

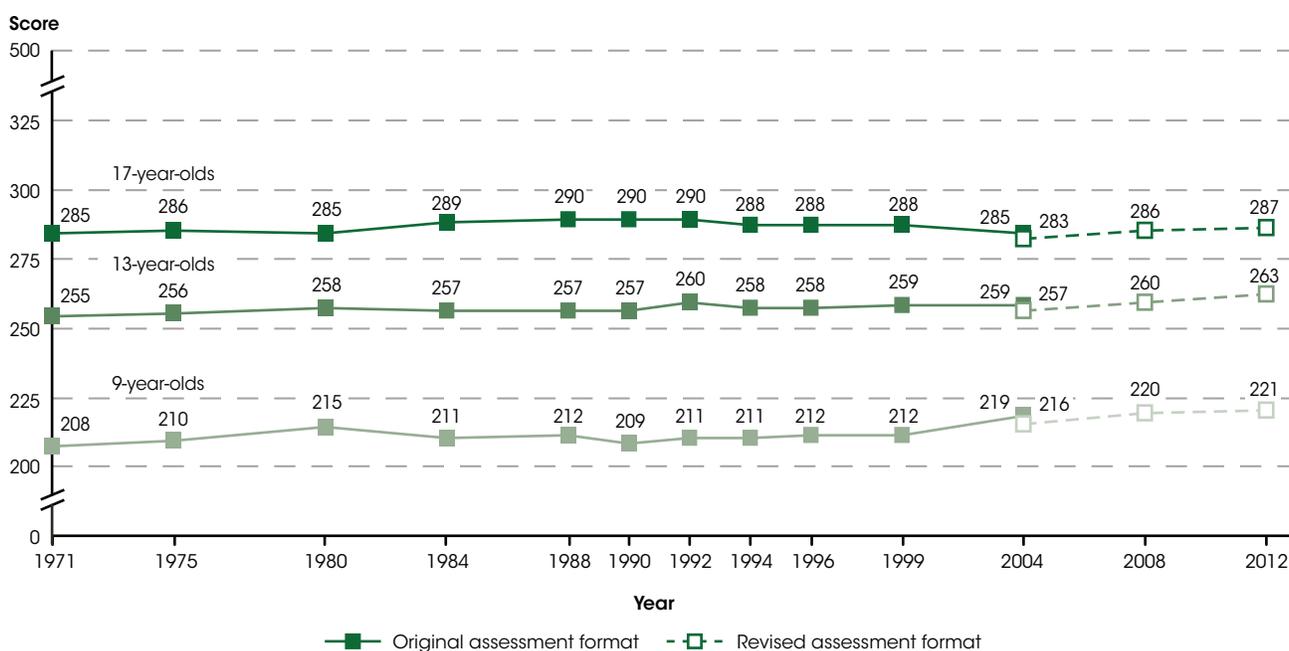
Reading and Mathematics Score Trends

NAEP long-term trend results indicate that the average reading and mathematics achievement of 9- and 13-year-olds improved between the early 1970s and 2012; however, only 13-year-olds made score gains from 2008 to 2012, and they did so in both subject areas. Average reading and mathematics achievement for 17-year-olds did not change significantly between the early 1970s and 2012 or between 2008 and 2012.

Since the 1970s, the long-term trend National Assessment of Educational Progress (NAEP) has collected periodic information on the reading and mathematics achievement of 9-, 13-, and 17-year-olds enrolled in public and private schools. Long-term trend NAEP results may differ from the main NAEP results presented in other National

Center for Education Statistics (NCES) publications since the long-term trend assessment measures a consistent body of knowledge and skills over an extended period, while the main NAEP undergoes changes periodically to reflect current curricula and emerging standards.¹

Figure 1. Average reading scale scores on the long-term trend National Assessment of Educational Progress (NAEP), by age: Selected years, 1971 through 2012



