Trends in International Mathematics and Science Study (TIMSS)
2007
How does United States performance compare to all countries participating in TIMSS?
TIMSS 2007 Grade 4 Math
U.S.A. Ranked 11th out of 36 Countries

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 8 Math
U.S.A. Ranked 9th out of 48 Countries

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)*
TIMSS 2007 Grade 4 Science

U.S.A. Ranked 8th out of 36 Countries

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 8 Science
U.S.A. Ranked 11th out of 48 Countries

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
How does United States performance compare to that of its peer* countries?

*Countries classified by the IMF as advanced economies
TIMSS 2007 Grade 4 Math

U.S.A. Ranked 7th out of 17 IMF Advanced Economies

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 8 Math
U.S.A. Ranked 7th out of 16 IMF Advanced Economies

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007*, NCES (2008)
TIMSS 2007 Grade 4 Science
U.S.A. Ranked 6th out of 17 IMF Advanced Economies

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 8 Science
U.S.A. Ranked 8th out of 16 IMF Advanced Economies

Higher than U.S. average  Not measurably different from U.S. average  Lower than U.S. average

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
How does the United States compare to its peer* countries in terms of the percentage of students meeting the TIMSS advanced benchmark?

*Countries classified by the IMF as advanced economies
TIMSS 2007 Grade 4 Math
IMF Advanced Economies – Percentage Advanced

Percentage Reaching TIMSS Advanced International Benchmark

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 8 Math
IMF Advanced Economies – Percentage Advanced

Percentage Reaching TIMSS Advanced International Benchmark

Norway
Cyprus
Sweden
Italy
Malta
Slovenia
Israel
Scotland
United States
Australia
England
Japan
Korea, Republic of
Hong Kong SAR
Singapore
Chinese Taipei

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 4 Science
IMF Advanced Economies – Percentage Advanced

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>19</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>14</td>
</tr>
<tr>
<td>United States</td>
<td>15</td>
</tr>
<tr>
<td>Hong Kong SAR</td>
<td>14</td>
</tr>
<tr>
<td>England</td>
<td>13</td>
</tr>
<tr>
<td>Italy</td>
<td>12</td>
</tr>
<tr>
<td>Japan</td>
<td>10</td>
</tr>
<tr>
<td>Germany</td>
<td>10</td>
</tr>
<tr>
<td>Australia</td>
<td>9</td>
</tr>
<tr>
<td>Austria</td>
<td>8</td>
</tr>
<tr>
<td>New Zealand</td>
<td>8</td>
</tr>
<tr>
<td>Sweden</td>
<td>7</td>
</tr>
<tr>
<td>Denmark</td>
<td>6</td>
</tr>
<tr>
<td>Slovenia</td>
<td>4</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4</td>
</tr>
<tr>
<td>Scotland</td>
<td>4</td>
</tr>
<tr>
<td>Norway</td>
<td>1</td>
</tr>
</tbody>
</table>

TIMSS 2007 Grade 8 Science
IMF Advanced Economies – Percentage Advanced

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007*, NCES (2008)
Which countries have made substantial improvement on TIMSS?
# TIMSS Grade 4 Math

U.S.A. Compared to Top Improvers

<table>
<thead>
<tr>
<th>Country</th>
<th>Average Score</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1995</td>
<td>2007</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>518</td>
<td>529</td>
</tr>
<tr>
<td>England</td>
<td>484</td>
<td>541</td>
</tr>
<tr>
<td>Hong Kong SAR</td>
<td>557</td>
<td>607</td>
</tr>
<tr>
<td>Slovenia</td>
<td>462</td>
<td>502</td>
</tr>
<tr>
<td>Latvia</td>
<td>499</td>
<td>537</td>
</tr>
</tbody>
</table>

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)*
## TIMSS Grade 8 Math
### U.S.A. Compared to Top Improvers

<table>
<thead>
<tr>
<th>Country</th>
<th>Average Score 1995</th>
<th>Average Score 2007</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td>492</td>
<td>508</td>
<td>16</td>
</tr>
<tr>
<td>Colombia</td>
<td>332</td>
<td>380</td>
<td>47</td>
</tr>
<tr>
<td>Lithuania</td>
<td>472</td>
<td>506</td>
<td>34</td>
</tr>
</tbody>
</table>

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)*
### TIMSS Grade 4 Science
U.S.A. Compared to Top Improvers

