1. Improvement Over Time

Have Tennessee’s 4th graders improved in mathematics achievement?

Yes. The percentage of Tennessee’s public school 4th graders who met the Goals Panel’s performance standard in mathematics increased from 10% in 1992, to 17% 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 Tennessee compare with other states in 4th grade mathematics achievement in public schools in 1996?

15 states had significantly higher¹ percentages of students who were at or above Proficient on NAEP:

- Connecticut: 31%
- Minnesota: 29%
- Maine, Wisconsin: 27%
- New Jersey, Texas: 25%
- New Mexico: 21%
- South Carolina: 12%
- Alabama, California: 11%
- Louisiana, Mississippi: 8%
- District of Columbia: 7%
- Guam: 3%

21 states had similar¹ percentages of students who were at or above Proficient on NAEP:

- Maryland: 22%
- Montana: 21%
- U.S. Alaska, North Carolina, Oregon, Washington: 21%
- Missouri, New York, Pennsylvania: 20%
- Virginia, West Virginia, Wyoming: 19%

8 states had significantly lower¹ percentages of students who were at or above Proficient on NAEP:

- New Mexico: 13%
- South Carolina: 12%
- Alabama, California: 11%

3. Subgroup Performance

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

- Sex:
  - Male: 18%
  - Female: 15%
- Race/Ethnicity:
  - American Indian/Alaskan Native²: 3%
  - Asian/Pacific Islander²: 12%
  - Black: 21%
- Parents’ highest level of education:
  - Less than high school: 4%
  - High school graduate: 9%
  - Some education beyond high school: 17%
  - College graduate: 26%
- School location:
  - Central city: 15%
  - Urban fringe/large town: 21%
  - Rural/small town: 15%
- Poverty measure:
  - Eligible for free/reduced-price lunch: 6%
  - Not eligible for free/reduced-price lunch: 23%
Mathematics Grade 8

1. Improvement Over Time
Have Tennessee's 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.

2. State Comparisons†
How did Tennessee compare with other states in 8th grade mathematics achievement in public schools in 1996?

26 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%
- Alaska 30%
- Massachusetts, Michigan 28%
- Vermont 27%
- Oregon, Washington 26%
- North Carolina, Rhode Island 20%
- Texas, Virginia 21%
- New Mexico, South Carolina, 14%
- West Virginia 14%
- Arkansas 13%
- Alabama 12%

11 states had similar† percentages of students who were at or above Proficient on NAEP:
- Arizona 18%
- California, Florida 17%
- Georgia, Hawaii, Kentucky 16%
- Tennessee 15%

4 states had significantly lower† percentages of students who were at or above Proficient on NAEP:
- Louisiana, Mississippi 7%
- Guam 6%
- District of Columbia 5%

3. Subgroup Performance
What percentages of public school 8th graders in different subgroups† in Tennessee were at or above Proficient on the 1996 NAEP mathematics assessment?

- Sex: Male 16%, Female 14%
- Race/ethnicity: American Indian/Alaskan Native 3%, Asian/Pacific Islander 6%, Black 18%, Hispanic 18%, White 18%
- Parents’ highest level of education: Less than high school 4%, High school graduate 8%, Some education beyond high school 18%, College graduate 27%
- School location: Central city 12%, Urban fringe/large town 22%, Rural/small town 11%
- Poverty measure: Eligible for free/reduced-price lunch 5%, Not eligible for free/reduced-price lunch 19%

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

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 Tennessee's 8th graders improved in science achievement?

In 1996, 22% of Tennessee'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 Tennessee compare with other states in 8th grade science achievement in public schools in 1996?

