NAEP 2009 Mathematics Vermont Results

VERMONT
DEPARTMENT OF EDUCATION

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NAEP Overview

The National Assessment of Educational Progress (NAEP), also known as "the Nation's Report Card," is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas. It has been conducted periodically since 1969. NAEP is a survey assessment that does not provide scores for individual students or schools because results are based on a sample of students. There are no accountability measures tied to NAEP performance as there are for Vermont's state assessments, the New England Common Assessment Program (NECAP).

The No Child Left Behind Act requires states receiving Title I funds to participate in NAEP biennially in reading and math assessments in grades 4 and 8, beginning in 2003. NAEP periodically assesses a national sample of students in additional content areas, like U.S. History, Civics and the Arts. [A schedule of NAEP assessments through 2017 is available on page 14 of this document.]

In 2009, all schools in Vermont serving grades 4 and 8 were selected to participate in NAEP. In selected schools, all students were asked to participate. Overall, 225 schools and 2,669 students in Vermont took part. Assessments were administered across the state from late January through early March 2009.

The next few pages detail Vermont students' performance on the 2009 assessments as well as comparisons with past administrations and the achievement of various subgroups.

Additional NAEP Resources

- Nation's Report Card (assessment results, frameworks, release items, etc.)
  http://nces.ed.gov/nationsreportcard/

- National Center for Education Statistics—NCES (arm of the U.S. Department of Education responsible by law for carrying out the NAEP project)
  http://nces.ed.gov/

- National Assessment Governing Board—NAGB (sets policy for NAEP and is responsible for developing the framework and test specifications that serve as the blueprint for the assessments)
  http://www.nagb.org/

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Highlights of Vermont 2009 NAEP Mathematics Results

- Nationally, there was no growth in either fourth or eighth grade NAEP scores from 2007 to 2009. However, the story in Vermont is much different.

- Vermont was one of only **five** states/jurisdictions (VT, RI, NH, NV, and DC) to post gains from 2007 in *both* grades 4 and 8 for 2009. New Hampshire and Rhode Island are members of the tri-state NECAP consortium meaning all NECAP states posted gains in both grade levels.

- This is the **fourth** NAEP administration in a row where Vermont posted gains in *both* 4 and 8 in mathematics. Since 2003, Vermont's scores have increased at both grade levels.

- Not only were we one of the only states that made progress from 2007, at grade 4 only New Hampshire and Massachusetts had a higher average scale score. At grade 8, only Massachusetts had a higher average scale score.

- While Vermont, overall, continues to post gains, low-income students do not. Free/reduced price lunch students did not show any growth from 2007 although the overall student group and non-free/reduced lunch group students did in both grades 4 and 8. For this reason, the poverty-achievement gap has remained stubborn and not narrowed over time.

- The gap between students eligible for the free/reduced priced lunch program and their peers is considerable. At grade 4, the difference in average scale scores between the two groups is 19 points. It grows larger as students progress through the grades. By grade 8, it measures 23 points.

- In 2009, the percentage of Vermont fourth grade students who performed at or above *Proficient* was 51 percent. This was greater than the percentage of the nation's public school students who performed at or above *Proficient* (38 percent).

- In 2009, the percentage of Vermont eighth grade students who performed at or above *Proficient* was 43 percent. This was greater than the percentage of the nation's public school students who performed at or above *Proficient* (33 percent).

Vermont NAEP 2009 Results Summary: Mathematics

Grade 4 Mathematics

Average Scale Score	2009	2007	Change
Overall	248	246	↑
Males	249	248	↔
Females	247	245	↔
Eligible for Free-Reduced Lunch	235	234	↔
Not Eligible for Free-Reduced Lunch	254	252	↑
Students with Disabilities	226	221	↑
Students without Disabilities	252	251	↔
Percentiles	**2009**	**2007**	
Bottom 10%	212	212	↔
Bottom 25%	231	230	↔
Middle 50%	249	248	↔
Top 25%	267	265	↑
Top 10%	281	278	↑
Achievement Levels	**2009**	**2007**	
% at or above Basic	89	89	↔
% at or above Proficient	51	49	↔
% at Advanced	9	7	↑

