Michigan

Mathematics Grade 4

1. Improvement Over Time

Have Michigan’s 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.

2. State Comparisons†

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

3. Subgroup Performance

What percentages of public school 4th graders in different subgroups1 in Michigan were at or above Proficient on the 1996 NAEP mathematics assessment?

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

1 See explanation on pp. 3-4.

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

See Appendix A for definitions, sources, and technical notes.
1. Improvement Over Time

Have Michigan's 8th graders improved in mathematics achievement?

Yes. The percentage of Michigan's public school 8th graders who met the Goals Panel's performance standard in mathematics increased from 16% in 1990, to 28% in 1996.

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.

2. State Comparisons†

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

<table>
<thead>
<tr>
<th>States</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minnesota</td>
<td>34%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>33%</td>
</tr>
<tr>
<td>Montana, Wisconsin</td>
<td>32%</td>
</tr>
<tr>
<td>Connecticut, Iowa, Maine, Nebraska</td>
<td>31%</td>
</tr>
<tr>
<td>Alaska</td>
<td>30%</td>
</tr>
<tr>
<td>Michigan</td>
<td>28%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>20%</td>
</tr>
<tr>
<td>Vermont</td>
<td>27%</td>
</tr>
<tr>
<td>Oregon, Washington</td>
<td>26%</td>
</tr>
<tr>
<td>Colorado</td>
<td>25%</td>
</tr>
<tr>
<td>U.S.,* Indiana, Maryland, Utah</td>
<td>24%</td>
</tr>
</tbody>
</table>

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

3. Subgroup Performance

What percentages of public school 8th graders in different subgroups1 in Michigan were at or above Proficient on the 1996 NAEP mathematics assessment?

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>30%</td>
</tr>
<tr>
<td>Female</td>
<td>27%</td>
</tr>
<tr>
<td>American Indian/Alaskan Native 2</td>
<td>5%</td>
</tr>
<tr>
<td>Asian/Pacific Islander         2</td>
<td>12%</td>
</tr>
<tr>
<td>Black</td>
<td>5%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>12%</td>
</tr>
<tr>
<td>White</td>
<td>34%</td>
</tr>
<tr>
<td>Less than high school</td>
<td>6%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>15%</td>
</tr>
<tr>
<td>Some education beyond high school</td>
<td>30%</td>
</tr>
<tr>
<td>College graduate</td>
<td>40%</td>
</tr>
<tr>
<td>Central city</td>
<td>20%</td>
</tr>
<tr>
<td>Urban fringe/large town</td>
<td>32%</td>
</tr>
<tr>
<td>Rural/small town</td>
<td>30%</td>
</tr>
<tr>
<td>Eligible for free/reduced-price lunch</td>
<td>10%</td>
</tr>
<tr>
<td>Not eligible for free/reduced-price lunch</td>
<td>34%</td>
</tr>
</tbody>
</table>

† Interpret differences between subgroups with caution. See pp. 3–4 and Appendix D.

2 Characteristics of the sample do not permit a reliable estimate.
1. Improvement Over Time

Have Michigan's 8th graders improved in science achievement?

In 1996, 32% of Michigan's 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.

2. State Comparisons

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

3 states had significantly higher percentages of students who were at or above Proficient on NAEP:

Michigan, Colorado, Oregon, Utah 32%

17 states had similar percentages of students who were at or above Proficient on NAEP:

Wisconsin 39% Alaska 31%
Massachusetts, Minnesota 37% Indiana 30%
Connecticut, Iowa 36% U.S.* 29%
Nebraska 35% Missouri 28%
Vermont, Wyoming 34% New York, Virginia, Washington 27%

Michigan, Colorado, Oregon, Utah 32%

21 states had significantly lower percentages of students who were at or above Proficient on NAEP:

Rhode Island 26% New Mexico 19%
Maryland 25% Alabama 18%
North Carolina 24% South Carolina 17%
Arizona, Kentucky, Texas 23% Hawaii 15%
Arkansas, Tennessee 22% Louisiana 13%
Delaware, Florida, Georgia, West Virginia 21% Mississippi 12% Louisiana 7%
California 20% District of Columbia 5%

3. Subgroup Performance

What percentages of public school 8th graders in different subgroups in Michigan were at or above Proficient on the 1996 NAEP science assessment?

