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10-2022

National Assessment of Educational Progress (NAEP) Results 2022

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Summary Points

- Arkansas' NAEP scores peaked in 2013 and have declined since with greater declines in 2022.
- Arkansas' declines in 2022 mirror those of border states and the nation.
- 4th grade math scores continue to be lower than those of Arkansas' border states. Other scores are similar to those of Arkansas' border states.
- Score gaps between student groups widened in 2022 in almost all but one 4th grade comparison due to decreased performance of at-risk groups.
- Score gaps between student groups shrank or remained consistent in 2022 in all but 8th grade comparisons due to decreased performance of students not in at-risk groups.
- Proficiency percentages are higher on ACT Aspire than on NAEP.

National Assessment of Educational Progress (NAEP) Results: 2022

The National Center for Education Statistics has released this year's NAEP results which measure nationwide student performance in 4th and 8th grade reading and math. NAEP is administered nationally to a representative sample of students from all 50 states, so acts as a standard measure of student performance across states and time. In this policy brief will examine Arkansas' 2022 results and examine score gaps between student groups.

NAEP Results: Statewide

The 2022 NAEP results show that Arkansas' 8th grade scores remain essentially unchanged over time, while 4th grade scores have been decreasing over the past six years.

As can be seen in Figure 1, math scores continue to be higher than reading scores and 8th graders score higher than 4th grad-

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ers. Although score nationwide declined since 2019 reflecting learning disruptions due to COVID, Arkansas' scores in all subjects and grades have declined since 2013. The differences are statistically significant compared to earlier administrations of the test.

The average math scale score for Arkansas 8th graders declined 12 points from the high in 2011, and 4th grade math scores have declined 12 points since the high in 2013. Math scores peaked in 2011 and 2013, the decline in 2022 was occurring prior to the current year's test results.

Reading scores for both 8th and 4th graders have declined 7 points since 2013. The 2022 results reflect the first statistically significant decline in reading scores in the past 19 years.

Figure 1: Average Scale Score on Arkansas' NAEP Exams, 2003-2022



Table 1: Student Demographics for Arkansas (2022), Border States, and US, (2019)

| | % White | % Black | % Hispanic | % FRL |
|---------------|---------|---------|------------|-------|
| AR | 61% | 19% | 14% | 65% |
| Border States | 50% | 25% | 16% | 59% |
| US | 51% | 14% | 25% | 47% |

Border States: Louisiana, Missouri, Mississippi, Oklahoma, Tennessee, Texas

Figure 2: NAEP Mean Scale Score for 4th Grade Mathematics: Arkansas, Border States, and US, 2003-2022

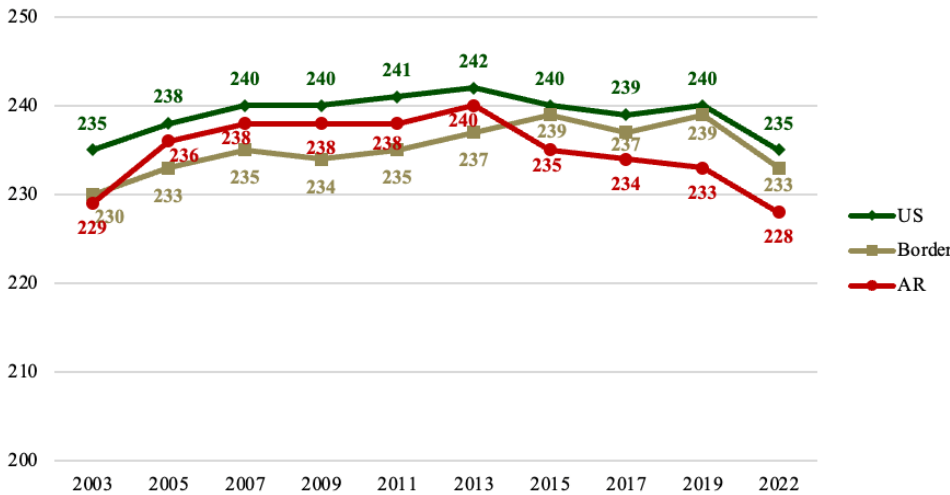
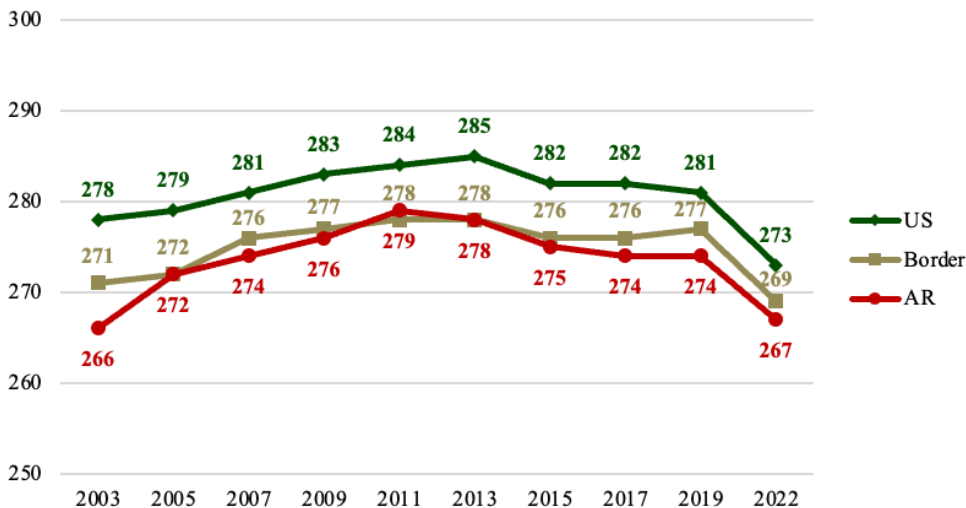


