



Central Bucks School District

2021 – 2022 Achievement Data

December 2022

Introductions



Richard B Kratz Jr
Director of
Teaching and
Learning



Goal of Presentation



Review Achievement Data from the
2021 – 2022 School Year



45 minutes



Agenda



PSSA



Keystone Exam



ACT and SAT



AP Exam

Pennsylvania System of School Assessment (PSSA) 2022

- ✓ ELA and Mathematics PSSAs are aligned with the Pennsylvania Core Standards.
- ✓ Science PSSA includes items aligned to the Pennsylvania Standards for Science, Technology, Environment and Ecology.



PSSA Exam Background Information



GR 3



GR 4



GR 5



GR 6



GR 7



GR 8



GR 9



GR 10



GR11

English Language Arts: *Grades 3-8*

Mathematics: *Grades 3-8*

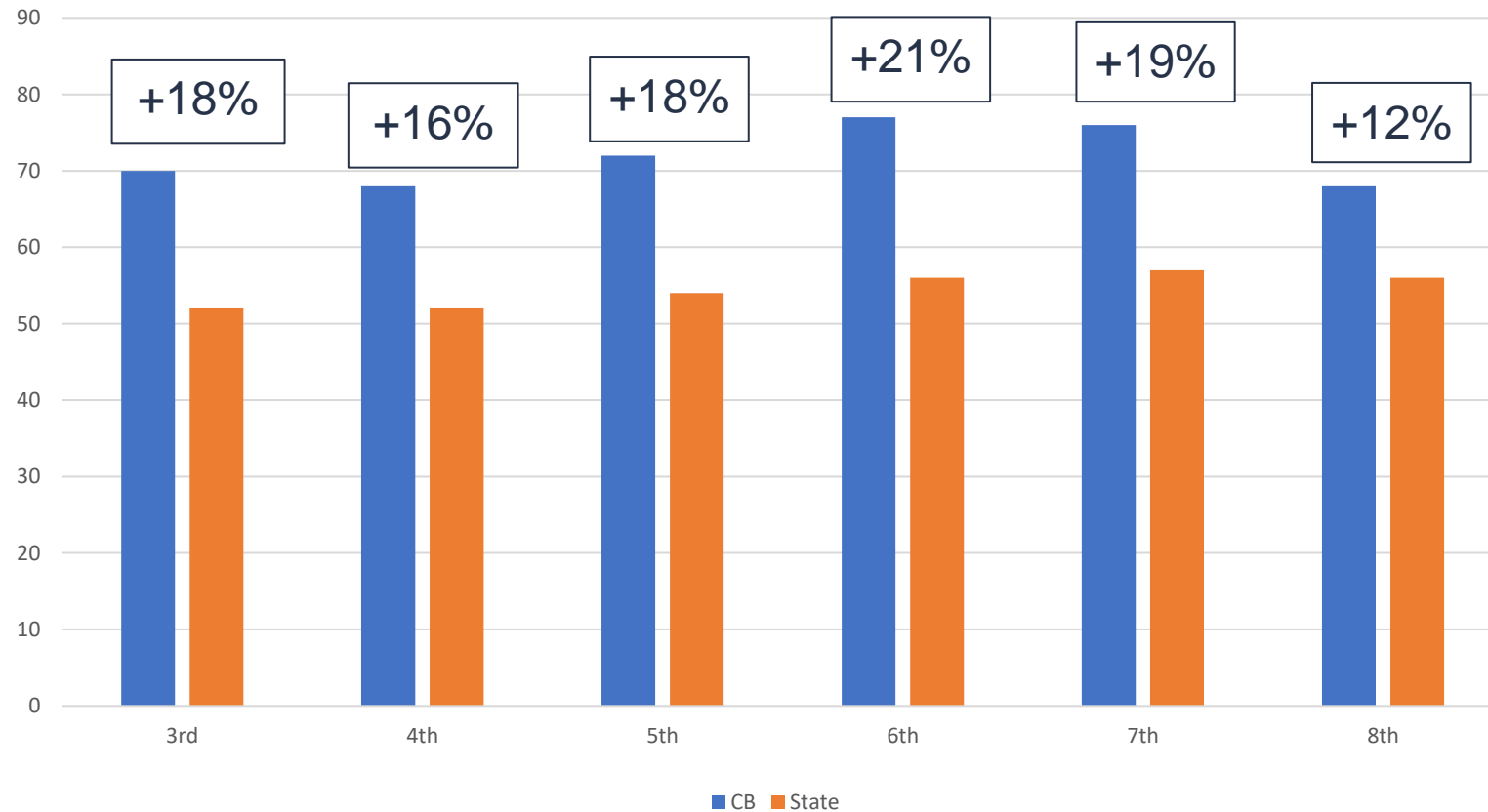
Science:
Grade 4

Science:
Grade 8

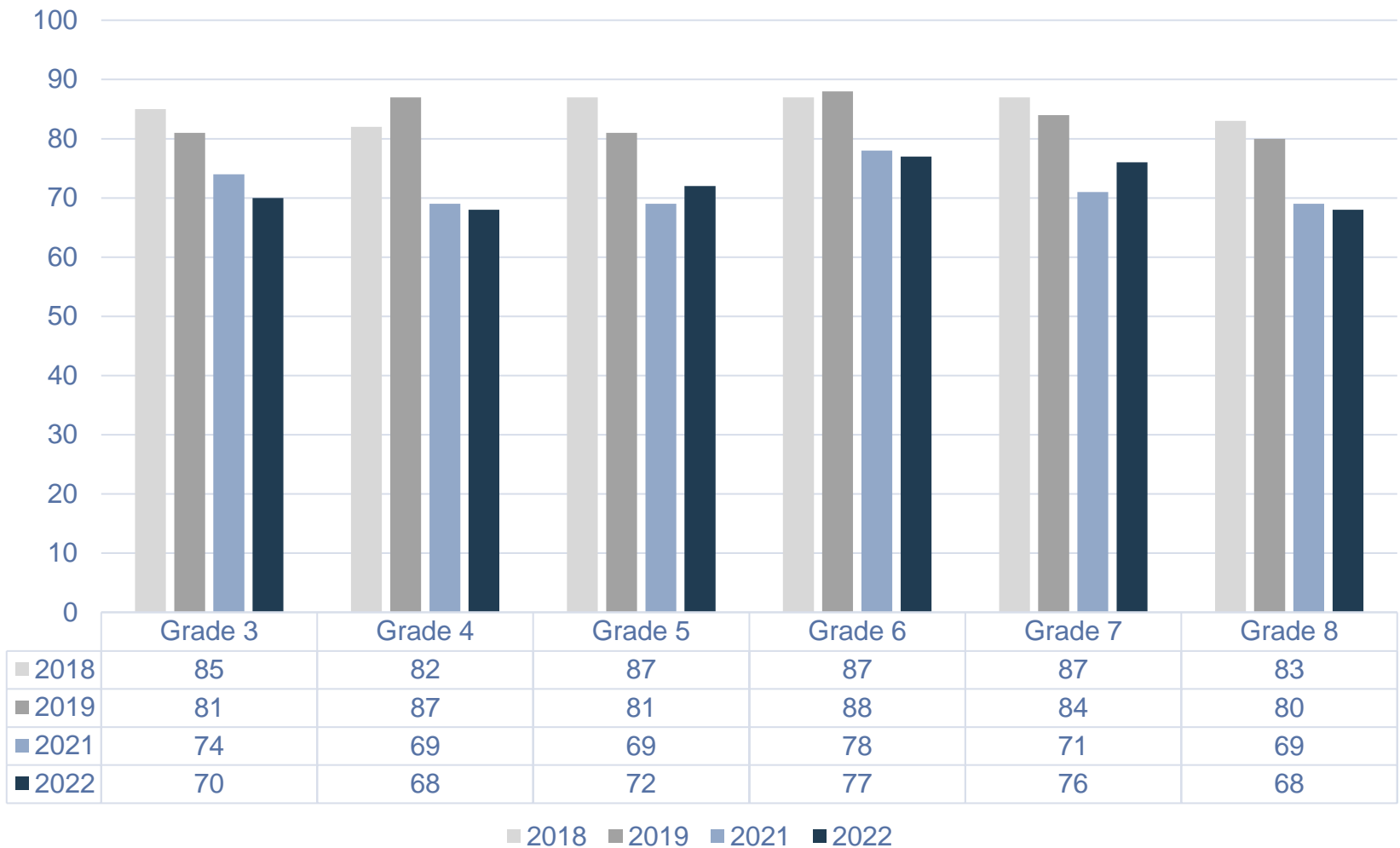
18,121 PSSA Tests Completed by CB Students

ELA PSSA Results: % Advanced/Proficient 2022: CB vs. State

% Advanced/Proficient			
ELA	CB	PA	Difference
3rd	70%	52%	+18%
4th	68%	52%	+16%
5th	72%	54%	+18%
6th	77%	56%	+21%
7th	76%	57%	+19%
8th	68%	56%	+12%



4 Year Comparison ELA Data: % Advanced/Proficient Central Bucks School District 2018-2022



ELA: Difference in % Advanced/Proficient Central Bucks vs. PA State

Grade 3			
Year	CB	PA	Difference
2018	85%	64%	+21%
2019	81%	62%	+19%
2021	74%	58%	+16%
2022	70%	52%	+18%

Grade 4			
Year	CB	PA	Difference
2018	82%	60%	+22%
2019	87%	64%	+23%
2021	69%	57%	+12%
2022	68%	52%	+16%

Grade 5			
Year	CB	PA	Difference
2018	87%	59%	+28%
2019	81%	59%	+22%
2021	69%	55%	+14%
2022	72%	54%	+18%

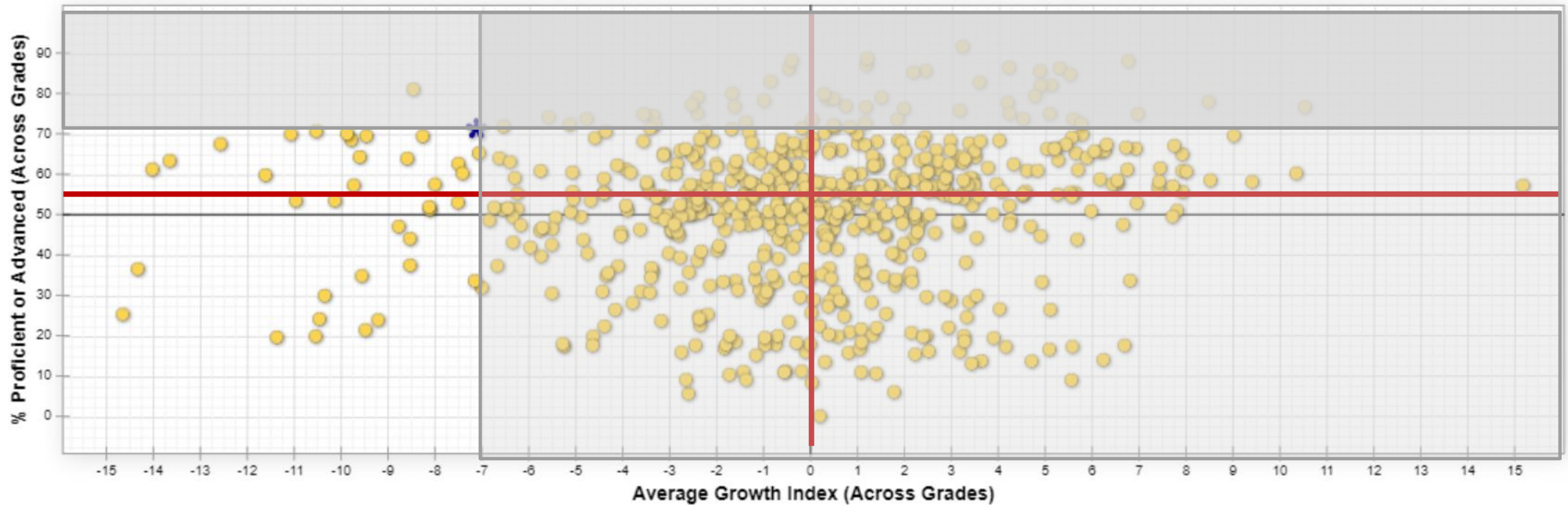
Grade 6			
Year	CB	PA	Difference
2018	87%	63%	+24%
2019	88%	63%	+25%
2021	78%	57%	+21%
2022	77%	56%	+21%

Grade 7			
Year	CB	PA	Difference
2018	87%	62%	+25%
2019	84%	60%	+24%
2021	71%	53%	+18%
2022	76%	57%	+19%

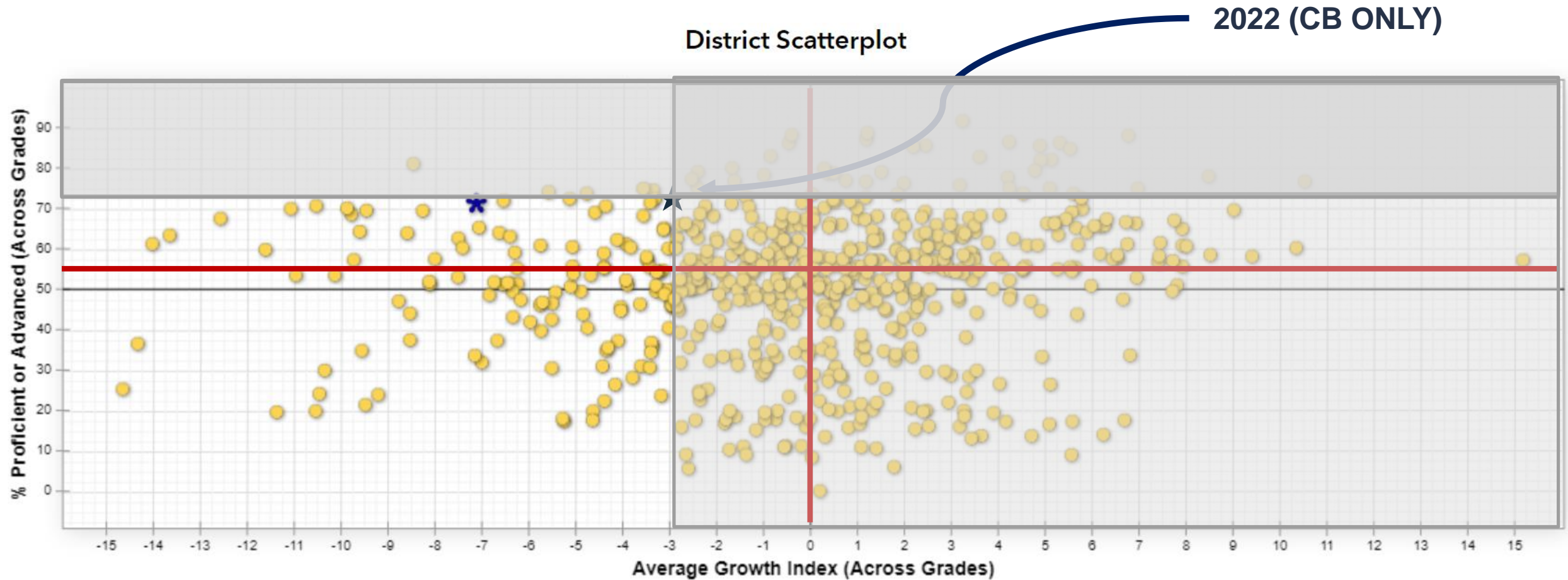
Grade 8			
Year	CB	PA	Difference
2018	83%	62%	+21%
2019	80%	58%	+22%
2021	69%	53%	+16%
2022	68%	56%	+12%

All PA School Districts – Central Bucks Represented with Star 2021 ELA GROWTH VS. % PRO/ADV

District Scatterplot



All PA School Districts – Central Bucks Represented with Star 2021 ELA GROWTH VS. % PRO/ADV



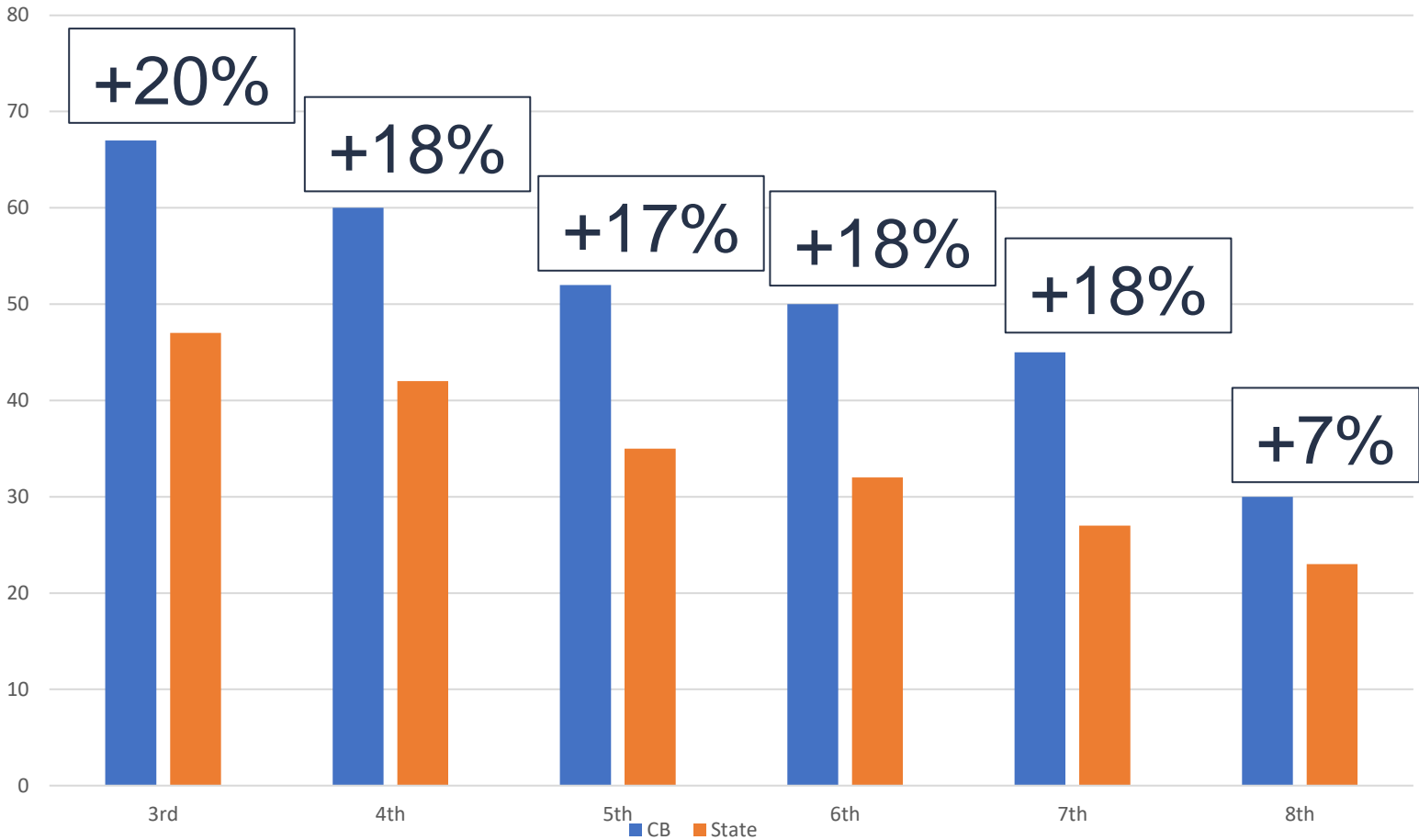
ELA PSSA: 2022 Combined 3rd – 8th Grade % Adv/Prof Results - Bucks County Schools