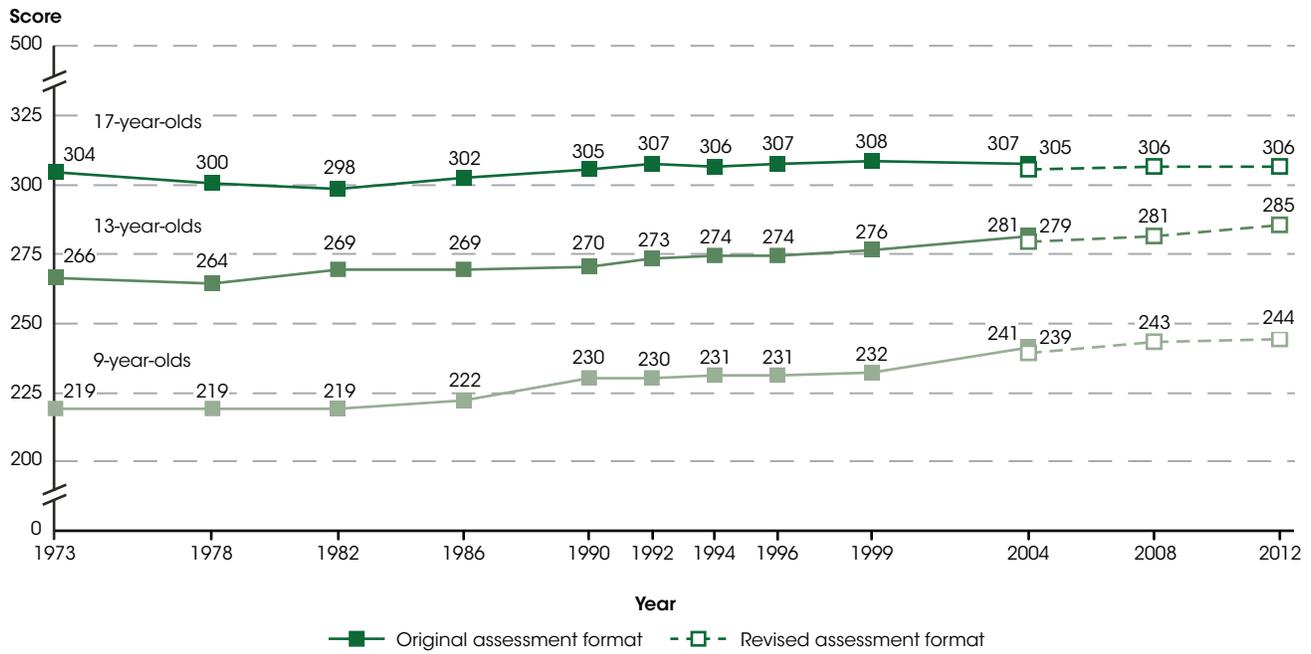
NOTE: Includes public and private schools. NAEP scores range from 0 to 500. Several administrative changes were initiated beginning with the 2004 assessment, including allowing accommodations for students with disabilities and for English language learners. To assess the impact of these revisions, two assessments were conducted in 2004, one based on the original assessment and one based on the revised assessment. In 2008 and 2012, only the revised assessment was used.

SOURCE: National Center for Education Statistics (2013). *The Nation's Report Card: Trends in Academic Progress 2012* (NCES 2013-456). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, D.C. See *Digest of Education Statistics 2013*, table 221.85.

The national trend in reading achievement shows improvement at ages 9 and 13, but not at age 17, between the early 1970s and 2012. The average scores for 9- and 13-year-olds in 2012 were higher than those in 1971 (13 and 8 points higher, respectively), but the average score for 17-year-olds in 2012 (287) was not measurably different from the score in 1971. For 9-year-olds, the

average score did not change measurably between 2012 (221) and 2008, but it was higher in each of these years than in all previous assessment years.² Thirteen-year-olds scored higher in 2012 (263) than in all previous assessment years, including 3 points higher than in 2008. The average score for 17-year-olds in 2012 was not measurably different from the score in 2008.

Figure 2. Average mathematics scale scores on the long-term trend National Assessment of Educational Progress (NAEP), by age: Selected years, 1973 through 2012



NOTE: Includes public and private schools. NAEP scores range from 0 to 500. Several administrative changes were initiated beginning with the 2004 assessment, including allowing accommodations for students with disabilities and for English language learners. To assess the impact of these revisions, two assessments were conducted in 2004, one based on the original assessment and one based on the revised assessment. In 2008 and 2012, only the revised assessment was used.

SOURCE: National Center for Education Statistics (2013). *The Nation's Report Card: Trends in Academic Progress 2012* (NCES 2013-456). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, D.C. See *Digest of Education Statistics 2013*, table 222.85.