<table>
<thead>
<tr>
<th>State</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Carolina</td>
<td>17%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>27%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>13%</td>
</tr>
<tr>
<td>New York, Virginia, Washington</td>
<td>27%</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>26%</td>
</tr>
<tr>
<td>Maryland</td>
<td>25%</td>
</tr>
<tr>
<td>North Carolina</td>
<td>24%</td>
</tr>
<tr>
<td>Arizona, Kentucky, Texas</td>
<td>23%</td>
</tr>
<tr>
<td>Tennessee, Arkansas</td>
<td>22%</td>
</tr>
<tr>
<td>Colorado, Michigan, Oregon, Utah</td>
<td>31%</td>
</tr>
<tr>
<td>Minnesota</td>
<td>32%</td>
</tr>
<tr>
<td>Missouri</td>
<td>28%</td>
</tr>
<tr>
<td>Alaska</td>
<td>31%</td>
</tr>
<tr>
<td>Indiana</td>
<td>30%</td>
</tr>
<tr>
<td>U.S.*</td>
<td>29%</td>
</tr>
<tr>
<td>Guam</td>
<td>7%</td>
</tr>
<tr>
<td>Delaware, Florida, Georgia, Hawaii</td>
<td>21%</td>
</tr>
<tr>
<td>Delaware, Georgia, Mississippi</td>
<td>20%</td>
</tr>
<tr>
<td>California</td>
<td>19%</td>
</tr>
<tr>
<td>New Mexico</td>
<td>18%</td>
</tr>
<tr>
<td>Alabama</td>
<td>18%</td>
</tr>
<tr>
<td>California</td>
<td>19%</td>
</tr>
<tr>
<td>Georgia</td>
<td>18%</td>
</tr>
<tr>
<td>Texas</td>
<td>18%</td>
</tr>
<tr>
<td>Utah</td>
<td>18%</td>
</tr>
<tr>
<td>Washington</td>
<td>21%</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>5%</td>
</tr>
</tbody>
</table>

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

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

3. Subgroup Performance

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

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>24%</td>
</tr>
<tr>
<td>Female</td>
<td>20%</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>5%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>3%</td>
</tr>
<tr>
<td>Black</td>
<td>26%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>7%</td>
</tr>
<tr>
<td>White</td>
<td>15%</td>
</tr>
<tr>
<td>Less than high school</td>
<td>15%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>24%</td>
</tr>
<tr>
<td>Some education beyond high school</td>
<td>33%</td>
</tr>
<tr>
<td>College graduate</td>
<td>18%</td>
</tr>
<tr>
<td>Central city</td>
<td>9%</td>
</tr>
<tr>
<td>Urban fringe/large town</td>
<td>28%</td>
</tr>
<tr>
<td>Rural/small town</td>
<td>5%</td>
</tr>
<tr>
<td>Eligible for free/reduced-price lunch</td>
<td>9%</td>
</tr>
<tr>
<td>Not eligible for free/reduced-price lunch</td>
<td>5%</td>
</tr>
</tbody>
</table>

† See explanation on pp. 3–4.

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

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

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

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

#### 26 nations would be expected to perform significantly higher:

1. Australia
2. Austria
3. Belgium – Flemish
4. Belgium – French
5. Bulgaria
6. Canada
7. Czech Republic
8. England
9. France
10. Germany
11. Hong Kong
12. Hungary
13. Iceland
14. Lithuania
15. Portugal
16. South Africa
17. Spain
18. Sweden
19. Switzerland
20. Thailand
21. France
22. Greece
23. Hong Kong
24. Iceland
25. Ireland
26. Israel

#### 13 nations would be expected to perform similarly:

1. Japan
2. Korea
3. Netherlands
4. Singapore
5. Slovak Republic
6. Slovenia

#### 5 nations would be expected to perform significantly lower:

1. Belgium – Flemish
2. Colombia
3. Cyprus
4. Denmark
5. Kuwait

† 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.

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### 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 Tennessee participated in the TIMSS science assessment, how would their average performance compare to that of students who took TIMSS in these nations?

#### 26 nations would be expected to perform significantly higher:

1. Australia
2. Austria
3. Belgium – Flemish
4. Belgium – French
5. Bulgaria
6. Canada
7. Czech Republic
8. England
9. France
10. Germany
11. Hong Kong
12. Hungary
13. Iceland
14. Lithuania
15. Portugal
16. South Africa
17. Spain
18. Sweden
19. Switzerland
20. Thailand
21. France
22. Greece
23. Hong Kong
24. Iceland
25. Ireland
26. Israel

#### 18 nations would be expected to perform similarly:

1. Japan
2. Korea
3. Netherlands
4. Singapore
5. Slovak Republic
6. Slovenia
7. Romania
8. Scotland
9. Spain
10. Sweden
11. Switzerland
12. Thailand
13. United States

#### 10 nations would be expected to perform significantly lower:

1. Belgium – Flemish
2. Colombia
3. Cyprus
4. Denmark
5. Kuwait

† 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.