

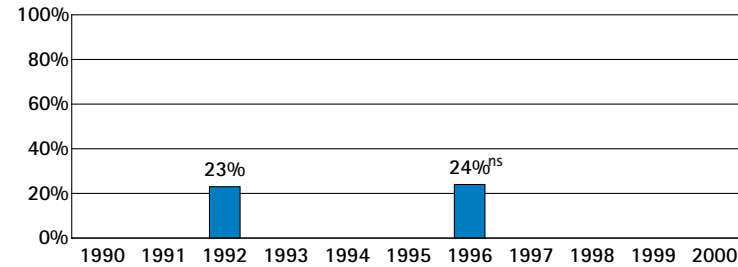
## 1. Improvement Over Time

Have Massachusetts' 4th graders improved in mathematics achievement?

*Not yet. Between 1992 and 1996, there was no significant change in the percentage of public school 4th graders who met the Goals Panel's performance standard in mathematics.*

*The Goals Panel has set its performance standard at the two highest levels of achievement – Proficient or Advanced – on the National Assessment of Educational Progress, or NAEP.*

Percentage of public school 4th graders at or above Proficient on the NAEP mathematics assessment



<sup>ns</sup> Interpret with caution. Change was not statistically significant. Mathematics performance will be tested again in 2000.

## 2. State Comparisons<sup>†</sup>

How did Massachusetts compare with other states in 4th grade mathematics achievement in public schools in 1996?

### 24 states had similar<sup>1</sup> percentages of students who were at or above Proficient on NAEP:

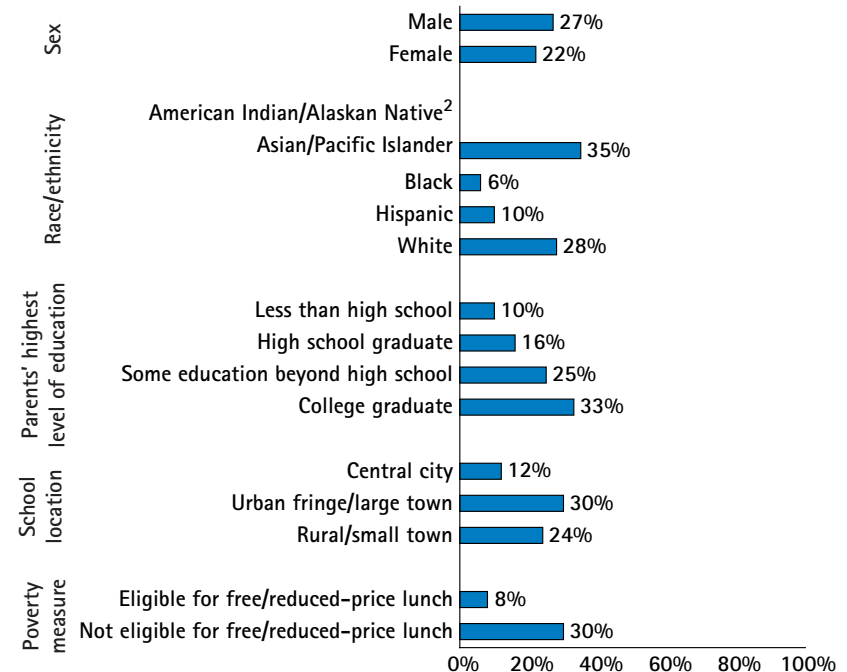
Connecticut	31%	Michigan, Utah, Vermont	23%
Minnesota	29%	Colorado, Iowa, Maryland, Montana	22%
Maine, Wisconsin	27%	<b>U.S.*</b> Alaska, North Carolina, Oregon,	<b>21%</b>
New Jersey, Texas	25%	Washington	
<b>Massachusetts</b> , Indiana, Nebraska,	<b>24%</b>	Missouri, New York, Pennsylvania	20%
North Dakota		Virginia <sup>2</sup>	19%

### 20 states had significantly lower<sup>1</sup> percentages of students who were at or above Proficient on NAEP:

West Virginia, <sup>2</sup> Wyoming <sup>2</sup>	19%	South Carolina	12%
Rhode Island, Tennessee	17%	Alabama, California	11%
Delaware, Hawaii, Kentucky	16%	Louisiana, Mississippi	8%
Arizona, Florida	15%	District of Columbia	5%
Nevada	14%	Guam	3%
Arkansas, Georgia, New Mexico	13%		

## 3. Subgroup Performance

What percentages of public school 4th graders in different subgroups<sup>1</sup> in Massachusetts were at or above Proficient on the 1996 NAEP mathematics assessment?



