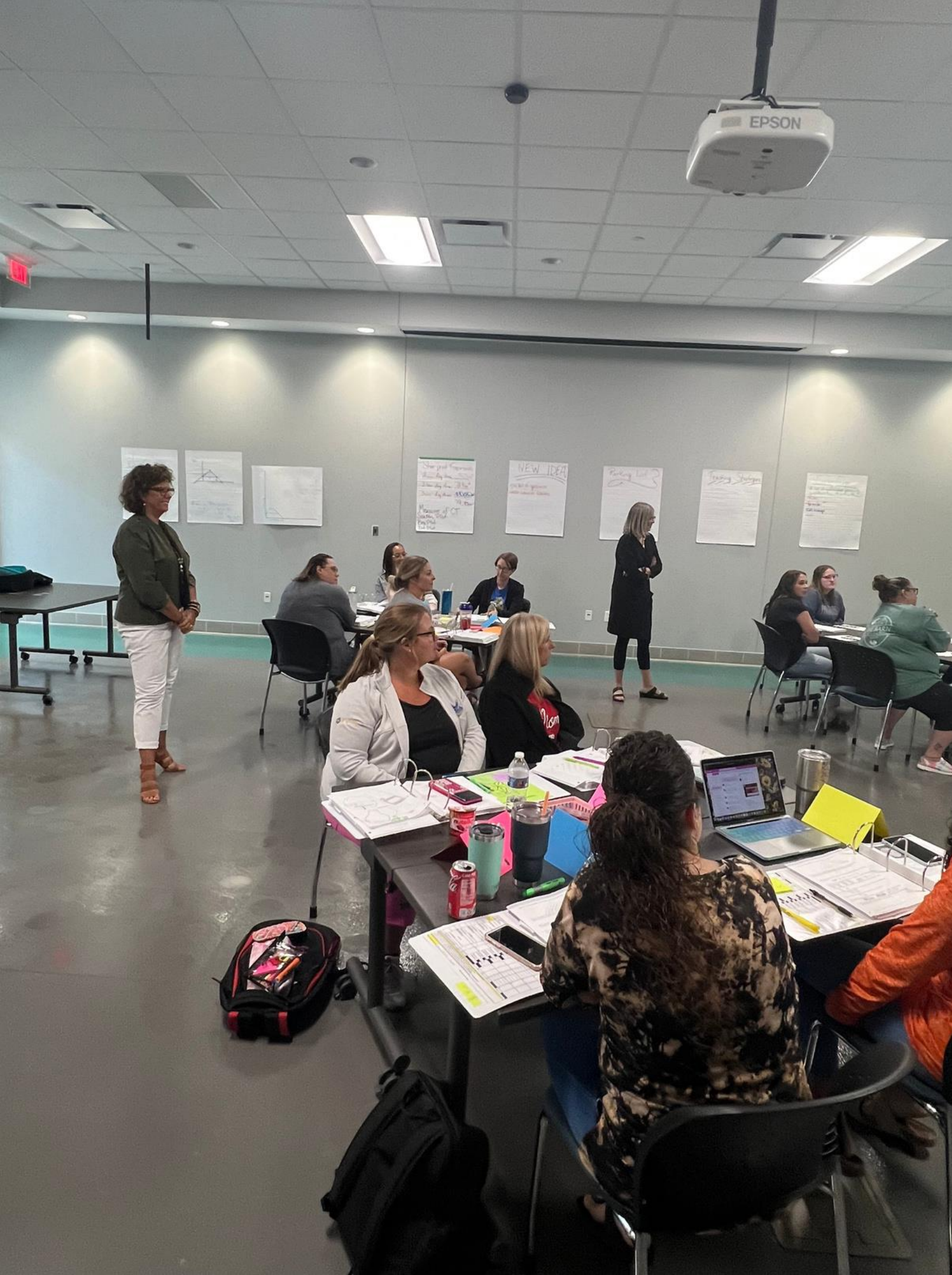
Kentucky Board of Education  
February 2023

Access to Algebra  
College Readiness Program  
Computer Science Initiatives

Pictured right: Stephanie Carter and Tanner Dennis of Grayson County HS contemplate rhetorical moves in Advanced Placement (AP) English Language and Composition.