Grade 8 Mathematics

Average Scale Score	2009	2007	Change
Overall	293	291	↑
Males	294	292	↔
Females	292	290	↔
Eligible for Free-Reduced Lunch	277	277	↔
Not Eligible for Free-Reduced Lunch	300	296	↑
Students with Disabilities	261	261	↔
Students without Disabilities	300	296	↑
Percentiles	**2009**	**2007**	
Bottom 10%	247	248	↔
Bottom 25%	270	269	↔
Middle 50%	293	292	↔
Top 25%	317	315	↔
Top 10%	338	334	↔
Achievement Levels	**2009**	**2007**	
% at or above Basic	81	81	↔
% at or above Proficient	43	41	↔
% at Advanced	13	10	↑

↑ 2009 results are statistically significantly higher than 2007.

↓ 2009 results are statistically significantly lower than 2007.

↔ 2009 results are not statistically significantly different than 2007.

Explanation of Similar States Analysis

To most appropriately determine how Vermont compares with other states, it is essential to compare our performance to that of states that share similar student characteristics. Vermont is unique in terms of the characteristics of its student population; it is primarily rural, demographically homogeneous and has a relatively low percentage of students who qualify for the national free/reduced price school lunch program, an indicator of poverty. However, a handful of other states across the country share some of these characteristics with Vermont and therefore constitute a good comparison group.

States similar to Vermont are those that meet each of the following three criteria:

1. Similar percentage rural ($\geq$ 30%) [measure of population density]
2. Similar percentage of white students ($\geq$ 75%) [homogeneity of demographics]
3. Similar percentage of FRL eligible students (Grade 4: $\leq$41%, Grade 8: $\leq$35%) [overall measure of poverty]

Similar states in grades 4 and 8 in 2009:

Iowa
Maine
Montana
New Hampshire
North Dakota
South Dakota
Wyoming

NAEP 2009 Similar States Analysis: Mathematics

Grade 4 Math			Grade 8 Math		
All Students	Average Scale Score	Compared to VT	**All Students**	Average Scale Score	Compared to VT
Iowa	243	✓	Iowa	284	✓
Maine	244	✓	Maine	286	✓
Montana	244	✓	Montana	292	↔
New Hampshire	251	✗	New Hampshire	292	↔
North Dakota	245	✓	North Dakota	293	↔
South Dakota	242	✓	South Dakota	291	✓
Vermont	248		Vermont	293	
Wyoming	242	✓	Wyoming	286	✓
Males	Average Scale Score	Compared to VT	**Males**	Average Scale Score	Compared to VT
Iowa	243	✓	Iowa	285	✓
Maine	247	↔	Maine	288	✓
Montana	247	↔	Montana	292	↔
New Hampshire	252	✗	New Hampshire	293	↔
North Dakota	247	↔	North Dakota	294	↔
South Dakota	243	✓	South Dakota	292	↔
Vermont	249		Vermont	294	
Wyoming	243	✓	Wyoming	288	✓
Females	Average Scale Score	Compared to VT	**Females**	Average Scale Score	Compared to VT
Iowa	242	✓	Iowa	284	✓
Maine	242	✓	Maine	284	✓
Montana	242	✓	Montana	291	↔
New Hampshire	250	✗	New Hampshire	292	↔
North Dakota	244	✓	North Dakota	291	↔
South Dakota	241	✓	South Dakota	289	↔
Vermont	247		Vermont	292	
Wyoming	241	✓	Wyoming	284	✓
Students with Disabilities	Average Scale Score	Compared to VT	**Students with Disabilities**	Average Scale Score	Compared to VT
Iowa	220	✓	Iowa	243	✓
Maine	225	↔	Maine	257	↔
Montana	223	↔	Montana	244	✓
New Hampshire	231	↔	New Hampshire	264	↔
North Dakota	231	↔	North Dakota	268	✗
South Dakota	226	↔	South Dakota	255	✓
Vermont	226		Vermont	261	
Wyoming	227	↔	Wyoming	254	✓

✓ Vermont's average scale score is statistically significantly higher.