Figure 3: NAEP Mean Scale Score for 8th Grade Mathematics: Arkansas, Border States, and US, 2003-2022



How Do We Compare?

Arkansas students score below the national average in reading and math at both tested grade levels. As shown in Table 1, however, Arkansas has a higher percentage of students eligible for Free or Reduced Lunch (FRL) than the country as a whole. Since FRL is a proxy measure for poverty, and poverty is related to performance on standardized assessments, it is not surprising that Arkansas’ performance would be lower than the national average. The percentage of students eligible for FRL in the states that border Arkansas (59%) is, however, closer to Arkansas’ 60% eligibility. As such, we would not anticipate significant differences between the performance of students in Arkansas and the performance of students in the bordering states. Figures 2-5 reveal, however, that from 2015 students in border states have outperformed Arkansas students in both math and reading.

In 4th grade math, Arkansas was the lowest performing in comparison to its border states and the US in 2003. From 2005-2013, however, Arkansas surpassed the average scale score of the border states (see Figure 2). In 2015, Arkansas’ 4th grade math score decreased five points and has continued to decline while bordering states have increased or remained consistent since 2013. Arkansas’ five point decline relative to 2019 scores is similar those seen by border states and the nation as a whole.

In 8th grade math, scores present a different story (see Figure 3). Once again, Arkansas had a lower average scale score in 2003 compared to its border states and the US. Over time however, Arkansas and its border states continued to have average scale scores that were similar to each other between 2005 and 2015. Beginning in 2015, an increasing gap emerged between Arkansas and the border states as Arkansas’ scores plateaued between 2017 and 2019 while the bordering states scores have increased slightly. Arkansas’ seven point decline relative to 2019 scores is similar those seen by border states and the nation as a whole.

Trends presented by NAEP Reading assessments differ by grade level, but Arkansas' score changes tend to follow the national trend.

In 4th grade reading, Arkansas' average scale score was generally higher than that of its border states in 2003 through to 2013 (see Figure 4). In 2015, however, Arkansas' average scale score declined by one point while its border states experienced a three point increase. Beginning in 2015, Arkansas is lower performing in comparison to its border states in 4th grade reading. Arkansas' three point decline relative to 2019 4th grade reading scores is similar those seen by border states and the nation as a whole.

Arkansas' 8th grade reading students performed similarly to its border states as its average scale score was almost exactly the same as that of the border states in 2003 through 2022 with the exception of a three point decline between 2013 and 2015 (see Figure 5). Arkansas' four point decline relative to 2019 8th grade reading scores is similar those seen by border states and the nation as a whole.

Looking through Arkansas' NAEP results through the lens of student poverty and demographics, there are some inconsistencies with the results.

In math, Arkansas trails the performance of the border states which serve similar student populations. In 4th grade math, Arkansas' scores are increasingly different from those of border states. With the exception of the 2022 decline, border state 4th grade math performance has been increasing, while Arkansas' has been declining. In 8th grade math, Arkansas' scores have been trailing the scores in border states, although the difference is smaller than that seen in 4th grade.