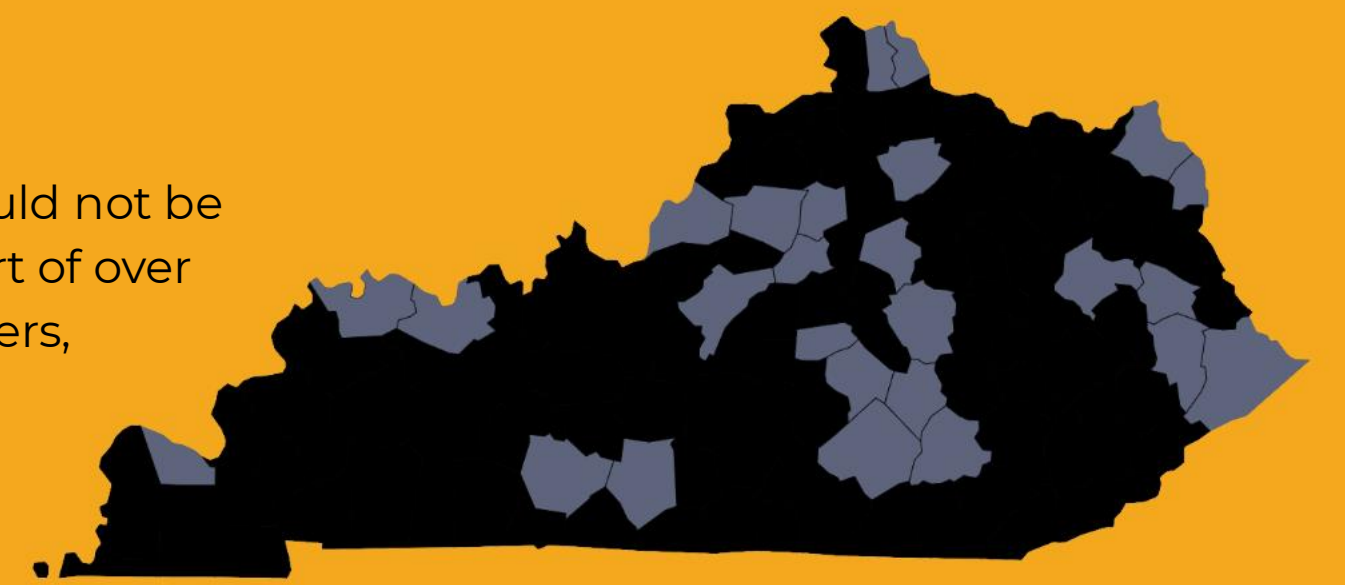




# About Us

- Anthony Mires, Executive Director**
- Aaron Timmons, College Readiness Program Director**
- Annette Williams, Access to Algebra Director**
- Monique Rice, Computer Science Initiatives Director**
- Lew Acampora, Senior Content Director, Science**
- Stephanie Carter, Content Director, English and Capstone**
- Michael Marshall, Content Manager, Math**
- Sheri McGuffin, STEM Coordinator**
- Elizabeth Lavigne, Senior Executive Assistant**
- Jessica Sanford, Executive Assistant/Data Specialist**

AdvanceKentucky's work could not be achieved without the support of over 100 teachers serving as trainers, consultants and mentors.



Pictured left: Sherry Bertram and Chasity Lowery, two of the 50 nationally-endorsed Kentucky trainers, working with teachers from Hopkins County.



## Mission

To create opportunities for all Kentucky students to have access to and success in rigorous STEM coursework, particularly among populations traditionally underrepresented in these courses, enabling them to pursue advanced college and career opportunities.

### Statewide Participation

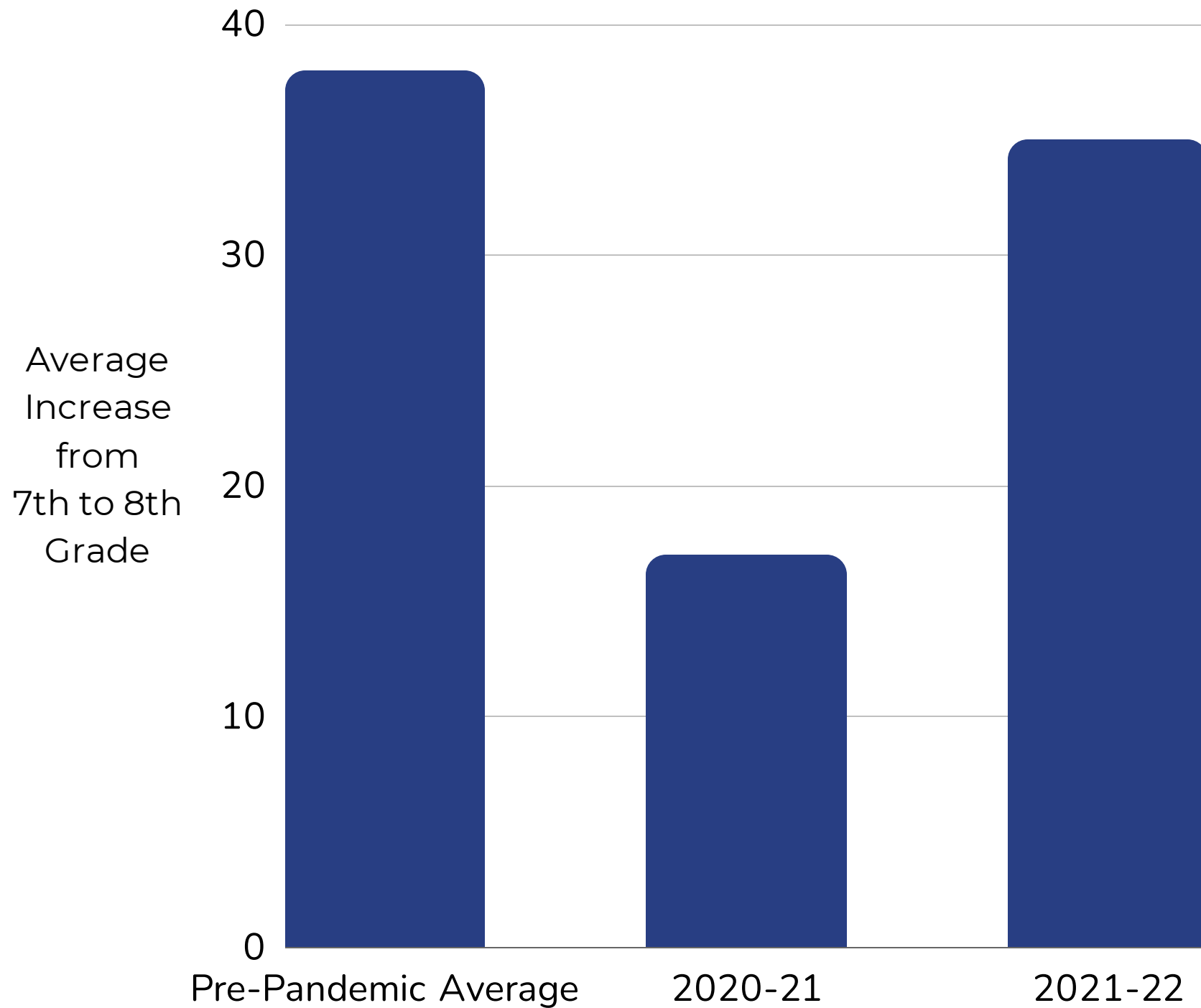
2022-23	Teachers	Students
Access to Algebra	126	4556
College Readiness Program	98	2113
Computer Science Initiatives	132	1794
<b>TOTAL</b>	<b>356</b>	<b>8,463</b>