Bucks County Grade 3rd – 8th Grade ELA	% Adv/Pro
Central Bucks % Adv/Pro	72%
Bucks County % Adv/Pro	62%
State % Adv/Pro	55%

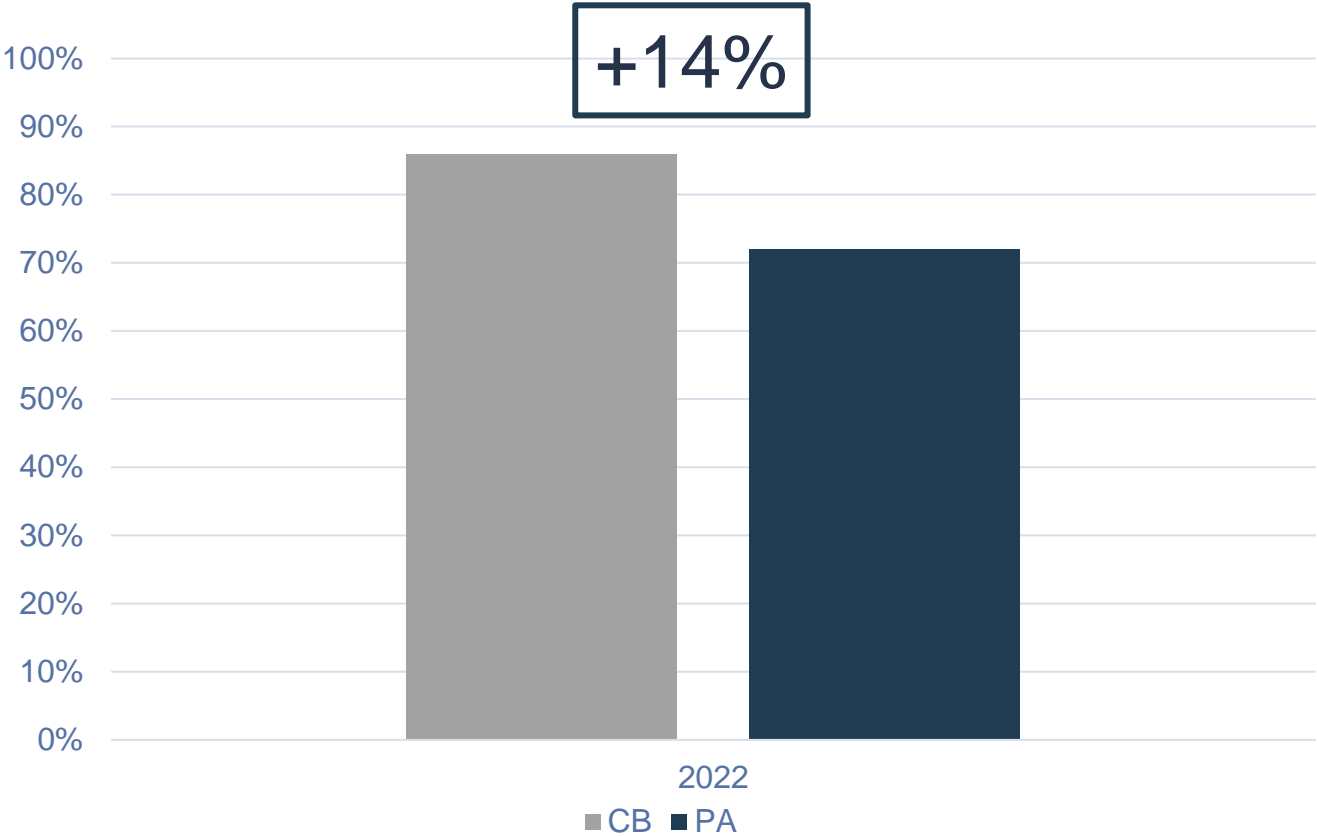
ELA: # 4 Rank in Bucks County

Math PSSA Results: % Advanced/Proficient CB 2022 vs. State 2022

% Advanced/Proficient			
Math	CB	State	Difference
3rd	67%	47%	+20%
4th	60%	42%	+18%
5th	52%	35%	+17%
6th	50%	32%	+18%
7th	45%	27%	+18%
8th	30%	23%	+7%



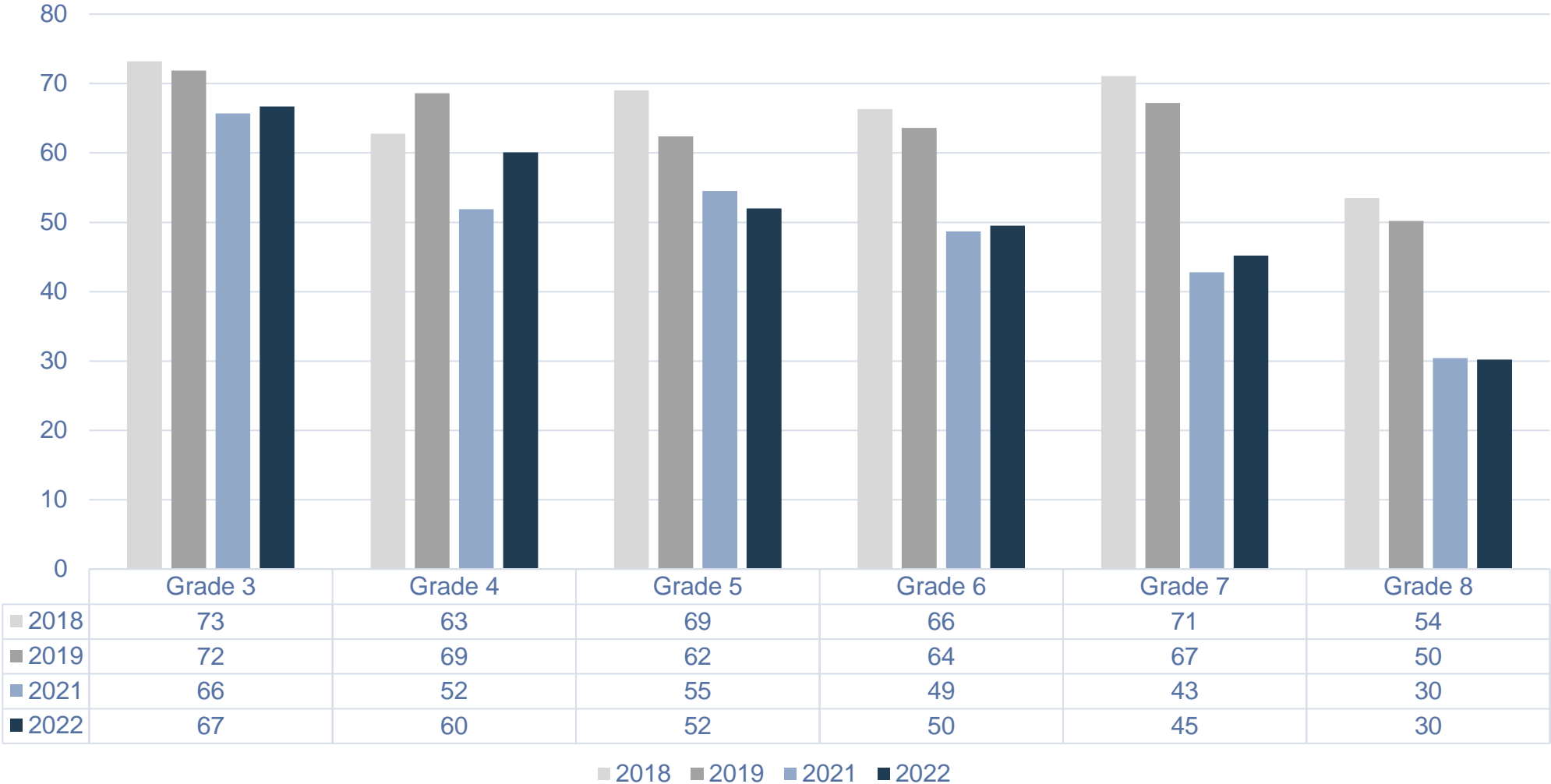
7th and 8th Grade Algebra Keystone Exam Results



7 th and 8 th Grade Algebra Keystone Exam			
Year	CB	PA	Difference
2022	86%	72%	+14%

Longitudinal Math Data: % Advanced/Proficient

Central Bucks School District 2018-2022



Mathematics: Difference in % Advanced/Proficient Central Bucks vs. PA State

Grade 3			
Year	CB	PA	Difference
2018	73%	54%	+19%
2019	72%	56%	+16%
2021	66%	47%	+19%
2022	67%	47%	+20%

Grade 4			
Year	CB	PA	Difference
2018	63%	44%	+19%
2019	69%	46%	+23%
2021	52%	36%	+16%
2022	60%	42%	+18%

Grade 5			
Year	CB	PA	Difference
2018	69%	45%	+24%
2019	62%	43%	+19%
2021	55%	36%	+19%
2022	52%	35%	+17%

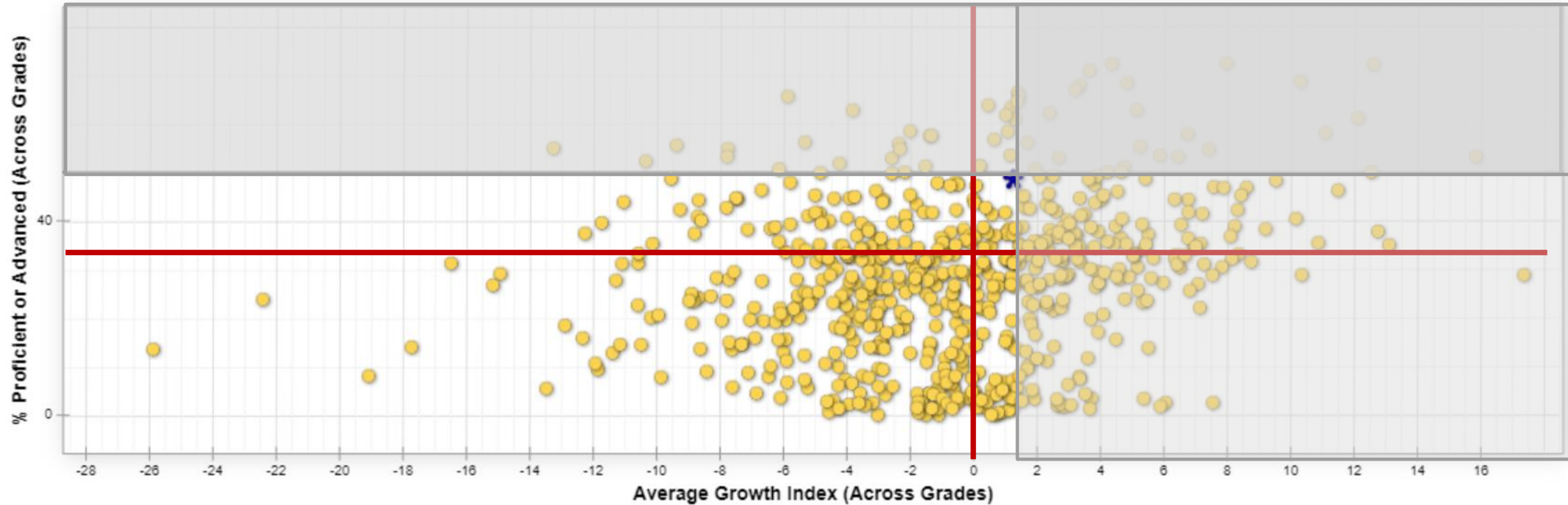
Grade 6			
Year	CB	PA	Difference
2018	66%	40%	+26%
2019	64%	39%	+25%
2021	49%	28%	+21%
2022	50%	32%	+18%

Grade 7			
Year	CB	PA	Difference
2018	71%	39%	+32%
2019	67%	38%	+29%
2021	43%	27%	+16%
2022	45%	27%	+18%

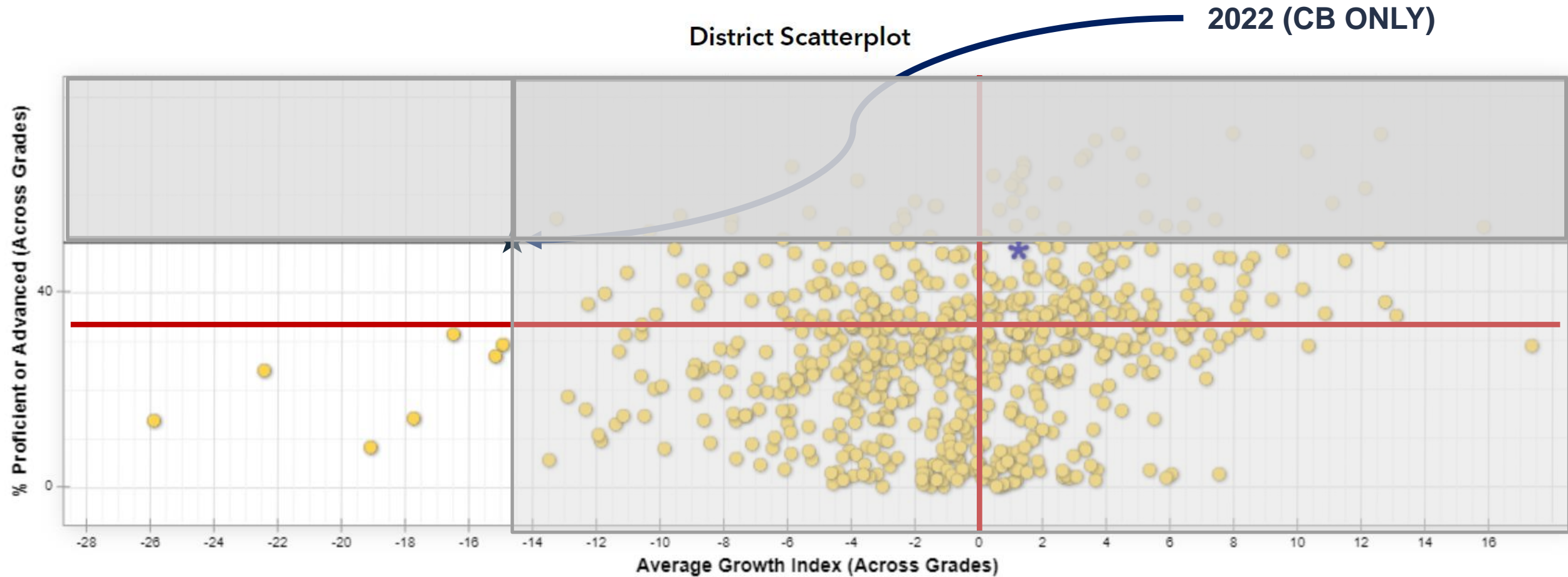
Grade 8			
Year	CB	PA	Difference
2018	54%	31%	+23%
2019	50%	32%	+18%
2021	30%	22%	+8%
2022	30%	23%	+7%

All PA School Districts – Central Bucks Represented with Star 2021 MATH GROWTH VS. % PRO/ADV

District Scatterplot



All PA School Districts – Central Bucks Represented with Star 2021 MATH GROWTH VS. % PRO/ADV



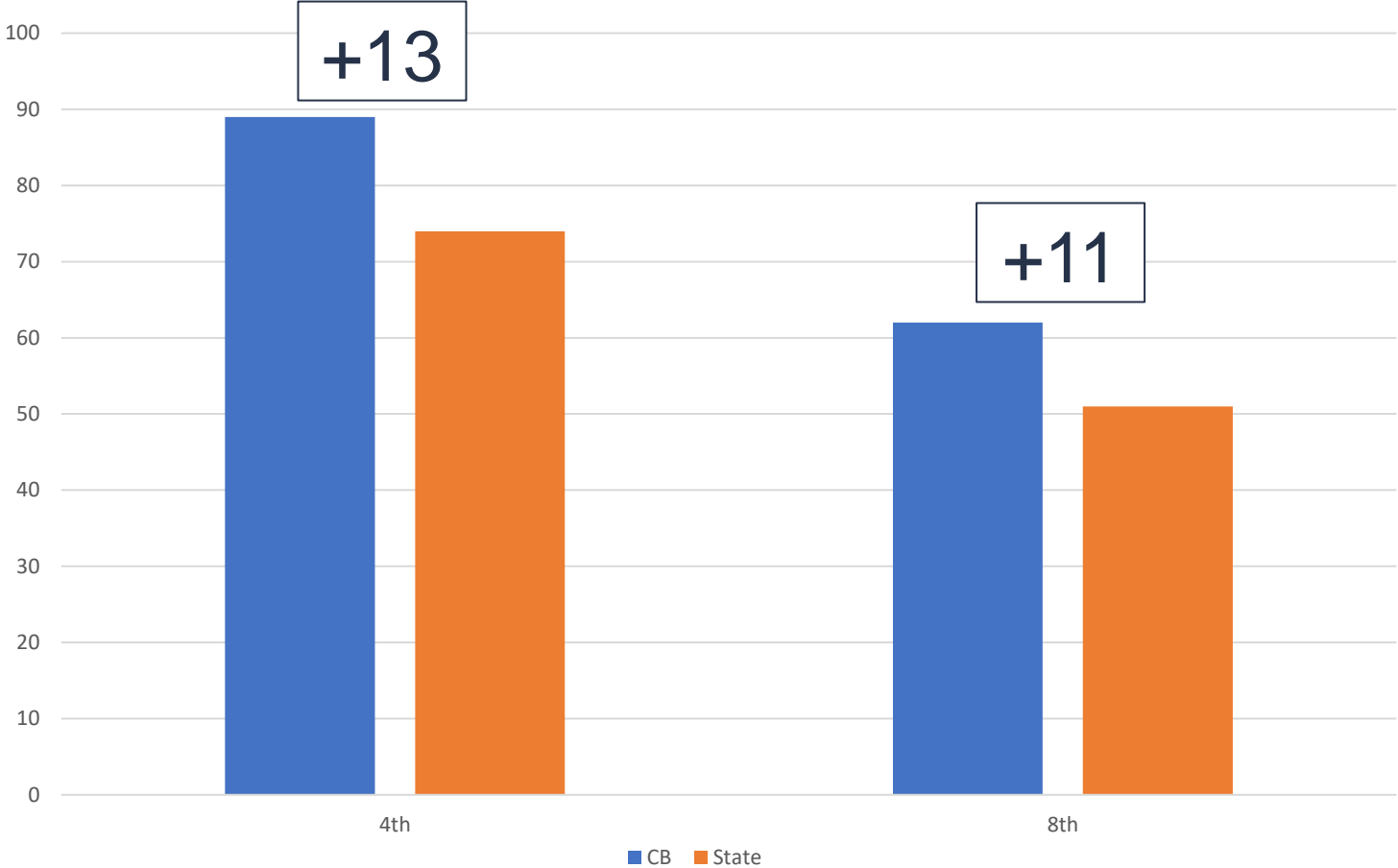
Math PSSA: 2022 Combined 3rd – 8th Grade % Adv/Prof Results - Bucks County Schools

