

## CHAPTER 6

# International Comparisons of Education

This chapter offers a broad perspective on education across the nations of the world. It also provides an international context for examining the condition of education in the United States. Insights into the educational practices and outcomes of the United States are obtained by comparing them with those of other countries. The National Center for Education Statistics (NCES) carries out a variety of these activities to provide statistical data for international comparisons of education.

In the early 1990s, the NCES expanded its role in collecting international data by serving as the national research center for the International Association for the Evaluation of Educational Achievement (IEA) Reading Literacy Study. In addition, NCES has provided funding for international research studies comparing mathematics and science education, including the Third International Mathematics and Science Study (TIMSS). NCES is also cooperating with international agencies in the compilation of statistics and the development of education indicators.

Some of the data in this chapter were drawn from materials prepared by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the Institute of International Education, the Organization for Economic Cooperation and Development (OECD), and the International Assessment of Educational Progress (IAEP). The basic summary data on enrollments, teachers, enrollment ratios, and finances were synthesized from information appearing in *Education at a Glance* published by OECD. Even though OECD tabulations are very carefully prepared, international data users should be cautioned about the many problems of definition and reporting involved in the collection of data about the educational systems in the world.

This chapter provides information from TIMSS and TIMSS–R, carried out by the IEA. Data in 1995 were collected for the two adjacent grades containing the most 9-year-olds (Population 1) and the two adjacent grades containing the most 13-year-olds (Population 2). Data are reported for the higher grade for each population, which was 4th-grade in most nations for Population 1 and 8th-grade in most nations for Population 2. The mathematics and science performance of 4th-grade students in 26 countries, and 8th-grade students in 41 countries, was studied through as-

sessments administered during 1994–95. The mathematics and science performance of students at the end of secondary schooling (12th-grade in the United States) was also assessed at the same time in 21 countries. The 1999 Third International Mathematics and Science Study–Repeat (TIMSS–R) is a successor to the 1995 TIMSS and focuses on the mathematics and science achievement of 8th-grade students in participating nations. It provides a second data point in a regular cycle of international assessments of mathematics and science that are planned to chart trends in achievement over time.

The role that the United States plays in the world of higher education is illuminated by data on foreign students enrolled in U.S. institutions of higher education. The Institute of International Education provides estimates of the number of foreign students and their countries of origin.

Further information on survey methodologies is in the “Guide to Sources” in the appendix and in the publications cited in the source notes.

## Population

The percent of young people in a population can influence the proportion of national income spent per student. Countries with a greater proportion of young people set aside larger proportions of domestic product for their education to have the same expenditure per student as a country with a lower proportion of young people. Among the OECD countries, Turkey had the largest percentage of young people ages 5 to 14—at 21 percent in 1999. The closest followers were Iceland (16), New Zealand (15), the United States (15), and Ireland (15). Countries with relatively small numbers of persons in this age group included Spain, Italy, and Japan at 10 percent (table 393).

## Enrollments

In 1997, 1.2 billion students were enrolled in schools around the world. Of these students, 668 million were in elementary-level programs, 398 million were in secondary programs, and 88 million were in higher education programs (table 392). Between 1990 and 1997, enrollment changes varied from region to region. Elementary enrollment changes ranged from increases of 24 percent in Afri-

ca and 12 percent in Central and South America to a 5 percent decrease in Europe. Enrollment increases at the secondary level outpaced increases at the primary (elementary) level, especially in Africa (38 percent), Oceania (68 percent), Asia (31 percent), and Central and South America (31 percent). Secondary-level enrollment increased in Europe by 10 percent. Enrollment in Northern America (defined in Unesco tabulations as including United States, Canada, and Greenland) rose by 15 percent (table 395).

At the postsecondary level, developing areas of the world had substantial increases in enrollment between 1990 and 1997. Postsecondary enrollment rose by 68 percent in Africa and by 49 percent in Asia. Postsecondary enrollment in Oceania increased by 99 percent, Central and South America increased by 30 percent, followed by Europe at 15 percent and Northern America at 3 percent. These increases are due to growth both in the proportion of the people attending postsecondary institutions and increases in the populations (tables 395 and 396).

Postsecondary enrollment varied among countries partially due to differing definitions of postsecondary education and at what age it begins. In 1999, among the OECD countries, Greece reported the highest proportion of 18- to 21-year-olds enrolled in postsecondary education at 54 percent, followed by Korea (51 percent), Belgium (42 percent), the United States (36 percent), and France (35 percent). In the 22 to 25 age group, Finland's enrollment rate was highest at 35 percent, with Norway following at 28 percent, Denmark at 27 percent, Korea at 26 percent, and Sweden at 25 percent (table 394).

In 1999–2000, there were about 515,000 foreign students studying at U.S. colleges and universities. Approximately 54 percent of these students were from Asian countries (table 416). Between 1990 and 1999, the proportion of students at U.S. colleges who were nonresident aliens, rose from 2.8 to 3.5 percent (table 208).

## Achievement

The 1995 TIMSS assessed the mathematics and science performance of U.S. students in comparison to their peers in other nations at three different grade levels. The 1995 TIMSS assessments revealed that U.S. 4th-graders performed well in both mathematics and science in comparison to students in other nations and U.S. 12th-graders scored below the international average and among the lowest of the TIMSS nations in mathematics and science general knowledge (tables 405, 406, 407, and 408).

In 1999, U.S. 8th-graders exceeded the international average of 38 nations in mathematics and science. In mathematics, U.S. 8th-grade students outperformed their peers in 17 nations, performed

similarly to their peers in 6 nations, and performed lower than their peers in 14 nations in 1999 (table 399). In science, U.S. 8th-grade students outperformed their peers in 18 nations, performed similarly to their peers in 5 nations, and performed lower than their peers in 14 nations in 1999 (table 401).

## Degrees

Ratios of bachelor's degrees conferred per hundred persons at the typical year of graduation in 1999 ranged from 10 in Turkey and 11 in the Czech Republic and Mexico to 37 in the United Kingdom and New Zealand. The ratio for the United States was 33. In 1996, women had higher bachelor's degree ratios than men in 14 out of 19 countries reporting data (table 411).

The percentage of undergraduate degrees awarded in science fields (including natural sciences, mathematics and computer science, and engineering) reported by OECD countries ranged from 13 to 37 percent for 1999. Korea, Germany, and Finland were over 30 percent, while Canada, Australia, Japan, New Zealand, the United States, Hungary, Poland, the Netherlands, Iceland, and Norway were 20 percent or less (table 412). The proportion of graduate degrees awarded in science fields also ranged widely across countries in 1999. Among the countries with the highest proportions were Korea (48 percent), and Japan, Switzerland, and Sweden with 42 percent. Among the countries with the lowest proportions were Poland (3 percent), Italy (13 percent), Hungary (14 percent) and the United States (14 percent) (table 413).

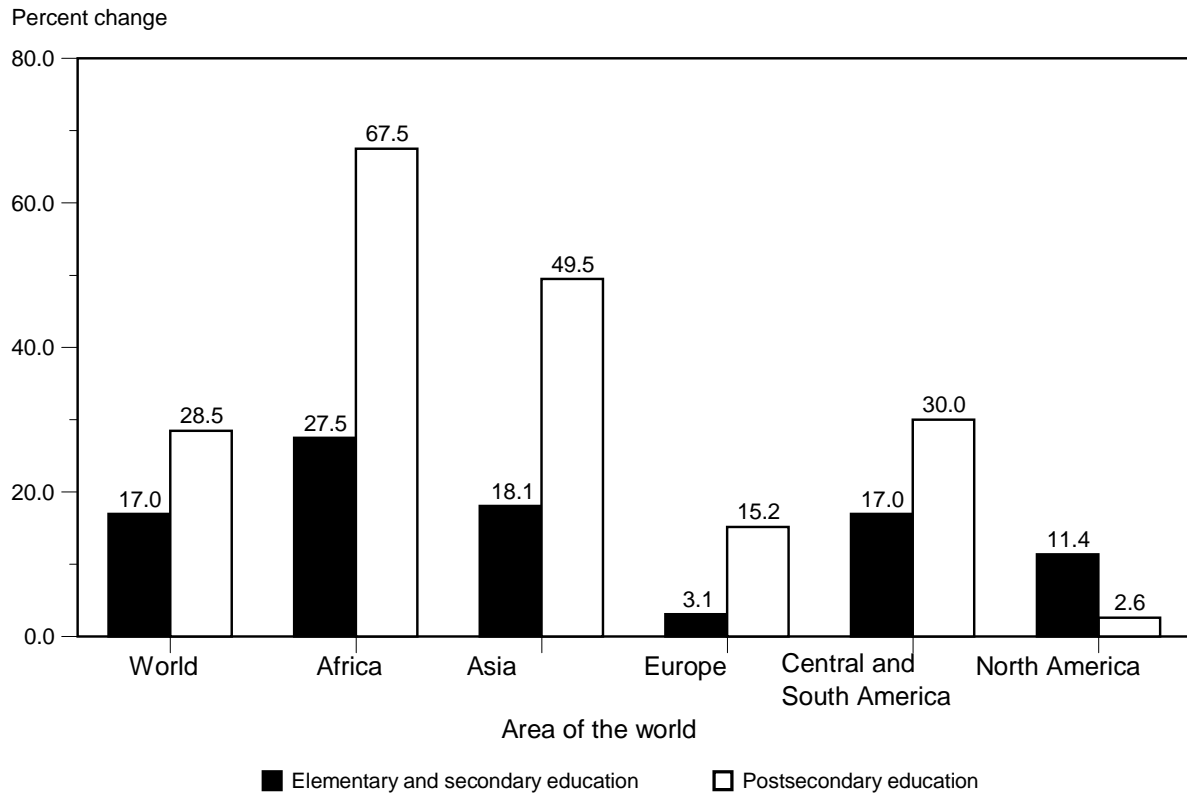
## Finances

In general, higher income countries spend more public funds per student than lower income countries. At the primary level of education, Denmark, Switzerland, Austria, and the United States ranked at the upper end of public per pupil expenditures in 1998. For primary education per student, Denmark spent about \$6,713 per student, Switzerland spent \$6,470, Austria spent \$6,065, and the United States spent \$6,043 per student. At the secondary level, Switzerland, Austria, the United States, Norway, and Denmark had expenditures over \$7,000 per student. The governments of the United States, Switzerland, Canada and Sweden spent relatively large amounts per student in higher education. The United States spent \$19,802, Switzerland spent \$16,563, Canada spent \$14,579, and Sweden spent \$13,224 (table 414). These expenditures were adjusted to U.S. dollars using the purchasing-power-parity (PPP) Index. This index is considered more stable and comparable than using currency exchange rates.

A comparison of public expenditures on education as a percent of gross domestic product (GDP) in OECD countries shows that national investment in

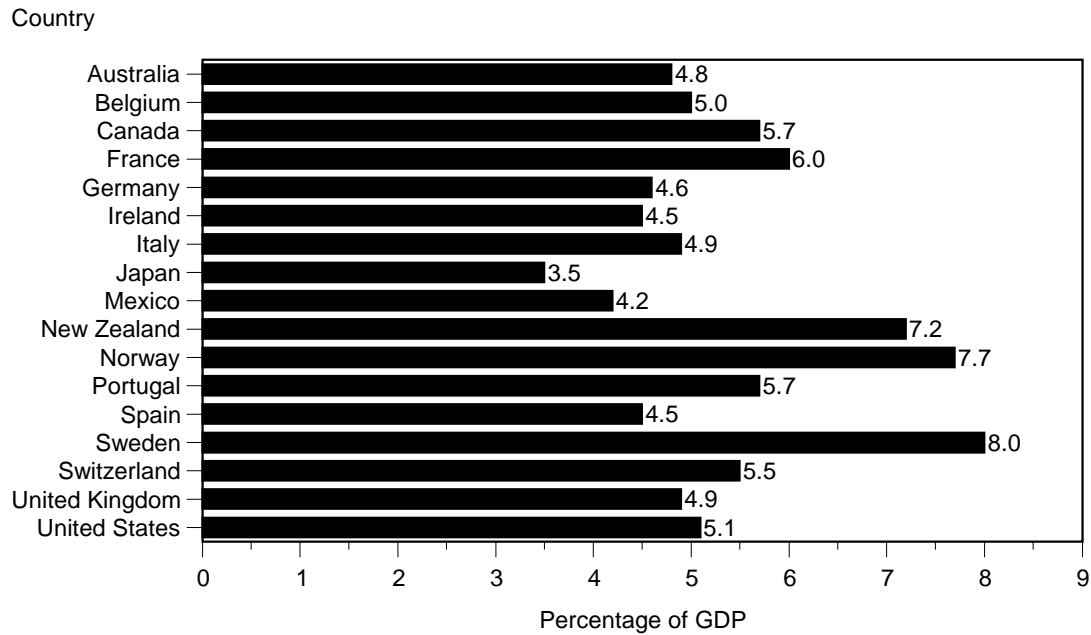
education in 1998 ranged from 3.0 percent of GDP in Turkey to 5.1 percent in the United States to 8.3 percent in Denmark (table 415).

**Figure 28.—Percent change in enrollment, by area of the world and level of education: 1990 to 1997**



SOURCE: United Nations Educational, Scientific, and Cultural Organization, Paris, *Statistical Yearbook*, various years.

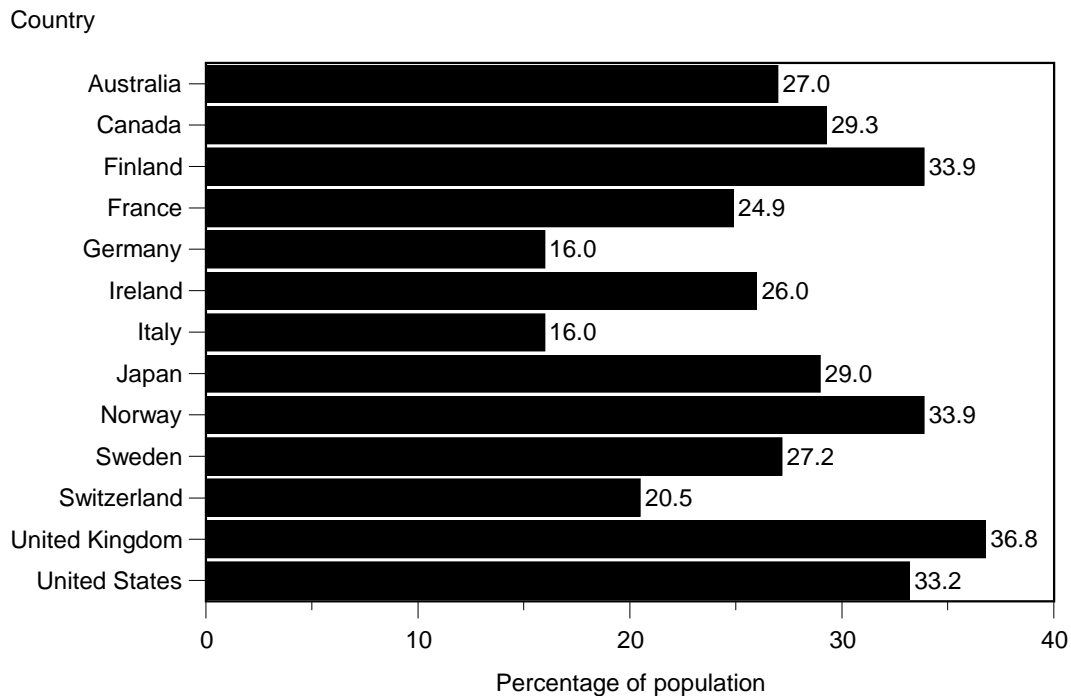
**Figure 29.—Public direct expenditures for education as a percentage of the gross domestic product: Selected countries, 1998**



NOTE: Includes all government expenditures for education institutions.

SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, 2001.

**Figure 30.—Bachelor's degree recipients as a percentage of the population of the theoretical age of graduation: Selected countries, 1999**



NOTE: Includes graduates of any age.

SOURCE: Organization for Economic Cooperation and Development, unpublished data.

**Figure 31.—Average mathematics performance of other countries compared with the United States: 1995**

Fourth grade (in most nations)			End of secondary education		
Average scores significantly higher than the United States			Average scores significantly higher than the United States		
Singapore			(Netherlands)	(Norway)	(Austria)
Korea			Sweden	(France)	(Slovenia)
Japan			(Denmark)	New Zealand	(Germany)
Hong Kong			Switzerland	(Australia)	Hungary
(Netherlands)			(Iceland)	(Canada)	
Czech Republic					
(Austria)					
Average scores not significantly different from the United States			Average scores not significantly different from the United States		
(Slovenia)	Canada		(Italy)		
Ireland	(Israel)		(Russian Federation)		
(Hungary)			(Lithuania)		
(Australia)			Czech Republic		
Average scores significantly lower than the United States			Average scores significantly lower than the United States		
(Latvia)	Norway	Portugal	(Cyprus)		
Scotland	New Zealand	Iceland	(South Africa)		
England	Greece	Iran, Islamic Republic			
Cyprus	(Thailand)	(Kuwait)			

NOTE: Nations not meeting international guidelines are shown in parentheses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Pursuing Excellence: A Study of U.S. Fourth-Grade Mathematics and Science Achievement in International Context*, 1997 and *Pursuing Excellence: A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context*, 1998.

**Figure 32.—Average science performance of other countries compared with the United States: 1995**

Fourth grade (in most nations)			End of secondary education		
Average scores significantly higher than the United States			Average scores significantly higher than the United States		
Korea			Sweden	(Canada)	(Austria)
			(Netherlands)	New Zealand	(Slovenia)
			(Iceland)	(Australia)	(Denmark)
			(Norway)	Switzerland	
Average scores not significantly different from the United States			Average scores not significantly different from the United States		
Japan			(Germany)	(Italy)	
(Austria)			(France)	Hungary	
(Australia)			Czech Republic	(Lithuania)	
(Netherlands)			(Russian Federation)		
Czech Republic					
Average scores significantly lower than the United States			Average scores significantly lower than the United States		
England	Hong Kong	Iceland	(Cyprus)		
Canada	(Hungary)	Greece	(South Africa)		
Singapore	New Zealand	Portugal			
(Slovenia)	Norway	Cyprus			
Ireland	(Latvia)	(Thailand)			
Scotland	(Israel)	Iran, Islamic Republic			
		(Kuwait)			

NOTE: Nations not meeting international guidelines are shown in parentheses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Pursuing Excellence: A Study of U.S. Fourth-Grade Mathematics and Science Achievement in International Context*, 1997 and *Pursuing Excellence: A Study of U.S. Twelfth-Grade Mathematics and Science Achievement in International Context*, 1998.

