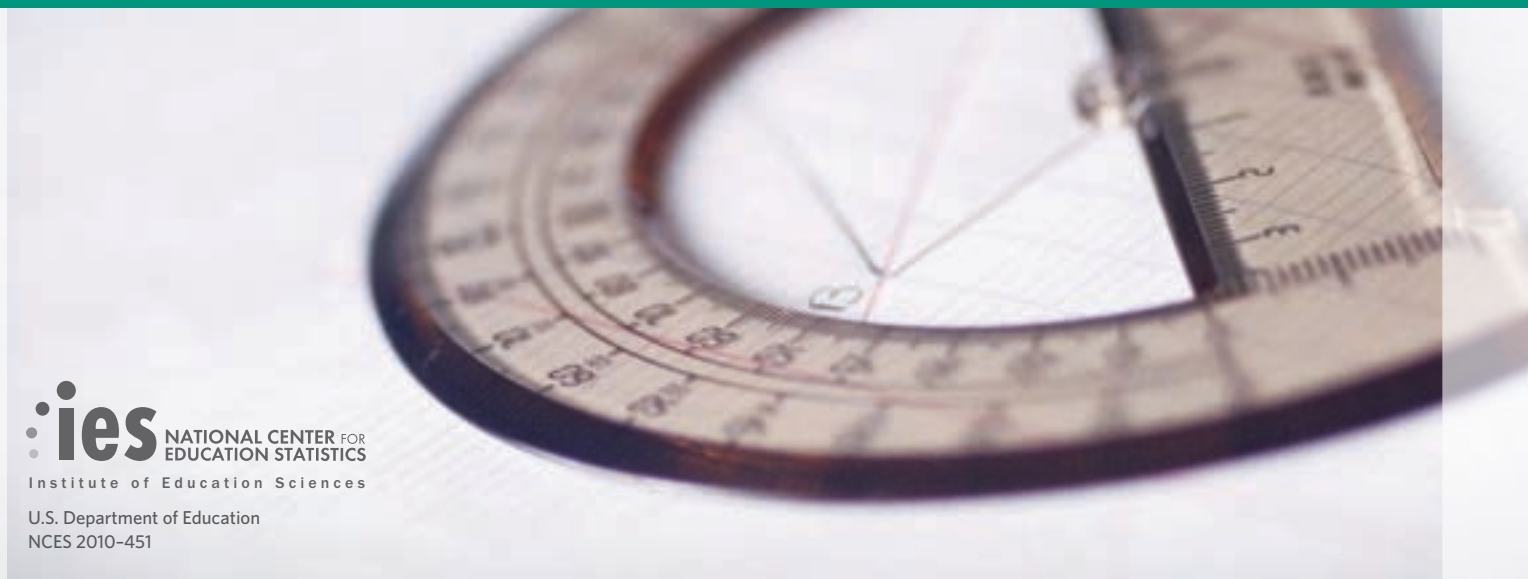
The Nation's Report Card

Mathematics 2009

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS AT GRADES 4 AND 8



ies NATIONAL CENTER FOR EDUCATION STATISTICS
Institute of Education Sciences

U.S. Department of Education
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Contents

What is The Nation's Report Card™?

The Nation's Report Card™ informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of the National Assessment of Educational Progress (NAEP), a continuing and nationally representative measure of achievement in various subjects over time.

Since 1969, NAEP assessments have been conducted periodically in reading, mathematics, science, writing, U.S. history, civics, geography, and other subjects. NAEP collects and reports information on student performance at the national and state levels, making the assessment an integral part of our nation's evaluation of the condition and progress of education. Only academic achievement data and related background information are collected. The privacy of individual students and their families is protected.

NAEP is a congressionally authorized project of the National Center for Education Statistics (NCES) within the Institute of Education Sciences of the U.S. Department of Education. The Commissioner of Education Statistics is responsible for carrying out the NAEP project. The National Assessment Governing Board oversees and sets policy for NAEP.

Executive Summary

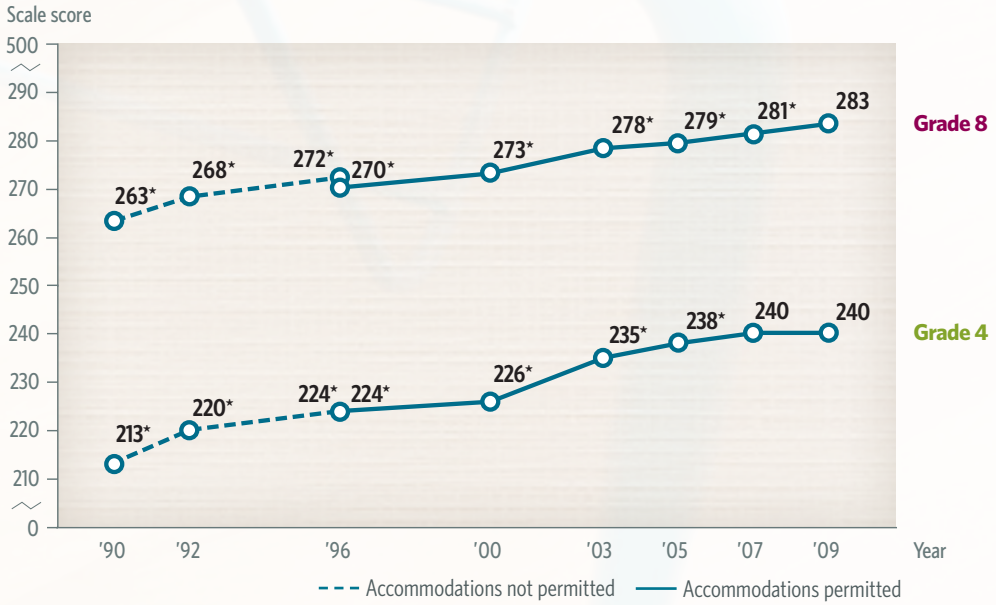
Mathematics scores up since 2007 at grade 8, but unchanged at grade 4

Nationally representative samples of more than 168,000 fourth-graders and 161,000 eighth-graders participated in the 2009 National Assessment of Educational Progress (NAEP) in mathematics. At each grade, students responded to questions designed to measure their knowledge and abilities across five mathematics content areas: number properties and operations; measurement; geometry; data analysis, statistics, and probability; and algebra.

Gains in students' average mathematics scores seen in earlier years did not continue from 2007 to 2009 at grade 4 but did continue at grade 8 (figure **A**). While still higher than the scores in the six assessment years from 1990 to 2005, the overall average score for fourth-graders in 2009 was unchanged from the score in 2007. The upward trend seen in earlier assessments for eighth-graders continued with a 2-point increase from 2007 to 2009.

A similar pattern of results was seen for students performing at different achievement levels. The percentages of fourth-graders performing at or above *Basic* (82 percent) and at or above *Proficient* (39 percent) in 2009 were unchanged from those in 2007, but still remained higher than in the assessment years from 1990 to 2005. The percentages of eighth-graders performing at or above *Basic* (73 percent) and at or above *Proficient* (34 percent) in 2009 were higher than those in 2007 and in all earlier assessment years.

Figure **A.** Trend in fourth- and eighth-grade NAEP mathematics average scores



* Significantly different ($p < .05$) from 2009.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Gaps persist despite gains for some student groups

Results for student groups were generally similar to those for students overall. **At grade 4**, there were no significant changes in the average mathematics scores from 2007 to 2009 for students in different racial/ethnic groups, or for those attending public or private schools. Scores for these groups did, however, remain higher than the scores in 1990.

There was no significant change at grade 4 in either the White – Black or White – Hispanic score gaps since 2007. However, greater gains over the years for Black students than for White students contributed to a smaller score gap in 2009 than in 1990. The gap between private and public school students in 2009 was not significantly different from the gap in 2007, but was narrower than the gap in 1990.

At grade 8, average mathematics scores were higher in 2009 than in both 2007 and 1990 for most racial/ethnic groups; however, gaps between White and Black students and between White and Hispanic students showed no significant change in comparison to either year.

The average score for eighth-grade public school students increased from 2007 to 2009, and the score for private school students showed no significant change over the same period. There was no significant change in the gap between the two groups in comparison to either 2007 or 1990.

Characteristic	GRADE 4		GRADE 8	
	Since 1990	Since 2007	Since 1990	Since 2007
Overall	▲	◆	▲	▲
Race/ethnicity				
White	▲	◆	▲	▲
Black	▲	◆	▲	▲
Hispanic	▲	◆	▲	▲
Asian/Pacific Islander	▲	◆	▲	▲
American Indian/ Alaska Native	‡	◆	‡	◆
Type of school				
Public	▲	◆	▲	▲
Private	▲	◆	▲	◆
Gaps				
White – Black	Narrowed	◆	◆	◆
White – Hispanic	◆	◆	◆	◆
Private – Public	Narrowed	◆	◆	◆

▲ Indicates the score was higher in 2009.
◆ Indicates no significant change in the score or the gap in 2009.
‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

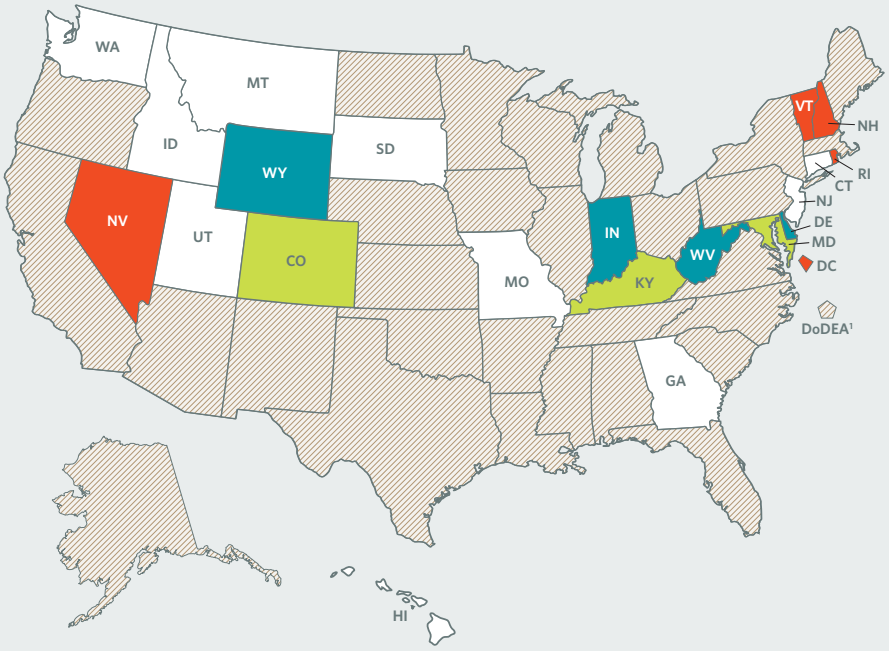
Examples of math skills for GRADE 4

43% identified parallel and perpendicular lines

59% divided a three-digit number by a one-digit number

75% made a pictograph of given information

Five states and jurisdictions make gains at both grades 4 and 8



[1] Department of Defense Education Activity (overseas and domestic schools).

Compared to 2007, average mathematics scores for public school students in 2009

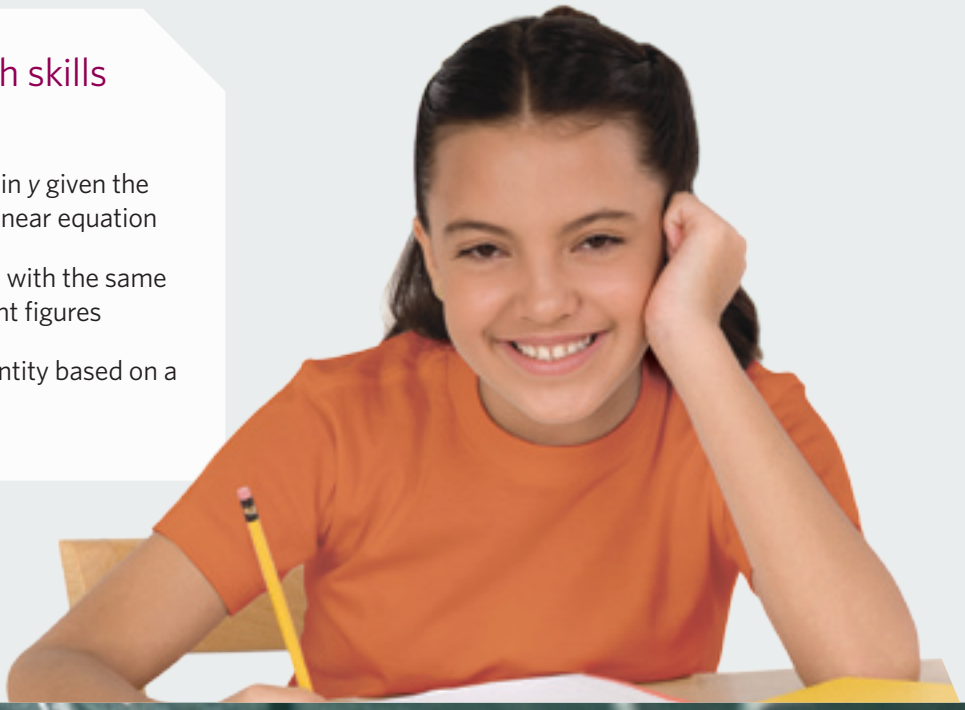
- **increased at both grades** in the District of Columbia, Nevada, New Hampshire, Rhode Island, and Vermont;
- **increased at grade 4 only** in Colorado, Kentucky, and Maryland;
- **decreased at grade 4 only** in Delaware, Indiana, West Virginia, and Wyoming;
- **increased at grade 8 only** in Connecticut, Georgia, Hawaii, Idaho, Missouri, Montana, New Jersey, South Dakota, Utah, and Washington; and
- **showed no significant change** at either grade in 30 states and jurisdictions.

Examples of math skills for GRADE 8

47% found the change in *y* given the change in *x* for a linear equation

69% identified the side with the same length in congruent figures

72% determined a quantity based on a given percent



Introduction

The NAEP mathematics assessment measures students' knowledge and skills in mathematics and students' ability to apply their knowledge in problem-solving situations. The results from the 2009 assessment presented in this report are compared to those from previous years, showing how students' performance in mathematics has progressed over time.

The Mathematics Framework

The National Assessment Governing Board oversees the creation of the NAEP frameworks, which describe the specific knowledge and skills that should be assessed. Frameworks incorporate ideas and input from subject area experts, school administrators, policymakers, teachers, parents, and others. NAEP frameworks also describe the types of questions that should be included and how they should be designed and scored. Collectively, the questions are to span a range of demands on students' thinking. To ensure an appropriate balance of content along with allowing for a variety of ways of knowing and doing mathematics, the *Mathematics Framework for the 2009 National Assessment of Educational Progress* specifies that each question in the assessment measures one of five mathematical content areas.

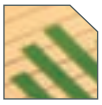
Although the names of the content areas, as well as some of the topics in those areas, have changed over the years, there has been a consistent focus across frameworks on collecting information on students' performance in five areas: number properties and operations; measurement; geometry; data analysis, statistics, and probability; and algebra.

Mathematics content areas

Number properties and operations measures students' understanding of ways to represent, calculate, and estimate with numbers.

Measurement assesses students' knowledge of units of measurement for such attributes as capacity, length, area, volume, time, angles, and rates.

Geometry measures students' knowledge and understanding of shapes in two and three dimensions, and relationships between shapes such as symmetry and transformations.



Data analysis, statistics, and probability measures students' understanding of data representation, characteristics of data sets, experiments and samples, and probability.

Algebra measures students' understanding of patterns, using variables, algebraic representation, and functions.

Results by Content Area

Average scale scores for each of the five content areas are available in the NAEP Data Explorer at http://nces.ed.gov/nationsreportcard/naepdata/.

The three levels of mathematical complexity (low, moderate, and high) described in the framework form an ordered description of the demands that questions make on students' thinking. Mathematical complexity involves *what* a question asks students to do and *not how* they might undertake it. The complexity of a question is not directly related to its format, and therefore it is possible for some multiple-choice questions to assess complex mathematics and for some constructed-response (i.e., open-ended) questions to assess routine mathematical ideas.

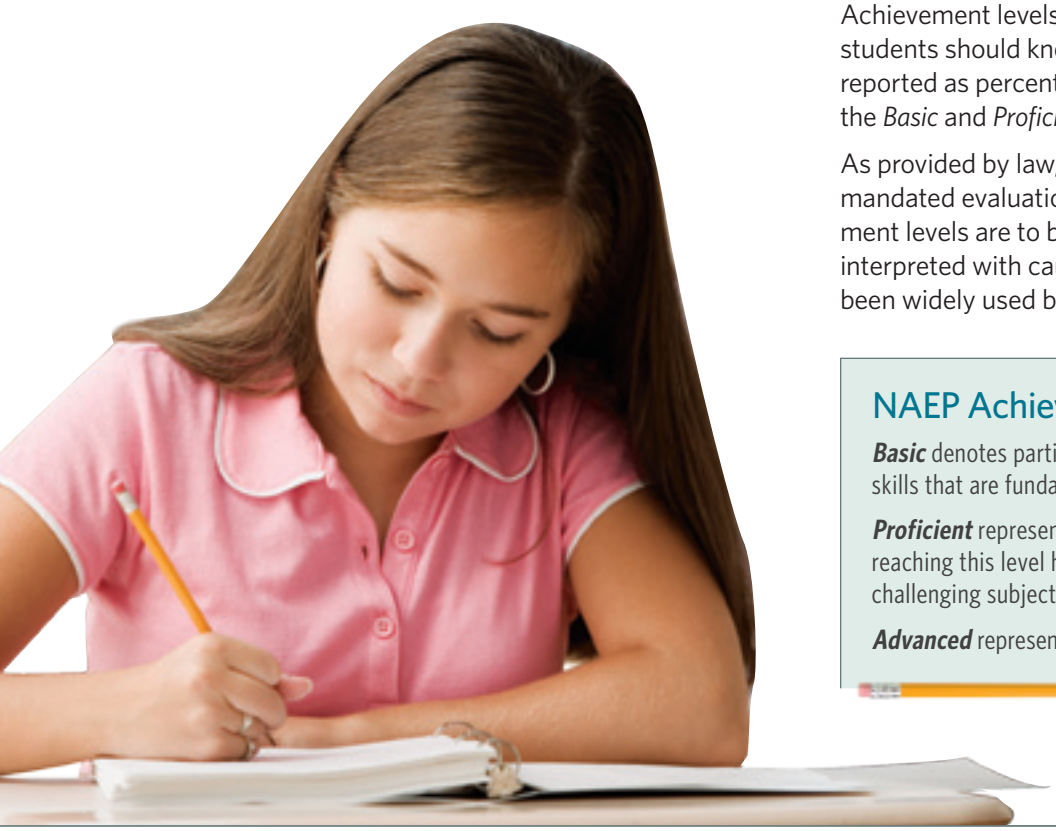
Levels of Mathematical Complexity

Low complexity questions typically specify what a student is to do, which is often to carry out a routine mathematical procedure.

Moderate complexity questions involve more flexibility of thinking and often require a response with multiple steps.

High complexity questions make heavier demands and often require abstract reasoning or analysis in a novel situation.

The complete mathematics framework for 2009 is available at http://www.nagb.org/publications/frameworks/math-framework09.pdf.



Reporting NAEP Results

The 2009 mathematics assessment results are based on nationally representative samples of 168,800 fourth-graders from 9,510 schools and 161,700 eighth-graders from 7,030 schools. Results for the nation reflect the performance of students attending public schools, private schools, Bureau of Indian Education schools, and Department of Defense schools. Results for states and other jurisdictions reflect the performance of students in public schools only and are reported along with the results for public school students in the nation.

Scale scores

NAEP mathematics results for grades 4 and 8 are reported as average scores on a 0–500 scale. Because NAEP scales are developed independently for each subject, scores cannot be compared across subjects.

In addition to reporting an overall mathematics score for each grade, scores are reported at five percentiles to show trends in results for students performing at lower (10th and 25th percentiles), middle (50th percentile), and higher (75th and 90th percentiles) levels.

Achievement levels

Based on recommendations from policymakers, educators, and members of the general public, the Governing Board sets specific achievement levels for each subject area and grade. Achievement levels are performance standards showing what students should know and be able to do. NAEP results are reported as percentages of students performing at or above the *Basic* and *Proficient* levels and at the *Advanced* level.

As provided by law, NCES, upon review of congressionally mandated evaluations of NAEP, has determined that achievement levels are to be used on a trial basis and should be interpreted with caution. The NAEP achievement levels have been widely used by national and state officials.

NAEP Achievement Levels

Basic denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.

Proficient represents solid academic performance. Students reaching this level have demonstrated competency over challenging subject matter.

Advanced represents superior performance.

Interpreting the Results

Changes in performance over time

National results from the 2009 mathematics assessment are compared to results from seven previous assessment years for both grades 4 and 8, while state results from 2009 are compared to results from six earlier assessments at grade 4 and seven earlier assessments at grade 8. Changes in students' performance over time are summarized by comparing the results in 2009 to 2007 and the first assessment year, except when pointing out consistent patterns across assessments.

NAEP reports results using widely accepted statistical standards; findings are reported based on a statistical significance level set at .05 with appropriate adjustments for multiple comparisons (see the Technical Notes for more information). The symbol (*) is used in tables and figures to indicate that an earlier year's score or percentage is significantly different from the 2009 results. Only those differences that are found to be statistically significant are discussed as higher or lower. The same standard applies when comparing the performance of one student group to another.

When scores significantly increase or decrease from one assessment year to the next, we are confident that student performance has changed. However, NAEP is not designed to identify the causes of these changes. Further, the many factors that may influence average student achievement scores also change across time. These include educational policies and practices, the quality of teachers, available resources, and the demographic characteristics of the student body.

Explore Additional Results

Not all of the data for results discussed in this report are presented in corresponding tables or figures. These and other results can be found in the NAEP Data Explorer at http://nces.ed.gov/nationsreportcard/naepdata/.

Accommodations and exclusions in NAEP

Many of the same testing accommodations allowed on state assessments (e.g., extra testing time or individual rather than group administration) are provided for students with disabilities or English language learners participating in NAEP. Accommodations were first made available at the national level in 1996 and at the state level in 2000. Prior to 1996, no accommodations were provided in the NAEP mathematics assessment.

Because providing accommodations represented a change in testing conditions that could potentially affect the measurement of changes over time, split samples of students were assessed nationally in 1996 and at the state level in 2000. In each of these years, one sample permitted accommodations, and the other did not. Although the results for both samples are presented in the tables and figures, the comparisons to these years in the text are based on just the accommodated samples.

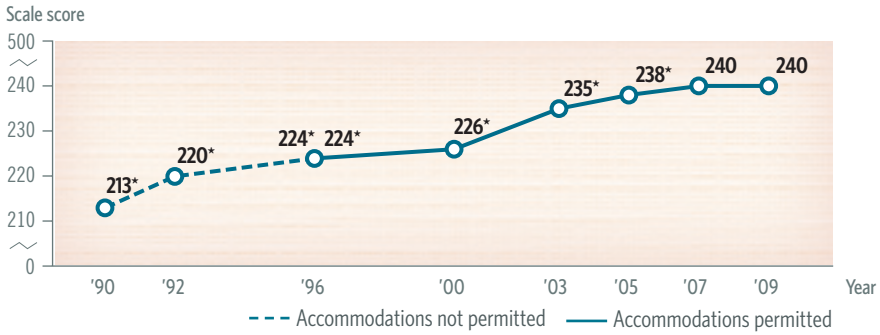
Even with the availability of accommodations, some students may still be excluded. Variations in exclusion and accommodation rates, due to differences in policies and practices for identifying and including students with disabilities and English language learners, should be considered when comparing students' performance over time and across states. States and jurisdictions also vary in their proportions of special-needs students (especially English language learners). While the effect of exclusion is not precisely known, comparisons of performance results could be affected if exclusion rates are markedly different among states or vary widely over time. See appendix tables **A-1** through **A-8** for the percentages of students accommodated and excluded at the national and state levels. More information about NAEP's policy on the inclusion of special-needs students is available at http://nces.ed.gov/nationsreportcard/about/inclusion.asp.

GRADE 4

Fourth-graders' performance unchanged from 2007

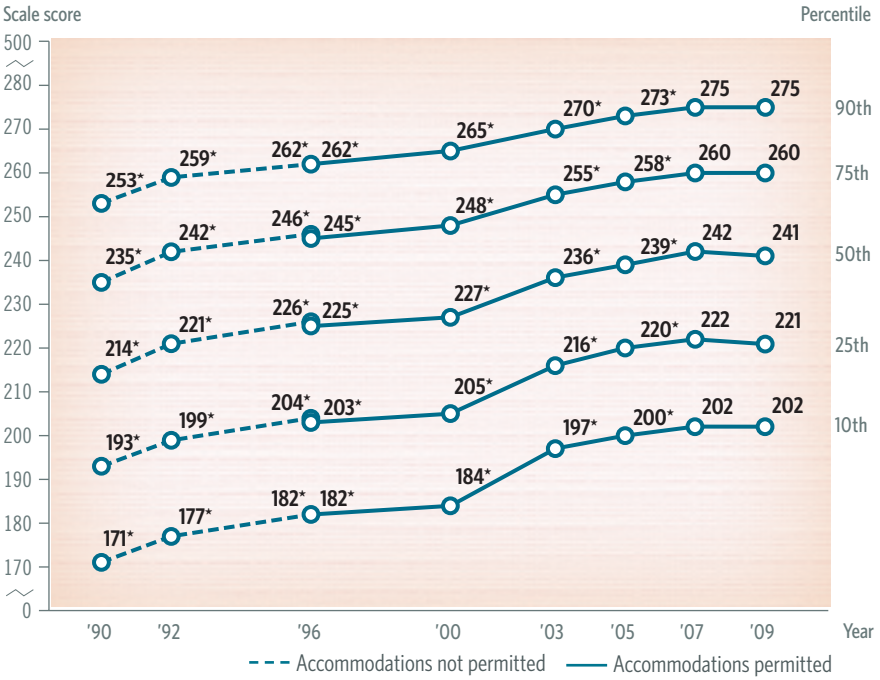
There has been no significant change in the performance of the nation's fourth-graders in mathematics from 2007 to 2009. State results, however, show increases in average scores from 2007 to 2009 for eight states and decreases for four states.

Figure 1. Trend in fourth-grade NAEP mathematics average scores



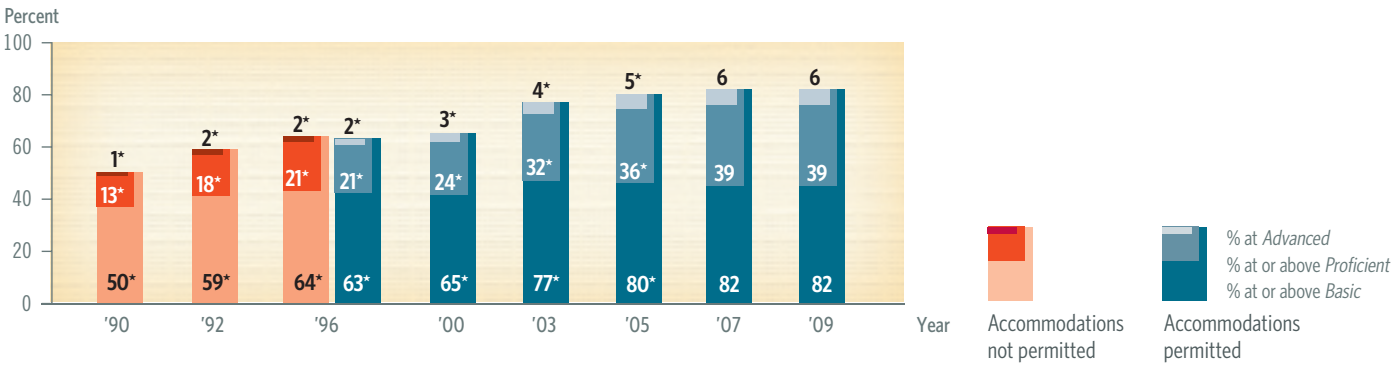
* Significantly different ($p < .05$) from 2009.

Figure 2. Trend in fourth-grade NAEP mathematics percentile scores



* Significantly different ($p < .05$) from 2009.

Figure 3. Trend in fourth-grade NAEP mathematics achievement-level performance



* Significantly different ($p < .05$) from 2009.

No change in average mathematics score since 2007

While higher than in the six assessments from 1990 to 2005, the overall average score in 2009 was unchanged from the score in 2007 (figure **1**). These results reflect the performance of all fourth-graders nationally (i.e., those attending both public and private schools).

As shown in figure **2**, there were no significant changes in scores from 2007 to 2009 for lower-performing students (at the 10th and 25th percentiles), middle-performing students (at the 50th percentile), or higher-performing students (at the 75th and 90th percentiles).