Pictured right: Michael Marshall teaches an Algebra lesson at Grace James Academy in Louisville, KY.





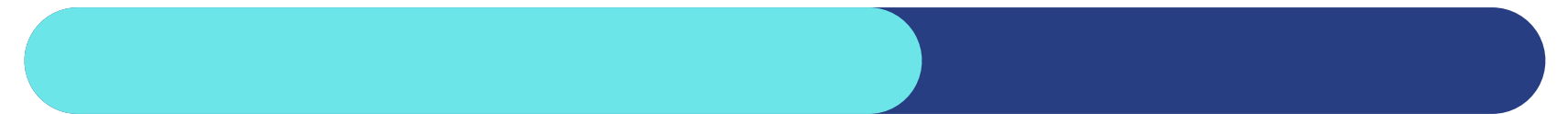
### Average Point Increase PSAT 8/9 Math Subscore



In SY2021-22 students in Access to Algebra (A2A) saw a dramatic rebound in performance with an average increase of 35 points from their baseline 7th grade score to their 8th grade score, just three points behind the pre-pandemic program average. This growth, if sustained into high school, would be sufficient for these students to reach the math SAT benchmark and be college ready by the time they graduate.

Underrepresented Minority (URM) and Free/reduced Lunch (FRL) students saw similar trends with average increases of 28 and 32 points respectively, each just one point behind pre-pandemic averages.

59% of active schools earned growth goals based on their performance in 2021-22.



72% of students show significant gains on the PSAT 8/9 when enrolled in Algebra 1 or higher



**43** FRL students enrolled in 8th grade algebra or higher see a 43-point average increase over the prior year

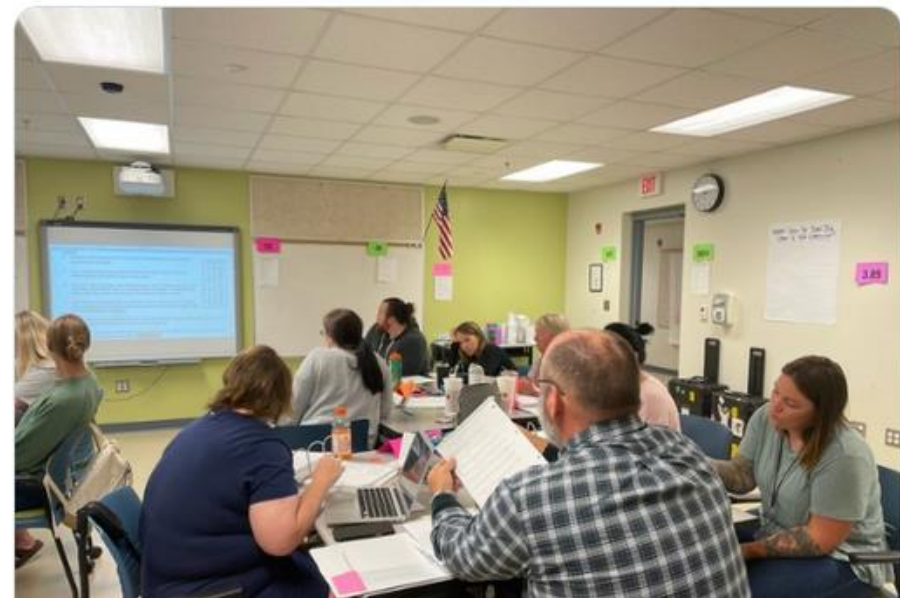
**47** URM students enrolled in 8th grade algebra or higher see a 47-point average increase over the prior year





Donna Jones Hocker  
@MCM\_Principal

So proud of the work that my Spartans, along with other district math teachers, are doing collaborating with [@AdvanceKentucky](#) [#ourkidsdeserveit](#) [@MCMspartanAP](#) [@mcm Spartans](#) [@KellyHudsonMCM](#)



Chasity Lowery  
@ChasityLowery77

Loved spending the weekend with a group of fantastic middle school math teachers. Thanks [@sascunning](#) and Thanks to [@AdvanceKentucky](#) for hosting Fall Forum. It's not to late to apply for Access to Algebra-game changer!!!