Bucks County Grade 3 rd – 8 th Math	% Adv/Pro
Central Bucks % Adv/Pro	50%
Bucks County % Adv/Pro	42%
State % Adv/Pro	34%

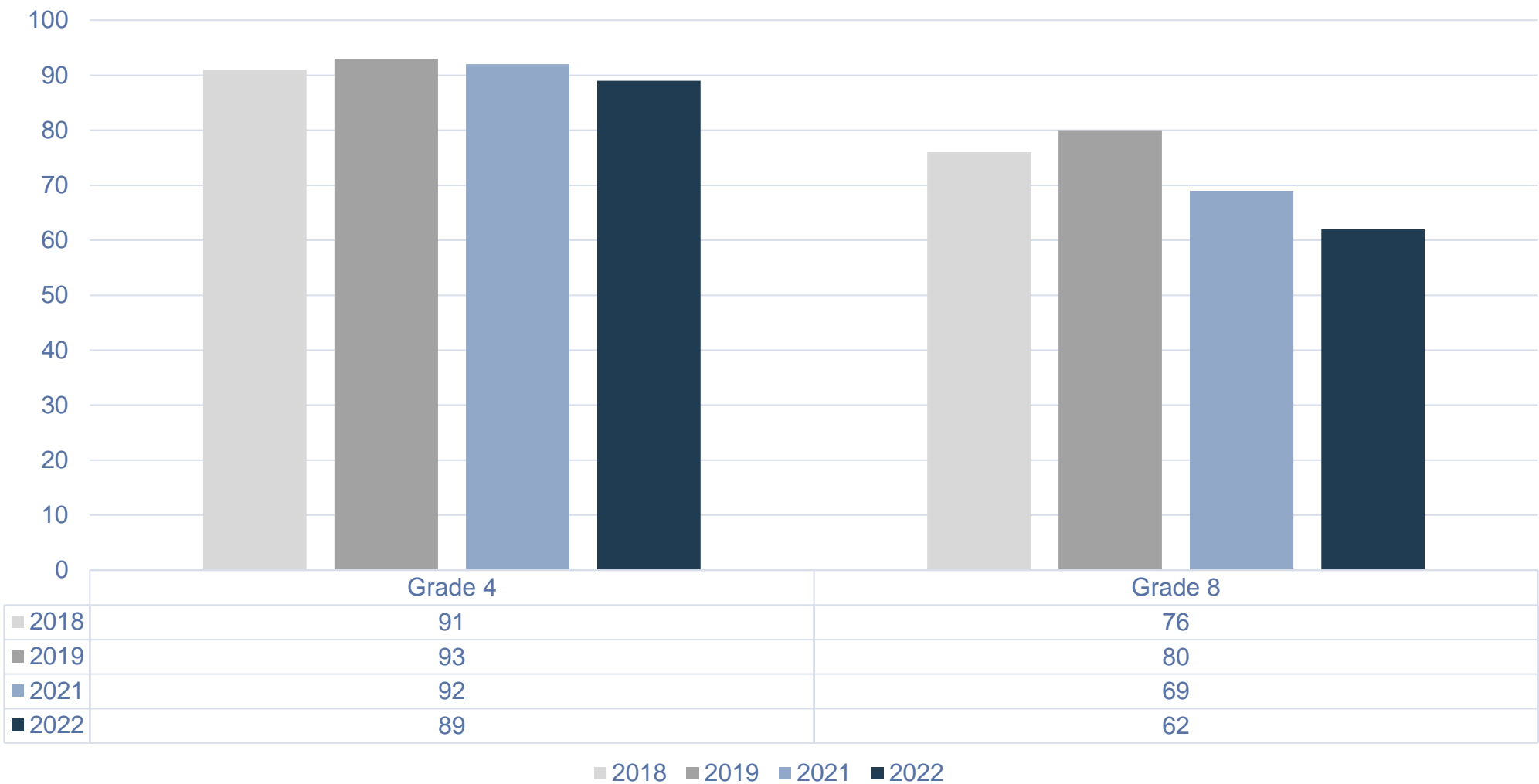
Math: # 4 Rank in Bucks County

PSSA Science Results: % Advanced/Proficient CB 2022 vs. State 2022

% Advanced/Proficient			
Science	CB	PA	Difference
4th	89%	74%	+15%
8th	62%	51%	+11%



Longitudinal Science Data: % Advanced/Proficient Central Bucks School District 2018-2022



PSSA Science: Difference in % Advanced/Proficient Central Bucks vs. PA State

Grade 4

Year	CB	PA	Difference
2018	91%	76%	+15%
2019	93%	78%	+15%
2021	92%	76%	+16%
2022	89%	74%	+15%

Grade 8

Year	CB	PA	Difference
2018	76%	54%	+22%
2019	80%	58%	+22%
2021	69%	51%	+18%
2022	62%	51%	+11%

Science PSSA: 2022 Combined 4th and 8th Grade % Adv/Prof Results - Bucks County Schools

Bucks County Grade 4 th and 8 th Grade Science	% Adv/Pro
Central Bucks % Adv/Pro	75%
Bucks County % Adv/Pro	69%
State % Adv/Pro	62%

Science: # 5 Rank in Bucks County

Keystone Exams: 2022



Central Bucks School District

Keystone Exams



GR 3



GR 4



GR 5



GR 6



GR 7



GR 8



GR 9



GR 10



GR11

Algebra

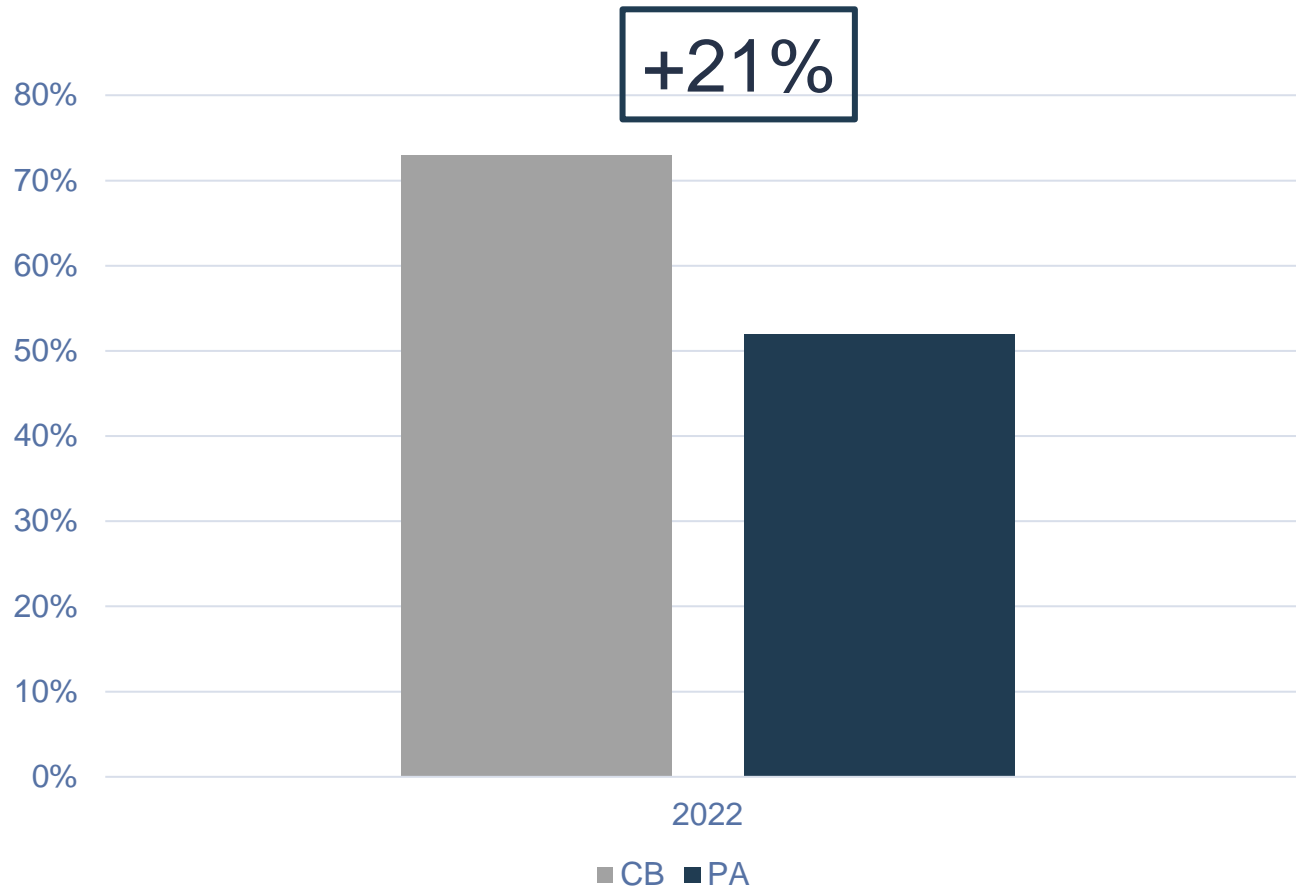
- ✓ Students are assessed when they are taking the Keystone-related courses.
- ✓ Algebra I Keystone exams are commonly administered in 8th or 9th grade.
- ✓ Biology and Literature Keystone exams are commonly administered in 10th grade.
- ✓ Student's "Best Scores" are banked when the student is in 11th grade.

Literature

Biology

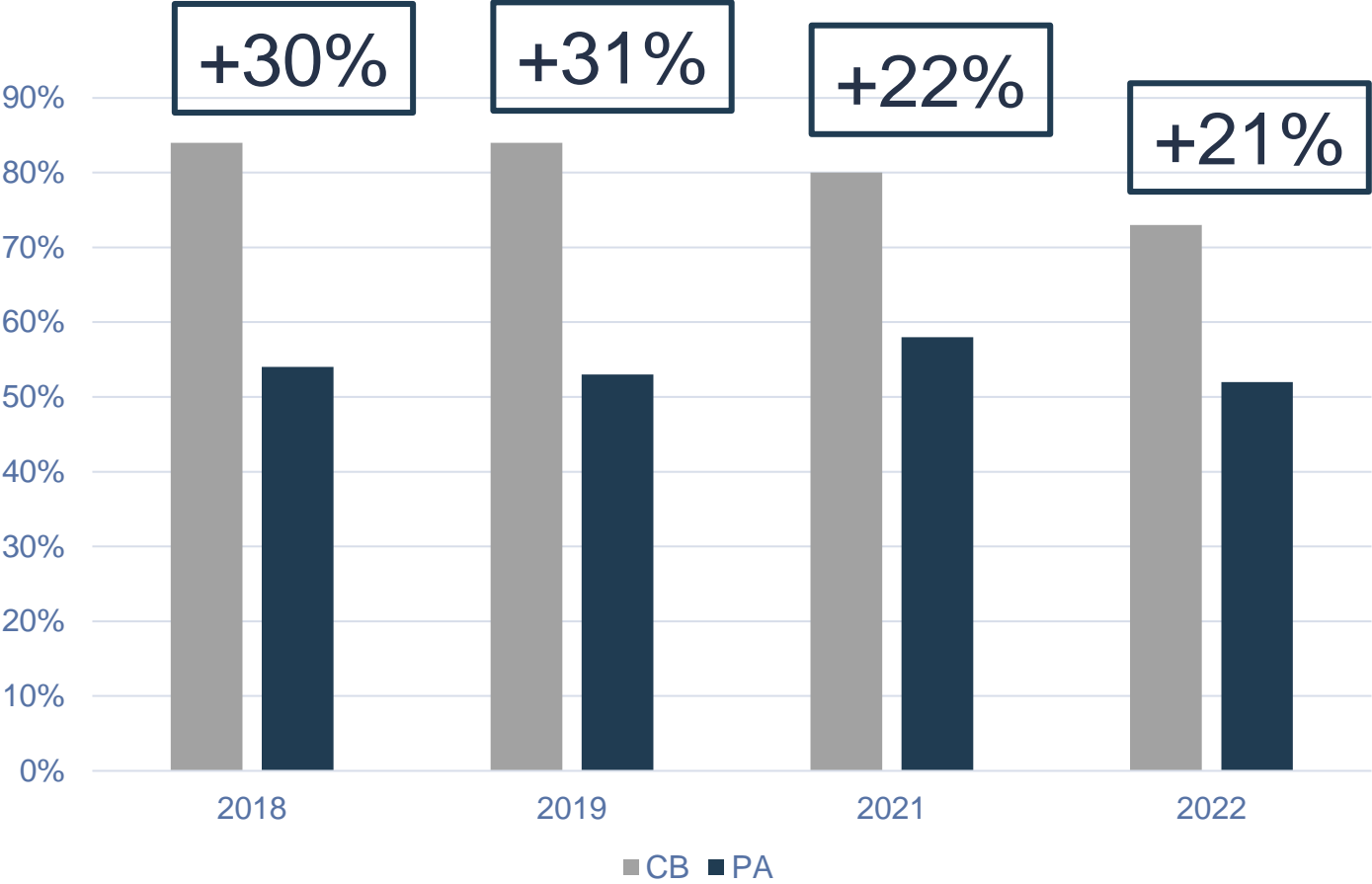
5,308 Keystone Exams Completed by CB Students

2022 Literature Keystone Exam Result



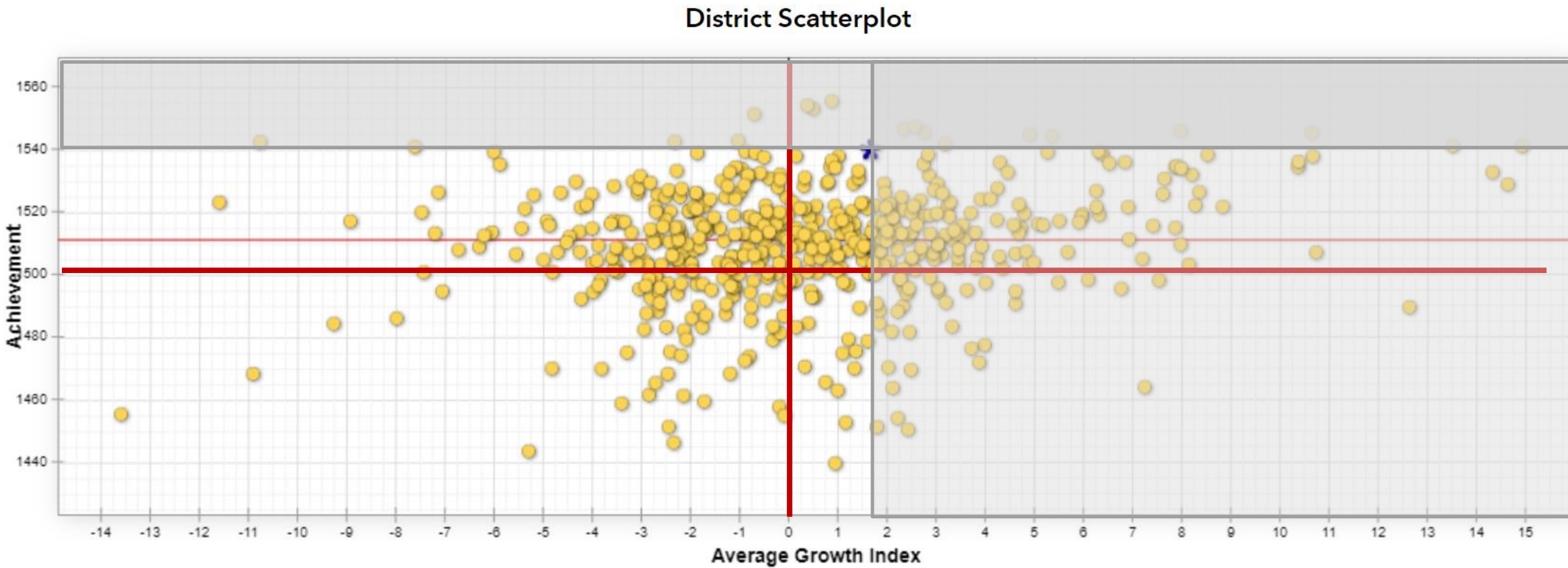
% Proficient/Advanced Literature Keystone Exam			
Year	CB	PA	Difference
2022	73%	52%	+21%