<table>
<thead>
<tr>
<th>Country</th>
<th>Average Score 1995</th>
<th>Average Score 2007</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td>542</td>
<td>539</td>
<td>-3</td>
</tr>
<tr>
<td>Singapore</td>
<td>523</td>
<td>587</td>
<td>63</td>
</tr>
<tr>
<td>Latvia</td>
<td>486</td>
<td>542</td>
<td>56</td>
</tr>
<tr>
<td>Islamic Rep. of Iran</td>
<td>380</td>
<td>436</td>
<td>55</td>
</tr>
<tr>
<td>Slovenia</td>
<td>464</td>
<td>518</td>
<td>54</td>
</tr>
<tr>
<td>Hong Kong SAR</td>
<td>508</td>
<td>554</td>
<td>46</td>
</tr>
<tr>
<td>Hungary</td>
<td>508</td>
<td>536</td>
<td>28</td>
</tr>
<tr>
<td>England</td>
<td>528</td>
<td>542</td>
<td>14</td>
</tr>
</tbody>
</table>

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)*
## TIMSS Grade 8 Science
### U.S.A. Compared to Top Improvers

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<tr>
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<th>1995</th>
<th>2007</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.A.</td>
<td></td>
<td>513</td>
<td>520</td>
<td>7</td>
</tr>
<tr>
<td>Lithuania</td>
<td></td>
<td>464</td>
<td>519</td>
<td>55</td>
</tr>
<tr>
<td>Colombia</td>
<td></td>
<td>365</td>
<td>417</td>
<td>52</td>
</tr>
<tr>
<td>Slovenia</td>
<td></td>
<td>514</td>
<td>538</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)*
How have subgroups in the United States performed over time?
Some gap closing

Grade 4 – TIMSS Math

Average Scale Score


457 472 482

541 542 550

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
Big gaps by school poverty level

Grade 4 – TIMSS Math

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
African-American and Latino students narrow gap

Grade 8 – TIMSS Math

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
Big gaps by school poverty level

Average Scale Score

1999  2003  2007

448  444  465

562  547  557

School Poverty Level:
- Less than 10%
- 10% to 24.9%
- 25% to 49.9%
- 50% to 74.9%
- 75% or more

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
No consistent narrowing of gaps

Grade 4 – TIMSS Science

Average Scale Score


Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
Big gaps by school poverty level

Grade 4 – TIMSS Science

School Poverty Level:
- Less than 10%
- 10% to 24.9%
- 25% to 49.9%
- 50% to 74.9%
- 75% or more

Average Scale Score

2003 2007

<table>
<thead>
<tr>
<th>School Poverty Level</th>
<th>2003</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 10%</td>
<td>579</td>
<td>590</td>
</tr>
<tr>
<td>10% to 24.9%</td>
<td>550</td>
<td>560</td>
</tr>
<tr>
<td>25% to 49.9%</td>
<td>510</td>
<td>520</td>
</tr>
<tr>
<td>50% to 74.9%</td>
<td>480</td>
<td>477</td>
</tr>
<tr>
<td>75% or more</td>
<td>450</td>
<td></td>
</tr>
</tbody>
</table>

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007*, NCES (2008)
No consistent narrowing of gaps

Grade 8 – TIMSS Science

Average Scale Score

1995: 422
1999: 438
2003: 463
2007: 455

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
Big gaps by school poverty level

Grade 8 – TIMSS Science

School Poverty Level:
- Less than 10%
- 10% to 24.9%
- 25% to 49.9%
- 50% to 74.9%
- 75% or more

Average Scale Score

1999 2003 2007

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
Across the performance of all participating countries, where does United States subgroup performance fall?
TIMSS 2007 Grade 4 Math

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007*, NCES (2008)
TIMSS 2007 Grade 8 Math

Source: *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007*, NCES (2008)
TIMSS 2007 Grade 4 Science

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 8 Science

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
How does the United States compare to its peer* countries in terms of the gap between students scoring at the 90th and 10th percentiles?

*Countries classified by the IMF as advanced economies
TIMSS 2007 Grade 4 Math
IMF Advanced Economies – Gap in Average Scale Scores of 90th and 10th Percentiles

Note: Countries are sorted from largest gap to smallest gap, left to right

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
IMF Advanced Economies – Gap in Average Scale Scores of 90th and 10th Percentiles

Note: Countries are sorted from largest gap to smallest gap, left to right

Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 4 Science
IMF Advanced Economies – Gap in Average Scale Scores of 90th and 10th Percentiles

Note: Countries are sorted from largest gap to smallest gap, left to right
Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)
TIMSS 2007 Grade 8 Science
IMF Advanced Economies – Gap in Average Scale Scores of 90th and 10th Percentiles

Note: Countries are sorted from largest gap to smallest gap, left to right
Source: Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2007, NCES (2008)