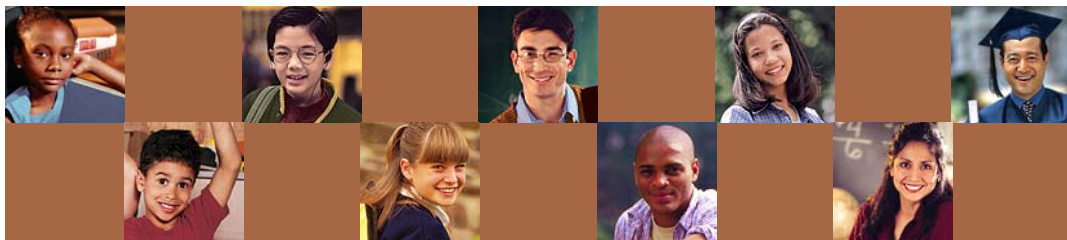


# the condition of education 2005



## INDICATOR 12

# International Comparison of 4th- and 8th-Grade Performance in Science

The indicator and corresponding tables are taken directly from *The Condition of Education 2005*. Therefore, the page numbers may not be sequential.

Additional information about the survey data and supplementary notes can be found in the full report. For a copy of *The Condition of Education 2005*, visit the NCES website (<http://nces.ed.gov/pubsearch/pubsinfo.sap?pubid=2005094>) or contact ED PUBs at 1-877-4ED-PUBS.

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# Academic Outcomes

## International Comparison of 4th- and 8th-Grade Performance in Science

*U.S. 4th-graders showed no measurable change in science from 1995 to 2003, while 8th-graders showed improvement over this period.*

The Trends in International Mathematics and Science Study (TIMSS) conducted in 2003 assessed student performance in science at grade 4 in 25 countries and at grade 8 in 45 countries. The assessment is curriculum based and measures what students have actually learned against what is expected to be typically taught in the participating countries by the end of grades 4 and 8.

On average, U.S. students at grades 4 and 8 scored above the international average (see supplemental table 12-1). At grade 4, U.S. students outperformed students in 16 countries, while students in 3 countries scored higher, on average, than U.S. students. At grade 8, U.S. students outperformed students in 32 countries, while students in 7 countries outperformed U.S. students.

The international average scores of males and females were similar at grade 4, while males outperformed females at grade 8 in 2003. Differences by sex were measurable in a few countries. At grade 4, while no measurable difference was detected in the United States between the scores of males and females, males outperformed females in three countries and females outperformed males only in the Islamic Republic of Iran. At grade 8, males

outperformed females in the United States and 17 other countries, while females outperformed males in 5 countries.

TIMSS previously assessed students in science at grade 4 in 1995 and at grade 8 in 1995 and 1999. Comparing 2003 scores with these earlier scores provides additional perspective on U.S. students' performance. For example, although there was no measurable difference between U.S. 4th-graders' average scores in 1995 and 2003, the standing of the United States declined relative to that of the 14 other countries participating in both assessments. U.S. 4th-graders outperformed students in 13 of these countries in 1995, on average, compared with outperforming students in 8 countries in 2003 (see supplemental table 12-2).

At grade 8, U.S. students scored higher, on average, in 2003 than in 1995 or 1999, with most of the increase occurring between 1999 and 2003. As a result, the standing of the U.S. 8th-graders increased relative to the 22 other countries participating in both the 1995 and 2003 assessments. In 1995, U.S. 8th-graders outperformed students in 5 countries, on average, compared with outperforming students in 11 countries in 2003.

<sup>1</sup> Hong Kong is a Special Administrative Region (SAR) of the People's Republic of China.

<sup>2</sup> Met international guidelines for participation rates only after replacement schools were included.

<sup>3</sup> Country did not meet international sampling or other guidelines.

<sup>4</sup> National desired population does not cover all of the international desired population.

<sup>5</sup> The international average reported here differs from that reported in Martin et al. (2004) because England was deleted from the international average for not satisfying guidelines for sample participation rates.