**Table 393.—School-age populations as a percent of total population:  
Selected countries, 1985 to 1999**

Country	5- to 14-year-olds as a percent of total population						15- to 19-year-olds as a percent of total population					
	1985 <sup>1</sup>	1990 <sup>1</sup>	1995 <sup>1</sup>	1996	1998	1999	1985 <sup>2</sup>	1990 <sup>2</sup>	1995 <sup>2</sup>	1996	1998	1999
1	2	3	4	5	6	7	8	9	10	11	12	13
Australia .....	14.5	13.1	12.9	14.0	14.0	14.0	6.6	6.4	5.6	7.0	7.0	7.0
Belgium .....	11.4	10.9	10.7	12.0	12.0	12.0	5.8	5.1	4.9	6.0	6.0	6.0
Canada .....	12.8	12.4	12.2	13.0	14.0	14.0	6.1	5.5	5.4	7.0	7.0	7.0
Czech Republic .....	—	—	11.6	13.0	13.0	12.0	—	—	6.5	8.0	8.0	7.0
Denmark .....	12.0	10.1	9.7	11.0	11.0	12.0	5.8	5.7	4.7	6.0	6.0	5.0
Finland .....	11.5	11.8	11.4	13.0	13.0	13.0	5.6	4.9	5.1	6.0	6.0	6.0
France .....	12.8	12.1	12.0	13.0	13.0	13.0	6.2	5.8	5.3	7.0	7.0	7.0
Germany <sup>3</sup> .....	9.1	8.7	10.0	11.0	11.0	11.0	6.1	4.1	4.3	5.0	6.0	6.0
Greece .....	—	—	10.7	12.0	11.0	11.0	—	5.5	5.8	7.0	7.0	7.0
Iceland .....	15.7	15.0	14.3	16.0	16.0	16.0	6.7	6.8	6.4	8.0	8.0	8.0
Ireland .....	17.9	17.5	15.2	17.0	16.0	15.0	7.7	8.0	7.8	9.0	9.0	9.0
Italy .....	12.7	10.3	9.1	10.0	10.0	10.0	6.5	6.0	4.8	6.0	6.0	5.0
Japan .....	14.0	11.8	10.2	11.0	11.0	10.0	6.2	6.5	5.4	7.0	6.0	6.0
Korea .....	—	—	14.5	15.0	14.0	14.0	—	—	7.1	9.0	9.0	8.0
Luxembourg .....	10.2	10.1	10.5	12.0	12.0	12.0	5.5	4.4	4.4	5.0	6.0	6.0
Netherlands .....	12.0	10.7	10.8	12.0	12.0	12.0	6.8	5.4	4.8	6.0	6.0	6.0
New Zealand .....	15.3	13.5	13.5	15.0	15.0	15.0	7.5	6.7	5.7	7.0	7.0	7.0
Norway .....	12.5	11.0	11.2	13.0	13.0	13.0	6.4	5.8	4.9	6.0	6.0	6.0
Portugal .....	15.3	14.3	10.9	12.0	12.0	11.0	6.9	6.8	6.1	8.0	7.0	7.0
Russian Federation .....	—	—	14.3	16.0	—	14.0	—	—	5.8	7.0	—	8.0
Spain .....	15.0	12.9	10.2	11.0	11.0	10.0	6.8	6.8	6.2	8.0	7.0	7.0
Sweden .....	11.3	10.2	10.8	12.0	13.0	13.0	5.4	5.2	4.6	6.0	6.0	6.0
Switzerland .....	10.6	10.1	10.4	12.0	12.0	12.0	5.8	4.8	4.5	6.0	6.0	6.0
Turkey .....	20.6	20.6	19.7	20.0	21.0	21.0	8.7	8.9	8.8	11.0	11.0	11.0
United Kingdom .....	11.4	11.1	11.6	13.0	13.0	13.0	6.3	5.2	4.8	6.0	6.0	6.0
United States .....	12.6	12.8	13.0	15.0	14.0	15.0	6.2	5.4	5.5	7.0	7.0	7.0

—Not available.

<sup>1</sup>Data are for the 5- to 13-year-old population.<sup>2</sup>Data are for the 14- to 17-year-old population.<sup>3</sup>Data for 1985 are for the former West Germany.SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, various years; and unpublished data. (This table was prepared June 2001.)**Table 394.—Percent of population enrolled in secondary and postsecondary institutions, by age group:  
Selected countries, 1985, 1990, and 1999**

Country	Secondary schools, 16 years old <sup>1</sup>	Secondary schools, 17 years old <sup>1</sup>	Postsecondary institutions								
			18 to 21 years old			22 to 25 years old			26 to 29 years old		
			1999	1999	1999	1985	1990	1999	1985	1990	1999
1	2	3	4	5	6	7	8	9	10	11	12
Australia .....	92.0	78.2	—	—	30.7	—	—	15.0	—	—	8.0
Austria .....	91.9	75.9	—	—	15.1	—	—	20.3	—	—	11.8
Belgium <sup>2</sup> .....	95.0	92.7	24.5	—	41.7	7.2	—	14.7	1.5	—	3.0
Canada .....	93.4	75.1	—	—	27.3	—	—	17.9	—	—	6.7
Czech Republic .....	99.8	83.3	—	—	17.1	—	—	11.5	—	—	4.2
Denmark .....	92.8	81.6	7.4	7.4	8.3	16.3	17.9	26.6	8.2	9.3	14.8
Finland .....	93.6	95.8	9.3	13.6	22.8	17.3	20.7	35.1	7.9	10.2	18.3
France .....	95.3	88.8	19.3	24.6	35.4	10.0	11.8	20.5	4.3	3.9	5.1
Germany <sup>3</sup> .....	96.7	91.7	8.8	8.5	11.1	—	15.9	18.7	8.9	10.3	10.8
Greece .....	92.3	65.5	—	—	54.1	—	—	7.2	—	—	2.2
Hungary .....	92.8	87.0	—	—	19.7	—	—	13.7	—	—	5.2
Iceland .....	89.7	76.7	—	—	7.3	—	—	21.3	—	—	9.2
Ireland .....	91.5	72.0	—	20.5	32.7	—	—	11.5	—	—	2.9
Italy .....	78.7	73.3	—	—	22.1	—	—	20.5	—	—	7.0
Japan .....	95.1	93.6	—	—	—	—	—	—	—	—	—
Korea, Republic of .....	97.7	92.9	—	—	51.4	—	—	26.2	—	—	5.8
Mexico .....	43.0	32.0	—	—	12.4	—	—	7.6	—	—	1.0
Netherlands .....	107.3	91.0	14.4	17.9	26.3	11.9	13.4	19.9	5.7	4.7	4.9
New Zealand .....	89.4	71.3	—	20.7	29.2	—	14.8	14.4	—	—	7.6
Norway .....	94.2	92.7	8.6	13.5	19.2	13.9	17.4	28.0	6.2	7.5	11.7
Poland .....	89.7	88.9	—	—	21.2	—	—	20.5	—	—	5.3
Portugal .....	82.7	80.3	5.9	—	24.7	5.4	—	17.5	2.3	—	6.5
Spain .....	85.4	74.7	15.0	21.3	32.1	10.7	13.5	23.5	4.0	4.5	7.7
Sweden .....	96.8	96.6	7.8	8.7	15.7	11.3	11.4	24.6	6.5	6.1	12.5
Switzerland .....	90.5	84.1	5.7	6.4	9.7	10.6	12.1	17.1	5.2	6.4	9.1
Turkey .....	37.2	21.9	—	7.3	13.6	—	4.3	9.0	—	2.2	4.5
United Kingdom .....	84.5	71.1	15.0	16.1	29.3	7.4	10.6	12.0	—	—	6.4
United States <sup>4</sup> .....	88.5	81.0	33.2	35.6	35.9	14.6	17.3	18.5	8.2	8.6	10.9

—Not available.

<sup>1</sup>Includes full-time and part-time enrollment.<sup>2</sup>Data for Flemish Belgium only.<sup>3</sup>Data for 1985 are for the former West Germany.<sup>4</sup>Postsecondary includes higher education only.

NOTE: Some increases in enrollment rates may be due to more complete reporting by countries.

SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, various years; and unpublished data. (This table was prepared August 2001.)

**Table 395.—Estimated population, school enrollment, and teachers in major areas of the world: 1980 to 1997**

Item	World total <sup>1</sup>	Major areas of the world					
		Africa <sup>2</sup>	Asia <sup>3</sup>	Europe <sup>4</sup>	Central and South America <sup>5</sup>	Northern America <sup>5</sup>	Oceania <sup>6</sup>
1	2	3	4	5	6	7	8
<b>1980</b>							
Population, all ages, <sup>7</sup> in thousands .....	4,447,090	475,714	2,641,312	693,075	359,307	255,109	22,573
Enrollment, all levels, in thousands .....	856,971	78,036	495,155	131,633	87,291	60,041	4,815
First (primary) level <sup>8</sup> .....	541,556	62,134	336,174	52,471	65,414	22,611	2,752
Second level <sup>9</sup> .....	264,379	14,360	144,755	62,734	16,969	23,913	1,647
Third level <sup>10</sup> .....	51,037	1,542	14,227	16,428	4,908	13,516	416
Teachers, all levels, in thousands .....	38,285	2,338	19,641	8,225	3,730	4,079	272
First (primary) level <sup>8</sup> .....	19,044	1,661	10,874	2,541	2,260	1,580	129
Second level <sup>9</sup> .....	15,398	584	7,554	4,387	1,083	1,679	112
Third level <sup>10</sup> .....	3,843	94	1,213	1,297	387	820	31
Public expenditures on education, in millions of U.S. dollars .....	\$516,400	\$22,900	\$93,800	\$200,600	\$33,500	\$155,100	\$10,400
As a percent of gross national product .....	4.8	5.3	4.0	<sup>11</sup> 5.1	3.8	5.2	5.6
<b>1990</b>							
Population, all ages, <sup>7</sup> in thousands .....	5,281,986	629,389	3,184,342	722,109	437,822	282,020	26,304
Enrollment, all levels, in thousands .....	980,474	107,871	569,179	131,255	104,968	62,007	5,194
First (primary) level <sup>8</sup> .....	596,853	80,640	364,213	48,968	75,505	24,810	2,717
Second level <sup>9</sup> .....	315,008	24,378	181,652	63,366	22,194	21,569	1,849
Third level <sup>10</sup> .....	68,613	2,853	23,314	18,922	7,269	15,628	628
Teachers, all levels, in thousands .....	47,105	3,791	24,455	9,398	5,131	4,000	330
First (primary) level <sup>8</sup> .....	22,626	2,390	12,692	2,812	3,006	1,582	143
Second level <sup>9</sup> .....	19,380	1,241	9,947	5,076	1,520	1,449	146
Third level <sup>10</sup> .....	5,100	160	1,816	1,509	605	969	41
Public expenditures on education, in millions of U.S. dollars .....	\$986,500	\$25,700	\$199,800	\$367,500	\$44,600	\$330,300	\$18,600
As a percent of gross national product .....	4.8	5.6	3.7	<sup>11</sup> 5.1	4.1	5.4	5.6
<b>1995</b>							
Population, all ages, <sup>7</sup> in thousands .....	5,686,775	719,497	3,437,791	728,034	476,641	296,644	28,168
Enrollment, all levels, in thousands .....	1,105,367	130,308	646,855	137,836	116,672	66,511	7,186
First (primary) level <sup>8</sup> .....	650,876	95,667	395,725	47,367	82,490	26,500	3,127
Second level <sup>9</sup> .....	373,200	30,698	220,333	69,453	25,841	23,984	2,891
Third level <sup>10</sup> .....	81,291	3,944	30,796	21,016	8,342	16,026	1,167
Teachers, all levels, in thousands .....	52,081	4,474	26,977	10,104	5,816	4,269	439
First (primary) level <sup>8</sup> .....	24,340	2,802	13,515	2,848	3,366	1,649	161
Second level <sup>9</sup> .....	21,759	1,468	11,283	5,561	1,703	1,528	217
Third level <sup>10</sup> .....	5,981	205	2,180	1,696	747	1,092	61
<b>1996</b>							
Population, all ages, <sup>7</sup> in thousands .....	5,767,443	738,740	3,488,028	728,561	484,309	299,250	28,555
Enrollment, all levels, in thousands .....	1,130,667	134,843	663,394	137,522	120,429	67,122	7,357
First (primary) level <sup>8</sup> .....	659,106	98,356	400,405	46,866	83,596	26,736	3,147
Second level <sup>9</sup> .....	386,386	32,127	229,981	69,103	27,815	24,355	3,005
Third level <sup>10</sup> .....	85,175	4,360	33,008	21,554	9,018	16,031	1,204
Teachers, all levels, in thousands .....	53,081	4,642	27,596	10,107	5,983	4,305	447
First (primary) level <sup>8</sup> .....	24,622	2,881	13,630	2,842	3,446	1,661	162
Second level <sup>9</sup> .....	22,375	1,538	11,719	5,556	1,785	1,552	224
Third level <sup>10</sup> .....	6,084	223	2,247	1,709	752	1,093	61
<b>1997</b>							
Population, all ages, <sup>7</sup> in thousands .....	—	—	—	—	—	—	—
Enrollment, all levels, in thousands .....	1,154,721	138,714	679,366	137,645	123,778	67,689	7,528
First (primary) level <sup>8</sup> .....	668,450	100,226	406,661	46,304	85,177	26,906	3,176
Second level <sup>9</sup> .....	398,116	33,708	237,861	69,547	29,153	24,746	3,101
Third level <sup>10</sup> .....	88,156	4,780	34,844	21,794	9,448	16,038	1,251
Teachers, all levels, in thousands .....	54,120	4,754	28,288	10,141	6,138	4,342	456
First (primary) level <sup>8</sup> .....	24,818	2,927	13,763	2,814	3,474	1,674	165
Second level <sup>9</sup> .....	23,017	1,585	12,185	5,568	1,874	1,577	228
Third level <sup>10</sup> .....	6,284	242	2,339	1,759	789	1,092	62

—Not available.

<sup>1</sup> Enrollment and teacher data exclude the Democratic People's Republic of Korea.<sup>2</sup> Excludes Rodrigues and other small islands.<sup>3</sup> Includes 5 countries of the former U.S.S.R., the Democratic People's Republic of Korea, Arab states, and both the Asian and the European portions of Turkey.<sup>4</sup> Includes all countries of the former U.S.S.R. except Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, and Turkmenistan.<sup>5</sup> Northern America includes Bermuda, Canada, Greenland, St. Pierre and Miquelon, and the United States of America. Hawaii is included in Northern America rather than Oceania. Central and South America includes Latin America and the Caribbean.<sup>6</sup> Includes American Samoa, Australia, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, New Zealand, Niue, Norfolk Island, Pacific Islands, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, and the Republic of Vanuatu.<sup>7</sup> Estimate of midyear population.<sup>8</sup> First level enrollment generally consists of elementary school, grades 1–6.<sup>9</sup> Second level enrollment includes general education, teacher training (at the second level), and technical and vocational education. This level generally corresponds to secondary education in the United States, grades 7–12.<sup>10</sup> Third level enrollment includes college and university enrollment, and technical and vocational education beyond the high school level. There is considerable variation in reporting from country to country.<sup>11</sup> This figure is for Europe, not including the former U.S.S.R.

NOTE: Detail may not sum to totals due to rounding.

SOURCE: United Nations Educational, Scientific, and Cultural Organization, Paris, 1999 Statistical Yearbook. (This table was prepared July 2000.)