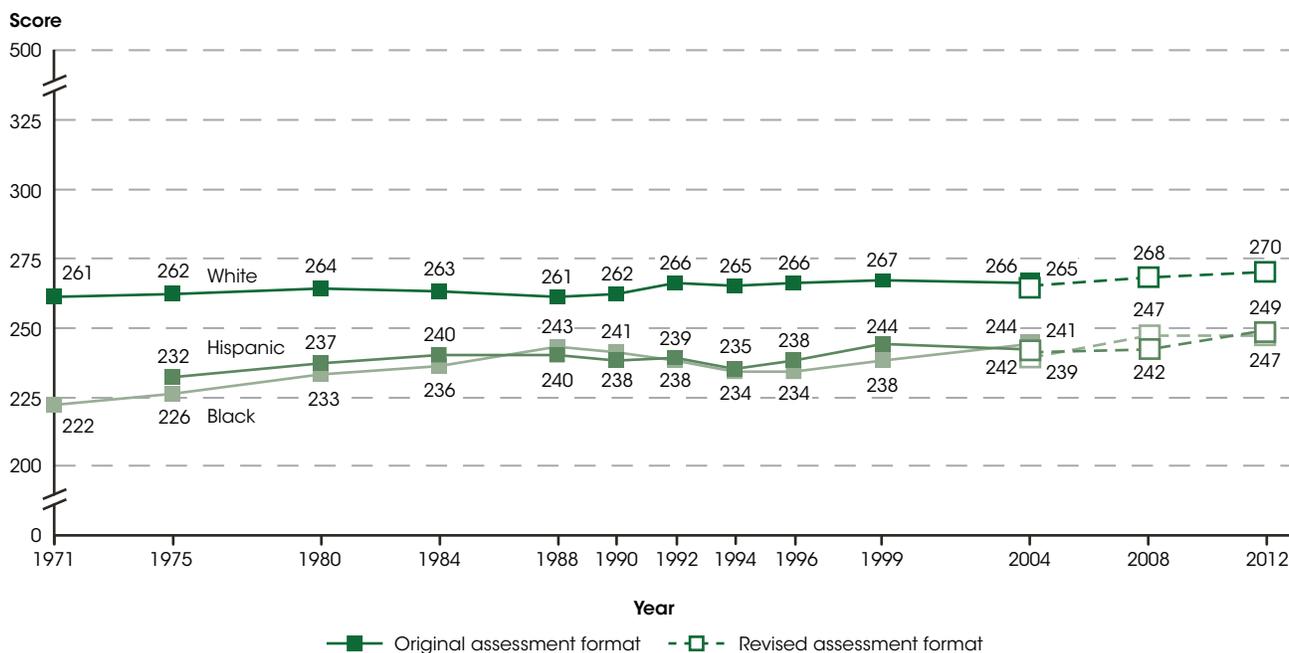
The national trend in mathematics achievement shows improvement at ages 9 and 13, but not at age 17, between the early 1970s and 2012. The average scores for 9- and 13-year-olds in 2012 were higher than those in 1973 (25 and 19 points higher, respectively), but the average score for 17-year-olds in 2012 (306) was not measurably different from the score in 1973. For 9-year-olds, the

average score did not change measurably between 2012 (244) and 2008, but it was higher in each of these two years than in all previous assessment years.² Thirteen-year-olds scored higher in 2012 (285) than in all previous assessment years, including 4 points higher than in 2008. The average score for 17-year-olds in 2012 was not measurably different from the score in 2008.

Closing achievement gaps is a goal of both national and state education policies. The results from the 2012 NAEP long-term trend assessments show some progress toward meeting that goal. For example, from the 1970s to 2012

the White-Black and White-Hispanic score gaps in reading and mathematics narrowed as a result of Black and Hispanic students making larger gains in achievement during that period than White students.

Figure 3. Average reading scale scores on the long-term trend National Assessment of Educational Progress (NAEP) for 13-year-olds, by race/ethnicity: Selected years, 1971 through 2012



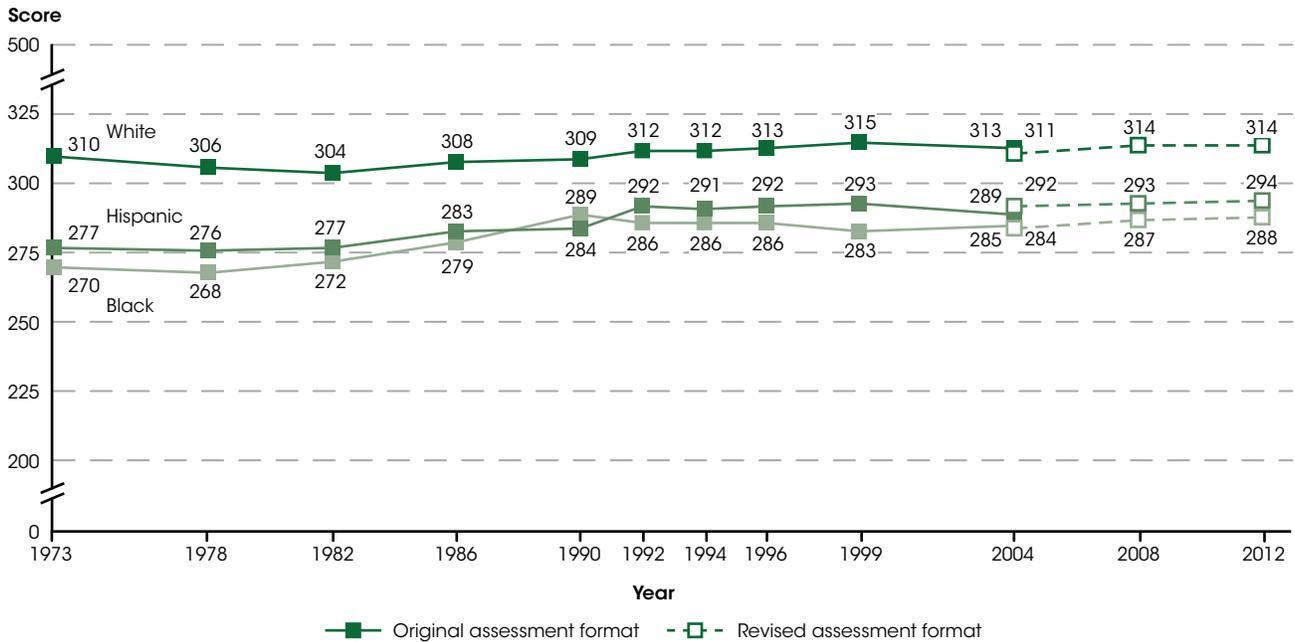
NOTE: Includes public and private schools. NAEP scores range from 0 to 500. Several administrative changes were initiated beginning with the 2004 assessment, including allowing accommodations for students with disabilities and for English language learners. To assess the impact of these revisions, two assessments were conducted in 2004, one based on the original assessment and one based on the revised assessment. In 2008 and 2012, only the revised assessment was used.