Annette Williams [@AWilliamsAdvKY](#) · Oct 22, 2022  
The many words for slope! Thanks to Chasity Lowery for presenting to 7th & 8th math teachers [@AdvanceKentucky's #FallForum22!](#) [@KyDeptofEd](#)



2 from Glasgow, KY



ShareGrowth  
@csworth3

9:58 AM · Jul

Love working with teachers who are willing to step out of their comfort zone and continue to grow as educators. Thank you to [@AdvanceKentucky](#) [@AWilliamsAdvKY](#) [@MMarshallAdvKY](#) for the opportunity to work with a wonderful group of teachers.



10:10 PM · Oct 23, 2022



# Laying the Foundation Summer Training

Promotes Engagement and Higher Order Thinking

4.9/5.0

- “The presentation and lessons were awesome. Our presenter was caring and provided lots of valuable insight for preparing our middle school students.”
- “Great presenter! I was engaged the entire week and I am now excited to start teaching this school year.”
- “Again, the A2A/LTF training was fantastic! Our instructors were fabulous and extremely helpful and informative. I especially appreciated being able to learn in person, but in our home county (Hopkins). I have learned a number of new teaching strategies to utilize, not just in the LTF module lessons, but in teaching my daily content. Thank you for this opportunity.”

## Fall Forum

Overall Quality

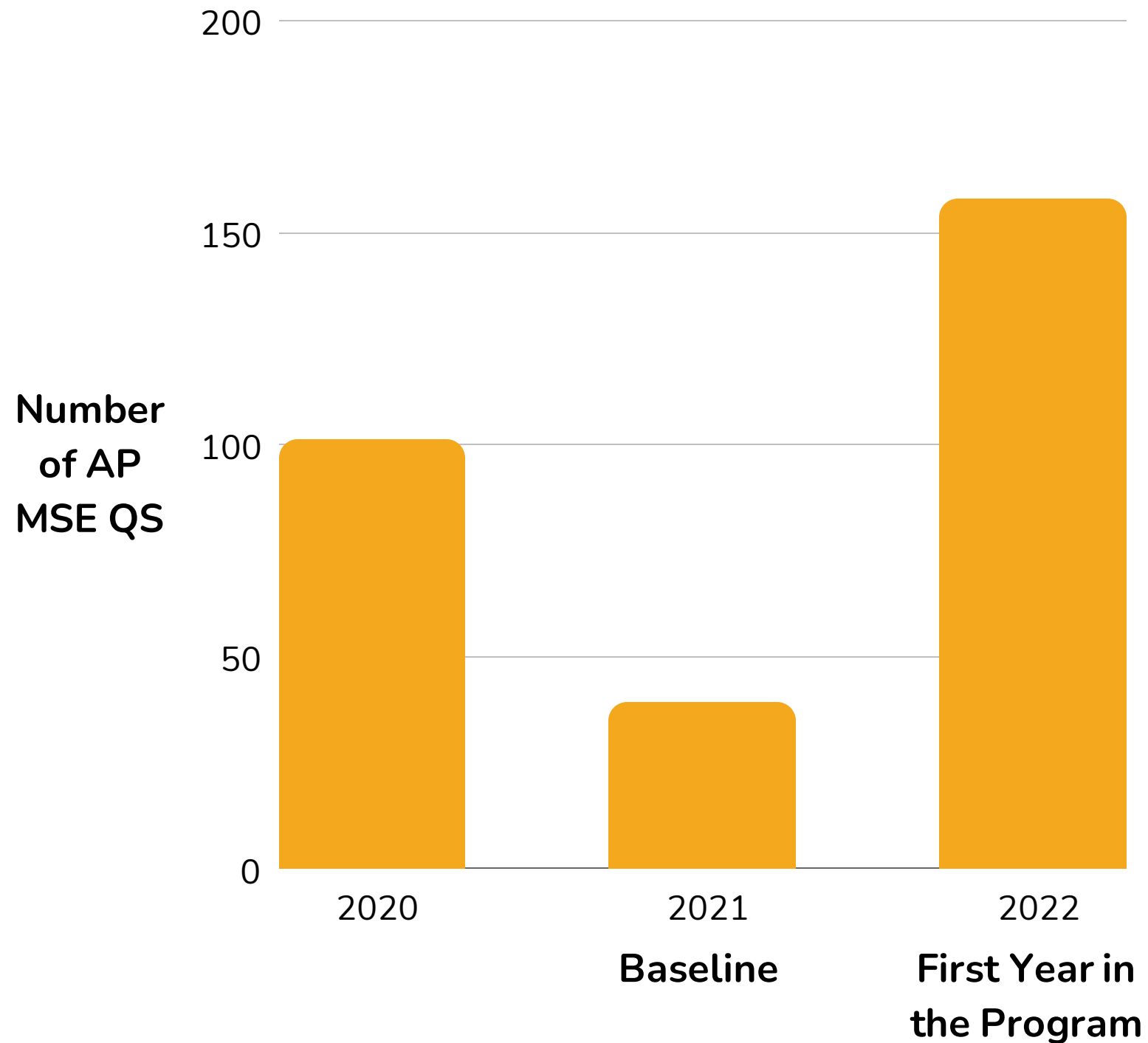
3.9/4.0

- “Trainers were fantastic! They provided excellent resources that were immediately applicable and relevant to my classrooms. Thank you so much! “
- “Not only were the accommodations wonderful, but the content within each session was helpful and informative. I had a great time and know that I will take everything back with me to incorporate at my school and in my classroom.”
- “This Fall Forum was excellent. All the speakers were amazing. The food and staff were amazing. This fall forum surpassed my expectations.”



