

# Achievement Gaps

How Black and White Students in  
Public Schools Perform on the National  
Assessment of Educational Progress

## HIGHLIGHTS



## ABOUT THE STUDY

Achievement gaps between Black and White students are featured in every major National Assessment of Educational Progress (NAEP) report card. The report, *Achievement Gaps: How Black and White Students in Public Schools Perform in Mathematics and Reading on the National Assessment of Educational Progress*, examines achievement gaps more closely, and provides a detailed portrait of how achievement gaps and Black

and White students' performance have changed over time at both the national and state levels.

This report uses data from two assessments—main NAEP and Long-Term-Trend (LTT). While both programs assess reading and mathematics, they have three major differences: (1) main NAEP assesses performance of fourth and eighth graders, while LTT assesses performance of 9- and 13-year-olds; (2) main NAEP reports results for both the national and state levels, while LTT reports results for the national level only; (3) main NAEP was first administered in the 1990s, while LTT was first administered in the 1970s. The report uses results from all previous assessments until 2007 for main NAEP and 2004 for LTT.

All results are for public school students. The percentages of Black and White students in individual states vary by state. Data for trends in achievement gaps and trends in scores are reported only for states that have enough Black and White students in the sample to have reportable results.

**This highlights document is an overview of the full report, which is available at <http://nces.ed.gov/nationsreportcard/studies/gaps/>**

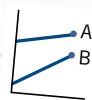
# Understanding Gaps

A difference in scores between Black and White students can only be considered an achievement gap if the difference is statistically significant, meaning larger than the margin of error. There are several ways achievement gaps can change, as seen in the display to the right. Whether a gap narrows depends on the amount of change in the average scores for Black and White students. For example, a gap can narrow if the average scores of both Black and White students improve, but Black students' scores improve more. If scores for both Black and White students increase at the same rate, the score gap may not change.

NAEP data can be used to identify gaps and report on trends over time but cannot explain why gaps exist or why they change. The NAEP assessments are designed to measure student performance, not to identify or explain the causes of differences in student performance.

In each state, changes in the sizes of gaps could be affected by demographic or population changes, as well as policy changes in the school, district, and state. When reading the results, it is important to consider these factors.

## Ways gaps can narrow



The average scores of both groups increase, while the score of the lower performing group increases even more.



The average score of the higher performing group does not change, while the score of the lower performing group increases.



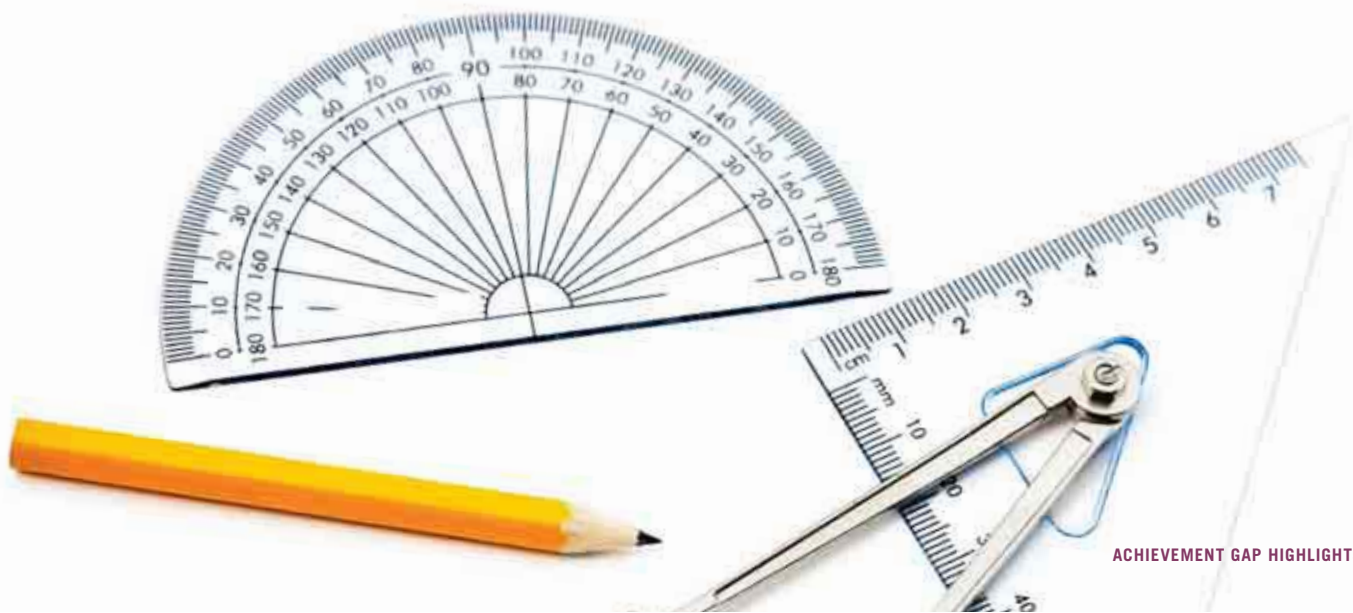
The average score of the higher performing group declines, while the score of the lower performing group increases.