Performance in 4th and 8th grade reading is similar to the performance of border states with similar demographics, and state trends generally follow the national trends, although at a lower level.

Figure 4: NAEP Mean Scale Score for 4th Grade Reading: Arkansas, Border States and US, 2003-2022

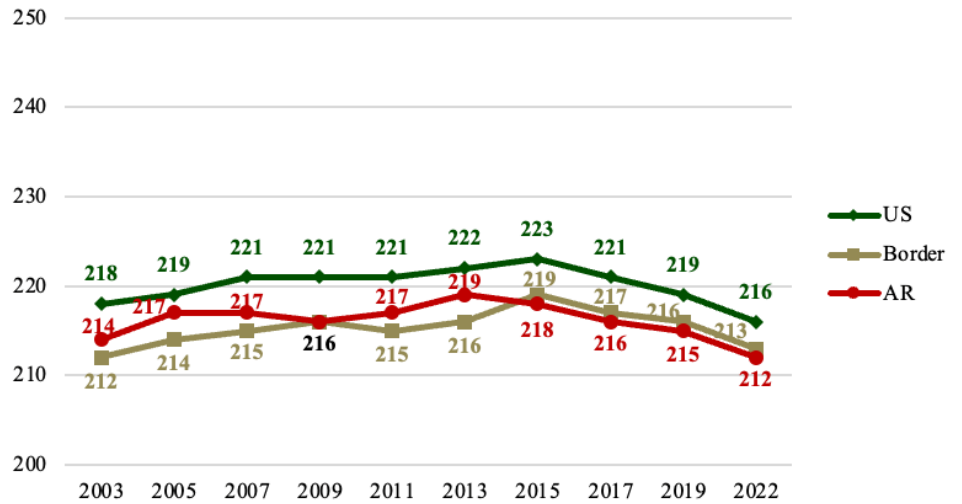
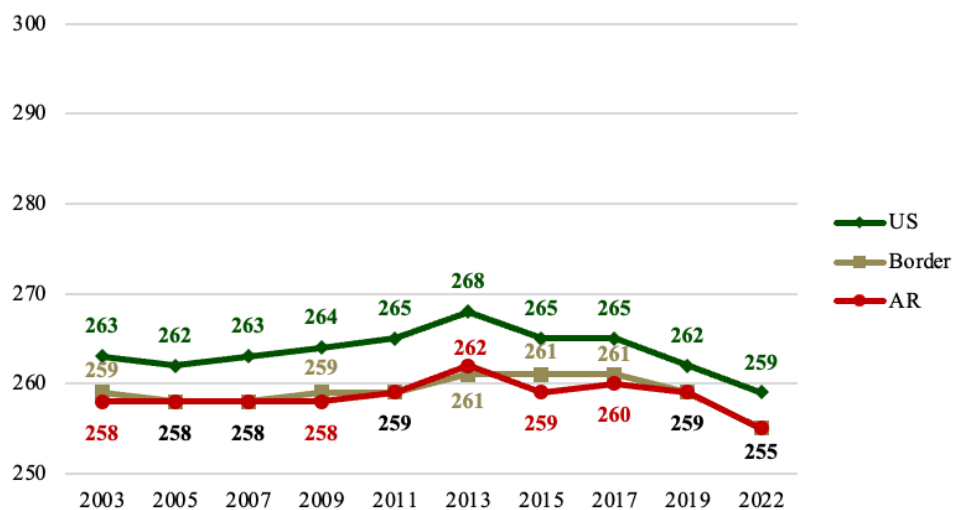


Figure 5: NAEP Mean Scale Score for 8th Grade Reading: Arkansas, Border States and US, 2003-2022



Score Gaps for Student Groups: Mathematics

In light of the overall decline in scores nationally and for Arkansas' students overall, it is even more important to examine if gaps between the performance of student groups are decreasing, increasing, or remaining the same over time. In considering score gaps, it is critical to not only consider the magnitude of the gap, but the trends behind any change.

For example, Figure 6 presents the NAEP math score gaps between white and Black students in 4th and 8th grade math from 2003 to 2022. White students generally score 25 points higher than Black students in 4th grade math, and greater than 30 points higher in 8th grade math. In 2015 the score gap decreased due to declining performance for white students. In 2022, the math performance differences between white and Black students increased in 4th grade, but decreased in 8th grade. Scores for both white and Black students declined, but Black students experienced relatively greater declines in 4th grade, and relatively smaller declines in 8th grade. Overtime, however, Black 8th grade students are achieving higher scores in mathematics than in 2003, while all other groups decline below 2003 levels in 2022.