**Table 396.—Selected statistics for countries with populations over 10 million, by continent: 1980, 1990, and 1997**

Country <sup>1</sup>	Population in millions			Persons per square kilometer in 1997	First level <sup>2</sup>					
	1980	1990	1997		Enrollment in thousands			Enrollment ratio <sup>5</sup>		
					1980	1990	1997	1980	1990	1997
1	2	3	4	5	6	7	8	9	10	11
<b>World total <sup>6</sup></b>	<b>4,447.1</b>	<b>5,282.0</b>	<b>5,817.2</b>	<b>45</b>	<b>541,556</b>	<b>596,853</b>	<b>668,450</b>	<b>96</b>	<b>99</b>	<b>102</b>
<b>Africa</b>										
Algeria <sup>7</sup>	18.7	24.9	29.3	12	3,119	4,189	<sup>8</sup> 4,675	94	100	<sup>8</sup> 107
Angola	7.0	9.2	11.7	9	1,301	<sup>10</sup> 990	—	175	92	—
Burkina Faso	6.9	9.1	10.5	38	202	504	<sup>9</sup> 701	17	33	<sup>9</sup> 40
Cameroon	8.7	11.5	13.9	30	1,379	1,964	<sup>8</sup> 1,921	98	101	<sup>8</sup> 85
Cote d'Ivoire	8.2	11.7	14.2	45	1,025	1,415	<sup>8</sup> 1,736	75	67	<sup>8</sup> 71
Democratic Rep of the Congo	27.0	37.4	46.7	21	4,196	4,562	<sup>10</sup> 5,418	92	70	<sup>10</sup> 72
Egypt <sup>7</sup>	43.7	56.3	60.4	61	4,663	6,964	7,499	73	94	101
Ethiopia	36.4	48.1	59.8	60	2,131	2,466	<sup>8</sup> 4,008	37	33	<sup>8</sup> 43
Ghana <sup>7</sup>	10.8	15.0	18.0	79	<sup>12</sup> 1,378	1,945	<sup>10</sup> 2,155	79	75	<sup>10</sup> 79
Kenya <sup>7</sup>	16.6	23.5	28.6	50	3,927	5,392	<sup>9,15</sup> 5,545	115	95	<sup>9</sup> 85
Madagascar	9.1	12.6	14.2	24	1,724	1,571	<sup>9</sup> 1,638	130	103	<sup>9</sup> 92
Malawi	6.2	9.3	10.3	109	810	1,401	<sup>9</sup> 2,887	60	68	<sup>9</sup> 134
Mali	6.9	7.9	10.3	8	291	395	863	26	26	49
Morocco <sup>7</sup>	19.4	24.0	27.3	61	2,172	2,484	<sup>8</sup> 3,161	83	67	<sup>8</sup> 66
Mozambique <sup>7</sup>	12.1	14.2	16.6	21	<sup>19</sup> 1,387	1,260	<sup>9</sup> 1,415	67	67	<sup>9</sup> 60
Nigeria <sup>8</sup>	72.0	96.2	117.7	129	12,117	13,607	<sup>10</sup> 16,191	109	91	<sup>10</sup> 98
South Africa	29.2	37.1	40.7	33	<sup>15,4</sup> 3,353	6,952	<sup>8</sup> 8,159	90	122	<sup>9</sup> 133
Sudan <sup>7</sup>	18.7	24.1	27.7	12	1,464	2,043	<sup>8</sup> 3,000	50	53	<sup>8</sup> 51
Uganda	13.1	16.6	20.3	102	<sup>23</sup> 1,292	<sup>15,23</sup> 2,470	<sup>9</sup> 2,912	50	74	<sup>9</sup> 74
United Republic of Tanzania	18.6	25.5	31.3	35	3,368	3,379	4,058	93	70	66
Zimbabwe	7.1	9.9	11.5	30	1,235	2,116	2,511	85	116	112
<b>Asia</b>										
Afghanistan <sup>7</sup>	16.1	14.8	24.1	37	1,116	623	<sup>9</sup> 1,312	34	27	<sup>9</sup> 49
Bangladesh	88.2	109.8	123.6	950	8,240	11,940	—	61	72	—
Cambodia	6.5	8.7	11.2	64	1,328	1,330	2,012	—	121	113
China	998.9	1,155.3	1,227.2	132	146,270	122,414	139,954	113	125	123
Hong Kong	5.0	5.7	6.5	6568	540	525	<sup>9</sup> 468	107	102	<sup>9</sup> 94
India	688.9	850.8	962.4	324	73,873	99,118	<sup>8</sup> 110,390	83	97	<sup>8</sup> 100
Indonesia	151.0	182.8	200.4	111	25,537	29,754	<sup>8</sup> 29,236	107	115	<sup>8</sup> 113
Iran, Islamic Republic of	39.3	59.2	60.9	38	4,799	9,370	<sup>8</sup> 9,238	<sup>26</sup> 98	112	<sup>8</sup> 98
Iraq	13.0	18.1	21.9	50	2,616	3,328	<sup>9</sup> 2,904	113	111	<sup>9</sup> 85
Japan	116.8	123.5	126.1	335	11,827	9,373	7,855	101	100	101
Kazakhstan	14.9	16.7	15.8	6	1,064	1,197	<sup>8</sup> 1,342	84	87	<sup>8</sup> 98
Korea, North (DPR)	17.7	20.4	22.9	190	—	—	—	—	—	—
Korea, South (Republic of)	38.1	42.9	46.0	466	5,658	4,869	3,794	110	105	94
Malaysia	13.8	17.9	21.7	66	2,009	2,456	<sup>15</sup> 2,841	93	94	101
Myanmar	33.8	41.4	43.9	67	4,148	5,385	<sup>9</sup> 5,414	91	106	<sup>9</sup> 121
Nepal	14.5	18.8	22.3	156	1,068	2,789	<sup>8</sup> 3,448	86	108	<sup>8</sup> 113
Pakistan	85.3	119.1	128.5	167	<sup>28</sup> 5,474	<sup>28</sup> 11,451	—	40	61	—
Philippines	48.3	60.8	73.5	247	<sup>12</sup> 8,034	10,427	12,159	112	111	117
Saudi Arabia	9.6	16.0	20.1	9	927	1,877	<sup>8</sup> 2,256	61	73	<sup>8</sup> 76
Sri Lanka <sup>7</sup>	14.8	17.1	18.6	287	2,081	2,112	<sup>8</sup> 1,844	103	106	<sup>8</sup> 109
Syrian Arab Republic	8.7	12.4	14.9	81	1,556	2,452	<sup>8</sup> 2,690	100	108	<sup>8</sup> 101
Thailand	46.7	55.6	60.6	119	7,393	6,957	5,928	99	99	<sup>8</sup> 87
Turkey	44.4	56.1	62.5	81	5,656	6,862	<sup>8</sup> 6,389	96	99	<sup>8</sup> 107
Uzbekistan	16.0	20.5	23.7	57	1,391	1,778	<sup>10</sup> 1,906	81	81	<sup>10</sup> 78
Viet Nam	53.7	66.7	75.5	232	7,887	8,862	10,431	109	103	113
Yemen	8.2	11.6	16.1	31	—	<sup>21</sup> 2,679	<sup>8</sup> 2,700	—	<sup>21</sup> 79	<sup>8</sup> 70
<b>Europe</b>										
Belarus <sup>7</sup>	9.7	10.3	10.3	49	750	615	<sup>8</sup> 625	104	95	<sup>8</sup> 98
Belgium	9.9	10.0	10.2	310	842	719	<sup>8</sup> 743	104	101	<sup>8</sup> 103
Czech Republic	10.3	10.3	10.3	133	647	546	<sup>9</sup> 542	96	96	<sup>9</sup> 104
France	53.9	56.7	58.6	107	4,610	4,149	<sup>9</sup> 4,005	111	108	<sup>8</sup> 105
Germany <sup>31</sup>	78.3	79.4	82.1	235	3,636	3,431	<sup>8</sup> 3,859	—	101	<sup>8</sup> 104
Greece	9.6	10.2	10.5	81	901	813	<sup>8</sup> 652	103	98	<sup>8</sup> 93
Hungary <sup>7</sup>	10.7	10.4	10.2	110	1,162	1,131	<sup>9</sup> 507	96	95	<sup>9</sup> 103
Italy <sup>7</sup>	56.4	57.0	57.5	196	4,423	3,056	<sup>8</sup> 2,810	100	103	<sup>8</sup> 101
Netherlands <sup>7</sup>	14.1	15.0	15.6	460	1,333	1,082	<sup>8</sup> 1,231	100	102	<sup>8</sup> 108
Poland <sup>7</sup>	35.6	38.1	38.7	127	4,167	5,189	<sup>9</sup> 5,021	100	98	<sup>9</sup> 96
Romania <sup>7</sup>	22.2	23.2	22.6	98	3,308	1,253	<sup>8</sup> 1,405	104	91	<sup>8</sup> 103
Russian Federation	138.7	148.3	147.3	9	6,009	7,596	<sup>10</sup> 7,849	102	109	<sup>10</sup> 107
Spain <sup>7</sup>	37.5	39.3	39.3	79	3,610	2,820	<sup>15</sup> 2,610	109	109	<sup>8</sup> 109
Ukraine <sup>7</sup>	50.0	51.9	50.7	88	3,592	3,991	<sup>21</sup> 2,659	102	89	<sup>21</sup> 87
United Kingdom <sup>7</sup>	56.3	57.6	59.0	244	4,911	4,533	<sup>8</sup> 5,328	103	104	<sup>8</sup> 116
Yugoslavia, Federal Republic <sup>7</sup>	9.5	10.2	10.6	104	—	<sup>32</sup> 467	<sup>8</sup> 438	—	72	<sup>8</sup> 69
<b>North America</b>										
Canada	24.6	27.8	30.0	3	2,185	2,376	<sup>9</sup> 2,448	99	103	<sup>9</sup> 102
Cuba	9.7	10.6	11.1	101	1,469	888	<sup>8</sup> 1,095	106	98	<sup>8</sup> 106
Guatemala	6.9	9.2	10.5	97	803	1,165	1,545	71	78	88
Mexico	67.6	83.2	94.3	49	14,666	14,402	<sup>8</sup> 14,651	120	114	<sup>8</sup> 114
United States	230.4	254.1	267.7	29	20,420	22,429	<sup>9</sup> 24,046	99	102	<sup>9</sup> 102
<b>South America</b>										
Argentina	28.1	32.5	35.7	13	3,917	4,965	5,153	106	106	<sup>8</sup> 113
Brazil	121.7	148.0	163.7	19	22,598	28,944	34,229	98	106	125
Chile	11.1	13.1	14.6	20	2,185	1,991	<sup>8</sup> 2,242	109	100	<sup>8</sup> 101
Colombia	26.5	32.6	40.0	39	4,168	4,247	<sup>8,15</sup> 4,917	112	102	<sup>8</sup> 113
Ecuador	8.0	10.3	11.9	43	1,534	1,846	<sup>8,32</sup> 1,888	117	116	<sup>8</sup> 127
Peru	17.3	21.6	24.4	19	3,161	3,855	4,163	114	118	123
Venezuela	15.1	19.5	22.8	26	3,158	4,053	<sup>8</sup> 4,262	93	96	<sup>8</sup> 91
<b>Oceania</b>										
Australia <sup>7</sup>	14.6	16.9	18.5	2	1,718	1,583	1,856	112	108	101

—Not available.

<sup>1</sup> Selection based on total population for midyear 1997.

<sup>2</sup> First level enrollment generally consists of elementary school, grades 1–6.

<sup>3</sup> Second level enrollment includes general education, teacher training (at the second level), and technical and vocational education. This level generally corresponds to secondary education in the United States, grades 7–12.

<sup>4</sup> Third level enrollment includes college and university enrollment, and technical and vocational education beyond the high school level. There is considerable variation in reporting from country to country.

<sup>5</sup> Data represent the total enrollment of all ages in the school level divided by the population of the specific age groups that correspond to the school level. Adjustments have been made for the varying lengths of first and second level programs. Ratios may exceed 100 because some countries have many students from outside the normal age range.

<sup>6</sup> Enrollment totals and ratios exclude Democratic People's Republic of Korea. Data do not include adult education or special education provided outside regular schools.

<sup>7</sup> Classification or data coverage of levels have been revised. Data by level may not be comparable over time.

<sup>8</sup> Data for 1996–97.

<sup>9</sup> Data for 1995–96.

<sup>10</sup> Data for 1994–95.

<sup>11</sup> Data for 1991–92.

<sup>12</sup> Excludes private institutions.

<sup>13</sup> Data refer to universities and exclude Al Azhar.

<sup>14</sup> Excludes non-university institutions (such as teacher training colleges and technical colleges) and excludes distance-learning universities.

<sup>15</sup> Estimated.



**Table 396.—Selected statistics for countries with populations over 10 million, by continent:  
1980, 1990, and 1997—Continued**

Second level <sup>3</sup>						Third level <sup>4</sup>						Age for compulsory attendance
Enrollment in thousands			Enrollment ratio <sup>5</sup>			Enrollment in thousands			Enrollment ratio <sup>5</sup>			
1980	1990	1997	1980	1990	1997	1980	1990	1997	1980	1990	1997	
12	13	14	15	16	17	18	19	20	21	22	23	24
<b>264,379</b>	<b>315,008</b>	<b>398,116</b>	<b>47</b>	<b>52</b>	<b>60</b>	<b>51,037</b>	<b>68,613</b>	<b>88,156</b>	<b>12</b>	<b>14</b>	<b>17</b>	<b>—</b>
1,029	2,176	<sup>8</sup> 2,618	33	61	<sup>8</sup> 63	79	286	<sup>9</sup> 347	6	11	<sup>9</sup> 12	6-15
191	186	—	21	12	—	2	7	—	0.4	1	—	7-15
28	99	—	3	7	—	2	5	<sup>8</sup> 9	0.3	1	<sup>8</sup> 1	—
234	500	—	18	28	<sup>10</sup> 27	12	33	—	2	3	—	6-12
198	361	<sup>8</sup> 534	19	22	25	20	<sup>11</sup> 30	<sup>10</sup> 52	3	—	—	7-13
862	<sup>11</sup> 1,097	<sup>10</sup> 1,514	24	<sup>11</sup> 21	<sup>10</sup> 26	28	80	<sup>10</sup> 93	1	2	<sup>10</sup> 2	—
2,929	5,507	<sup>8</sup> 6,727	50	76	78	716	<sup>12,13</sup> 628	<sup>12,13</sup> 850	16	16	<sup>9</sup> 20	6-14
426	866	<sup>9</sup> 819	9	14	<sup>8</sup> 12	14	34	<sup>8</sup> 42	0.4	1	<sup>8</sup> 1	7-13
693	—	—	41	36	—	8	14	—	2	1	—	6-14
428	<sup>16</sup> 618	<sup>9,15</sup> 632	20	24	<sup>9</sup> 24	13	14	—	1	2	—	6-14
—	<sup>16</sup> 323	<sup>16</sup> 302	—	18	<sup>9</sup> 16	23	36	27	3	3	<sup>9</sup> 2	6-13
26	61	<sup>9</sup> 142	5	8	<sup>9</sup> 17	3	5	<sup>9</sup> 6	1	1	<sup>9</sup> 1	—
—	84	188	8	7	13	17	5	14	1	1	1	—
<sup>8</sup> 797	1,194	<sup>8</sup> 1,442	26	35	<sup>8</sup> 39	112	256	<sup>8</sup> 312	6	11	<sup>8</sup> 11	7-16
<sup>16</sup> 90	160	<sup>9</sup> 185	5	8	<sup>9</sup> 7	15	20	<sup>8</sup> 7	1	3	<sup>8</sup> 1	7-14
1,865	2,908	<sup>10</sup> 4,451	18	25	<sup>10</sup> 33	150	<sup>14,21</sup> 208	—	3	<sup>20,21</sup> 4	—	6-12
—	2,742	<sup>10</sup> 3,571	—	74	<sup>9</sup> 95	—	22	439	—	13	<sup>9</sup> 19	7-16
384	732	<sup>8</sup> 406	16	24	<sup>8</sup> 21	29	14	60	2	3	—	6-13
<sup>16,23</sup> 73	<sup>16,23</sup> 245	<sup>16,23</sup> 256	5	13	<sup>9</sup> 12	6	18	<sup>8,24</sup> 35	1	1	<sup>8</sup> 2	—
79	167	235	3	5	6	—	11	18	0.3	0.3	1	7-14
75	661	806	8	50	50	8	49	<sup>8,12</sup> 47	1	5	<sup>8</sup> 7	7-15
137	182	<sup>9</sup> 513	10	9	<sup>8</sup> 22	—	24	—	—	2	—	7-13
2,659	3,593	—	18	19	—	240	434	—	3	4	—	5-10
<sup>16</sup> 18	264	313	—	32	24	1	7	9	—	1	1	—
56,778	52,386	71,883	46	49	70	1,663	3,822	6,075	2	3	6	7-15
469	<sup>16,25</sup> 431	<sup>9</sup> 474	64	80	<sup>9</sup> 73	14	11	85	10	<sup>11</sup> 19	<sup>21</sup> 22	—
32,748	<sup>16</sup> 54,180	<sup>8</sup> 68,872	30	44	<sup>8</sup> 49	3,545	4,951	<sup>8</sup> 6,060	5	6	<sup>8</sup> 7	6-14
5,722	10,965	<sup>8</sup> 14,210	29	44	<sup>8</sup> 56	543	<sup>11</sup> 1,773	<sup>9</sup> 2,303	4	9	<sup>8</sup> 11	7-15
2,718	5,085	<sup>8</sup> 8,777	<sup>26</sup> 45	55	<sup>8</sup> 77	<sup>12,26</sup> 184	<sup>12</sup> 312	<sup>8,12</sup> 579	<sup>26</sup> 5	10	<sup>8</sup> 18	6-11
1,033	<sup>16</sup> 1,024	<sup>9</sup> 1,160	57	47	<sup>9</sup> 42	107	26	170	9	<sup>26</sup> 12	—	6-12
9,558	11,026	<sup>10</sup> 9,879	93	97	<sup>9</sup> 103	2,412	<sup>11</sup> 2,899	<sup>10</sup> 3,918	31	30	<sup>10</sup> 41	6-15
1,996	2,144	<sup>8</sup> 1,921	93	98	<sup>8</sup> 87	525	537	<sup>10</sup> 483	34	40	<sup>9</sup> 33	6-17
—	—	—	—	—	—	—	—	—	—	—	—	5-15
4,286	4,560	<sup>8</sup> 4,662	78	90	<sup>8</sup> 102	648	1,691	<sup>8</sup> 2,542	15	39	68	6-15
1,084	1,456	<sup>12</sup> 1,795	48	56	64	58	121	<sup>9</sup> 211	4	7	<sup>9</sup> 12	—
1,066	1,281	<sup>16</sup> 1,923	22	23	<sup>10</sup> 30	163	<sup>11</sup> 196	<sup>10,27</sup> 245	5	4	<sup>10</sup> 5	5-10
512	709	<sup>8</sup> 1,121	22	33	<sup>8</sup> 42	12	94	<sup>8</sup> 106	3	5	<sup>8</sup> 5	6-11
2,166	4,345	—	14	23	—	<sup>26</sup> 268	—	—	<sup>26</sup> 2	3	—	—
2,929	4,034	4,980	64	73	78	1,276	1,709	<sup>9</sup> 2,022	24	28	<sup>9</sup> 29	6-12
349	893	<sup>8</sup> 1,543	29	44	<sup>8</sup> 61	62	154	<sup>8</sup> 274	7	12	<sup>8</sup> 16	—
1,267	2,082	<sup>9</sup> 2,314	55	74	<sup>9</sup> 75	26	59	<sup>9,29</sup> 64	3	5	<sup>9</sup> 5	5-15
604	914	<sup>8</sup> 958	46	52	<sup>8</sup> 42	140	222	<sup>10</sup> 216	7	18	<sup>10</sup> 16	6-12
1,920	2,230	4,097	29	30	<sup>8</sup> 56	<sup>17</sup> 911	<sup>20</sup> 1,156	1,522	15	<sup>20</sup> 19	<sup>8</sup> 22	7-15
2,218	3,808	<sup>8</sup> 4,761	35	47	<sup>8</sup> 58	246	750	<sup>8</sup> 1,434	5	13	<sup>8</sup> 21	6-14
2,879	3,195	<sup>10</sup> 3,319	105	99	<sup>10</sup> 94	516	603	—	28	30	—	—
<sup>16</sup> 3,847	<sup>6</sup> 3,236	<sup>16,6</sup> 642	42	32	57	115	130	<sup>8</sup> 509	2	2	<sup>8</sup> 7	6-11
—	<sup>21</sup> 212	<sup>8</sup> 354	—	<sup>21</sup> 23	<sup>8</sup> 34	—	<sup>11</sup> 53	<sup>8</sup> 66	—	<sup>11</sup> 4	<sup>8</sup> 4	6-15
760	968	<sup>8</sup> 1,065	98	93	<sup>8</sup> 93	340	335	<sup>8</sup> 329	39	48	<sup>8</sup> 44	6-15
836	769	<sup>9</sup> 1,059	91	103	<sup>9</sup> 146	196	276	<sup>9</sup> 358	26	40	<sup>9</sup> 56	6-18
<sup>26</sup> 1,161	1,268	<sup>9</sup> 1,191	99	91	<sup>9</sup> 99	<sup>30</sup> 118	<sup>30</sup> 118	<sup>8</sup> 207	17	16	<sup>8</sup> 24	6-15
5,014	5,522	<sup>8</sup> 5,980	85	99	<sup>8</sup> 111	1,077	1,699	<sup>8</sup> 2,062	25	40	<sup>8</sup> 51	6-16
8,457	7,398	<sup>8</sup> 8,382	—	98	<sup>8</sup> 104	1,624	2,049	<sup>8</sup> 2,132	27	34	<sup>8</sup> 47	6-18
740	851	<sup>8</sup> 818	81	93	<sup>8</sup> 95	121	283	<sup>8</sup> 363	17	36	<sup>8</sup> 47	6-15
357	514	<sup>9</sup> 1,112	70	79	<sup>9</sup> 98	101	102	<sup>9</sup> 195	14	14	<sup>9</sup> 24	6-16
5,308	5,118	<sup>8</sup> 4,602	72	83	<sup>8</sup> 95	1,118	1,452	<sup>8</sup> 1,893	27	32	<sup>8</sup> 47	6-14
1,391	1,402	<sup>8</sup> 1,416	93	120	<sup>8</sup> 132	360	479	<sup>8</sup> 469	29	40	<sup>8</sup> 47	5-18
1,674	1,888	<sup>9</sup> 2,539	77	81	<sup>9</sup> 98	589	545	<sup>9</sup> 720	18	22	<sup>9</sup> 25	7-15
1,148	2,838	<sup>8</sup> 2,212	94	92	<sup>8</sup> 78	193	193	<sup>8</sup> 412	12	10	<sup>8</sup> 23	7-14
12,991	13,956	<sup>21</sup> 13,732	96	93	<sup>21</sup> 87	5,700	5,100	<sup>10</sup> 4,458	46	52	<sup>10</sup> 43	6-15
3,977	4,755	<sup>8</sup> 3,852	87	104	<sup>8</sup> 120	698	1,222	<sup>8</sup> 1,684	23	37	<sup>8</sup> 51	6-16
3,406	3,408	<sup>21</sup> 4,731	94	93	<sup>21</sup> 91	1,684	1,652	<sup>9</sup> 1,541	42	47	<sup>9</sup> 42	6-15
5,342	4,336	<sup>8</sup> 6,549	83	85	<sup>8</sup> 129	827	1,258	<sup>9</sup> 1,821	19	30	<sup>8</sup> 52	5-16
—	788	<sup>8</sup> 815	—	63	<sup>8</sup> 62	—	<sup>11</sup> 133	<sup>8</sup> 172	—	<sup>11</sup> 18	<sup>8</sup> 22	7-15
2,323	2,292	<sup>9</sup> 2,505	88	101	<sup>9</sup> 105	<sup>33</sup> 1,173	1,917	<sup>9</sup> 1,763	57	95	<sup>9</sup> 88	6-16
1,146	1,002	<sup>8</sup> 713	81	89	<sup>8</sup> 81	152	242	<sup>8</sup> 112	17	21	<sup>8</sup> 12	6-16
172	<sup>11</sup> 295	385	19	<sup>11</sup> 23	26	51	<sup>20</sup> 70	<sup>9</sup> 80	8	8	<sup>9</sup> 8	7-14
4,742	6,704	<sup>8</sup> 7,914	49	53	<sup>8</sup> 64	930	1,311	<sup>8</sup> 1,612	14	15	<sup>8</sup> 16	6-14
21,585	19,270	<sup>9</sup> 21,474	91	93	<sup>9</sup> 97	12,097	13,710	<sup>9</sup> 14,262	56	75	<sup>9</sup> 81	6-16
1,327	2,160	<sup>8</sup> 2,594	56	71	<sup>8</sup> 77	491	<sup>11</sup> 1,008	<sup>10</sup> 1,070	22	<sup>11</sup> 38	<sup>10</sup> 36	6-14
2,819	3,499	6,405	33	38	62	1,409	<sup>34</sup> 1,540	<sup>8,34</sup> 1,869	11	11	<sup>8</sup> 15	7-14
538	720	<sup>8</sup> 739	53	73	<sup>8</sup> 75	145	<sup>11</sup> 262	381	12	<sup>11</sup> 21	31	6-13
1,733	<sup>11</sup> 2,378	<sup>8</sup> 3,318	39	50	<sup>8</sup> 67	272	487	<sup>8</sup> 644	9	13	<sup>8</sup> 17	6-12
592	<sup>16,35</sup> 786	—	53	55	<sup>10</sup> 50	270	207	—	35	20	—	5-15
1,203	1,698	1,970	59	67	72	306	678	658	17	30	26	6-12
222	281	<sup>8</sup> 378	21	35	<sup>8</sup> 40	307	550	—	21	29	—	6-15
1,100	1,278	2,368	71	82	153	<sup>36</sup> 324	<sup>36</sup> 485	1,042	25	36	80	6-15

<sup>16</sup> General education enrollment only. Excludes teacher training and vocational education enrollments.