Results consistent across performance levels

Achievement-level results also showed no change between 2007 and 2009, with 82 percent of fourth-graders performing at or above *Basic*, 39 percent performing at or above *Proficient*, and 6 percent performing at *Advanced* in both years (figure **3**).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

No significant change since 2007 in performance of racial/ethnic groups

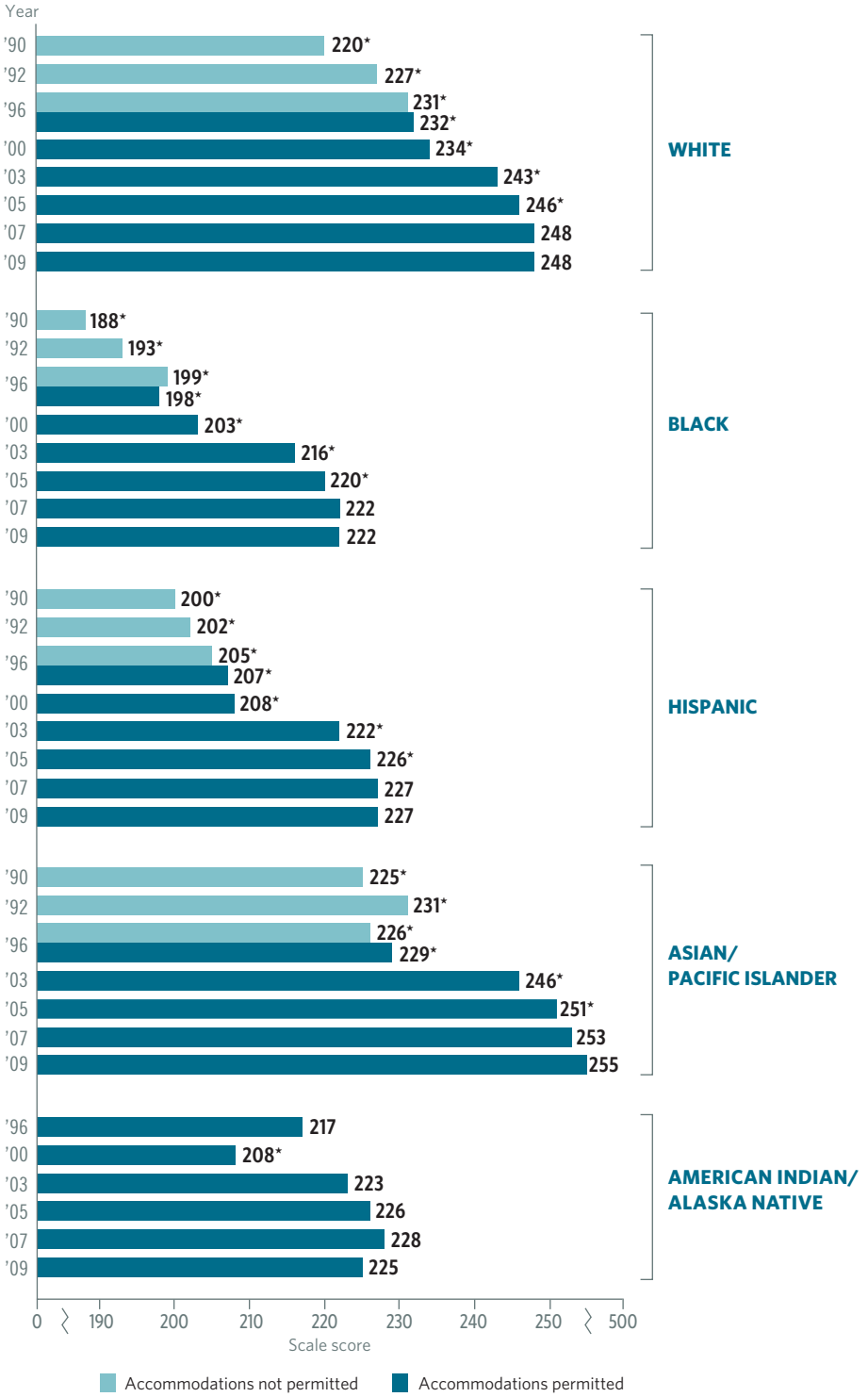
As was seen in the results for fourth-graders overall, there were no significant changes in scores between 2007 and 2009 for any of the five racial/ethnic groups (figure 4). Scores for White, Black, Hispanic, and Asian/Pacific Islander students in 2009 did, however, remain higher than those from the assessment years prior to 2007. The apparent increase in the score for American Indian/Alaska Native students in comparison to 1996 was not found to be statistically significant.

White and Asian/Pacific Islander students continued to score higher on average than Black, Hispanic, and American Indian/Alaska Native students in 2009. Asian/Pacific Islander students also scored higher on average than White students.

Achievement-Level Results

Information is available on achievement-level results for racial/ethnic groups and other reporting categories at http://nationsreportcard.gov/math_2009/.

Figure 4. Trend in fourth-grade NAEP mathematics average scores, by race/ethnicity

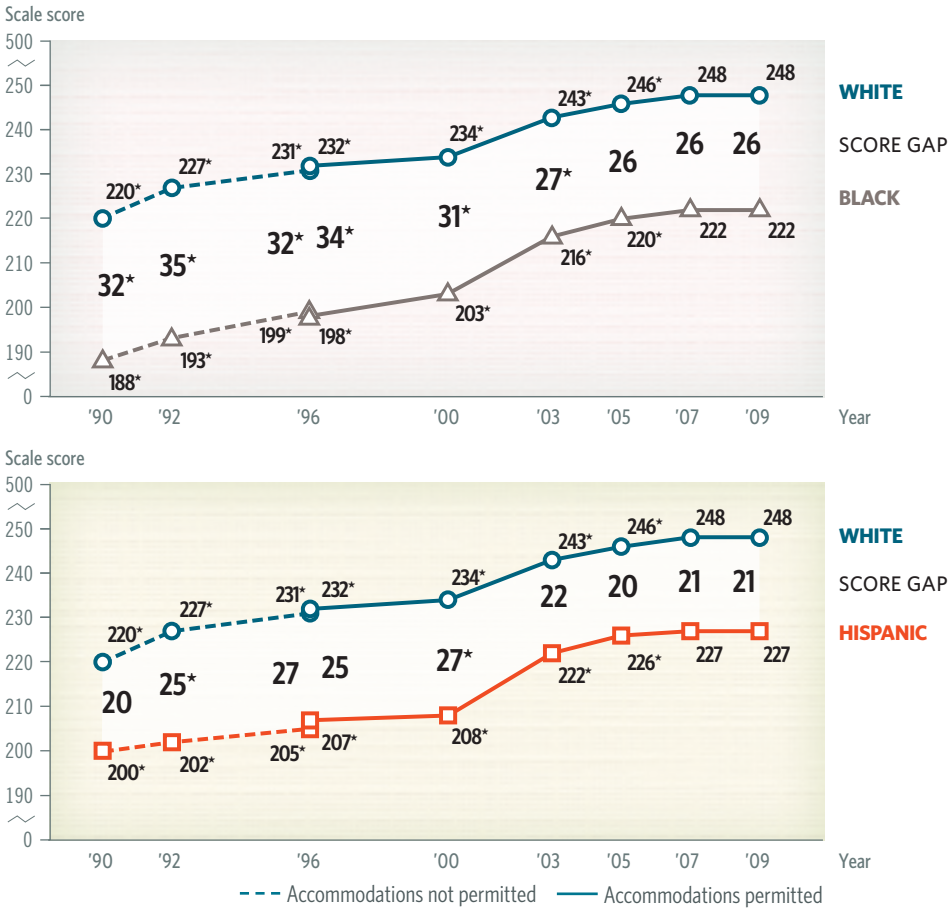


* Significantly different ($p < .05$) from 2009.

NOTE: Special analysis raised concerns about the accuracy and precision of the results for Asian/Pacific Islander students in 2000; therefore, they are omitted from this figure. Sample sizes were insufficient to permit reliable estimates for American Indian/Alaska Native students in 1990, 1992, and 1996 (accommodations not permitted sample). Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Figure 5. Trend in fourth-grade NAEP mathematics average scores and score gaps, by selected racial/ethnic groups



* Significantly different ($p < .05$) from 2009.
NOTE: Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin. Score gaps are calculated based on differences between unrounded average scores.

Racial/ethnic gaps persist

The 26-point score gap in mathematics scores between White and Black students in 2009 was not significantly different from the gap in 2007, but was narrower than in 1990 (figure 5). The 21-point score gap between White and Hispanic students in 2009 was not found to be significantly different from the gaps in either 2007 or 1990.

Table 1. Percentage of students assessed in fourth-grade NAEP mathematics, by race/ethnicity: Various years, 1990–2009

Race/ethnicity	1990[1]	1992[1]	1996	2000	2003	2005	2007	2009
White	75*	73*	66*	64*	60*	58*	57*	56
Black	18*	17*	16	16	17	16	16	16
Hispanic	6*	6*	11*	15*	18*	19*	20	21
Asian/Pacific Islander	1*	2*	5	‡	4*	4	5	5
American Indian/ Alaska Native	1*	1*	1	1	1	1	1	1

‡ Reporting standards not met. Special analysis raised concerns about the accuracy and precision of the results for Asian/Pacific Islander students in 2000; therefore, they are omitted from this table.
* Significantly different ($p < .05$) from 2009.
[1] Accommodations were not permitted in this assessment year.
NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Detail may not sum to totals because results are not shown for students whose race/ethnicity was unclassified.

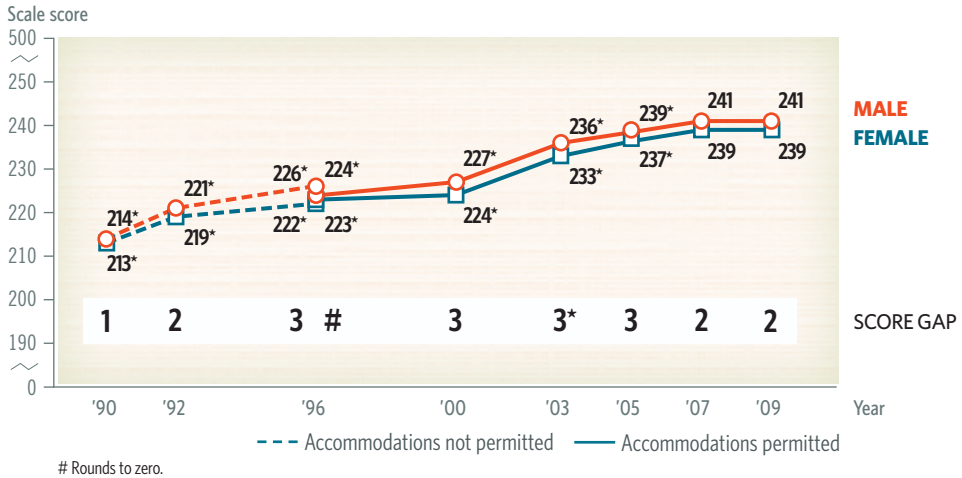
The proportion of fourth-graders in each of the five racial/ethnic groups NAEP reports on has remained relatively stable since 2007 (table 1). However, in comparison to the first assessment in 1990, the percentage of White students decreased from 75 to 56 percent, the percentage of Hispanic students increased from 6 to 21 percent, and the percentage of Asian/Pacific Islander students increased from 1 to 5 percent.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Male students score higher than female students

Average mathematics scores for male and female students in 2009 remained unchanged from 2007. Male students continued to score 2 points higher on average than female students in 2009 (figure 6).

Figure 6. Trend in fourth-grade NAEP mathematics average scores and score gaps, by gender



Rounds to zero.
* Significantly different ($p < .05$) from 2009.
NOTE: Score gaps are calculated based on differences between unrounded average scores. Score differences were not found to be statistically significant in 1990, 1992, 1996 (accommodations permitted), and 2000.

Private school students outperform public school students

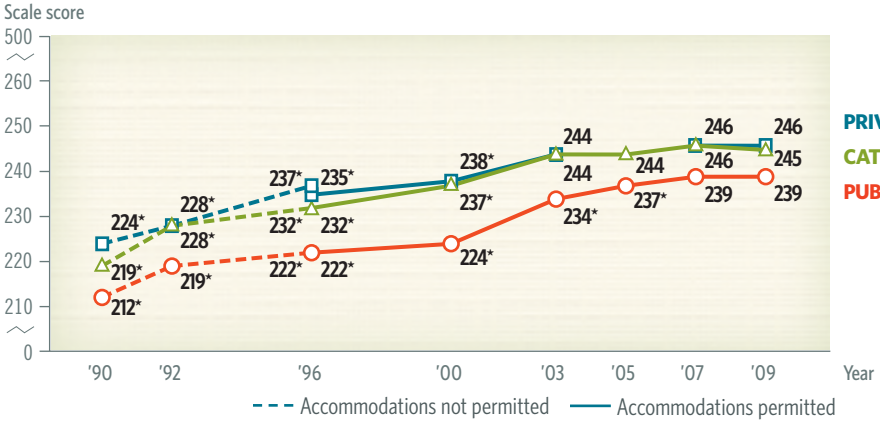
It is important to note there may be many reasons why private school students perform differently, on average, from public school students. Differences in demographic composition, availability of resources, admissions policies, parental involvement, and other factors not measured in NAEP can influence average student achievement scores.

In 2009, the average mathematics score for fourth-graders attending public schools was 7 points lower than the overall score for students attending private schools, and 6 points lower than for students in Catholic schools specifically (figure 7).

There were no significant changes in the average scores for students attending public schools, private schools, or Catholic schools from 2007 to 2009. The 7-point score gap between private and public school students in 2009 was not significantly different from the gap in 2007 but was smaller than the gap in 1990.

Ninety-one percent of fourth-graders attended public schools in 2009, and 9 percent attended private schools, including 4 percent in Catholic schools. The proportions of students attending public and private schools have not changed significantly in comparison to either 2007 or 1990.

Figure 7. Trend in fourth-grade NAEP mathematics average scores, by type of school



* Significantly different ($p < .05$) from 2009.
NOTE: Private schools include Catholic, other religious, and nonsectarian private schools. Results are not shown for private schools in 2005 because the participation rates fell below the required standard for reporting.

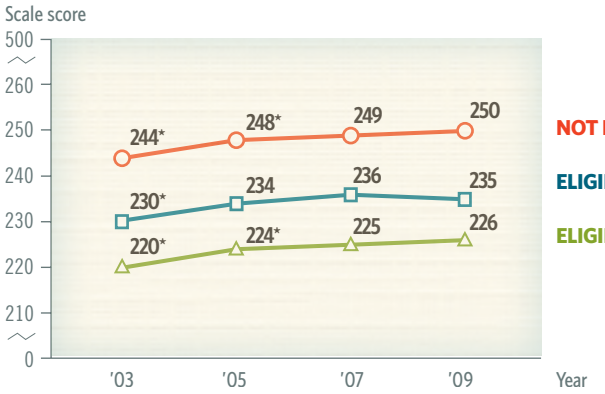
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Results by family income level show no change since 2007

NAEP uses students' eligibility for the National School Lunch Program as an indicator of low income. Students from lower-income families are eligible for either free or reduced-price school lunches, while students from higher-income families are not (see the Technical Notes for eligibility criteria).

Students who were not eligible have typically scored higher on average than those eligible for reduced-price lunch, who in turn scored higher than those eligible for free lunch (figure **8**). The scores for all three groups showed no significant change from 2007 to 2009, but remained higher than in 2003.

Figure 8. Trend in fourth-grade NAEP mathematics average scores, by eligibility for free or reduced-price school lunch



* Significantly different ($p < .05$) from 2009.

Table 2. Percentage of students assessed in fourth-grade NAEP mathematics, by eligibility for free or reduced-price school lunch: Various years, 2003–09

Eligibility status	2003	2005	2007	2009
Eligible for free lunch	33*	35*	36*	38
Eligible for reduced-price lunch	8*	7*	6	6
Not eligible	50	50	52*	49
Information not available	10*	8*	7	7

* Significantly different ($p < .05$) from 2009.
NOTE: Detail may not sum to totals because of rounding.

Some changes were seen since 2007 in the proportion of fourth-graders eligible for the National School Lunch Program. The percentage of fourth-graders eligible for free lunch increased from 36 percent in 2007 to 38 percent in 2009, while the percentage of students who were not eligible decreased from 52 percent to 49 percent (table **2**). There was no change in the percentage of students eligible for reduced-price lunch from 2007 to 2009.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 2003–2009 Mathematics Assessments.

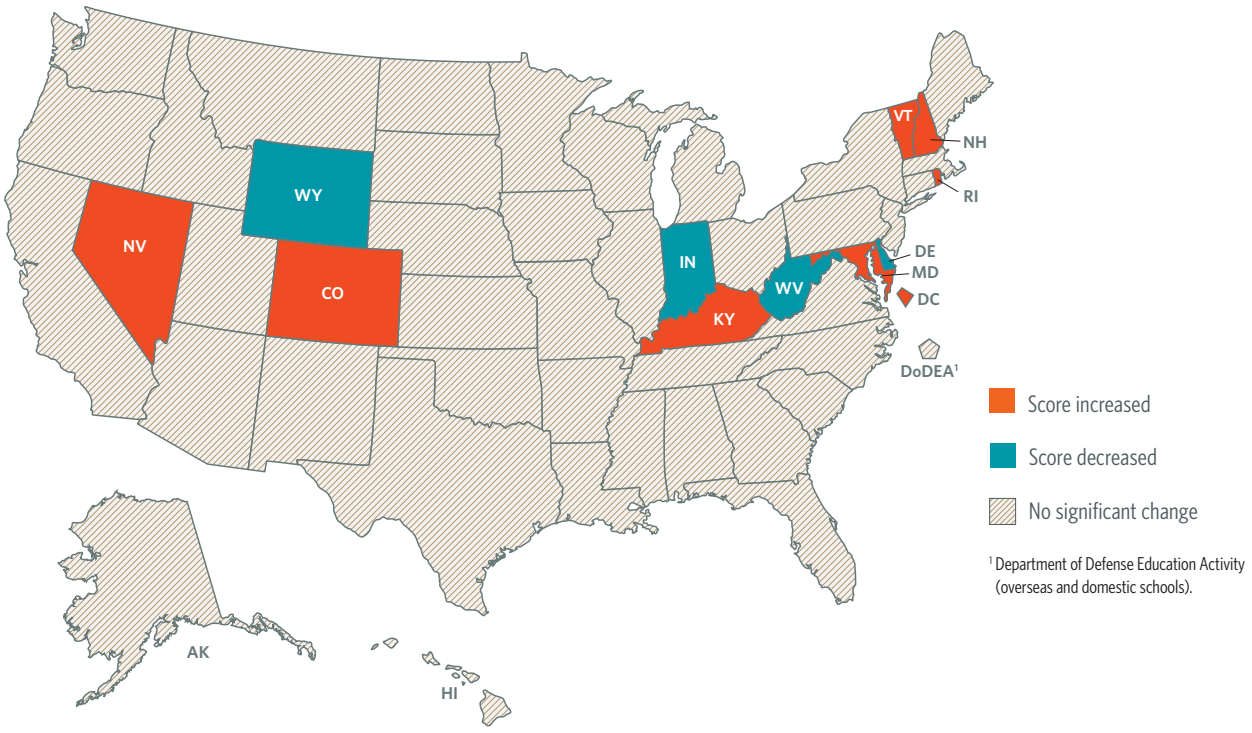
State Performance at Grade 4

NAEP state results make it possible to examine the progress of public school students in each participating state over time. All 50 states, the District of Columbia, and Department of Defense schools participated in the 2009 mathematics assessment. These 52 states and jurisdictions are all referred to as "states" in the following summary of results. State results are also available for six earlier assessments at grade 4. While all states participated in the assessments since 2003, not all have participated or met the criteria for reporting in earlier assessment years.

Scores increase since 2007 in eight states and decrease in four states

The map shown below highlights changes in states' average mathematics scores from 2007 to 2009 at grade 4 (figure 9). While there was no significant change in the overall average score for fourth-grade public school students in the nation from 2007 to 2009, scores did increase in eight states (Colorado, District of Columbia, Kentucky, Maryland, Nevada, New Hampshire, Rhode Island, and Vermont) and decrease in four states (Delaware, Indiana, West Virginia, and Wyoming). Scores were higher in 2009 than in 1992 for all 42 states that participated and met reporting standards in both years, including the four states that showed a decline from 2007 to 2009.

Figure 9. Changes in fourth-grade NAEP mathematics average scores between 2007 and 2009



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Mathematics Assessments.



A Closer Look at State Results

Changes in states' overall average scores do not always reflect comparable changes in scores for all student groups. Among the 12 states listed in figure **10** that showed either an increase or decrease in the overall average score, most had at least one racial/ethnic group that maintained the same level of performance since 2007.

Only the District of Columbia showed increases from 2007 to 2009 for all the student groups with samples large enough to report results. In the other 7 states where overall average fourth-grade mathematics scores increased since 2007, results for racial/ethnic groups showed increases for White students in Rhode Island, for Black students in Maryland, and for Hispanic students in Nevada.

In the 4 states where fourth-grade mathematics scores decreased since 2007, the average score for Black students in Delaware decreased from 2007 to 2009, and scores for White students in West Virginia and Wyoming decreased.

Although not shown here, among the 40 states where mathematics scores showed no significant change since 2007, there was a decrease in the average score for Hispanic students in Texas.

Additional state results for grade 4 are provided in figure **11**, table **3**, and appendix tables **A-9** through **A-16**.

Figure **10.** Change in fourth-grade NAEP mathematics average scores between 2007 and 2009, by selected student groups and state/jurisdiction

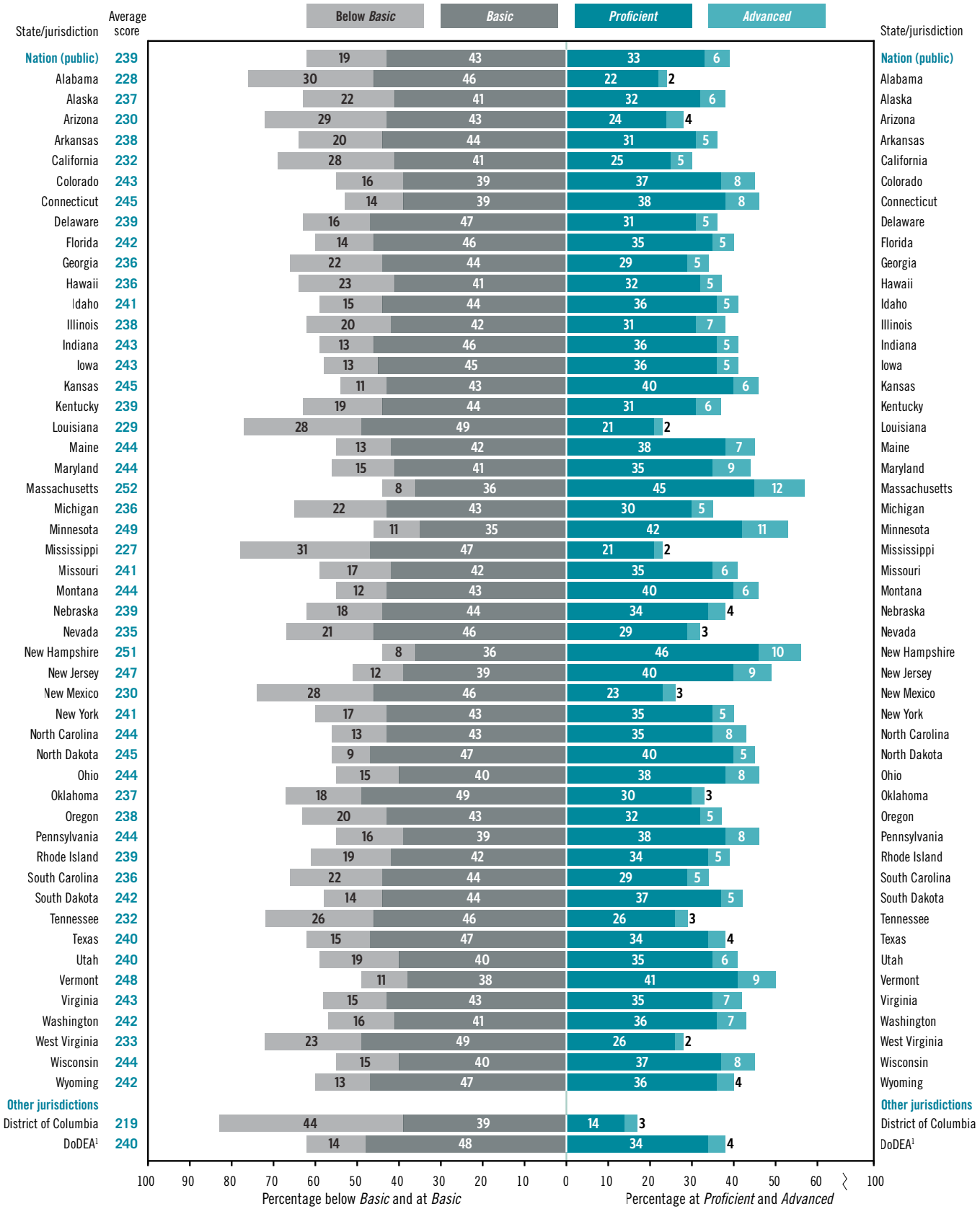
		Race/ethnicity				Gender		Eligibility for free/reduced-price school lunch	
State/jurisdiction	**Overall**	White	Black	Hispanic	Asian/Pacific Islander	Male	Female	Eligible	Not eligible
Nation (public)	♦	♦	♦	♦	♦	♦	♦	♦	♦
Colorado	▲	♦	♦	♦	♦	♦	♦	♦	♦
Delaware	▼	♦	▼	♦	♦	♦	▼	▼	♦
District of Columbia	▲	▲	▲	▲	‡	▲	▲	▲	▲
Indiana	▼	♦	♦	♦	‡	♦	♦	♦	♦
Kentucky	▲	♦	♦	♦	‡	▲	▲	▲	▲
Maryland	▲	♦	▲	♦	♦	♦	▲	▲	▲
Nevada	▲	♦	♦	▲	♦	▲	▲	▲	♦
New Hampshire	▲	♦	‡	♦	♦	♦	♦	♦	▲
Rhode Island	▲	▲	♦	♦	♦	▲	♦	♦	▲
Vermont	▲	♦	‡	‡	‡	♦	♦	♦	▲
West Virginia	▼	▼	♦	‡	‡	▼	▼	♦	♦
Wyoming	▼	▼	‡	♦	‡	♦	♦	♦	♦

▲ Score increased ▼ Score decreased ♦ No significant change

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.
NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Only states/jurisdictions that showed a significant change in overall scores between 2007 and 2009 are shown.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Mathematics Assessments.

Figure 11. Average scores and achievement-level results in NAEP mathematics for fourth-grade public school students, by state/jurisdiction: 2009



[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: The shaded bars are graphed using unrounded numbers. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table 3. Average scores in NAEP mathematics for fourth-grade public school students, by state/jurisdiction: Various years, 1992–2009

State/jurisdiction	Accommodations not permitted			Accommodations permitted				
	1992	1996	2000	2000	2003	2005	2007	2009
Nation (public)	**219***	**222***	**226***	**224***	**234***	**237***	**239**	**239**
Alabama	208*	212*	218*	217*	223*	225*	229	228
Alaska	—	224*	—	—	233*	236	237	237
Arizona	215*	218*	219*	219*	229	230	232	230
Arkansas	210*	216*	217*	216*	229*	236	238	238
California	208*	209*	214*	213*	227*	230	230	232
Colorado	221*	226*	—	—	235*	239*	240*	243
Connecticut	227*	232*	234*	234*	241*	242*	243	245
Delaware	218*	215*	—	—	236*	240	242*	239
Florida	214*	216*	—	—	234*	239*	242	242
Georgia	216*	215*	220*	219*	230*	234	235	236
Hawaii	214*	215*	216*	216*	227*	230*	234	236
Idaho	222*	—	227*	224*	235*	242	241	241
Illinois	—	—	225*	223*	233*	233*	237	238
Indiana	221*	229*	234*	233*	238*	240*	245*	243
Iowa	230*	229*	233*	231*	238*	240*	243	243
Kansas	—	—	232*	232*	242*	246	248	245
Kentucky	215*	220*	221*	219*	229*	231*	235*	239
Louisiana	204*	209*	218*	218*	226*	230	230	229
Maine	232*	232*	231*	230*	238*	241*	242	244
Maryland	217*	221*	222*	222*	233*	238*	240*	244
Massachusetts	227*	229*	235*	233*	242*	247*	252	252
Michigan	220*	226*	231*	229*	236	238	238	236
Minnesota	228*	232*	235*	234*	242*	246*	247	249
Mississippi	202*	208*	211*	211*	223*	227	228	227
Missouri	222*	225*	229*	228*	235*	235*	239	241
Montana	—	228*	230*	228*	236*	241*	244	244
Nebraska	225*	228*	226*	225*	236	238	238	239
Nevada	—	218*	220*	220*	228*	230*	232*	235
New Hampshire	230*	—	—	—	243*	246*	249*	251
New Jersey	227*	227*	—	—	239*	244	249	247
New Mexico	213*	214*	214*	213*	223*	224*	228	230
New York	218*	223*	227*	225*	236*	238*	243	241
North Carolina	213*	224*	232*	230*	242	241*	242	244
North Dakota	229*	231*	231*	230*	238*	243*	245	245
Ohio	219*	—	231*	230*	238*	242	245	244
Oklahoma	220*	—	225*	224*	229*	234*	237	237
Oregon	—	223*	227*	224*	236	238	236	238
Pennsylvania	224*	226*	—	—	236*	241	244	244
Rhode Island	215*	220*	225*	224*	230*	233*	236*	239
South Carolina	212*	213*	220*	220*	236	238*	237	236
South Dakota	—	—	—	—	237*	242	241	242
Tennessee	211*	219*	220*	220*	228*	232	233	232
Texas	218*	229*	233*	231*	237*	242	242	240
Utah	224*	227*	227*	227*	235*	239	239	240
Vermont	—	225*	232*	232*	242*	244*	246*	248
Virginia	221*	223*	230*	230*	239*	240	244	243
Washington	—	225*	—	—	238*	242	243	242
West Virginia	215*	223*	225*	223*	231	231	236*	233
Wisconsin	229*	231*	—	—	237*	241*	244	244
Wyoming	225*	223*	229*	229*	241	243	244*	242
Other jurisdictions								
District of Columbia	193*	187*	193*	192*	205*	211*	214*	219
DoDEA[1]	—	224*	228*	227*	237*	239*	240	240

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

* Significantly different ($p < .05$) from 2009 when only one state/jurisdiction or the nation is being examined.