<sup>1</sup> Interpret differences between subgroups with caution. See pp. 3-4 and Appendix D.

<sup>2</sup> Characteristics of the sample do not permit a reliable estimate.

<sup>†</sup> The term "state" is used to refer to the 50 states, the District of Columbia, and the territories.

<sup>1</sup> See explanation on pp. 3-4.

<sup>2</sup> State may appear to be out of place; however, statistically, its placement is correct. See pp. 3-4.

\* Figure shown for the U.S. includes both public and nonpublic school data.

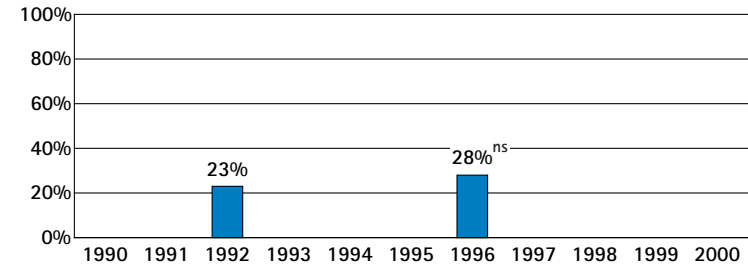
## 1. Improvement Over Time

Have Massachusetts' 8th graders improved in mathematics achievement?

*Not yet. Between 1992 and 1996, there was no significant change in the percentage of public school 8th graders who met the Goals Panel's performance standard in mathematics.*

*The Goals Panel has set its performance standard at the two highest levels of achievement – Proficient or Advanced – on the National Assessment of Educational Progress, or NAEP.*

Percentage of public school 8th graders at or above Proficient on the NAEP mathematics assessment



<sup>ns</sup> Interpret with caution. Change was not statistically significant. Mathematics performance will be tested again in 2000.

## 2. State Comparisons<sup>†</sup>

How did Massachusetts compare with other states in 8th grade mathematics achievement in public schools in 1996?

### 17 states had similar<sup>1</sup> percentages of students who were at or above Proficient on NAEP:

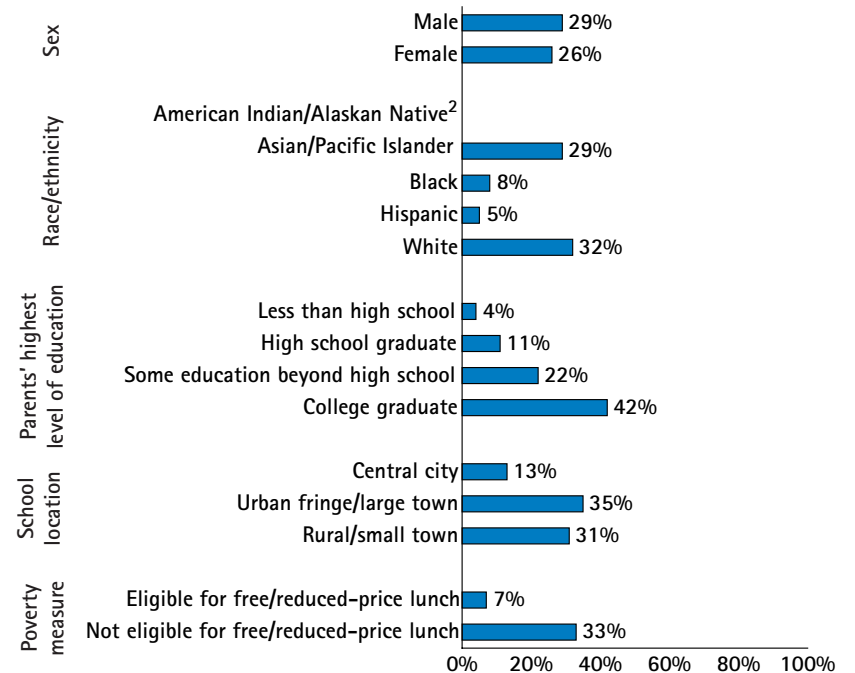
Minnesota	34%	<b>Massachusetts</b> , Michigan	<b>28%</b>
North Dakota	33%	Vermont	27%
Montana, Wisconsin	32%	Oregon, Washington	26%
Connecticut, Iowa, Maine, Nebraska	31%	Colorado	25%
Alaska	30%	<b>U.S.*</b> , Indiana, Maryland, Utah	<b>24%</b>

### 24 states had significantly lower<sup>1</sup> percentages of students who were at or above Proficient on NAEP:

Missouri, New York, Wyoming	22%	New Mexico, South Carolina,	14%
Texas, Virginia	21%	West Virginia	
North Carolina, Rhode Island	20%	Arkansas	13%
Delaware	19%	Alabama	12%
Arizona	18%	Louisiana, Mississippi	7%
California, Florida	17%	Guam	6%
Georgia, Hawaii, Kentucky	16%	District of Columbia	5%
Tennessee	15%		

## 3. Subgroup Performance

What percentages of public school 8th graders in different subgroups<sup>1</sup> in Massachusetts were at or above Proficient on the 1996 NAEP mathematics assessment?