<sup>17</sup> Data for 1981-82

<sup>18</sup> Does not include professional schools.

<sup>19</sup> Includes initiation classes where students learn Portuguese.

<sup>20</sup> Data for 1992-93.

<sup>21</sup> Data for 1993-94.

<sup>22</sup> Not including the former Independent States of Transke, Bophuthatswana, Venda, and Ciskei.

<sup>23</sup> Data refer to government aided and maintained schools only.

<sup>24</sup> Not including private non-university institutions.

<sup>25</sup> Day schools only.

<sup>26</sup> Data for 1985-86

<sup>27</sup> Does not include medical science.

<sup>28</sup> Includes preprimary education.

<sup>29</sup> Excludes some non-university institutions.

<sup>30</sup> Includes full-time students only.

**Table 397.—Pupils per teacher in public and private elementary and secondary schools, by level of education: Selected countries, 1985 to 1999**

Country	Elementary						Junior high schools (lower secondary)						Senior high schools (upper secondary)					
	1985	1990	1994	1996	1998	1999	1985	1990	1994	1996	1998	1999	1985	1990	1994	1996	1998	1999
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Australia .....	<sup>1</sup> 13.8	—	18.5	18.1	17.9	17.3	—	—	—	—	14.7	<sup>2</sup> 13.7	3.2	—	—	—	16.8	<sup>2</sup> 10.8
Austria .....	11.3	11.6	11.9	12.7	12.7	14.5	9.2	7.7	8.3	9.2	9.3	9.6	15.2	12.4	7.8	8.5	9.7	10.0
Belgium .....	—	—	13.3	—	14.0	13.9	—	—	—	—	—	—	—	—	—	—	—	—
Canada .....	18.1	17.1	16.5	17.0	21.0	18.7	16.0	15.5	19.1	20.0	21.0	18.7	16.0	15.3	19.1	19.5	23.1	20.0
Denmark .....	12.7	11.2	11.0	11.2	—	10.6	10.2	9.3	9.0	10.1	—	11.6	14.8	13.3	9.1	12.1	—	13.2
France .....	—	—	19.6	19.5	—	19.6	—	—	—	—	—	12.9	—	—	—	—	—	12.7
Germany <sup>3</sup> .....	20.7	20.3	20.5	20.9	21.6	21.0	16.9	14.6	15.7	16.0	16.3	16.4	23.7	21.0	12.0	13.1	13.6	12.4
Ireland .....	—	—	24.3	22.6	22.6	21.6	—	—	—	—	—	—	7.2	8.3	—	—	—	—
Italy .....	12.8	10.7	10.2	11.2	—	11.3	9.6	8.5	8.0	10.8	—	10.3	10.8	10.7	8.9	9.8	—	10.2
Japan .....	—	<sup>1</sup> 20.8	19.2	19.7	21.4	21.2	—	18.6	16.2	16.2	17.3	17.1	—	16.2	15.8	15.6	14.4	14.1
Netherlands .....	20.2	19.2	22.4	20.0	17.8	16.6	12.7	12.4	16.9	—	—	—	—	—	16.5	—	—	—
New Zealand .....	20.1	19.1	20.2	22.0	24.7	20.5	—	—	16.7	18.1	25.9	19.8	—	—	13.2	14.1	16.8	12.8
Norway .....	—	—	—	—	12.6	12.6	—	—	—	—	—	10.1	10.1	—	—	—	8.1	9.9
Portugal .....	—	—	12.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Spain .....	26.8	21.2	19.2	18.0	16.0	15.4	21.4	18.8	18.2	17.8	—	—	15.3	14.8	14.8	14.2	—	—
Sweden .....	11.6	10.6	12.5	12.7	13.4	13.3	10.8	10.2	10.9	12.2	13.2	13.3	13.1	11.9	14.6	15.2	17.0	15.5
Turkey .....	31.1	30.6	27.4	—	—	30.0	41.3	48.4	45.6	—	—	—	11.0	12.1	14.1	—	—	16.1
United Kingdom .....	19.7	22.0	20.7	21.3	22.0	22.5	—	18.5	16.9	16.0	16.7	17.4	11.1	13.9	15.1	15.3	16.7	<sup>2</sup> 12.4
United States .....	17.0	15.6	—	16.9	16.5	16.3	16.5	15.9	—	17.5	17.1	16.8	16.2	15.8	—	14.7	14.7	14.5

—Not available.

<sup>1</sup> Public schools only.<sup>2</sup> Includes only general programs.<sup>3</sup> Data for 1985 are for the former West Germany.SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, various years; and unpublished data. (This table was prepared June 2001.)**Table 398.—Geography proficiency of 13-year-olds in educational systems participating in the International Assessment of Educational Progress: 1991**

Country	Average percent correct			
	All geography items <sup>1</sup>	Geographic skills and tools <sup>2</sup>	Physical geography items <sup>3</sup>	Cultural geography items <sup>4</sup>
1	2	3	4	5
Hungary .....	69.8 (0.6)	76.3 (0.5)	67.8 (0.7)	65.0 (0.7)
Slovenia .....	65.3 (0.6)	67.9 (0.5)	63.6 (0.7)	64.3 (0.9)
Canada <sup>5</sup> .....	63.0 (0.5)	69.5 (0.4)	61.0 (0.6)	58.2 (0.6)
Former U.S.S.R. <sup>6</sup> .....	62.6 (1.1)	72.2 (0.9)	61.2 (1.0)	53.4 (1.8)
United States <sup>7</sup> .....	61.9 (0.8)	69.4 (0.6)	58.3 (1.0)	58.1 (1.0)
Spain <sup>8</sup> .....	60.1 (0.7)	62.4 (0.9)	58.9 (0.7)	58.9 (1.1)
Korea .....	59.7 (0.5)	67.8 (0.5)	52.1 (0.7)	60.3 (0.6)
Ireland .....	58.5 (0.6)	62.7 (0.6)	59.5 (0.8)	52.3 (0.8)
Scotland <sup>7</sup> .....	58.3 (0.6)	66.2 (0.5)	57.1 (0.8)	50.6 (0.8)

<sup>1</sup> All 24 geography items.<sup>2</sup> Eight items testing ability to use maps, charts, and globes.<sup>3</sup> Nine items testing knowledge of location of physical features and concepts of climate.<sup>4</sup> Seven items testing knowledge of cultural entities and interactions between people and their environment.<sup>5</sup> Eight provinces.<sup>6</sup> Schools in 14 republics where instruction is in Russian.<sup>7</sup> Combined school and student participation rate below 80 percent but at least 70 percent.<sup>8</sup> Schools where instruction is in Spanish, in all regions except Cataluna.

NOTE: Standard errors appear in parentheses.

SOURCE: U.S. Department of Education, National Center for Education Statistics, International Assessment of Educational Progress, *Learning About The World*, 1992. (This table was prepared May 1993.)

**Table 399.—Average 8th-grade mathematics scores by content areas, and average time spent studying out of school, by country: 1999**

Country	Average achievement scale score							Distribution of daily out-of-school study time in mathematics, with mean mathematics scores					
	Mathematics overall	Fractions and number sense	Geometry	Algebra	Data representation, analysis and probability	Measurement	No time		Less than 1 hour		One hour or more		
							Percent	Mean score	Percent	Mean score	Percent	Mean score	
1	2	3	4	5	6	7	8	9	10	11	12	13	
<b>International average<sup>1</sup></b> .....	<b>487 (0.7)</b>	<b>487 (0.7)</b>	<b>487 (0.7)</b>	<b>487 (0.7)</b>	<b>487 (0.7)</b>	<b>487 (0.7)</b>	<b>10 (0.1)</b>	<b>455 (1.7)</b>	<b>50 (0.2)</b>	<b>495 (0.8)</b>	<b>40 (0.2)</b>	<b>486 (0.9)</b>	
Australia .....	525 (4.8)	519 (4.3)	497 (5.7)	520 (5.1)	522 (6.3)	529 (4.9)	15 (1.0)	493 (6.3)	63 (1.1)	537 (5.0)	22 (1.0)	515 (6.3)	
Belgium (Flemish) .....	558 (3.3)	557 (3.1)	535 (4.1)	540 (4.6)	544 (3.8)	549 (4.0)	3 (0.8)	476 (21.8)	50 (1.0)	573 (3.8)	47 (1.2)	550 (3.1)	
Bulgaria .....	511 (5.8)	503 (6.6)	524 (5.9)	512 (5.1)	493 (6.1)	497 (6.6)	12 (1.2)	494 (9.5)	45 (1.3)	516 (5.5)	43 (1.7)	521 (7.9)	
Canada .....	531 (2.5)	533 (2.5)	507 (4.7)	525 (2.4)	521 (4.5)	521 (2.4)	11 (0.8)	527 (5.2)	61 (1.0)	542 (2.8)	28 (1.0)	510 (3.3)	
Chile .....	392 (4.4)	403 (4.9)	412 (5.4)	399 (4.3)	429 (3.8)	412 (4.9)	17 (0.8)	384 (5.9)	54 (0.7)	400 (4.7)	29 (1.0)	394 (7.1)	
Chinese Taipei .....	585 (4.0)	576 (4.2)	557 (5.8)	586 (4.4)	559 (5.1)	566 (3.4)	31 (1.3)	604 (3.5)	44 (0.8)	604 (3.5)	25 (1.0)	627 (4.7)	
Cyprus .....	476 (1.8)	481 (3.0)	484 (4.6)	479 (1.6)	472 (4.6)	471 (4.0)	9 (0.6)	496 (2.7)	51 (1.1)	496 (2.7)	40 (1.1)	469 (2.4)	
Czech Republic .....	520 (4.2)	507 (4.8)	513 (5.5)	514 (4.0)	513 (5.9)	535 (5.0)	12 (1.0)	525 (9.2)	68 (1.3)	528 (4.6)	20 (1.1)	493 (5.2)	
England .....	496 (4.1)	497 (3.8)	471 (4.2)	498 (4.9)	506 (8.0)	507 (3.8)	—	—	—	—	—	—	
Finland .....	520 (2.7)	531 (3.8)	494 (6.0)	498 (3.1)	525 (3.8)	521 (4.7)	7 (0.6)	506 (8.1)	85 (0.8)	525 (2.5)	8 (0.7)	486 (6.8)	
Hong Kong .....	582 (4.3)	579 (4.5)	556 (4.9)	569 (4.5)	547 (5.4)	567 (5.8)	25 (1.2)	552 (3.9)	51 (0.9)	591 (3.9)	24 (1.1)	600 (4.8)	
Hungary .....	532 (3.7)	526 (4.2)	489 (4.3)	536 (4.1)	520 (5.9)	538 (3.5)	4 (0.4)	497 (9.9)	71 (1.0)	540 (3.6)	25 (1.1)	514 (5.0)	
Indonesia .....	403 (4.9)	406 (4.1)	441 (5.1)	424 (5.7)	423 (4.4)	395 (5.1)	10 (0.8)	396 (8.4)	38 (1.0)	405 (5.6)	51 (1.4)	406 (5.4)	
Iran, Islamic Republic .....	422 (3.4)	437 (4.5)	442 (2.9)	434 (4.9)	430 (6.0)	401 (4.7)	3 (0.3)	375 (14.1)	22 (0.8)	425 (3.7)	75 (1.0)	427 (3.7)	
Israel <sup>2</sup> .....	466 (3.9)	472 (4.4)	467 (5.4)	479 (4.5)	468 (5.1)	457 (5.1)	8 (0.6)	436 (11.3)	48 (1.1)	491 (4.2)	44 (1.4)	454 (4.3)	
Italy .....	479 (3.8)	471 (5.0)	482 (5.6)	481 (3.6)	484 (4.5)	501 (5.0)	5 (0.5)	400 (9.5)	39 (1.2)	488 (4.5)	57 (1.3)	482 (4.0)	
Japan .....	579 (1.7)	570 (2.6)	575 (5.1)	569 (3.3)	555 (2.3)	558 (2.4)	26 (1.2)	558 (3.8)	54 (0.9)	586 (2.0)	20 (0.9)	585 (2.5)	
Jordan .....	432 (3.6)	432 (3.2)	449 (7.1)	439 (5.3)	436 (7.8)	438 (4.4)	8 (0.6)	374 (9.8)	33 (0.8)	441 (4.6)	33 (1.0)	445 (4.3)	
Korea .....	587 (2.0)	570 (2.7)	573 (3.9)	585 (2.7)	576 (4.2)	571 (2.8)	34 (1.0)	560 (2.6)	45 (0.7)	598 (2.0)	21 (0.9)	610 (4.1)	
Latvia (Latvian-speaking schools) <sup>2</sup> .....	505 (3.4)	496 (3.7)	522 (5.6)	499 (4.3)	495 (4.2)	505 (3.5)	3 (0.4)	480 (13.8)	58 (1.3)	516 (4.1)	40 (1.0)	493 (4.1)	
Lithuania <sup>2</sup> .....	482 (4.3)	479 (4.3)	496 (5.8)	487 (3.7)	493 (3.6)	467 (4.0)	3 (0.5)	417 (15.8)	68 (1.4)	486 (4.4)	29 (1.3)	483 (5.3)	
Macedonia, Republic of .....	447 (4.2)	437 (4.7)	460 (6.1)	465 (4.0)	442 (6.2)	451 (5.2)	6 (0.4)	429 (9.2)	49 (1.1)	461 (4.6)	45 (1.2)	448 (4.1)	
Malaysia .....	519 (4.4)	532 (4.7)	497 (4.4)	505 (4.8)	491 (4.0)	514 (4.6)	2 (0.2)	( <sup>a</sup> )	28 (0.9)	523 (6.5)	71 (1.0)	519 (4.2)	
Moldova .....	469 (3.9)	465 (4.2)	481 (5.0)	477 (3.7)	450 (5.7)	479 (4.9)	8 (0.7)	452 (7.6)	48 (1.4)	476 (4.1)	44 (1.6)	473 (5.0)	
Morocco .....	337 (2.6)	335 (3.6)	407 (2.2)	353 (4.7)	383 (3.5)	348 (3.5)	13 (0.9)	324 (8.0)	29 (0.9)	341 (6.6)	58 (1.5)	350 (3.2)	
Netherlands .....	540 (7.1)	545 (7.1)	515 (5.5)	522 (7.7)	538 (7.9)	538 (5.8)	8 (1.1)	559 (14.0)	78 (1.3)	546 (6.7)	14 (1.5)	507 (12.2)	
New Zealand .....	491 (5.2)	493 (5.0)	478 (4.2)	497 (4.7)	497 (5.0)	496 (5.3)	14 (0.9)	444 (6.7)	66 (1.2)	507 (5.3)	20 (1.2)	480 (6.6)	
Philippines .....	345 (6.0)	378 (6.3)	383 (3.4)	345 (5.8)	406 (3.5)	355 (6.2)	5 (0.4)	288 (13.2)	42 (0.8)	363 (6.2)	53 (0.8)	347 (6.7)	
Romania .....	472 (5.8)	458 (5.7)	487 (6.4)	481 (5.2)	453 (4.7)	491 (4.9)	9 (0.7)	417 (7.7)	25 (1.5)	457 (6.2)	66 (1.8)	494 (5.4)	
Russian Federation .....	526 (5.9)	513 (6.4)	522 (6.0)	529 (4.9)	501 (4.8)	527 (6.0)	6 (0.5)	483 (10.0)	49 (1.3)	537 (6.7)	45 (1.5)	530 (5.2)	
Singapore .....	604 (6.3)	608 (5.6)	560 (6.7)	576 (6.2)	562 (6.2)	599 (6.3)	5 (0.5)	562 (10.7)	34 (1.0)	612 (7.6)	61 (1.1)	604 (5.7)	
Slovak Republic .....	534 (4.0)	525 (4.8)	527 (7.3)	525 (4.6)	521 (4.6)	537 (3.3)	6 (0.6)	535 (8.3)	70 (0.8)	542 (3.9)	23 (0.9)	513 (4.7)	
Slovenia .....	530 (2.8)	527 (3.7)	506 (6.2)	525 (2.9)	530 (4.2)	523 (3.7)	8 (0.7)	530 (7.7)	63 (1.1)	541 (3.3)	29 (1.0)	511 (4.1)	
South Africa .....	275 (6.8)	300 (6.0)	335 (6.6)	293 (7.7)	356 (3.8)	329 (4.8)	10 (0.8)	241 (14.1)	37 (0.7)	293 (8.6)	53 (1.1)	273 (7.9)	
Thailand .....	467 (5.1)	471 (5.3)	484 (4.4)	456 (4.9)	476 (4.0)	463 (6.2)	6 (0.4)	424 (5.6)	45 (1.1)	459 (5.8)	49 (1.2)	482 (5.8)	
Tunisia .....	448 (2.4)	443 (2.8)	484 (4.4)	455 (2.7)	446 (5.1)	442 (3.1)	7 (0.5)	439 (5.3)	47 (0.8)	452 (3.4)	66 (0.9)	460 (2.9)	
Turkey .....	429 (4.3)	430 (4.3)	428 (5.7)	432 (4.6)	446 (3.3)	436 (6.5)	6 (0.6)	398 (7.1)	41 (1.0)	422 (4.4)	52 (1.4)	448 (4.7)	
United States .....	502 (4.0)	509 (4.2)	473 (4.4)	506 (4.1)	506 (5.2)	482 (3.9)	15 (1.1)	466 (4.8)	58 (0.7)	514 (4.0)	27 (1.1)	505 (4.5)	

—Not available.  
<sup>1</sup> Data are for 8th grade or equivalent in most countries.  
<sup>2</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.  
 SOURCE: International Association for the Evaluation of Educational Achievement, Third International Mathematics and Science Study, 1999. TIMSS 1999 International Mathematics Report, by Ina V.S. Mullis et al. Copyright © 2000 International Association for the Evaluation of Educational Achievement (IEA). (This table was prepared May 2001.)