Figure 6: Arkansas' NAEP Mean Scaled Score for Math, White and Black, 2003 to 2022

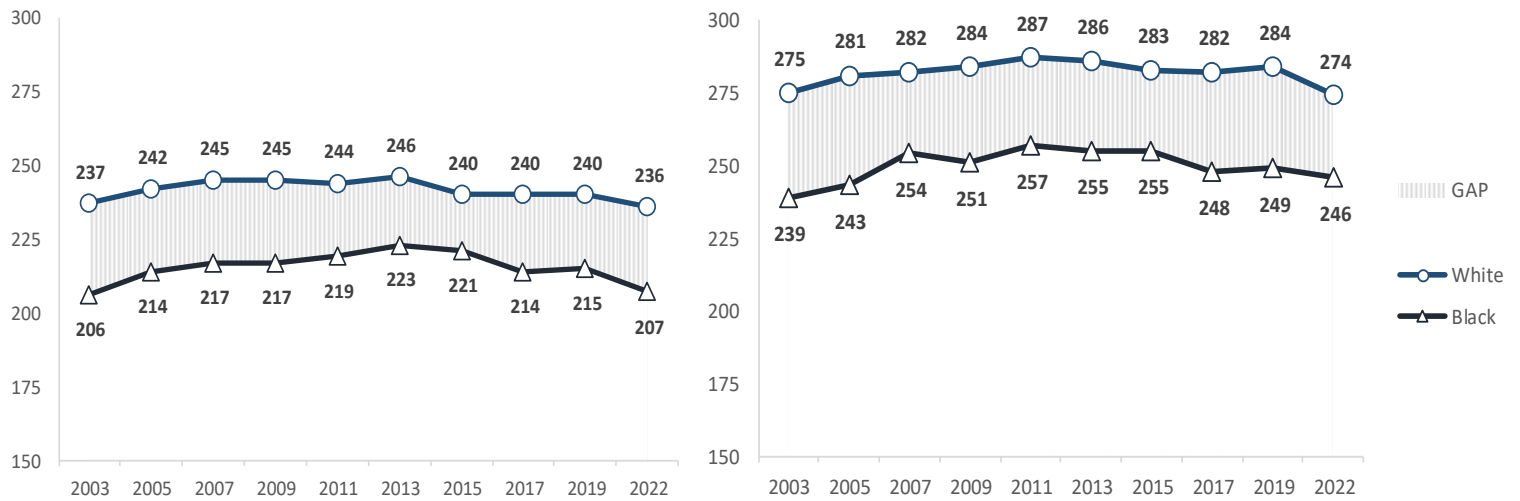


Figure 7 presents the NAEP math score gaps between white and Hispanic students in 4th and 8th grade math from 2003 to 2022. White students generally score 12 points higher than Black students in 4th grade math, and 15 points higher in 8th grade math. In 2022, the math performance differences between white and Hispanic students increased in 4th grade, but remained essentially unchanged in 8th grade. Scores for both groups of students declined, but Hispanic students experienced relatively greater declines in 4th grade math, and similar declines in 8th grade.

Figure 7: Arkansas' NAEP Mean Scaled Score for Math, White and Hispanic, 2003 to 2022