Literature Keystone Exam Results 4-Year Comparison

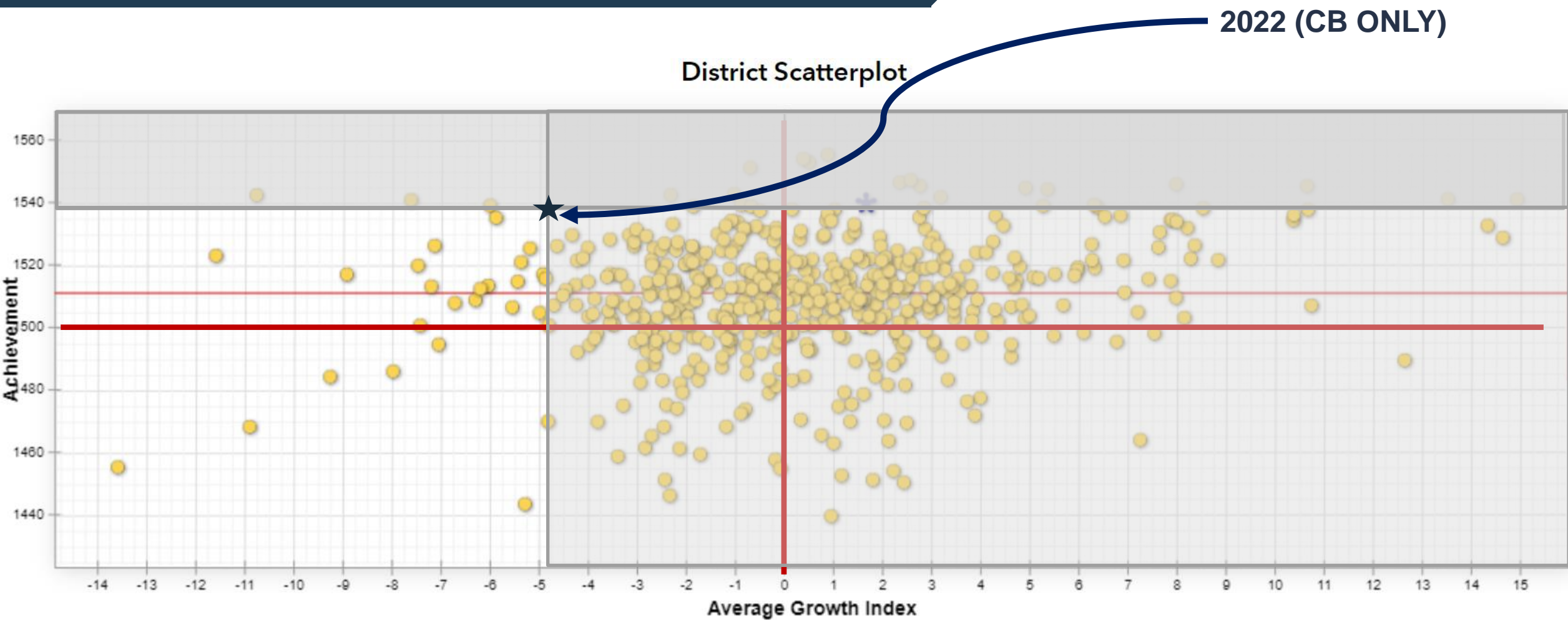


% Proficient/Advanced Literature Keystone Exam			
Year	CB	PA	Difference
2018	84%	54%	+30%
2019	84%	53%	+31%
2021	80%	58%	+22%
2022	73%	52%	+21%

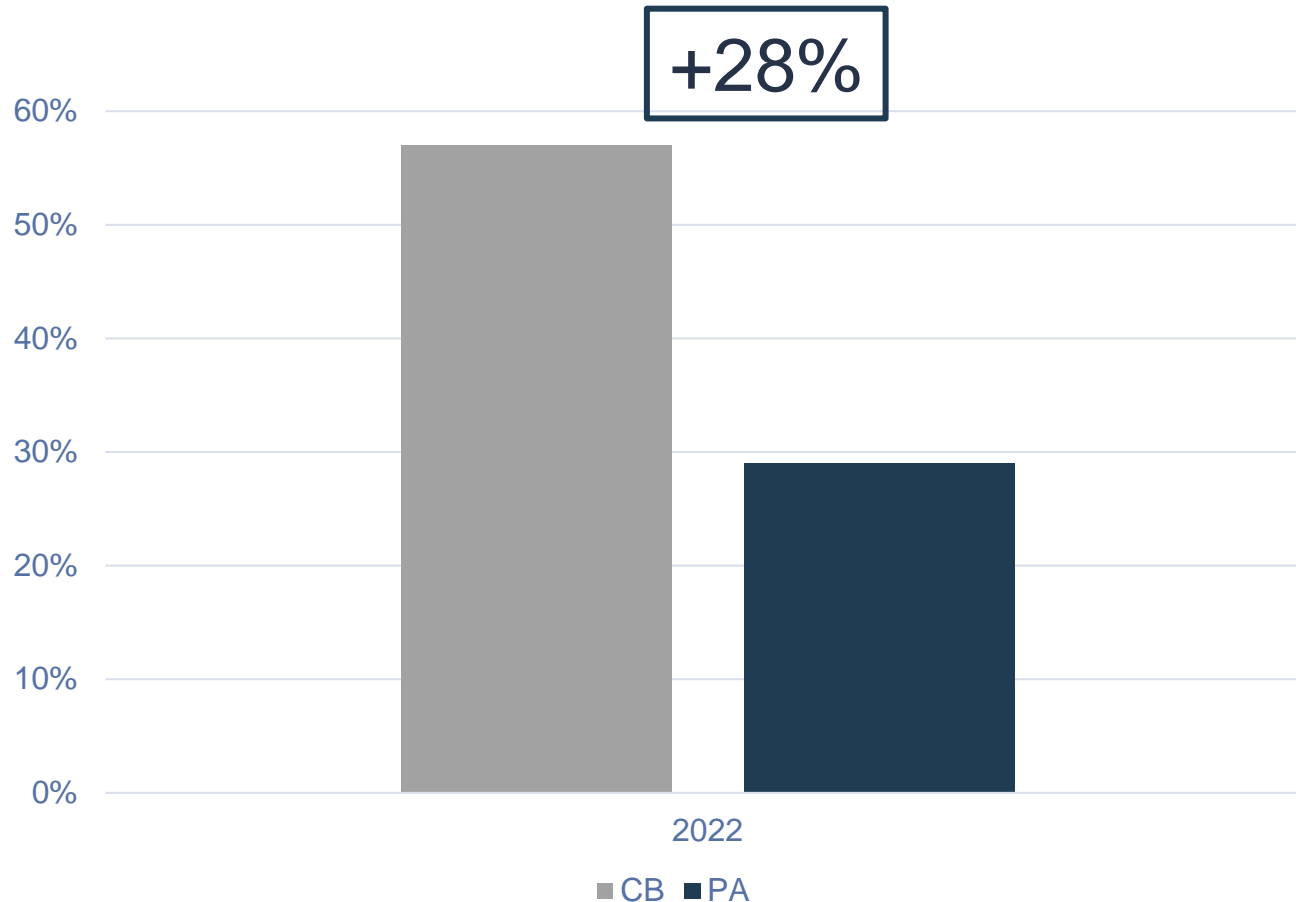
All PA School Districts – Central Bucks Represented with Star
2021 LITERATURE KEYSTONE Growth VS. Scaled Score



All PA School Districts – Central Bucks Represented with Star
2021 LITERATURE KEYSTONE Growth VS. Scaled Score

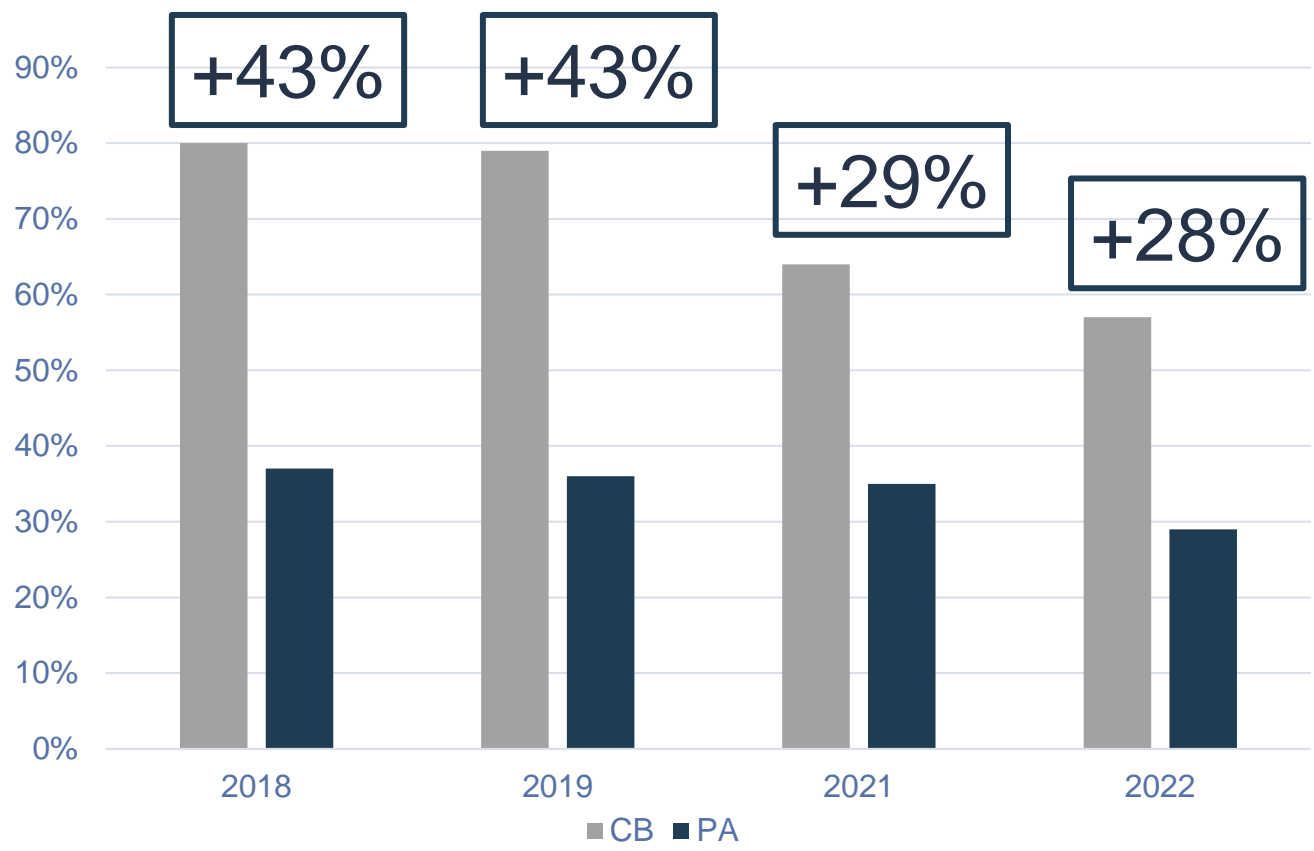


2022 Algebra Keystone Exam Results



% Proficient/Advanced Algebra Keystone Exam			
Year	CB	PA	Difference
2022	57%	29%	+28%

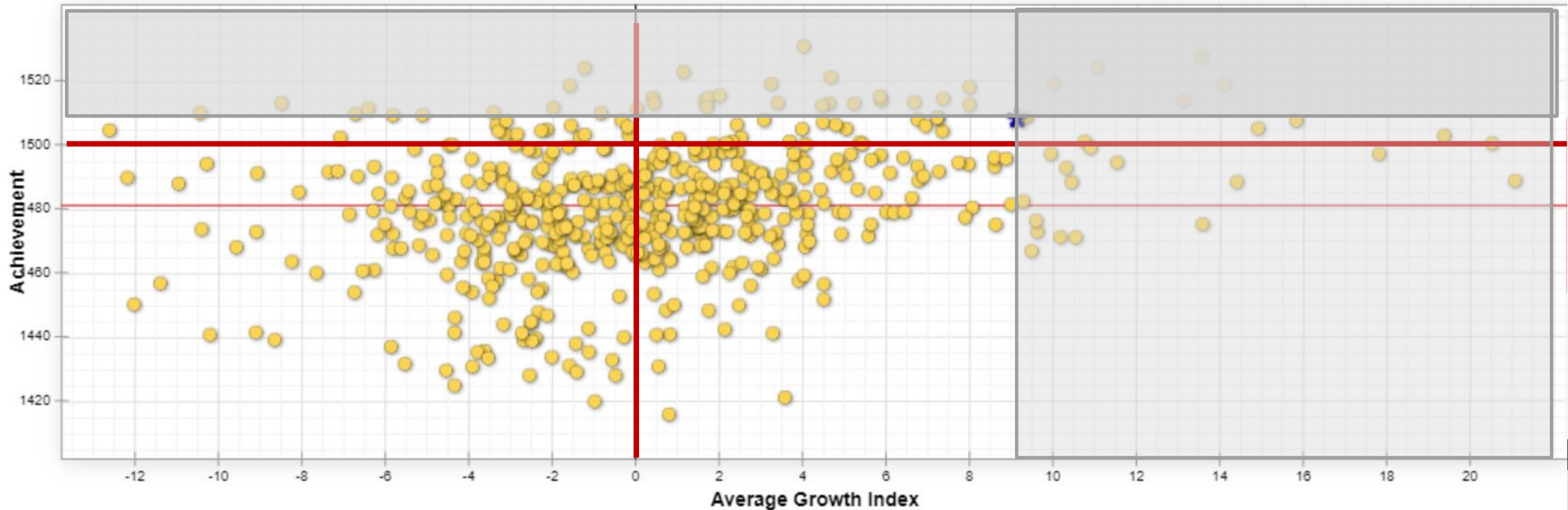
Algebra Keystone Exam Results 4-Year Comparison



% Proficient/Advanced Algebra Keystone Exam			
Year	CB	PA	Difference
2018	80%	37%	+43%
2019	79%	36%	+43%
2021	64%	35%	+29%
2022	57%	29%	+28%

All PA School Districts – Central Bucks Represented with Star 2021 ALGEBRA KEYSTONE Growth VS. Scaled Score

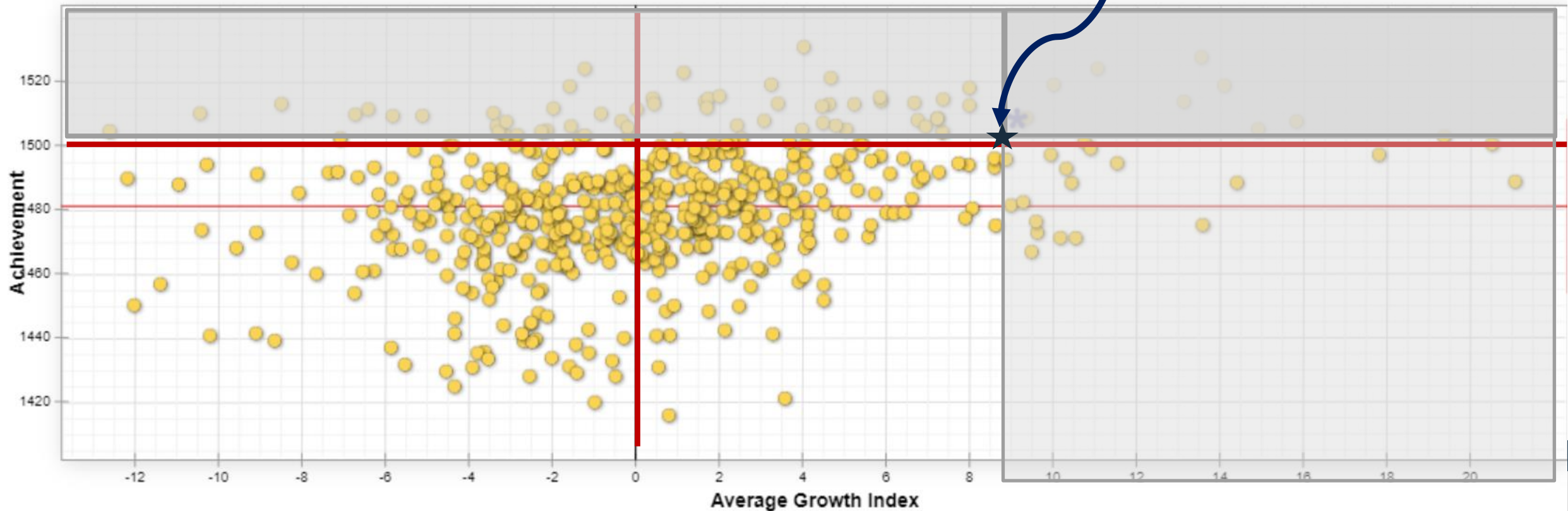
District Scatterplot



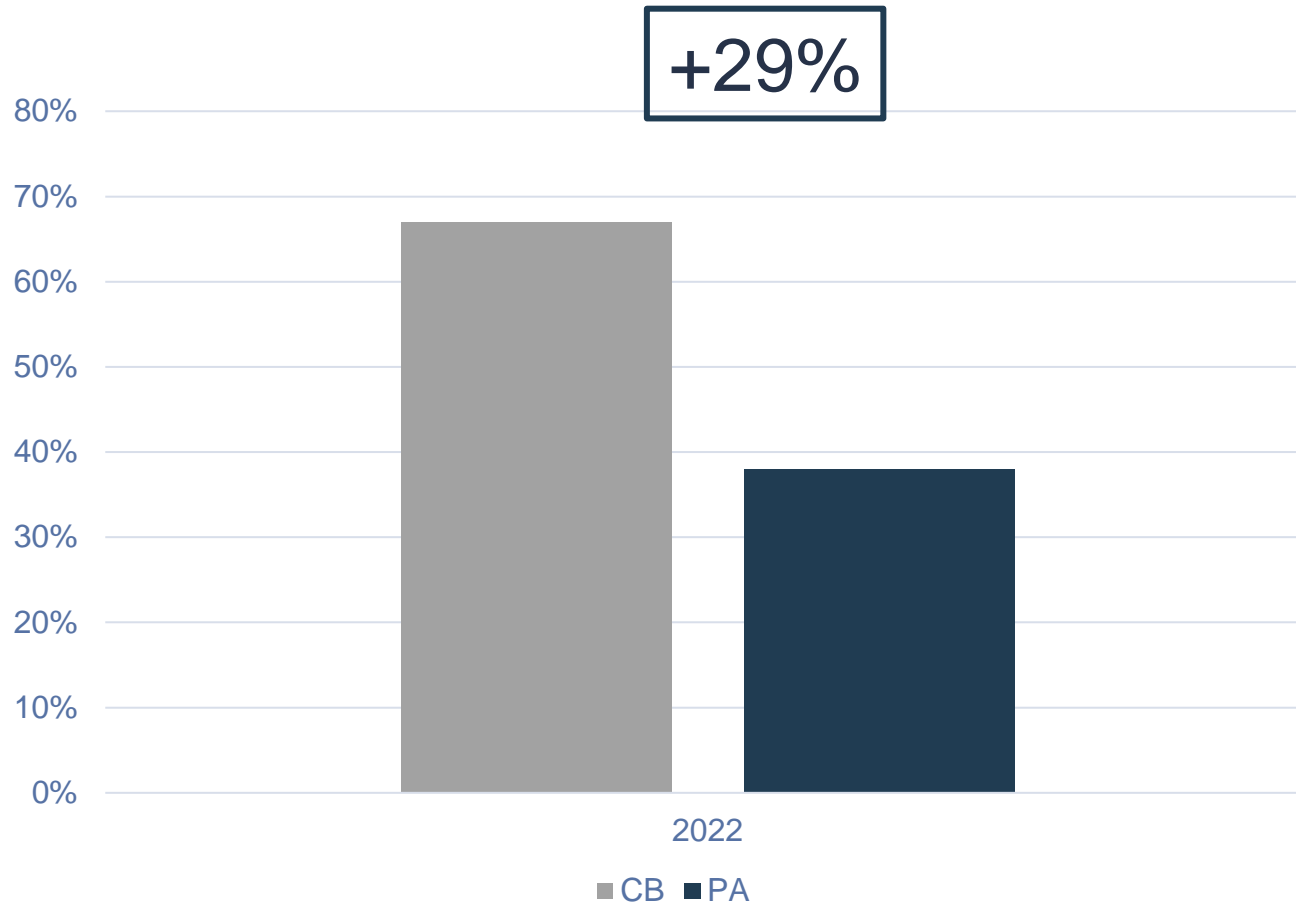
All PA School Districts – Central Bucks Represented with Star 2021 ALGEBRA KEYSTONE Growth VS. Scaled Score