NOTE: Standard errors appear in parentheses. Because results are rounded to the nearest whole number some totals may appear inconsistent.

**Table 400.—Instructional practices and time spent teaching mathematics in 8th-grade, by country: 1999**

Country	Percent of students reporting almost always or pretty often						Number of hours mathematics is taught weekly													
	We discuss our completed homework		Teacher shows us how to do mathematics		We work on worksheets or textbooks on our own		We work on mathematics projects		We begin our homework		Less than 2 hours		At least 2, but less than 3.5 hours		At least 3.5, but less than 5 hours		5 hours or more			
	2	3	4	5	6	7	8	9	10	11	12	13	14	Mean score	Percent	Mean score	Percent	Mean score	Percent	
1																				
Australia .....	44 (1.8)	93 (0.7)	91 (1.2)	25 (1.7)	56 (1.6)	3 (1.4)	565 (30.5)	50 (4.6)	517 (6.7)	44 (4.4)	534 (7.7)	3 (1.7)	530 (46.0)	517 (6.7)	44 (4.4)	534 (7.7)	3 (1.7)	530 (46.0)	3 (1.7)	530 (46.0)
Belgium (Flemish) .....	43 (1.4)	69 (0.9)	64 (1.0)	16 (1.1)	20 (1.4)	13 (3.4)	502 (18.9)	43 (3.8)	544 (7.7)	40 (2.8)	595 (4.1)	4 (1.0)	590 (11.7)	544 (7.7)	40 (2.8)	595 (4.1)	4 (1.0)	590 (11.7)	4 (1.0)	590 (11.7)
Bulgaria .....	48 (1.9)	89 (1.0)	32 (1.2)	15 (1.0)	21 (1.4)	14 (3.3)	543 (9.0)	73 (4.6)	498 (5.0)	8 (2.3)	525 (27.0)	4 (3.0)	606 (29.5)	498 (5.0)	8 (2.3)	525 (27.0)	4 (3.0)	606 (29.5)	4 (3.0)	606 (29.5)
Canada .....	62 (1.4)	92 (0.5)	92 (0.5)	28 (1.1)	82 (1.2)	1 (0.7)	503 (6.3)	1 26 (2.7)	523 (6.2)	1 55 (3.2)	544 (3.9)	1 17 (2.2)	520 (6.4)	523 (6.2)	1 55 (3.2)	544 (3.9)	1 17 (2.2)	520 (6.4)	1 17 (2.2)	520 (6.4)
Chile .....	47 (1.3)	89 (0.9)	40 (1.1)	46 (1.6)	55 (1.2)	1 (0.7)	518 (12.2)	3 (1.3)	414 (12.7)	83 (2.8)	391 (5.0)	13 (2.4)	394 (13.7)	414 (12.7)	83 (2.8)	391 (5.0)	13 (2.4)	394 (13.7)	13 (2.4)	394 (13.7)
Chinese Taipei .....	55 (1.0)	91 (0.5)	59 (1.2)	55 (1.2)	34 (1.0)	0 (0.0)	—	51 (4.5)	577 (5.5)	48 (4.4)	592 (5.8)	1 (1.1)	—	577 (5.5)	48 (4.4)	592 (5.8)	1 (1.1)	—	—	—
Cyprus .....	72 (1.1)	92 (0.7)	67 (1.0)	29 (1.0)	52 (2.3)	0 (0.0)	—	100 (0.0)	476 (1.8)	0 (0.0)	—	0 (0.0)	—	476 (1.8)	0 (0.0)	—	0 (0.0)	—	—	—
Czech Republic .....	42 (1.8)	86 (1.1)	51 (2.4)	8 (0.6)	16 (1.6)	0 (0.0)	—	44 (4.4)	517 (6.4)	52 (4.4)	517 (5.3)	4 (2.1)	600 (28.1)	517 (6.4)	52 (4.4)	517 (5.3)	4 (2.1)	600 (28.1)	4 (2.1)	600 (28.1)
England .....	62 (1.5)	93 (0.7)	88 (1.5)	35 (1.4)	27 (1.6)	20 (0.2)	—	2 95 (2.0)	512 (5.3)	2 3 (1.4)	481 (10.2)	2 (1.2)	—	512 (5.3)	2 3 (1.4)	481 (10.2)	2 (1.2)	—	—	—
Finland .....	37 (1.3)	67 (1.3)	90 (1.0)	7 (0.8)	47 (2.0)	4 (1.5)	518 (12.2)	87 (2.9)	520 (2.9)	7 (2.4)	535 (14.0)	1 (0.9)	—	520 (2.9)	7 (2.4)	535 (14.0)	1 (0.9)	—	—	—
Hong Kong, SAR .....	35 (1.1)	91 (0.6)	69 (1.2)	67 (1.4)	40 (1.1)	3 (1.5)	553 (16.7)	17 (3.1)	587 (11.1)	71 (4.0)	583 (5.6)	9 (2.3)	579 (15.2)	587 (11.1)	71 (4.0)	583 (5.6)	9 (2.3)	579 (15.2)	9 (2.3)	579 (15.2)
Hungary .....	71 (1.5)	87 (1.0)	63 (1.7)	96 (0.4)	18 (1.2)	1 (0.8)	—	80 (2.9)	531 (3.9)	15 (2.7)	522 (12.6)	3 (1.1)	583 (34.4)	531 (3.9)	15 (2.7)	522 (12.6)	3 (1.1)	583 (34.4)	3 (1.1)	583 (34.4)
Indonesia .....	48 (1.0)	88 (0.6)	36 (1.5)	86 (0.9)	13 (0.7)	3 (1.2)	409 (27.4)	1 (0.2)	—	76 (3.8)	408 (6.1)	21 (3.7)	384 (9.4)	—	76 (3.8)	408 (6.1)	21 (3.7)	384 (9.4)	21 (3.7)	384 (9.4)
Iran, Islamic Republic .....	56 (1.0)	82 (0.7)	45 (0.9)	30 (1.1)	34 (1.3)	24 (4.0)	429 (5.7)	50 (4.8)	423 (4.9)	14 (2.9)	413 (8.9)	12 (2.6)	419 (11.4)	423 (4.9)	14 (2.9)	413 (8.9)	12 (2.6)	419 (11.4)	12 (2.6)	419 (11.4)
Israel .....	64 (1.3)	90 (0.6)	72 (1.2)	20 (1.0)	65 (1.5)	1 2 (1.2)	—	1 29 (3.9)	481 (8.5)	1 65 (4.1)	464 (5.8)	1 4 (1.5)	470 (28.7)	481 (8.5)	1 65 (4.1)	464 (5.8)	1 4 (1.5)	470 (28.7)	1 4 (1.5)	470 (28.7)
Italy .....	64 (1.2)	80 (1.2)	34 (1.2)	22 (1.3)	39 (2.3)	6 (1.8)	484 (10.3)	95 (4.0)	475 (7.4)	55 (3.8)	483 (5.3)	9 (2.1)	469 (11.5)	475 (7.4)	55 (3.8)	483 (5.3)	9 (2.1)	469 (11.5)	9 (2.1)	469 (11.5)
Japan .....	19 (1.2)	88 (0.7)	38 (1.5)	6 (0.7)	20 (1.3)	2 (0.9)	—	29 (2.0)	577 (2.1)	7 (2.3)	—	1 (1.3)	—	577 (2.1)	7 (2.3)	—	1 (1.3)	—	—	—
Jordan .....	76 (0.9)	92 (0.6)	45 (1.1)	40 (1.4)	59 (1.1)	0 (0.0)	—	88 (2.8)	424 (3.7)	7 (2.2)	439 (20.1)	5 (1.9)	463 (21.0)	424 (3.7)	7 (2.2)	439 (20.1)	5 (1.9)	463 (21.0)	5 (1.9)	463 (21.0)
Korea .....	10 (0.5)	85 (0.8)	29 (0.7)	46 (1.2)	17 (0.7)	3 (1.1)	587 (11.7)	93 (1.8)	587 (2.1)	3 (1.1)	602 (9.6)	2 (0.9)	—	587 (2.1)	3 (1.1)	602 (9.6)	2 (0.9)	—	—	—
Latvia (Latvian-speaking schools) .....	48 (1.8)	86 (1.0)	54 (1.2)	—	28 (1.6)	0 (0.0)	—	31 (4.2)	491 (5.6)	62 (3.9)	516 (4.6)	7 (2.5)	487 (17.2)	491 (5.6)	62 (3.9)	516 (4.6)	7 (2.5)	487 (17.2)	7 (2.5)	487 (17.2)
Lithuania <sup>3</sup> .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Macedonia, Republic of .....	72 (1.3)	86 (0.8)	66 (1.6)	37 (1.1)	30 (1.4)	1 (0.6)	—	97 (1.2)	447 (4.4)	2 (1.0)	—	0 (0.0)	—	447 (4.4)	2 (1.0)	—	0 (0.0)	—	—	—
Malaysia .....	61 (1.0)	92 (0.5)	13 (0.7)	68 (1.1)	67 (1.3)	5 (1.8)	533 (24.0)	93 (2.1)	520 (4.6)	2 (1.2)	—	0 (0.0)	—	520 (4.6)	2 (1.2)	—	0 (0.0)	—	—	—
Moldova .....	61 (1.3)	91 (0.8)	66 (1.7)	52 (1.6)	32 (1.6)	7 (1.9)	467 (19.7)	5 (1.5)	485 (18.0)	80 (3.3)	466 (4.5)	8 (2.4)	481 (17.9)	485 (18.0)	80 (3.3)	466 (4.5)	8 (2.4)	481 (17.9)	8 (2.4)	481 (17.9)
Morocco .....	4 69 (0.8)	86 (0.6)	4 53 (1.0)	4 49 (1.1)	4 53 (1.2)	1 (0.6)	—	3 (1.0)	338 (10.5)	0 (0.0)	—	0 (0.0)	337 (2.9)	338 (10.5)	0 (0.0)	—	0 (0.0)	—	—	—
Netherlands .....	68 (3.7)	70 (2.7)	92 (1.1)	3 (0.7)	89 (1.5)	0 (0.0)	—	100 (0.5)	537 (7.2)	0 (0.0)	—	0 (0.0)	—	537 (7.2)	0 (0.0)	—	0 (0.0)	—	—	—
New Zealand .....	55 (1.8)	92 (0.6)	89 (1.0)	33 (1.5)	43 (1.7)	2 (1.1)	—	41 (3.8)	488 (8.3)	56 (3.9)	494 (7.0)	1 (0.0)	—	488 (8.3)	56 (3.9)	494 (7.0)	1 (0.0)	—	—	—
Philippines .....	78 (0.8)	87 (0.8)	64 (1.0)	56 (1.2)	49 (1.1)	3 (0.9)	361 (22.5)	78 (3.4)	343 (7.1)	8 (2.5)	384 (33.0)	11 (2.5)	326 (15.0)	343 (7.1)	8 (2.5)	384 (33.0)	11 (2.5)	326 (15.0)	11 (2.5)	326 (15.0)
Romania .....	62 (1.4)	83 (0.9)	49 (1.1)	38 (2.0)	27 (1.6)	10 (2.4)	481 (15.3)	70 (3.9)	471 (6.8)	12 (2.3)	483 (12.0)	9 (2.5)	477 (21.8)	471 (6.8)	12 (2.3)	483 (12.0)	9 (2.5)	477 (21.8)	9 (2.5)	477 (21.8)
Russian Federation .....	53 (1.4)	78 (1.2)	62 (1.3)	19 (0.9)	10 (0.8)	0 (0.0)	—	32 (3.8)	513 (8.5)	57 (4.1)	528 (7.7)	11 (2.5)	553 (13.4)	513 (8.5)	57 (4.1)	528 (7.7)	11 (2.5)	553 (13.4)	11 (2.5)	553 (13.4)
Singapore .....	61 (1.0)	97 (0.4)	75 (0.9)	15 (1.1)	60 (1.9)	5 (2.0)	608 (20.0)	48 (4.0)	623 (7.5)	37 (3.8)	586 (11.2)	9 (2.3)	592 (24.7)	623 (7.5)	37 (3.8)	586 (11.2)	9 (2.3)	592 (24.7)	9 (2.3)	592 (24.7)
Slovak Republic .....	59 (1.9)	81 (1.0)	53 (1.6)	11 (0.8)	39 (1.9)	0 (0.0)	—	44 (4.7)	534 (6.1)	50 (4.8)	534 (5.3)	5 (2.1)	503 (15.2)	534 (6.1)	50 (4.8)	534 (5.3)	5 (2.1)	503 (15.2)	5 (2.1)	503 (15.2)
Slovenia .....	60 (1.7)	76 (1.5)	57 (1.8)	19 (0.9)	28 (1.9)	0 (0.0)	—	74 (4.1)	528 (3.3)	26 (4.1)	537 (4.5)	0 (0.0)	—	528 (3.3)	26 (4.1)	537 (4.5)	0 (0.0)	—	—	—
South Africa .....	72 (0.8)	83 (0.7)	67 (1.2)	59 (1.4)	69 (1.1)	10 (2.4)	273 (17.2)	23 (3.5)	269 (13.3)	58 (4.2)	277 (8.8)	9 (2.6)	275 (24.4)	269 (13.3)	58 (4.2)	277 (8.8)	9 (2.6)	275 (24.4)	9 (2.6)	275 (24.4)
Thailand .....	29 (1.2)	91 (0.7)	52 (1.1)	19 (1.0)	80 (0.9)	1 2 (1.4)	—	1 58 (5.1)	461 (7.3)	1 9 (3.3)	448 (18.5)	1 30 (4.9)	483 (11.4)	461 (7.3)	1 9 (3.3)	448 (18.5)	1 30 (4.9)	483 (11.4)	1 30 (4.9)	483 (11.4)
Tunisia .....	63 (1.2)	85 (0.9)	57 (1.0)	77 (0.7)	32 (1.1)	1 (1.0)	—	12 (2.6)	441 (6.7)	86 (2.8)	448 (2.8)	1 (1.0)	—	441 (6.7)	86 (2.8)	448 (2.8)	1 (1.0)	—	—	—
Turkey .....	35 (1.1)	84 (0.7)	38 (0.9)	22 (0.8)	21 (1.2)	1 13 (2.7)	427 (11.0)	1 77 (3.4)	429 (5.0)	1 5 (1.6)	415 (10.5)	1 5 (1.6)	418 (16.3)	429 (5.0)	1 5 (1.6)	415 (10.5)	1 5 (1.6)	418 (16.3)	1 5 (1.6)	418 (16.3)
United States .....	79 (1.2)	94 (0.6)	86 (0.7)	29 (1.3)	74 (1.6)	11 (2.3)	491 (14.5)	17 (2.6)	528 (11.6)	56 (3.4)	501 (4.9)	16 (2.2)	490 (9.2)	528 (11.6)	56 (3.4)	501 (4.9)	16 (2.2)	490 (9.2)	16 (2.2)	490 (9.2)

—Not available.  
 1 Teacher response data available for 70 to 84 percent of students.  
 2 Teacher response data available for 50 to 69 percent of students.  
 3 Lithuania tested the same cohort of students as other countries, but later in 1999, at the beginning of the next school year.  
 4 Student response rate 70–84 percent.

NOTE: Data are for 8th grade or equivalent in most countries. Detail may not sum to totals due to rounding. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Third International Mathematics and Science Study, 1999*, International Mathematics Report, by Ina V.S. Mullis et al. Copyright © 2000 International Association for the Evaluation of Educational Achievement (IEA). (This table was prepared June 2001.)

Table 401.—Average 8th-grade science scores by content areas, and average time spent studying out of school, by country: 1999