NOTE: Countries were required to sample students in the upper of the two grades that contained the larger number of 9- and 13-year-olds. In the United States and most countries, this corresponds to grades 4 and 8. See supplemental note 5 for more information on this study. For information on differences between TIMSS and the National Assessment of Educational Progress (NAEP) used in indicators 9 and 10 and the Program for International Student Assessment (PISA) used in indicator 13, see [http://nces.ed.gov/timss/pdf/naep\\_timss\\_pisa\\_comp.pdf](http://nces.ed.gov/timss/pdf/naep_timss_pisa_comp.pdf).

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005-005), table 9. Data from the International Association for the Evaluation of Educational Achievement (IEA), TIMSS 1995, 1999, and 2003 assessments.

FOR MORE INFORMATION:

Supplemental Note 5  
Supplemental Tables 12-1,  
12-2

NCES 2005-106

Martin et al. 2004



**INTERNATIONAL SCIENCE PERFORMANCE: Average science scores of 8th-grade students, by country: 2003**

Average score relative to the United States	Country and score					
Significantly higher	Singapore	578	Hong Kong SAR <sup>1,2</sup>	556	Hungary	543
	Chinese Taipei	571	Estonia	552		
	Korea, Republic of	558	Japan	552		
Not significantly different	Netherlands <sup>2</sup>	536	Australia	527	Slovenia	520
	<b>United States<sup>3</sup></b>	<b>527</b>	Sweden	524	New Zealand	520
Significantly lower	Lithuania <sup>4</sup>	519	Jordan	475	Egypt	421
	Slovak Republic	517	<i>International average<sup>5</sup></i>	473	Indonesia <sup>4</sup>	420
	Belgium-Flemish	516	Moldova, Republic of	472	Chile	413
	Russian Federation	514	Romania	470	Tunisia	404
	Latvia	512	Serbia	468	Saudi Arabia	398
	Scotland <sup>2</sup>	512	Armenia	461	Morocco <sup>3</sup>	396
	Malaysia	510	Iran, Islamic Republic of	453	Lebanon	393
	Norway	494	Macedonia, Republic of <sup>3</sup>	449	Philippines	377
	Italy	491	Cyprus	441	Botswana	365
	Israel <sup>3</sup>	488	Bahrain	438	Ghana	255
	Bulgaria	479	Palestinian National Authority	435	South Africa	244

## International Comparison of 4th- and 8th-Grade Performance in Science

Table 12-1. Average science scores of 4th- and 8th-grade students, by sex and country: 2003