District Scatterplot

2022 (CB ONLY)

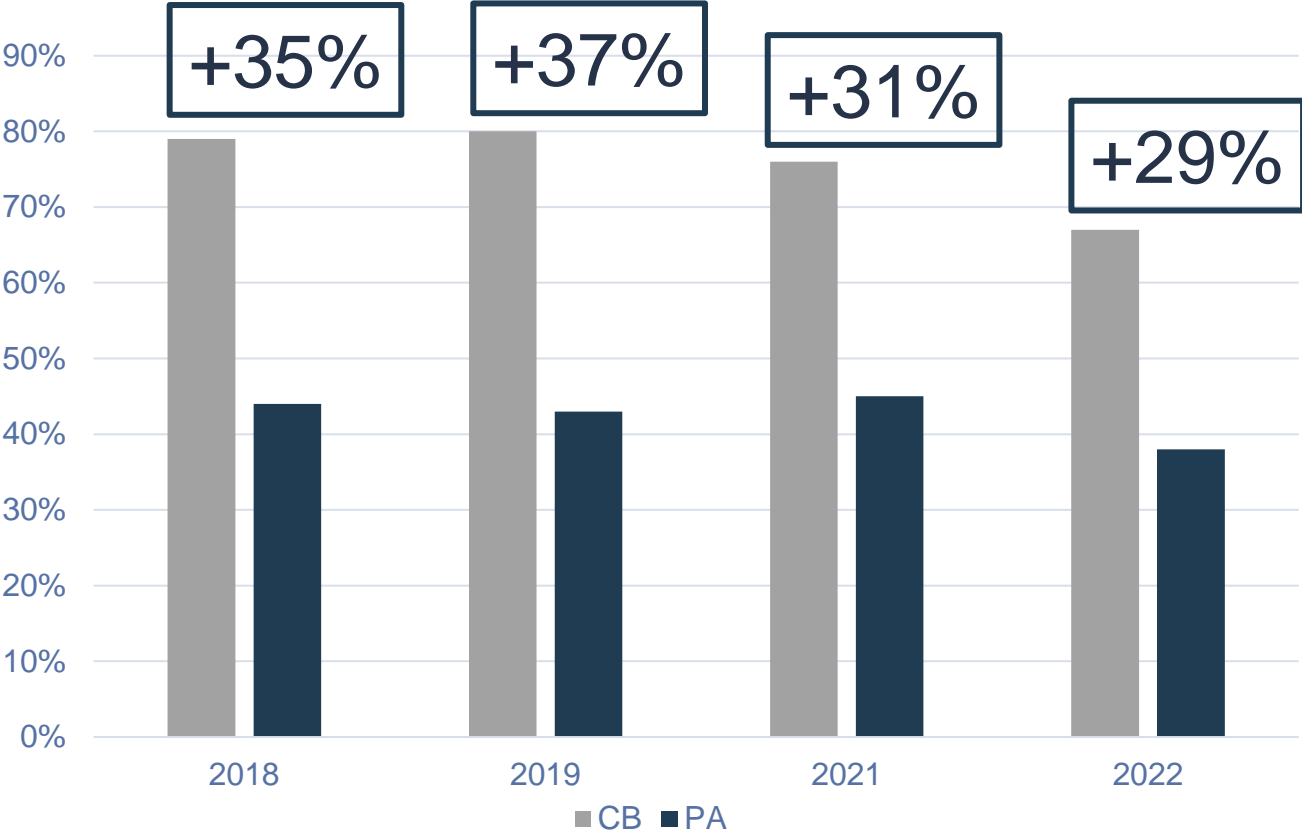


2022 Biology Keystone Exam Result



% Proficient/Advanced Biology Keystone Exam			
Year	CB	PA	Difference
2022	67%	38%	+29%

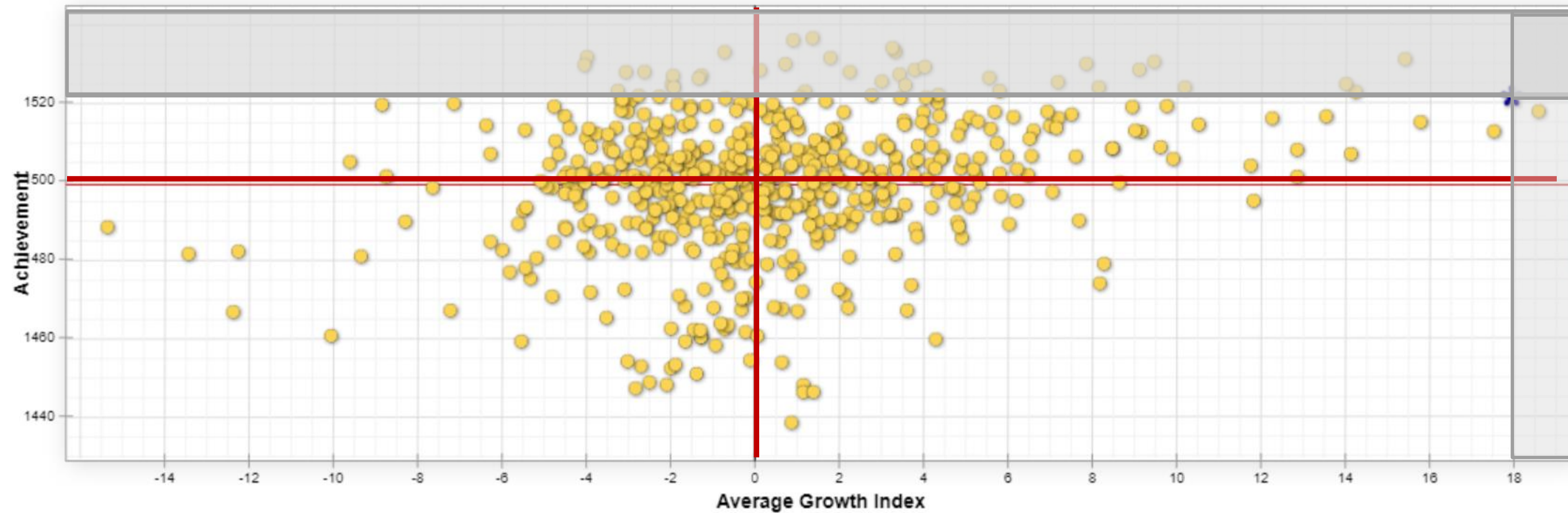
Biology Keystone Exam Results 4-Year Comparison



% Proficient/Advanced Biology Keystone Exam			
Year	CB	PA	Difference
2018	79%	44%	+35%
2019	80%	43%	+37%
2021	76%	45%	+31%
2022	67%	38%	+29%

All PA School Districts – Central Bucks Represented with Star 2021 BIOLOGY KEYSTONE Growth VS. Scaled Score

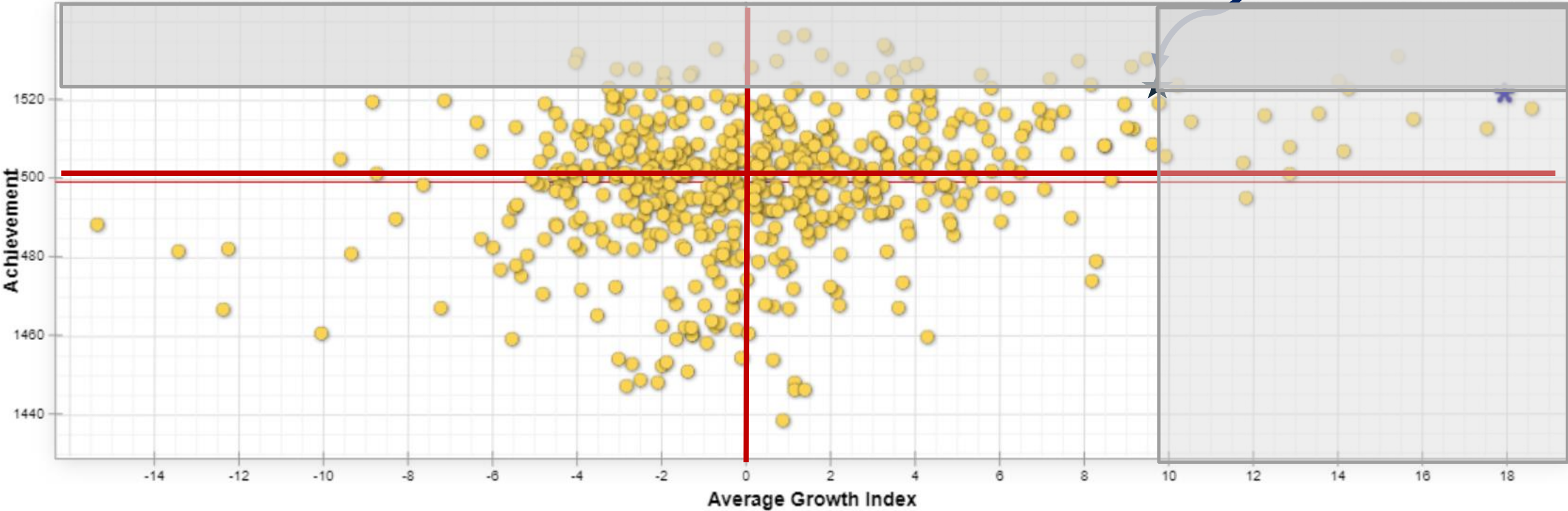
District Scatterplot



All PA School Districts – Central Bucks Represented with Star
2021 BIOLOGY KEYSTONE Growth VS. Scaled Score

2022 (CB ONLY)

District Scatterplot



ACT

ACT
School Year 2021-2022



Standardized Tests – ACT and SAT

What is a Test Optional College?

This list includes bachelor degree granting institution that do not require all or most recent U.S. high school graduates applying for fall 2023 to submit ACT/SAT results before admissions decisions are made. As the restrictions column indicates, some schools only exempt applicants who meet minimum grade or class rank criteria; others use ACT/SAT scores solely for course placement. Please check with individual schools for details.

[Learn more](#)



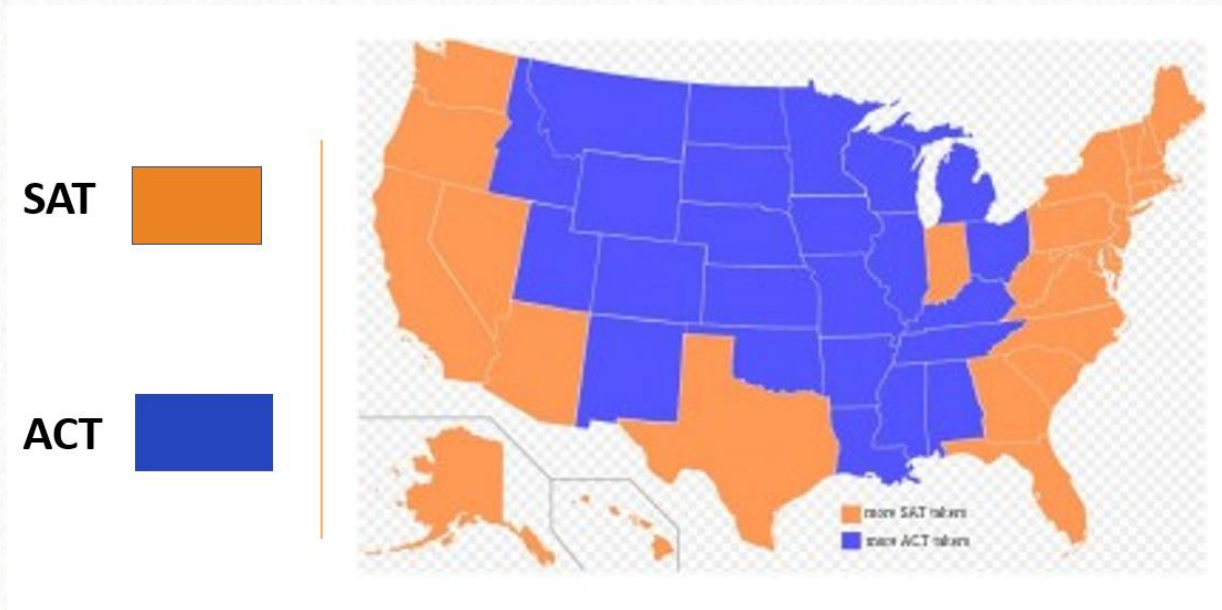


Standardized Tests – ACT and SAT

ACT and SAT Popularity

The SAT is preferred on the East and West coasts, while the ACT is the more popular test in the Midwest.

It is common for students to take both exams to determine which one matches their strengths as a student.





Standardized Tests – ACT

ACT Scoring



ENGLISH



READING



MATH



SCIENCE

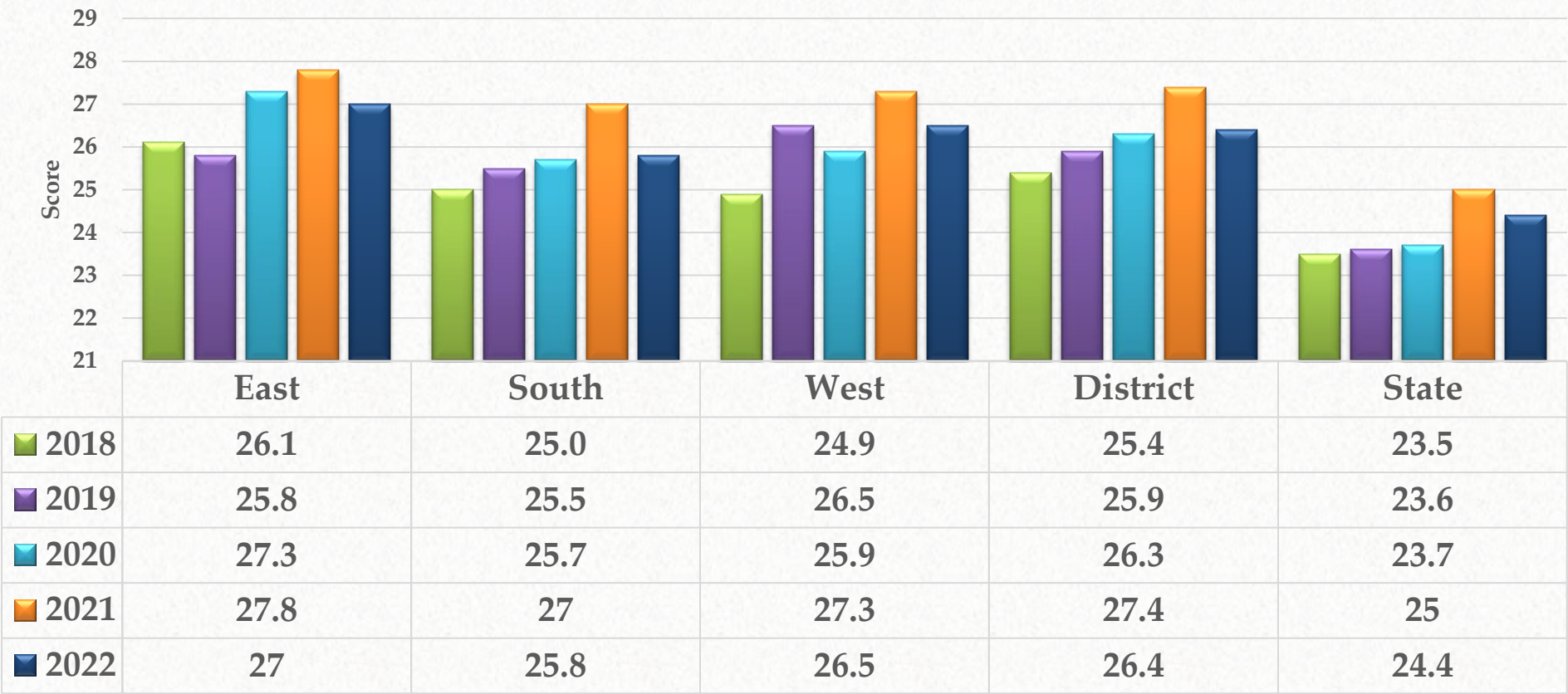
Each section of the ACT is scored on a 1-to-36-point scale. The **composite ACT score** is the average of a student's four section scores, also on a scale from 1 to 36.

Most colleges and universities will accept scores from either the SAT or ACT, and do not favor one test over the other. That said, college-bound students are increasingly taking both the ACT and the SAT.