The average score of the higher performing group declines, while the score of the lower performing group does not change.



The average scores of both groups decline, but the score of the higher performing group declines even more.



# National Gap

## Long-Term Trend

When comparing score gaps over time in the Long-Term Trend assessment, the gap size in 2004 is compared to the gap in 1978 for mathematics, and 1980 for reading. The Black-White gap for 9- and 13-year-olds in mathematics narrowed compared to the first assessment but not 1999. In reading, however, gaps have narrowed for 13-year-olds compared to both the first assessment and 1999.

### National Trends in Score Gaps: Long-Term Trend

	Since First Assessment	Since 1999
Mathematics Age 9	Narrowed	!
Mathematics Age 13	Narrowed	!
Reading Age 9	!	Narrowed
Reading Age 13	Narrowed	Narrowed

! Indicates that there was no significant change in the gap in 2004.

## Main NAEP

To examine gap changes over time, the size of the gaps in the 2007 assessments are compared to the size of the gaps in 2005 and since the first assessment. In mathematics, the first assessment was in 1990. In reading, the first assessment was in 1992.

Nationally, at both grades and in both subjects, Black and White students scored higher in 2007 than in either the early-1990s or in 2005. Even as scores were improving for both groups, the gaps narrowed between Black and White fourth-graders over the longer time period.

### National Trends in Score Gaps: Main NAEP

	Since First Assessment	Since 2005
Mathematics Grade 4	Narrowed	!
Mathematics Grade 8	!	Narrowed
Reading Grade 4	Narrowed	Narrowed
Reading Grade 8	!	!

! Indicates that there was no significant change in the gap in 2007.

## Gaps by Gender and Family Income

The Black-White achievement gap varies by gender and family income. For example, compared to 1990, the Black-White gap between female fourth-graders in mathematics narrowed. The score gap between Black and White female eighth-graders narrowed between 2005 and 2007. In reading, the score gaps between Black and White male and female fourth-graders narrowed between 2005 and 2007.

NAEP uses student eligibility for the National School Lunch Program as an indicator of family income. Based on the availability of data, trend comparisons are only made back to 2003. In eighth-grade mathematics and fourth-grade reading, the Black-White score gaps for students eligible for free lunch narrowed in 2007 compared to 2003 and 2005.

# State Gap

## 2007 State Gaps Compared to Nation

	National Black-White Gap	States with gaps that are:	
		Smaller than nation	Larger than nation
Mathematics Grade 4	26 points	AK, DE, DoDEA, HI, KY, LA, MS, OK, TX, WV	CT, DC, IL, NE, WI
Mathematics Grade 8	31 points	AK, AZ, CO, DoDEA, GA, KY, LA, MS, NM, OK, OR, SC	CT, IL, MD, MA, MI, NE, WI
Reading Grade 4	27 points	AZ, DE, DoDEA, HI, KY, NH, OK, VA, WV	AR, CT, DC, MN, NE, PA, TN, WI
Reading Grade 8	26 points	AK, DE, DoDEA, HI, KY, NV, NM, VA, WV	WI

### Mathematics

- Six states had gaps that were smaller in both grades: **Alaska, Department of Defense Education Activity (DoDEA), Kentucky, Louisiana, Mississippi, and Oklahoma.**
- Four states had gaps that were larger in both grades: **Connecticut, Illinois, Nebraska, and Wisconsin.**