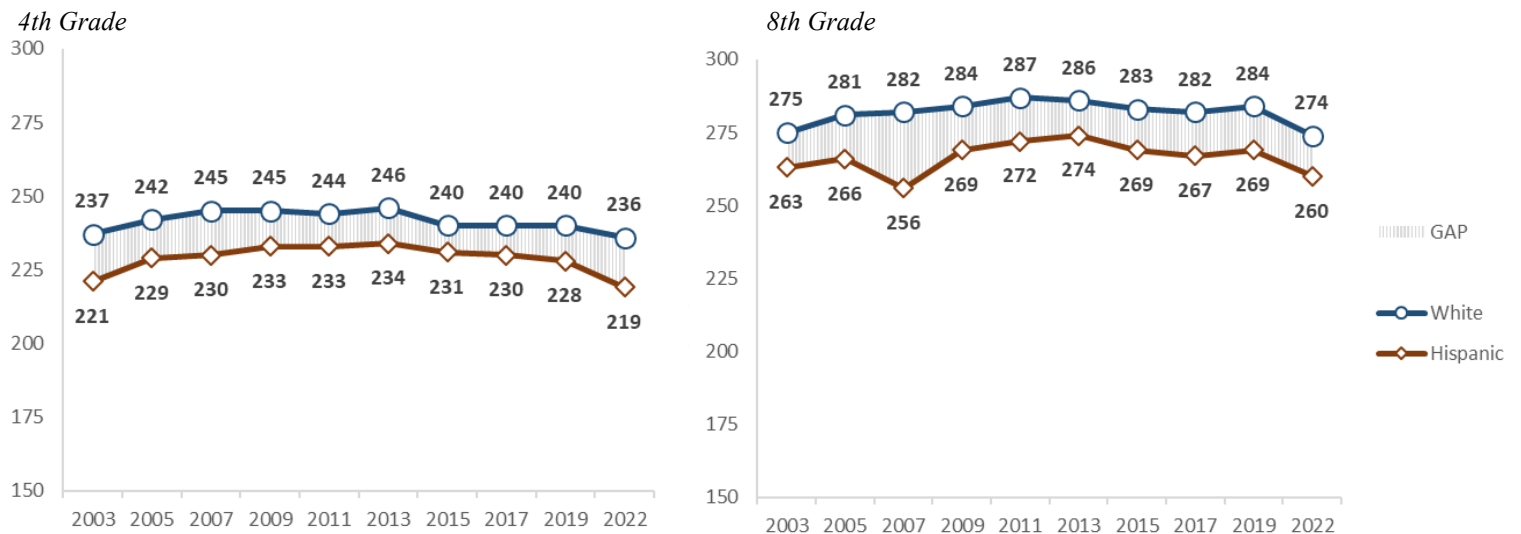
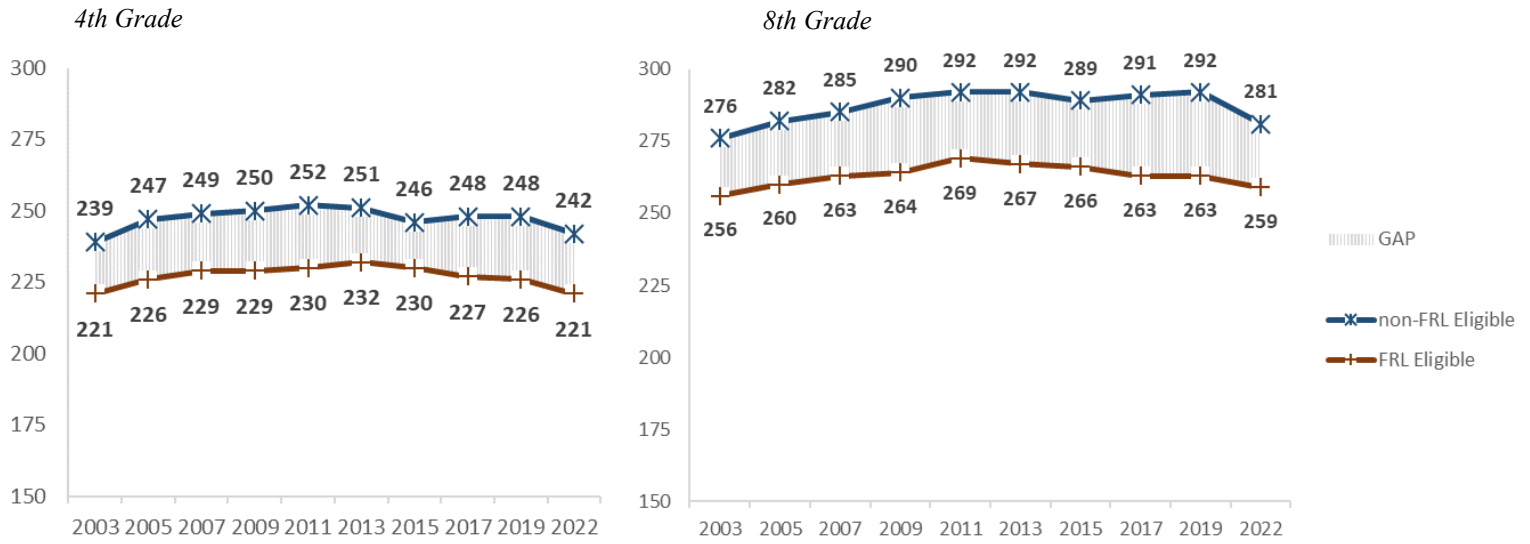


Figure 8 presents the NAEP math score gaps between students who are eligible for the federal Free/ Reduced Lunch Program and students who are not eligible. Eligibility for the program is determined by household income so this measure is often used as a proxy for poverty. The figure again includes students in 4th and 8th grade math from 2003 to 2022. Not surprisingly, students from more economically advantaged backgrounds score higher than students who face greater economic challenges. Non-FRL Eligible students historically score 20 points higher than FRL Eligible students in 4th grade math and 30 points higher in 8th grade math. In 2022, the math performance differences between Non-FRL Eligible and FRL Eligible students remained consistent in 4th grade, but the gap decreased in 8th grade due to relatively greater declines for Non-FRL Eligible students.