[1] Department of Defense Education Activity (overseas and domestic schools).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Mathematics Assessments.

Assessment Content at Grade 4

To reflect a different emphasis across grade levels, the proportion of the mathematics assessment devoted to each of the five content areas varies by grade.

40%

Number properties and operations

These questions focus on computation with or understanding of whole numbers and common fractions and decimals.

20%

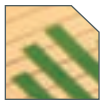
Measurement

These questions focus on customary units such as inch, quart, pound, and hour, and common metric units such as centimeter, liter, and gram, as well as the geometric attribute of length.

15%

Geometry

These questions focus on simple figures and their attributes, including plane figures such as triangles and circles and solid figures such as cubes and spheres.



10%

Data analysis, statistics, and probability

These questions focus on students' understanding of how data are collected and organized, how to read and interpret various representations of data, and basic concepts of probability.

15%

Algebra

These questions measure understanding of algebraic representation, patterns, and rules; graphing points on a line or a grid; and using symbols to represent unknown quantities.

Because the assessment covered a breadth of content and included more questions than any one student could reasonably answer, each student took just a portion of the assessment. The 159 questions that made up the entire fourth-grade assessment were divided into 10 sections, each containing between 15 and 19 questions, depending on the balance between multiple-choice and constructed-response questions. Each student responded to questions in just two 25-minute sections.

Some sections of the assessment incorporated the use of calculators, rulers, geometric shapes, or other manipulatives that were provided. Fourth-graders were provided with a four-function calculator to use on approximately 20 percent of the assessment.

NAEP Mathematics Achievement-Level Descriptions for Grade 4

The policy definitions of achievement levels provided in the Introduction apply to all NAEP subjects. The specific descriptions of what fourth-graders should know and be able to do at the *Basic*, *Proficient*, and *Advanced* mathematics achievement levels are presented below. NAEP achievement levels are cumulative; therefore, students performing at the *Proficient* level also display the competencies associated with the *Basic* level, and students at the *Advanced* level also demonstrate the skills and knowledge associated with both the *Basic* and the *Proficient* levels. The cut score indicating the lower end of the score range for each level is noted in parentheses.

Basic (214)

Fourth-grade students performing at the *Basic* level should show some evidence of understanding the mathematical concepts and procedures in the five NAEP content areas.

Fourth-graders performing at the *Basic* level should be able to estimate and use basic facts to perform simple computations with whole numbers; show some understanding of fractions and decimals; and solve some simple real-world problems in all NAEP content areas. Students at this level should be able to use—although not always accurately—four-function calculators, rulers, and geometric shapes. Their written responses are often minimal and presented without supporting information.

Proficient (249)

Fourth-grade students performing at the *Proficient* level should consistently apply integrated procedural knowledge and conceptual understanding to problem solving in the five NAEP content areas.

Fourth-graders performing at the *Proficient* level should be able to use whole numbers to estimate, compute, and determine whether results are reasonable. They should have a conceptual understanding of fractions and decimals; be able to solve real-world problems in all NAEP content areas; and use four-function calculators, rulers, and geometric shapes appropriately. Students performing at the *Proficient* level should employ problem-solving strategies such as identifying and using appropriate information. Their written solutions should be organized and presented both with supporting information and explanations of how they were achieved.

Advanced (282)

Fourth-grade students performing at the *Advanced* level should apply integrated procedural knowledge and conceptual understanding to complex and nonroutine real-world problem solving in the five NAEP content areas.

Fourth-graders performing at the *Advanced* level should be able to solve complex nonroutine real-world problems in all NAEP content areas. They should display mastery in the use of four-function calculators, rulers, and geometric shapes. These students are expected to draw logical conclusions and justify answers and solution processes by explaining why, as well as how, they were achieved. They should go beyond the obvious in their interpretations and be able to communicate their thoughts clearly and concisely.

What Fourth-Graders Know and Can Do in Mathematics

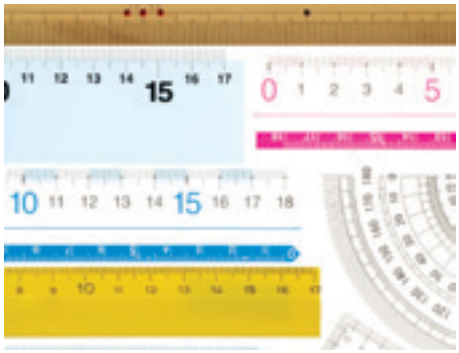
The item map below is useful for understanding performance at different levels on the NAEP scale. The scale scores on the left represent the average scores for students who were likely to get the items correct. The cut score at the lower end of the range for each achievement level is boxed. The descriptions of selected assessment questions are listed on the right along with the corresponding mathematics content areas.

For example, the map on this page shows that fourth-graders performing in the middle of the *Basic* range (students with an average score of 230) were likely to be able to use place value to write a number. Students performing in the middle of the *Proficient* range (with an average score of 265) were likely to be able to divide a three-digit number by a one-digit number.

GRADE 4 NAEP MATHEMATICS ITEM MAP

	Scale score	Content area	Question description
	500		
	~		
Advanced	300	**Data analysis, statistics, and probability**	*Find the median price from a table*
	299	**Algebra**	*Identify the expression that models a scenario*
	295	**Geometry**	*Identify parallel and perpendicular lines*
	291	**Number properties and operations**	*Solve a story problem involving remainders*
	288	**Measurement**	Indicate measurements on a ruler
	288	**Number properties and operations**	*Identify the fraction closest to the given value*
	285	**Algebra**	Reason using equivalences to make and explain a conclusion (calculator available)
	282		
Proficient	281	**Number properties and operations**	*Identify a pictorial representation of equivalent fractions*
	277	**Geometry**	Plot points on a grid to satisfy the given conditions (**shown on page 21**)
	273	**Number properties and operations**	Reason about odd and even numbers
	270	**Data analysis, statistics, and probability**	*Read and interpret a line graph*
	265	**Number properties and operations**	*Divide a three-digit number by a one-digit number*
	257	**Measurement**	*Identify the figure with the greatest area on a grid*
	252	**Geometry**	*Identify the shape of a shaded region*
	250	**Data analysis, statistics, and probability**	*Determine the probability of a particular event*
	249		
Basic	246	**Measurement**	*Solve a story problem involving quarts and cups*
	243	**Number properties and operations**	*Subtract a two-digit number from a three-digit number* (**shown on page 20**)
	241	**Algebra**	*Determine the missing shapes in a pattern*
	237	**Number properties and operations**	*Determine a ratio from a diagram*
	233	**Algebra**	Determine the value of an unknown in a number sentence
	230	**Number properties and operations**	Use place value to write a number
	228	**Geometry**	*Determine how many given pieces cover a shape*
	222	**Number properties and operations**	Represent the same whole number in different ways
	222	**Data analysis, statistics, and probability**	Make a pictograph of the given information
	214		
	207	**Number properties and operations**	*Recognize the result of multiplying by 10*
	205	**Number properties and operations**	*Compute the product of a two-digit number and a one-digit number*
	202	**Measurement**	*Identify an appropriate unit for measuring length* (calculator available)
	199	**Algebra**	*Find the unknown in a whole number sentence*
	188	**Number properties and operations**	*Compute a value using multiplication and division* (calculator available)
	183	**Geometry**	*Identify the figure that is not symmetric* (calculator available)
	176	**Measurement**	*Identify the appropriate measuring device*
	~		
	0		

NOTE: Regular type denotes a constructed-response question. *Italic* type denotes a multiple-choice question. The position of a question on the scale represents the average score attained by students who had a 65 percent probability of successfully answering a constructed-response question, or a 74 percent probability of correctly answering a four-option multiple-choice question. For constructed-response questions, the question description represents students' performance rated as completely correct. Scale score ranges for mathematics achievement levels are referenced on the map.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.



Sample Question: Number Properties and Operations

This sample question from the 2009 fourth-grade assessment measures students' performance in the number properties and operations content area. The question asks students to subtract a two-digit number from a three-digit number, which requires regrouping to obtain the correct answer of 226 (Choice A). Students were not permitted to use a calculator to answer this question.

Approximately two-thirds (67 percent) of fourth-grade students answered correctly. The most common incorrect answer (Choice C), which was selected by 14 percent of the students, is a place-value error that can result from incorrect regrouping in the ten's place. The average score for students likely to select the correct answer was 243 on the item map.

SAMPLE QUESTION:

$$\begin{array}{r} 301 \\ -75 \\ \hline \end{array}$$

(A) 226
(B) 235
(C) 236
(D) 374

Percentage of fourth-grade students in each response category: 2009

Choice A	Choice B	Choice C	Choice D	Omitted
67	5	14	11	2

NOTE: Detail may not sum to totals because of rounding.

The table below shows the percentage of fourth-graders within each achievement level who answered this question correctly. For example, 64 percent of fourth-graders at the *Basic* level selected the correct answer choice.

Percentage correct for fourth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
67	33	64	85	94

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Sample Question: Geometry

This sample constructed-response question measures fourth-graders' performance in the geometry content area. It is a multistep problem that requires students to plot and identify points in the plane, and to use visualization skills to determine additional points that could be connected to form a rectangle. Students were not permitted to use a calculator to answer this question. Student responses to this question were rated using five scoring levels.

Extended responses
- correctly plotted the three given points, (B,1), (B,3), and (D,5),
- correctly plotted three other points that formed a rectangle and gave their coordinates, and
- connected the dots to form a rectangle.

Satisfactory responses met all of the criteria for an extended rating, but contained a minor error or omission.

Partial responses correctly plotted the three given points and partially plotted three other points that formed a rectangle and gave their coordinates.

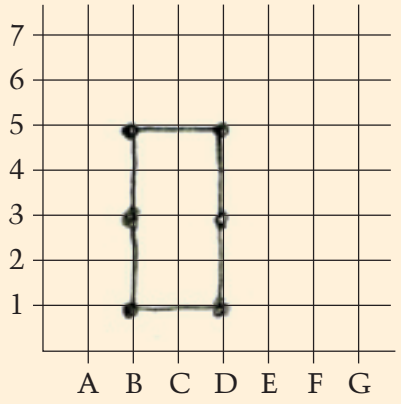
Minimal responses plotted three points clearly (either the given points, the new points, or some combination), or partially met one of the criteria specified for an extended rating.

All other responses were rated as **incorrect**.

The sample student response shown on the right was rated as "Extended" because it correctly answered all parts of the question. Twenty-seven percent of fourth-graders' responses to this question received an "Extended" rating. The average score for students likely to provide "Extended" responses was 277 on the item map.

SAMPLE QUESTION:

On the grid below, plot the points that have coordinates (B, 1), (B, 3), and (D, 5).

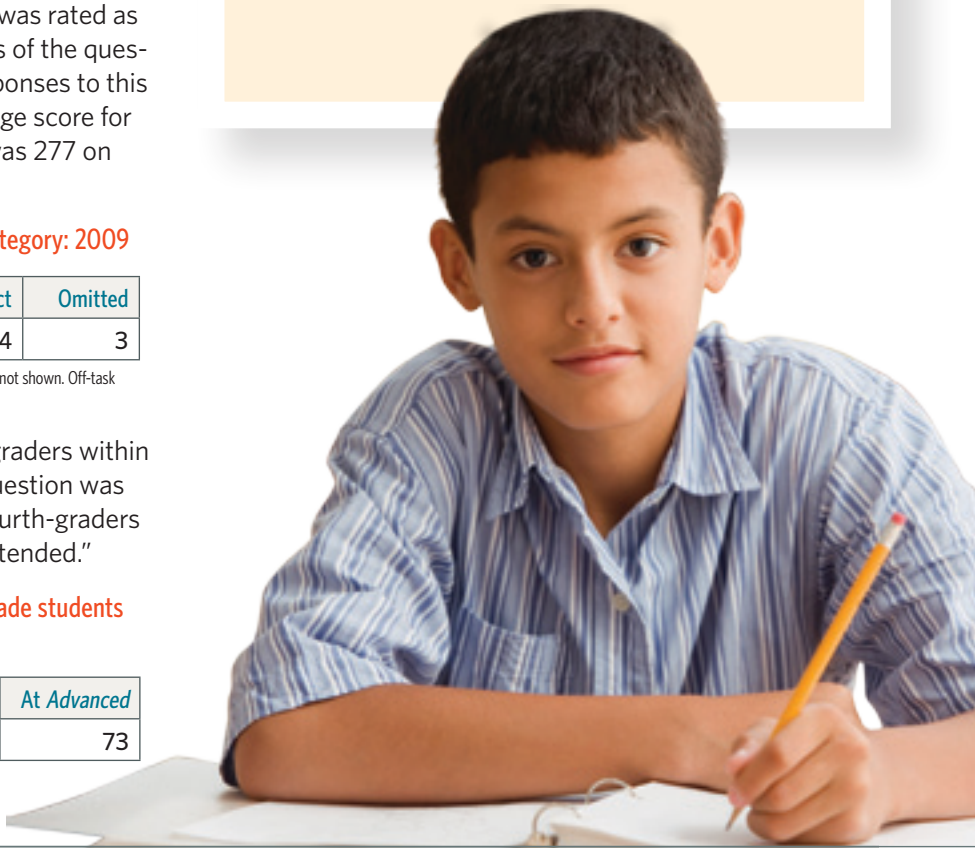


Plot 3 more points on the grid so that when you connect all 6 points you will make a rectangle.

List the coordinates for the 3 new points.

(B,5) (D,3) (D,1)

Connect the 6 points to show your rectangle.



Percentage of fourth-grade students in each response category: 2009

Extended	Satisfactory	Partial	Minimal	Incorrect	Omitted
27	10	3	32	24	3

NOTE: Detail may not sum to totals because the percentage of responses rated as "Off-task" is not shown. Off-task responses are those that do not provide any information related to the assessment task.

The table below shows the percentage of fourth-graders within each achievement level whose response to this question was rated as "Extended." For example, 16 percent of fourth-graders at the *Basic* level provided a response rated as "Extended."

Percentage of answers rated as "Extended" for fourth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
27	2	16	46	73

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

GRADE 8

Eighth-graders' performance continues to improve

Improvement in mathematics performance at grade 8 continued into 2009. The national average mathematics score for eighth-graders was higher in 2009 than in all previous assessment years. Scores also increased from 2007 to 2009 in 15 states, and no states showed a decline.

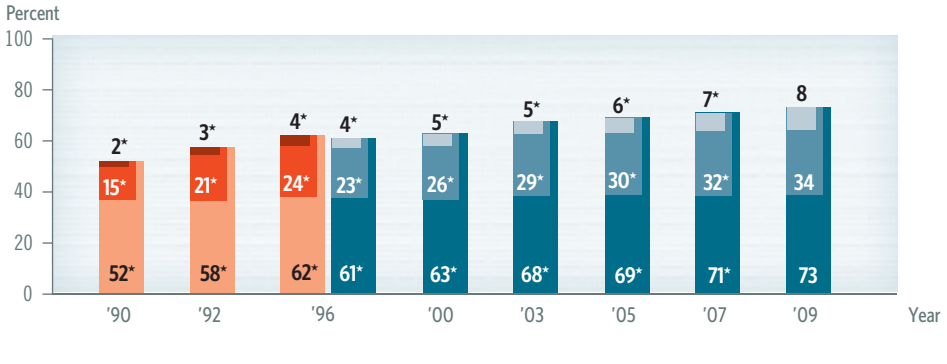
Figure **12.** Trend in eighth-grade NAEP mathematics average scores

* Significantly different ($p < .05$) from 2009.

Figure **13.** Trend in eighth-grade NAEP mathematics percentile scores

* Significantly different ($p < .05$) from 2009.

Figure **14.** Trend in eighth-grade NAEP mathematics achievement-level performance



* Significantly different ($p < .05$) from 2009.

Eighth-graders post highest score to date

Eighth-graders scored higher in mathematics in 2009 than in any previous assessment year. The upward trend continued with a 2-point increase since 2007 (figure **12**). These results reflect the performance of eighth-grade students nationally (i.e., those in both public and private schools).

Percentile scores were higher in 2009 than in 2007 for all but the lowest-performing students (those at the 10th percentile), where there was no significant change in the score since the last assessment (figure **13**).

Gains consistent across performance levels

Improvement was also seen in the achievement-level results. The percentages of students performing at or above *Basic*, at or above *Proficient*, and at *Advanced* all showed increases of 1 to 2 percentage points from 2007 to 2009 (figure **14**).

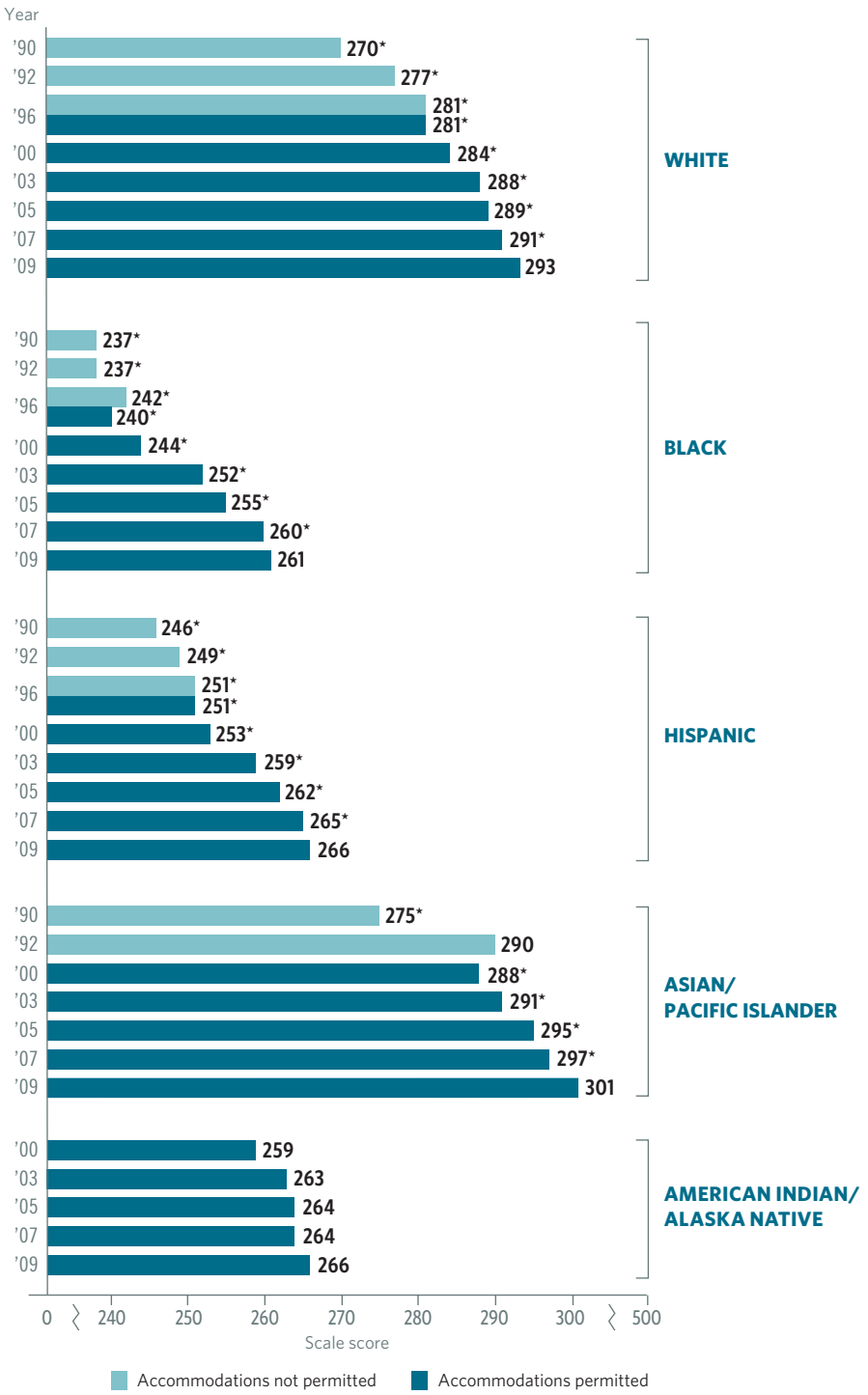
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Most racial/ethnic groups continue to make gains

Most racial/ethnic groups made gains since 2007 (figure **15**). Average scores for White, Black, Hispanic, and Asian/Pacific Islander students were higher in 2009 than in 2007. The score in 2009 for American Indian/Alaska Native students was not found to be significantly different from the scores in any of the earlier assessments.

In 2009, both White and Asian/Pacific Islander students scored higher on average than Black, Hispanic, and American Indian/Alaska Native students. The average score for Asian/Pacific Islander students was also 8 points higher than the score for White students.

Figure **15.** Trend in eighth-grade NAEP mathematics average scores, by race/ethnicity

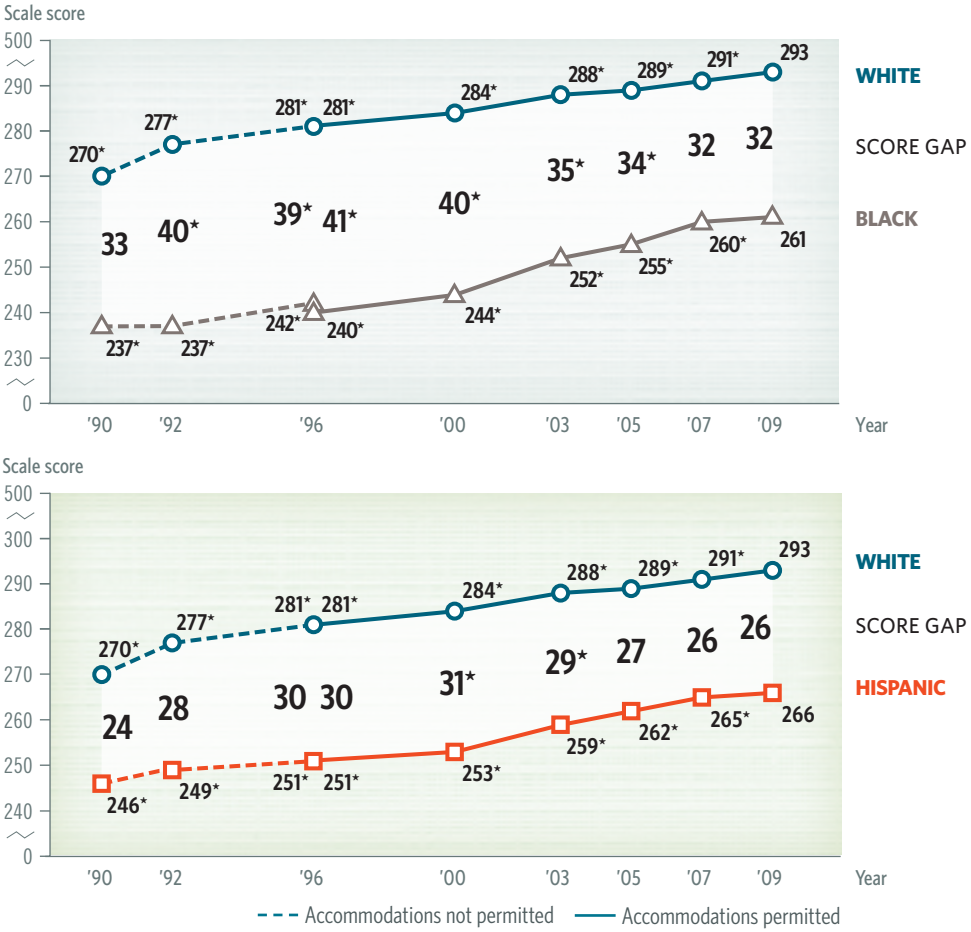


* Significantly different ($p < .05$) from 2009.

NOTE: Special analysis raised concerns about the accuracy and precision of the results for Asian/Pacific Islander students in 1996; therefore, they are omitted from this figure. Sample sizes were insufficient to permit reliable estimates for American Indian/Alaska Native students in 1990, 1992, and 1996. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Figure **16.** Trend in eighth-grade NAEP mathematics average scores and score gaps, by selected racial/ethnic groups



* Significantly different ($p < .05$) from 2009.
NOTE: Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin. Score gaps are calculated based on differences between unrounded average scores.

Racial/ethnic gaps persist

Significant score gaps persisted between White students and their Black and Hispanic peers in 2009. Because all three racial/ethnic groups have made progress, neither the White – Black nor the White – Hispanic score gap in 2009 was significantly different from the corresponding gaps in 2007 or 1990 (figure **16**).

Achievement-Level Results

Information is available on achievement-level results for racial/ethnic groups and other reporting categories at http://nationsreportcard.gov/math_2009/.

Table **4.** Percentage of students assessed in eighth-grade NAEP mathematics, by race/ethnicity: Various years, 1990–2009

Race/ethnicity	1990[1]	1992[1]	1996	2000	2003	2005	2007	2009
White	73*	73*	69*	65*	63*	61*	59*	58
Black	16	16*	17	16	16*	16*	16*	15
Hispanic	7*	8*	10*	13*	15*	16*	18*	20
Asian/Pacific Islander	2*	2*	‡	4*	4*	5*	5	5
American Indian/ Alaska Native	1	1	1	2	1	1	1*	1

‡ Reporting standards not met. Special analysis raised concerns about the accuracy and precision of the results for Asian/Pacific Islander students in 1996; therefore, they are omitted from this table.
* Significantly different ($p < .05$) from 2009.
[1] Accommodations were not permitted in this assessment year.
NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. The percentage of American Indian/Alaska Native students in 2007 (1.27) was significantly different from the percentage in 2009 (1.11). Detail may not sum to totals because results are not shown for students whose race/ethnicity was unclassified.

The percentage of White students decreased from 59 percent in 2007 to 58 percent in 2009, and the percentage of Black students decreased from 16 to 15 percent (table **4**). In contrast, the percentage of Hispanic students increased from 18 to 20 percent over the same period. In comparison to 1990, the percentage of White students was lower in 2009, and the percentages of Hispanic and Asian/Pacific Islander students were higher.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Scores increase for both male and female students

Average mathematics scores increased from 2007 to 2009 for both male and female students (figure **17**). Because the increases since 2007 were comparable for both groups, the 2-point score gap between male and female students in 2009 was not significantly different from the gap in 2007.

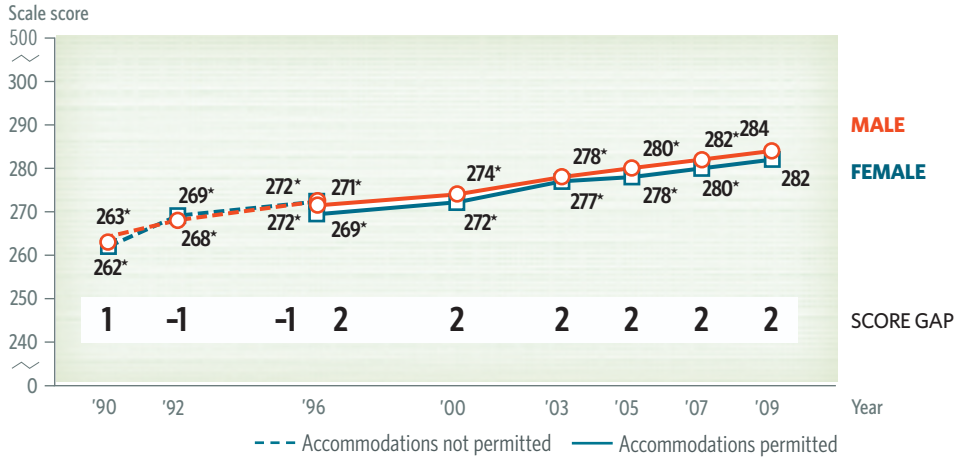
Public and Catholic school students make gains since 2007

The average mathematics score for eighth-graders attending public school was 2 points higher in 2009 than in 2007 (figure **18**). While there was no significant change from 2007 to 2009 in the average score for students attending private schools overall, there was an increase in the score for students attending Catholic schools.