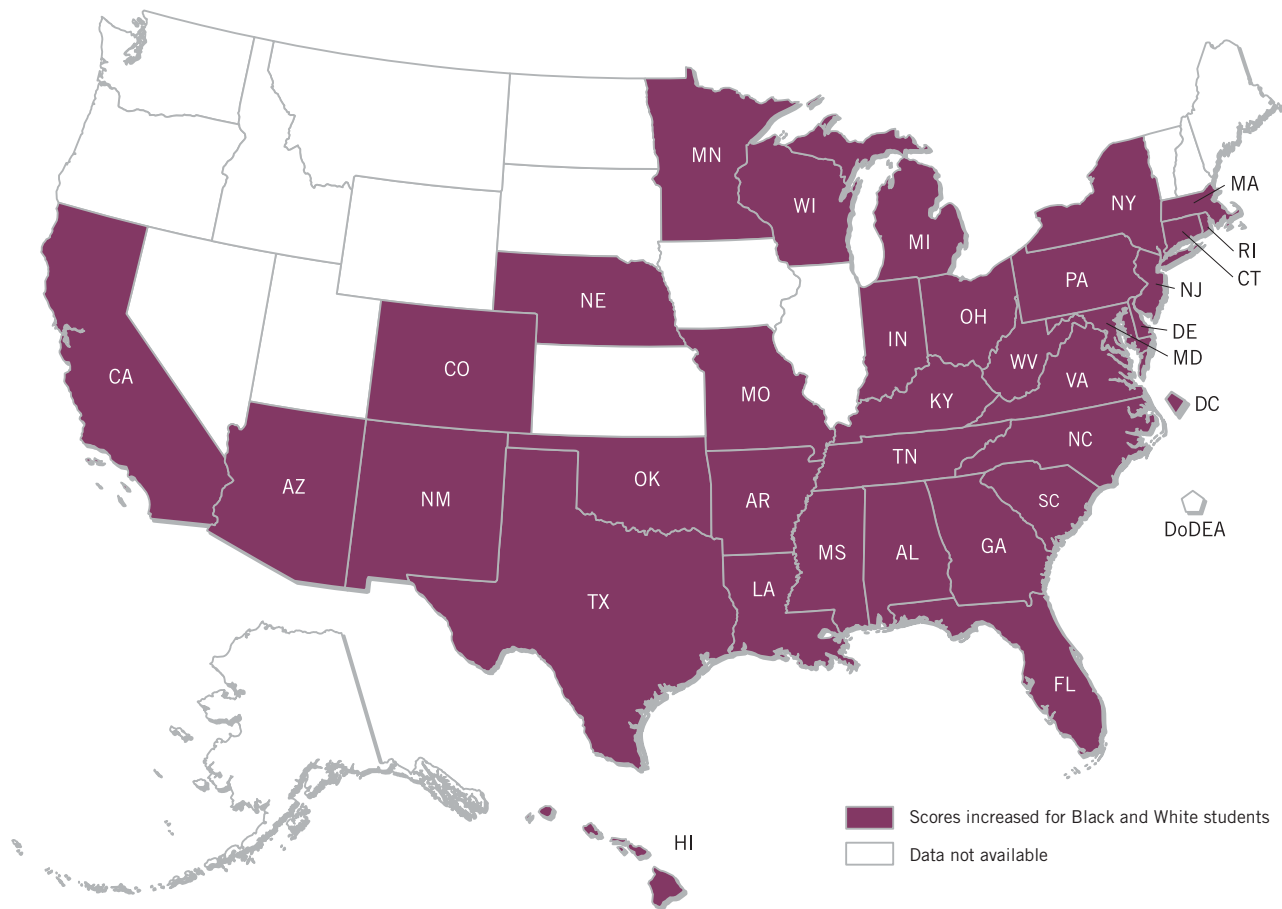
### Reading

- Six states had gaps that were smaller in both grades: **Delaware, Department of Defense Education Activity (DoDEA), Hawaii, Kentucky, Virginia, and West Virginia.**
- One state had a gap larger in both grades: **Wisconsin.**

For more information on 2007 state gaps, see the appendix, which reprints figures from the full report. These figures show the average scores for Black and White students and the size of the gap in each state and compare them with the national results.

The maps on pages 4-7 show the score changes for Black and White students. In some states, scores for both Black and White students increased while in others, scores increased for only one group. The legends on each map show the different ways scores changed. Trends are shown only for states with results available for both Black and White students.

## Score Trends for Black and White Students, Grade 4 Mathematics, 1992-2007



- In 35 states, scores for both Black and White students increased in 2007 compared to the first assessment in 1992.