Country	Grade 4				Grade 8			
	Total	Sex		Male-female difference <sup>1</sup>	Total	Sex		Male-female difference <sup>1</sup>
		Male	Female			Male	Female	
<b>International average<sup>2</sup></b>	<b>489*</b>	<b>488</b>	<b>489</b>	<b>-1</b>	<b>473*</b>	<b>477</b>	<b>471</b>	<b>6</b>
Armenia	437*	432	441	-9	461*	455	468	-13
Australia <sup>3</sup>	521*	519	522	-4	527	537	517	20
Bahrain	—	—	—	†	438*	423	453	-29
Belgium-Flemish	518*	519	518	1	516*	528	505	24
Botswana	—	—	—	†	365*	366	364	2
Bulgaria	—	—	—	†	479*	487	470	16
Chile	—	—	—	†	413*	427	398	29
Chinese Taipei	551*	555	548	7	571*	572	571	1
Cyprus	480*	484	477	7	441*	440	443	-4
Egypt	—	—	—	†	421*	421	422	-1
England <sup>3</sup>	540	538	542	-4	—	—	—	†
Estonia	—	—	—	†	552*	551	554	-3
Ghana	—	—	—	†	255*	271	236	35
Hong Kong SAR <sup>3,4</sup>	542	541	544	-3	556*	561	552	9
Hungary	530	533	527	6	543*	556	530	26
Indonesia <sup>5</sup>	—	—	—	†	420*	426	415	11
Iran, Islamic Republic of	414*	406	426	-20	453*	453	454	-1
Israel <sup>6</sup>	—	—	—	†	488*	498	479	20
Italy	516*	517	514	3	491*	496	486	10
Japan	543*	545	542	3	552*	557	548	9
Jordan	—	—	—	†	475*	462	489	-27
Korea, Republic of	—	—	—	†	558*	564	552	12
Latvia	532	529	534	-6	512*	516	509	7
Lebanon	—	—	—	†	393*	395	392	3
Lithuania <sup>5</sup>	512*	513	513	#	519*	522	516	6
Macedonia, Republic of <sup>6</sup>	—	—	—	†	449*	445	454	-8
Malaysia	—	—	—	†	510*	515	505	10
Moldova, Republic of	496*	490	503	-12	472*	468	477	-8
Morocco <sup>6</sup>	304*	303	306	-2	396*	403	392	11
Netherlands <sup>3</sup>	525*	529	521	8	536	543	528	15
New Zealand	520*	517	523	-6	520	525	515	9
Norway	466*	466	467	-1	494*	498	490	8
Palestinian National Authority	—	—	—	†	435*	428	441	-13
Philippines	332*	324	339	-15	377*	374	380	-7
Romania	—	—	—	†	470*	474	465	9
Russian Federation	526	526	527	-1	514*	519	508	11
Saudi Arabia	—	—	—	†	398*	391	407	-16
Scotland <sup>3</sup>	502*	508	496	11	512*	517	506	12
Serbia	—	—	—	†	468*	471	465	6
Singapore	565*	565	565	-1	578*	579	576	3

See notes at end of table.

## International Comparison of 4th- and 8th-Grade Performance in Science

Table 12-1. Average science scores of 4th- and 8th-grade students, by sex and country: 2003—Continued

Country	Grade 4				Grade 8			
	Total	Sex		Male-female difference <sup>1</sup>	Total	Sex		Male-female difference <sup>1</sup>
		Male	Female			Male	Female	
Slovak Republic	—	—	—	†	517*	525	508	18
Slovenia	490*	490	491	-1	520	524	517	7
South Africa	—	—	—	†	244*	244	242	2
Sweden	—	—	—	†	524	528	521	8
Tunisia	314*	312	316	-4	404*	416	392	24
United States <sup>3,6</sup>	536	538	533	5	527	536	519	16

— Not available.

† Not applicable.

# Rounds to zero.

\* Significantly different from the United States ( $p < .05$ ).

<sup>1</sup> Difference is calculated by subtracting the average for females from the average for males using unrounded numbers.

<sup>2</sup> At the 8th-grade level, the international average reported here differs from that reported in Martin et al. (2004) because England was deleted from the international average for not satisfying guidelines for sample participation rates.

<sup>3</sup> Met international guidelines for participation rates in 2003 only after replacement schools were included. England at grade 8 did not meet international guidelines for participation rates even after replacement schools were included.

<sup>4</sup> Hong Kong is a Special Administrative Region (SAR) of the People's Republic of China.

<sup>5</sup> National desired population does not cover all of the international desired population.

<sup>6</sup> Country did not meet international sampling or other guidelines in 2003.

NOTE: Countries were required to sample students in the upper of the two grades that contained the larger number of 9- and 13-year-olds. In the United States and most countries, this corresponds to grades 4 and 8. Detail may not sum to totals because of rounding. See *supplemental note 5* for more information on this study.

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005–005), tables 8, 9, C1, C2, C17, and C19 and previously unpublished tabulation (November 2004). Data from the International Association for the Evaluation of Educational Achievement (IEA), TIMSS 1995, 1999, and 2003 assessments.