<sup>†</sup> The term "state" is used to refer to the 50 states, the District of Columbia, and the territories.

<sup>1</sup> See explanation on pp. 3-4.

\* Figure shown for the U.S. includes both public and nonpublic school data.

<sup>1</sup> Interpret differences between subgroups with caution. See pp. 3-4 and Appendix D.

<sup>2</sup> Characteristics of the sample do not permit a reliable estimate.

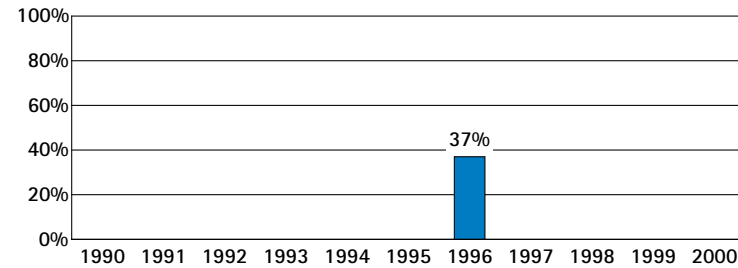
## 1. Improvement Over Time

Have Massachusetts' 8th graders improved in science achievement?

*In 1996, 37% of Massachusetts' public school 8th graders met the Goals Panel's performance standard in science. The Goals Panel will report whether science performance has improved over time when science is assessed again in 2000.*

*The Goals Panel has set its performance standard at the two highest levels of achievement – Proficient or Advanced – on the National Assessment of Educational Progress, or NAEP.*

Percentage of public school 8th graders at or above Proficient on the NAEP science assessment



Science performance will be tested again in 2000.

## 2. State Comparisons<sup>†</sup>

How did Massachusetts compare with other states in 8th grade science achievement in public schools in 1996?

### 13 states had similar<sup>1</sup> percentages of students who were at or above Proficient on NAEP:

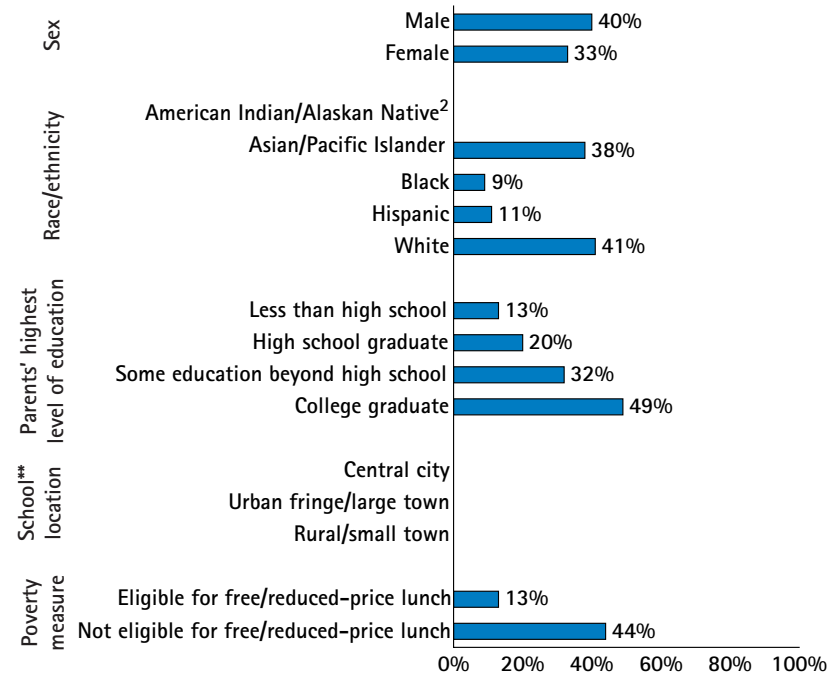
Maine, Montana, North Dakota	41%	Nebraska	35%
Wisconsin	39%	Vermont, Wyoming	34%
<b>Massachusetts</b> , Minnesota	<b>37%</b>	Colorado, <sup>2</sup> Michigan, <sup>2</sup> Oregon <sup>2</sup>	32%
Connecticut, Iowa	36%		