### Gaps Narrowed

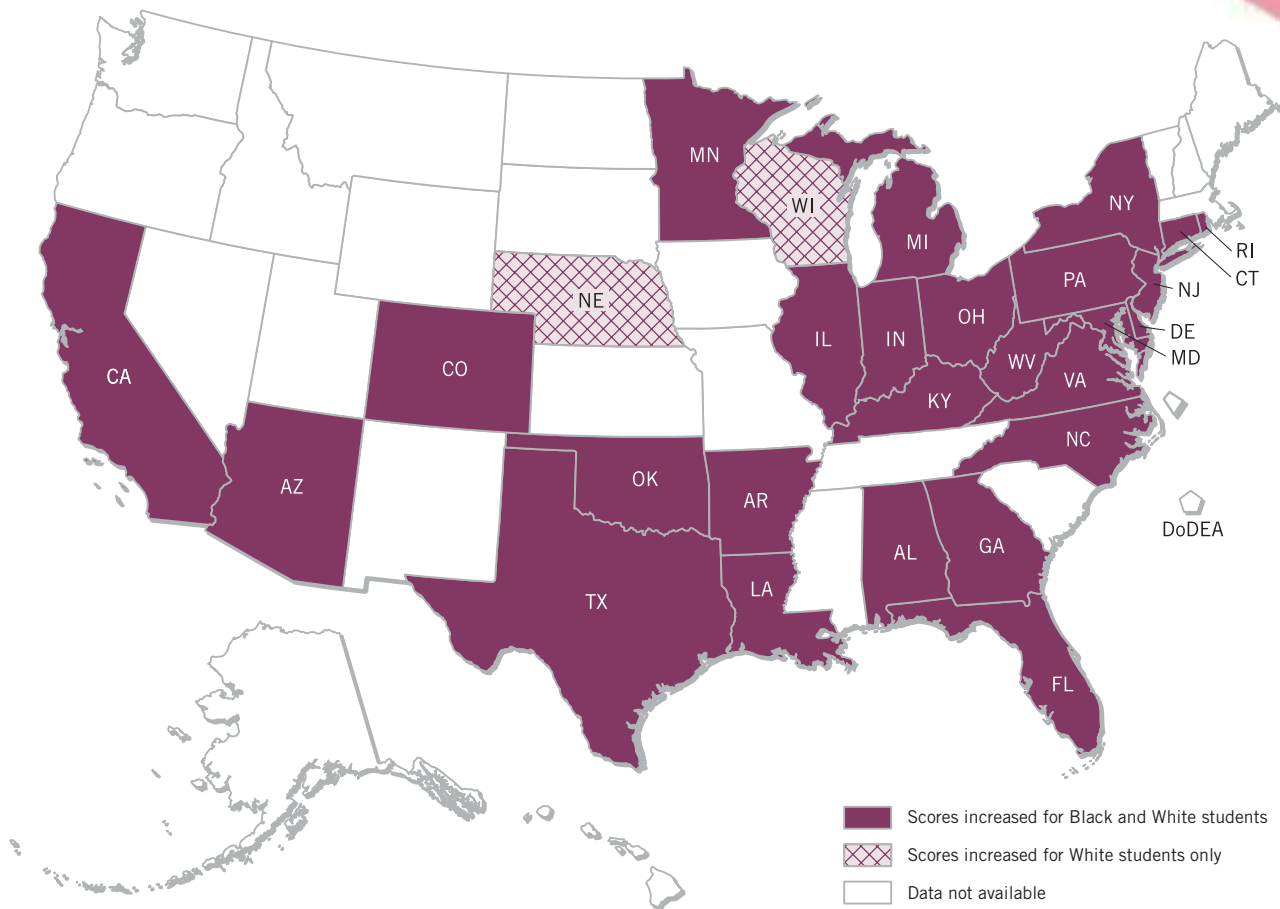
In 15 states, the gap was narrower in 2007 than in 1992.

CA	GA	NJ
CT	LA	PA
DE	MA	SC
DC	MI	TX
FL	MS	VA





## Score Trends for Black and White Students, Grade 8 Mathematics, 