✗ Vermont's average scale score is statistically significantly lower.

↔ Vermont's average scale score is not statistically significantly different.

NAEP 2009 Similar States: Focus on Poverty

Grade 4 Math			Grade 8 Math		
All Students	Average Scale Score	Compared to VT	**All Students**	Average Scale Score	Compared to VT
Iowa	243	✓	Iowa	284	✓
Maine	244	✓	Maine	286	✓
Montana	244	✓	Montana	292	↔
New Hampshire	251	✗	New Hampshire	292	↔
North Dakota	245	✓	North Dakota	293	↔
South Dakota	242	✓	South Dakota	291	✓
Vermont	248		Vermont	293	
Wyoming	242	✓	Wyoming	286	✓
Eligible for Free-Reduced Lunch	Average Scale Score	Compared to VT	**Eligible for Free-Reduced Lunch**	Average Scale Score	Compared to VT
Iowa	232	↔	Iowa	269	✓
Maine	235	↔	Maine	272	✓
Montana	235	↔	Montana	277	↔
New Hampshire	237	↔	New Hampshire	276	↔
North Dakota	236	↔	North Dakota	280	↔
South Dakota	232	✓	South Dakota	276	↔
Vermont	235		Vermont	277	
Wyoming	234	↔	Wyoming	274	↔
Not Eligible for Free-Reduced Lunch	Average Scale Score	Compared to VT	**Not Eligible for Free-Reduced Lunch**	Average Scale Score	Compared to VT
Iowa	249	✓	Iowa	292	✓
Maine	251	✓	Maine	294	✓
Montana	251	✓	Montana	299	↔
New Hampshire	255	↔	New Hampshire	296	✓
North Dakota	250	✓	North Dakota	298	↔
South Dakota	248	✓	South Dakota	297	✓
Vermont	254		Vermont	300	
Wyoming	246	✓	Wyoming	291	✓

✓ Vermont's average scale score is statistically significantly higher.

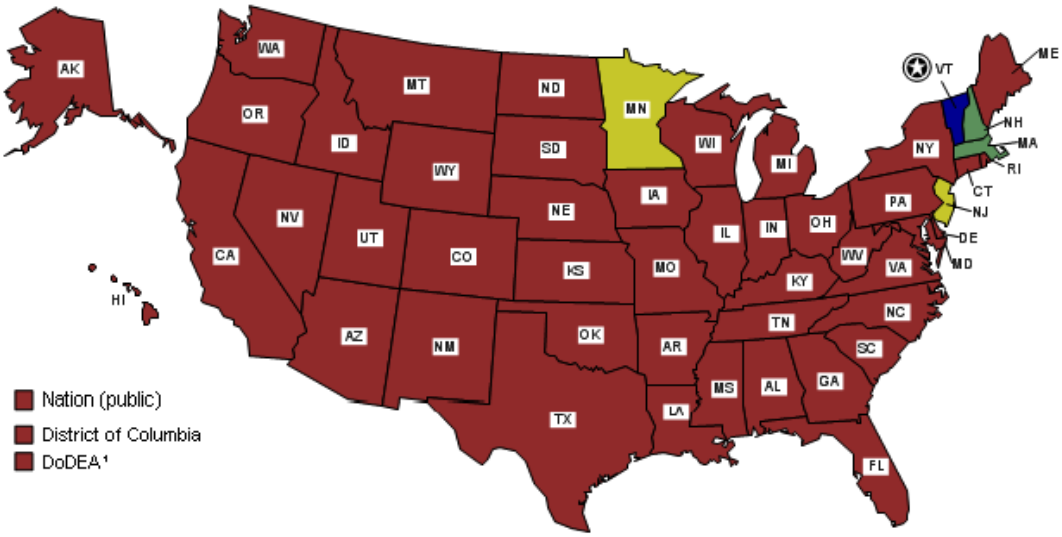
✗ Vermont's average scale score is statistically significantly lower.