## International Comparison of 4th- and 8th-Grade Performance in Science

Table 12-2. Average science scores of 4th-grade students in 1995 and 2003 and of 8th-grade students in 1995, 1999, and 2003 and change in score since 1995 in grade 4 and since 1995 and 1999 in grade 8, by country

Country	Grade 4			Grade 8				
	1995	2003	1995–2003 difference <sup>1</sup>	1995	1999	2003	1995–2003 difference <sup>1</sup>	1999–2003 difference <sup>1</sup>
Australia <sup>2,3,4</sup>	521*	521*	-1	514	—	527	13**	†
Belgium-Flemish	—	—	†	533*	535*	516*	-17**	-19**
Bulgaria <sup>2</sup>	—	—	†	545*	518	479*	-66**	-39**
Chile	—	—	†	—	420*	413*	†	-8
Chinese Taipei	—	—	†	—	569*	571*	†	2
Cyprus	450*	480*	30**	452*	460*	441*	-11**	-19**
England <sup>3</sup>	528*	540	13**	—	—	—	†	†
Hong Kong SAR <sup>3,5</sup>	508*	542	35**	510	530*	556*	46**	27**
Hungary <sup>2</sup>	508*	530	22**	537*	552*	543*	6	-10**
Indonesia <sup>6</sup>	—	—	†	—	435*	420*	†	-15**
Iran, Islamic Republic of	380*	414*	34**	463*	448*	453*	-9**	5
Israel <sup>2,7</sup>	—	—	†	—	468*	488*	†	20**
Italy <sup>7</sup>	—	—	†	—	493*	491*	†	-2
Japan	553*	543*	-10**	554*	550*	552*	-2	3
Jordan	—	—	†	—	450*	475*	†	25**
Korea, Republic of	—	—	†	546*	549*	558*	13**	10**
Latvia-LSS <sup>2,8</sup>	486*	530	43**	476*	503	513*	37**	11
Lithuania <sup>2,6</sup>	—	—	†	464*	488*	519*	56**	31**
Macedonia, Republic of <sup>2</sup>	—	—	†	—	458*	449*	†	-9
Malaysia	—	—	†	—	492*	510*	†	18**
Moldova, Republic of	—	—	†	—	459*	472*	†	13**
Netherlands <sup>2,3</sup>	530*	525*	-5	541*	545*	536	-6	-9
New Zealand <sup>9</sup>	505*	523*	18**	511	510	520	9	10
Norway	504*	466*	-38**	514	—	494*	-21**	†
Philippines	—	—	†	—	345*	377*	†	32**
Romania <sup>2</sup>	—	—	†	471*	472*	470*	-1	-2
Russian Federation	—	—	†	523	529	514*	-9	-16**

See notes at end of table.

## International Comparison of 4th- and 8th-Grade Performance in Science

**Table 12-2. Average science scores of 4th-grade students in 1995 and 2003 and of 8th-grade students in 1995, 1999, and 2003 and change in score since 1995 in grade 4 and since 1995 and 1999 in grade 8, by country—Continued**

Country	Grade 4			Grade 8				
	1995	2003	1995–2003 difference <sup>1</sup>	1995	1999	2003	1995–2003 difference <sup>1</sup>	1999–2003 difference <sup>1</sup>
Scotland <sup>2,3</sup>	514*	502*	-12**	501	—	512*	10	†
Singapore	523*	565*	42**	580*	568*	578*	-3	10
Slovak Republic	—	—	†	532*	535*	517*	-15**	-18**
Slovenia <sup>2,4</sup>	464*	490*	26**	514	—	520	7**	†
South Africa <sup>10</sup>	—	—	†	—	243*	244*	†	1
Sweden	—	—	†	553*	—	524	-28**	†
Tunisia	—	—	†	—	430*	404*	†	-26**
United States <sup>2,3</sup>	542	536	-6	513	515	527	15**	12**

— Not available.

† Not applicable.

\* Significantly different from the United States ( $p < .05$ )

\*\* Average in 2003 is significantly different from the average in 1995 or 1999, respectively ( $p < .05$ ).

<sup>1</sup> Difference is calculated by subtracting 1995 or 1999 estimate from 2003 estimate using unrounded numbers.