1990-2007



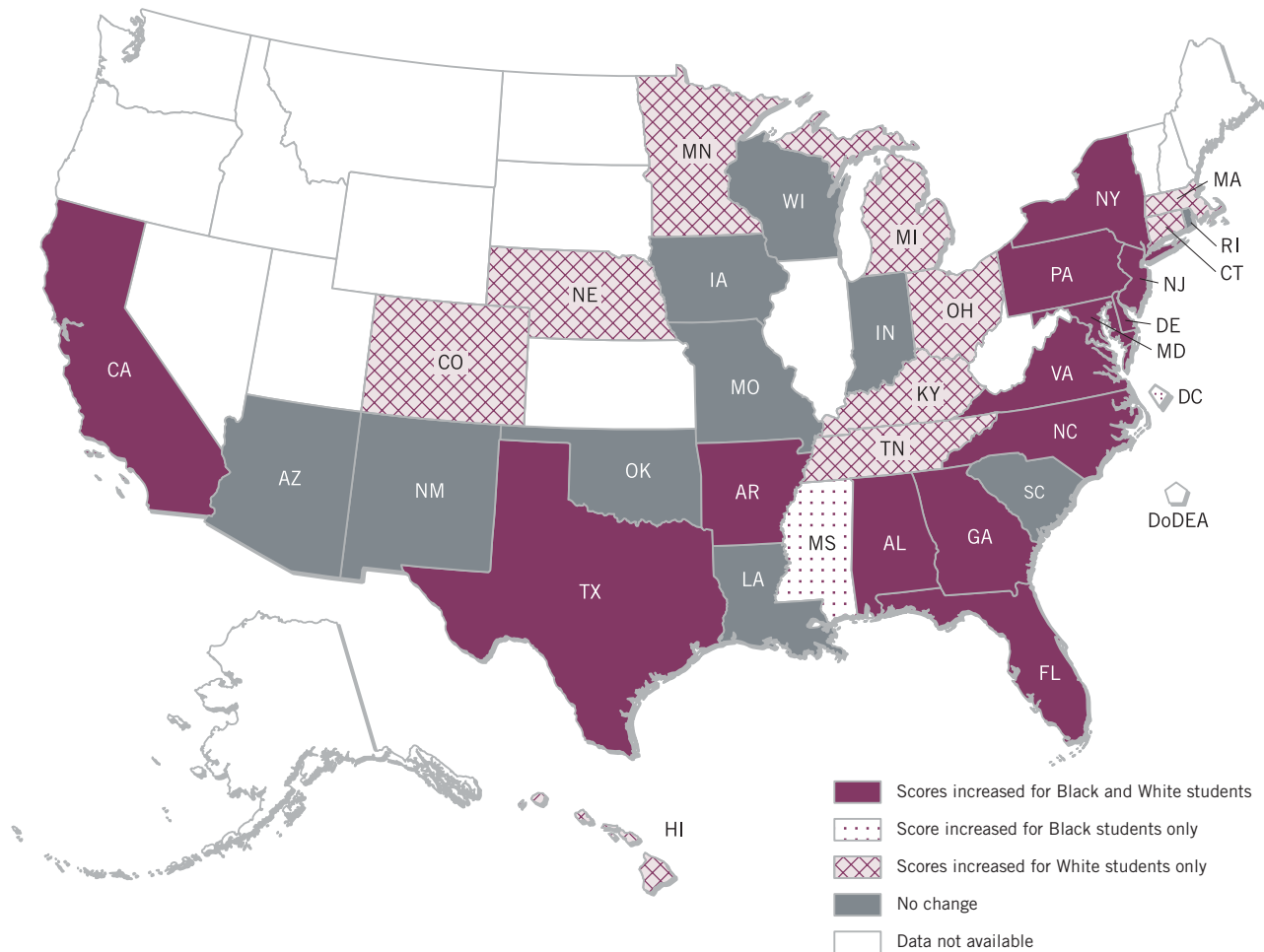
- In 26 states, scores for both Black and White eighth-graders increased in 2007 compared to 1990.
- In two states, scores increased for White students but not for Black students.