↔ Vermont's average scale score is not statistically significantly different.

Figure 2-A

The Nation's Report Card 2009 State Assessment

Vermont's average scale score in NAEP mathematics for fourth-grade public school students compared with scores for the nation and other participating jurisdictions: 2009



★	Focal state/jurisdiction (Vermont)
	Higher average scale score than Vermont (2 jurisdictions)
	Not significantly different from Vermont (2 jurisdictions)
	Lower average scale score than Vermont (nation and 47 jurisdictions)

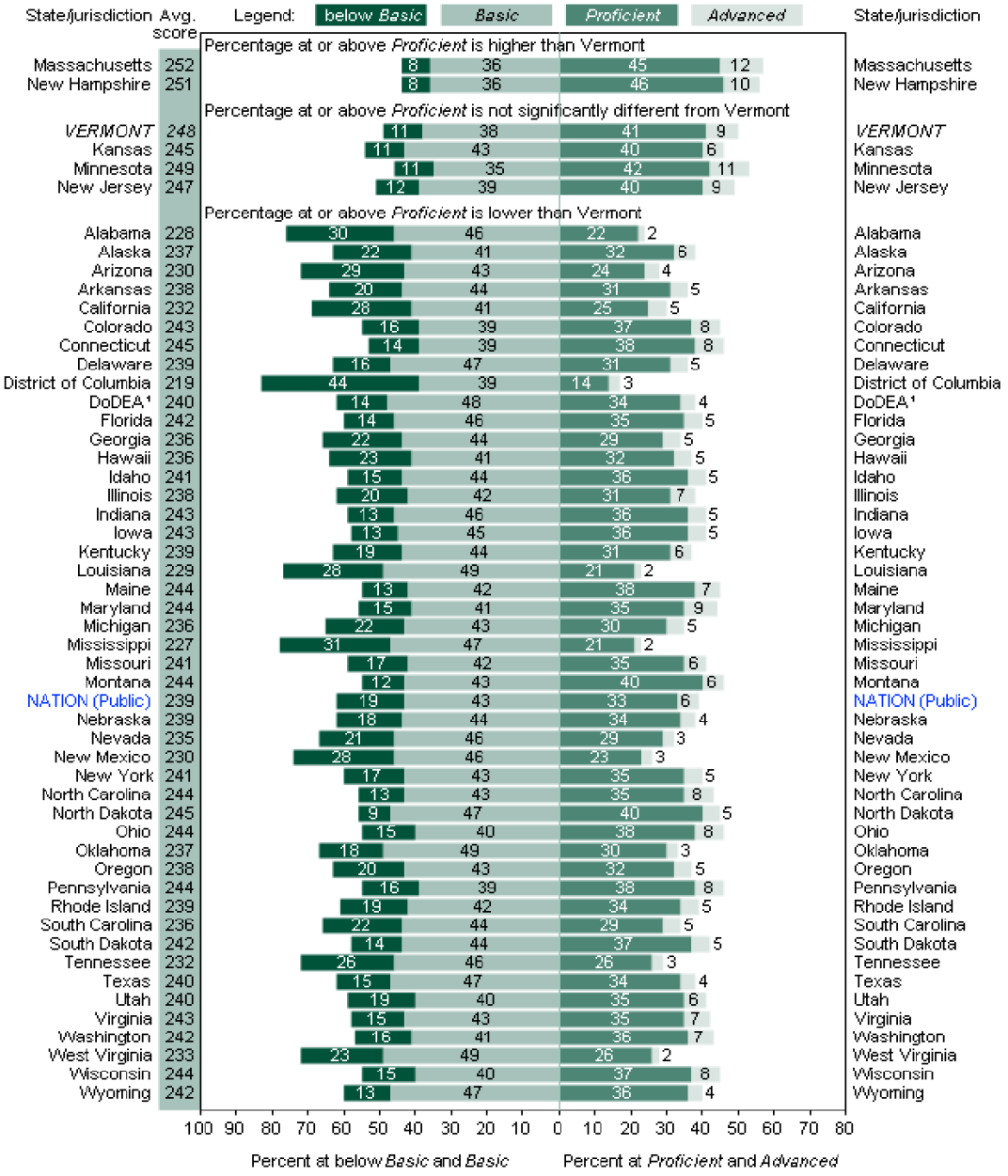
[1] Department of Defense Education Activity schools (domestic and overseas).
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