Sex

<table>
<thead>
<tr>
<th>Gender</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>36%</td>
</tr>
<tr>
<td>Female</td>
<td>29%</td>
</tr>
</tbody>
</table>

Race/ethnicity

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaskan Native</td>
<td>6%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>12%</td>
</tr>
<tr>
<td>Black</td>
<td>10%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>14%</td>
</tr>
<tr>
<td>White</td>
<td>39%</td>
</tr>
</tbody>
</table>

Parent’s highest level of education

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>12%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>21%</td>
</tr>
<tr>
<td>Some education beyond high school</td>
<td>35%</td>
</tr>
<tr>
<td>College graduate</td>
<td>42%</td>
</tr>
</tbody>
</table>

School location

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central city</td>
<td>36%</td>
</tr>
<tr>
<td>Urban fringe/large town</td>
<td>35%</td>
</tr>
<tr>
<td>Rural/small town</td>
<td>29%</td>
</tr>
</tbody>
</table>

Poverty measure

<table>
<thead>
<tr>
<th>Poverty Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eligible for free/reduced-price lunch</td>
<td>17%</td>
</tr>
<tr>
<td>Not eligible for free/reduced-price lunch</td>
<td>38%</td>
</tr>
</tbody>
</table>

† The term "state" is used to refer to the 50 states, the District of Columbia, and the territories.
1 See explanation on pp. 3-4.
* Figure shown for the U.S. includes both public and nonpublic school data.
### Mathematics Grade 8

Forty-one nations\(^1\) participated in the Third International Mathematics and Science Study (TIMSS) in 8th grade mathematics in 1995. If public school 8th graders in Michigan participated in the TIMSS mathematics assessment, how would their average performance compare to that of students who took TIMSS in these nations?

#### 10 nations' would be expected to perform significantly higher: \(^1\)

- Austria
- Belgium – Flemish\(^2\)
- Czech Republic
- Hong Kong
- Japan
- Korea
- Singapore
- Slovak Republic
- Slovenia
- Switzerland

#### 21 nations' would be expected to perform similarly: \(^1\)

- Australia
- Belgium – French\(^2\)
- Bulgaria
- Canada
- Denmark
- England
- France
- Germany
- Hungary
- Ireland
- Israel
- Latvia – LSS
- Lithuania
- Michigan
- Netherlands
- New Zealand
- Norway
- Russian Federation
- Scotland
- Sweden
- Thailand
- United States

#### 10 nations' would be expected to perform significantly lower: \(^1\)

- Colombia
- Cyprus
- Greece
- Iran, Islamic Republic
- Kuwait
- Lithuania
- Portugal
- Romania
- South Africa
- Spain

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### Science Grade 8

Forty-one nations\(^1\) participated in the Third International Mathematics and Science Study (TIMSS) in 8th grade science in 1995. If public school 8th graders in Michigan participated in the TIMSS science assessment, how would their average performance compare to that of students who took TIMSS in these nations?

#### 2 nations' would be expected to perform significantly higher: \(^1\)

- Czech Republic
- Singapore

#### 23 nations' would be expected to perform similarly: \(^1\)

- Australia
- Austria
- Belgium – Flemish\(^2\)
- Bulgaria
- Canada
- England
- Germany
- Hong Kong
- Hungary
- Ireland
- Israel
- Latvia – LSS
- Lithuania
- Michigan
- Netherlands
- New Zealand
- Norway
- Russian Federation
- Slovak Republic
- Slovenia
- Sweden
- Switzerland
- Thailand
- United States

#### 16 nations' would be expected to perform significantly lower: \(^1\)

- Belgium – French\(^2\)
- Colombia
- Cyprus
- Denmark
- France
- Greece
- Iceland
- Iran, Islamic Republic
- Kuwait
- Latvia – LSS\(^3\)
- Lithuania
- Portugal
- Poland
- Romania
- Scotland
- South Africa
- Spain

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\(^1\) 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.

\(^2\) See explanation on pp. 3-4.

\(^3\) The Flemish and French educational systems in Belgium participated separately.

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See Appendix A for definitions, sources, and technical notes.