Virginia

Mathematics Grade 4

1. Improvement Over Time

Have Virginia'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 Virginia 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 subgroups in Virginia were at or above Proficient on the 1996 NAEP mathematics assessment?

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

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

Not yet. Between 1990 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.

2. State Comparisons†

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

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

- Minnesota: 34%
- North Dakota: 33%
- Montana, Wisconsin: 32%
- Connecticut, Iowa, Maine, Nebraska: 31%
- Colorado: 25%
- U.S.* Indiana, Maryland, Utah: 24%
- Missouri, New York, Wyoming: 22%
- Virginia, Texas: 21%
- Florida: 17%
- Georgia, Hawaii, Kentucky: 16%
- Tennessee: 15%
- New Mexico, South Carolina, West Virginia: 14%
- Arkansas: 13%
- Alabama: 16%
- Louisiana, Mississippi: 15%
- Guam: 14%
- District of Columbia: 13%

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

- North Carolina, Rhode Island: 20%
- Delaware: 24%
- Arizona: 22%
- California: 21%
- North Carolina, Rhode Island: 20%
- New Jersey: 22%
- Maryland: 23%
- West Virginia: 21%
- North Carolina, Rhode Island: 20%
- Delaware: 24%
- Arizona: 22%
- California: 21%

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

- Alaska: 30%
- Massachusetts, Michigan: 28%
- Vermont: 27%
- Oregon, Washington: 26%
- North Carolina, Rhode Island: 20%
- Delaware: 24%
- Arizona: 22%
- California: 21%
- North Carolina, Rhode Island: 20%
- Delaware: 24%
- Arizona: 22%
- California: 21%

† 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.

2 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.

3. Subgroup Performance

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

<table>
<thead>
<tr>
<th>Sex</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaskan Native²</td>
<td>24%</td>
<td>18%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>38%</td>
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<tr>
<td>Black</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>9%</td>
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<tr>
<td>White</td>
<td>28%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>Less than high school</th>
<th>High school graduate</th>
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</thead>
<tbody>
<tr>
<td>17%</td>
<td>13%</td>
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</table>

<table>
<thead>
<tr>
<th>Parents' highest level of education</th>
<th>College graduate</th>
</tr>
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<tbody>
<tr>
<td>Central city</td>
<td>36%</td>
</tr>
<tr>
<td>Urban fringe/large town</td>
<td>31%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>School location</th>
<th>Eligible for free/reduced-price lunch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural/small town</td>
<td>26%</td>
</tr>
</tbody>
</table>

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

² Characteristics of the sample do not permit a reliable estimate.

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

Have Virginia’s 8th graders improved in science achievement?

In 1996, 27% of Virginia’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 Virginia compare with other states in 8th grade science achievement in public schools in 1996?

<table>
<thead>
<tr>
<th>Percentage of students at or above Proficient on NAEP in Virginia</th>
<th>100%</th>
<th>90%</th>
<th>80%</th>
<th>70%</th>
<th>60%</th>
<th>50%</th>
<th>40%</th>
<th>30%</th>
<th>20%</th>
<th>10%</th>
<th>0%</th>
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</thead>
<tbody>
<tr>
<td>11 states had significantly higher percentages of students who were at or above Proficient on NAEP:</td>
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<tr>
<td>Maine, Montana, North Dakota</td>
<td>41%</td>
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<tr>
<td>Wisconsin</td>
<td>39%</td>
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<tr>
<td>Massachusetts, Minnesota</td>
<td>37%</td>
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<tr>
<td>17 states had similar percentages of students who were at or above Proficient on NAEP:</td>
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<tr>
<td>Colorado, Michigan, Oregon, Utah</td>
<td>32%</td>
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<tr>
<td>Alaska</td>
<td>31%</td>
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<tr>
<td>Indiana</td>
<td>30%</td>
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<tr>
<td>U.S.*</td>
<td>29%</td>
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<tr>
<td>Missouri</td>
<td>28%</td>
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<tr>
<td>Virginia, New York, Washington</td>
<td>27%</td>
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<tr>
<td>13 states had significantly lower percentages of students who were at or above Proficient on NAEP:</td>
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<tr>
<td>Delaware, Florida, Georgia, West Virginia</td>
<td>21%</td>
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<tr>
<td>California</td>
<td>20%</td>
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<tr>
<td>New Mexico</td>
<td>19%</td>
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<tr>
<td>Alabama</td>
<td>18%</td>
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<tr>
<td>South Carolina</td>
<td>17%</td>
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</tbody>
</table>

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

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† See explanation on pp. 3-4.

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

3. Subgroup Performance

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

<table>
<thead>
<tr>
<th>Sex</th>
<th>Male</th>
<th>Female</th>
<th>0%</th>
<th>20%</th>
<th>40%</th>
<th>60%</th>
<th>80%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaskan Native2</td>
<td>28%</td>
<td>26%</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>28%</td>
<td>36%</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Black</td>
<td>6%</td>
<td>12%</td>
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<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>12%</td>
<td>36%</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>34%</td>
<td>41%</td>
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</tr>
</tbody>
</table>

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

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

* See explanation on pp. 3-4.

** No school location data for science in 1996.

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

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

19 nations would be expected to perform significantly higher:

- Australia
- Austria
- Belgium – Flemish
- Belgium – French
- Bulgaria
- Canada
- Czech Republic
- Denmark
- England
- Germany
- Greece
- Iceland
- Israel
- Latvia – LSS
- Lithuania

17 nations would be expected to perform similarly:

- Cyprus
- Denmark
- England
- Germany
- Greece
- Iceland
- Israel
- Latvia – LSS
- Lithuania
- New Zealand
- Norway
- Romania
- Scotland
- Spain
- Sweden
- Switzerland

14 nations would be expected to perform significantly lower:

- Colombia
- Iran, Islamic Republic
- Kuwait
- Portugal
- South Africa

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

4 nations would be expected to perform significantly higher:

- Czech Republic
- Japan
- Korea
- Singapore

23 nations would be expected to perform similarly:

- Australia
- Austria
- Belgium – Flemish
- Bulgaria
- Canada
- England
- Germany
- Hong Kong
- Hungary
- Ireland
- Israel
- Latvia
- Lithuania
- New Zealand
- Norway
- Russian Federation
- Scotland
- Slovak Republic
- Slovenia
- Spain
- Switzerland
- Thailand
- United States
- Vietnam

14 nations would be expected to perform significantly lower:

- Belgium – French
- Colombia
- Cyprus
- Denmark
- England
- Finland
- Greece
- Hungary
- Iceland
- Lithuania
- Luxembourg
- Peru
- Portugal
- South Africa
- United Kingdom

† 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.

1 See explanation on pp. 3-4.
2 The Flemish and French educational systems in Belgium participated separately.
3 Latvia is designated LSS because only Latvian-speaking schools were tested, which represent less than 65% of the population.

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

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