<sup>2</sup> Country did not meet the international sampling guidelines in 1995, 1999, or 2003.

<sup>3</sup> Met international guidelines for participation rates only after replacement schools were included. England at grade 8 did not meet international guidelines for participation rates even after replacement schools were included.

<sup>4</sup> Because of national-level changes in the starting age/date for school, 1999 data for Australia and Slovenia cannot be compared with 2003 data.

<sup>5</sup> Hong Kong is a Special Administrative Region (SAR) of the People's Republic of China.

<sup>6</sup> National desired population does not cover all of the international desired population.

<sup>7</sup> Because of changes in the population tested, 1995 data for Israel and Italy are not shown.

<sup>8</sup> Designated LSS (Latvian-speaking schools) because only Latvian-speaking schools were included in 1995. For this analysis, only Latvian-speaking schools are included in the 2003 average.

<sup>9</sup> In 1995, Maori-speaking students did not participate. Estimates in this table are computed for students taught in English only, which represents between 98 and 99 percent of the student population in both years.

<sup>10</sup> Because within classroom sampling was not accounted for, 1995 data are not shown for South Africa.

NOTE: Countries were required to sample students in the upper of the two grades that contained the larger number of 9- and 13-year-olds. In the United States and most countries, this corresponds to grades 4 and 8. Detail may not sum to totals because of rounding. See *supplemental note 5* for more information on this study.

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005–005), tables 10, 11, C13, and C14. Data from the International Association for the Evaluation of Educational Achievement (IEA), TIMSS 1995, 1999, and 2003 assessments.

## International Comparison of 4th- and 8th-Grade Performance in Science

**Table S12.** Standard errors for the average science scores of 8th-grade students, by country: 2003

Country	Grade 8
<b>International average</b>	<b>0.5</b>
Armenia	3.5
Australia	3.8
Bahrain	1.8
Belgium-Flemish	2.5
Botswana	2.8
Bulgaria	5.2
Chile	2.9
Chinese Taipei	3.5
Cyprus	2.0
Egypt	3.9
Estonia	2.5
Ghana	5.9
Hong Kong SAR	3.0
Hungary	2.8
Indonesia	4.1
Iran, Islamic Republic of	2.3
Israel	3.1
Italy	3.1
Japan	1.7
Jordan	3.8
Korea, Republic of	1.6
Latvia	2.6
Lebanon	4.3
Lithuania	2.1
Macedonia, Republic of	3.6
Malaysia	3.7
Moldova, Republic of	3.4
Morocco	2.5
Netherlands	3.1
New Zealand	5.0
Norway	2.2
Palestinian National Authority	3.2
Philippines	5.8
Romania	4.9
Russian Federation	3.7
Saudi Arabia	4.0
Scotland	3.4
Serbia	2.5
Singapore	4.3
Slovak Republic	3.2
Slovenia	1.8
South Africa	6.7
Sweden	2.7
Tunisia	2.1
United States	3.1

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005–005), table C2. Data from the International Association for the Evaluation of Educational Achievement (IEA), TIMSS 1995, 1999, and 2003 assessments.

## International Comparison of 4th- and 8th-Grade Performance in Science

Table S12-1. Standard errors for the average science scores of 4th- and 8th-grade students, by sex and country: 2003