Although the average scores for public and private school students in 2009 were both higher than in 1990, the 14-point gap between the two groups in 2009 was not significantly different from the gap in any of the previous assessment years in which results were reported for both groups.

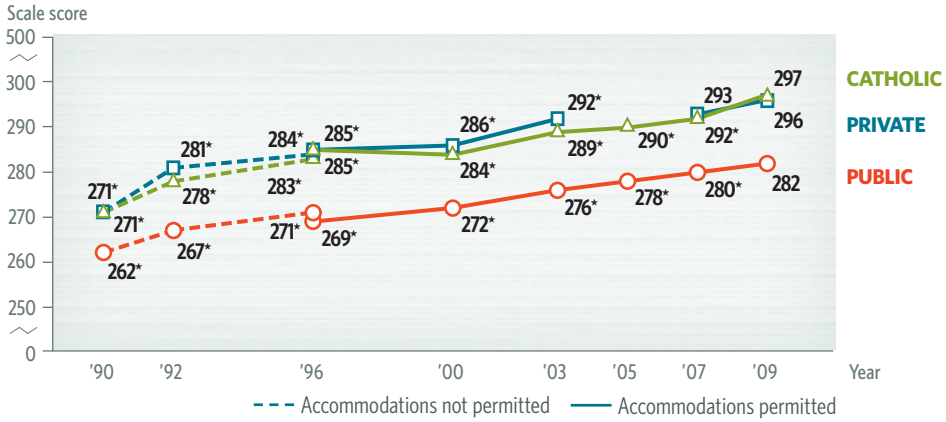
Ninety-one percent of eighth-graders attended public schools in 2009, and 9 percent attended private schools, including 5 percent in Catholic schools. The proportions of students attending public and private schools have not changed significantly in comparison to either 2007 or 1990.

Figure 17. Trend in eighth-grade NAEP mathematics average scores and score gaps, by gender



* Significantly different ($p < .05$) from 2009.
NOTE: Score gaps are calculated based on differences between unrounded average scores. Score differences were not found to be statistically significant in 1990, 1992, 1996, and 2000. Score gaps reflect the average scores for male students minus the scores for female students.

Figure 18. Trend in eighth-grade NAEP mathematics average scores, by type of school



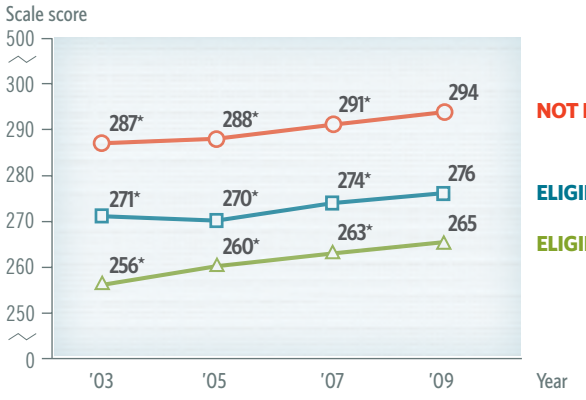
* Significantly different ($p < .05$) from 2009.
NOTE: Private schools include Catholic, other religious, and nonsectarian private schools. Results are not shown for private schools in 2005 because the participation rates fell below the required standards for reporting.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Scores increase across income levels

Scores were higher in 2009 than in 2007 both for students who were eligible for free and reduced-price school lunch, as well as for students who were not eligible (figure 19). As was seen in the results for grade 4, eighth-graders who were not eligible for free or reduced-price school lunch scored higher on average than those who were eligible, and students eligible for reduced-price lunch scored higher than those eligible for free lunch.

Figure 19. Trend in eighth-grade NAEP mathematics average scores, by eligibility for free or reduced-price school lunch



* Significantly different ($p < .05$) from 2009.

Table 5. Percentage of students assessed in eighth-grade NAEP mathematics, by eligibility for free or reduced-price school lunch: Various years, 2003–09

Eligibility status	2003	2005	2007	2009
Eligible for free lunch	26*	29*	32*	34
Eligible for reduced-price lunch	7*	7*	6	6
Not eligible	55*	56*	55*	54
Information not available	11*	8*	7	7

* Significantly different ($p < .05$) from 2009.
NOTE: Detail may not sum to totals because of rounding.

About 40 percent of eighth-graders were eligible for free or reduced-price school lunch in 2009 (table 5). Since 2007, the percentage of students who were eligible for free lunch increased by 2 percentage points, while the percentage of students who were not eligible decreased by 1 percentage point.

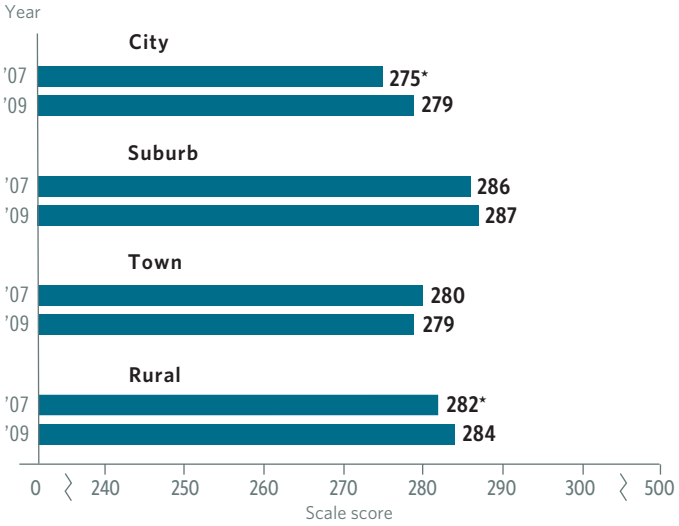
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 2003–09 Mathematics Assessments.

Scores increase for students in city and rural schools

Students' performance on the mathematics assessment differed based on the location of the schools they attended. In 2009, students attending schools in suburban locations scored the highest on average (figure **20**). Those in rural schools scored higher on average than students attending schools in cities and towns. See the Technical Notes for more information on how these school location categories were defined.

Score gains since 2007 varied by school location. Average scores were higher in 2009 than in 2007 for students attending schools in city and rural locations, but showed no significant change for students whose schools were located in suburbs or towns.

Figure **20.** Average scores in eighth-grade NAEP mathematics, by school location: 2007 and 2009



* Significantly different ($p < .05$) from 2009.

Table **6.** Percentage of students assessed in eighth-grade NAEP mathematics, by school location: 2007 and 2009

School location	2007	2009
City	29	29
Suburb	37	37
Town	13	13
Rural	21	22

NOTE: Detail may not sum to totals because of rounding.

In 2009, a higher proportion of eighth-graders (37 percent) attended schools in suburban locations than in other locations (table **6**). The proportion of students in each type of location has remained stable over time, with no significant changes detected in the percentages of students attending schools in any of the four categories from 2007 to 2009.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Mathematics Assessments.

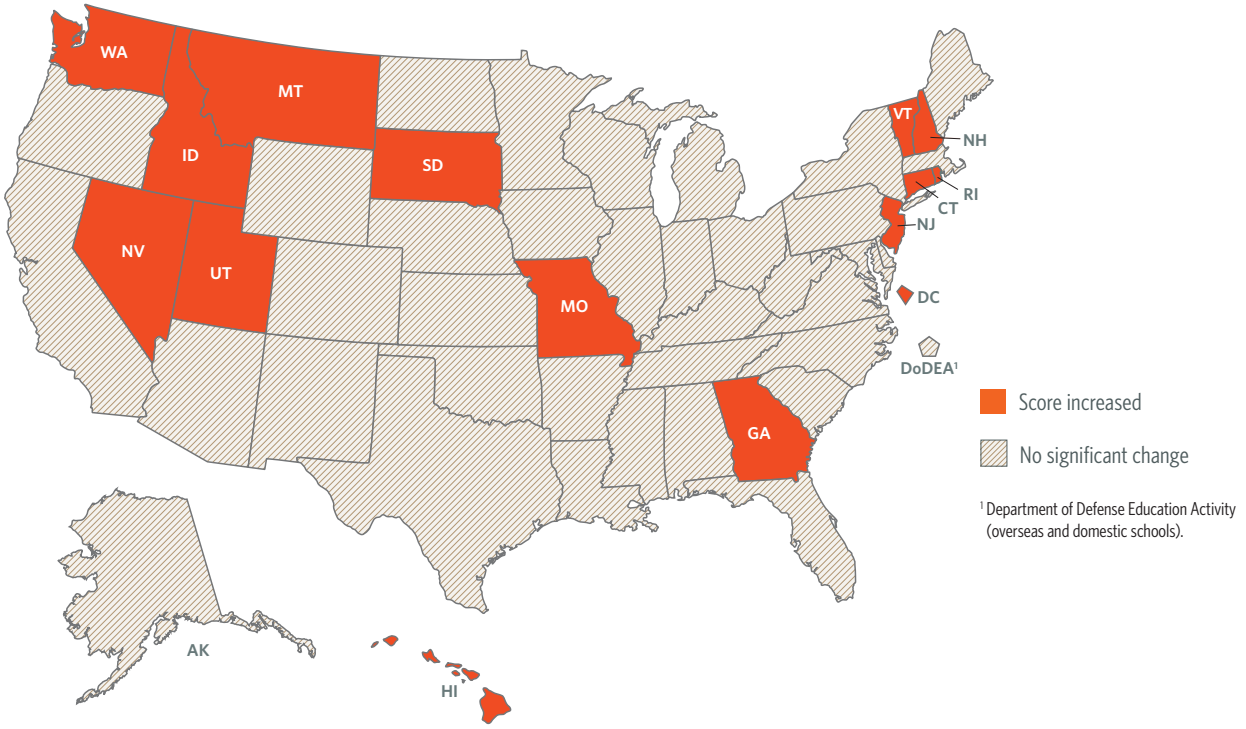
State Performance at Grade 8

All 50 states, the District of Columbia, and Department of Defense schools participated in the 2009 mathematics assessment. These 52 states and jurisdictions are all referred to as "states" in the following summary of results. State results are also available for seven earlier assessments at grade 8. While all states participated in the assessments since 2003, not all have participated or met the criteria for reporting in earlier assessment years.

Scores increase since 2007 for public school students in 15 states, and no states show a decline

The map shown below highlights changes in states' average mathematics scores from 2007 to 2009 at grade 8 (figure **21**). While the overall average score for eighth-grade public school students in the nation was higher in 2009 than in 2007, increases were seen in less than one-third of the states. Scores were higher in 2009 than in 2007 for 15 states, and scores showed no significant change in the remaining states. No states showed a decline since 2007. In comparison to the results in 1990, scores were higher in 2009 for all 38 states that participated in both years.

Figure **21.** Changes in eighth-grade NAEP mathematics average scores between 2007 and 2009



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Mathematics Assessments.

A Closer Look at State Results

Not all student groups made gains in states where overall eighth-grade mathematics scores increased from 2007 to 2009. Results by students' eligibility for free/reduced-price school lunch showed higher scores in 2009 than in 2007 both for students who were eligible and for those who were not eligible in 6 of the 15 states shown in figure **22** with overall score gains. Scores increased just for eligible students in Nevada, and just for students who were not eligible in Hawaii, Idaho, South Dakota, Vermont, and Washington.

Although not shown here, among the 37 states where mathematics scores showed no significant change since 2007, scores increased for students who were eligible for the school lunch program in Florida, and for students who were not eligible in Arizona, Arkansas, Maryland, Minnesota, North Dakota, and Wisconsin.

Additional state results for grade 8 are provided in figure **23**, table **7**, and appendix tables **A-17** through **A-24**.

Figure **22.** Change in eighth-grade NAEP mathematics average scores between 2007 and 2009, by selected student groups and state/jurisdiction

		Race/ethnicity				Gender		Eligibility for free/reduced-price school lunch	
State/jurisdiction	Overall	White	Black	Hispanic	Asian/ Pacific Islander	Male	Female	Eligible	Not eligible
Nation (public)	▲	▲	◆	◆	◆	▲	▲	▲	▲
Connecticut	▲	▲	◆	◆	◆	▲	▲	▲	▲
District of Columbia	▲	‡	▲	▲	‡	◆	▲	▲	▲
Georgia	▲	◆	◆	◆	‡	◆	▲	◆	◆
Hawaii	▲	◆	‡	◆	▲	▲	▲	◆	▲
Idaho	▲	▲	‡	◆	‡	▲	▲	◆	▲
Missouri	▲	◆	◆	▲	‡	▲	▲	▲	▲
Montana	▲	▲	‡	‡	‡	▲	▲	▲	▲
Nevada	▲	▲	◆	▲	◆	▲	▲	▲	◆
New Hampshire	▲	▲	‡	◆	‡	▲	▲	▲	▲
New Jersey	▲	◆	◆	◆	◆	▲	◆	◆	◆
Rhode Island	▲	◆	◆	◆	◆	◆	◆	▲	▲
South Dakota	▲	▲	‡	◆	‡	◆	◆	◆	▲
Utah	▲	▲	‡	◆	◆	◆	◆	◆	◆
Vermont	▲	◆	‡	‡	‡	◆	◆	◆	▲
Washington	▲	▲	◆	◆	▲	▲	◆	◆	▲

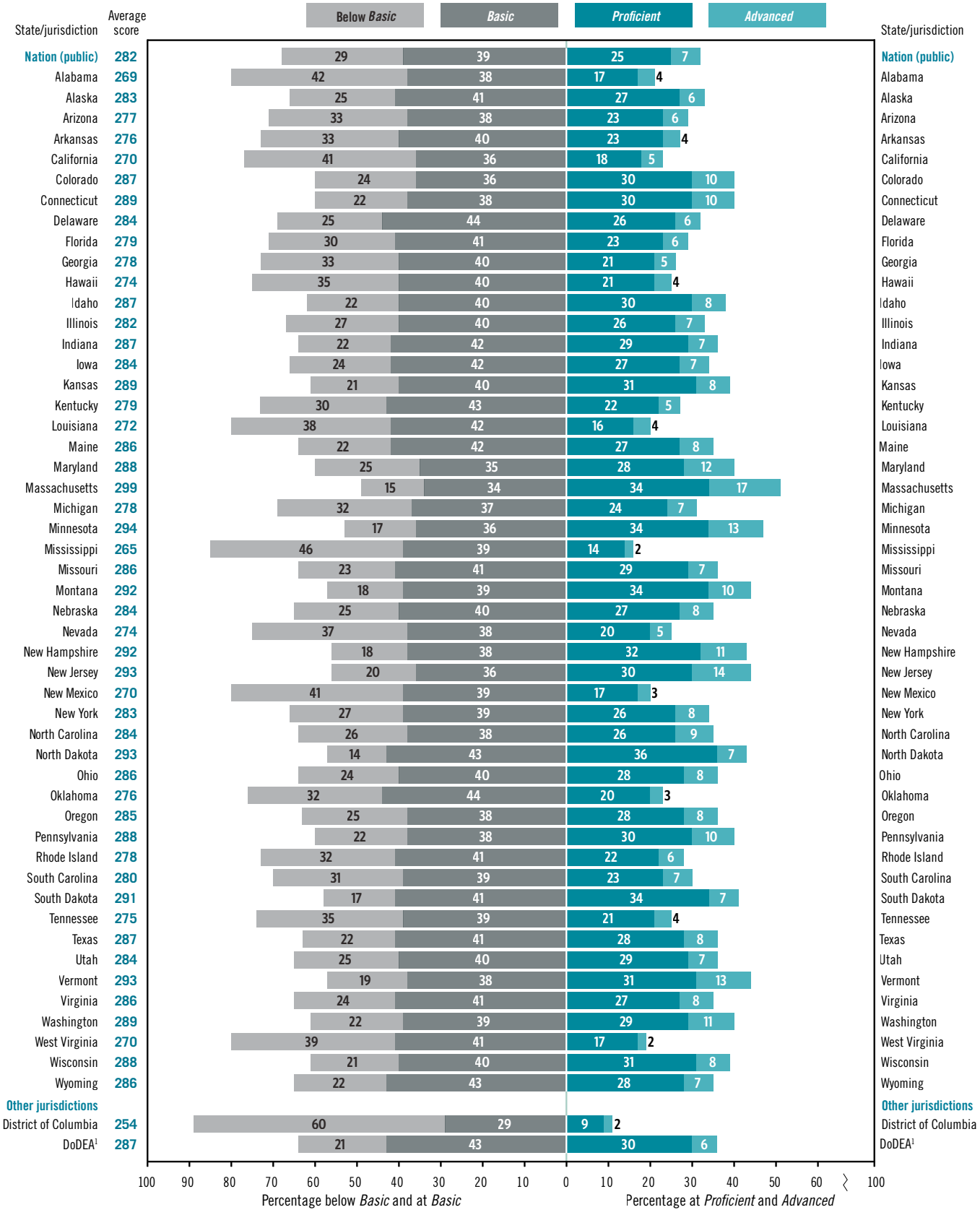
▲ Score increased ◆ No significant change

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Only states/jurisdictions that showed a significant change in overall scores between 2007 and 2009 are shown.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Mathematics Assessments.

Figure **23.** Average scores and achievement-level results in NAEP mathematics for eighth-grade public school students, by state/jurisdiction: 2009



[1] Department of Defense Education Activity (overseas and domestic schools).
NOTE: The shaded bars are graphed using unrounded numbers. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table 7. Average scores in NAEP mathematics for eighth-grade public school students, by state/jurisdiction: Various years, 1990–2009

State/jurisdiction	Accommodations not permitted				Accommodations permitted				
	1990	1992	1996	2000	2000	2003	2005	2007	2009
Nation (public)	**262***	**267***	**271***	**274***	**272***	**276***	**278***	**280***	**282**
Alabama	253*	252*	257*	262*	264*	262*	262*	266	269
Alaska	—	—	278*	—	—	279*	279*	283	283
Arizona	260*	265*	268*	271*	269*	271*	274	276	277
Arkansas	256*	256*	262*	261*	257*	266*	272*	274	276
California	256*	261*	263*	262*	260*	267	269	270	270
Colorado	267*	272*	276*	—	—	283*	281*	286	287
Connecticut	270*	274*	280*	282*	281*	284*	281*	282*	289
Delaware	261*	263*	267*	—	—	277*	281*	283	284
Florida	255*	260*	264*	—	—	271*	274*	277	279
Georgia	259*	259*	262*	266*	265*	270*	272*	275*	278
Hawaii	251*	257*	262*	263*	262*	266*	266*	269*	274
Idaho	271*	275*	—	278*	277*	280*	281*	284*	287
Illinois	261*	—	—	277*	275*	277*	278*	280	282
Indiana	267*	270*	276*	283*	281*	281*	282*	285	287
Iowa	278*	283	284	—	—	284	284	285	284
Kansas	—	—	—	284*	283*	284*	284*	290	289
Kentucky	257*	262*	267*	272*	270*	274*	274*	279	279
Louisiana	246*	250*	252*	259*	259*	266*	268*	272	272
Maine	—	279*	284	284	281*	282*	281*	286	286
Maryland	261*	265*	270*	276*	272*	278*	278*	286	288
Massachusetts	—	273*	278*	283*	279*	287*	292*	298	299
Michigan	264*	267*	277	278	277	276	277	277	278
Minnesota	275*	282*	284*	288*	287*	291*	290*	292	294
Mississippi	—	246*	250*	254*	254*	261*	262	265	265
Missouri	—	271*	273*	274*	271*	279*	276*	281*	286
Montana	280*	—	283*	287*	285*	286*	286*	287*	292
Nebraska	276*	278*	283	281*	280*	282	284	284	284
Nevada	—	—	—	268*	265*	268*	270*	271*	274
New Hampshire	273*	278*	—	—	—	286*	285*	288*	292
New Jersey	270*	272*	—	—	—	281*	284*	289*	293
New Mexico	256*	260*	262*	260*	259*	263*	263*	268	270
New York	261*	266*	270*	276*	271*	280	280	280	283
North Carolina	250*	258*	268*	280*	276*	281	282	284	284
North Dakota	281*	283*	284*	283*	282*	287*	287*	292	293
Ohio	264*	268*	—	283	281*	282*	283	285	286
Oklahoma	263*	268*	—	272*	270*	272*	271*	275	276
Oregon	271*	—	276*	281*	280*	281*	282	284	285
Pennsylvania	266*	271*	—	—	—	279*	281*	286	288
Rhode Island	260*	266*	269*	273*	269*	272*	272*	275*	278
South Carolina	—	261*	261*	266*	265*	277	281	282	280
South Dakota	—	—	—	—	—	285*	287*	288*	291
Tennessee	—	259*	263*	263*	262*	268*	271*	274	275
Texas	258*	265*	270*	275*	273*	277*	281*	286	287
Utah	—	274*	277*	275*	274*	281*	279*	281*	284
Vermont	—	—	279*	283*	281*	286*	287*	291*	293
Virginia	264*	268*	270*	277*	275*	282*	284	288	286
Washington	—	—	276*	—	—	281*	285*	285*	289
West Virginia	256*	259*	265*	271	266*	271	269	270	270
Wisconsin	274*	278*	283*	—	—	284*	285*	286	288
Wyoming	272*	275*	275*	277*	276*	284*	282*	287	286
Other jurisdictions									
District of Columbia	231*	235*	233*	234*	235*	243*	245*	248*	254
DoDEA[1]	—	—	274*	278*	277*	285*	284*	285	287

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

* Significantly different ($p < .05$) from 2009 when only one state/jurisdiction or the nation is being examined.

[1] Department of Defense Education Activity (overseas and domestic schools).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Assessment Content at Grade 8

The distribution of items among the five content areas reflects the relative emphasis in each area specified in the mathematics framework for each grade.

20%

Number properties and operations

These questions measure computation with rational and common irrational numbers, and ratios and proportions.

15%

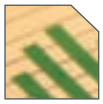
Measurement

These questions focus on the use of square units for measuring area and surface area, cubic units for measuring volume, degrees for measuring angles, and rates.

20%

Geometry

These questions focus on properties of plane figures, especially parallel and perpendicular lines, angle relations in polygons, cross sections of solids, and the Pythagorean theorem.



15%

Data analysis, statistics, and probability

These questions focus on organizing and summarizing data (including tables, charts, and graphs), analyzing statistical claims, and probability.

30%

Algebra

These questions measure understanding of patterns and functions; algebraic expressions, equations, and inequalities; and algebraic representations, including graphs.

The 159 questions that made up the entire eighth-grade mathematics assessment were divided into 10 sections, each containing between 14 and 18 questions, depending on the balance between multiple-choice and constructed-response questions. Each student responded to questions in just two 25-minute sections.

Some sections incorporated the use of a calculator, ruler/protractor, geometric shapes, or other manipulatives that were provided. Eighth-graders were permitted to use their own scientific or graphing calculator or were provided with a scientific calculator to use on approximately 30 percent of the assessment.

NAEP Mathematics Achievement-Level Descriptions for Grade 8

The policy definitions of achievement levels provided in the Introduction apply to all NAEP subjects. The specific descriptions of what eighth-graders should know and be able to do at the *Basic*, *Proficient*, and *Advanced* mathematics achievement levels are presented below. NAEP achievement levels are cumulative; therefore, students performing at the *Proficient* level also display the competencies associated with the *Basic* level, and students at the *Advanced* level also demonstrate the skills and knowledge associated with both the *Basic* and the *Proficient* levels. The cut score indicating the lower end of the score range for each level is noted in parentheses.

Basic (262)

Eighth-grade students performing at the *Basic* level should exhibit evidence of conceptual and procedural understanding in the five NAEP content areas. This level of performance signifies an understanding of arithmetic operations—including estimation—on whole numbers, decimals, fractions, and percents.

Eighth-graders performing at the *Basic* level should complete problems correctly with the help of structural prompts such as diagrams, charts, and graphs. They should be able to solve problems in all NAEP content areas through the appropriate selection and use of strategies and technological tools—including calculators, computers, and geometric shapes. Students at this level also should be able to use fundamental algebraic and informal geometric concepts in problem solving.

As they approach the *Proficient* level, students at the *Basic* level should be able to determine which of the available data are necessary and sufficient for correct solutions and use them in problem solving. However, these eighth-graders show limited skill in communicating mathematically.

Proficient (299)

Eighth-grade students performing at the *Proficient* level should apply mathematical concepts and procedures consistently to complex problems in the five NAEP content areas.

Eighth-graders performing at the *Proficient* level should be able to conjecture, defend their ideas, and give supporting examples. They should understand the connections among fractions, percents, decimals, and other mathematical topics such as algebra and functions. Students at this level are expected to have a thorough understanding of *Basic* level arithmetic operations—an understanding sufficient for problem solving in practical situations.

Quantity and spatial relationships in problem solving and reasoning should be familiar to them, and they should be able to convey underlying reasoning skills beyond the level of arithmetic. They should be able to compare and contrast mathematical ideas and generate their own examples. These students should make inferences from data and graphs; apply properties of informal geometry; and accurately use the tools of technology. Students at this level should understand the process of gathering and organizing data and be able to calculate, evaluate, and communicate results within the domain of statistics and probability.

Advanced (333)

Eighth-grade students performing at the *Advanced* level should be able to reach beyond the recognition, identification, and application of mathematical rules in order to generalize and synthesize concepts and principles in the five NAEP content areas.

Eighth-graders performing at the *Advanced* level should be able to probe examples and counterexamples in order to shape generalizations from which they can develop models. Eighth-graders performing at the *Advanced* level should use number sense and geometric awareness to consider the reasonableness of an answer. They are expected to use abstract thinking to create unique problem-solving techniques and explain the reasoning processes underlying their conclusions.

What Eighth-Graders Know and Can Do in Mathematics

The item map below illustrates the range of mathematical knowledge and skills demonstrated by eighth-graders. The scale scores on the left represent the average scores for students who were likely to get the items correct. The cut score at the lower end of the range for each achievement level is boxed. The descriptions of selected assessment questions are listed on the right along with the corresponding mathematics content areas.

For example, students performing near the middle of the *Basic* range (with an average score of 285) were likely to be able to determine the possible dimensions of a rectangle, given the area. Students performing near the top of the *Proficient* range (with an average score of 332) were likely to be able to set up and solve an algebraic equation.

GRADE 8 NAEP MATHEMATICS ITEM MAP

	Scale score	Content area	Question description
	500		
	~		
Advanced	361	**Data analysis, statistics, and probability**	Determine the complete sample space
	350	**Algebra**	Find the coordinates of collinear points
	347	**Measurement**	*Identify the figures with equivalent areas*
	342	**Geometry**	Use the given pieces to make a shape with certain properties
	339	**Data analysis, statistics, and probability**	*Read and interpret the information in a graph*
	337	**Algebra**	Use an algebraic model to make a prediction (calculator available)
	336	**Algebra**	Find the next term in a geometric sequence
	333		
Proficient	332	**Algebra**	Set up and solve an algebraic equation
	331	**Algebra**	*Find the change in y given the change in x for a linear equation*
	330	**Geometry**	*Find the length of a hypotenuse*
	324	**Measurement**	Solve a problem involving unit conversions (calculator available)
	319	**Geometry**	*Identify the piece used to form a figure*
	312	**Number properties and operations**	Solve a problem using division
	306	**Algebra**	*Represent the length of a rectangle in terms of the width* (**shown on page 37**)
	300	**Number properties and operations**	Determine a number that satisfies the given conditions
	299		
Basic	292	**Geometry**	*Identify the steps in a transformation*
	288	**Number properties and operations**	*Identify the number with the given digit in the hundredths place*
	285	**Measurement**	*Determine the possible dimensions of a rectangle, given the area*
	283	**Geometry**	*Identify the side with the same length in congruent figures*
	281	**Algebra**	*Identify the solution from a graph of linear equations*
	278	**Number properties and operations**	*Determine a quantity based on a given percent*
	267	**Data analysis, statistics, and probability**	*Determine the probability of a particular outcome* (**shown on page 36**)
	264	**Algebra**	Read information from a graph
	262		
	260	**Data analysis, statistics, and probability**	*Recognize misrepresented data*
	259	**Measurement**	*Solve a problem involving rates* (calculator available)
	257	**Geometry**	*Identify the result of combining two shapes*
	253	**Number properties and operations**	*Use estimation to find a difference*
	236	**Number properties and operations**	*Find the greatest number that can be bought* (calculator available)
	233	**Measurement**	*Measure the length of a line segment*
	224	**Algebra**	Determine the value of the unknown in a number sentence
	~		
	0		

NOTE: Regular type denotes a constructed-response question. *Italic* type denotes a multiple-choice question. The position of a question on the scale represents the average score attained by students who had a 65 percent probability of successfully answering a constructed-response question, a 74 percent probability of correctly answering a four-option multiple-choice question, or a 72 percent probability of correctly answering a five-option multiple-choice question. For constructed-response questions, the question description represents students' performance rated as completely correct. Scale score ranges for mathematics achievement levels are referenced on the map.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Sample Question: Data Analysis, Statistics, and Probability

This sample question from the 2009 eighth-grade assessment measures students' performance in the data analysis, statistics, and probability content area. It asks students to determine the probability of a simple event. Obtaining the correct answer requires first determining that there is a total of 15 pencils to choose from (6 red plus 4 green plus 5 blue). Students were not permitted to use a calculator to answer this question.