NAEP 2009 Mathematics Report for Vermont

Figure 3-A

The Nation's Report Card 2009 State Assessment

Average scale scores in NAEP mathematics for fourth-grade public school students, percentage within each achievement level, and Vermont's percentage at or above *Proficient* compared with the nation and other participating states/jurisdictions: 2009

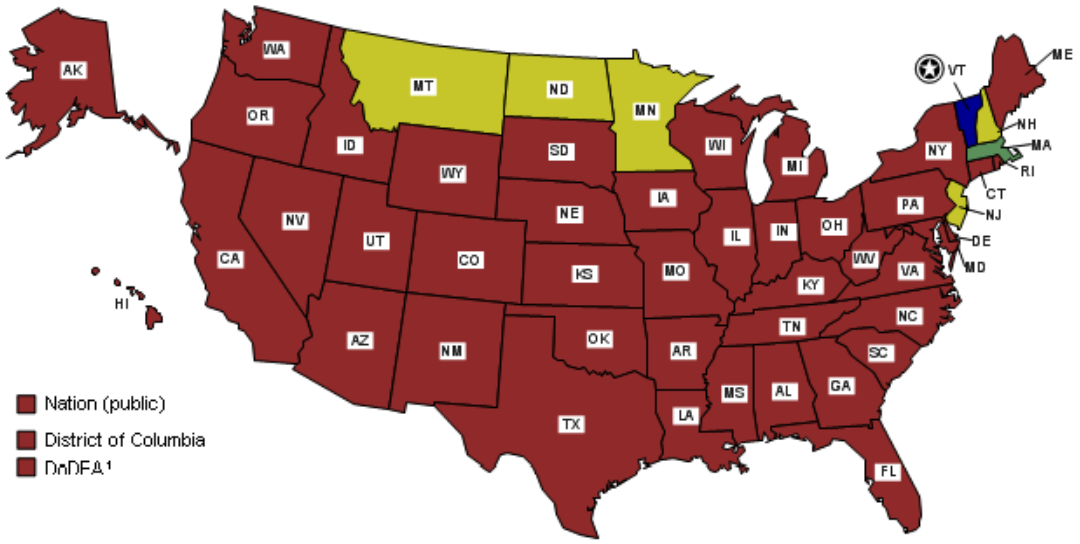


¹ Department of Defense Education Activity schools (domestic and overseas).
NOTE: The bars above contain percentages of students in each NAEP mathematics achievement level. Achievement levels corresponding to each population of students are aligned at the point where the *Proficient* category begins, so that they may be compared at *Proficient* and above. Detail may not sum to totals because of rounding. The shaded bars are graphed using unrounded numbers. Significance tests used a multiple-comparison procedure based on all jurisdictions that participated.
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

Figure 2-B

The Nation's Report Card 2009 State Assessment

Vermont's average scale score in NAEP mathematics for eighth-grade public school students compared with scores for the nation and other participating jurisdictions: 2009



★	Focal state/jurisdiction (Vermont)
	Higher average scale score than Vermont (1 jurisdiction)
	Not significantly different from Vermont (5 jurisdictions)
	Lower average scale score than Vermont (nation and 45 jurisdictions)