Country	Grade 4				Grade 8			
	Total	Sex		Male-female difference	Total	Sex		Male-female difference
		Male	Female			Male	Female	
<b>International average</b>	<b>0.9</b>	<b>0.9</b>	<b>1.1</b>	<b>0.8</b>	<b>0.5</b>	<b>0.7</b>	<b>0.7</b>	<b>0.6</b>
Armenia	4.3	4.7	4.5	3.4	3.5	3.4	4.0	2.8
Australia	4.2	5.5	3.8	4.3	3.8	4.6	4.6	5.6
Bahrain	—	—	—	†	1.8	2.3	2.7	3.5
Belgium-Flemish	1.8	2.3	1.9	2.3	2.5	3.4	3.0	4.2
Botswana	—	—	—	†	2.8	3.4	3.2	3.3
Bulgaria	—	—	—	†	5.2	5.2	6.3	5.2
Chile	—	—	—	†	2.9	3.6	3.2	4.0
Chinese Taipei	1.7	2.2	2.0	2.5	3.5	3.8	3.8	3.1
Cyprus	2.4	2.9	2.5	2.6	2.0	2.8	2.3	3.0
Egypt	—	—	—	†	3.9	5.5	4.8	6.8
England	3.6	4.6	3.3	3.3	—	—	—	†
Estonia	—	—	—	†	2.5	2.9	2.8	2.8
Ghana	—	—	—	†	5.9	6.5	6.4	4.7
Hong Kong SAR	3.1	3.2	3.3	2.3	3.0	3.8	3.4	3.9
Hungary	3.0	3.2	3.7	3.7	2.8	3.0	3.4	3.0
Indonesia	—	—	—	†	4.1	4.6	3.9	2.7
Iran, Islamic Republic of	4.1	4.7	7.0	8.4	2.3	3.7	3.9	6.1
Israel	—	—	—	†	3.1	4.1	3.2	4.2
Italy	3.8	3.8	4.2	2.8	3.1	3.8	2.7	2.5
Japan	1.5	2.0	1.8	2.4	1.7	2.7	3.0	4.5
Jordan	—	—	—	†	3.8	5.6	4.5	6.9
Korea, Republic of	—	—	—	†	1.6	1.9	2.1	2.5
Latvia	2.5	3.2	2.6	3.2	2.6	3.0	2.6	2.4
Lebanon	—	—	—	†	4.3	6.0	4.8	6.4
Lithuania	2.6	2.9	3.0	†	2.1	2.4	2.7	2.5
Macedonia, Republic of	—	—	—	†	3.6	4.2	3.7	3.3
Malaysia	—	—	—	†	3.7	4.0	4.3	4.0
Moldova, Republic of	4.6	4.9	4.8	3.3	3.4	3.7	3.5	2.6
Morocco	6.7	6.8	7.9	6.0	2.5	3.8	3.2	4.6
Netherlands	2.0	2.2	2.2	2.1	3.1	3.8	3.3	3.5
New Zealand	2.5	2.5	3.3	3.1	5.0	6.7	4.8	5.7
Norway	2.6	2.9	3.2	3.1	2.2	3.0	2.2	2.9
Palestinian National Authority	—	—	—	†	3.2	5.2	3.7	6.2
Philippines	9.4	8.8	10.8	6.3	5.8	6.4	5.9	4.1
Romania	—	—	—	†	4.9	4.9	5.5	3.5
Russian Federation	5.2	4.9	5.9	3.3	3.7	4.2	3.7	3.1
Saudi Arabia	—	—	—	†	4.0	5.4	6.2	8.2
Scotland	2.9	4.0	3.1	4.2	3.4	3.5	4.0	3.6
Serbia	—	—	—	†	2.5	2.6	2.9	2.5
Singapore	5.5	6.4	5.4	4.2	4.3	5.0	4.0	3.1

See notes at end of table.



## International Comparison of 4th- and 8th-Grade Performance in Science

Table S12-1. Standard errors for the average science scores of 4th- and 8th-grade students, by sex and country: 2003—Continued

Country	Grade 4				Grade 8			
	Total	Sex		Male-female difference	Total	Sex		Male-female difference
		Male	Female			Male	Female	
Slovak Republic	—	—	—	†	3.2	3.4	3.8	3.1
Slovenia	2.5	3.2	3.0	3.7	1.8	2.3	2.4	3.0
South Africa	—	—	—	†	6.7	7.7	7.2	6.1
Sweden	—	—	—	†	2.7	2.7	3.2	2.5
Tunisia	5.7	6.0	6.1	4.3	2.1	2.6	2.3	2.6
United States	2.5	2.8	2.5	1.7	3.1	3.4	3.2	2.1

— Not available.