### 28 states had significantly lower<sup>1</sup> percentages of students who were at or above Proficient on NAEP:

Utah <sup>2</sup>	32%	Delaware, Florida, Georgia,	21%
Alaska	31%	West Virginia	
Indiana	30%	California	20%
<b>U.S.*</b>	<b>29%</b>	New Mexico	19%
Missouri	28%	Alabama	18%
New York, Virginia, Washington	27%	South Carolina	17%
Rhode Island	26%	Hawaii	15%
Maryland	25%	Louisiana	13%
North Carolina	24%	Mississippi	12%
Arizona, Kentucky, Texas	23%	Guam	7%
Arkansas, Tennessee	22%	District of Columbia	5%

## 3. Subgroup Performance

What percentages of public school 8th graders in different subgroups<sup>1</sup> in Massachusetts were at or above Proficient on the 1996 NAEP science assessment?



<sup>†</sup> The term "state" is used to refer to the 50 states, the District of Columbia, and the territories.

<sup>1</sup> See explanation on pp. 3-4.

<sup>2</sup> State may appear to be out of place; however, statistically, its placement is correct. See pp. 3-4.

\* Figure shown for the U.S. includes both public and nonpublic school data.

<sup>1</sup> Interpret differences between subgroups with caution. See pp. 3-4 and Appendix D.

<sup>2</sup> Characteristics of the sample do not permit a reliable estimate.

\*\* No school location data for science in 1996.

## Mathematics Grade 8

Forty-one nations<sup>†</sup> participated in the Third International Mathematics and Science Study (TIMSS) in 8th grade mathematics in 1995. If public school 8th graders in Massachusetts participated in the TIMSS mathematics assessment, how would their average performance compare to that of students who took TIMSS in these nations?

### 8 nations<sup>†</sup> would be expected to perform significantly higher:<sup>1</sup>

Belgium – Flemish <sup>2</sup>	Korea
Czech Republic	Singapore
Hong Kong	Slovak Republic
Japan	(Switzerland)

### 22 nations<sup>†</sup> would be expected to perform similarly:<sup>1</sup>

(Australia)	(Latvia – LSS) <sup>3</sup>
(Austria)	<b>Massachusetts</b>
(Belgium – French) <sup>2</sup>	(Netherlands)
(Bulgaria)	New Zealand
Canada	Norway
(Denmark)	Russian Federation
(England)	(Scotland)
France	(Slovenia)
(Germany)	Sweden
Hungary	(Thailand)
Ireland	<b>United States</b>
(Israel)	

### 11 nations<sup>†</sup> would be expected to perform significantly lower:<sup>1</sup>

(Colombia)	(Lithuania)
Cyprus	Portugal
(Greece)	(Romania)
Iceland	(South Africa)
Iran, Islamic Republic	Spain
(Kuwait)	

<sup>†</sup> The term "nation" is used to refer to nations, states, or jurisdictions. Performance for nations is based on public school data only. Nations not meeting international guidelines are shown in parentheses.

<sup>1</sup> See explanation on pp. 3–4.

<sup>2</sup> The Flemish and French educational systems in Belgium participated separately.

<sup>3</sup> Latvia is designated LSS because only Latvian-speaking schools were tested, which represent less than 65% of the population.

## Science Grade 8

Forty-one nations<sup>†</sup> participated in the Third International Mathematics and Science Study (TIMSS) in 8th grade science in 1995. If public school 8th graders in Massachusetts participated in the TIMSS science assessment, how would their average performance compare to that of students who took TIMSS in these nations?

### 1 nation<sup>†</sup> would be expected to perform significantly higher:<sup>1</sup>

Singapore

### 17 nations<sup>†</sup> would be expected to perform similarly:<sup>1</sup>

(Australia)	Japan
(Austria)	Korea
Belgium – Flemish <sup>2</sup>	<b>Massachusetts</b>
(Bulgaria)	(Netherlands)
Czech Republic	Russian Federation
(England)	Slovak Republic
(Germany)	(Slovenia)
Hungary	Sweden
Ireland	<b>United States</b>

### 23 nations<sup>†</sup> would be expected to perform significantly lower:<sup>1</sup>

(Belgium – French) <sup>2</sup>	(Latvia – LSS) <sup>3</sup>
Canada	(Lithuania)
(Colombia)	New Zealand
Cyprus	Norway
(Denmark)	Portugal
France	(Romania)
(Greece)	(Scotland)
Hong Kong	(South Africa)
Iceland	Spain
Iran, Islamic Republic	(Switzerland)
(Israel)	(Thailand)
(Kuwait)	

<sup>†</sup> The term "nation" is used to refer to nations, states, or jurisdictions. Performance for nations is based on public school data only. Nations not meeting international guidelines are shown in parentheses.

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