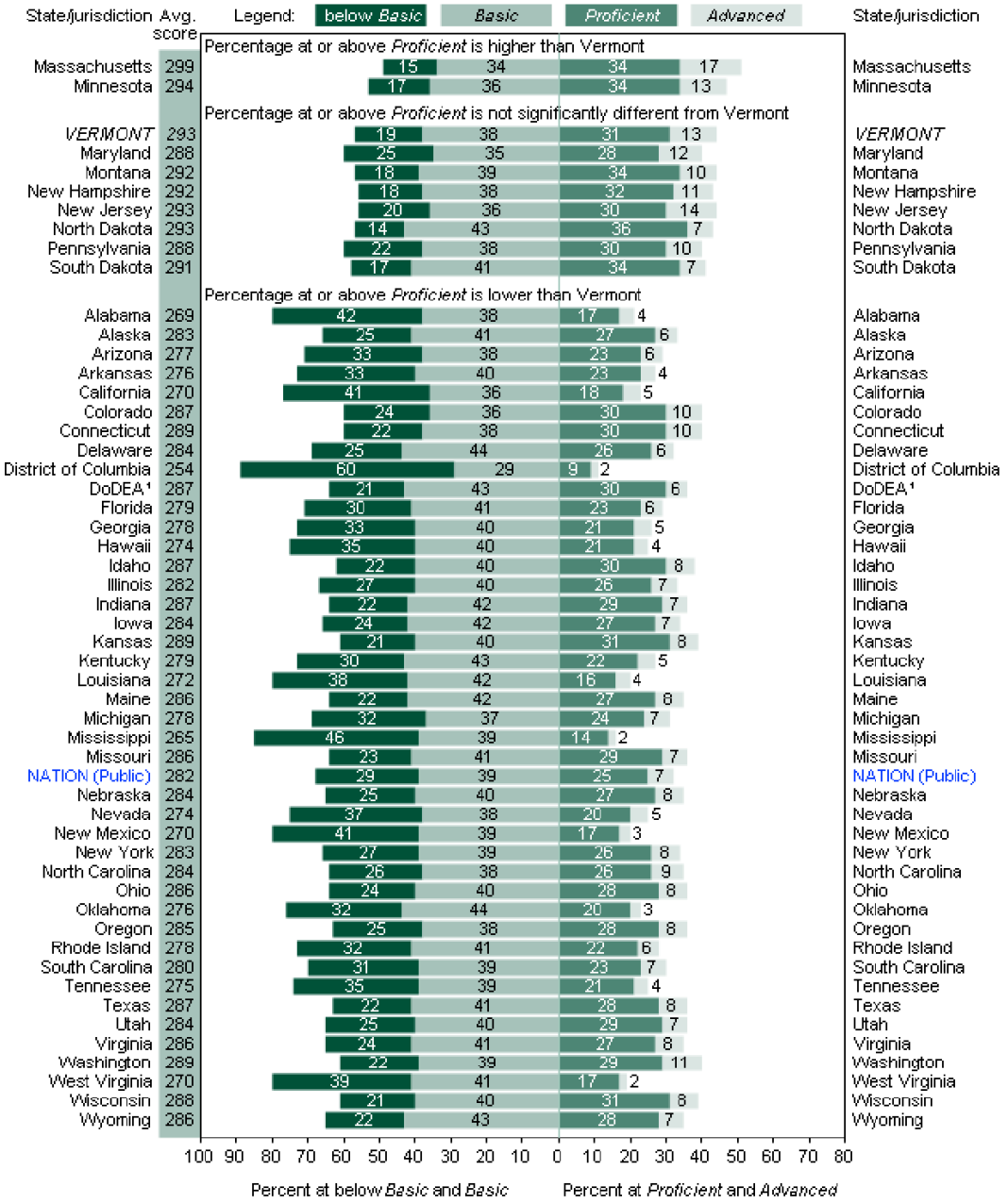
[1] Department of Defense Education Activity schools (domestic and overseas).
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2009 Mathematics Assessment.