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005–005), tables C1, C2, C17, and C19 and previously unpublished tabulation (November 2004). Data from the International Association for the Evaluation of Educational Achievement (IEA), TIMSS 1995, 1999, and 2003 assessments.

## International Comparison of 4th- and 8th-Grade Performance in Science

**Table S12-2.** Standard errors for the average science scores of 4th-grade students in 1995 and 2003 and of 8th-grade students in 1995, 1999, and 2003 and change in score since 1995 in grade 4 and since 1995 and 1999 in grade 8, by country

Country	Grade 4			Grade 8				
	1995	2003	1995–2003 difference	1995	1999	2003	1995–2003 difference	1999–2003 difference
Australia	3.8	4.2	5.6	3.9	—	3.8	5.5	†
Belgium-Flemish	—	—	†	6.4	3.1	2.5	6.8	3.9
Bulgaria	—	—	†	5.2	5.4	5.2	7.3	7.5
Chile	—	—	†	—	3.7	2.9	†	4.7
Chinese Taipei	—	—	†	—	4.4	3.5	†	5.5
Cyprus	3.2	2.4	3.9	2.1	2.4	2.0	3.0	3.4
England	3.1	3.6	4.8	—	—	—	†	†
Hong Kong SAR	3.3	3.1	4.5	5.8	3.7	3.0	6.6	4.8
Hungary	3.4	3.0	4.4	3.1	3.7	2.8	4.2	4.7
Indonesia	—	—	†	—	4.5	4.1	†	6.1
Iran, Islamic Republic of	4.6	4.1	6.1	3.6	3.8	2.3	4.2	4.4
Israel	—	—	†	—	4.9	3.1	†	5.7
Italy	—	—	†	—	3.9	3.1	†	5.1
Japan	1.8	1.5	2.3	1.8	2.2	1.7	2.5	2.8
Jordan	—	—	†	—	3.8	3.8	†	5.5
Korea, Republic of	—	—	†	2.0	2.6	1.6	2.6	3.1
Latvia-LSS	4.9	2.8	5.6	3.3	4.8	2.9	4.4	5.5
Lithuania	—	—	†	4.0	4.1	2.1	4.6	4.6
Macedonia, Republic of	—	—	†	—	5.2	3.6	†	6.3
Malaysia	—	—	†	—	4.4	3.7	†	5.8
Moldova, Republic of	—	—	†	—	4.0	3.4	†	5.1
Netherlands	3.2	2.0	3.5	6.0	6.9	3.1	6.8	7.6
New Zealand	5.3	2.3	5.8	4.9	4.9	5.0	7.0	7.0
Norway	3.7	2.6	4.6	2.4	—	2.2	3.3	†
Philippines	—	—	†	—	7.5	5.8	†	9.7
Romania	—	—	†	5.1	5.8	4.9	7.1	7.4
Russian Federation	—	—	†	4.5	6.4	3.7	5.8	7.2
Scotland	4.5	2.9	5.3	5.6	—	3.4	6.6	†
Singapore	4.8	5.5	7.3	5.5	8.0	4.3	7.0	9.1
Slovak Republic	—	—	†	3.3	3.3	3.2	4.7	4.6
Slovenia	3.1	2.5	4.0	2.7	—	1.8	3.3	†
South Africa	—	—	†	—	7.8	6.7	†	10.2
Sweden	—	—	†	4.4	—	2.7	5.2	†
Tunisia	—	—	†	—	3.4	2.1	†	3.7
United States	3.3	2.5	4.2	5.6	4.6	3.1	6.4	5.6

— Not available.

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics. (2004). *Highlights From the Trends in International Mathematics and Science Study (TIMSS) 2003* (NCES 2005–005), tables C13 and C14. Data from the International Association for the Evaluation of Educational Achievement (IEA), TIMSS 1995, 1999, and 2003 assessments.