College  
Readiness  
Program

**Cohort 14 First Year Performance:  
Number of AP Math, Science and English (MSE) QS**



In SY20-21, due to COVID-19 and virtual instruction, classrooms in the College Readiness Program (CRP) experienced a decline in participation; however, in SY21-22, they experienced a dramatic increase in both exam participation and qualifying scores (QS). Prior to CRP support, Cohort 14 saw a 61% decrease in QS from 2020 to 2021. After one year of participation in CRP, these same classrooms in 2022 not only recovered and saw four times as many students earn an AP MSE QS when compared to 2021, but also demonstrated a 56% increase in AP MSE QS over pre-pandemic 2020 levels.

82% of 2022 CRP enrollments sat for the exam; this was up dramatically from 59% in 2021. Exam intentions for 2023 is 92%.



52% of 2022 CRP math and science enrollments were female with most enrolled in biology, chemistry, statistics, and computer science.



**29**

29% of 2021-22 enrollments were FRL. On average, schools participating three years in the program see a 231% increase in FRL qualifying scores.

**11**

11% of 2021-22 enrollments were underrepresented minority. On average, schools participating three years in the program see a 248% increase in URM qualifying scores.



## Launch Day

Overall Quality

3.3/4.0

- “A very good day-- encouraging and helpful.”
- “Afi Tagnedji's story about how AP classes opened many doors was especially powerful!”
- “I love being treated like a professional and as a valuable member of the team!”

## AP Teacher Master Series (Active in 37 states, 5 countries)

- “I have already assigned the labs to my students and they are loving it. Thank you.”
- “This is turning out to be my lifeline this year.”
- “I've already saved two of the activities from today in my folder for semester review! How refreshing to leave Professional Development (PD) with something I truly plan to implement this year in my classroom!”

## Fall Forum

Overall Quality

3.7/4.0

- “This is the absolute best training. Our district is now out of the cohort, but I chose this training as part of my PD paid by my school. No other training that they send me to do I get content, strategies, and curricular planning like is offered by AdvanceKY. Thank you!”
- “On my first day back, I have already used a technique I learned.”
- “It was an excellent training. I learned a lot from both speakers. The content lined up well with what I am doing in class. I also got great ideas on how to make class fun and special. We are now doing all the Calculus holidays. My kids love it.”

 **Joanna Stevens** @MrsStevensMath · Oct 22, 2022  
Spending my Saturday learning to be a better AP teacher with @AdvanceKentucky at #FallForum22!  
Thank you to @jamiid312 (AP Calculus) and @czajka\_sandy your willingness to share!


 **Aaron Timmons** @artimm2 · Oct 22, 2022  
Dedicated teachers refining their skills @AdvanceKentucky #FallForum22!  
@KyDeptofEd

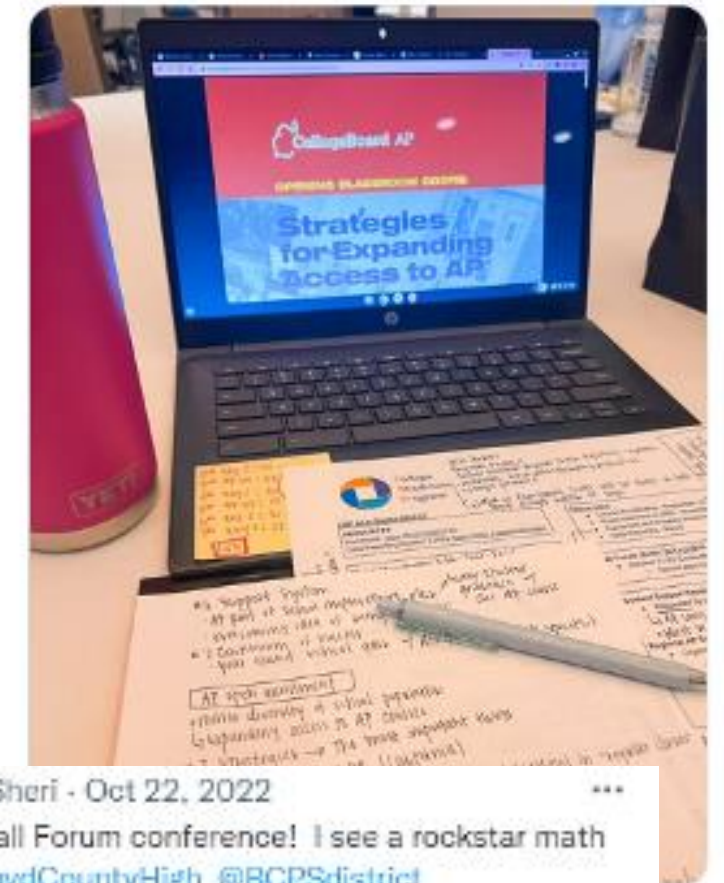


 **Sheri J. Bonzo, Ed.S** @BonzoSheri · Oct 22, 2022  
We are having a fabulous AP Fall Forum conference! I see a rockstar math teacher!! @MrsRichBCHS @BoydCountyHigh @BCPSdistrict



