Mapping State Proficiency Standards Onto the NAEP Scales: Variation and Change in State Standards for Reading and Mathematics, 2005-2009

COLORADO

NAEP
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

Reading

How do Colorado's reading standards for proficient performance at grades 4 and 8 in 2009 map onto the NAEP scale?

	NAEP scale equivalent	NAEP achievement level
Grade 4	183	below *Basic*
Grade 8	228	below *Basic*

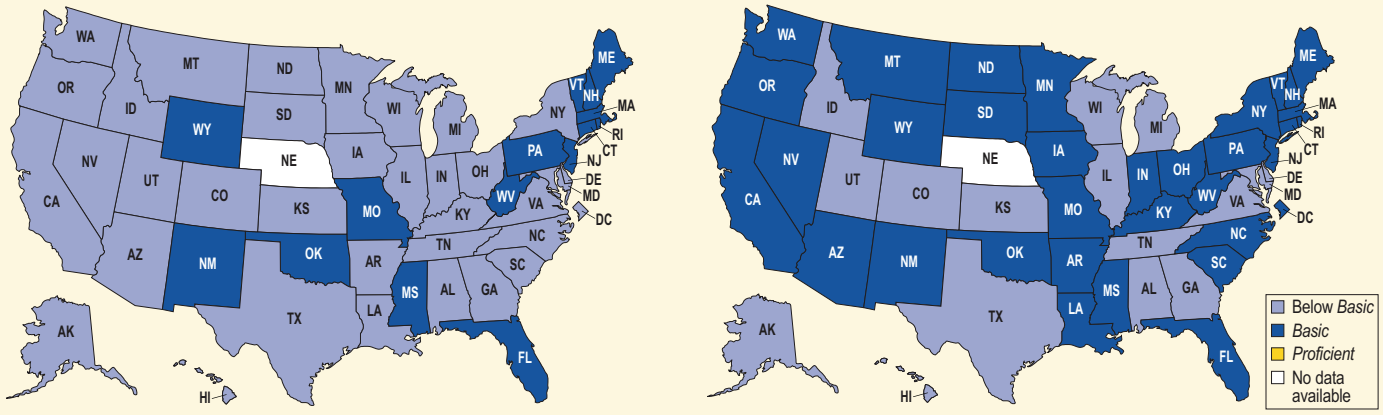
How do Colorado's reading standards for proficient performance at grades 4 and 8 in 2005 and 2007 map onto the NAEP scale?

	2005 NAEP scale equivalent	2005 NAEP achievement level	2007 NAEP scale equivalent	2007 NAEP achievement level
Grade 4	186	below *Basic*	187	below *Basic*
Grade 8	229	below *Basic*	230	below *Basic*

How do Colorado's reading standards for proficient performance at grades 4 and 8 in 2009 compare with those of other states when expressed in terms of NAEP achievement levels?

	States below *Basic*	States at *Basic*	States at *Proficient*
Grade 4	35	15	0

	States below *Basic*	States at *Basic*	States at *Proficient*
Grade 8	16	34	0



How do Colorado's NAEP scale equivalent scores of reading standards for proficient performance at grades 4 and 8 in 2009 compare with those estimated for 2005 and 2007?

Changes from 2007

	2009	2007	Change from 2007	Comparable to 2007
Grade 4	183	187	-3.7	Yes
Grade 8	228	230	-2.1	Yes

No substantive changes in the reading assessments from 2007 to 2009 were indicated by the state, and the NAEP scale equivalent of both its grade 4 and 8 standards remained unchanged.

Changes from 2005

	2009	2005	Change from 2005	Comparable to 2005
Grade 4	183	186	-3.1	Yes
Grade 8	228	229	-0.2	Yes

No substantive changes in the reading assessments from 2005 to 2009 were indicated by the state, and the NAEP scale equivalent of both its grade 4 and 8 standards remained unchanged.

* Statistically different from zero ($p < .05$).

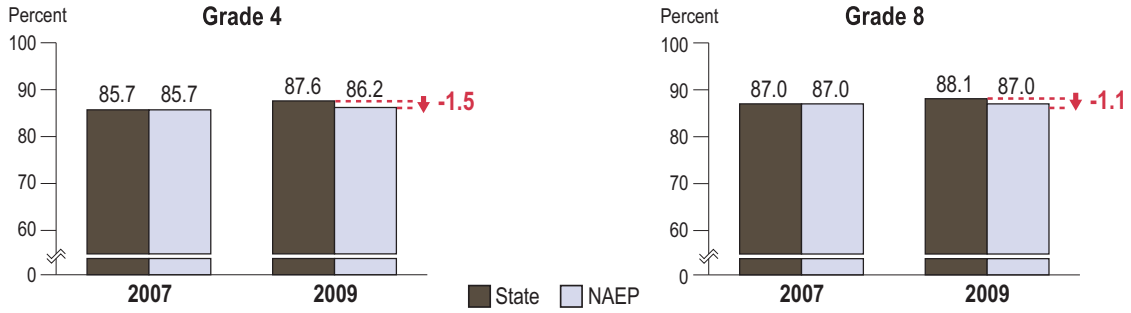
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005, 2007, and 2009 Reading Assessments. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, EDFacts SY 2008–09, Washington, DC, 2010. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Surveys of State Assessment Program Characteristics. The National Longitudinal School-Level State Assessment Score Database (NLSLSASD) 2010.