### Gaps Narrowed

In four states, gaps narrowed between 1990 and 2007.

AR  
CO  
OK  
TX

## Score Trends for Black and White Students, Grade 4 Reading, 1992-2007



- In 13 states, scores for both groups increased from the first assessment in 1992 compared to 2007.

- In two states, scores increased for Black students but did not change for White students.
- Scores increased for White students but not for Black students in 10 states.



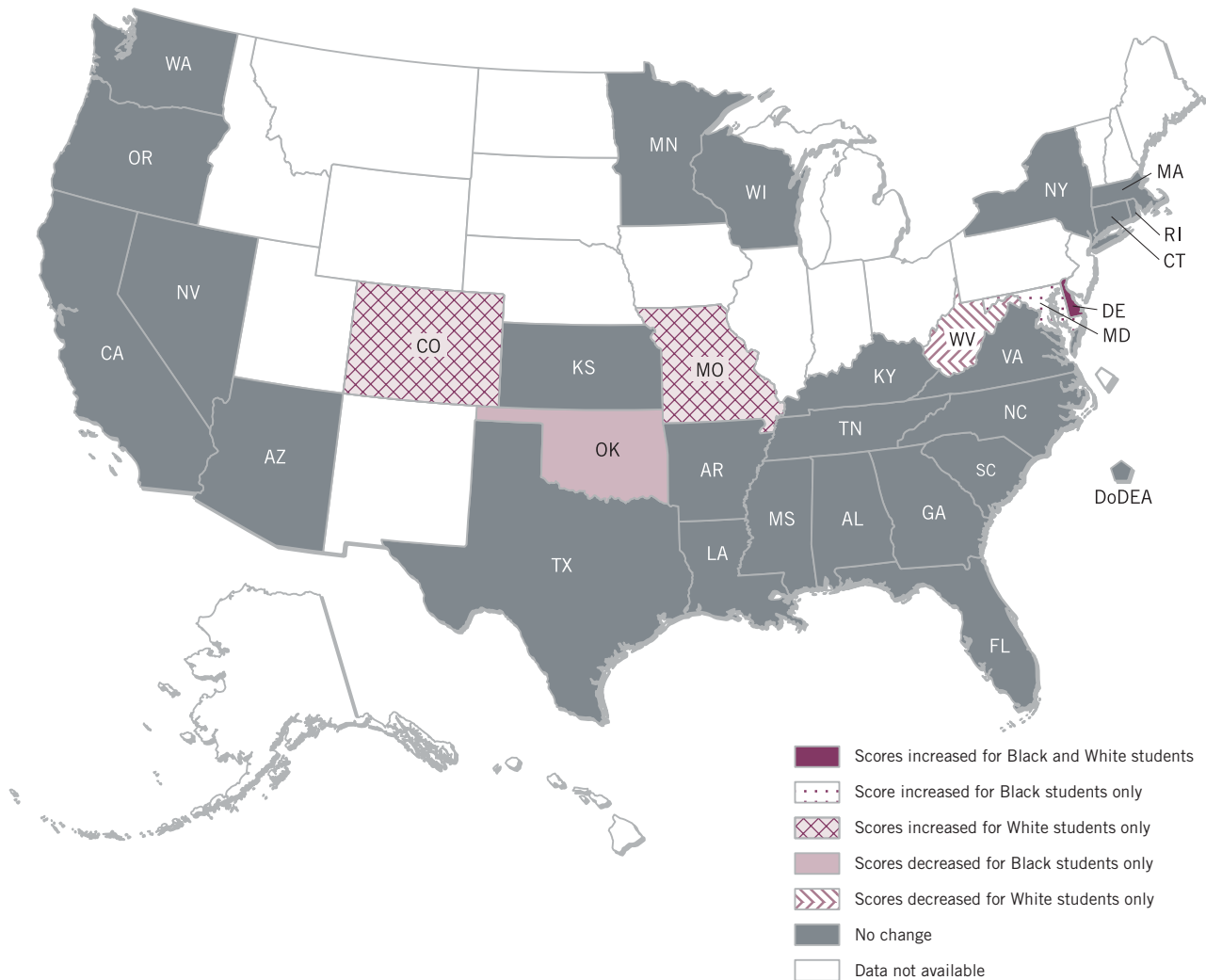
### Gaps Narrowed

In 3 states, the gap was narrower in 2007 than in 1992.

DE  
FL  
NJ



## Score Trends for Black and White Students, Grade 8 Reading, 1998-2007



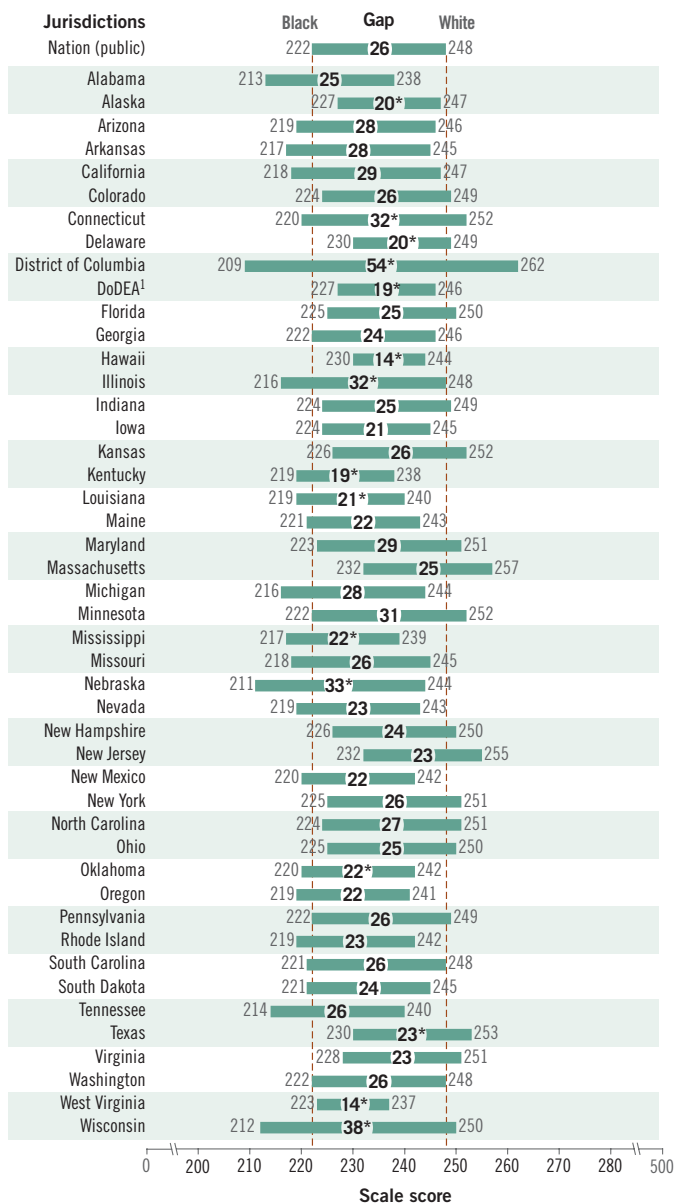
- In one state, scores for both Black and White eighth-graders increased between 1998 and 2007.
- Scores for only Black students in one state increased compared to 1998.
- Scores for only White students increased in two states.
- Scores decreased for only Black students in one state.
- Scores for only White students decreased in one state.

### No Change in Score Gaps

There was no significant change in the gaps for any of the states.