Since 4 of these pencils are green, the correct answer is 4 out of 15 (Choice D), which was selected by 77 percent of the eighth-grade students. The most common incorrect answer (Choice C), which was selected by 12 percent of the students, represents the probability of picking any one pencil from the total of 15 pencils. The average score for students who were likely to select the correct answer was 267 on the item map.

SAMPLE QUESTION:

Marty has 6 red pencils, 4 green pencils, and 5 blue pencils.
If he picks out one pencil without looking, what is the probability that the pencil he picks will be green?

- (A) 1 out of 3
- (B) 1 out of 4
- (C) 1 out of 15
- (D) 4 out of 15

Percentage of eighth-grade students in each response category: 2009

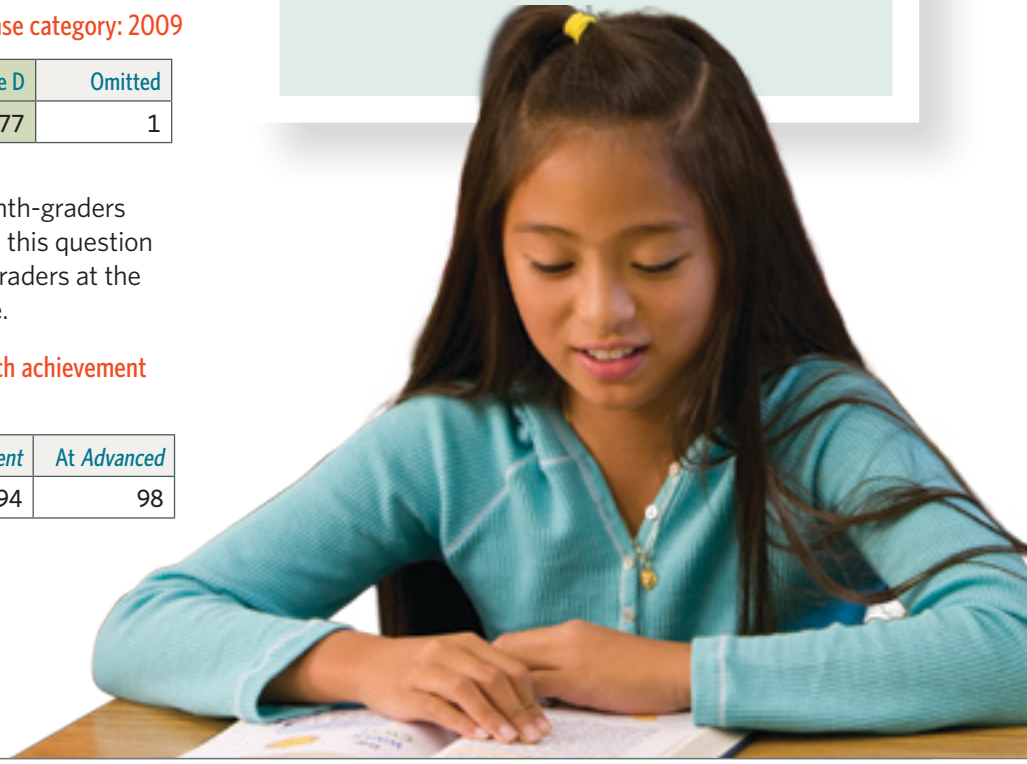
Choice A	Choice B	Choice C	Choice D	Omitted
4	6	12	77	1

NOTE: Detail may not sum to totals because of rounding.

The table below shows the percentage of eighth-graders within each achievement level who answered this question correctly. For example, 81 percent of eighth-graders at the *Basic* level selected the correct answer choice.

Percentage correct for eighth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
77	48	81	94	98



SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Sample Question: Algebra

This sample question measures eighth-graders' performance in the algebra content area. The question asks students to identify an algebraic expression that models a relationship that is given in a geometric context. Students were not permitted to use a calculator to answer this question.

About one-half (51 percent) of the eighth-grade students selected the correct answer (Choice E). The most common incorrect answer (Choice A) represents a common error when translating "less" into an algebraic expression. The average score for students likely to select the correct answer was 306 on the item map.

SAMPLE QUESTION:

The length of a rectangle is 3 feet less than twice the width, w (in feet). What is the length of the rectangle in terms of w?

(A) $3 - 2w$
(B) $2(w + 3)$
(C) $2(w - 3)$
(D) $2w + 3$
(E) $2w - 3$

Percentage of eighth-grade students in each response category: 2009

Choice A	Choice B	Choice C	Choice D	Choice E	Omitted
21	8	13	7	51	1

NOTE: Detail may not sum to totals because of rounding.

The table below shows the percentage of eighth-graders within each achievement level who answered this question correctly. For example, 47 percent of eighth-graders at the *Basic* level selected the correct answer choice.

Percentage correct for eighth-grade students at each achievement level: 2009

Overall	Below *Basic*	At *Basic*	At *Proficient*	At *Advanced*
51	17	47	79	95

NAEP Questions Tool

Explore other sample questions from the mathematics assessment at http://nces.ed.gov/nationsreportcard/itmrlsx/.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Technical Notes



Sampling and Weighting

The schools and students participating in NAEP assessments are selected to be representative of all schools nationally and of public schools at the state level. Samples of schools and students are drawn from each state and from the District of Columbia and Department of Defense schools. The results from the assessed students are combined to provide accurate estimates of the overall performance of students in the nation and in individual states and other jurisdictions.

While national results reflect the performance of students in both public schools and nonpublic schools (i.e., private schools, Bureau of Indian Education schools, and Department of Defense schools), state-level results reflect the performance of public school students only. Results are also reported separately for Department of Defense schools in state tables and maps. More information on sampling can be found at http://nces.ed.gov/nationsreportcard/about/nathow.asp.

Because each school that participated in the assessment, and each student assessed, represents a portion of the population of interest, the results are weighted to account for the disproportionate representation of the selected sample. This includes oversampling of schools with high concentrations of students from certain racial/ethnic groups and the lower sampling rates of students who attend very small nonpublic schools.

School and Student Participation

National participation

To ensure unbiased samples, NAEP statistical standards require that participation rates for original school samples be 70 percent or higher to report national results separately for public and private schools. In instances where participation rates meet the 70 percent criterion but fall below 85 percent, a nonresponse bias analysis is conducted to determine if the responding school sample is not representative of the population, thereby introducing the potential for nonresponse bias.

The weighted national school participation rates for the 2009 mathematics assessment were 97 percent for grade 4 (100 percent for public schools and 73 percent for private schools), and 97 percent for grade 8 (100 percent for public schools and 72 percent for private schools). Weighted student participation rates were 95 percent at grade 4, and 93 percent at grade 8. The nonresponse bias analysis for private schools at grades 4 and 8 showed that, while the original responding school sample may not have been fully representative, the potential bias was reduced by including substitute schools and by adjusting the sampling weights to account for school nonresponse.

State participation

Standards established by the National Assessment Governing Board require that school participation rates for the original state samples need to be at least 85 percent for results to be reported. In 2009, all 52 states and jurisdictions participating in the mathematics assessment at grades 4 and 8 met this participation rate requirement.

Interpreting Statistical Significance

Comparisons over time or between groups are based on statistical tests that consider both the size of the differences and the standard errors of the two statistics being compared. Standard errors are margins of error, and estimates based on smaller groups are likely to have larger margins of error. The size of the standard errors may also be influenced by other factors such as how representative the assessed students are of the entire population.

When an estimate has a large standard error, a numerical difference that seems large may not be statistically significant. Differences of the same magnitude may or may not be statistically significant depending upon the size of the standard errors of the estimates. For example, a 2-point change in the average score for White students may be statistically significant, while a 2-point change for American Indian/Alaska Native students may not be. Standard errors for the estimates presented in this report are available at http://nces.ed.gov/nationsreportcard/naepdata/.

To ensure that significant differences in NAEP data reflect actual differences and not mere chance, error rates need to be controlled when making multiple simultaneous comparisons. The more comparisons that are made (e.g., comparing the performance of White, Black, Hispanic, Asian/Pacific Islander, and American Indian/Alaska Native students), the higher the probability of finding significant differences by chance. In NAEP, the Benjamini-Hochberg False Discovery Rate (FDR) procedure is used to control the expected proportion of falsely rejected hypotheses relative to the number of comparisons that are conducted. A detailed explanation of this procedure can be found at http://nces.ed.gov/nationsreportcard/tdw/analysis/infer.asp. NAEP employs a number of rules to determine the number of comparisons conducted, which in most cases is simply the number of possible statistical tests. However, there are two exceptions where the FDR is not applied: when comparing multiple years and when comparing multiple jurisdictions to the nation, neither the number of years nor the number of jurisdictions counts toward the number of comparisons.

National School Lunch Program

NAEP first began collecting data in 1996 on student eligibility for the National School Lunch Program (NSLP) as an indicator of low income. Under the guidelines of NSLP, children from families with incomes below 130 percent of the poverty level are eligible for free meals. Those from families with incomes between 130 and 185 percent of the poverty level are eligible for reduced-price meals. (For the period July 1, 2008 through June 30, 2009, for a family of four, 130 percent of the poverty level was $27,560, and 185 percent was $39,220.) Note that in some schools all students are categorized as eligible for free lunch because the school participates in a special provision of the National School Lunch Act that simplifies the process of determining eligibility. Under this provision, schools may certify all students as eligible once it is established that an eligibility threshold (typically 60 to 75 percent of students) has been met.

Because of the improved quality of the data on students' eligibility for NSLP, the percentage of students for whom information was not available has decreased compared to the percentages reported prior to the 2003 assessment. Therefore, trend comparisons are only made back to 2003 in this report. For more information on NSLP, visit http://www.fns.usda.gov/cnd/lunch/.

School Location

NAEP results are reported for four mutually exclusive categories of school location: city, suburb, town, and rural. The categories are based on standard definitions established by the Federal Office of Management and Budget using population and geographic information from the U.S. Census Bureau. Schools are assigned to these categories in the NCES Common Core of Data locale codes based on their physical address.

The classification system was revised for 2007; therefore, results are only included in this report for 2007 and 2009. The new locale codes are based on an address's proximity to an urbanized area (a densely settled core with densely settled surrounding areas). This is a change from the original system based on metropolitan statistical areas. To distinguish the two systems, the new system is referred to as "urban-centric locale codes." More details on the classification system can be found at http://nces.ed.gov/ccd/rural_locales.asp.

Appendix Tables

Table **A-1.** Percentage of fourth- and eighth-grade public and nonpublic school students with disabilities (SD) and/or English language learners (ELL) identified, excluded, and assessed in NAEP mathematics, as a percentage of all students, by grade and SD/ELL category: Various years, 1992–2009

	Accommodations not permitted		Accommodations permitted					
Grade and SD/ELL category	1992	1996	1996	2000	2003	2005	2007	2009
Grade 4								
SD and/or ELL								
Identified	9	14	15	18	21	21	21	21
Excluded	6	6	4	4	4	3	3	2
Assessed	3	8	11	14	17	18	19	19
Without accommodations	3	8	7	9	9	9	9	8
With accommodations	†	†	5	5	8	9	10	10
SD								
Identified	7	11	10	12	13	13	13	13
Excluded	4	5	3	3	3	2	2	2
Assessed	3	6	7	9	10	10	10	11
Without accommodations	3	6	4	5	4	3	3	3
With accommodations	†	†	4	4	6	7	7	8
ELL								
Identified	3	3	6	7	10	10	10	10
Excluded	2	1	1	1	1	1	1	1
Assessed	1	2	5	6	8	8	9	9
Without accommodations	1	2	3	4	6	6	6	6
With accommodations	†	†	2	1	2	2	3	3
Grade 8								
SD and/or ELL								
Identified	9	11	12	13	17	17	17	17
Excluded	6	4	3	4	3	3	4	3
Assessed	4	6	8	10	14	14	13	14
Without accommodations	4	6	6	7	7	6	6	5
With accommodations	†	†	3	3	6	8	7	9
SD								
Identified	7	9	9	10	13	12	12	12
Excluded	4	4	3	3	3	3	3	3
Assessed	3	5	6	7	10	10	8	9
Without accommodations	3	5	4	5	4	3	2	2
With accommodations	†	†	2	2	6	7	6	8
ELL								
Identified	2	3	3	4	6	6	6	5
Excluded	2	1	1	1	1	1	1	#
Assessed	1	2	2	3	5	5	5	5
Without accommodations	1	2	2	2	4	4	4	3
With accommodations	†	†	#	1	1	1	2	2

† Not applicable. Accommodations were not permitted in this assessment year.
# Rounds to zero.
NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Mathematics Assessments.

Table **A-2.** Percentage of fourth- and eighth-grade public and nonpublic school students with disabilities (SD) and/or English language learners (ELL) identified, excluded, and assessed in NAEP mathematics, as a percentage of all students, by selected racial/ethnic groups, grade, and SD/ELL category: 2009

Grade and SD/ELL category	Race/ethnicity		
	White	Black	Hispanic
Grade 4			
SD and/or ELL			
Identified	14	16	43
Excluded	2	3	3
Assessed	12	13	40
Without accommodations	4	3	24
With accommodations	8	10	17
SD			
Identified	13	15	11
Excluded	2	3	2
Assessed	11	12	9
Without accommodations	3	3	2
With accommodations	8	9	7
ELL			
Identified	1	2	37
Excluded	#	#	2
Assessed	1	1	35
Without accommodations	#	1	23
With accommodations	#	1	12
Grade 8			
SD and/or ELL			
Identified	12	17	29
Excluded	2	4	3
Assessed	10	13	26
Without accommodations	2	2	14
With accommodations	8	11	12
SD			
Identified	12	16	11
Excluded	2	4	2
Assessed	9	12	9
Without accommodations	2	2	2
With accommodations	7	10	7
ELL			
Identified	#	1	21
Excluded	#	#	1
Assessed	#	1	20
Without accommodations	#	#	13
With accommodations	#	1	7

Rounds to zero.

NOTE: Black includes African American, and Hispanic includes Latino. Race categories exclude Hispanic origin. Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-3.** Percentage of fourth- and eighth-grade public and nonpublic school students identified as students with disabilities (SD) and/or English language learners (ELL) excluded and assessed in NAEP mathematics, as a percentage of all identified SD and/or ELL students, by grade and SD/ELL category: 2009

	Percentage of identified SD and/or ELL students			
Grade and SD/ELL category	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
Grade 4				
SD and/or ELL	10	90	40	50
SD	15	85	23	62
ELL	6	94	59	35
Grade 8				
SD and/or ELL	17	83	29	54
SD	22	78	15	63
ELL	8	92	58	34

NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-4.** Percentage of fourth- and eighth-grade public school students with disabilities (SD) and English language learners (ELL) identified, excluded, and accommodated in NAEP mathematics, as a percentage of all students, by state/jurisdiction: 2009

State/jurisdiction	Grade 4							Grade 8						
		SD			ELL				SD			ELL		
	Overall excluded	Identified	Excluded	Accom-modated	Identified	Excluded	Accom-modated	Overall excluded	Identified	Excluded	Accom-modated	Identified	Excluded	Accom-modated
Nation (public)	**2**	**13**	**2**	**8**	**10**	**1**	**4**	**3**	**13**	**3**	**8**	**6**	**#**	**2**
Alabama	1	10	1	4	2	#	#	2	10	1	3	1	#	#
Alaska	1	17	1	12	10	#	7	3	13	3	9	11	1	6
Arizona	1	13	1	8	15	#	8	2	12	2	7	6	1	3
Arkansas	1	12	1	8	6	#	4	1	12	1	9	4	#	2
California	2	10	2	5	30	1	2	2	9	1	5	20	1	3
Colorado	2	11	1	9	11	#	6	2	11	2	7	7	#	4
Connecticut	2	13	2	10	6	1	5	2	13	2	9	3	#	2
Delaware	3	15	3	11	4	#	3	3	15	2	12	2	1	1
Florida	2	17	2	12	8	#	7	2	15	2	12	5	#	4
Georgia	1	11	1	7	4	#	3	3	11	3	8	2	#	1
Hawaii	1	10	1	8	10	#	6	2	12	1	8	7	1	3
Idaho	1	10	1	7	5	#	2	1	9	1	5	4	#	1
Illinois	3	15	2	9	8	1	5	3	14	3	9	3	1	2
Indiana	2	16	2	8	4	#	3	4	14	4	8	3	#	1
Iowa	2	14	2	10	5	#	3	3	14	2	10	2	#	1
Kansas	3	14	3	9	9	#	4	3	12	3	8	6	#	2
Kentucky	3	15	3	7	2	#	1	5	12	4	6	1	#	1
Louisiana	2	20	2	15	2	#	2	2	15	2	12	1	#	1
Maine	2	18	1	14	2	#	1	2	17	2	12	2	#	1
Maryland	5	14	4	7	6	1	4	7	12	7	4	3	#	2
Massachusetts	5	19	5	12	7	1	2	6	19	5	10	3	1	1
Michigan	3	14	2	8	3	#	1	3	13	3	8	2	#	1
Minnesota	2	14	2	8	8	1	4	3	12	2	7	5	1	2
Mississippi	1	10	1	6	1	#	1	2	9	2	6	1	#	#
Missouri	3	14	3	8	2	#	1	3	13	3	7	1	#	#
Montana	2	12	2	8	3	#	1	3	12	3	8	3	#	1
Nebraska	3	18	2	9	7	#	3	3	14	3	8	3	#	1
Nevada	3	12	2	6	20	1	12	2	11	2	6	8	#	4
New Hampshire	2	18	2	14	3	#	2	3	20	3	12	1	#	#
New Jersey	3	16	2	12	4	1	3	2	16	2	13	2	#	2
New Mexico	2	13	2	8	17	1	9	3	13	3	8	11	1	5
New York	1	16	1	14	8	1	7	3	16	2	13	5	1	4
North Carolina	2	15	2	10	6	#	4	2	12	1	10	5	#	3
North Dakota	4	16	4	8	2	#	1	5	15	5	6	2	1	#
Ohio	3	14	3	9	2	#	2	5	15	5	9	1	1	#
Oklahoma	4	15	4	7	4	#	2	6	15	6	7	3	#	1
Oregon	3	16	2	9	12	1	7	3	13	3	6	6	#	2
Pennsylvania	3	15	2	10	3	#	2	3	17	3	12	2	#	1
Rhode Island	2	17	2	13	6	1	3	2	18	2	13	3	1	2
South Carolina	2	14	2	8	5	#	2	4	14	4	5	3	#	1
South Dakota	2	15	2	8	2	#	1	2	10	2	6	2	#	#
Tennessee	3	14	3	7	2	#	2	4	11	4	6	1	#	1
Texas	3	10	3	5	21	1	4	5	12	5	5	7	1	1
Utah	2	12	2	7	9	1	5	3	10	3	6	5	#	2
Vermont	2	19	2	13	2	#	1	2	20	2	13	2	#	1
Virginia	2	14	2	9	7	#	5	4	14	3	7	4	#	2
Washington	2	12	2	7	10	#	5	2	11	2	7	4	#	2
West Virginia	2	17	2	9	#	#	#	2	15	2	10	#	#	#
Wisconsin	2	15	2	11	7	1	4	3	14	2	10	4	1	2
Wyoming	1	16	1	11	2	#	1	2	14	2	10	2	#	1
Other jurisdictions														
District of Columbia	4	14	4	8	8	1	5	6	17	6	10	4	1	2
DoDEA[1]	2	12	1	8	7	1	3	2	8	1	5	5	1	2

Rounds to zero.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Students identified as both SD and ELL were counted only once in overall, but were counted separately under the SD and ELL categories.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-5.** Percentage of fourth- and eighth-grade public school students with disabilities excluded in NAEP mathematics, as a percentage of all students, by state/jurisdiction: Various years, 1990–2009

State/jurisdiction	Grade 4							Grade 8							
	1992[1]	1996[1]	2000	2003	2005	2007	2009	1990[1]	1992[1]	1996[1]	2000	2003	2005	2007	2009
Nation (public)	**5**	**5**	**3**	**3**	**3**	**3**	**2**	**—**	**5**	**4**	**3**	**3**	**3**	**4**	**3**
Alabama	4	6	3	2	1	1	1	5	5	7	6	2	1	3	1
Alaska	—	4	—	1	1	1	1	—	—	5	—	1	2	4	3
Arizona	3	7	3	3	3	2	1	3	4	5	2	3	3	3	2
Arkansas	5	6	4	1	2	2	1	7	6	7	2	1	3	2	1
California	3	5	3	2	2	2	2	3	4	5	3	1	2	2	1
Colorado	4	7	—	2	2	2	1	4	4	4	—	1	2	2	2
Connecticut	4	7	3	3	2	1	2	5	5	7	5	3	2	1	2
Delaware	5	6	—	6	7	5	3	4	4	8	—	8	10	6	2
Florida	7	7	—	2	2	2	2	5	5	7	—	2	2	2	2
Georgia	5	6	3	2	2	2	1	3	4	6	4	2	2	5	3
Hawaii	5	4	6	2	2	1	1	3	3	4	4	3	2	1	1
Idaho	3	—	1	1	1	1	1	2	3	—	2	1	2	1	1
Illinois	—	—	2	3	2	3	2	4	—	—	3	4	3	5	3
Indiana	3	5	2	2	1	3	2	5	4	5	3	2	4	5	4
Iowa	3	5	1	2	2	1	2	4	4	5	—	2	2	2	2
Kansas	—	—	3	1	2	3	3	—	—	—	3	2	3	4	3
Kentucky	3	6	3	3	2	2	3	5	5	4	4	4	3	6	4
Louisiana	4	7	3	3	4	2	2	4	4	6	2	4	4	3	2
Maine	6	7	4	3	3	3	1	—	4	5	3	4	4	5	2
Maryland	3	7	2	3	3	4	4	4	4	6	2	3	4	7	7
Massachusetts	6	7	1	2	3	5	5	—	6	7	2	2	6	9	5
Michigan	5	6	3	3	4	3	2	4	6	5	4	4	4	4	3
Minnesota	3	5	2	2	2	2	2	3	3	3	1	2	2	2	2
Mississippi	5	6	3	5	2	1	1	—	7	7	5	5	3	2	2
Missouri	4	5	2	3	2	3	3	—	4	6	3	4	4	5	3
Montana	—	5	2	2	2	2	2	2	—	3	2	2	2	3	3
Nebraska	4	4	2	2	2	2	2	3	4	4	3	3	1	2	3
Nevada	—	5	3	3	3	2	2	—	—	5	3	2	2	3	2
New Hampshire	4	—	—	3	2	2	2	4	5	4	—	3	2	3	3
New Jersey	3	5	—	2	2	2	2	5	6	5	—	1	3	3	2
New Mexico	6	8	5	2	2	3	2	6	4	5	7	2	2	2	3
New York	3	5	2	3	3	1	1	4	6	5	3	4	3	3	2
North Carolina	3	6	4	4	2	2	2	3	3	4	4	3	2	2	1
North Dakota	2	3	1	2	2	4	4	2	2	3	2	1	4	6	5
Ohio	6	—	4	4	3	4	3	5	6	—	4	5	5	7	5
Oklahoma	7	—	4	3	4	5	4	5	6	—	4	2	4	8	6
Oregon	—	6	2	4	3	2	2	2	—	3	2	3	2	3	3
Pennsylvania	3	4	—	2	2	2	2	5	4	—	—	1	3	4	3
Rhode Island	4	5	2	2	2	2	2	5	4	5	3	3	3	2	2
South Carolina	5	5	5	6	4	2	2	—	6	6	4	7	6	5	4
South Dakota	—	—	—	1	1	1	2	—	—	—	—	2	2	2	2
Tennessee	4	6	2	2	3	6	3	—	5	4	2	3	5	6	4
Texas	5	7	6	7	5	5	3	4	5	6	7	6	5	5	5
Utah	4	5	3	2	2	2	2	—	4	5	2	2	2	2	3
Vermont	—	6	3	4	3	2	2	—	—	4	3	3	4	4	2
Virginia	5	6	3	4	4	4	2	4	5	7	5	6	4	6	3
Washington	—	5	—	2	2	2	2	—	—	5	—	2	2	3	2
West Virginia	4	8	3	3	2	1	2	5	6	8	3	3	3	2	2
Wisconsin	5	7	4	3	2	2	2	4	4	7	4	3	3	4	2
Wyoming	3	4	2	1	1	2	1	3	4	2	1	1	2	2	2
Other jurisdictions															
District of Columbia	7	7	3	4	5	5	4	4	8	8	5	5	5	9	6
DoDEA[2]	—	4	2	1	1	1	1	—	—	2	1	1	1	1	1

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

[1] Accommodations were not permitted in this assessment year.

[2] Department of Defense Education Activity (overseas and domestic schools).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Table **A-6.** Percentage of fourth- and eighth-grade public school English language learners excluded in NAEP mathematics, as a percentage of all students, by state/jurisdiction: Various years, 1990–2009

State/jurisdiction	Grade 4							Grade 8							
	1992[1]	1996[1]	2000	2003	2005	2007	2009	1990[1]	1992[1]	1996[1]	2000	2003	2005	2007	2009
Nation (public)	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**—**	**2**	**1**	**1**	**1**	**1**	**1**	**#**
Alabama	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Alaska	—	1	—	#	1	1	#	—	—	1	—	#	#	1	1
Arizona	2	7	3	2	2	2	#	1	2	4	1	2	2	1	1
Arkansas	#	#	#	1	2	1	#	#	#	#	#	1	1	#	#
California	10	12	3	2	3	1	1	4	5	6	2	2	1	1	1
Colorado	1	2	—	1	1	#	#	1	1	1	—	1	1	#	#
Connecticut	2	2	1	1	1	#	1	1	1	2	2	1	#	#	#
Delaware	1	1	—	1	1	1	#	#	#	#	—	1	1	1	1
Florida	2	3	—	2	1	2	#	2	2	3	—	1	1	1	#
Georgia	1	2	1	1	1	#	#	#	#	1	1	1	#	#	#
Hawaii	2	1	3	2	1	1	#	1	2	1	1	1	1	1	1
Idaho	1	—	2	1	1	#	#	#	#	—	1	#	1	#	#
Illinois	—	—	2	2	1	1	1	1	—	—	2	1	1	1	1
Indiana	#	#	1	#	1	#	#	#	#	#	#	#	#	#	#
Iowa	#	1	1	1	#	#	#	#	#	#	—	#	#	#	#
Kansas	—	—	#	#	1	#	#	—	—	—	#	1	1	#	#
Kentucky	#	#	#	1	#	#	#	#	#	#	1	1	#	#	#
Louisiana	#	1	#	#	#	#	#	#	#	#	#	1	#	#	#
Maine	#	#	#	1	#	#	#	—	#	#	#	#	#	#	#
Maryland	1	1	1	2	1	1	1	1	1	1	1	1	#	#	#
Massachusetts	1	2	2	1	1	1	1	—	2	1	2	1	1	1	1
Michigan	1	1	1	1	1	#	#	#	#	1	#	1	#	#	#
Minnesota	#	1	1	1	1	1	1	#	#	#	1	1	1	#	1
Mississippi	#	#	#	1	#	#	#	—	#	#	#	#	#	#	#
Missouri	#	#	1	1	#	#	#	—	#	1	#	#	#	#	#
Montana	—	#	#	#	#	#	#	#	—	#	#	#	#	#	#
Nebraska	#	1	1	1	1	1	#	#	#	1	1	1	#	1	#
Nevada	—	4	4	2	1	2	1	—	—	3	1	1	1	1	#
New Hampshire	#	—	—	1	#	#	#	#	#	#	—	#	#	#	#
New Jersey	2	1	—	1	1	#	1	2	1	2	—	1	1	1	#
New Mexico	1	5	2	2	1	2	1	1	1	4	2	1	2	2	1
New York	2	3	3	3	1	1	1	2	3	3	2	2	1	1	1
North Carolina	#	1	1	1	1	1	#	#	#	1	1	1	1	#	#
North Dakota	#	#	#	#	#	1	#	#	#	#	#	#	#	#	1
Ohio	#	—	#	1	#	1	#	#	#	—	1	#	#	#	1
Oklahoma	#	—	1	1	1	#	#	#	#	—	#	1	1	1	#
Oregon	—	3	1	1	1	1	1	#	—	1	1	1	1	1	#
Pennsylvania	1	1	—	1	#	#	#	#	#	—	—	#	#	1	#
Rhode Island	3	2	1	2	1	1	1	2	2	2	1	2	1	1	1
South Carolina	#	#	1	#	#	#	#	—	#	#	#	#	#	#	#
South Dakota	—	—	—	#	#	#	#	—	—	—	—	#	#	#	#
Tennessee	#	1	1	#	1	#	#	—	#	#	1	1	#	#	#
Texas	4	5	2	2	2	2	1	2	2	3	2	2	2	2	1
Utah	1	1	1	1	1	1	1	—	1	1	#	1	1	1	#
Vermont	—	#	#	#	#	#	#	—	—	#	1	#	#	#	#
Virginia	1	1	2	2	1	1	#	1	1	1	1	2	1	1	#
Washington	—	1	—	1	1	1	#	—	—	1	—	1	1	1	#
West Virginia	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Wisconsin	1	1	1	1	1	1	1	#	#	1	1	1	1	1	1
Wyoming	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Other jurisdictions															
District of Columbia	2	4	2	1	1	2	1	1	2	3	2	1	1	1	1
DoDEA[2]	—	1	1	1	1	1	1	—	—	1	1	1	1	1	1

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

Rounds to zero.