Reading

Do NAEP and the Colorado reading assessments show the same changes in the proportion of students meeting the state proficiency standards from 2007 to 2009?

In both grades, Colorado state assessment results showed changes in achievement that are not different from those based on NAEP results.

	State percent at the standard in 2007	State percent at the standard in 2009	Change from 2007 to 2009	NAEP percent at the 2007 standard in 2007	NAEP percent at the 2007 standard in 2009	Change from 2007 to 2009	Difference between NAEP and state measures of change
Grade 4	85.7	87.6	1.9	85.7	86.2	0.4	-1.5
Grade 8	87.0	88.1	1.1	87.0	87.0	#	-1.1



Estimate rounds to zero.
* Statistically different from zero ($p < .05$).

NOTE: Significance tests were performed only for the difference between NAEP and state measures of change.

Changes to Colorado's reading assessments between 2007 and 2009

	No significant changes	Changed cut scores	Changed the period of administration	Changed assessment items	Used entirely different assessment	Realigned to new content standards	Changed proficiency standards	Changed accommodation policy	Changed re-test policy	Changed test contractors	Other changes
Grade 4	Yes										Yes
Grade 8	Yes			Yes							Yes

Composition of Colorado's main reading test in 2008–09

	Multiple choice		Short constructed response		Extended constructed response		Performance tasks		Other	
	Number of items	Proportion of score	Number of items	Proportion of score	Number of items	Proportion of score	Number of items	Proportion of score	Number of items	Proportion of score
Grade 4	56	62%	13	34%	1	4%	0	0%	0	0%
Grade 8	56	62%	13	34%	1	4%	0	0%	0	0%

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005, 2007, and 2009 Reading Assessments. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, EDFacts SY 2008–09, Washington, DC, 2010. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Surveys of State Assessment Program Characteristics. The National Longitudinal School-Level State Assessment Score Database (NLSLSASD) 2010.

Mathematics

How do Colorado's mathematics standards for proficient performance at grades 4 and 8 in 2009 map onto the NAEP scale?

	NAEP scale equivalent	NAEP achievement level
Grade 4	202	below *Basic*
Grade 8	256	below *Basic*

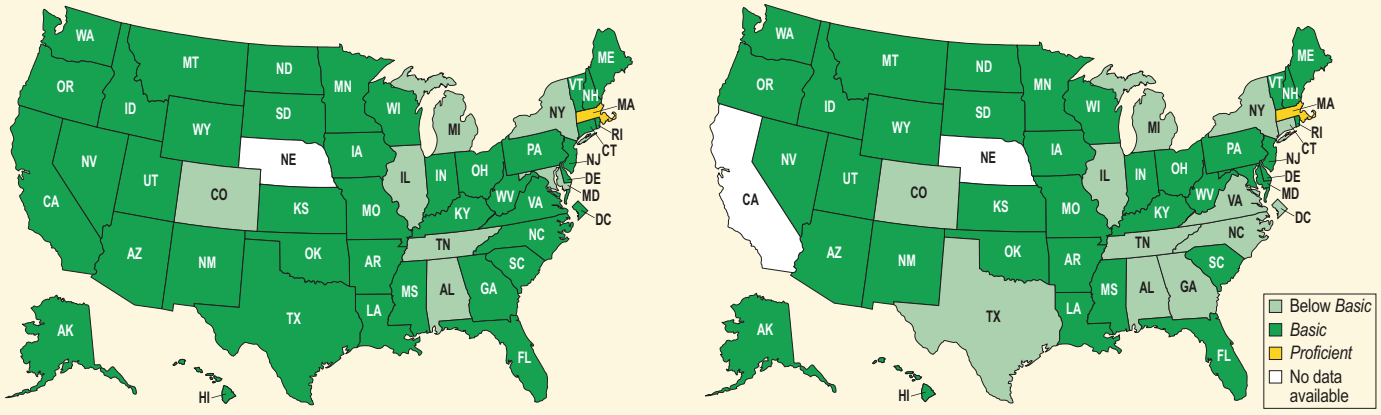
How do Colorado's mathematics standards for proficient performance at grades 4 and 8 in 2005 and 2007 map onto the NAEP scale?