Standardized Tests – ACT

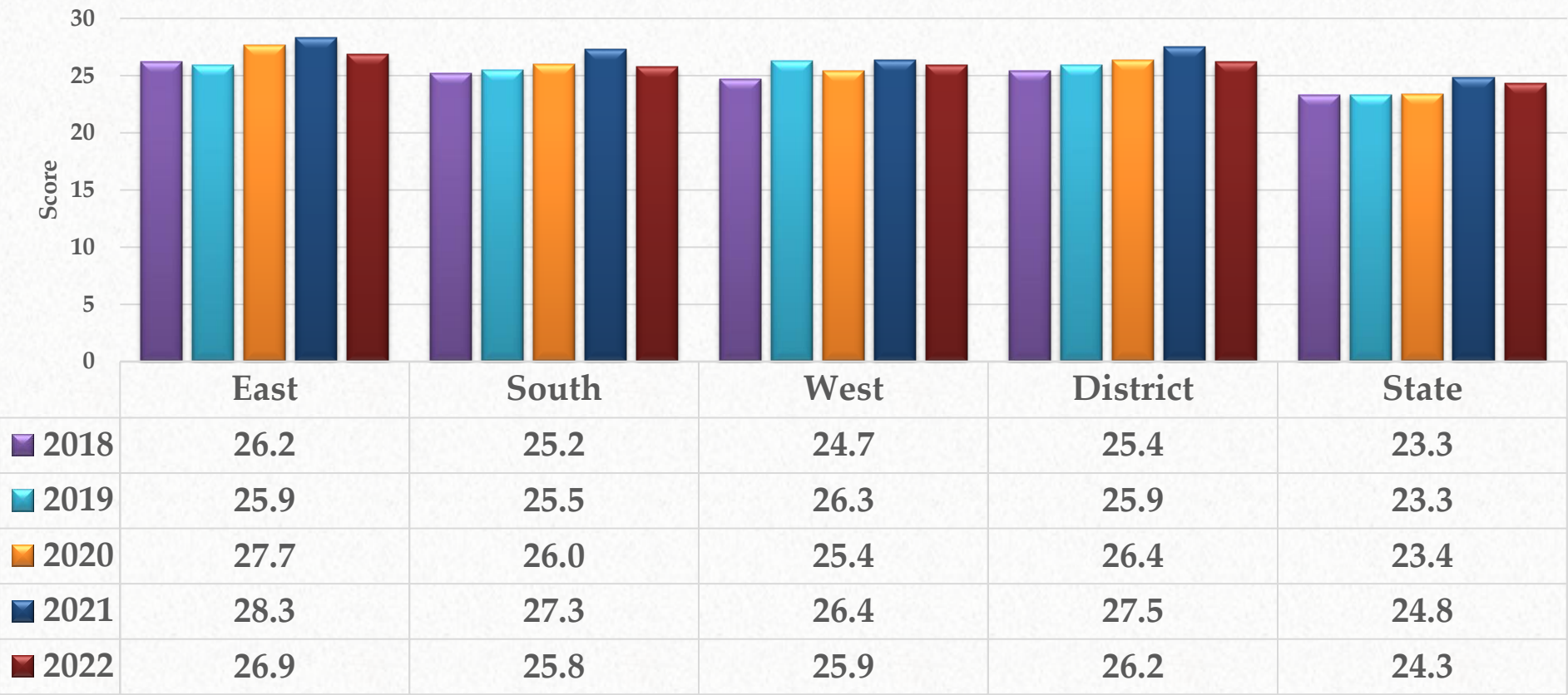
5 year Comparison Average ACT Scores – Composite





Standardized Tests – ACT

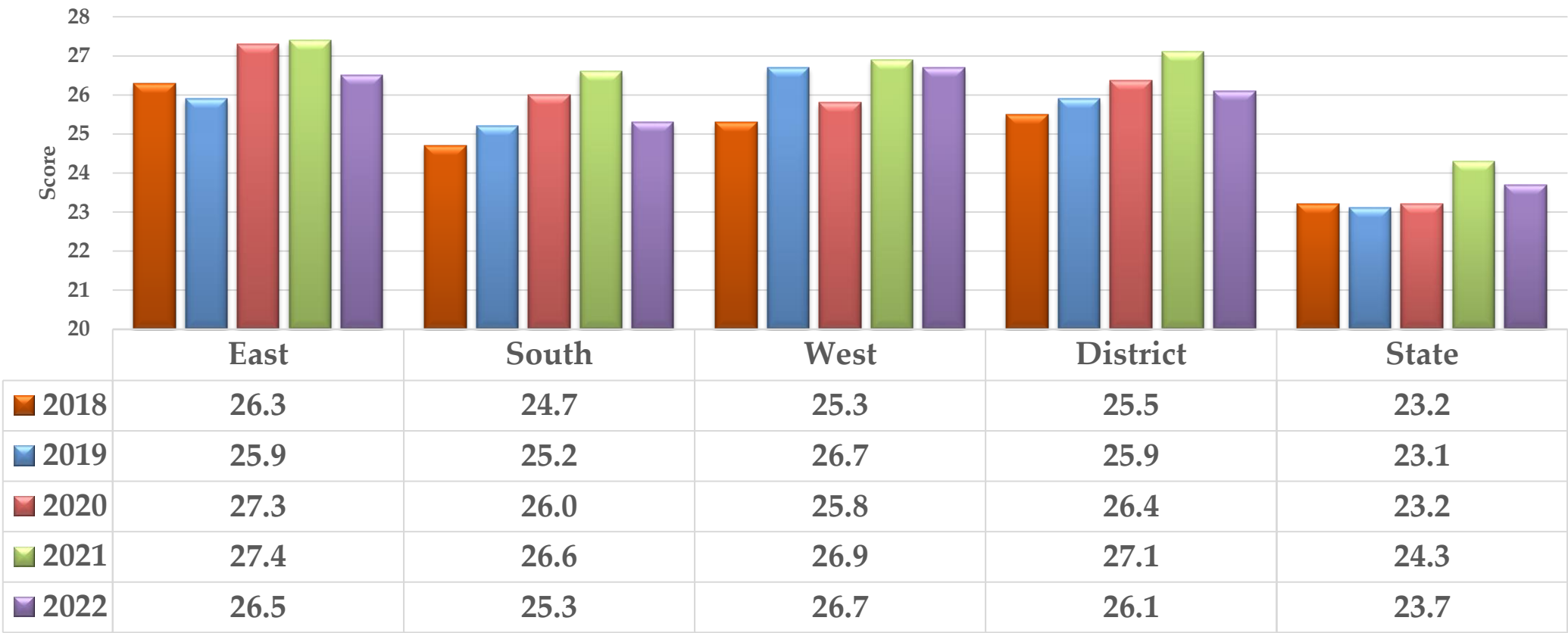
5 year Comparison Average ACT Scores - ENGLISH





Standardized Tests – ACT

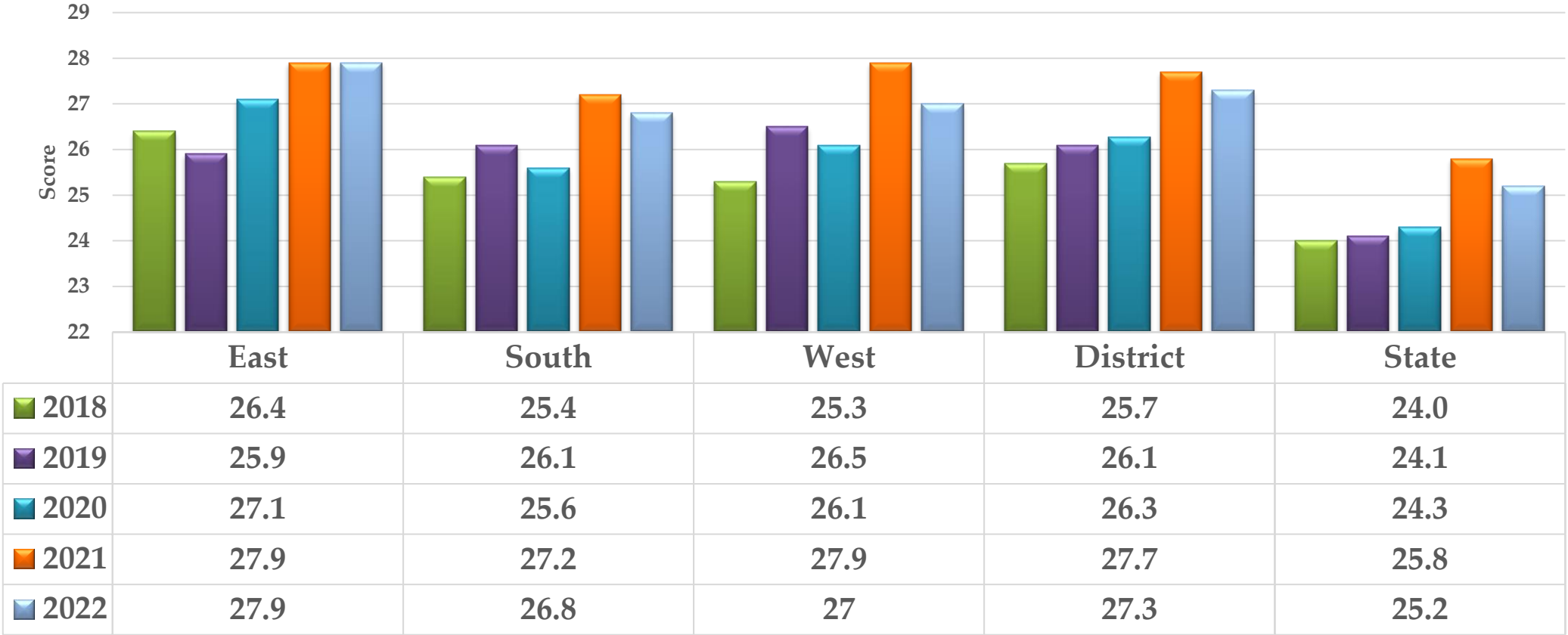
5 year Comparison Average ACT Scores - Math





Standardized Tests – ACT

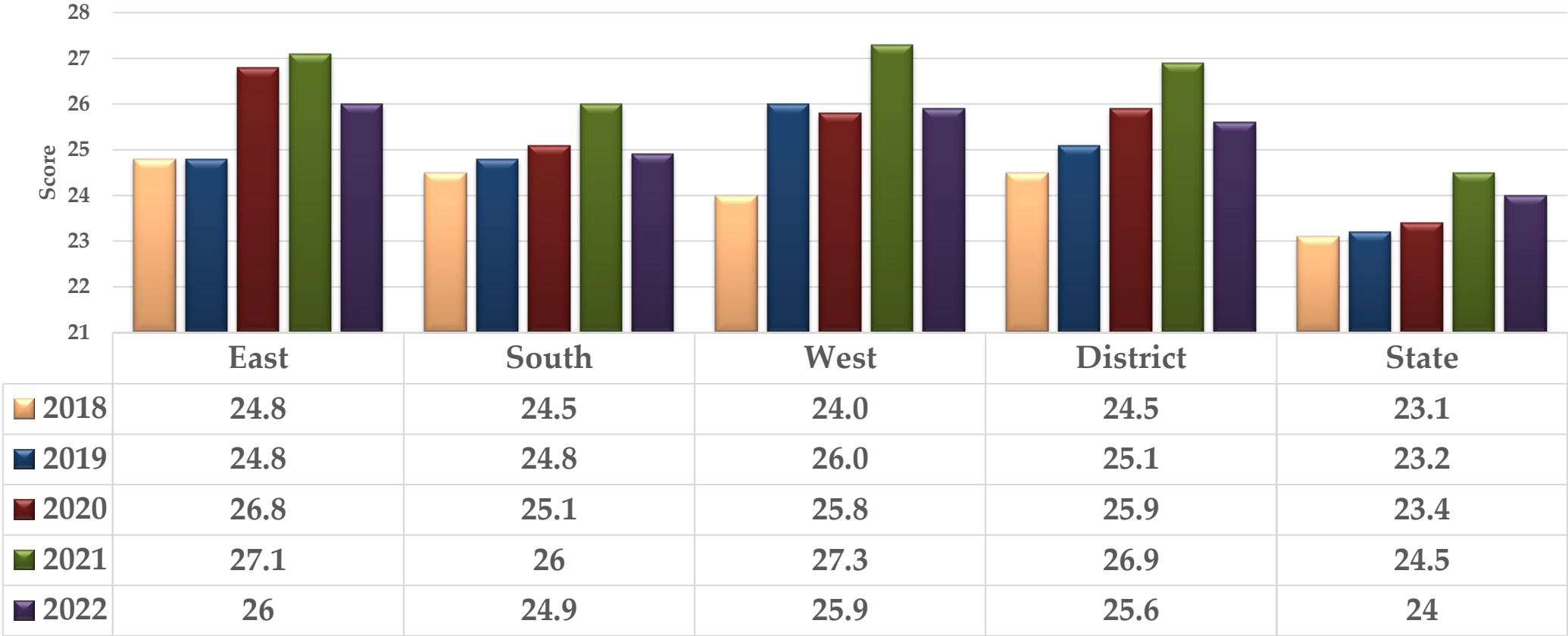
5 year Comparison Average ACT Scores - Reading





Standardized Tests – ACT

5 year Comparison Average ACT Scores - Science





Standardized Tests – ACT

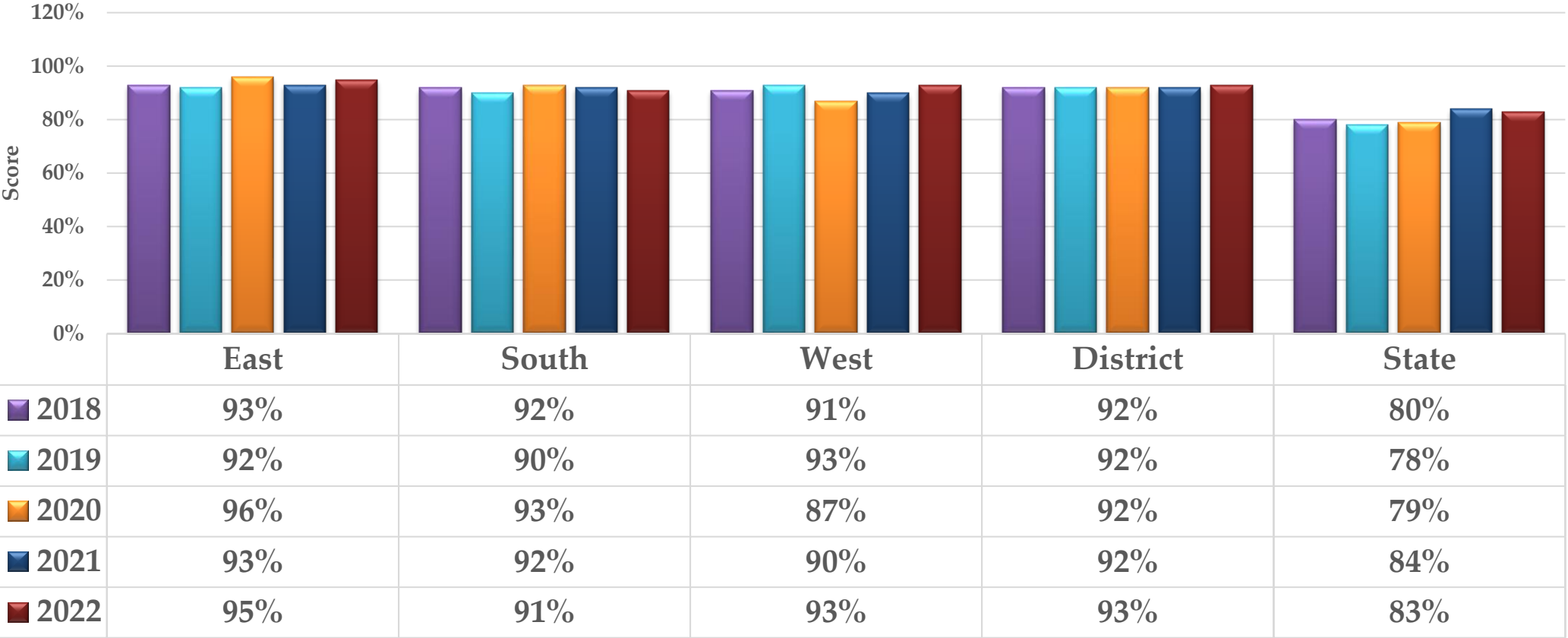
The ACT reports College Readiness Benchmark Scores – A benchmark score is the minimum score needed on an ACT subject-area test to indicate a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in the corresponding credit-bearing college courses, which include English Composition, Algebra, Social Science, Biology, STEM and ELA. These scores were empirically derived based on the actual performance of students in college.