[1] Accommodations were not permitted in this assessment year.

[2] Department of Defense Education Activity (overseas and domestic schools).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Table **A-7.** Percentage of fourth-grade public school students identified as students with disabilities (SD) and/or English language learners (ELL) excluded and assessed in NAEP mathematics, as a percentage of all identified SD and/or ELL students, by state/jurisdiction: 2009

State/jurisdiction	Percentage of identified SD and/or ELL students											
	SD and/or ELL				SD				ELL			
	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
Nation (public)	**10**	**90**	**40**	**50**	**16**	**84**	**22**	**62**	**6**	**94**	**59**	**35**
Alabama	8	92	62	30	9	91	56	35	3	97	88	8
Alaska	5	95	25	70	7	93	23	70	3	97	27	70
Arizona	6	94	42	53	10	90	33	57	2	98	47	51
Arkansas	8	92	21	71	11	89	20	69	3	97	22	75
California	6	94	79	15	21	79	28	51	4	96	88	8
Colorado	8	92	28	64	13	87	11	76	4	96	45	52
Connecticut	13	87	12	75	14	86	11	75	13	87	12	75
Delaware	18	82	10	72	20	80	10	70	7	93	12	81
Florida	8	92	17	75	10	90	21	69	5	95	6	89
Georgia	9	91	27	64	11	89	25	64	3	97	31	66
Hawaii	7	93	27	66	11	89	14	75	4	96	39	57
Idaho	8	92	37	55	10	90	27	63	3	97	55	42
Illinois	12	88	26	62	12	88	28	60	15	85	21	65
Indiana	12	88	31	57	15	85	32	53	4	96	28	68
Iowa	11	89	19	71	12	88	15	73	6	94	28	66
Kansas	14	86	32	55	20	80	18	62	5	95	49	46
Kentucky	18	82	32	50	19	81	31	49	13	87	34	53
Louisiana	8	92	17	75	9	91	16	75	#	100	24	76
Maine	8	92	17	75	8	92	15	77	8	92	44	48
Maryland	25	75	14	61	32	68	15	53	15	85	10	75
Massachusetts	20	80	27	53	25	75	11	64	13	87	64	23
Michigan	16	84	36	48	18	82	27	55	8	92	71	21
Minnesota	9	91	39	52	11	89	34	55	6	94	43	50
Mississippi	8	92	31	61	8	92	31	61	5	95	35	61
Missouri	16	84	29	55	18	82	28	54	8	92	27	65
Montana	12	88	28	61	14	86	21	65	6	94	48	46
Nebraska	11	89	42	47	13	87	37	49	5	95	53	42
Nevada	8	92	36	56	19	81	29	52	5	95	37	59
New Hampshire	11	89	16	73	11	89	14	74	11	89	26	63
New Jersey	14	86	10	75	15	85	11	75	20	80	8	73
New Mexico	9	91	33	58	15	85	18	66	4	96	39	56
New York	6	94	5	89	6	94	5	88	8	92	3	90
North Carolina	11	89	22	67	13	87	20	67	4	96	26	69
North Dakota	22	78	26	52	23	77	25	52	16	84	31	53
Ohio	18	82	13	69	20	80	11	69	14	86	23	62
Oklahoma	21	79	33	45	26	74	28	47	6	94	52	42
Oregon	11	89	32	57	14	86	30	56	6	94	34	60
Pennsylvania	14	86	22	64	16	84	22	63	11	89	22	68
Rhode Island	9	91	23	68	9	91	17	74	9	91	39	52
South Carolina	10	90	38	52	12	88	34	54	5	95	48	47
South Dakota	12	88	37	51	13	87	36	51	#	100	46	54
Tennessee	21	79	20	58	24	76	22	54	6	94	9	85
Texas	11	89	61	29	28	72	21	51	5	95	76	20
Utah	12	88	31	57	16	84	28	56	6	94	32	62
Vermont	12	88	20	68	11	89	17	72	18	82	41	40
Virginia	11	89	25	64	14	86	24	62	5	95	24	71
Washington	9	91	36	55	13	87	28	59	4	96	43	53
West Virginia	9	91	39	52	9	91	38	53	#	100	52	48
Wisconsin	12	88	17	71	14	86	15	71	10	90	21	69
Wyoming	7	93	25	68	7	93	23	70	6	94	37	57
Other jurisdictions												
District of Columbia	21	79	13	65	27	73	11	61	14	86	15	71
DoDEA[1]	11	89	35	54	12	88	26	62	14	86	45	41

Rounds to zero.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-8.** Percentage of eighth-grade public school students identified as students with disabilities (SD) and/or English language learners (ELL) excluded and assessed in NAEP mathematics, as a percentage of all identified SD and/or ELL students, by state/jurisdiction: 2009

State/jurisdiction	Percentage of identified SD and/or ELL students											
	SD and/or ELL				SD				ELL			
	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations	Excluded	Assessed	Assessed without accommodations	Assessed with accommodations
Nation (public)	**17**	**83**	**29**	**54**	**22**	**78**	**15**	**63**	**8**	**92**	**58**	**34**
Alabama	13	87	60	26	13	87	59	28	17	83	67	15
Alaska	16	84	25	59	25	75	8	67	6	94	41	53
Arizona	12	88	29	59	16	84	21	63	9	91	39	52
Arkansas	7	93	21	72	9	91	17	74	3	97	32	65
California	6	94	69	25	15	85	25	59	4	96	81	15
Colorado	11	89	27	61	16	84	14	70	6	94	44	51
Connecticut	13	87	18	69	14	86	16	69	11	89	24	66
Delaware	15	85	7	78	15	85	6	79	24	76	12	64
Florida	12	88	6	82	13	87	6	81	9	91	5	86
Georgia	20	80	11	69	23	77	10	67	9	91	19	73
Hawaii	12	88	32	56	11	89	24	65	15	85	43	42
Idaho	11	89	37	51	15	85	28	57	2	98	60	38
Illinois	19	81	16	65	20	80	13	68	19	81	27	54
Indiana	27	73	17	56	31	69	12	57	10	90	42	49
Iowa	16	84	15	69	16	84	11	73	15	85	38	47
Kansas	17	83	26	57	24	76	10	66	5	95	57	38
Kentucky	36	64	13	51	37	63	12	51	36	64	21	44
Louisiana	10	90	13	76	11	89	11	78	3	97	41	56
Maine	12	88	20	69	12	88	17	71	10	90	46	44
Maryland	48	52	8	44	56	44	8	36	16	84	7	77
Massachusetts	27	73	18	55	28	72	15	56	25	75	34	42
Michigan	21	79	21	58	24	76	15	62	7	93	54	39
Minnesota	15	85	34	52	17	83	23	60	10	90	59	31
Mississippi	17	83	16	67	17	83	13	70	16	84	50	34
Missouri	26	74	19	56	26	74	18	56	28	72	35	37
Montana	19	81	21	60	22	78	15	64	4	96	53	43
Nebraska	20	80	25	55	23	77	19	58	8	92	52	40
Nevada	14	86	35	50	22	78	21	57	6	94	47	47
New Hampshire	14	86	27	59	14	86	26	61	15	85	51	34
New Jersey	11	89	9	80	11	89	10	79	13	87	8	79
New Mexico	14	86	33	53	22	78	20	58	6	94	43	51
New York	14	86	5	81	14	86	4	82	14	86	6	80
North Carolina	10	90	16	74	12	88	9	80	8	92	32	60
North Dakota	33	67	26	42	34	66	24	42	36	64	38	26
Ohio	33	67	9	58	33	67	8	58	43	57	22	34
Oklahoma	35	65	21	44	41	59	12	47	9	91	60	31
Oregon	15	85	41	44	20	80	31	50	6	94	58	36
Pennsylvania	17	83	14	69	19	81	10	71	17	83	44	40
Rhode Island	11	89	19	70	10	90	18	72	21	79	22	58
South Carolina	27	73	33	41	32	68	29	39	5	95	49	47
South Dakota	16	84	28	56	17	83	23	60	11	89	61	28
Tennessee	34	66	10	57	36	64	9	55	37	63	11	52
Texas	28	72	37	35	39	61	18	43	11	89	68	21
Utah	21	79	30	50	27	73	15	58	5	95	59	36
Vermont	11	89	26	63	11	89	24	64	8	92	41	50
Virginia	21	79	27	52	24	76	23	53	12	88	39	49
Washington	17	83	26	57	19	81	20	60	12	88	40	48
West Virginia	10	90	26	64	10	90	25	65	7	93	66	27
Wisconsin	15	85	16	70	16	84	12	72	15	85	27	58
Wyoming	12	88	19	69	13	87	17	70	#	100	34	66
Other jurisdictions												
District of Columbia	31	69	12	57	34	66	7	59	27	73	28	45
DoDEA[1]	13	87	35	52	13	87	27	60	16	84	46	38

Rounds to zero.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Students identified as both SD and ELL were counted only once under the combined SD and/or ELL category, but were counted separately under the SD and ELL categories. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-9.** Percentage distribution of fourth-grade students assessed in NAEP mathematics, by race/ethnicity, eligibility for free/reduced-price school lunch, and state/jurisdiction: 1992, 1996, and 2009

	Race/ethnicity										Eligibility for free/reduced-price school lunch			
	White		Black		Hispanic		Asian/ Pacific Islander		American Indian/ Alaska Native		Eligible		Not eligible	
State/jurisdiction	1992[1]	2009	1992[1]	2009	1992[1]	2009	1992[1]	2009	1992[1]	2009	1996[1]	2009	1996[1]	2009
Nation (public)	**72***	**54**	**18***	**16**	**7***	**22**	**3***	**5**	**1**	**1**	**34***	**48**	**52**	**51**
Alabama	65	61	34	33	#*	4	#	1	1	#	49	54	48	46
Alaska	—	50	—	4	—	7	—	8	—	24	25*	44	30*	55
Arizona	62*	40	4	6	23*	45	1*	3	10	6	36*	54	44	44
Arkansas	75*	66	24	23	#*	8	1*	2	#	1	45*	59	52*	41
California	50*	28	7	7	30*	51	12	11	1	1	44*	53	40	45
Colorado	73*	61	6	5	17*	29	2*	4	1	1	29*	38	66	61
Connecticut	76*	66	11	12	10*	17	2*	4	#	#	25*	30	72	70
Delaware	70*	51	25*	33	2*	12	1*	4	#	#	30*	43	47*	57
Florida	63*	46	24	22	12*	25	1	2	#	#	47*	55	48	45
Georgia	60*	47	38	36	1*	11	1*	3	#	#	44*	56	49	44
Hawaii	23*	14	3	2	2	3	62	65	#	#	40	45	57	55
Idaho	92*	81	#*	1	6*	14	1*	2	1	2	—	43	—	57
Illinois	—	51	—	19	—	22	—	5	—	#	—	46	—	54
Indiana	87*	76	11	11	2*	7	1	2	#	#	29*	45	69*	55
Iowa	95*	84	2*	5	1*	8	2	2	#	#	31*	37	64	63
Kansas	—	69	—	10	—	15	—	2	—	1	—	49	—	51
Kentucky	90*	83	9	10	#*	3	#*	1	#	#	47	51	51	49
Louisiana	53	47	45	48	1*	4	2	1	#	#	58*	70	32	30
Maine	98*	94	#*	3	#*	1	1*	1	#*	1	32*	40	62	60
Maryland	62*	48	32	35	2*	11	3*	6	#	#	32*	39	64	61
Massachusetts	83*	68	8	8	4*	17	4	6	#	#	24*	34	66	66
Michigan	79*	71	16	20	3*	5	1*	3	1	1	31*	43	62	56
Minnesota	91*	76	3*	9	2*	7	3*	6	1*	2	22*	31	65	68
Mississippi	42	45	58	52	#*	2	#	1	#	#	64	69	35	31
Missouri	83*	76	15	17	1*	4	1*	2	#	#	36*	44	63*	55
Montana	—	83	—	1	—	3	—	1	—	12	35*	41	60	57
Nebraska	90*	73	6	7	3*	16	#*	2	1	2	33*	42	57	58
Nevada	—	42	—	10	—	39	—	8	—	1	15*	41	28*	58
New Hampshire	96*	91	1*	2	1*	4	1*	3	#	#	—	22	—	77
New Jersey	69*	55	16	16	11*	21	5*	8	#	#	33	32	65	66
New Mexico	45*	28	4	3	45*	58	1	2	4*	9	50*	68	37	32
New York	63*	52	15	19	17	20	4*	9	#	#	44*	52	49	46
North Carolina	65*	54	31	27	1*	11	1*	2	2	1	34*	48	58*	51
North Dakota	95*	86	#*	2	1*	2	1*	1	3*	9	24*	33	65	67
Ohio	86*	72	12*	19	1*	3	1*	2	#	#	—	40	—	59
Oklahoma	77*	58	9	11	3*	10	#*	2	9*	20	—	55	—	45
Oregon	—	69	—	4	—	17	—	6	—	2	31*	46	60*	52
Pennsylvania	81*	71	14	15	3*	9	2*	4	#	#	33	39	58	61
Rhode Island	82*	68	7*	10	7*	18	4	3	#	1	34*	41	65*	59
South Carolina	58	55	41*	35	#*	6	1*	2	#	1	52	55	48	45
South Dakota	—	80	—	2	—	3	—	1	—	13	—	37	—	63
Tennessee	73	69	25	24	#*	5	1	1	#	#	36*	51	59*	48
Texas	49*	31	14	13	34*	51	2	4	#	#	43*	59	52*	40
Utah	93*	77	1*	2	4*	16	2*	4	1	1	27*	36	60	61
Vermont	—	94	—	2	—	1	—	2	—	#	26*	34	65	63
Virginia	71*	56	25	26	2*	8	3*	6	#	#	31	34	65	66
Washington	—	62	—	6	—	18	—	9	—	3	32*	45	62*	55
West Virginia	96*	92	2*	6	#*	1	#*	1	#	#	46*	57	49*	43
Wisconsin	87*	75	6*	10	2*	9	2	3	2	2	25*	39	64	60
Wyoming	90*	84	1	2	6*	11	1*	1	2	3	33	35	64	65
Other jurisdictions														
District of Columbia	5*	7	91*	80	3*	11	1*	2	#	#	74	74	21*	26
DoDEA[2]	—	49	—	16	—	16	—	7	—	#	‡	#	‡	#

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

* Significantly different ($p < .05$) from 2009 when only one state/jurisdiction or the nation is being examined.

[1] Accommodations were not permitted in this assessment year.

[2] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Results are not shown for students whose race/ethnicity was unclassified and for students whose eligibility status for free/reduced-price school lunch was not available. Data on eligibility for free/reduced-price school lunch were not collected until 1996.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992, 1996, and 2009 Mathematics Assessments.

Table **A-10.** Percentage of fourth-grade public school students at or above *Basic* in NAEP mathematics, by state/jurisdiction: Various years, 1992–2009

	Accommodations not permitted			Accommodations permitted				
State/jurisdiction	1992	1996	2000	2000	2003	2005	2007	2009
Nation (public)	**57***	**62***	**67***	**64***	**76***	**79***	**81**	**81**
Alabama	43*	48*	57*	55*	65*	66	70	70
Alaska	—	65*	—	—	75*	77	79	78
Arizona	53*	57*	58*	57*	70	70	74	71
Arkansas	47*	54*	56*	55*	71*	78	81	80
California	46*	46*	52*	50*	67*	71	70	72
Colorado	61*	67*	—	—	77*	81	82	84
Connecticut	67*	75*	77*	76*	82*	84	84	86
Delaware	55*	54*	—	—	81*	84	87*	84
Florida	52*	55*	—	—	76*	82*	86	86
Georgia	53*	53*	58*	57*	72*	76	79	78
Hawaii	52*	53*	55*	55*	68*	73*	77	77
Idaho	63*	—	71*	68*	80*	86	85	85
Illinois	—	—	66*	63*	73*	74*	79	80
Indiana	60*	72*	78*	77*	82*	84*	89	87
Iowa	72*	74*	78*	75*	83*	85	87	87
Kansas	—	—	75*	76*	85*	88	89	89
Kentucky	51*	60*	60*	59*	72*	75*	79	81
Louisiana	39*	44*	57*	57*	67*	74	73	72
Maine	75*	75*	74*	73*	83*	84*	85	87
Maryland	55*	59*	61*	60*	73*	79*	80*	85
Massachusetts	68*	71*	79*	77*	84*	91	93	92
Michigan	61*	68*	72*	71*	77	79	80	78
Minnesota	71*	76*	78*	76*	84*	88	87	89
Mississippi	36*	42*	45*	45*	62*	69	70	69
Missouri	62*	66*	72*	71*	79*	79*	82	83
Montana	—	71*	73*	72*	81*	85*	88	88
Nebraska	67*	70*	67*	65*	80	80	80	82
Nevada	—	57*	61*	60*	69*	72*	74*	79
New Hampshire	72*	—	—	—	87*	89*	91	92
New Jersey	68*	68*	—	—	80*	86	90	88
New Mexico	50*	51*	51*	50*	63*	65*	70	72
New York	57*	64*	67*	66*	79*	81	85	83
North Carolina	50*	64*	76*	73*	85	83*	85	87
North Dakota	72*	75*	75*	73*	83*	89*	91	91
Ohio	57*	—	73*	73*	81*	84	87	85
Oklahoma	60*	—	69*	67*	74*	79	82	82
Oregon	—	65*	67*	65*	79	80	79	80
Pennsylvania	65*	68*	—	—	78*	82	85	84
Rhode Island	54*	61*	67*	65*	72*	76*	80	81
South Carolina	48*	48*	60*	59*	79	81*	80	78
South Dakota	—	—	—	—	82*	86	86	86
Tennessee	47*	58*	60*	59*	70*	74	76	74
Texas	56*	69*	77*	76*	82*	87	87	85
Utah	66*	69*	70*	69*	79	83	83	81
Vermont	—	67*	73*	73*	85*	87	89	89
Virginia	59*	62*	73*	71*	83	83	87	85
Washington	—	67*	—	—	81	84	84	84
West Virginia	52*	63*	68*	65*	75	75	81*	77
Wisconsin	71*	74*	—	—	79*	84	85	85
Wyoming	69*	64*	73*	71*	87	87	88	87
Other jurisdictions								
District of Columbia	23*	20*	24*	24*	36*	45*	49*	56
DoDEA[1]	—	64*	70*	69*	84	85	86	86

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

* Significantly different ($p < .05$) from 2009 when only one state/jurisdiction or the nation is being examined.

[1] Department of Defense Education Activity (overseas and domestic schools).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Mathematics Assessments.

Table **A-11.** Percentage of fourth-grade public school students at or above *Proficient* in NAEP mathematics, by state/jurisdiction: Various years, 1992–2009

	Accommodations not permitted			Accommodations permitted				
State/jurisdiction	1992	1996	2000	2000	2003	2005	2007	2009
Nation (public)	**17***	**20***	**25***	**22***	**31***	**35***	**39**	**38**
Alabama	10*	11*	14*	13*	19*	21	26	24
Alaska	—	21*	—	—	30*	34	38	38
Arizona	13*	15*	17*	16*	25	28	31	28
Arkansas	10*	13*	13*	14*	26*	34	37	36
California	12*	11*	15*	13*	25*	28	30	30
Colorado	17*	22*	—	—	34*	39*	41	45
Connecticut	24*	31*	32*	31*	41*	42	45	46
Delaware	17*	16*	—	—	31*	36	40*	36
Florida	13*	15*	—	—	31*	37*	40	40
Georgia	15*	13*	18*	17*	27*	30*	32	34
Hawaii	15*	16*	14*	14*	23*	27*	33	37
Idaho	16*	—	21*	20*	31*	40	40	41
Illinois	—	—	21*	20*	32*	32*	36	38
Indiana	16*	24*	31*	30*	35*	38	46*	42
Iowa	26*	22*	28*	26*	36*	37	43	41
Kansas	—	—	30*	29*	41*	47	51	46
Kentucky	13*	16*	17*	17*	22*	26*	31*	37
Louisiana	8*	8*	14*	14*	21	24	24	23
Maine	27*	27*	25*	23*	34*	39*	42	45
Maryland	18*	22*	22*	21*	31*	38*	40	44
Massachusetts	23*	24*	33*	31*	41*	49*	58	57
Michigan	18*	23*	29*	28*	34	38	37	35
Minnesota	26*	29*	34*	33*	42*	47*	51	54
Mississippi	6*	8*	9*	9*	17*	19	21	22
Missouri	19*	20*	23*	23*	30*	31*	38	41
Montana	—	22*	25*	24*	31*	38*	44	45
Nebraska	22*	24*	24*	24*	34*	36	38	38
Nevada	—	14*	16*	16*	23*	26*	30	32
New Hampshire	25*	—	—	—	43*	47*	52	56
New Jersey	25*	25*	—	—	39*	45	52	49
New Mexico	11*	13*	12*	12*	17*	19*	24	26
New York	17*	20*	22*	21*	33*	36*	43	40
North Carolina	13*	21*	28*	25*	41	40	41	43
North Dakota	22*	24*	25*	25*	34*	40*	46	45
Ohio	16*	—	26*	25*	36*	43	46	45
Oklahoma	14*	—	16*	16*	23*	29	33	33
Oregon	—	21*	23*	23*	33	37	35	37
Pennsylvania	22*	20*	—	—	36*	41	47	46
Rhode Island	13*	17*	23*	22*	28*	31*	34*	39
South Carolina	13*	12*	18*	18*	32	36	36	34
South Dakota	—	—	—	—	34*	41	41	42
Tennessee	10*	17*	18*	18*	24*	28	29	28
Texas	15*	25*	27*	25*	33*	40	40	38
Utah	19*	23*	24*	23*	31*	37*	39	41
Vermont	—	23*	29*	29*	42*	44*	49	51
Virginia	19*	19*	25*	24*	36*	39	42	43
Washington	—	21*	—	—	36*	42	44	43
West Virginia	12*	19*	18*	17*	24*	25	33*	28
Wisconsin	24*	27*	—	—	35*	40*	47	45
Wyoming	19*	19*	25*	25*	39	43	44*	40
Other jurisdictions								
District of Columbia	5*	5*	6*	5*	7*	10*	14*	17
DoDEA[1]	—	19*	23*	21*	31*	35	37	38

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

* Significantly different ($p < .05$) from 2009 when only one state/jurisdiction or the nation is being examined.

[1] Department of Defense Education Activity (overseas and domestic schools).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2009 Mathematics Assessments.

Table **A-12.** Average scores and achievement-level results in NAEP mathematics for fourth-grade public school students, by race/ethnicity and state/jurisdiction: 2009

State/jurisdiction	White					Black					Hispanic				
		Percentage of students					Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**248**	**10**	**90**	**50**	**8**	**222**	**37**	**63**	**15**	**1**	**227**	**30**	**70**	**21**	**1**
Alabama	237	18	82	34	4	211	51	49	7	#	220	39	61	11	1
Alaska	249	9	91	52	9	225	30	70	17	#	232	23	77	27	2
Arizona	243	14	86	44	7	222	41	59	19	3	220	40	60	15	1
Arkansas	245	12	88	46	7	217	44	56	12	#	233	21	79	26	2
California	247	11	89	51	9	217	44	56	13	1	219	41	59	14	1
Colorado	252	7	93	57	11	225	33	67	23	2	228	31	69	24	3
Connecticut	253	7	93	58	11	222	38	62	14	1	227	30	70	18	2
Delaware	249	7	93	50	8	226	30	70	17	#	231	23	77	22	2
Florida	250	7	93	53	9	228	27	73	20	1	238	16	84	33	2
Georgia	247	10	90	48	8	221	38	62	15	#	231	25	75	26	2
Hawaii	247	11	89	51	7	232	24	76	33	2	230	26	74	28	2
Idaho	244	12	88	44	5	‡	‡	‡	‡	‡	225	34	66	18	1
Illinois	249	10	90	52	10	216	46	54	11	1	227	28	72	20	1
Indiana	247	9	91	48	6	222	34	66	13	#	230	23	77	23	2
Iowa	245	10	90	45	6	226	31	69	17	1	223	36	64	17	1
Kansas	251	6	94	55	8	224	34	66	18	2	233	19	81	24	1
Kentucky	241	16	84	39	6	220	41	59	14	1	227	33	67	22	2
Louisiana	241	13	87	37	3	218	43	57	8	1	230	25	75	23	1
Maine	245	12	88	46	7	228	31	69	28	2	‡	‡	‡	‡	‡
Maryland	255	6	94	60	15	228	28	72	21	1	238	17	83	32	4
Massachusetts	258	3	97	67	14	236	16	84	30	2	232	22	78	25	2
Michigan	243	14	86	43	6	212	52	48	9	#	227	29	71	20	1
Minnesota	255	6	94	61	14	227	34	66	25	2	232	27	73	29	2
Mississippi	241	13	87	37	3	215	47	53	8	#	‡	‡	‡	‡	‡
Missouri	245	12	88	46	7	221	40	60	17	1	237	22	78	37	4
Montana	247	9	91	49	6	‡	‡	‡	‡	‡	241	14	86	41	4
Nebraska	245	11	89	45	5	213	52	48	10	#	224	34	66	16	1
Nevada	245	10	90	46	5	218	43	57	12	#	227	30	70	19	1
New Hampshire	252	7	93	57	10	‡	‡	‡	‡	‡	234	21	79	31	2
New Jersey	255	5	95	63	12	228	27	73	19	2	232	23	77	25	2
New Mexico	245	12	88	47	7	225	33	67	19	2	224	34	66	18	1
New York	248	9	91	50	7	225	33	67	19	1	231	25	75	25	2
North Carolina	254	5	95	59	13	226	29	71	18	1	236	16	84	27	2
North Dakota	248	6	94	49	6	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Ohio	249	9	91	54	9	222	36	64	14	1	233	21	79	25	2
Oklahoma	241	13	87	40	4	222	36	64	14	1	229	25	75	20	2
Oregon	243	14	86	43	6	223	37	63	18	#	221	39	61	16	1
Pennsylvania	249	9	91	53	9	223	36	64	17	2	227	32	68	23	1
Rhode Island	247	11	89	50	7	221	37	63	15	#	219	41	59	14	1
South Carolina	245	12	88	46	7	220	40	60	14	1	232	23	77	28	2
South Dakota	247	9	91	47	6	225	35	65	17	#	233	25	75	27	4
Tennessee	239	17	83	36	3	213	51	49	7	#	225	34	66	19	2
Texas	254	5	95	61	9	231	21	79	23	1	233	20	80	26	1
Utah	246	13	87	48	8	221	39	61	15	1	219	43	57	16	1
Vermont	248	11	89	51	9	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Virginia	251	7	93	54	9	225	31	69	16	1	234	20	80	28	2
Washington	247	11	89	51	8	227	29	71	24	3	227	31	69	20	1
West Virginia	233	22	78	28	2	225	34	66	20	1	‡	‡	‡	‡	‡
Wisconsin	250	9	91	53	9	217	45	55	11	#	228	29	71	22	1
Wyoming	244	10	90	44	5	‡	‡	‡	‡	‡	231	23	77	22	#
Other jurisdictions															
District of Columbia	270	1	99	81	33	213	50	50	9	#	227	30	70	24	1
DoDEA[1]	245	10	90	45	5	229	26	74	19	1	235	20	80	30	2

See notes at end of table.