Country	Average achievement scale score										Distribution of daily out-of-school study time in science, with mean science scores					
	Overall science scores	Earth science	Life science	Physics	Chemistry	Environmental and resource issues	Scientific inquiry and the nature of science	No time		Less than 1 hour		One hour or more				
							Percent	Mean score	Percent	Mean score	Percent	Mean score				
1	2	3	4	5	6	7	8	9	10	11	12	13	14			
<b>International average<sup>1</sup></b>	<b>488 (0.7)</b>	<b>488 (0.9)</b>	<b>488 (0.7)</b>	<b>488 (0.9)</b>	<b>488 (0.8)</b>	<b>488 (0.7)</b>	<b>488 (0.7)</b>	<b>14 (0.2)</b>	<b>462 (1.2)</b>	<b>49 (0.2)</b>	<b>495 (1.0)</b>	<b>36 (0.2)</b>	<b>486 (1.0)</b>			
Australia	540 (4.4)	519 (6.1)	530 (4.4)	531 (6.3)	520 (5.0)	530 (6.3)	535 (4.9)	21 (1.4)	510 (6.6)	65 (1.4)	553 (4.4)	14 (0.8)	533 (6.9)			
Belgium (Flemish)	535 (3.1)	533 (3.5)	535 (4.6)	530 (3.5)	508 (3.3)	513 (3.5)	526 (4.9)	14 (1.1)	537 (8.7)	55 (1.2)	543 (4.0)	31 (1.4)	520 (3.9)			
Bulgaria	518 (5.4)	520 (5.7)	514 (6.9)	505 (5.8)	527 (5.7)	483 (6.4)	479 (5.6)	17 (1.6)	505 (8.7)	38 (1.2)	523 (6.7)	45 (1.5)	528 (7.0)			
Canada	533 (2.1)	519 (3.7)	523 (3.8)	521 (3.8)	521 (5.4)	521 (3.5)	532 (5.1)	20 (1.0)	525 (4.1)	62 (0.9)	541 (2.3)	18 (0.7)	515 (4.4)			
Chile	420 (3.7)	435 (7.0)	431 (3.7)	428 (5.6)	435 (5.2)	449 (4.8)	441 (4.7)	17 (0.7)	415 (4.9)	53 (0.8)	431 (4.7)	30 (1.0)	417 (5.4)			
Chinese Taipei	569 (4.4)	538 (3.0)	550 (3.3)	552 (3.9)	563 (4.3)	567 (4.0)	540 (4.9)	38 (1.3)	530 (5.7)	42 (0.9)	588 (4.4)	20 (0.9)	607 (4.7)			
Cyprus	460 (2.4)	459 (5.4)	468 (3.8)	459 (2.9)	470 (3.4)	475 (4.3)	467 (4.6)	18 (0.7)	425 (6.6)	57 (0.9)	474 (3.1)	25 (1.0)	461 (5.0)			
Czech Republic	539 (4.2)	533 (6.9)	544 (4.1)	526 (4.2)	512 (5.2)	516 (5.7)	522 (5.7)	18 (1.1)	529 (7.0)	62 (1.2)	546 (4.5)	20 (1.1)	530 (5.0)			
England	538 (4.8)	525 (3.9)	533 (6.2)	528 (4.5)	524 (5.5)	518 (5.6)	538 (5.1)	—	—	—	—	—	—			
Finland	535 (3.5)	520 (5.5)	520 (4.0)	520 (4.4)	535 (4.5)	514 (7.1)	528 (4.0)	8 (0.8)	514 (9.7)	84 (0.9)	541 (3.5)	—	511 (10.8)			
Hong Kong	530 (3.7)	506 (4.3)	516 (5.5)	523 (4.9)	515 (5.2)	518 (4.9)	531 (2.8)	39 (1.3)	513 (4.2)	48 (1.0)	543 (4.0)	13 (0.6)	539 (6.6)			
Hungary	552 (3.7)	560 (3.9)	535 (4.0)	543 (4.3)	548 (4.7)	501 (6.6)	526 (5.9)	6 (0.6)	505 (6.6)	49 (1.2)	558 (4.0)	45 (1.3)	554 (4.0)			
Indonesia	435 (4.5)	431 (6.4)	448 (3.6)	452 (5.5)	425 (3.9)	489 (4.8)	446 (4.3)	13 (0.8)	432 (6.7)	40 (0.9)	442 (4.9)	47 (1.1)	435 (5.9)			
Iran, Islamic Republic	448 (3.8)	459 (5.2)	437 (3.7)	445 (5.7)	487 (4.1)	470 (5.5)	446 (5.3)	3 (0.3)	432 (16.0)	29 (1.0)	453 (4.1)	68 (1.1)	451 (4.6)			
Israel <sup>2</sup>	468 (4.9)	472 (5.2)	463 (4.0)	484 (5.3)	479 (4.7)	458 (4.0)	476 (8.3)	17 (0.8)	449 (7.8)	60 (1.1)	487 (4.6)	23 (1.1)	450 (6.5)			
Italy	493 (3.9)	502 (5.9)	488 (4.6)	480 (4.1)	493 (4.8)	491 (5.4)	489 (4.6)	7 (0.7)	435 (8.6)	48 (1.4)	501 (4.3)	15 (1.4)	498 (4.3)			
Japan	550 (2.2)	533 (6.2)	534 (5.4)	544 (2.9)	530 (3.1)	506 (5.5)	543 (2.8)	39 (1.4)	535 (3.2)	50 (1.2)	560 (2.3)	42 (0.7)	555 (7.5)			
Jordan	450 (3.8)	446 (3.5)	448 (4.1)	459 (3.6)	483 (5.5)	476 (6.0)	440 (5.5)	7 (0.5)	396 (9.2)	37 (1.0)	466 (5.0)	56 (1.1)	465 (3.7)			
Korea	549 (2.6)	532 (2.7)	528 (3.6)	544 (5.1)	523 (3.7)	523 (4.5)	545 (7.3)	45 (0.8)	527 (2.9)	42 (0.7)	564 (3.1)	13 (0.6)	578 (4.6)			
Latvia (Latvian-speaking schools) <sup>2</sup>	503 (4.8)	495 (5.4)	509 (3.9)	495 (3.9)	490 (3.7)	493 (5.2)	495 (4.7)	9 (0.6)	480 (9.9)	66 (1.0)	509 (5.4)	25 (1.0)	496 (6.3)			
Lithuania <sup>2</sup>	488 (4.1)	476 (4.4)	494 (4.6)	510 (4.3)	485 (4.6)	458 (5.1)	483 (6.4)	10 (0.9)	456 (8.2)	66 (1.2)	493 (4.8)	25 (1.2)	494 (4.9)			
Macedonia, Republic of	468 (5.2)	464 (4.2)	468 (4.9)	463 (6.0)	481 (6.1)	432 (4.2)	464 (3.6)	3 (0.3)	428 (15.3)	25 (1.0)	453 (5.9)	72 (1.2)	470 (5.3)			
Malaysia	482 (4.4)	491 (4.2)	479 (5.4)	494 (4.1)	485 (3.5)	502 (4.4)	488 (4.5)	4 (0.3)	460 (10.6)	36 (1.1)	493 (5.1)	60 (1.2)	495 (4.9)			
Moldova	459 (4.0)	466 (4.2)	477 (3.9)	457 (5.5)	451 (5.6)	444 (6.2)	471 (3.8)	7 (0.6)	439 (10.8)	29 (1.0)	460 (5.8)	63 (1.2)	467 (4.2)			
Morocco	323 (4.3)	363 (3.3)	347 (2.8)	352 (4.2)	372 (4.8)	396 (5.1)	391 (4.2)	14 (0.8)	323 (12.4)	35 (1.2)	330 (4.9)	51 (1.7)	335 (6.4)			
Netherlands	545 (6.9)	534 (7.2)	536 (7.2)	537 (6.5)	515 (6.4)	526 (6.5)	534 (6.5)	6 (0.8)	530 (11.6)	80 (1.5)	555 (6.4)	15 (1.3)	507 (12.9)			
New Zealand	510 (4.9)	504 (5.8)	501 (5.6)	499 (4.7)	503 (4.9)	503 (5.2)	521 (6.8)	18 (1.1)	472 (6.8)	66 (1.2)	528 (4.8)	15 (1.0)	491 (7.7)			
Philippines	345 (7.5)	390 (5.0)	378 (5.7)	393 (6.3)	394 (6.5)	391 (7.6)	403 (5.5)	5 (0.4)	294 (14.4)	41 (0.8)	365 (9.7)	54 (0.9)	348 (7.7)			
Romania	472 (5.8)	475 (5.5)	475 (6.0)	465 (6.8)	481 (6.1)	473 (6.6)	456 (5.5)	16 (0.9)	451 (8.4)	36 (1.0)	479 (7.8)	48 (1.3)	484 (5.6)			
Russian Federation	529 (6.4)	529 (5.1)	517 (6.5)	529 (6.3)	523 (8.0)	495 (6.6)	491 (4.9)	5 (0.4)	494 (8.4)	34 (1.3)	534 (7.1)	61 (1.3)	536 (6.4)			
Singapore	568 (8.0)	521 (7.3)	541 (7.2)	570 (6.7)	545 (8.3)	577 (8.3)	550 (5.9)	7 (0.6)	507 (13.2)	38 (1.1)	573 (9.9)	55 (1.2)	573 (7.1)			
Slovak Republic	535 (3.3)	537 (4.3)	535 (6.2)	518 (4.1)	525 (4.9)	512 (4.5)	507 (3.9)	8 (0.7)	521 (7.5)	67 (1.2)	539 (3.7)	25 (1.2)	532 (4.8)			
Slovenia	533 (3.2)	541 (4.3)	521 (3.9)	525 (4.4)	509 (5.4)	519 (3.4)	513 (4.3)	10 (0.8)	526 (6.7)	52 (1.1)	546 (3.7)	38 (1.1)	521 (4.2)			
South Africa	243 (7.8)	348 (4.8)	289 (7.3)	308 (6.7)	350 (4.0)	350 (8.5)	329 (6.4)	15 (1.8)	211 (14.0)	39 (1.1)	269 (11.1)	47 (1.3)	237 (8.7)			
Thailand	482 (4.0)	470 (3.9)	508 (4.5)	475 (4.2)	439 (4.3)	507 (3.0)	462 (4.2)	8 (0.5)	455 (4.5)	50 (1.1)	480 (4.8)	42 (1.2)	493 (5.2)			
Tunisia	430 (3.4)	442 (2.7)	441 (5.0)	425 (6.3)	439 (3.7)	462 (5.0)	451 (3.4)	13 (0.8)	438 (8.2)	39 (0.9)	434 (5.3)	48 (1.0)	425 (2.8)			
Turkey	433 (4.3)	435 (4.6)	444 (4.5)	441 (4.0)	437 (5.0)	461 (3.6)	445 (6.3)	6 (0.5)	409 (12.9)	44 (0.9)	433 (4.0)	51 (1.2)	444 (4.4)			
United States	515 (4.6)	504 (4.2)	520 (4.1)	498 (5.5)	508 (4.8)	509 (6.4)	522 (4.3)	24 (1.4)	495 (6.4)	60 (1.3)	532 (4.6)	16 (0.8)	502 (5.9)			

—Not available.

<sup>1</sup>Data are for 8th grade or equivalent in most countries.<sup>2</sup>Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.

NOTE: Standard errors appear in parentheses. Because results are rounded to the nearest whole number some totals may appear inconsistent.

SOURCE: InternatThird International Mathematics and Science Study 1999, *International Science Report*, by Michael O. Martin et al. Copyright © 2000 International Association for the Evaluation of Educational Achievement (IEA). (This table was prepared June 2001.)

**Table 402.—Instructional practices and time spent teaching science in eighth grade, by country: 1999**

Country	Percent of students reporting almost always or pretty often						Number of hours science is taught weekly													
	We discuss our complete homework		Teacher shows us how to do science		We work on worksheets or textbooks on our own		We work on science projects		We begin our homework		Less than 2 hours		At least 2, but less than 3.5 hours		At least 3.5, but less than 5 hours		5 hours or more			
	2	3	4	5	6	7	8	9	10	11	12	13	14	Mean score	Percent	Mean score	Percent	Mean score	Percent	
1																				
Australia <sup>1</sup>	48 (1.6)	73 (1.4)	75 (1.2)	51 (1.6)	40 (1.5)	6 (1.8)	523 (15.2)	64 (3.9)	535 (5.5)	28 (3.5)	555 (8.2)	3 (1.2)	526 (16.0)							
Canada <sup>2</sup>	56 (1.4)	74 (1.2)	76 (1.1)	62 (1.5)	68 (1.8)	7 (1.6)	501 (9.0)	71 (3.5)	536 (3.3)	17 (3.2)	549 (6.6)	5 (1.5)	520 (8.7)							
Chile	50 (1.1)	84 (0.9)	51 (1.0)	72 (1.2)	57 (1.1)	4 (1.5)	419 (9.9)	93 (1.9)	422 (4.2)	2 (1.2)	—	0 (0.0)	394							
Chinese Taipei <sup>3</sup>	50 (1.4)	88 (0.7)	61 (1.3)	52 (1.3)	29 (0.9)	—	—	—	—	—	—	—	—							
Cyprus <sup>2</sup>	76 (0.9)	86 (0.9)	66 (1.0)	52 (1.1)	47 (1.2)	72 (3.7)	462 (3.3)	28 (3.7)	463 (5.5)	0 (0.0)	—	0 (0.0)	—							
England <sup>2</sup>	53 (1.6)	87 (0.9)	63 (2.1)	55 (1.6)	28 (1.3)	7.2.1	582 (19.4)	72 (4.3)	532 (6.2)	17 (4.0)	568 (16.9)	4 (1.6)	668 (21.8)							
Hong Kong, SAR	33 (1.0)	86 (0.8)	54 (1.1)	43 (1.1)	34 (1.1)	4 (1.7)	525 (22.7)	79 (3.9)	532 (4.3)	7 (2.3)	551 (9.4)	10 (2.8)	514 (14.2)							
Indonesia <sup>4</sup>	46 (1.1)	87 (0.8)	48 (1.7)	76 (1.1)	11 (0.8)	—	—	—	—	—	—	—	—							
Iran, Islamic Republic	49 (1.0)	89 (0.7)	43 (1.1)	38 (1.3)	33 (1.1)	29 (4.3)	455 (6.8)	54 (4.6)	445 (6.4)	9 (2.5)	458 (11.5)	8 (2.3)	454 (9.9)							
Israel <sup>1</sup>	63 (1.2)	62 (1.3)	67 (1.5)	49 (1.5)	55 (1.5)	23 (3.2)	460 (11.6)	68 (3.7)	472 (6.9)	9 (2.5)	467 (23.8)	0 (0.0)	—							
Italy	49 (1.4)	56 (1.5)	38 (1.3)	35 (1.7)	30 (1.6)	27 (3.5)	498 (5.8)	71 (3.7)	490 (5.0)	1 (0.9)	—	1 (0.8)	—							
Japan	10 (0.8)	74 (1.1)	29 (1.3)	21 (0.8)	7 (0.6)	4 (1.3)	599 (14.2)	96 (1.3)	547 (2.4)	0 (0.0)	—	0 (0.0)	—							
Jordan	71 (1.2)	91 (0.8)	50 (1.2)	55 (1.4)	57 (1.0)	1 (0.0)	—	25 (3.6)	458 (9.4)	63 (4.1)	449 (4.8)	11 (2.8)	441 (15.2)							
Korea	14 (0.8)	73 (1.1)	27 (0.8)	36 (1.0)	12 (0.6)	10 (1.9)	546 (4.7)	84 (2.6)	550 (2.8)	4 (1.7)	531 (8.6)	1 (0.8)	—							
Malaysia	51 (1.0)	89 (0.6)	56 (1.2)	41 (1.5)	45 (1.3)	1 (0.9)	—	96 (1.8)	493 (4.6)	3 (1.5)	497 (26.7)	0 (0.0)	—							
New Zealand	53 (1.4)	81 (1.0)	70 (1.6)	57 (1.6)	35 (1.8)	2 (1.0)	—	55 (4.1)	508 (6.5)	41 (4.0)	516 (8.9)	2 (1.0)	—							
Philippines	77 (0.7)	86 (0.8)	64 (0.8)	64 (1.1)	51 (1.0)	4 (1.4)	368 (35.3)	2 (1.3)	—	2 (1.3)	—	92 (2.4)	347 (7.8)							
Singapore	58 (0.9)	85 (0.9)	75 (0.9)	39 (1.5)	44 (1.6)	5 (1.9)	497 (38.7)	42 (4.2)	550 (14.1)	50 (4.2)	586 (8.6)	4 (1.4)	608 (28.0)							
South Africa	71 (0.7)	84 (1.1)	68 (0.9)	66 (1.4)	67 (1.1)	26 (3.9)	235 (15.5)	33 (4.3)	256 (17.4)	33 (4.2)	251 (18.9)	8 (2.4)	259 (31.6)							
Thailand <sup>1</sup>	36 (1.2)	75 (1.2)	56 (1.1)	42 (1.7)	81 (0.8)	1 (1.0)	—	76 (4.2)	491 (5.5)	0 (0.0)	—	23 (4.1)	461 (10.8)							
Tunisia	54 (1.2)	79 (0.8)	44 (1.2)	68 (0.9)	29 (1.0)	63 (4.1)	432 (4.2)	36 (4.1)	425 (4.3)	1 (0.0)	—	0 (0.0)	—							
Turkey	32 (1.0)	90 (0.7)	38 (1.0)	29 (1.0)	22 (1.2)	12 (2.8)	439 (12.4)	82 (3.0)	432 (4.3)	1 (0.7)	—	4 (1.4)	416 (17.8)							
United States <sup>1</sup>	63 (1.9)	69 (1.4)	76 (1.5)	59 (1.3)	57 (2.0)	11 (2.3)	521 (18.3)	16 (2.3)	533 (11.4)	61 (3.0)	523 (5.0)	13 (2.0)	490 (8.0)							

—Not available.

<sup>1</sup> Teacher response data on hours taught weekly available for 70 to 84 percent of students.

<sup>2</sup> Teacher response data on hours taught weekly available for 50 to 69 percent of students.

<sup>3</sup> Students were asked about "natural science;" data pertain to grade 8 physics/chemistry

<sup>4</sup> Students were asked about "IPA science;" data pertain to the composite course taught by biology and physics teachers

NOTE: Data are for 8th grade or equivalent in most countries. Standard errors appear in parentheses. In the 23 countries shown science is taught as a single subject. In other countries separate courses are offered in the different science subjects (earth science, biology, physics, and chemistry). Detail may not sum to totals due to rounding.

SOURCE: International Association for the Evaluation of Educational Achievement, Third International Mathematics and Science Study 1999, *International Science Report*, by Michael O. Martin et al. Copyright © 2000 International Association for the Evaluation of Educational Achievement (IEA). (This table was prepared July 2001.)

**Table 403.—Average size of 8th-grade mathematics classes, and frequency teachers assign mathematics homework, by country: 1999**