Figure 8: Arkansas' NAEP Mean Scaled Score for Math, by Free/ Reduced Lunch Eligibility, 2003 to 2022



Score Gaps for Student Groups: Reading

NAEP reading scores have been flat since 2003, but are gaps between the performance of student groups decreasing, increasing, or remaining the same over time? In considering score gaps, it is critical to not only consider the magnitude of the gap, but also the trends behind any increase, decrease, or lack of change.

Figure 9 presents the NAEP Reading score gaps between white and black students in 4th and 8th grade from 2003 to 2022. White students generally score 27 points higher than Black students in 4th grade reading and 29 points higher in 8th grade reading. The score gap for 4th graders had decreased, but returned to 2003 levels due to declines in Black student performance in 2022. Among 8th grade students, the reading performance gap decreased slightly in 2022, due to relatively smaller declines in reading scores for Black students.

Figure 9: Arkansas' NAEP Mean Scale Score for Reading, White and Black, 2003 to 2022

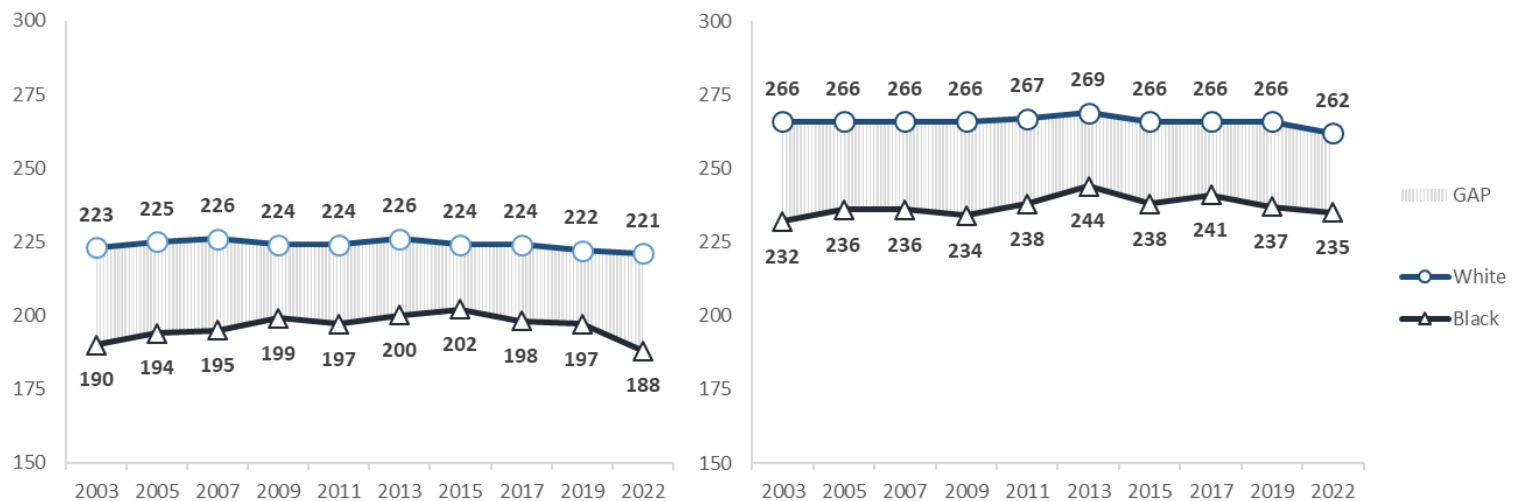


Figure 10 presents the NAEP reading score gaps between white and Hispanic students in 4th and 8th grade reading from 2003 to 2022. White students generally score 17 points higher than Hispanic students in 4th grade reading, and 13 points higher in 8th grade reading. In 2022, the reading performance differences between white and Hispanic students increased in 4th grade, but remained essentially unchanged in 8th grade. Scores for both groups of students declined, but Hispanic students experienced relatively greater declines in 4th grade reading, and similar declines as white student in 8th grade reading. All student groups presented scores below 2003 levels in 2022.