# Appendix

Figure 1. **The Black-White achievement score gap in mathematics for public school students at grade 4, by state or jurisdiction: 2007**



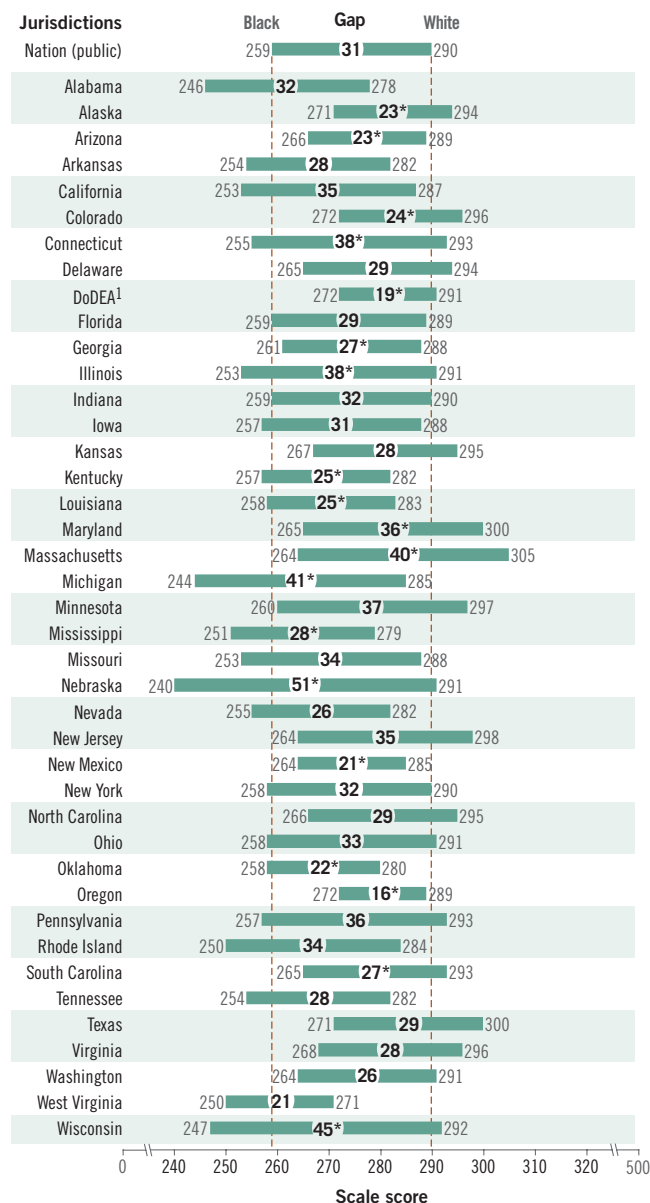
\* Significantly different ( $p < .05$ ) from the nation (public) when comparing one state to the nation at a time.

<sup>1</sup> Department of Defense Education Activity (overseas and domestic schools).

NOTE: States whose Black student population size was insufficient for comparison are omitted. Reporting standards not met for Idaho, Montana, North Dakota, Utah, Vermont, and Wyoming.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment

Figure 2. **The Black-White achievement score gap in mathematics for public school students at grade 8, by state or jurisdiction: 2007**



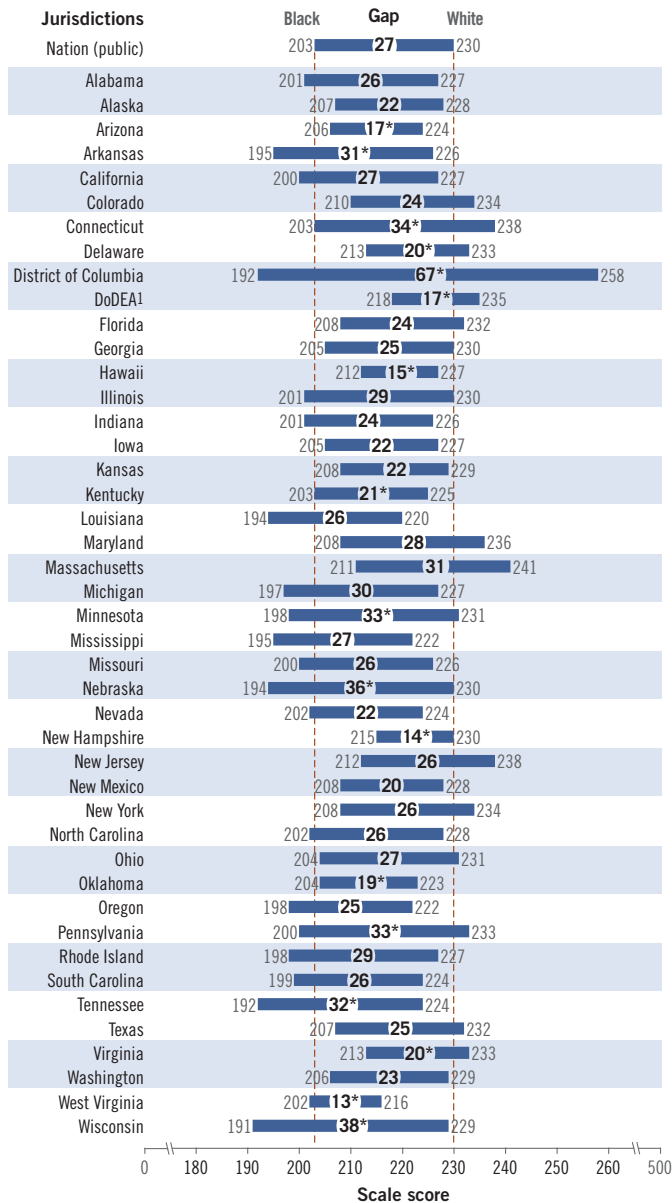
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<sup>1</sup> Department of Defense Education Activity (overseas and domestic schools).