SOURCE: National Center for Education Statistics (2013). *The Nation's Report Card: Trends in Academic Progress 2012* (NCES 2013-456). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, D.C. See *Digest of Education Statistics 2013*, table 221.85.

In reading, the White-Black and White-Hispanic reading gaps narrowed from the 1970s to 2012 at ages 9, 13, and 17, even though the average reading score of White students remained 21 or more points higher than the average scores for Black and Hispanic students in 2012. At age 13, Blacks and Hispanics both made larger gains in reading scores from the 1970s to 2012 than did White students, leading to a narrowing of the White-Black and White-Hispanic score gaps in 2012. From 1971 to 2012, White 13-year-olds had a 9-point gain, and Black

13-year-olds had a 24-point gain. Larger gains for Black than for White 13-year-olds during the period narrowed the White-Black gap from 39 points in 1971 to 23 points in 2012. Similarly, Hispanic students at age 13 had a 17-point gain in reading from 1975 to 2012, which narrowed the White-Hispanic gap from 30 points in 1975 to 21 points in 2012. Hispanic 13-year-olds were the only racial/ethnic group to make reading score gains from 2008 to 2012. The White-Hispanic gap for 13-year-olds narrowed 5 points from 2008 to 2012.

Figure 4. Average mathematics scale scores on the long-term trend National Assessment of Educational Progress (NAEP) for 17-year-olds, by race/ethnicity: Selected years, 1973 through 2012



NOTE: Includes public and private schools. NAEP scores range from 0 to 500. Several administrative changes were initiated beginning with the 2004 assessment, including allowing accommodations for students with disabilities and for English language learners. To assess the impact of these revisions, two assessments were conducted in 2004, one based on the original assessment and one based on the revised assessment. In 2008 and 2012, only the revised assessment was used.

SOURCE: National Center for Education Statistics (2013). *The Nation's Report Card: Trends in Academic Progress 2012* (NCES 2013-456). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, D.C. See *Digest of Education Statistics 2013*, table 222.85.

In mathematics, the White-Black gap narrowed from the 1970s to 2012 at ages 9, 13, and 17, even though the average mathematics score of White students remained 25 or more points higher than the average score for Black students in 2012. The White-Hispanic mathematics gap also narrowed from 1973 to 2012 at ages 13 and 17, but it did not change significantly at age 9. For example, average mathematics scores for 17-year-olds increased 4 points for White students, 18 points for Black students, and 17 points for Hispanic students from 1973 to 2012.

As a result, both the White-Black score gap and the White-Hispanic score gap for 17-year-olds narrowed 14 points during this period. For 17-year-old students, the White-Black score gap narrowed from 40 points in 1973 to 26 points in 2012, and the White-Hispanic score gap narrowed from 33 to 19 points over the same period. There were no significant changes, however, from 2008 to 2012 in the White-Black or White-Hispanic score gaps for 17-year-olds.

Endnotes:

¹ Several administrative changes, including the addition of allowing accommodations for students with disabilities and for English language learners, were initiated in the 2004 long-term trend assessment and have been carried forward in more recent data collections. Despite these changes to the assessment, the trend analysis is still valid.

² Except in 2004 for the original unrevised assessment. Scores from the original and revised assessments are not directly comparable, and comparisons should be made with caution.

Reference tables: *Digest of Education Statistics 2013*, tables 221.85 and 222.85

Related indicators: Reading Performance (indicator 23), Mathematics Performance (indicator 24)

Glossary: Achievement gap; Achievement levels, NAEP; Public school or institution; Racial/ethnic group