

The National Assessment of Educational Progress (NAEP) assesses science in two major dimensions: Fields of Science (Earth, Physical, and Life) and Knowing and Doing Science (Conceptual Understanding, Scientific Investigation, and Practical Reasoning). The NAEP science scale ranges from 0 to 300. Scales are created separately for each grade.

Overall Science Results for Massachusetts	Student Percentages at NAEP Achievement Levels																				
<ul style="list-style-type: none"> In 2005, the average scale score for fourth-grade students in Massachusetts was 160. This was not significantly different from their average score in 2000 (161).¹ Massachusetts' average score (160) in 2005 was higher than that of the nation's public schools (149). Of the 44 states and one jurisdiction that participated in the 2005 fourth-grade assessment, students' average scale score in Massachusetts was higher than those in 34 jurisdictions, and not significantly different from those in 10 jurisdictions.² The percentage of students in Massachusetts who performed at or above the NAEP <i>Proficient</i> level was 38 percent in 2005. This percentage was not significantly different from that in 2000 (42 percent). The percentage of students in Massachusetts who performed at or above the NAEP <i>Basic</i> level was 79 percent in 2005. This percentage was not significantly different from that in 2000 (81 percent). 	<p>Massachusetts (public)</p> <table border="1"> <tr> <td>2000¹</td> <td>19</td> <td>38</td> <td>37</td> <td>6</td> </tr> <tr> <td>2000</td> <td>19</td> <td>39</td> <td>37</td> <td>5</td> </tr> <tr> <td>2005</td> <td>21</td> <td>41</td> <td>34</td> <td>4</td> </tr> </table> <p>Nation (public)</p> <table border="1"> <tr> <td>2005</td> <td>34</td> <td>39</td> <td>25</td> <td>2</td> </tr> </table> <p>Percent below <i>Basic</i> Percent at <i>Basic</i>, <i>Proficient</i>, and <i>Advanced</i></p> <p>■ Below <i>Basic</i> □ <i>Basic</i> ■ <i>Proficient</i> ■ <i>Advanced</i></p> <p>¹ Accommodations were not permitted for this assessment.</p> <p>NOTE: The NAEP grade 4 science achievement levels correspond to the following scale points: <i>Below Basic</i>, 137 or lower; <i>Basic</i>, 138–169; <i>Proficient</i>, 170–204; <i>Advanced</i>, 205 or above.</p>	2000 ¹	19	38	37	6	2000	19	39	37	5	2005	21	41	34	4	2005	34	39	25	2
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Performance of NAEP Reporting Groups in Massachusetts: 2005						
Reporting groups	Percent of students	Average score	Percent below <i>Basic</i>	Percent of students at or above <i>Basic</i>	Percent <i>Proficient</i>	Percent <i>Advanced</i>
Male	53	162	20	80	40	6
Female	47	158	22	78	36	3
White	75	167	12	88	45	5
Black	9	136	53	47	10	#
Hispanic	11	134	56	44	8	#
Asian/Pacific Islander	5	165	20	80	47	8
American Indian/Alaska Native	#	‡	‡	‡	‡	‡
Eligible for free/reduced-price school lunch	30	140	46	54	14	1
Not eligible for free/reduced-price school lunch	70	168	10	90	48	6

Average Score Gaps Between Selected Groups	Science Scale Scores at Selected Percentiles												
<ul style="list-style-type: none"> In 2005, male students in Massachusetts had an average score that was higher than that of female students by 3 points. In 2000, the average score for male students was higher than that of female students by 7 points. In 2005, Black students had an average score that was lower than that of White students by 30 points. In 2000, the average score for Black students was lower than that of White students by 28 points. In 2005, Hispanic students had an average score that was lower than that of White students by 33 points. In 2000, the average score for Hispanic students was lower than that of White students by 47 points. In 2005, students who were eligible for free/reduced-price school lunch, an indicator of poverty, had an average score that was lower than that of students who were not eligible for free/reduced-price school lunch by 28 points. In 2000, the average score for students who were eligible for free/reduced-price school lunch was lower than the score of those not eligible by 32 points. In 2005, the score gap between students at the 75th percentile and students at the 25th percentile was 38 points. In 2000, the score gap between students at the 75th percentile and students at the 25th percentile was 37 points. 	<table border="1"> <caption>Science Scale Scores at Selected Percentiles</caption> <thead> <tr> <th>Year</th> <th>75th Percentile</th> <th>50th Percentile</th> <th>25th Percentile</th> </tr> </thead> <tbody> <tr> <td>2000</td> <td>182</td> <td>165</td> <td>144</td> </tr> <tr> <td>2005</td> <td>180</td> <td>162</td> <td>142</td> </tr> </tbody> </table> <p>Scores at selected percentiles on the NAEP science scale indicate how well students at lower, middle, and higher levels performed.</p>	Year	75th Percentile	50th Percentile	25th Percentile	2000	182	165	144	2005	180	162	142
Year	75th Percentile	50th Percentile	25th Percentile										
2000	182	165	144										
2005	180	162	142										

The estimate rounds to zero.

‡ Reporting standards not met.

* Significantly different from 2005.

↑ Significantly higher than 2000. ↓ Significantly lower than 2000.

¹ Comparisons (higher/lower/not different) are based on statistical tests. The .05 level was used for testing statistical significance. Comparisons across jurisdictions and comparisons with the nation or within a jurisdiction across years may be affected by differences in exclusion rates for students with disabilities (SD) and English language learners (ELL). The exclusion rates for SD and ELL in Massachusetts were 3 percent and 1 percent in 2005, respectively. Statistical comparisons are calculated on the basis of unrounded scale scores or percentages.

² "Jurisdiction" refers to states and the Department of Defense Education Activity schools.

NOTE: Detail may not sum to totals because of rounding and because the "Information not available" category for free/reduced-price school lunch and the "Unclassified" category for race/ethnicity are not displayed. Visit <http://nces.ed.gov/nationsreportcard/states/> for additional results and detailed information.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2000 and 2005 Science Assessments.