ACT test score	College courses	Benchmark
English	English Composition I	18
Mathematics	College Algebra	22
Reading	American History, Other History, Psychology, Sociology, Political Science, Economics	22
Science	Biology	23
STEM ¹	Calculus, Chemistry, Biology, Physics, Engineering	26
ELA ²	English Composition I, American History, Other History, Psychology, Sociology, Political Science, Economics	20



Standardized Tests – ACT

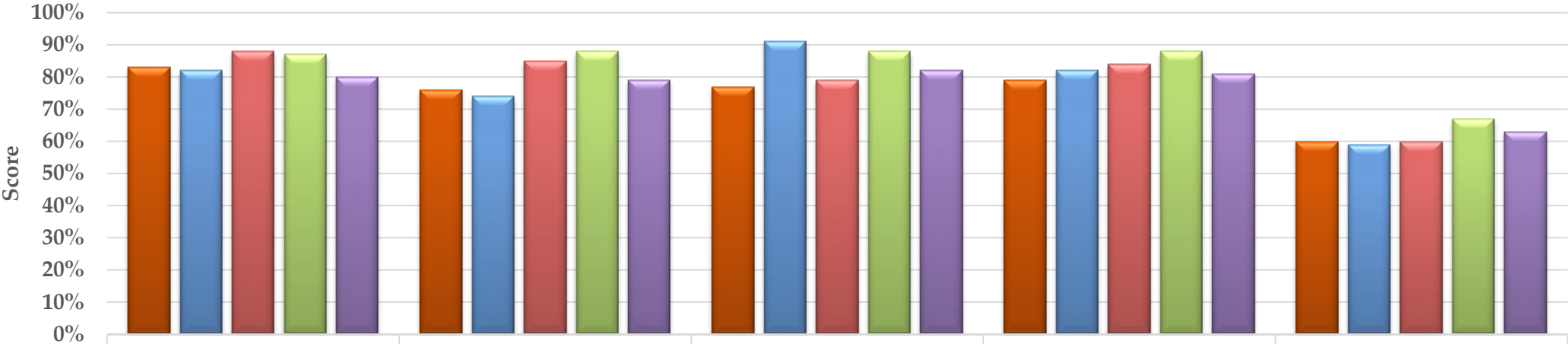
5 year Percent of Students Earning Benchmark - English





Standardized Tests – ACT

5 year Percent of Students Earning Benchmark – Math

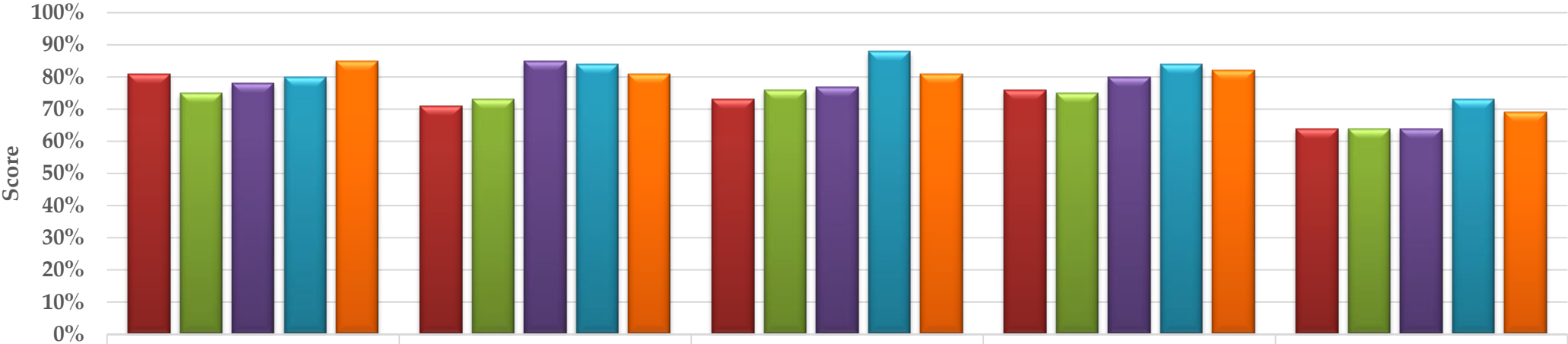


	East	South	West	District	State
2018	83%	76%	77%	79%	60%
2019	82%	74%	91%	82%	59%
2020	88%	85%	79%	84%	60%
2021	87%	88%	88%	88%	67%
2022	80%	79%	82%	81%	63%



Standardized Tests – ACT

5 year Percent of Students Earning Benchmark - Reading

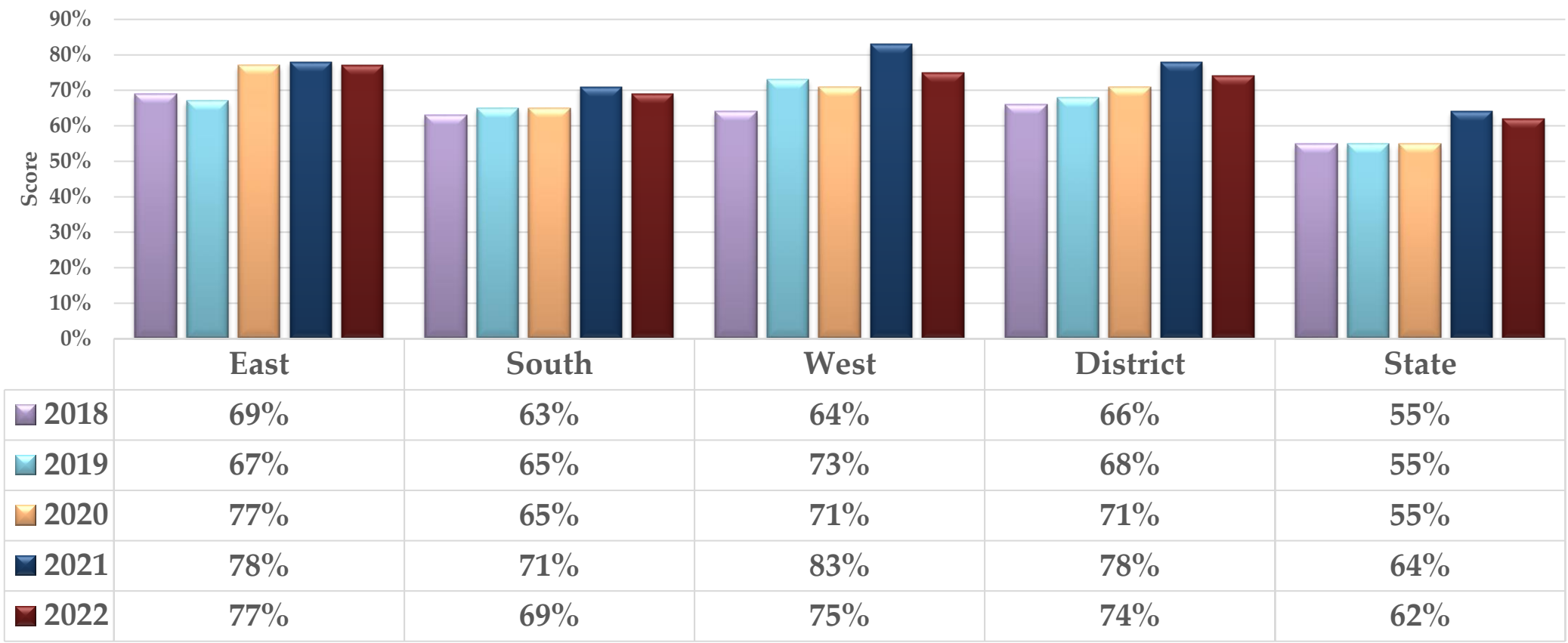


	East	South	West	District	State
2018	81%	71%	73%	76%	64%
2019	75%	73%	76%	75%	64%
2020	78%	85%	77%	80%	64%
2021	80%	84%	88%	84%	73%
2022	85%	81%	81%	82%	69%



Standardized Tests – ACT

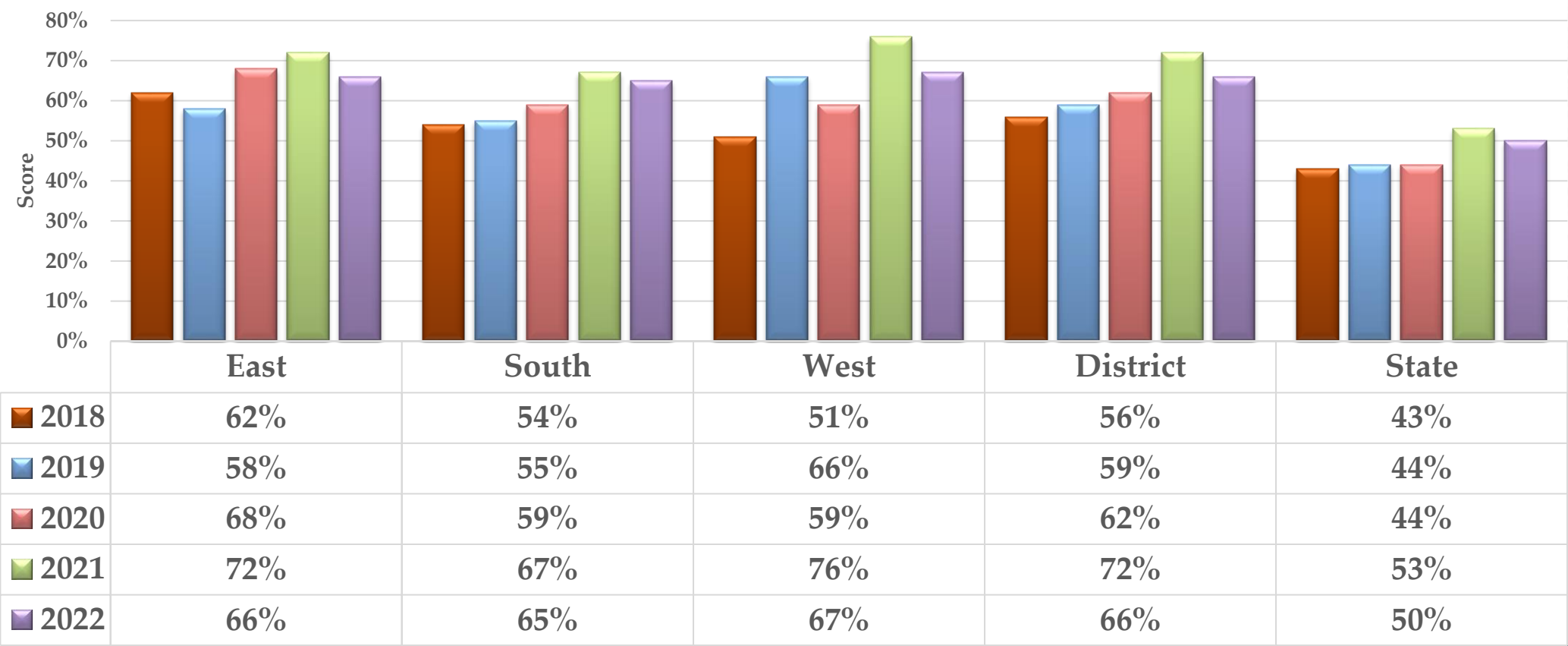
5 year Percent of Students Earning Benchmark - Science





Standardized Tests – ACT

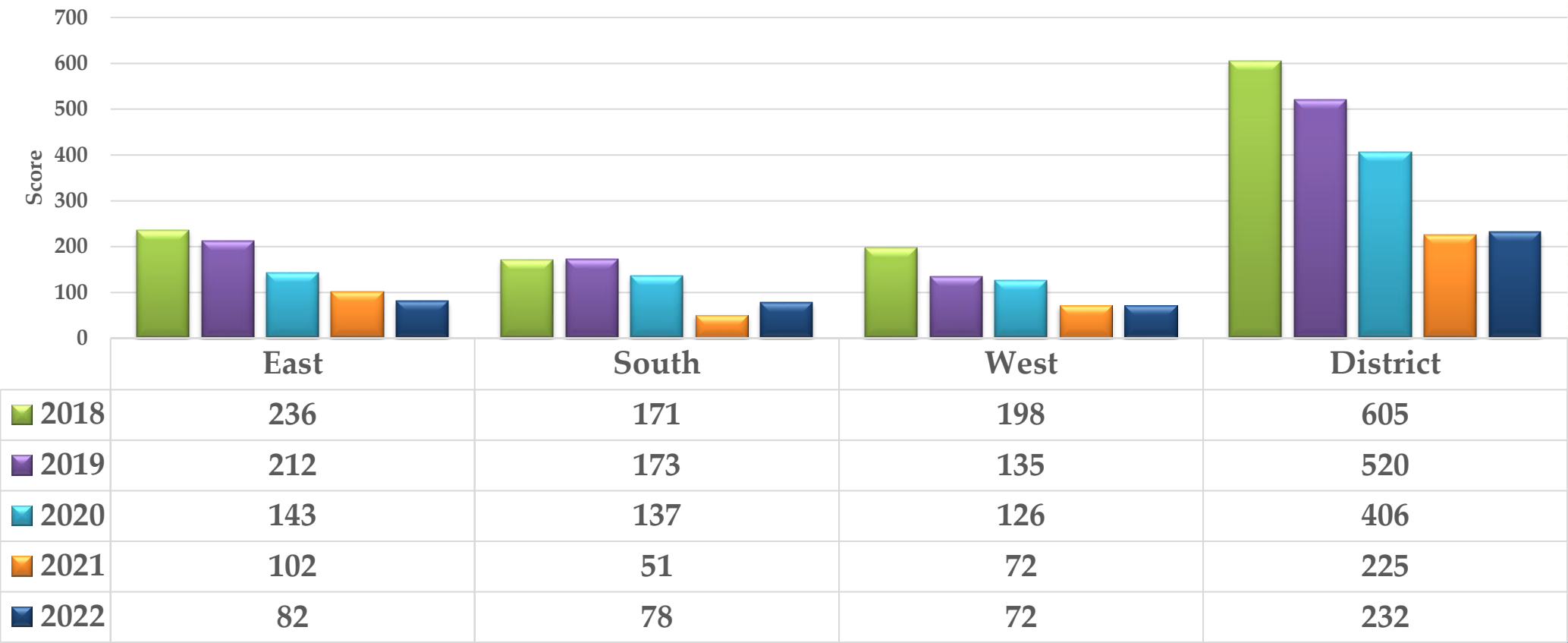
5 year Percent of Students Earning Benchmark – Meeting All 4 Benchmarks