Figure 10: Arkansas' NAEP Mean Scale Score for Reading, White and Hispanic, 2003 to 2022

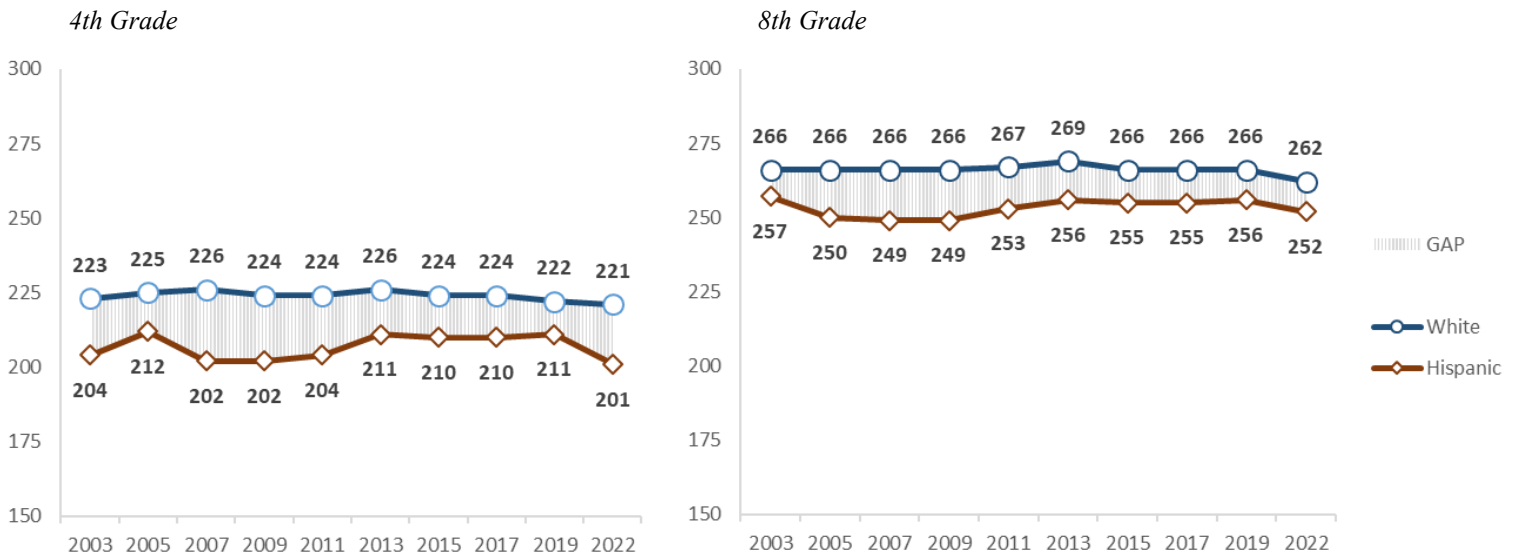
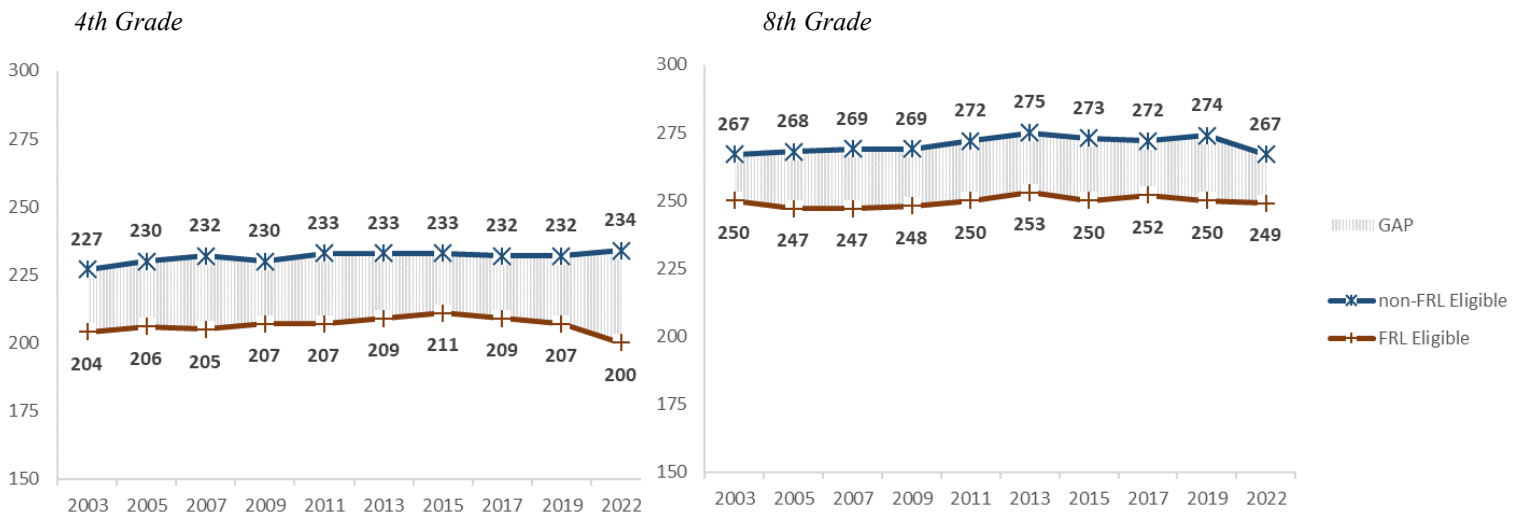