College  
Readiness  
Program

 **Tessa Collins** @MsTessaCollins · Aug 26, 2022  
Advance KY Launch Day 2022 🌟 Today, we spent time strategizing how to make AP more inclusive, discussing the incredible impact of AP courses, and planning for how we can implement supports to make sure each student is successful in an AP environment. #APLit #RCLead #AdvanceKy

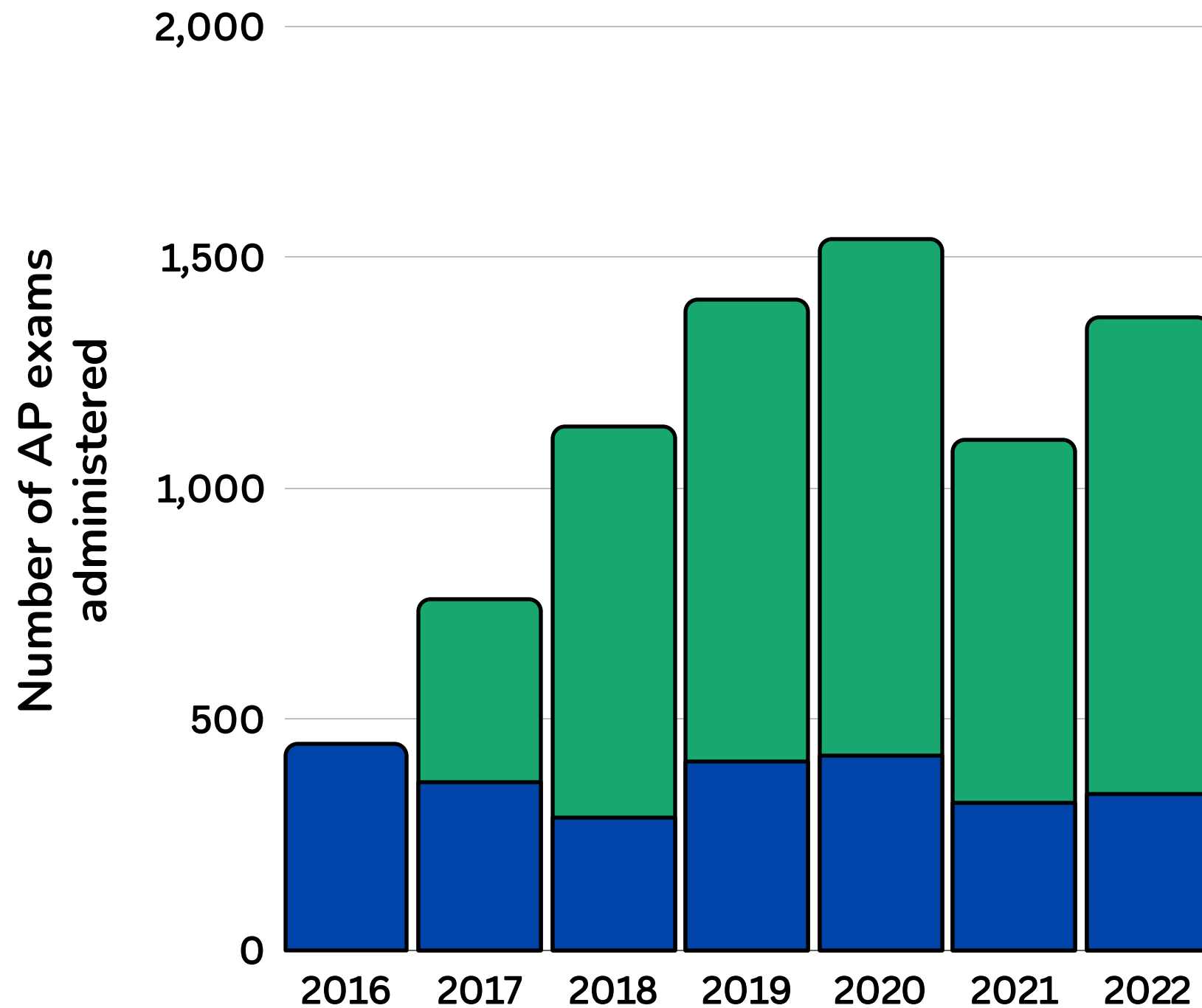




# Computer Science Initiatives

AdvanceKentucky

■ CSA ■ CS Principles



Statewide Number of AP Exams in CS A and CS Principles by Year

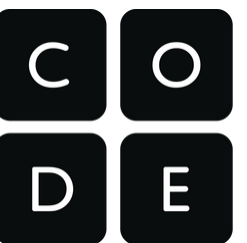
While the statewide number of Advance Placement (AP) computer science (CS) exams increased in 2022 compared to the year prior, female and underrepresented (URM) populations still struggle with access. While female students on average perform marginally better than their male peers, they still only represent 28% of total enrollments. URM populations see a similar trend when it comes to access representing 9% of the total statewide AP CS exams administered. In 2021-22, Computer Science Initiatives (CSI) continued to expand CS access and opportunity for teachers and students. The most notable addition was the completion of a CTE additive manufacturing pathway created in partnership with Somerset Community College. To date, 118 teachers have completed the foundational course for this pathway. In 2023, to further increase opportunities for CS, CSI is collaborating with KDE to launch statewide training for curriculum to support engineering CTE pathways with embedded CS curriculum.