Standardized Tests – ACT

Number of Students Who Took ACT – 5 Year Comparison



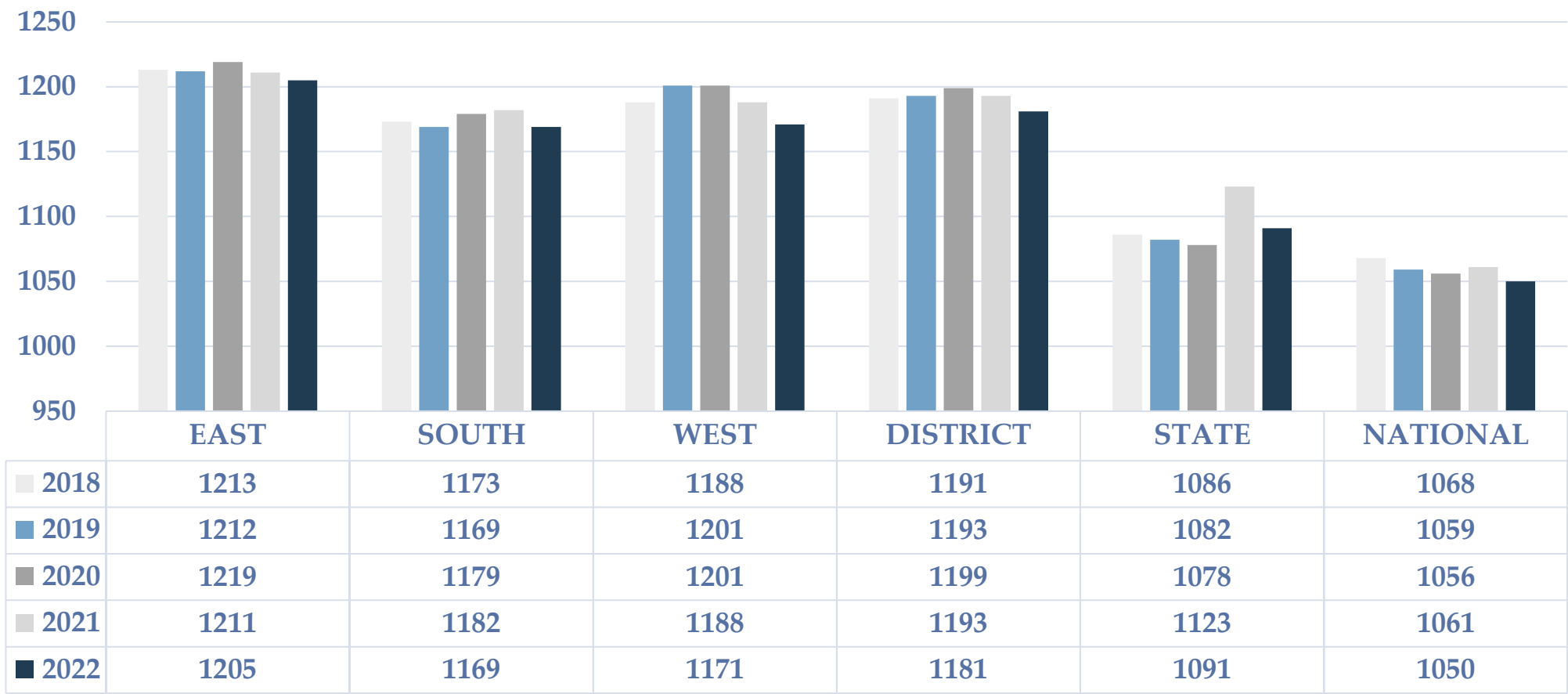
SAT

SAT
School Year 2021-2022



Standardized Tests – SAT

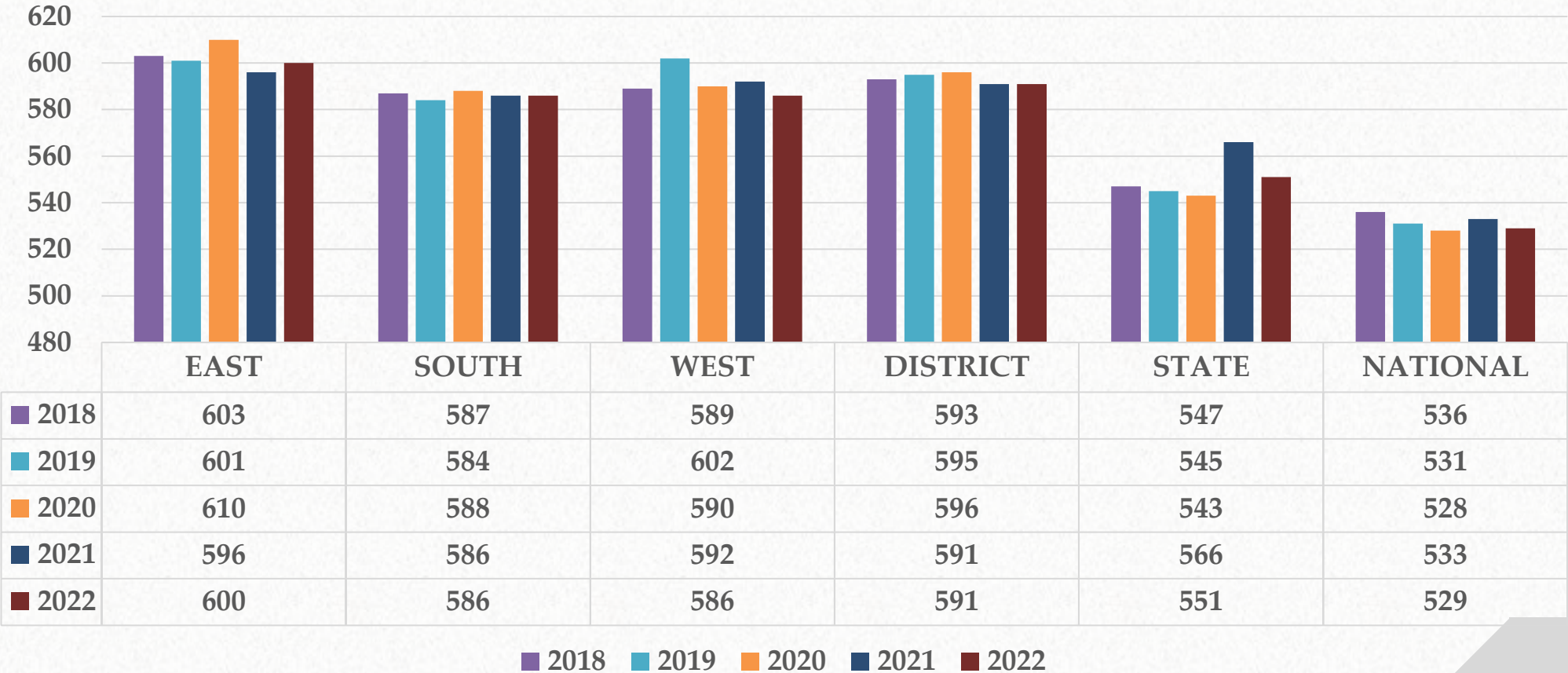
5-year SAT Combined Summary





Standardized Tests – SAT

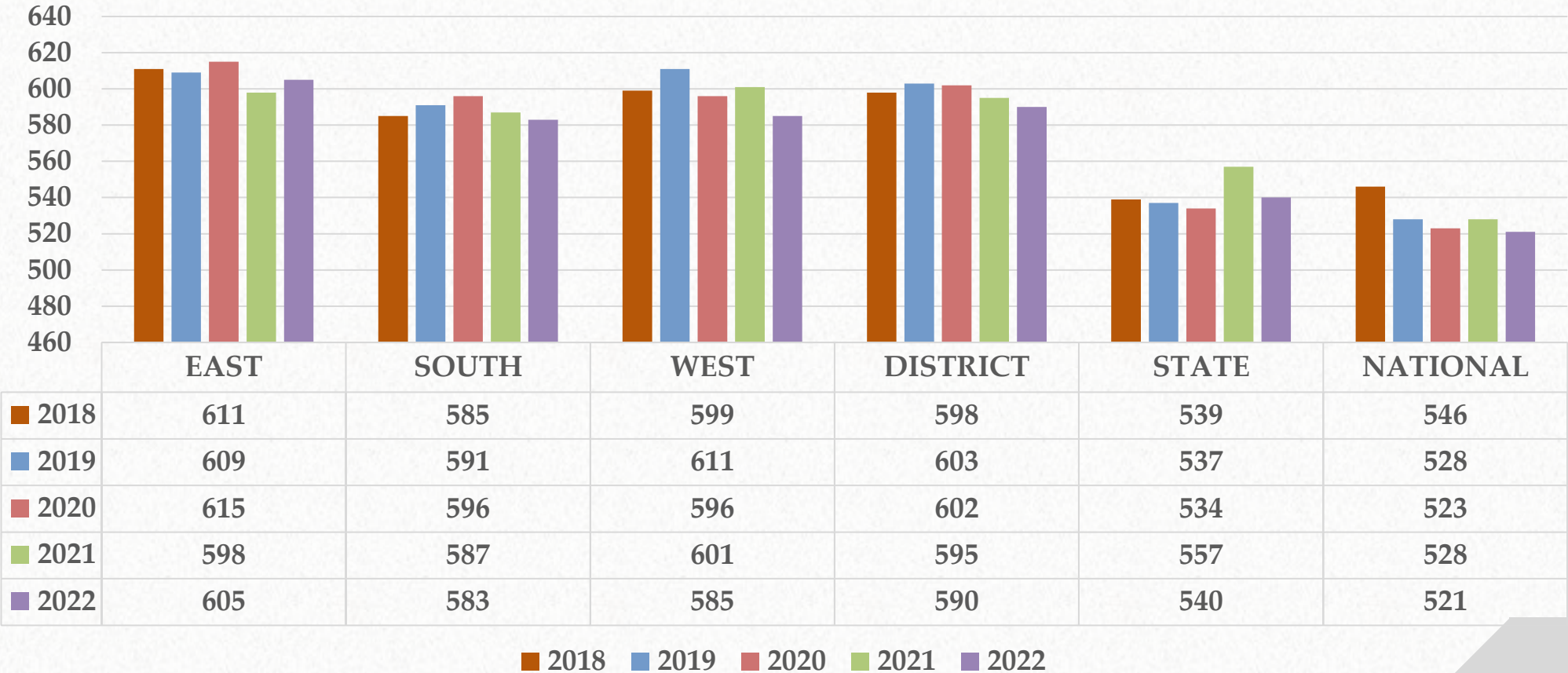
5-year SAT Critical Reading Summary





Standardized Tests – SAT

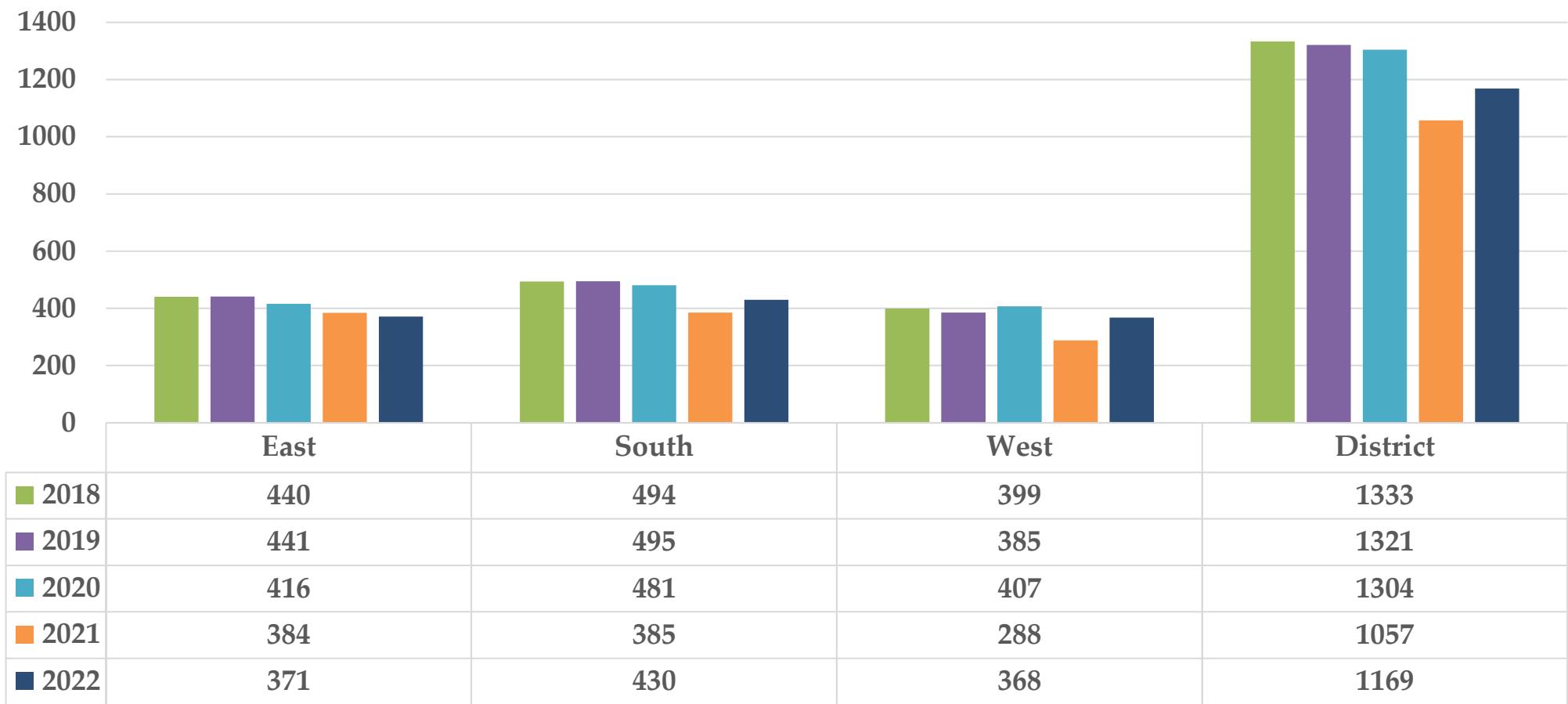
5-year SAT Critical Math Summary





Standardized Tests – SAT

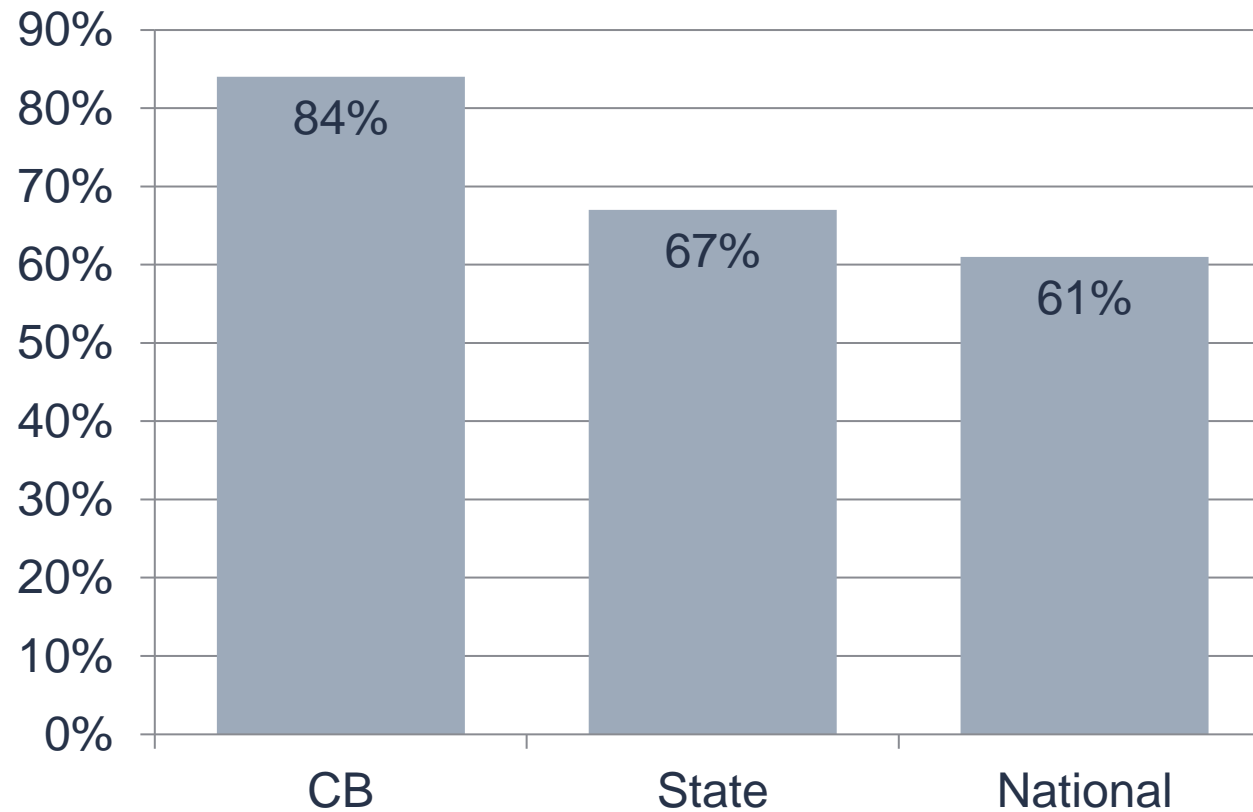
Number of Students Who Took SAT – 5 Year Comparison



Advanced Placement Exams

Advanced Placement Exams School Year 2021-2022

Success Rate: % of Students who Scored a 3, 4, or 5 on AP Exam



Note: Scores of 3, 4, or 5 on a 5-point scale are considered worthy of college credit

AP Course Percent of Students Earning a Score of 3, 4, or 5

	# In Class	# Took Test	% Tested	# of 3,4,5	% 3,4,5
Art: Studio Art/Draw	34	19	56%	19	100%
Biology	174	149	86%	136	91%
Calculus AB	312	284	91%	261	92%
Calculus BC	147	132	90%	128	97%
Chemistry	134	107	80%	86	80%
Comp Sci A	118	89	75%	81	91%
Comp Sci Prin	270	174	64%	151	87%
Macroeconomics	342	241	70%	195	81%
Microeconomics	103	65	63%	61	94%
English Lang & Comp	351	301	86%	254	84%
English Lit & Comp	131	79	60%	70	100%
Environ Science	204	105	51%	72	69%
European History	208	189	91%	158	84%
French Language	18	8	44%	6	75%
Gvrnmt & Politics	136	63	46%	53	84%
Music Theory	27	18	67%	15	83%
Physics C - E/M	70	38	54%	25	66%
Physics C - Mech	169	103	61%	65	63%
Psychology	518	282	54%	245	87%
Spanish Lang	88	71	80%	46	90%
Statistics	387	235	61%	202	86%
US History	251	188	75%	126	67%
Total	4187	2911	70%	2455	84%

AP Enrollment 2021-2022

# of AP Students	
Art: Studio Art/Draw	34
Biology	174
Calculus AB	312
Calculus BC	147
Chemistry	134
Comp Sci A	118
Comp Sci Prin	270
Macroeconomics	342
Microeconomics	103
English Lang & Comp	351
English Lit & Comp	131

# of AP Students	
Environ Science	204
European History	208
French Language	18
Gvrnmt & Politics	136
Music Theory	27
Physics C - E/M	70
Physics C - Mech	169
Psychology	518
Spanish Lang	83
Statistics	387
US History	251

**4187 Students
Enrolled in AP
Courses in
2022**

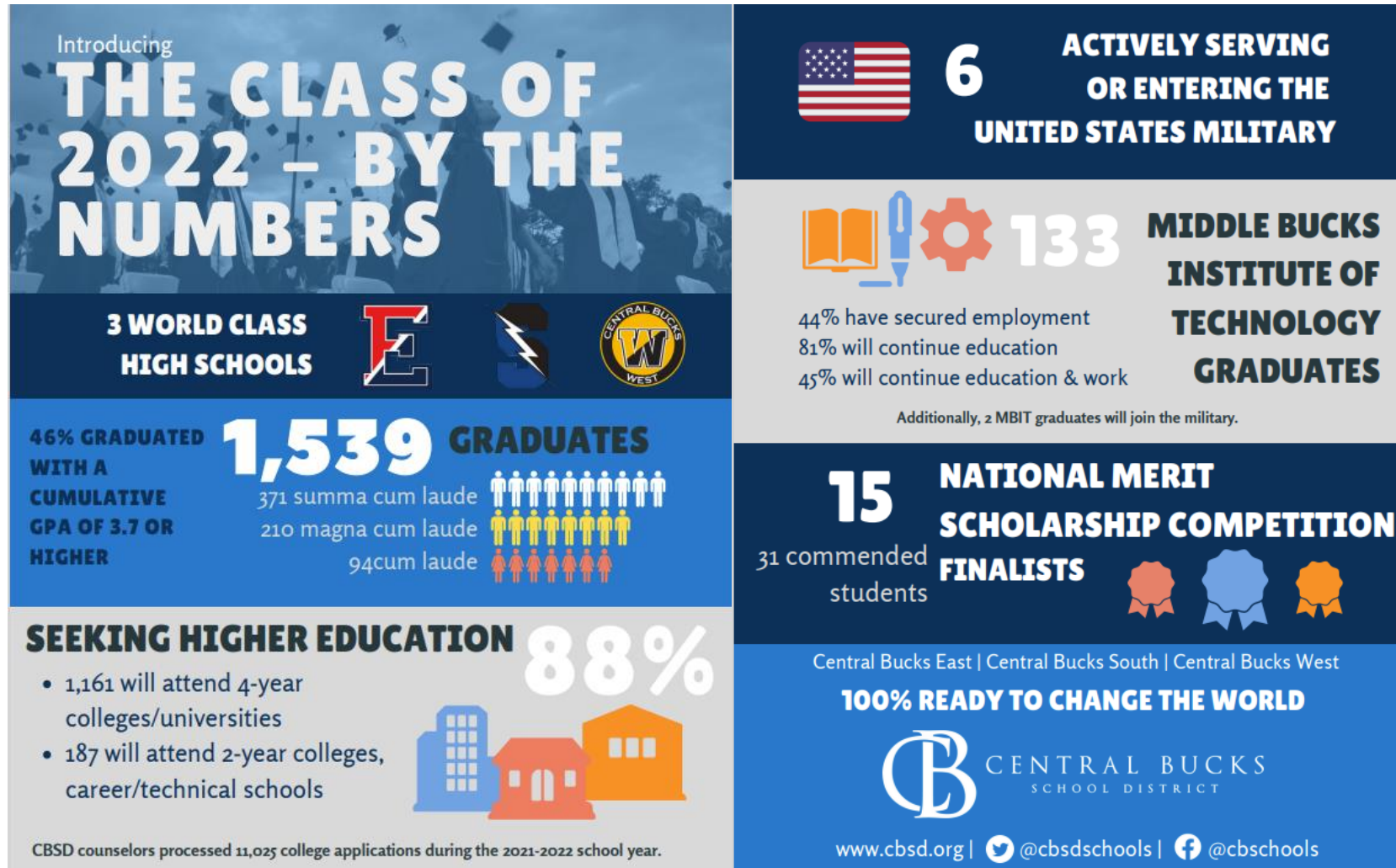
AP Course Enrollment 4-Year Comparison

Year	Number of AP Students in CB	AP Exam Participation Rate	AP Exams Adminstered
2018 - 2019	4,653	64%	2986
2019 - 2020	4,862	65%	3173
2020 - 2021	4,691	61%	2869
2021 - 2022	4,187	70%	2911

AP Scholars

AP Scholar Scores of 3 or higher on three or more AP Exams	178
AP Scholar with Honors Average score of at 3.25 on all AP Exams taken, and scores of 3 or higher on four or more AP exams	127
AP Scholar with Distinction Average score of at least 3.5 on all AP Exams taken, and a score of 3 or higher on five or more AP exams	283
Total AP Scholars	588

The Class of 2022 – By the Numbers





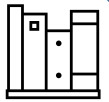
Final Thoughts



PSSA results dropped in ELA, Mathematics, and Science over the last 4 years. The drop in scores aligns to local districts, and the state, but the results indicate there is work to do to bring our students back to the top in our local rankings. We would like to see significant improvement in all three disciplines in the next few years.



Keystone exams dropped in Literature, Algebra, and Biology over the last 4 years. The drop in scores is not significantly out of line with the drop at the state level. There is no meaningful way to compare to other districts because of the number of variables that exist in Keystone Exam testing. We would like to see significant improvement in all three disciplines in the next few years.



ACT results have not changed significantly – There has been a sizable decrease in the number of students taking the ACT.



SAT results have not changed significantly – There has been relatively the same number of students taking the SAT with an exception of 2021 when less students took the SAT.



AP Exam results have not changed in comparison to state or national results. The success rate of our students on the AP Exam and the number of students taking AP courses has not changed. We continue to have a high number of AP Scholars within the district.