Figure 11 presents the NAEP reading score gaps between students who are eligible for the federal Free/ Reduced Lunch Program and students who are not eligible. Eligibility for the program is determined by household income so this measure is often used as a proxy for poverty. The figure again includes students in 4th and 8th grade math from 2003 to 2022. Like in math, students from more economically advantaged backgrounds score higher in reading than students who face greater economic challenges. Non-FRL Eligible students generally score 24 points higher than FRL Eligible students in 4th grade and 21 points higher in 8th grade. In 2022 there is an increase in the gap among 4th graders, due to an increase in performance among Non-FRL eligible students paired with a decrease in performance among FRL eligible students. Among 8th graders however, the gap has been reduced due to a larger decline in performance among non-FRL eligible students and a much smaller point decrease in reading scores among FRL eligible students.

Figure 11: Arkansas' NAEP Mean Scale Score for Reading, by Free/ Reduced Lunch Eligibility, 2003 to 2022



For more information about this Policy Brief and other education issues in Arkansas contact us:

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Key Takeaways

While declines in 2022 scores are likely the result of COVID-related learning interruptions, it is important to remember that, unlike most other states, Arkansas schools were open for in-person learning during the 2020-21 school year and the majority of students were attending in-person .

It is also important to recognize that Arkansas’ scores are similar to the states that surround us, with the exception of 4th grade math which has been lower since 2015.

Score gaps between student groups **widened** in 2022 in almost all but one 4th grade comparison due to decreased performance of at-risk groups, but the converse was true in 8th grade where score gaps between student groups **shrank or remained consistent** in 2022 in all comparisons due to decreased performance of students not in at-risk groups.

NAEP and ACT Aspire

How do the NAEP results compare to student performance on the ACT Aspire? NAEP is taken by a sample of students in 4th and 8th grades throughout the state every other year, while the ACT Aspire is completed annually by all students in grades 3-10. Understanding how the results compare is important for Arkansas students because ACT Aspire is only comparable within the state, while NAEP is comparable across the country. Figure 12 presents the percentage of 4th and 8th graders scoring Proficient on the 2022 NAEP compared to the percentage of 4th and 8th graders meeting or exceeding expectations on the 2022 ACT Aspire.

Arkansas students are less likely to be proficient on the NAEP compared to the ACT Aspire. In math, only 28% of 4th graders were proficient on NAEP, while 42% of 4th graders met math standards on ACT Aspire. A similar discrepancy is present for 8th grade: 19% were proficient on the NAEP, while 39% met math standards on ACT Aspire.

In reading, 30% of 4th graders were proficient on NAEP, while 42% of 4th graders met standards on ACT Aspire. Similarly, only 26% of 8th graders were proficient on the NAEP, while 48% met standards on ACT Aspire. Arkansas stakeholders should be aware that NAEP proficiency rates are 12-20% lower than the nationally-comparable NAEP proficiency rates. It is important to send students and stakeholders a clear message about how well our students are performing so we can change what isn't helping students learn and build on what is making a positive difference for Arkansas students.

Figure 12: Arkansas’ 2022 NAEP Percent Proficient and ACT Aspire Percent Meeting Standards, by Grade and Content Area.