NOTE: States whose Black or White population size was insufficient for comparison are omitted. Reporting standards not met for District of Columbia, Hawaii, Idaho, Maine, Montana, New Hampshire, North Dakota, South Dakota, Utah, Vermont, and Wyoming.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Mathematics Assessment

Figure 3. The Black-White achievement score gap in reading for public school students at grade 4, by state or jurisdiction: 2007



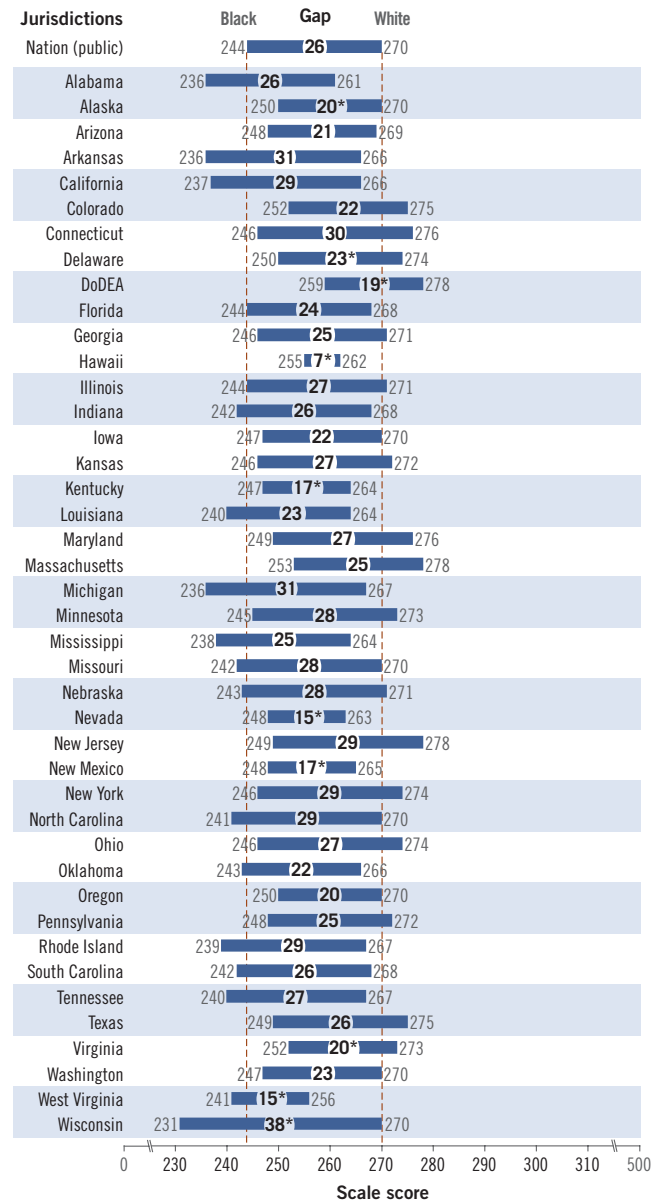
\* Significantly different (p<.05) from the nation (public) when comparing one state to the nation at a time.

<sup>1</sup> Department of Defense Education Activity (overseas and domestic schools).

NOTE: States whose Black population size was insufficient for comparison are omitted. Reporting standards not met for Idaho, Maine, Montana, North Dakota, South Dakota, Utah, Vermont, and Wyoming.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading Assessment

Figure 4. The Black-White achievement score gap in reading for public school students at grade 8, by state or jurisdiction: 2007



\* Significantly different (p<.05) from the nation (public) when comparing one state to the nation at a time.

<sup>1</sup> Department of Defense Education Activity (overseas and domestic schools).

NOTE: States whose Black or White student population size was insufficient for comparison are omitted. Reporting standards not met for District of Columbia, Idaho, Maine, Montana, New Hampshire, North Dakota, South Dakota, Utah, Vermont, and Wyoming.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 Reading Assessment

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The National Center for Education Statistics (NCES), located within the U.S. Department of Education and the Institute of Education Sciences, is the primary federal entity for collecting and analyzing data related to education.

The National Assessment of Educational Progress (NAEP) is a congressionally mandated project sponsored by the U.S. Department of Education and administered by NCES. The Commissioner of Education Statistics is responsible for carrying out the NAEP project. The National Assessment Governing Board is responsible for setting policy for NAEP, including the NAEP achievement levels.

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To download the full report and highlights, please visit <http://nces.ed.gov/nationsreportcard/studies/gaps/>

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