	2005 NAEP scale equivalent	2005 NAEP achievement level	2007 NAEP scale equivalent	2007 NAEP achievement level
Grade 4	201	below *Basic*	201	below *Basic*
Grade 8	258	below *Basic*	259	below *Basic*

How do Colorado's mathematics standards for proficient performance at grades 4 and 8 in 2009 compare with those of other states when expressed in terms of NAEP achievement levels?

	States below *Basic*	States at *Basic*	States at *Proficient*
Grade 4	7	42	1

	States below *Basic*	States at *Basic*	States at *Proficient*
Grade 8	12	36	1



How do Colorado's NAEP scale equivalent scores of mathematics standards for proficient performance at grades 4 and 8 in 2009 compare with those estimated for 2005 and 2007?

Changes from 2007

	2009	2007	Change from 2007	Comparable to 2007
Grade 4	202	201	0.8	Yes
Grade 8	256	259	-2.7	Yes

No substantive changes in the mathematics assessments from 2007 to 2009 were indicated by the state, and the NAEP scale equivalent of both its grade 4 and 8 standards remained unchanged.

Changes from 2005

	2009	2005	Change from 2005	Comparable to 2005
Grade 4	202	201	0.7	Yes
Grade 8	256	258	-1.5	Yes

No substantive changes in the mathematics assessments from 2005 to 2009 were indicated by the state, and the NAEP scale equivalent of both its grade 4 and 8 standards remained unchanged.

* Statistically different from zero ($p < .05$).

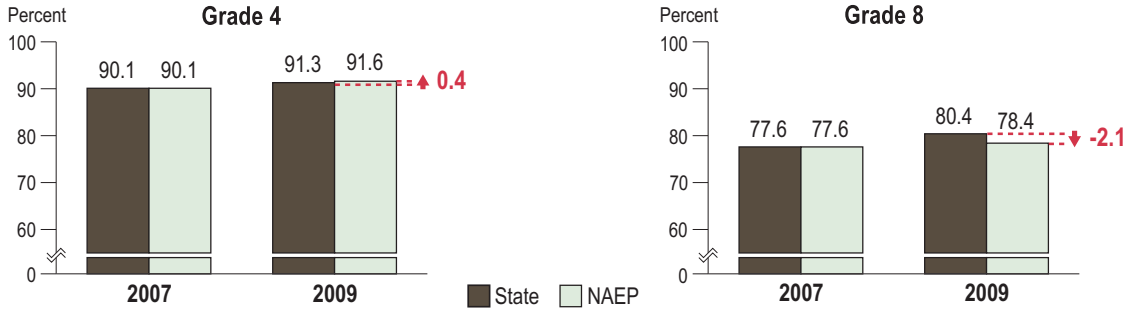
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005, 2007, and 2009 Mathematics Assessments. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, EDFacts SY 2008–09, Washington, DC, 2010. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Surveys of State Assessment Program Characteristics. The National Longitudinal School-Level State Assessment Score Database (NLSLSASD) 2010.

Mathematics

Do NAEP and the Colorado mathematics assessments show the same changes in the proportion of students meeting the state proficiency standards from 2007 to 2009?

In both grades, Colorado state assessment results showed changes in achievement that are not different from those based on NAEP results.

	State percent at the standard in 2007	State percent at the standard in 2009	Change from 2007 to 2009	NAEP percent at the 2007 standard in 2007	NAEP percent at the 2007 standard in 2009	Change from 2007 to 2009	Difference between NAEP and state measures of change
Grade 4	90.1	91.3	1.2	90.1	91.6	1.5	0.4
Grade 8	77.6	80.4	2.8	77.6	78.4	0.7	-2.1



* Statistically different from zero ($p < .05$).

NOTE: Significance tests were performed only for the difference between NAEP and state measures of change.

Changes to Colorado's mathematics assessments between 2007 and 2009

	No significant changes	Changed cut scores	Changed the period of administration	Changed assessment items	Used entirely different assessment	Realigned to new content standards	Changed proficiency standards	Changed accommodation policy	Changed re-test policy	Changed test contractors	Other changes
Grade 4	Yes			Yes							
Grade 8	Yes			Yes							

Composition of Colorado's main mathematics test in 2008–09

	Multiple choice		Short constructed response		Extended constructed response		Performance tasks		Other	
	Number of items	Proportion of score	Number of items	Proportion of score	Number of items	Proportion of score	Number of items	Proportion of score	Number of items	Proportion of score
Grade 4	54	56%	12	31%	3	13%	0	0%	0	0%
Grade 8	45	52%	12	34%	3	14%	0	0%	0	0%

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2005, 2007, and 2009 Mathematics Assessments. U.S. Department of Education, Office of Planning, Evaluation and Policy Development, EDFacts SY 2008–09, Washington, DC, 2010. U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2007 and 2009 Surveys of State Assessment Program Characteristics. The National Longitudinal School-Level State Assessment Score Database (NLSLSASD) 2010.

For additional information, refer to the report and documentation at http://nces.ed.gov/nationsreportcard/studies/statemapping.