**67**  **Kentucky**

Teachers are now members of Kentucky's statewide Computer Science Teacher Association (CSTA) chapter.

**120**

Teachers have earned approval to teach CS through Code.org training



**118**

Teachers trained in Additive Manufacturing





## Code.org Summer Training (CSA, CS Principles and CS Discoveries)

Teacher Engagement

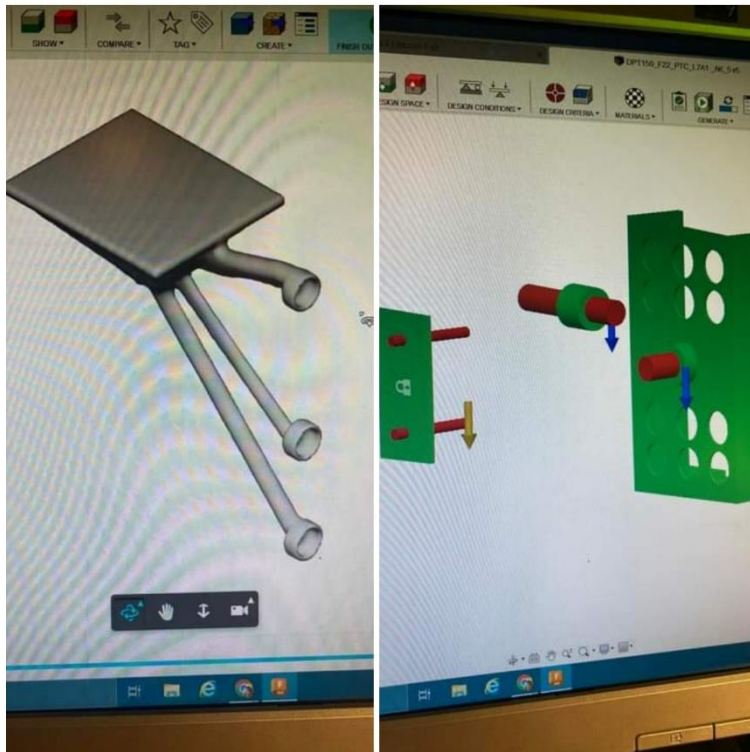
6.5/7.0

Overall Success

6.7/7.0

**Paul Cestaric**  
Nov 27, 2022 · 🧑

I am making my way through my 2nd class in 3D Printing slowly but surely. I truly think students will find this cool and exciting with the modern technology and additive manufacturing on the rise.



👍 You, Marsha Bertram and 13 others

🔄 You Retweeted



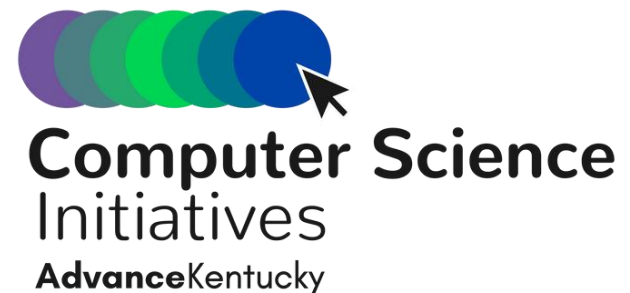
**Sheri McGuffin** @drmcguffin · Jul 16, 2022  
Yes! @MoniqueMRice @AdvanceKentucky @DrJacksonCS

**Stephanie Younger** @sasied22 · Jul 16, 2022

That's a wrap! Approximately 51% of high schools in KY offer CS. But with these teachers, we can hope to see those numbers increase! Thank you for a great computer science summer workshop! Go forth & spread the love for CS! @teachcode @AdvanceKentucky @jackietalkthai @drmcguffin