Table **A-12.** Average scores and achievement-level results in NAEP mathematics for fourth-grade public school students, by race/ethnicity and state/jurisdiction: 2009—Continued

State/jurisdiction	Asian/Pacific Islander					American Indian/Alaska Native				
		Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**255**	**9**	**91**	**61**	**18**	**227**	**32**	**68**	**23**	**2**
Alabama	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Alaska	236	22	78	35	4	216	47	53	14	2
Arizona	245	13	87	45	12	215	49	51	13	1
Arkansas	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
California	257	7	93	61	20	‡	‡	‡	‡	‡
Colorado	246	15	85	51	11	‡	‡	‡	‡	‡
Connecticut	257	7	93	65	15	‡	‡	‡	‡	‡
Delaware	258	6	94	66	19	‡	‡	‡	‡	‡
Florida	261	7	93	73	21	‡	‡	‡	‡	‡
Georgia	256	7	93	60	18	‡	‡	‡	‡	‡
Hawaii	235	23	77	35	5	‡	‡	‡	‡	‡
Idaho	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Illinois	265	3	97	73	25	‡	‡	‡	‡	‡
Indiana	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Iowa	259	6	94	66	23	‡	‡	‡	‡	‡
Kansas	258	6	94	64	16	‡	‡	‡	‡	‡
Kentucky	265	7	93	69	35	‡	‡	‡	‡	‡
Louisiana	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Maine	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Maryland	259	5	95	67	18	‡	‡	‡	‡	‡
Massachusetts	264	4	96	70	28	‡	‡	‡	‡	‡
Michigan	252	13	87	55	19	‡	‡	‡	‡	‡
Minnesota	243	18	82	44	11	233	26	74	27	5
Mississippi	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Missouri	255	11	89	62	22	‡	‡	‡	‡	‡
Montana	‡	‡	‡	‡	‡	228	32	68	23	2
Nebraska	251	10	90	55	11	‡	‡	‡	‡	‡
Nevada	245	12	88	45	7	‡	‡	‡	‡	‡
New Hampshire	257	9	91	67	16	‡	‡	‡	‡	‡
New Jersey	261	5	95	72	22	‡	‡	‡	‡	‡
New Mexico	‡	‡	‡	‡	‡	217	43	57	14	#
New York	257	8	92	67	16	‡	‡	‡	‡	‡
North Carolina	259	7	93	62	25	232	23	77	30	2
North Dakota	‡	‡	‡	‡	‡	226	29	71	17	2
Ohio	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Oklahoma	‡	‡	‡	‡	‡	234	21	79	29	2
Oregon	245	18	82	48	12	223	37	63	15	3
Pennsylvania	258	9	91	62	22	‡	‡	‡	‡	‡
Rhode Island	242	14	86	40	10	‡	‡	‡	‡	‡
South Carolina	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
South Dakota	‡	‡	‡	‡	‡	220	40	60	15	#
Tennessee	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Texas	259	4	96	71	17	‡	‡	‡	‡	‡
Utah	241	17	83	39	7	219	46	54	17	#
Vermont	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Virginia	258	5	95	64	18	‡	‡	‡	‡	‡
Washington	253	9	91	56	16	227	31	69	21	3
West Virginia	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Wisconsin	240	21	79	39	12	228	29	71	21	1
Wyoming	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other jurisdictions										
District of Columbia	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
DoDEA[1]	244	9	91	42	5	‡	‡	‡	‡	‡

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

[1]Department of Defense Education Activity (overseas and domestic schools).

NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Results are not shown for students whose race/ethnicity was unclassified. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-13.** Average scores and achievement-level results in NAEP mathematics for fourth-grade public school students, by gender and state/jurisdiction: 2009

State/jurisdiction	Male					Female				
		Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**240**	**19**	**81**	**40**	**7**	**238**	**19**	**81**	**37**	**5**
Alabama	228	30	70	25	3	228	29	71	24	2
Alaska	238	21	79	40	7	236	22	78	36	5
Arizona	230	30	70	30	4	230	29	71	26	3
Arkansas	239	20	80	39	6	236	20	80	34	4
California	233	28	72	32	6	231	29	71	29	5
Colorado	244	16	84	46	9	242	16	84	44	7
Connecticut	246	14	86	49	11	243	15	85	44	6
Delaware	241	16	84	40	6	238	17	83	33	4
Florida	243	14	86	42	6	241	14	86	39	5
Georgia	237	23	77	35	5	236	21	79	32	4
Hawaii	235	23	77	37	6	236	22	78	37	4
Idaho	242	15	85	42	5	240	15	85	39	4
Illinois	240	20	80	41	7	237	21	79	35	6
Indiana	243	13	87	42	6	242	12	88	41	4
Iowa	243	13	87	43	6	242	13	87	40	5
Kansas	246	11	89	48	7	244	11	89	44	6
Kentucky	240	18	82	39	7	238	20	80	34	5
Louisiana	230	27	73	24	2	229	28	72	21	1
Maine	247	11	89	48	9	242	14	86	42	5
Maryland	244	16	84	44	11	243	14	86	43	7
Massachusetts	253	8	92	59	14	251	7	93	55	10
Michigan	238	22	78	37	7	235	22	78	33	4
Minnesota	251	11	89	56	14	248	12	88	51	9
Mississippi	227	33	67	23	2	228	29	71	21	1
Missouri	241	17	83	43	7	240	17	83	39	5
Montana	247	10	90	49	7	242	14	86	41	5
Nebraska	239	19	81	39	4	239	17	83	37	4
Nevada	236	21	79	34	4	234	22	78	30	3
New Hampshire	252	8	92	58	11	250	8	92	54	9
New Jersey	248	12	88	51	11	245	13	87	46	7
New Mexico	231	28	72	27	4	229	29	71	25	2
New York	242	16	84	43	6	239	17	83	37	5
North Carolina	244	14	86	44	8	244	13	87	42	8
North Dakota	247	8	92	47	7	244	10	90	42	3
Ohio	245	13	87	48	9	242	16	84	43	6
Oklahoma	238	18	82	35	4	236	19	81	30	2
Oregon	240	19	81	40	7	236	21	79	34	4
Pennsylvania	245	15	85	48	9	242	16	84	43	6
Rhode Island	240	18	82	43	6	237	21	79	36	4
South Carolina	236	23	77	36	5	235	22	78	32	4
South Dakota	243	13	87	44	6	241	14	86	39	3
Tennessee	232	26	74	29	3	231	26	74	28	2
Texas	241	15	85	39	5	240	14	86	37	3
Utah	241	18	82	42	7	239	19	81	40	5
Vermont	249	11	89	53	11	247	11	89	49	8
Virginia	245	15	85	46	9	241	14	86	39	6
Washington	242	17	83	45	8	242	15	85	42	6
West Virginia	234	22	78	30	3	232	24	76	26	1
Wisconsin	245	15	85	47	9	242	15	85	43	7
Wyoming	243	12	88	43	4	241	14	86	38	4
Other jurisdictions										
District of Columbia	218	45	55	17	4	221	42	58	17	3
DoDEA[1]	242	13	87	42	4	238	16	84	33	3

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-14.** Average scores and achievement-level results in NAEP mathematics for fourth-grade public school students, by eligibility for free/reduced-price school lunch and state/jurisdiction: 2009

State/jurisdiction	Eligible					Not eligible					Information not available				
		Percentage of students					Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**228**	**29**	**71**	**22**	**1**	**250**	**9**	**91**	**54**	**10**	**240**	**22**	**78**	**42**	**7**
Alabama	217	43	57	13	#	241	14	86	39	5	‡	‡	‡	‡	‡
Alaska	226	33	67	24	2	247	12	88	49	9	‡	‡	‡	‡	‡
Arizona	219	42	58	15	1	243	14	86	44	7	‡	‡	‡	‡	‡
Arkansas	229	28	72	23	2	250	8	92	55	9	‡	‡	‡	‡	‡
California	220	40	60	15	1	246	14	86	48	11	227	35	65	25	4
Colorado	228	30	70	24	2	252	8	92	58	12	‡	‡	‡	‡	‡
Connecticut	225	33	67	18	1	253	7	93	58	11	‡	‡	‡	‡	‡
Delaware	229	27	73	21	2	248	8	92	48	8	‡	‡	‡	‡	‡
Florida	235	20	80	29	2	251	7	93	55	9	‡	‡	‡	‡	‡
Georgia	225	32	68	19	1	249	9	91	53	9	‡	‡	‡	‡	‡
Hawaii	224	33	67	23	2	245	14	86	48	8	‡	‡	‡	‡	‡
Idaho	234	23	77	30	2	246	10	90	49	7	‡	‡	‡	‡	‡
Illinois	224	34	66	18	1	251	9	91	54	11	‡	‡	‡	‡	‡
Indiana	232	22	78	26	2	251	6	94	54	9	‡	‡	‡	‡	‡
Iowa	232	23	77	25	2	249	7	93	51	7	‡	‡	‡	‡	‡
Kansas	236	18	82	32	3	254	5	95	60	10	‡	‡	‡	‡	‡
Kentucky	229	28	72	21	1	249	10	90	53	11	‡	‡	‡	‡	‡
Louisiana	223	35	65	14	1	245	9	91	43	4	‡	‡	‡	‡	‡
Maine	235	20	80	31	3	251	8	92	54	10	‡	‡	‡	‡	‡
Maryland	229	26	74	20	1	253	8	92	59	14	‡	‡	‡	‡	‡
Massachusetts	237	17	83	31	3	260	3	97	70	17	‡	‡	‡	‡	‡
Michigan	222	36	64	17	1	247	11	89	49	9	‡	‡	‡	‡	‡
Minnesota	234	24	76	31	3	257	6	94	64	15	‡	‡	‡	‡	‡
Mississippi	221	39	61	14	1	242	12	88	41	4	‡	‡	‡	‡	‡
Missouri	229	29	71	24	2	250	9	91	54	9	‡	‡	‡	‡	‡
Montana	235	19	81	31	2	251	6	94	56	8	‡	‡	‡	‡	‡
Nebraska	227	30	70	23	1	247	9	91	49	7	‡	‡	‡	‡	‡
Nevada	226	31	69	20	1	242	14	86	41	5	‡	‡	‡	‡	‡
New Hampshire	237	18	82	35	3	255	5	95	62	12	‡	‡	‡	‡	‡
New Jersey	229	27	73	22	1	255	6	94	62	13	‡	‡	‡	‡	‡
New Mexico	223	36	64	17	1	245	11	89	45	7	‡	‡	‡	‡	‡
New York	233	25	75	28	3	249	8	92	52	7	258	8	92	69	17
North Carolina	232	22	78	25	2	255	6	94	60	14	‡	‡	‡	‡	‡
North Dakota	236	16	84	29	2	250	5	95	52	7	‡	‡	‡	‡	‡
Ohio	230	27	73	24	2	253	7	93	60	11	‡	‡	‡	‡	‡
Oklahoma	231	23	77	23	1	244	12	88	44	5	‡	‡	‡	‡	‡
Oregon	227	30	70	22	1	248	11	89	50	9	‡	‡	‡	‡	‡
Pennsylvania	228	29	71	23	2	253	7	93	60	11	‡	‡	‡	‡	‡
Rhode Island	224	34	66	18	1	249	9	91	54	8	‡	‡	‡	‡	‡
South Carolina	226	32	68	20	1	248	10	90	51	9	‡	‡	‡	‡	‡
South Dakota	232	25	75	27	2	248	8	92	50	6	‡	‡	‡	‡	‡
Tennessee	222	38	62	16	1	242	13	87	42	5	‡	‡	‡	‡	‡
Texas	233	21	79	26	1	252	6	94	57	9	‡	‡	‡	‡	‡
Utah	227	33	67	24	2	248	11	89	50	8	251	11	89	57	12
Vermont	235	22	78	32	4	254	6	94	60	12	257	3	97	64	14
Virginia	230	26	74	23	2	250	9	91	52	10	‡	‡	‡	‡	‡
Washington	231	26	74	27	2	251	8	92	56	11	‡	‡	‡	‡	‡
West Virginia	227	30	70	20	1	241	13	87	40	4	‡	‡	‡	‡	‡
Wisconsin	229	27	73	24	2	252	7	93	58	11	‡	‡	‡	‡	‡
Wyoming	234	21	79	29	2	246	8	92	47	5	‡	‡	‡	‡	‡
Other jurisdictions															
District of Columbia	211	52	48	8	#	242	19	81	42	12	‡	‡	‡	‡	‡
DoDEA[1]	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	240	14	86	38	4

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-15.** Average scores and achievement-level results in NAEP mathematics for fourth-grade public school students, by status as students with disabilities (SD) and state/jurisdiction: 2009

State/jurisdiction	SD					Not SD				
		Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**220**	**41**	**59**	**19**	**2**	**242**	**16**	**84**	**41**	**6**
Alabama	194	71	29	5	#	231	26	74	26	3
Alaska	218	45	55	16	1	241	17	83	42	7
Arizona	209	57	43	15	1	233	26	74	30	4
Arkansas	215	46	54	14	#	240	17	83	39	5
California	208	57	43	16	3	234	26	74	31	6
Colorado	218	43	57	15	2	246	13	87	49	9
Connecticut	222	39	61	19	2	248	11	89	50	9
Delaware	220	42	58	16	1	242	13	87	39	5
Florida	230	28	72	26	2	244	11	89	43	6
Georgia	215	47	53	13	1	238	19	81	36	5
Hawaii	196	70	30	9	2	240	18	82	40	6
Idaho	219	44	56	16	2	243	12	88	43	5
Illinois	223	38	62	23	4	241	18	82	40	7
Indiana	228	30	70	24	2	245	10	90	44	6
Iowa	220	40	60	12	1	246	9	91	46	6
Kansas	227	31	69	23	2	248	8	92	49	7
Kentucky	226	35	65	21	3	241	17	83	39	6
Louisiana	215	50	50	10	1	233	23	77	26	2
Maine	225	34	66	19	1	249	8	92	50	8
Maryland	228	33	67	27	4	245	13	87	46	9
Massachusetts	237	19	81	32	4	255	6	94	61	13
Michigan	220	42	58	19	2	238	19	81	37	6
Minnesota	232	28	72	32	5	252	9	91	57	12
Mississippi	212	53	47	10	#	229	29	71	23	2
Missouri	225	36	64	26	2	243	15	85	43	6
Montana	223	34	66	16	1	247	9	91	49	6
Nebraska	222	39	61	18	2	242	14	86	42	5
Nevada	218	43	57	16	1	237	19	81	34	3
New Hampshire	231	26	74	27	2	255	4	96	61	12
New Jersey	230	30	70	27	4	249	10	90	52	10
New Mexico	212	50	50	10	#	232	26	74	28	3
New York	220	40	60	13	1	244	12	88	45	6
North Carolina	224	36	64	23	2	247	10	90	46	9
North Dakota	231	22	78	21	2	247	7	93	48	5
Ohio	220	40	60	18	#	247	11	89	49	8
Oklahoma	220	41	59	16	1	239	15	85	35	3
Oregon	218	46	54	17	3	241	16	84	40	6
Pennsylvania	222	40	60	19	3	247	12	88	50	8
Rhode Island	214	49	51	13	1	243	13	87	44	6
South Carolina	211	55	45	13	1	239	17	83	37	5
South Dakota	226	35	65	22	3	245	11	89	45	5
Tennessee	210	57	43	11	2	234	22	78	31	3
Texas	222	39	61	18	2	242	13	87	40	5
Utah	219	44	56	18	3	243	16	84	44	7
Vermont	226	34	66	22	3	252	7	93	56	11
Virginia	225	37	63	21	3	246	11	89	46	8
Washington	217	49	51	17	2	245	12	88	46	8
West Virginia	217	45	55	14	1	236	18	82	31	3
Wisconsin	222	40	60	18	2	247	11	89	49	8
Wyoming	227	31	69	20	2	245	9	91	44	4
Other jurisdictions										
District of Columbia	193	77	23	4	1	222	40	60	19	4
DoDEA[1]	222	40	60	17	1	243	11	89	40	4

Rounds to zero.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: The results for students with disabilities are based on students who were assessed and cannot be generalized to the total population of such students. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-16.** Average scores and achievement-level results in NAEP mathematics for fourth-grade public school students, by status as English language learners (ELL) and state/jurisdiction: 2009

State/jurisdiction	ELL					Not ELL				
		Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**218**	**43**	**57**	**12**	**1**	**242**	**16**	**84**	**41**	**6**
Alabama	‡	‡	‡	‡	‡	228	29	71	25	2
Alaska	202	64	36	4	#	241	17	83	42	6
Arizona	201	69	31	2	#	235	23	77	32	4
Arkansas	227	29	71	21	2	238	19	81	37	5
California	211	52	48	6	#	240	19	81	40	8
Colorado	216	47	53	9	1	246	12	88	50	9
Connecticut	216	49	51	9	1	246	13	87	48	9
Delaware	221	39	61	11	#	240	16	84	37	5
Florida	226	31	69	19	1	243	12	88	42	6
Georgia	220	41	59	14	#	237	21	79	35	5
Hawaii	209	56	44	12	1	239	19	81	40	6
Idaho	210	61	39	7	1	243	13	87	42	5
Illinois	215	47	53	11	1	240	18	82	40	7
Indiana	226	28	72	19	1	243	12	88	43	6
Iowa	221	38	62	14	1	244	12	88	43	5
Kansas	231	20	80	21	1	247	10	90	49	7
Kentucky	232	28	72	28	8	239	19	81	37	6
Louisiana	225	29	71	15	1	230	28	72	23	2
Maine	‡	‡	‡	‡	‡	245	13	87	45	7
Maryland	227	29	71	17	2	245	14	86	45	9
Massachusetts	221	38	62	15	1	254	6	94	60	13
Michigan	216	48	52	12	1	237	21	79	36	5
Minnesota	224	36	64	15	2	252	9	91	57	12
Mississippi	‡	‡	‡	‡	‡	227	31	69	22	2
Missouri	‡	‡	‡	‡	‡	241	17	83	41	6
Montana	214	50	50	10	#	245	10	90	47	6
Nebraska	213	49	51	6	#	241	16	84	40	4
Nevada	220	39	61	12	1	239	17	83	37	4
New Hampshire	230	27	73	28	#	252	7	93	56	10
New Jersey	216	51	49	10	1	247	11	89	50	9
New Mexico	208	60	40	5	#	234	22	78	30	3
New York	218	43	57	13	#	242	15	85	42	6
North Carolina	229	25	75	18	1	245	13	87	45	9
North Dakota	‡	‡	‡	‡	‡	245	9	91	45	5
Ohio	239	19	81	36	6	244	15	85	45	8
Oklahoma	219	40	60	9	#	238	17	83	34	3
Oregon	213	52	48	6	#	241	16	84	41	6
Pennsylvania	215	53	47	12	#	244	14	86	46	8
Rhode Island	209	56	44	10	1	241	17	83	41	5
South Carolina	232	25	75	28	3	236	22	78	34	5
South Dakota	‡	‡	‡	‡	‡	243	13	87	43	5
Tennessee	212	54	46	13	1	232	25	75	29	3
Texas	228	26	74	20	1	244	12	88	43	5
Utah	209	57	43	6	#	243	15	85	44	7
Vermont	‡	‡	‡	‡	‡	248	11	89	51	9
Virginia	229	24	76	19	1	244	14	86	44	8
Washington	214	50	50	8	#	245	12	88	47	8
West Virginia	‡	‡	‡	‡	‡	233	23	77	28	2
Wisconsin	223	34	66	15	1	245	14	86	47	8
Wyoming	‡	‡	‡	‡	‡	243	12	88	41	4
Other jurisdictions										
District of Columbia	215	47	53	14	1	220	43	57	17	3
DoDEA[1]	232	22	78	22	1	241	14	86	38	4

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: The results for English language learners are based on students who were assessed and cannot be generalized to the total population of such students. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-17.** Percentage distribution of eighth-grade students assessed in NAEP mathematics, by race/ethnicity, eligibility for free/reduced-price school lunch, and state/jurisdiction: 1990, 1996, and 2009

	Race/ethnicity										Eligibility for free/reduced-price school lunch			
	White		Black		Hispanic		Asian/ Pacific Islander		American Indian/ Alaska Native		Eligible		Not eligible	
State/jurisdiction	1990[1]	2009	1990[1]	2009	1990[1]	2009	1990[1]	2009	1990[1]	2009	1996[1]	2009	1996[1]	2009
Nation (public)	**73***	**56**	**16**	**16**	**7***	**21**	**2***	**5**	**1**	**1**	**30***	**43**	**56**	**56**
Alabama	67*	60	32	35	#*	3	1*	1	#	1	39*	50	59*	50
Alaska	—	53	—	4	—	6	—	9	—	22	15*	36	33*	62
Arizona	62*	44	3*	5	26*	42	2*	3	7	6	27*	47	50	51
Arkansas	75*	69	24	21	1*	8	1	1	#*	1	32*	53	60*	47
California	49*	28	7	6	30*	51	12	13	1	1	36*	53	47	45
Colorado	77*	61	5	6	15*	28	2*	4	1	1	24*	35	65	63
Connecticut	79*	70	11	11	8*	15	2*	4	#	#	21	26	74	74
Delaware	70*	54	26*	34	2*	9	1*	3	#*	#	20*	38	59*	62
Florida	64*	46	22	22	12*	26	2	2	#	#	39*	48	53	52
Georgia	62*	47	36	37	1*	10	1*	3	#	#	32*	49	54	50
Hawaii	20*	14	2	3	2*	3	67	68	#	1	30*	41	65*	59
Idaho	93*	81	#	1	4*	14	1	2	1	2	—	36	—	62
Illinois	70*	58	19	18	8*	18	2	4	#	#	—	39	—	61
Indiana	87*	76	9	12	2*	7	1	2	#	#	23*	37	77*	63
Iowa	95*	86	2*	5	1*	6	1*	2	#	1	19*	33	74*	67
Kansas	—	73	—	9	—	14	—	2	—	2	—	42	—	57
Kentucky	90*	85	9	10	#*	2	1*	1	#	#	34*	48	58*	52
Louisiana	57	52	40	43	1	2	1	2	#	1	48*	62	44*	38
Maine	—	94	—	2	—	1	—	2	—	1	22*	35	73*	65
Maryland	62*	49	31	35	2*	10	4*	7	#	#	25*	31	70	69
Massachusetts	—	73	—	8	—	11	—	6	—	#	18*	29	75	71
Michigan	82*	74	14	18	2*	4	2	2	1	1	20*	38	66	62
Minnesota	93*	79	2*	7	#*	5	3*	6	2	2	20*	27	65*	73
Mississippi	—	48	—	50	—	2	—	1	—	#	53*	66	42*	33
Missouri	—	80	—	14	—	3	—	2	—	1	26*	36	66	64
Montana	91*	85	#*	1	1*	3	1*	1	7*	10	25*	34	59*	66
Nebraska	92*	77	5*	8	2*	12	1*	2	#*	1	27*	37	69*	63
Nevada	—	44	—	10	—	35	—	9	—	1	—	35	—	65
New Hampshire	98*	92	#*	2	1*	3	1*	2	#	#	—	20	—	77
New Jersey	69*	59	17	16	9*	17	4*	8	#	#	—	27	—	71
New Mexico	42*	29	2	3	42*	58	2	1	11	9	42*	63	43*	35
New York	61*	54	19	19	13*	20	4*	7	1	#	37	44	54	52
North Carolina	63*	55	32	28	1*	10	1*	2	2	1	31*	44	62*	54
North Dakota	93	88	#	1	1	2	1	1	5	9	24*	29	67*	71
Ohio	84*	78	12	15	1*	2	1	1	#	#	—	34	—	66
Oklahoma	77*	58	11	10	2*	11	1	2	9*	19	—	48	—	52
Oregon	91*	72	2	2	3*	16	3*	5	2	2	22*	41	62	57
Pennsylvania	82	77	14	13	2*	6	1*	3	#	#	—	33	—	67
Rhode Island	86*	71	5*	9	5*	17	2*	3	#*	1	26*	38	70*	62
South Carolina	—	54	—	38	—	5	—	1	—	#	44*	51	55*	49
South Dakota	—	84	—	2	—	2	—	1	—	11	—	32	—	68
Tennessee	—	70	—	25	—	3	—	2	—	#	27*	43	64*	57
Texas	50*	37	14	14	33*	46	2	4	#	#	37*	53	57*	47
Utah	—	80	—	1	—	14	—	3	—	1	20*	27	70*	64
Vermont	—	94	—	2	—	1	—	2	—	1	19*	29	73	71
Virginia	70*	59	25	26	2*	8	3*	6	#	#	23*	31	67	69
Washington	—	68	—	5	—	15	—	8	—	3	25*	37	72*	63
West Virginia	96*	93	3*	5	#*	1	1	1	#	#	36*	52	61*	48
Wisconsin	88*	79	9	10	1*	7	2*	3	1	1	20*	31	67	66
Wyoming	86	84	1	1	6*	10	1	1	2*	3	21*	29	73*	71
Other jurisdictions														
District of Columbia	3	3	93*	87	3*	9	1*	2	#	#	55*	73	30*	26
DoDEA[2]	—	46	—	16	—	16	—	9	—	1	‡	#	‡	#

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.
Rounds to zero.
‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.
* Significantly different ($p < .05$) from 2009 when only one state/jurisdiction or the nation is being examined.
[1] Accommodations were not permitted in this assessment year.
[2] Department of Defense Education Activity (overseas and domestic schools).
NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Results are not shown for students whose race/ethnicity was unclassified and for students whose eligibility status for free/reduced-price school lunch was not available. Data on eligibility for free/reduced-price school lunch were not collected until 1996.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1990, 1996, and 2009 Mathematics Assessments.

Table **A-18.** Percentage of eighth-grade public school students at or above *Basic* in NAEP mathematics, by state/jurisdiction: Various years, 1990–2009

	Accommodations not permitted				Accommodations permitted				
State/jurisdiction	1990	1992	1996	2000	2000	2003	2005	2007	2009
Nation (public)	**51***	**56***	**61***	**65***	**62***	**67***	**68***	**70***	**71**
Alabama	40*	39*	45*	52*	53*	53*	53*	55	58
Alaska	—	—	68*	—	—	70*	69*	73	75
Arizona	48*	55*	57*	62*	60*	61*	64	66	67
Arkansas	44*	44*	52*	52*	49*	58*	64	65	67
California	45*	50*	51*	52*	50*	56	57	59	59
Colorado	57*	64*	67*	—	—	74	70*	75	76
Connecticut	60*	64*	70*	72*	70*	73*	70*	73*	78
Delaware	48*	52*	55*	—	—	68*	72*	74	75
Florida	43*	49*	54*	—	—	62*	65*	68	70
Georgia	47*	48*	51*	55*	54*	59*	62*	64	67
Hawaii	40*	46*	51*	52*	51*	56*	56*	59*	65
Idaho	63*	68*	—	71*	70*	73*	73*	75*	78
Illinois	50*	—	—	68	67*	66*	68*	70	73
Indiana	56*	60*	68*	76	74	74*	74*	76	78
Iowa	70*	76	78	—	—	76	75	77	76
Kansas	—	—	—	77	76	76	77	81	79
Kentucky	43*	51*	56*	63*	60*	65*	64*	69	70
Louisiana	32*	37*	38*	48*	47*	57*	59	64	62
Maine	—	72*	77	76	73*	75	74*	78	78
Maryland	50*	54*	57*	65*	62*	67*	66*	74	75
Massachusetts	—	63*	68*	76*	70*	76*	80*	85	85
Michigan	53*	58*	67	70	68	68	68	66	68
Minnesota	67*	74*	75*	80	80	82	79*	81	83
Mississippi	—	33*	36*	41*	42*	47*	52	54	54
Missouri	—	62*	64*	67*	64*	71*	68*	72*	77
Montana	74*	—	75*	80	79*	79*	80*	79*	82
Nebraska	68*	70*	76	74	73	74	75	74	75
Nevada	—	—	—	58*	55*	59*	60	60	63
New Hampshire	65*	71*	—	—	—	79	77*	78*	82
New Jersey	58*	62*	—	—	—	72*	74*	77	80
New Mexico	43*	48*	51*	50*	48*	52*	53*	57	59
New York	50*	57*	61*	68	63*	70	70	70	73
North Carolina	38*	47*	56*	70	67*	72	72	73	74
North Dakota	75*	78*	77*	77*	76*	81*	81*	86	86
Ohio	53*	59*	—	75	73	74	74	76	76
Oklahoma	52*	59*	—	64	62*	65	63*	66	68
Oregon	62*	—	67*	71	71	70*	72	73	75
Pennsylvania	56*	62*	—	—	—	69*	72*	77	78
Rhode Island	49*	56*	60*	64*	59*	63*	63*	65	68
South Carolina	—	48*	48*	55*	53*	68	71	71	69
South Dakota	—	—	—	—	—	78*	80*	81	83
Tennessee	—	47*	53*	53*	52*	59*	61	64	65
Texas	45*	53*	59*	68*	67*	69*	72*	78	78
Utah	—	67*	70*	68*	66*	72*	71*	72	75
Vermont	—	—	72*	75*	73*	77*	78*	81	81
Virginia	52*	57*	58*	67*	65*	72*	75	77	76
Washington	—	—	67*	—	—	72*	75	75	78
West Virginia	42*	47*	54*	62	58	63	60	61	61
Wisconsin	66*	71*	75	—	—	75*	76	76	79
Wyoming	64*	67*	68*	70*	69*	77	76	80	78
Other jurisdictions									
District of Columbia	17*	22*	20*	23*	23*	29*	31*	34*	40
DoDEA[1]	—	—	64*	70*	68*	79	76*	78	79

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

* Significantly different ($p < .05$) from 2009 when only one state/jurisdiction or the nation is being examined.