Country	Overall average class size	Percent distribution of mathematics classes, by average size			Percent of students, by frequency and average length of mathematics assignments						
		1 to 20 students	21 to 35 students	36 or more students	Never assigning homework	Assigning homework less than once a week		Assigning homework once or twice a week		Assigning homework 3 or more times a week	
						30 minutes or less	More than 30 minutes	30 minutes or less	More than 30 minutes	30 minutes or less	More than 30 minutes
1	2	3	4	5	6	7	8	9	10	11	12
Australia	27 (0.3)	9 (2.4)	91 (2.4)	0 (0.0)	1 (0.6)	2 (1.1)	1 (0.9)	25 (3.6)	6 (2.0)	60 (3.9)	6 (2.0)
Belgium (Flemish)	19 (0.4)	58 (3.5)	42 (3.5)	0 (0.0)	5 (3.2)	18 (3.3)	3 (1.2)	48 (4.9)	9 (2.0)	15 (2.7)	2 (0.9)
Bulgaria	22 (0.6)	35 (4.4)	63 (4.8)	2 (1.3)	1 (1.0)	1 (0.6)	1 (0.5)	16 (3.5)	6 (1.7)	31 (4.5)	44 (5.6)
Canada	27 (0.3)	11 (2.1)	87 (2.3)	2 (1.0)	0 (0.0)	1 (0.7)	0 (0.0)	22 (2.8)	3 (1.5)	58 (3.5)	16 (2.6)
Chile	34 (0.6)	6 (1.5)	48 (4.3)	46 (4.1)	4 (1.7)	19 (2.9)	2 (1.0)	39 (3.9)	13 (2.8)	16 (2.6)	7 (2.2)
Chinese Taipei	39 (0.5)	0 (0.0)	14 (2.9)	86 (3.0)	0 (0.0)	2 (1.1)	2 (1.1)	27 (3.4)	23 (3.4)	21 (3.1)	25 (3.6)
Cyprus <sup>1</sup>	29 (0.2)	0 (0.2)	100 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.1)	0 (0.0)	55 (5.1)	44 (4.9)
Czech Republic <sup>1</sup>	24 (0.4)	18 (4.2)	82 (4.2)	0 (0.0)	0 (0.0)	13 (3.8)	0 (0.0)	69 (5.1)	2 (1.3)	15 (3.7)	0 (0.2)
England	—	—	—	—	0 (0.0)	2 (0.8)	1 (0.3)	48 (3.9)	46 (4.1)	3 (1.4)	1 (0.6)
Finland	19 (0.3)	66 (3.7)	34 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11 (2.2)	1 (0.8)	79 (3.0)	9 (2.3)
Hong Kong, SAR	37 (0.5)	7 (1.8)	15 (3.0)	78 (3.4)	0 (0.0)	2 (1.2)	1 (0.0)	26 (3.1)	23 (3.7)	30 (4.0)	19 (3.1)
Hungary	21 (0.5)	48 (4.2)	51 (4.1)	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.0)	1 (0.0)	81 (2.9)	17 (3.0)
Indonesia <sup>1</sup>	45 (0.9)	1 (0.3)	10 (2.3)	89 (2.4)	0 (0.0)	0 (0.0)	1 (0.8)	15 (3.2)	25 (4.2)	23 (4.1)	36 (4.2)
Iran, Islamic Republic <sup>2</sup>	33 (0.5)	5 (1.6)	57 (4.2)	38 (4.2)	0 (0.0)	1 (0.0)	2 (0.9)	6 (1.9)	67 (4.5)	2 (1.5)	23 (4.0)
Israel <sup>1</sup>	26 (0.7)	31 (3.2)	50 (4.0)	19 (3.3)	1 (0.9)	1 (0.5)	1 (0.3)	6 (1.8)	2 (1.0)	35 (3.6)	53 (3.4)
Italy	20 (0.3)	55 (3.9)	44 (3.9)	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (1.7)	12 (2.5)	15 (2.6)	68 (3.8)
Japan	36 (0.2)	1 (0.0)	41 (3.4)	58 (3.3)	9 (2.3)	34 (4.3)	6 (2.0)	27 (4.0)	8 (2.1)	14 (2.7)	3 (1.4)
Jordan	36 (0.7)	4 (1.3)	43 (3.4)	53 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)	8 (2.4)	4 (1.2)	61 (4.0)	28 (3.7)
Korea	42 (0.5)	0 (0.0)	12 (2.2)	88 (2.2)	2 (0.7)	14 (2.6)	6 (2.0)	29 (3.4)	15 (2.7)	24 (3.3)	9 (2.3)
Latvia (Latvian-speaking schools) <sup>1</sup>	22 (0.5)	45 (4.2)	55 (4.2)	0 (0.0)	0 (0.0)	2 (1.4)	0 (0.0)	7 (2.5)	1 (0.9)	70 (3.9)	20 (3.7)
Lithuania	23 (0.3)	32 (2.8)	68 (2.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.5)	1 (0.6)	73 (4.0)	24 (3.6)
Macedonia, Republic of	28 (0.4)	10 (2.5)	84 (3.4)	6 (2.2)	0 (0.0)	1 (0.6)	0 (0.0)	16 (3.1)	4 (1.7)	44 (4.3)	36 (4.4)
Malaysia	38 (0.6)	1 (0.0)	26 (3.7)	73 (3.6)	0 (0.0)	1 (0.0)	0 (0.0)	3 (1.5)	6 (2.0)	24 (3.5)	66 (3.9)
Moldova <sup>1</sup>	26 (0.4)	15 (3.0)	83 (3.3)	2 (1.6)	0 (0.0)	0 (0.0)	2 (1.3)	2 (1.2)	4 (2.1)	38 (4.3)	54 (4.2)
Morocco <sup>1</sup>	33 (0.8)	12 (2.4)	49 (3.4)	39 (3.6)	1 (0.4)	11 (1.8)	40 (3.5)	8 (1.5)	9 (2.1)	21 (2.6)	11 (1.9)
Netherlands <sup>1</sup>	25 (0.5)	13 (4.1)	87 (4.1)	0 (0.0)	1 (0.6)	1 (0.6)	0 (0.0)	13 (3.3)	3 (1.3)	73 (4.4)	9 (2.6)
New Zealand	25 (0.4)	17 (2.9)	82 (2.8)	1 (0.0)	1 (0.8)	2 (1.1)	0 (0.0)	32 (3.5)	3 (1.2)	58 (3.9)	2 (1.4)
Philippines <sup>1</sup>	50 (0.6)	0 (0.0)	5 (1.5)	95 (1.5)	0 (0.0)	2 (1.1)	0 (0.0)	10 (2.6)	0 (0.0)	74 (3.2)	14 (3.0)
Romania	24 (0.4)	30 (2.9)	65 (3.2)	5 (1.9)	0 (0.0)	0 (0.0)	1 (0.5)	1 (1.0)	4 (1.2)	21 (3.7)	73 (3.9)
Russian Federation	24 (0.5)	19 (3.2)	81 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.5)	0 (0.0)	42 (4.5)	57 (4.6)
Singapore	37 (0.3)	1 (0.4)	32 (3.8)	68 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	8 (2.1)	12 (2.4)	26 (4.2)	54 (4.3)
Slovak Republic	25 (0.4)	15 (2.6)	85 (2.6)	0 (0.2)	1 (0.0)	3 (1.8)	0 (0.0)	12 (3.2)	1 (0.0)	81 (3.5)	2 (1.5)
Slovenia	22 (0.3)	29 (3.2)	71 (3.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (1.5)	0 (0.0)	79 (3.1)	17 (2.8)
South Africa <sup>1</sup>	50 (1.4)	2 (0.8)	14 (2.6)	85 (2.7)	0 (0.0)	0 (0.0)	0 (0.0)	10 (2.6)	4 (1.4)	64 (4.1)	22 (3.2)
Thailand <sup>1</sup>	42 (0.9)	3 (1.0)	23 (3.9)	75 (3.7)	0 (0.0)	0 (0.0)	0 (0.0)	4 (1.5)	16 (3.3)	23 (3.6)	57 (4.4)
Tunisia	34 (0.4)	3 (1.5)	56 (3.9)	42 (4.1)	2 (1.3)	3 (1.5)	26 (3.6)	3 (1.2)	8 (2.3)	35 (4.2)	24 (3.9)
Turkey <sup>3</sup>	43 (1.3)	2 (1.1)	28 (3.9)	70 (3.9)	0 (0.0)	4 (1.4)	0 (0.3)	35 (4.1)	39 (4.3)	10 (2.4)	12 (2.4)
United States <sup>1</sup>	26 (0.7)	21 (2.6)	73 (3.0)	6 (1.4)	1 (0.7)	1 (0.7)	0 (0.0)	7 (1.6)	1 (0.6)	63 (2.8)	27 (2.4)

—Not available.

<sup>1</sup> Teacher response data on class size available for 70 to 84 percent of students.<sup>2</sup> Teacher response data on mathematics assignments available for 50 to 69 percent of students.<sup>3</sup> Teacher response data on class size available for 50 to 69 percent of students.

NOTE: Data are for 8th grade or equivalent in most countries. Detail may not sum to totals due to rounding. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, Third International Mathematics and Science Study, 1999, *TIMSS 1999 International Mathematics Report*, by Ina V.S. Mullis et al. Copyright © 2000 International Association for the Evaluation of Educational Achievement (IEA). (This table was prepared May 2001.)

Table 404.—Eighth-grade students' perceptions about mathematics and hours spent on leisure activities, by country: 1999

Country	Students reporting that mathematics is not one of their strengths										Average hours each day <sup>1</sup>				
	Strongly disagree		Disagree		Agree		Strongly agree		Watching TV or videos	Playing or talking with friends	Doing jobs at home	Playing sports	Reading for enjoyment	Playing computer games	
	Percent	Mean score	Percent	Mean score	Percent	Mean score	Percent	Mean score							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Australia	18 (1.1)	573 (5.8)	36 (1.0)	546 (5.3)	28 (0.9)	499 (5.2)	17 (0.8)	478 (5.4)	2.3 (0.05)	1.5 (0.03)	0.9 (0.03)	1.6 (0.03)	0.6 (0.02)	0.8 (0.05)	
Belgium (Flemish)	17 (0.8)	598 (5.4)	30 (0.9)	581 (4.8)	31 (1.0)	540 (4.5)	21 (0.9)	526 (4.0)	2.1 (0.04)	1.8 (0.05)	1.0 (0.04)	1.8 (0.07)	0.6 (0.02)	0.9 (0.04)	
Bulgaria	18 (1.9)	560 (10.6)	26 (1.2)	541 (6.3)	30 (1.4)	494 (4.9)	25 (1.5)	476 (5.1)	2.8 (0.05)	2.6 (0.06)	1.9 (0.04)	1.5 (0.05)	1.0 (0.03)	0.8 (0.05)	
Canada	15 (1.2)	577 (3.2)	31 (0.7)	542 (3.0)	26 (1.0)	502 (4.7)	17 (0.8)	485 (3.4)	2.2 (0.03)	1.9 (0.04)	1.1 (0.03)	1.9 (0.03)	0.7 (0.04)	0.8 (0.03)	
Chile	26 (0.6)	444 (8.7)	37 (0.7)	408 (4.7)	35 (0.7)	382 (4.7)	23 (0.7)	367 (5.5)	2.7 (0.05)	1.9 (0.04)	1.5 (0.03)	2.0 (0.03)	0.7 (0.02)	0.6 (0.05)	
Chinese Taipei	16 (0.6)	646 (6.1)	28 (0.7)	623 (4.3)	34 (0.7)	564 (4.5)	23 (0.7)	533 (3.9)	2.0 (0.04)	1.3 (0.03)	1.0 (0.02)	1.2 (0.02)	0.9 (0.02)	0.9 (0.04)	
Cyprus	23 (1.0)	525 (4.3)	34 (0.8)	492 (2.8)	27 (0.9)	445 (2.9)	16 (0.6)	438 (4.3)	2.2 (0.04)	1.8 (0.04)	0.9 (0.03)	1.4 (0.04)	0.7 (0.02)	1.0 (0.04)	
Czech Republic	19 (0.9)	567 (6.9)	35 (1.2)	541 (5.0)	36 (1.1)	500 (4.7)	16 (0.9)	486 (5.8)	2.3 (0.05)	3.0 (0.07)	1.2 (0.03)	2.0 (0.05)	1.0 (0.04)	0.9 (0.05)	
England	12 (0.5)	539 (6.9)	40 (1.2)	512 (4.5)	28 (1.2)	471 (4.8)	13 (0.8)	458 (6.3)	2.6 (0.05)	2.5 (0.08)	0.8 (0.02)	1.6 (0.04)	0.6 (0.02)	1.2 (0.05)	
Finland	17 (0.8)	570 (4.4)	34 (1.0)	543 (3.8)	31 (1.1)	498 (2.6)	18 (1.0)	474 (3.7)	2.5 (0.04)	3.2 (0.07)	0.9 (0.02)	1.6 (0.04)	0.8 (0.02)	1.1 (0.04)	
Hong Kong	11 (0.5)	619 (5.5)	31 (0.8)	606 (3.9)	39 (0.7)	573 (4.4)	20 (0.8)	549 (5.0)	2.4 (0.04)	1.3 (0.04)	0.6 (0.01)	1.0 (0.03)	0.8 (0.02)	1.0 (0.04)	
Hungary	15 (0.7)	598 (5.7)	34 (1.1)	552 (4.7)	40 (1.1)	503 (3.7)	11 (0.7)	493 (5.9)	2.7 (0.05)	2.0 (0.05)	1.6 (0.04)	1.5 (0.04)	0.8 (0.02)	1.0 (0.05)	
Indonesia	6 (0.4)	411 (10.6)	31 (0.8)	418 (5.2)	53 (1.0)	404 (4.6)	10 (0.5)	359 (10.7)	1.7 (0.05)	1.1 (0.02)	1.9 (0.03)	1.0 (0.02)	0.9 (0.02)	0.2 (0.05)	
Iran, Islamic Republic	26 (1.0)	459 (4.6)	35 (0.7)	426 (3.3)	25 (0.9)	404 (4.5)	14 (0.6)	397 (5.2)	1.8 (0.04)	1.3 (0.04)	1.7 (0.04)	1.3 (0.06)	0.9 (0.02)	0.3 (0.04)	
Israel	29 (1.0)	508 (4.2)	32 (0.8)	483 (4.5)	25 (0.8)	438 (4.0)	14 (0.7)	418 (6.3)	3.1 (0.05)	2.4 (0.04)	1.3 (0.05)	1.8 (0.05)	1.0 (0.03)	1.5 (0.05)	
Italy	22 (0.9)	529 (5.6)	32 (0.9)	495 (3.6)	27 (0.8)	456 (4.9)	18 (0.9)	435 (5.0)	1.8 (0.03)	2.7 (0.06)	1.1 (0.03)	1.7 (0.03)	0.7 (0.02)	1.0 (0.03)	
Japan	12 (0.5)	602 (4.9)	29 (0.7)	598 (2.7)	38 (0.6)	576 (2.7)	21 (0.7)	545 (3.3)	3.1 (0.05)	1.8 (0.04)	0.5 (0.02)	1.1 (0.03)	0.8 (0.02)	0.9 (0.05)	
Jordan <sup>2</sup>	27 (1.1)	491 (5.4)	29 (0.9)	446 (4.3)	26 (0.9)	401 (4.3)	17 (0.8)	386 (4.8)	1.7 (0.04)	1.1 (0.04)	1.3 (0.05)	1.4 (0.05)	1.4 (0.04)	0.8 (0.04)	
Korea	10 (0.5)	648 (3.9)	33 (0.7)	621 (3.0)	41 (0.8)	564 (2.7)	15 (0.5)	536 (3.6)	2.9 (0.04)	1.3 (0.03)	0.6 (0.01)	0.6 (0.02)	0.6 (0.01)	0.8 (0.04)	
Latvia (Latvian-speaking schools)	10 (0.7)	572 (6.2)	28 (1.1)	534 (4.9)	41 (1.0)	487 (3.8)	20 (0.9)	470 (4.3)	2.8 (0.05)	2.6 (0.06)	1.7 (0.03)	1.3 (0.03)	0.9 (0.03)	0.7 (0.05)	
Lithuania	11 (0.8)	536 (7.0)	35 (1.4)	508 (5.1)	42 (1.4)	461 (3.9)	12 (0.9)	436 (6.6)	2.4 (0.05)	2.4 (0.06)	1.6 (0.05)	1.0 (0.03)	0.7 (0.02)	0.6 (0.05)	
Macedonia, Republic of	13 (0.6)	501 (7.2)	27 (0.9)	474 (5.3)	37 (1.0)	441 (5.4)	24 (1.1)	423 (4.9)	2.2 (0.05)	1.8 (0.05)	1.9 (0.04)	1.8 (0.05)	1.2 (0.04)	0.7 (0.05)	
Malaysia	23 (0.9)	544 (5.4)	45 (0.9)	525 (4.6)	27 (1.0)	497 (5.1)	5 (0.3)	481 (6.6)	1.9 (0.05)	1.2 (0.03)	1.8 (0.03)	1.1 (0.02)	1.1 (0.02)	0.5 (0.05)	
Moldova	17 (1.0)	506 (6.0)	44 (1.2)	477 (4.6)	29 (1.0)	455 (5.5)	10 (0.7)	440 (6.9)	2.6 (0.07)	1.9 (0.06)	3.2 (0.09)	1.4 (0.04)	1.5 (0.04)	1.0 (0.07)	
Morocco <sup>3</sup>	18 (0.7)	378 (6.1)	32 (1.2)	350 (5.9)	28 (0.9)	324 (4.2)	22 (0.7)	320 (6.0)	1.1 (0.03)	0.9 (0.03)	1.5 (0.03)	1.5 (0.04)	1.4 (0.05)	0.7 (0.03)	
Netherlands	16 (0.8)	570 (7.4)	28 (1.4)	557 (7.9)	36 (1.5)	529 (8.2)	20 (1.0)	515 (9.2)	2.4 (0.10)	2.6 (0.09)	0.8 (0.04)	1.8 (0.06)	0.7 (0.04)	0.9 (0.10)	
New Zealand	16 (0.8)	548 (6.7)	36 (1.1)	518 (5.4)	32 (0.9)	466 (4.7)	15 (0.8)	436 (5.1)	2.5 (0.05)	1.6 (0.04)	1.0 (0.03)	1.5 (0.04)	0.7 (0.02)	0.9 (0.05)	
Philippines	14 (0.5)	374 (9.6)	37 (1.1)	368 (6.9)	31 (0.8)	337 (5.7)	17 (0.8)	309 (6.1)	1.7 (0.04)	1.2 (0.03)	2.4 (0.05)	1.6 (0.04)	1.6 (0.04)	0.7 (0.04)	
Romania	11 (0.7)	517 (6.2)	26 (1.1)	498 (6.5)	44 (1.3)	466 (6.3)	19 (1.0)	450 (7.1)	2.2 (0.06)	1.6 (0.05)	2.0 (0.06)	1.2 (0.04)	1.0 (0.03)	0.6 (0.06)	
Russian Federation	21 (0.9)	580 (5.8)	40 (0.9)	538 (5.6)	30 (1.2)	501 (7.3)	9 (0.6)	471 (10.0)	2.6 (0.05)	3.0 (0.05)	1.5 (0.03)	1.3 (0.03)	1.2 (0.03)	0.7 (0.05)	
Singapore	16 (0.7)	631 (7.3)	37 (0.7)	614 (6.1)	33 (0.8)	583 (6.4)	13 (0.6)	575 (6.9)	2.4 (0.04)	1.5 (0.04)	0.9 (0.02)	1.5 (0.04)	1.0 (0.02)	1.1 (0.04)	
Slovak Republic	12 (0.7)	586 (7.8)	34 (1.1)	554 (4.4)	40 (1.2)	516 (3.9)	14 (0.8)	498 (5.6)	2.5 (0.06)	2.7 (0.06)	1.6 (0.05)	1.9 (0.04)	0.7 (0.02)	0.6 (0.06)	
Slovenia	24 (0.8)	583 (4.4)	40 (1.2)	542 (3.4)	24 (0.9)	490 (3.8)	12 (0.8)	471 (5.7)	2.3 (0.05)	1.8 (0.04)	1.2 (0.03)	1.6 (0.04)	0.7 (0.02)	0.9 (0.05)	
South Africa	18 (0.6)	313 (8.5)	26 (1.0)	295 (12.4)	31 (0.8)	264 (6.8)	26 (0.9)	247 (5.2)	2.0 (0.07)	1.5 (0.04)	2.0 (0.04)	2.0 (0.05)	1.8 (0.05)	0.8 (0.07)	
Thailand	7 (0.4)	515 (8.5)	34 (0.9)	490 (5.2)	46 (0.9)	454 (5.3)	13 (0.5)	435 (7.5)	2.1 (0.05)	1.6 (0.04)	1.6 (0.02)	1.5 (0.03)	1.0 (0.02)	0.4 (0.05)	
Tunisia	25 (0.8)	476 (3.7)	31 (0.8)	452 (3.7)	25 (0.7)	432 (5.0)	19 (0.6)	428 (3.5)	2.0 (0.04)	1.3 (0.03)	1.7 (0.04)	1.9 (0.04)	1.4 (0.03)	0.9 (0.04)	
Turkey <sup>4</sup>	13 (0.5)	468 (5.9)	36 (0.8)	446 (4.8)	36 (0.8)	425 (3.8)	15 (0.6)	397 (6.4)	1.6 (0.04)	1.5 (0.03)	1.1 (0.04)	1.4 (0.03)	1.2 (0.03)	0.4 (0.04)	
United States	26 (0.8)	547 (4.6)	33 (0.6)	517 (4.5)	24 (0.6)	478 (4.4)	18 (0.7)	455 (4.3)	2.5 (0.06)	2.4 (0.05)	1.1 (0.03)	1.9 (0.03)	0.6 (0.02)	0.9 (0.06)	

<sup>1</sup> Average hours based on: No time = 0; less than 1 hour = .5; 1–2 hours = 1.5; 3–5 hours = 4; more than 5 hours = 7.  
<sup>2</sup> Student response data on reading for enjoyment available for 70 to 84 percent of students.  
<sup>3</sup> Student response data available for 70 to 84 percent of students.  
<sup>4</sup> Student response data for playing computer games available for 70 to 84 percent of students.