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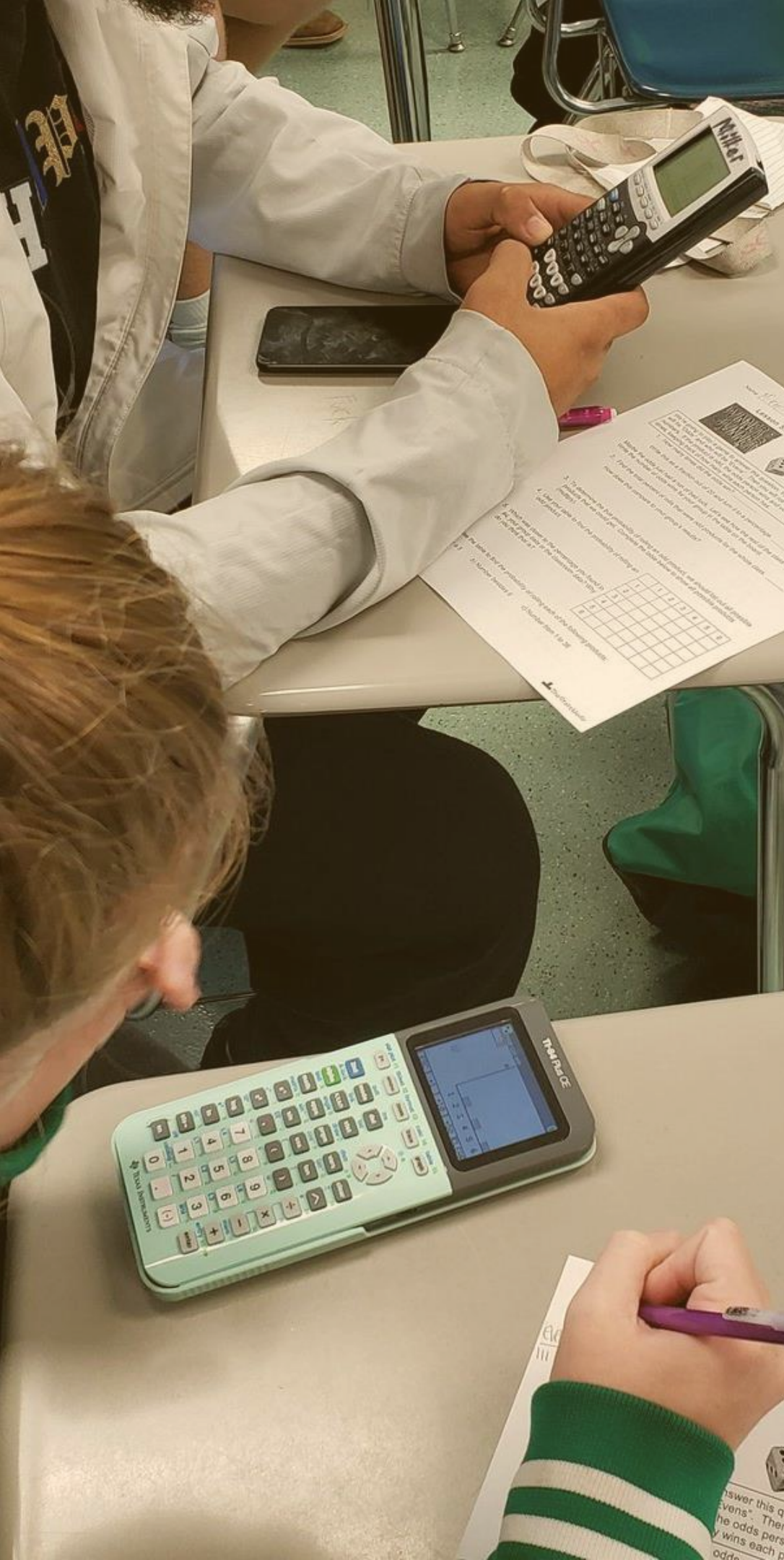
“AdvanceKentucky has been instrumental in providing guidance and support as Knox County develops its computer science opportunities for all students, K-12. In March of last year, our district participated in a SCRIPT workshop that effectively brought all stakeholders together to develop our vision and implementation plan. This year, we implemented CS Fundamentals K-5 and CS Discoveries for our six to eight students. We have faculty actively participating in Code.org workshops, AdvanceKentucky Professional Learning Programs, and Digital Literacy with 3D Printing. This rapid growth of computer science opportunities for our students is a direct result of our partnership with AdvanceKentucky!”

**Dr. Jennifer Mills, Technology Integration Specialist  
Knox County Schools, Barbourville, KY**

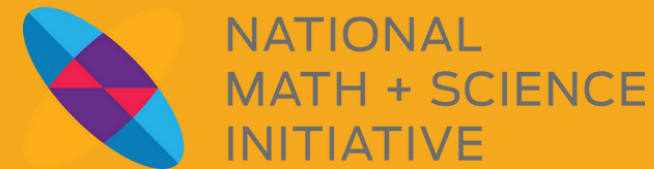
“AdvanceKentucky's Computer Science Initiatives have made sure CS has flourished at Iroquois High School. AP CS Principles with Code.org has been the fourth level course for our engineering pathway and has been offered as an elective. It has been a wonderful course to expose students to professions in CS. AdvanceKentucky's 3D Printing work has been one of my favorite professional development courses I have been a part of over the last decade that I've been an educator. Being immersed in a college course with other educators where we learned 3D Printing technology and how to bring that into our classrooms was phenomenal. I have been able to better understand computer aided design programs which in turn has increased my student's efficacy with computer aided design programs like Autodesk Inventor in my classes.”

**Don Bacon, Engineering and Computer Science Teacher  
Iroquois High School, Louisville, KY**





The team at AdvanceKentucky® and KSTC would like to acknowledge the contributions of the people and organizations who have contributed to our growth and success through the years. Without the help of these valuable partners we would not be where we are today:



- Appalachian Regional Commission
- Council for Postsecondary Education
- James Graham Brown Foundation
- Partners for Rural Education
- LIFT
- Charter Communications
- Somerset Community College
- CSforALL
- Beauty and Joy of Computing
- Lighthouse Beacon Foundation
- 150+ Partner Schools
- 300+ classroom teachers who have served or currently serve as mentors, trainers, and consultants

We thank you for your continued support in our efforts to provide STEM opportunities for all students across the Commonwealth.

Pictured Left: AP Statistics students at Meade County High School.

## Contact

**AdvanceKentucky**  
380 South Mill St., Suite 300  
Lexington, KY 40508  
859.246.3250

**Anthony Mires**  
380 South Mill St., Suite 300  
Lexington, KY 40508  
859.230.6383  
amires@kstc.com

[www.advancekentucky.com](http://www.advancekentucky.com) 

[advanceky@kstc.com](mailto:advanceky@kstc.com) 

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