[1] Department of Defense Education Activity (overseas and domestic schools).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Table **A-19.** Percentage of eighth-grade public school students at or above *Proficient* in NAEP mathematics, by state/jurisdiction: Various years, 1990–2009

State/jurisdiction	Accommodations not permitted				Accommodations permitted				
	1990	1992	1996	2000	2000	2003	2005	2007	2009
Nation (public)	**15***	**20***	**23***	**26***	**25***	**27***	**28***	**31***	**33**
Alabama	9*	10*	12*	16*	16*	16*	15*	18	20
Alaska	—	—	30	—	—	30*	29*	32	33
Arizona	13*	15*	18*	21*	20*	21*	26	26	29
Arkansas	9*	10*	13*	14*	13*	19*	22*	24	27
California	12*	16*	17*	18*	17*	22	22	24	23
Colorado	17*	22*	25*	—	—	34*	32*	37	40
Connecticut	22*	26*	31*	34*	33*	35*	35*	35*	40
Delaware	14*	15*	19*	—	—	26*	30	31	32
Florida	12*	15*	17*	—	—	23*	26	27	29
Georgia	14*	13*	16*	19*	19*	22*	23*	25	27
Hawaii	12*	14*	16*	16*	16*	17*	18*	21*	25
Idaho	18*	22*	—	27*	26*	28*	30*	34*	38
Illinois	15*	—	—	27*	26*	29	29*	31	33
Indiana	17*	20*	24*	31*	29*	31*	30*	35	36
Iowa	25*	31	31	—	—	33	34	35	34
Kansas	—	—	—	34*	34*	34*	34*	40	39
Kentucky	10*	14*	16*	21*	20*	24	23*	27	27
Louisiana	5*	7*	7*	12*	11*	17	16	19	20
Maine	—	25*	31*	32	30*	29*	30*	34	35
Maryland	17*	20*	24*	29*	27*	30*	30*	37	40
Massachusetts	—	23*	28*	32*	30*	38*	43*	51	52
Michigan	16*	19*	28	28	28	28	29	29	31
Minnesota	23*	31*	34*	40*	39*	44	43*	43	47
Mississippi	—	6*	7*	8*	9*	12	14	14	15
Missouri	—	20*	22*	22*	21*	28*	26*	30*	35
Montana	27*	—	32*	37*	36*	35*	36*	38*	44
Nebraska	24*	26*	31	31	30*	32	35	35	35
Nevada	—	—	—	20*	18*	20*	21*	23	25
New Hampshire	20*	25*	—	—	—	35*	35*	38*	43
New Jersey	21*	24*	—	—	—	33*	36*	40	44
New Mexico	10*	11*	14*	13*	12*	15*	14*	17	20
New York	15*	20*	22*	26*	24*	32	31	30	34
North Carolina	9*	12*	20*	30*	27*	32	32	34	36
North Dakota	27*	29*	33*	31*	30*	36*	35*	41	43
Ohio	15*	18*	—	31*	30*	30*	33	35	36
Oklahoma	13*	17*	—	19*	18*	20*	21	21	24
Oregon	21*	—	26*	32*	31*	32*	34	35	37
Pennsylvania	17*	21*	—	—	—	30*	31*	38	40
Rhode Island	15*	16*	20*	24*	22*	24*	24*	28	28
South Carolina	—	15*	14*	18*	17*	26*	30	32	30
South Dakota	—	—	—	—	—	35*	36*	39	42
Tennessee	—	12*	15*	17*	16*	21	21*	23	25
Texas	13*	18*	21*	24*	24*	25*	31*	35	36
Utah	—	22*	24*	26*	25*	31*	30*	32	35
Vermont	—	—	27*	32*	31*	35*	38*	41	43
Virginia	17*	19*	21*	26*	25*	31*	33	37	36
Washington	—	—	26*	—	—	32*	36	36*	39
West Virginia	9*	10*	14*	18	17	20	18	19	19
Wisconsin	23*	27*	32*	—	—	35*	36	37	39
Wyoming	19*	21*	22*	25*	23*	32	29*	36	35
Other jurisdictions									
District of Columbia	3*	4*	5*	6*	6*	6*	7*	8*	11
DoDEA[1]	—	—	22*	27*	26*	33*	33	33	36

— Not available. The state/jurisdiction did not participate or did not meet the minimum participation guidelines for reporting.

* Significantly different ($p < .05$) from 2009 when only one state/jurisdiction or the nation is being examined.

[1] Department of Defense Education Activity (overseas and domestic schools).

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2009 Mathematics Assessments.

Table **A-20.** Average scores and achievement-level results in NAEP mathematics for eighth-grade public school students, by race/ethnicity and state/jurisdiction: 2009

State/jurisdiction	White					Black					Hispanic				
		Percentage of students					Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**292**	**18**	**82**	**43**	**10**	**260**	**51**	**49**	**12**	**1**	**266**	**44**	**56**	**17**	**2**
Alabama	280	28	72	29	5	248	66	34	6	1	260	51	49	10	#
Alaska	293	14	86	44	8	268	42	58	17	1	275	31	69	23	5
Arizona	292	19	81	42	11	269	42	58	23	5	265	44	56	16	1
Arkansas	284	24	76	34	6	251	64	36	8	#	269	37	63	15	1
California	289	22	78	39	10	250	60	40	10	1	256	55	45	11	1
Colorado	299	13	87	51	14	263	47	53	16	1	267	45	55	18	2
Connecticut	298	13	87	49	13	261	50	50	10	1	263	45	55	14	1
Delaware	294	14	86	43	9	267	42	58	13	1	278	28	72	22	2
Florida	289	20	80	39	9	264	47	53	13	1	274	34	66	22	3
Georgia	289	20	80	39	9	262	50	50	11	1	270	41	59	18	2
Hawaii	282	26	74	31	6	271	40	60	21	4	276	30	70	26	4
Idaho	292	17	83	43	9	‡	‡	‡	‡	‡	264	46	54	15	1
Illinois	294	15	85	44	10	255	59	41	9	1	269	41	59	17	1
Indiana	291	17	83	41	8	266	46	54	14	1	273	36	64	19	2
Iowa	287	21	79	37	7	259	50	50	9	2	266	43	57	15	1
Kansas	294	15	85	45	10	264	48	52	15	1	274	35	65	22	3
Kentucky	282	27	73	29	5	258	55	45	8	#	272	37	63	22	3
Louisiana	283	23	77	29	6	257	57	43	7	1	‡	‡	‡	‡	‡
Maine	287	21	79	36	8	261	54	46	14	5	‡	‡	‡	‡	‡
Maryland	303	11	89	56	18	266	45	55	15	1	275	36	64	26	4
Massachusetts	305	9	91	59	20	272	38	62	23	3	271	38	62	21	4
Michigan	286	23	77	37	8	246	68	32	5	1	269	38	62	17	2
Minnesota	300	11	89	53	15	264	47	53	13	2	269	45	55	21	4
Mississippi	279	26	74	25	3	251	64	36	5	#	‡	‡	‡	‡	‡
Missouri	290	18	82	39	7	260	54	46	11	2	284	24	76	37	4
Montana	296	13	87	47	11	‡	‡	‡	‡	‡	278	30	70	27	5
Nebraska	291	17	83	41	9	253	60	40	10	2	262	50	50	10	1
Nevada	287	22	78	36	8	256	59	41	10	1	262	50	50	13	2
New Hampshire	293	17	83	44	11	‡	‡	‡	‡	‡	270	45	55	22	6
New Jersey	302	11	89	54	17	267	42	58	17	2	272	37	63	22	3
New Mexico	288	19	81	39	7	259	45	55	13	2	262	50	50	12	1
New York	294	14	86	44	10	262	49	51	13	1	262	48	52	15	2
North Carolina	297	15	85	49	14	262	47	53	12	1	274	33	67	24	2
North Dakota	296	10	90	46	8	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Ohio	291	17	83	41	9	260	55	45	11	1	267	42	58	16	#
Oklahoma	282	24	76	29	4	261	49	51	10	1	263	50	50	12	1
Oregon	290	19	81	41	9	264	47	53	12	1	264	46	54	15	1
Pennsylvania	294	16	84	45	11	260	51	49	13	1	266	45	55	18	3
Rhode Island	286	23	77	35	7	256	55	45	8	1	255	57	43	8	1
South Carolina	293	17	83	43	11	263	48	52	12	1	269	43	57	16	3
South Dakota	295	13	87	46	8	‡	‡	‡	‡	‡	268	38	62	13	1
Tennessee	282	27	73	30	6	254	60	40	10	1	270	39	61	19	2
Texas	301	11	89	54	16	272	34	66	17	2	277	30	70	25	2
Utah	289	19	81	40	8	‡	‡	‡	‡	‡	259	54	46	11	1
Vermont	293	18	82	44	13	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Virginia	294	16	84	44	10	268	41	59	14	1	274	35	65	23	3
Washington	295	15	85	46	12	269	40	60	16	4	264	47	53	13	2
West Virginia	271	39	61	20	2	263	47	53	11	1	‡	‡	‡	‡	‡
Wisconsin	294	14	86	45	10	254	62	38	11	2	268	44	56	20	3
Wyoming	289	18	82	38	8	‡	‡	‡	‡	‡	269	40	60	15	3
Other jurisdictions															
District of Columbia	‡	‡	‡	‡	‡	249	64	36	8	#	265	42	58	18	2
DoDEA[1]	294	13	87	44	9	269	40	60	14	1	281	28	72	28	4

See notes at end of table.

Table **A-20.** Average scores and achievement-level results in NAEP mathematics for eighth-grade public school students, by race/ethnicity and state/jurisdiction: 2009—Continued

State/jurisdiction	Asian/Pacific Islander					American Indian/Alaska Native				
		Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**300**	**16**	**84**	**53**	**20**	**267**	**43**	**57**	**20**	**3**
Alabama	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Alaska	282	28	72	31	7	262	49	51	15	2
Arizona	295	19	81	52	18	254	57	43	12	2
Arkansas	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
California	294	18	82	46	13	‡	‡	‡	‡	‡
Colorado	301	14	86	55	18	‡	‡	‡	‡	‡
Connecticut	305	10	90	61	18	‡	‡	‡	‡	‡
Delaware	312	8	92	69	27	‡	‡	‡	‡	‡
Florida	302	13	87	55	19	‡	‡	‡	‡	‡
Georgia	300	14	86	49	20	‡	‡	‡	‡	‡
Hawaii	274	36	64	25	4	‡	‡	‡	‡	‡
Idaho	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Illinois	304	11	89	60	19	‡	‡	‡	‡	‡
Indiana	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Iowa	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Kansas	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Kentucky	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Louisiana	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Maine	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Maryland	320	5	95	76	35	‡	‡	‡	‡	‡
Massachusetts	314	10	90	66	35	‡	‡	‡	‡	‡
Michigan	309	11	89	59	28	‡	‡	‡	‡	‡
Minnesota	283	32	68	35	11	277	26	74	21	4
Mississippi	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Missouri	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Montana	‡	‡	‡	‡	‡	260	49	51	16	2
Nebraska	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Nevada	283	30	70	33	7	‡	‡	‡	‡	‡
New Hampshire	308	9	91	62	26	‡	‡	‡	‡	‡
New Jersey	323	5	95	77	43	‡	‡	‡	‡	‡
New Mexico	‡	‡	‡	‡	‡	256	54	46	10	1
New York	309	10	90	63	26	‡	‡	‡	‡	‡
North Carolina	311	13	87	65	36	256	55	45	14	2
North Dakota	‡	‡	‡	‡	‡	263	48	52	16	2
Ohio	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Oklahoma	289	20	80	38	8	269	40	60	19	2
Oregon	296	20	80	50	18	273	36	64	25	6
Pennsylvania	305	13	87	60	25	‡	‡	‡	‡	‡
Rhode Island	292	15	85	40	10	‡	‡	‡	‡	‡
South Carolina	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
South Dakota	‡	‡	‡	‡	‡	266	45	55	17	1
Tennessee	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Texas	313	8	92	67	31	‡	‡	‡	‡	‡
Utah	276	36	64	27	7	263	49	51	18	1
Vermont	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Virginia	304	11	89	55	24	‡	‡	‡	‡	‡
Washington	302	15	85	53	22	269	42	58	23	8
West Virginia	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Wisconsin	289	18	82	40	7	‡	‡	‡	‡	‡
Wyoming	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
Other jurisdictions										
District of Columbia	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
DoDEA[1]	292	17	83	44	8	‡	‡	‡	‡	‡

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin. Results are not shown for students whose race/ethnicity was unclassified. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-21.** Average scores and achievement-level results in NAEP mathematics for eighth-grade public school students, by gender and state/jurisdiction: 2009

State/jurisdiction	Male					Female				
		Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**283**	**28**	**72**	**34**	**8**	**281**	**29**	**71**	**31**	**7**
Alabama	268	42	58	21	4	269	42	58	20	3
Alaska	283	26	74	34	7	283	25	75	33	5
Arizona	279	32	68	31	7	276	33	67	27	5
Arkansas	275	34	66	27	4	277	32	68	27	5
California	272	39	61	26	6	268	42	58	21	4
Colorado	289	24	76	41	11	286	25	75	38	9
Connecticut	288	23	77	39	11	289	21	79	41	10
Delaware	284	24	76	32	7	283	25	75	31	6
Florida	281	29	71	31	7	278	31	69	27	5
Georgia	277	35	65	27	6	278	32	68	27	5
Hawaii	271	38	62	24	5	276	32	68	27	4
Idaho	288	21	79	39	9	286	22	78	37	7
Illinois	284	26	74	35	9	280	29	71	31	6
Indiana	288	21	79	39	8	285	24	76	34	7
Iowa	285	24	76	35	8	284	24	76	33	5
Kansas	290	21	79	43	9	287	21	79	36	7
Kentucky	281	29	71	30	6	278	30	70	25	4
Louisiana	272	39	61	21	5	273	37	63	20	3
Maine	288	22	78	38	10	284	23	77	32	6
Maryland	290	24	76	42	14	287	25	75	38	11
Massachusetts	300	14	86	53	18	298	15	85	50	16
Michigan	280	31	69	32	8	277	33	67	29	5
Minnesota	296	17	83	49	15	293	18	82	45	11
Mississippi	265	45	55	15	2	265	46	54	15	1
Missouri	287	23	77	37	8	285	23	77	34	5
Montana	292	18	82	45	11	291	17	83	42	9
Nebraska	286	24	76	37	9	283	26	74	32	7
Nevada	275	36	64	26	5	273	38	62	24	4
New Hampshire	293	19	81	45	13	292	18	82	42	10
New Jersey	295	19	81	47	16	290	20	80	42	12
New Mexico	271	39	61	21	4	269	42	58	19	3
New York	283	27	73	36	8	282	28	72	32	7
North Carolina	284	27	73	37	9	284	25	75	34	9
North Dakota	294	13	87	45	10	291	14	86	42	5
Ohio	287	23	77	38	9	284	25	75	34	7
Oklahoma	278	31	69	26	4	274	34	66	21	3
Oregon	287	24	76	40	10	283	26	74	33	7
Pennsylvania	290	22	78	42	12	287	22	78	37	8
Rhode Island	278	32	68	29	6	278	31	69	26	5
South Carolina	281	31	69	31	8	280	31	69	29	6
South Dakota	292	17	83	44	9	289	18	82	39	5
Tennessee	275	36	64	26	4	275	35	65	25	4
Texas	287	22	78	38	8	286	23	77	35	9
Utah	285	25	75	37	7	283	25	75	33	6
Vermont	294	19	81	45	14	292	19	81	42	11
Virginia	287	23	77	38	9	285	24	76	33	7
Washington	290	21	79	41	12	288	23	77	38	10
West Virginia	271	40	60	21	3	270	39	61	18	2
Wisconsin	289	20	80	41	10	287	22	78	38	7
Wyoming	288	20	80	38	8	284	24	76	31	6
Other jurisdictions										
District of Columbia	252	61	39	12	2	255	59	41	11	2
DoDEA[1]	288	19	81	38	6	286	22	78	34	6

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-22.** Average scores and achievement-level results in NAEP mathematics for eighth-grade public school students, by eligibility for free/reduced-price school lunch and state/jurisdiction: 2009

State/jurisdiction	Eligible					Not eligible					Information not available				
		Percentage of students					Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**266**	**43**	**57**	**17**	**2**	**293**	**17**	**83**	**45**	**12**	**284**	**28**	**72**	**35**	**10**
Alabama	255	56	44	10	1	282	27	73	31	6	‡	‡	‡	‡	‡
Alaska	269	40	60	19	3	292	17	83	42	8	‡	‡	‡	‡	‡
Arizona	262	47	53	14	1	291	20	80	42	11	‡	‡	‡	‡	‡
Arkansas	264	46	54	15	1	290	19	81	40	8	‡	‡	‡	‡	‡
California	258	53	47	12	1	285	26	74	37	10	269	38	62	17	2
Colorado	267	43	57	19	3	298	14	86	51	14	308	12	88	61	27
Connecticut	263	46	54	13	1	298	13	87	49	13	‡	‡	‡	‡	‡
Delaware	271	37	63	17	2	292	17	83	41	9	‡	‡	‡	‡	‡
Florida	269	41	59	18	2	289	20	80	40	9	‡	‡	‡	‡	‡
Georgia	265	47	53	13	1	290	20	80	41	10	‡	‡	‡	‡	‡
Hawaii	261	48	52	15	2	282	26	74	32	6	‡	‡	‡	‡	‡
Idaho	276	33	67	25	4	294	16	84	46	10	‡	‡	‡	‡	‡
Illinois	264	47	53	14	2	294	15	85	45	11	‡	‡	‡	‡	‡
Indiana	273	36	64	21	2	295	14	86	45	10	‡	‡	‡	‡	‡
Iowa	269	39	61	17	2	292	16	84	42	9	‡	‡	‡	‡	‡
Kansas	276	33	67	24	4	298	12	88	51	12	‡	‡	‡	‡	‡
Kentucky	268	42	58	15	1	290	19	81	38	8	‡	‡	‡	‡	‡
Louisiana	263	48	52	11	1	288	21	79	35	9	‡	‡	‡	‡	‡
Maine	272	36	64	19	2	294	15	85	44	11	‡	‡	‡	‡	‡
Maryland	267	45	55	17	2	298	16	84	50	17	‡	‡	‡	‡	‡
Massachusetts	278	31	69	29	5	307	8	92	61	22	‡	‡	‡	‡	‡
Michigan	260	50	50	13	1	289	21	79	41	10	‡	‡	‡	‡	‡
Minnesota	273	37	63	21	4	302	10	90	56	17	‡	‡	‡	‡	‡
Mississippi	256	57	43	8	#	283	22	78	30	4	‡	‡	‡	‡	‡
Missouri	272	37	63	19	2	294	15	85	45	9	‡	‡	‡	‡	‡
Montana	277	30	70	27	3	299	11	89	52	13	‡	‡	‡	‡	‡
Nebraska	267	42	58	17	1	294	15	85	45	11	‡	‡	‡	‡	‡
Nevada	263	49	51	14	2	280	30	70	31	6	‡	‡	‡	‡	‡
New Hampshire	276	34	66	24	4	296	15	85	48	13	307	11	89	61	24
New Jersey	270	39	61	20	3	300	13	87	53	18	‡	‡	‡	‡	‡
New Mexico	261	50	50	11	1	284	24	76	34	6	‡	‡	‡	‡	‡
New York	270	40	60	22	4	293	16	84	43	10	284	33	67	40	12
North Carolina	268	42	58	18	3	298	14	86	50	15	285	22	78	29	7
North Dakota	280	25	75	27	4	298	9	91	49	9	‡	‡	‡	‡	‡
Ohio	269	41	59	18	2	294	15	85	45	11	‡	‡	‡	‡	‡
Oklahoma	266	43	57	14	1	285	22	78	33	5	‡	‡	‡	‡	‡
Oregon	270	39	61	21	3	296	15	85	48	13	‡	‡	‡	‡	‡
Pennsylvania	268	40	60	18	2	298	13	87	50	13	‡	‡	‡	‡	‡
Rhode Island	261	49	51	12	2	288	21	79	37	8	‡	‡	‡	‡	‡
South Carolina	268	43	57	16	2	294	18	82	45	12	‡	‡	‡	‡	‡
South Dakota	276	31	69	24	3	297	11	89	49	9	‡	‡	‡	‡	‡
Tennessee	261	51	49	13	1	285	24	76	35	7	‡	‡	‡	‡	‡
Texas	276	31	69	23	2	299	13	87	51	15	‡	‡	‡	‡	‡
Utah	268	43	57	20	2	290	19	81	40	8	294	14	86	45	8
Vermont	277	33	67	24	4	300	13	87	51	17	‡	‡	‡	‡	‡
Virginia	268	40	60	15	1	294	16	84	45	12	‡	‡	‡	‡	‡
Washington	271	38	62	20	3	299	12	88	51	15	‡	‡	‡	‡	‡
West Virginia	262	49	51	11	1	280	29	71	28	4	‡	‡	‡	‡	‡
Wisconsin	269	40	60	20	2	297	12	88	48	11	291	18	82	41	13
Wyoming	274	33	67	20	2	291	17	83	41	9	‡	‡	‡	‡	‡
Other jurisdictions															
District of Columbia	247	66	34	7	#	272	42	58	24	7	‡	‡	‡	‡	‡
DoDEA[1]	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	287	21	79	36	6

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-23.** Average scores and achievement-level results in NAEP mathematics for eighth-grade public school students, by status as students with disabilities (SD) and state/jurisdiction: 2009

State/jurisdiction	SD					Not SD				
		Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	At *Advanced*
Nation (public)	**249**	**64**	**36**	**9**	**1**	**285**	**24**	**76**	**35**	**8**
Alabama	221	87	13	1	#	273	37	63	22	4
Alaska	247	66	34	6	#	287	21	79	36	7
Arizona	235	75	25	5	1	282	28	72	32	7
Arkansas	238	75	25	4	#	281	28	72	30	5
California	229	82	18	3	#	274	37	63	25	6
Colorado	252	61	39	11	1	291	21	79	43	11
Connecticut	256	54	46	13	1	293	18	82	43	11
Delaware	255	60	40	9	1	288	19	81	35	7
Florida	252	61	39	8	1	284	25	75	32	6
Georgia	245	72	28	6	1	281	29	71	29	6
Hawaii	230	81	19	3	1	279	29	71	28	5
Idaho	248	65	35	8	1	291	18	82	41	9
Illinois	250	62	38	8	1	287	23	77	36	8
Indiana	258	59	41	12	1	290	18	82	39	8
Iowa	243	73	27	5	1	290	17	83	38	7
Kansas	254	60	40	9	2	292	17	83	43	9
Kentucky	250	67	33	7	1	282	27	73	29	5
Louisiana	244	72	28	6	1	277	33	67	22	5
Maine	257	58	42	10	2	292	16	84	40	9
Maryland	265	46	54	18	2	290	24	76	41	13
Massachusetts	271	41	59	21	4	304	11	89	57	19
Michigan	239	75	25	3	1	283	27	73	34	7
Minnesota	263	50	50	16	3	298	14	86	51	14
Mississippi	233	82	18	1	#	268	43	57	16	2
Missouri	255	59	41	9	1	289	19	81	38	7
Montana	244	69	31	6	#	297	12	88	48	11
Nebraska	252	61	39	10	1	288	21	79	38	8
Nevada	242	71	29	9	1	277	34	66	26	5
New Hampshire	264	48	52	14	2	298	12	88	50	13
New Jersey	259	53	47	13	3	298	14	86	50	16
New Mexico	236	77	23	6	#	274	36	64	22	4
New York	255	57	43	10	1	287	22	78	37	9
North Carolina	251	61	39	11	2	288	22	78	39	10
North Dakota	268	38	62	13	1	296	11	89	47	8
Ohio	255	57	43	11	1	289	20	80	38	9
Oklahoma	240	75	25	5	#	279	28	72	26	4
Oregon	246	68	32	6	1	290	20	80	40	9
Pennsylvania	254	58	42	10	1	294	16	84	45	11
Rhode Island	245	70	30	5	#	284	24	76	32	7
South Carolina	248	67	33	7	3	284	27	73	33	7
South Dakota	255	60	40	8	2	294	13	87	45	8
Tennessee	239	77	23	6	1	278	32	68	27	5
Texas	254	59	41	14	3	289	19	81	38	9
Utah	243	75	25	6	1	287	21	79	37	7
Vermont	261	53	47	11	3	300	11	89	51	15
Virginia	253	60	40	10	2	290	19	81	39	9
Washington	248	66	34	6	1	293	18	82	43	12
West Virginia	237	78	22	2	#	276	33	67	22	3
Wisconsin	255	55	45	10	1	293	16	84	44	9
Wyoming	254	61	39	8	1	291	17	83	38	8
Other jurisdictions										
District of Columbia	213	94	6	1	#	259	55	45	13	2
DoDEA[1]	254	60	40	10	1	290	17	83	38	7

Rounds to zero.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: The results for students with disabilities are based on students who were assessed and cannot be generalized to the total population of such students. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Table **A-24.** Average scores and achievement-level results in NAEP mathematics for eighth-grade public school students, by status as English language learners (ELL) and state/jurisdiction: 2009

State/jurisdiction	ELL					Not ELL				
		Percentage of students					Percentage of students			
	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	*At Advanced*	Average scale score	Below *Basic*	At or above *Basic*	At or above *Proficient*	*At Advanced*
Nation (public)	**243**	**72**	**28**	**5**	**1**	**284**	**26**	**74**	**34**	**8**
Alabama	‡	‡	‡	‡	‡	269	41	59	21	4
Alaska	243	73	27	2	1	288	20	80	37	7
Arizona	224	89	11	2	#	281	29	71	31	7
Arkansas	257	51	49	8	#	277	33	67	28	5
California	237	79	21	3	#	278	32	68	28	6
Colorado	248	68	32	4	#	290	21	79	42	11
Connecticut	240	75	25	6	1	290	20	80	41	10
Delaware	‡	‡	‡	‡	‡	284	24	76	32	6
Florida	241	70	30	4	1	281	28	72	30	6
Georgia	‡	‡	‡	‡	‡	278	33	67	27	6
Hawaii	231	82	18	2	#	276	32	68	27	5
Idaho	241	73	27	1	#	289	20	80	40	8
Illinois	249	68	32	7	#	283	26	74	34	7
Indiana	270	44	56	19	5	287	22	78	37	7
Iowa	‡	‡	‡	‡	‡	285	23	77	35	7
Kansas	260	52	48	10	#	290	19	81	41	9
Kentucky	‡	‡	‡	‡	‡	280	29	71	27	5
Louisiana	‡	‡	‡	‡	‡	273	38	62	20	4
Maine	‡	‡	‡	‡	‡	287	22	78	36	8
Maryland	249	69	31	8	1	289	24	76	41	12
Massachusetts	238	78	22	8	1	300	13	87	53	18
Michigan	256	58	42	10	#	279	32	68	31	7
Minnesota	255	59	41	9	3	296	15	85	49	14
Mississippi	‡	‡	‡	‡	‡	265	46	54	15	2
Missouri	‡	‡	‡	‡	‡	286	23	77	36	7
Montana	236	76	24	1	#	293	16	84	45	10
Nebraska	245	70	30	3	#	285	24	76	36	8
Nevada	234	84	16	2	#	278	33	67	27	5
New Hampshire	‡	‡	‡	‡	‡	293	18	82	44	11
New Jersey	241	72	28	11	2	294	19	81	45	14
New Mexico	238	80	20	3	#	273	36	64	22	4
New York	231	80	20	4	1	285	25	75	35	8
North Carolina	259	49	51	11	1	286	25	75	37	10
North Dakota	‡	‡	‡	‡	‡	293	13	87	43	7
Ohio	261	51	49	11	#	286	24	76	36	8
Oklahoma	239	80	20	1	#	277	31	69	25	3
Oregon	241	75	25	3	1	288	22	78	39	9
Pennsylvania	253	63	37	11	1	289	21	79	40	10
Rhode Island	237	76	24	8	3	279	30	70	28	6
South Carolina	267	45	55	17	3	281	30	70	31	7
South Dakota	‡	‡	‡	‡	‡	291	17	83	42	7
Tennessee	‡	‡	‡	‡	‡	275	35	65	25	4
Texas	254	59	41	6	1	289	20	80	38	9
Utah	239	78	22	2	#	286	23	77	37	7
Vermont	‡	‡	‡	‡	‡	293	18	82	44	13
Virginia	264	45	55	13	3	287	23	77	36	8
Washington	246	72	28	3	1	290	20	80	41	11
West Virginia	‡	‡	‡	‡	‡	270	39	61	19	2
Wisconsin	259	55	45	9	#	289	20	80	40	9
Wyoming	‡	‡	‡	‡	‡	287	21	79	35	7
Other jurisdictions										
District of Columbia	‡	‡	‡	‡	‡	254	59	41	11	2
DoDEA[1]	264	53	47	10	2	288	19	81	37	6

Rounds to zero.

‡ Reporting standards not met. Sample size insufficient to permit a reliable estimate.

[1] Department of Defense Education Activity (overseas and domestic schools).

NOTE: The results for English language learners are based on students who were assessed and cannot be generalized to the total population of such students. Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

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CONTENT CONTACT

Jonathan Beard
202-502-7323
Jonathan.Beard@ed.gov

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