NAEP 2009 Mathematics Report for Vermont

Figure 3-B

The Nation's Report Card 2009 State Assessment

Average scale scores in NAEP mathematics for eighth-grade public school students, percentage within each achievement level, and Vermont's percentage at or above *Proficient* compared with the nation and other participating states/jurisdictions: 2009



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

NOTE: The bars above contain percentages of students in each NAEP mathematics achievement level. Achievement levels corresponding to each population of students are aligned at the point where the *Proficient* category begins, so that they may be compared at *Proficient* and above. Detail may not sum to totals because of rounding. The shaded bars are graphed using unrounded numbers. Significance tests used a multiple-comparison procedure based on all jurisdictions that participated.

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

NAEP FAQ

What is NAEP?

The National Assessment of Educational Progress (NAEP), also known as "the Nation's Report Card," is the only nationally representative and continuing assessment of what America's students know and can do in various subject areas. NAEP does not provide scores for individual students or schools because results are based on a sample of students and because students take only a portion of the full NAEP assessment. No accountability measures are tied to NAEP performance.

Who takes NAEP?

NCLB requires states to participate biennially in reading and math assessments in grades 4 and 8. Students who are selected to participate in NAEP take a 50-minute test in a single subject-area. In 2009, all schools in Vermont serving grades 4 and 8 were selected to participate in NAEP. In selected schools, all students were asked to participate. Overall, 225 schools and 2,669 students in Vermont took part. Assessments in Reading and Mathematics were administered across the state from late January through early March 2009.

What is the NAEP experience like for schools?

The Vermont Department of Education is committed to making schools' NAEP experience as positive as possible and has taken several steps to help achieve that goal. NAEP hires short-term contractors to administer the assessments in schools. The DOE has worked with the Vermont Retired Teachers Association to recruit retired educators for these positions so that those conducting the assessments are comfortable with children in school settings and are familiar with aspects such as test accommodations. In addition, the Vermont NAEP state coordinator provides Vermont-specific training for the contractors to help them better understand our NECAP assessment and accommodation policies and how they compare to NAEP. Furthermore, the state coordinator conducts frequent observations during the testing window to monitor administration procedures and elicit feedback from schools about what is working and what is not about the process. It is hoped that these efforts will make the NAEP testing process a smooth one for school staff and students. Any and all feedback from schools about their experience (as well as additional steps the state coordinator can take to improve that experience) is welcome.

Why don't students and schools receive NAEP results?

Individual students do not receive assessment results because no single child takes a complete NAEP assessment. Rather, students take a portion of the full NAEP test. As a result, results are not valid for students or even schools. The NAEP sampling frame ensures valid results *for the state level only*. The Vermont Department of Education uses these state-level results to compare to trends on the NECAP and to learn more about such issues as the gender and poverty gap.

Who is our state coordinator?

Susan Hayes is the Vermont NAEP state coordinator. If you have any questions about NAEP or if you have any feedback about your school's testing experience this year, please contact Susan at susan.hayes@state.vt.us or (802) 828-5892.

Schedule of NAEP assessments 2007-2017

YEAR	NATIONAL *(VT schools may be sampled)*	STATE *(VT schools will be sampled)*	LONG–TERM TREND *(VT schools may be sampled)*
2007	reading (4, 8) mathematics (4, 8) writing (8, 12)	reading (4, 8) mathematics (4, 8) writing (8)	
2008	arts (8)		reading mathematics
2009	reading[1] mathematics science[1] high school transcript study	reading (4, 8)[1] mathematics (4, 8) science (4, 8)[1]	
2010	U.S. history civics geography[1]		
2011	reading (4, 8) mathematics (4, 8) writing[1]	reading (4, 8) mathematics (4, 8) writing (4, 8)[1]	
2012	world history (12)[1] foreign language (12)[1] probe: technological literacy (special study)[1]		reading mathematics
2013	reading mathematics science high school transcript study	reading (4, 8) mathematics (4, 8) science (4, 8)	
2014	U.S. history[1] civics[1] geography		
2015	reading (4, 8) mathematics (4, 8) writing	reading (4, 8) mathematics (4, 8) writing (4, 8)	
2016	arts (8)		reading mathematics
2017	reading mathematics science high school transcript study	reading (4, 8) mathematics (4, 8) science (4, 8)	

[1] New framework introduced.