NOTE: Data are for 8th grade or equivalent in most countries. Detail may not sum to totals due to rounding. Standard errors appear in parentheses.  
 SOURCE: International Association for the Evaluation of Educational Achievement, Third International Mathematics and Science Study, 1999, TIMSS 1999 International Mathematics Report, by Ina V.S. Mullis et al. Copyright © 2000 International Association for the Evaluation of Educational Achievement (IEA). (This table was prepared May 2001.)



**Table 405.—Average 4th-grade mathematics scores, <sup>1</sup> by content areas, and average time spent studying mathematics out of school, by country: 1994–95**

Country	Average percent correct by content area										Amount of daily out-of-school study time in mathematics					
	Overall mathematics scores	Whole numbers	Fractions and proportionality	Measurement, estimation, number sense	Data representation, analysis, and probability	Geometry	Patterns, relations, and functions	No time		Less than 1 hour		1 hour or more		Average hours <sup>2</sup>		
								Percent	Mean score	Percent	Mean score	Percent	Mean score			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
Australia <sup>3</sup>	63 (0.6)	67 (0.6)	51 (0.7)	60 (0.7)	67 (0.8)	74 (0.7)	64 (0.9)	15 (0.9)	526 (5.6)	61 (1.2)	559 (3.2)	24 (1.0)	530 (4.4)	0.8 (0.02)		
Austria <sup>3</sup>	65 (0.7)	74 (0.8)	51 (0.8)	69 (0.8)	66 (1.1)	67 (0.8)	64 (1.1)	4 (0.7)	555 (8.6)	58 (1.8)	571 (3.8)	38 (1.6)	546 (4.1)	1.0 (0.03)		
Canada	60 (1.0)	68 (0.9)	48 (1.0)	54 (1.1)	68 (1.4)	72 (1.4)	62 (1.5)	14 (1.1)	526 (4.4)	60 (1.4)	544 (4.0)	26 (1.2)	522 (5.0)	0.8 (0.02)		
Cyprus	54 (0.6)	65 (0.7)	48 (0.7)	48 (0.8)	52 (0.9)	53 (0.9)	55 (1.1)	9 (0.7)	473 (6.1)	51 (1.9)	519 (3.6)	40 (1.6)	495 (3.8)	1.1 (0.03)		
Czech Republic	66 (0.6)	75 (0.6)	53 (0.8)	68 (0.7)	67 (0.9)	71 (0.7)	67 (0.9)	9 (0.9)	547 (6.6)	69 (1.2)	576 (3.6)	22 (1.1)	560 (4.3)	0.7 (0.02)		
England <sup>3</sup>	57 (0.7)	58 (0.7)	45 (0.8)	52 (0.7)	64 (0.9)	74 (0.8)	55 (1.0)	—	—	—	—	—	—	—		
Greece	51 (0.9)	62 (1.0)	42 (1.1)	48 (1.0)	50 (1.2)	53 (1.2)	47 (1.2)	6 (0.5)	453 (6.8)	38 (1.6)	512 (4.1)	56 (1.7)	493 (4.0)	1.6 (0.04)		
Hong Kong	73 (0.9)	79 (0.9)	66 (1.0)	69 (0.9)	76 (1.0)	74 (0.8)	73 (1.2)	6 (0.7)	550 (7.9)	44 (1.2)	595 (4.2)	50 (1.2)	586 (4.5)	1.3 (0.03)		
Hungary <sup>3</sup>	64 (0.8)	76 (0.7)	49 (0.9)	64 (0.9)	60 (1.0)	66 (0.8)	69 (1.1)	5 (0.7)	543 (10.8)	58 (1.3)	563 (3.9)	37 (1.4)	533 (4.2)	1.0 (0.03)		
Iceland	50 (0.8)	56 (0.9)	36 (1.0)	44 (0.9)	58 (1.2)	63 (1.0)	48 (1.4)	10 (0.8)	457 (4.3)	63 (1.4)	483 (3.5)	27 (1.4)	472 (3.2)	0.8 (0.02)		
Iran, Islamic Republic <sup>4</sup>	38 (0.9)	51 (1.2)	32 (1.0)	36 (0.9)	23 (0.9)	42 (0.9)	40 (1.4)	5 (0.7)	402 (6.6)	17 (1.3)	433 (6.0)	78 (1.5)	443 (4.5)	2.3 (0.07)		
Ireland	63 (0.8)	70 (0.8)	58 (1.0)	56 (0.9)	69 (0.9)	66 (0.8)	64 (1.0)	7 (0.6)	516 (7.1)	70 (1.3)	565 (3.2)	23 (1.2)	530 (4.9)	0.8 (0.02)		
Israel <sup>3,4</sup>	59 (1.0)	71 (1.0)	48 (1.1)	54 (1.0)	64 (1.2)	62 (1.0)	60 (1.5)	14 (1.3)	525 (6.4)	46 (2.2)	535 (4.7)	40 (1.9)	528 (4.1)	1.1 (0.05)		
Japan	74 (0.4)	82 (0.4)	65 (0.6)	72 (0.5)	79 (0.5)	72 (0.6)	76 (0.6)	10 (0.7)	558 (4.3)	60 (1.1)	598 (2.3)	31 (1.2)	610 (3.0)	0.9 (0.02)		
Korea	76 (0.4)	88 (0.3)	65 (0.5)	72 (0.5)	80 (0.6)	72 (0.6)	83 (0.7)	14 (0.8)	593 (4.2)	44 (1.1)	610 (2.5)	42 (1.2)	621 (2.3)	1.0 (0.02)		
Kuwait <sup>3</sup>	32 (0.5)	36 (0.5)	25 (0.5)	35 (0.6)	26 (0.6)	36 (0.6)	33 (1.0)	5 (0.7)	372 (5.7)	34 (1.4)	410 (3.0)	60 (1.5)	401 (2.8)	1.9 (0.05)		
Latvia (Latvian-speaking schools) <sup>3</sup>	59 (1.0)	68 (0.9)	44 (1.3)	60 (1.0)	54 (1.3)	67 (1.0)	65 (1.2)	7 (0.7)	476 (7.5)	61 (1.9)	542 (6.3)	33 (1.7)	518 (5.1)	1.0 (0.03)		
Netherlands <sup>3</sup>	69 (0.7)	75 (0.8)	60 (0.9)	70 (0.8)	75 (0.9)	71 (0.8)	65 (1.1)	47 (2.7)	593 (4.3)	39 (2.3)	578 (3.6)	14 (1.5)	541 (6.1)	0.5 (0.03)		
New Zealand	53 (1.0)	57 (1.0)	41 (1.1)	49 (1.1)	61 (1.3)	66 (1.1)	52 (1.2)	21 (1.6)	488 (9.7)	54 (1.7)	512 (4.4)	25 (1.4)	493 (5.2)	0.8 (0.03)		
Norway	53 (0.7)	61 (0.8)	38 (0.7)	56 (0.7)	59 (0.9)	58 (0.9)	50 (1.2)	23 (1.3)	503 (4.1)	58 (1.2)	512 (3.3)	19 (1.1)	497 (5.3)	0.6 (0.02)		
Portugal	48 (0.7)	57 (0.8)	38 (0.7)	49 (0.8)	43 (1.1)	52 (1.0)	47 (1.1)	3 (0.5)	420 (9.1)	55 (1.7)	489 (3.9)	42 (1.6)	470 (3.9)	1.3 (0.03)		
Scotland <sup>4</sup>	58 (0.8)	61 (0.8)	46 (1.0)	53 (0.9)	66 (1.0)	72 (0.8)	57 (1.0)	26 (1.8)	519 (7.2)	63 (2.0)	528 (3.8)	11 (1.0)	501 (8.9)	0.5 (0.02)		
Singapore	76 (0.8)	83 (0.7)	74 (1.0)	67 (1.0)	81 (0.8)	72 (0.8)	76 (0.9)	—	—	—	—	—	—	—		
Slovenia <sup>3</sup>	64 (0.6)	74 (0.6)	50 (0.9)	64 (0.9)	64 (1.0)	72 (0.8)	68 (0.8)	3 (0.4)	502 (11.4)	57 (1.5)	563 (3.7)	40 (1.4)	548 (3.7)	1.0 (0.03)		
Thailand <sup>3</sup>	50 (1.1)	58 (1.3)	44 (1.0)	44 (1.0)	56 (1.5)	53 (1.2)	50 (1.3)	17 (1.3)	470 (4.3)	44 (1.6)	496 (4.5)	39 (1.8)	489 (6.1)	1.0 (0.03)		
United States	63 (0.6)	71 (0.7)	51 (0.8)	53 (0.6)	73 (0.9)	71 (0.7)	66 (0.9)	8 (0.5)	516 (4.4)	60 (1.1)	561 (3.1)	32 (1.1)	528 (2.9)	1.0 (0.03)		

—Not available.

<sup>1</sup> Fourth grade students or equivalent in most countries.

<sup>2</sup> Average hours based on: No time = 0; Less than 1 hour = .5; 1–2 hours = 1.5; 3–4 hours = 3.5; More than 4 hours = 5.

<sup>3</sup> Countries not meeting all International Association for the Evaluation of Educational Achievement's sampling specifications.

<sup>4</sup> Indicates a 70 to 84 percent student response rate on question about time spent studying mathematics.

NOTE: Detail may not sum to totals due to rounding. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics Achievement in the Primary School Years: IEA's Third International Mathematics and Science Study, 1997*, by Albert E. Beaton et al. Copyright © 1997 Boston College, Chestnut Hill, MA. (This table was prepared July 1997.)

**Table 406.—Average 4th-grade science scores,<sup>1</sup> by content areas, and average time spent teaching science in school, by country: 1994–95**

Country	Science content areas						Average number of hours science is taught weekly to science classes							
	Overall science scores	Earth science	Life science	Physical science	Environmental issues and the nature of science	6	Less than 1 hour		1 to 2 hours		2 to 3 hours		More than 3 hours	
							Percent	Mean score	Percent	Mean score	Percent	Mean score	Percent	Mean score
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Australia <sup>2,3</sup>	66 (0.5)	61 (0.6)	72 (0.5)	63 (0.7)	63 (0.8)	35 (3.9)	556 (5.0)	55 (4.0)	568 (5.9)	5 (1.5)	562 (18.1)	5 (2.1)	562 (8.4)	
Austria <sup>2</sup>	66 (0.7)	62 (0.8)	72 (0.7)	64 (0.8)	54 (1.0)	0 (0.0)	—	0 (0.0)	—	97 (1.8)	566 (3.6)	3 (1.8)	540 (30.3)	
Canada	64 (0.6)	62 (0.6)	68 (0.6)	61 (0.7)	56 (0.7)	8 (2.0)	536 (10.1)	42 (3.8)	542 (5.1)	27 (3.3)	567 (5.4)	23 (3.2)	550 (4.6)	
Cyprus	51 (0.5)	48 (0.7)	55 (0.5)	50 (0.7)	42 (1.0)	—	—	—	—	—	—	—	—	
Czech Republic	65 (0.5)	64 (0.6)	71 (0.5)	62 (0.7)	56 (0.9)	2 (1.1)	—	79 (3.6)	557 (3.9)	3 (1.4)	572 (6.8)	16 (3.2)	563 (7.3)	
England <sup>4,5</sup>	63 (0.6)	61 (0.6)	68 (0.6)	60 (0.8)	56 (1.0)	6 (1.7)	540 (8.7)	27 (4.1)	548 (7.5)	44 (4.8)	556 (5.9)	23 (3.8)	550 (8.2)	
Greece	54 (0.8)	52 (0.9)	61 (0.9)	49 (0.9)	43 (1.2)	—	—	—	—	—	—	—	—	
Hong Kong	62 (0.7)	61 (0.6)	68 (0.7)	60 (0.8)	50 (1.1)	13 (3.4)	530 (13.3)	84 (3.7)	534 (4.3)	2 (1.5)	—	—	—	
Hungary <sup>2</sup>	62 (0.6)	62 (0.7)	66 (0.6)	59 (0.8)	50 (0.9)	6 (2.2)	556 (13.3)	72 (4.1)	529 (3.7)	8 (3.0)	521 (8.4)	14 (3.1)	549 (10.5)	
Iceland <sup>3</sup>	55 (0.7)	55 (0.7)	60 (0.8)	52 (0.7)	47 (1.2)	17 (4.1)	513 (7.3)	41 (5.6)	504 (7.7)	30 (5.1)	499 (6.5)	12 (4.3)	523 (6.8)	
Iran, Islamic Republic	40 (0.7)	38 (0.7)	44 (0.7)	40 (0.9)	26 (0.9)	—	—	—	—	—	—	—	—	
Ireland	61 (0.6)	60 (0.8)	66 (0.6)	57 (0.7)	55 (0.9)	47 (5.0)	536 (5.6)	40 (4.4)	540 (5.8)	11 (3.1)	550 (7.1)	2 (0.9)	—	
Israel <sup>2,3,6</sup>	57 (0.8)	51 (0.8)	61 (0.9)	55 (0.9)	51 (1.3)	0 (0.0)	—	53 (5.6)	508 (5.5)	32 (5.8)	494 (6.9)	15 (4.3)	493 (10.6)	
Japan	70 (0.3)	66 (0.4)	73 (0.3)	70 (0.4)	62 (0.6)	2 (1.3)	—	1 (0.6)	—	95 (1.8)	575 (1.8)	2 (1.2)	—	
Korea	74 (0.4)	72 (0.5)	76 (0.4)	75 (0.5)	70 (0.8)	0 (0.0)	—	1 (0.6)	—	95 (1.8)	597 (1.9)	5 (1.7)	588 (10.3)	
Kuwait <sup>2,3</sup>	39 (0.5)	36 (0.6)	45 (0.6)	37 (0.5)	25 (0.7)	0 (0.0)	—	1 (0.7)	—	96 (2.0)	402 (3.9)	4 (1.8)	416 (42.2)	
Latvia (Latvian-speaking schools) <sup>2</sup>	56 (0.8)	57 (1.0)	60 (0.8)	54 (0.9)	46 (1.2)	89 (2.9)	505 (5.7)	5 (2.2)	538 (47.2)	5 (2.2)	532 (11.9)	1 (0.8)	—	
Netherlands <sup>2</sup>	67 (0.5)	61 (0.6)	73 (0.5)	65 (0.6)	61 (0.9)	38 (5.1)	559 (4.0)	44 (4.8)	556 (4.5)	9 (2.6)	556 (7.2)	9 (2.7)	549 (20.1)	
New Zealand <sup>3</sup>	60 (0.9)	57 (0.9)	66 (0.9)	57 (1.1)	54 (1.2)	29 (4.2)	542 (8.3)	48 (4.4)	536 (6.1)	14 (3.1)	537 (17.2)	9 (2.6)	509 (21.2)	
Norway <sup>3</sup>	60 (0.6)	60 (0.6)	67 (0.7)	55 (0.7)	53 (0.9)	73 (5.0)	527 (5.4)	27 (5.0)	535 (7.6)	0 (0.0)	—	0 (0.0)	—	
Portugal	50 (0.7)	50 (0.8)	54 (0.8)	49 (0.9)	39 (1.0)	2 (1.1)	—	3 (1.4)	486 (28.2)	12 (3.1)	474 (8.8)	84 (3.6)	481 (4.8)	
Scotland <sup>3,4</sup>	60 (0.8)	58 (0.9)	65 (0.8)	57 (0.8)	53 (1.2)	35 (4.7)	543 (5.9)	44 (4.7)	534 (6.4)	14 (3.3)	531 (13.2)	7 (2.5)	529 (12.5)	
Singapore	64 (0.8)	58 (0.8)	70 (0.8)	64 (0.8)	53 (1.1)	0 (0.0)	—	4 (1.5)	548 (18.9)	96 (1.5)	547 (5.1)	0 (0.0)	—	
Slovenia <sup>2</sup>	64 (0.7)	64 (0.7)	68 (0.7)	61 (0.8)	54 (0.8)	3 (1.9)	544 (18.9)	60 (5.3)	541 (4.6)	18 (4.0)	550 (9.5)	19 (3.4)	548 (6.8)	
Thailand <sup>2,3</sup>	49 (0.9)	48 (0.9)	52 (0.8)	46 (1.0)	48 (1.4)	2 (1.2)	—	9 (3.5)	463 (21.5)	17 (6.1)	469 (16.5)	73 (6.6)	477 (6.5)	
United States <sup>3</sup>	66 (0.5)	64 (0.7)	71 (0.6)	60 (0.6)	65 (0.8)	9 (2.1)	562 (11.5)	16 (2.9)	550 (10.2)	33 (3.8)	578 (5.9)	42 (4.1)	565 (5.1)	

—Not available.  
<sup>1</sup> Fourth grade or equivalent in most countries.  
<sup>2</sup> Did not satisfy one or more guidelines for sample participation rates, age/grade specification, or classroom sampling procedures.  
<sup>3</sup> Teacher response rate for number of hours science is taught is 84 percent or less.  
<sup>4</sup> Met guidelines for sample participation rates only after replacement schools were included.  
<sup>5</sup> National defined population covers less than 90 percent of international desired population.  
<sup>6</sup> National defined population does not cover all of international desired population.  
 NOTE: Detail may not sum to totals due to rounding. Standard errors appear in parentheses.  
 SOURCE: International Association for the Evaluation of Educational Achievement, *Science Achievement in the Primary School Years: IEA's Third International Mathematics and Science Study, 1997*, by Albert E. Beaton et al. Copyright © 1997 Boston College, Chestnut Hill, MA. (This table was prepared July 1997.)

**Table 407.—Average mathematics scores, at the end of secondary school, by sex, and average time spent studying mathematics out of school, by country: 1994–95**

Country	Average score in mathematics			Amount of daily out-of-school study time in mathematics						Average hours <sup>1</sup>
	Mathematics overall	Males	Females	Less than 1 hour		One to two hours		Three or more hours		
				Percent	Mean score	Percent	Mean score	Percent	Mean score	
1	2	3	4	5	6	7	8	9	10	11
Australia <sup>2</sup>	522 (9.3)	540 (10.3)	510 (9.3)	59 (2.2)	521 (8.3)	36 (2.2)	557 (10.2)	5 (0.8)	534 (13.4)	1.0 (0.04)
Austria <sup>2</sup>	518 (5.3)	545 (7.2)	503 (5.5)	77 (1.7)	526 (5.8)	19 (1.6)	533 (9.4)	4 (0.8)	502 (13.7)	0.6 (0.04)
Canada <sup>2</sup>	519 (2.8)	537 (3.8)	504 (3.5)	56 (2.1)	539 (5.1)	38 (1.9)	547 (5.0)	7 (1.0)	526 (14.6)	1.1 (0.05)
Cyprus <sup>2</sup>	446 (2.5)	454 (4.9)	439 (3.7)	63 (2.1)	435 (4.3)	29 (1.8)	471 (4.8)	8 (1.3)	451 (9.0)	1.0 (0.05)
Czech Republic	466 (12.3)	488 (11.3)	443 (16.8)	92 (1.5)	464 (13.8)	8 (1.4)	482 (17.8)	0 (0.2)	—	0.4 (0.03)
Denmark <sup>2</sup>	547 (3.3)	575 (4.0)	523 (4.0)	68 (2.0)	571 (4.9)	28 (1.6)	563 (4.7)	4 (0.7)	562 (11.9)	0.9 (0.04)
France <sup>2</sup>	523 (5.1)	544 (5.6)	506 (5.3)	59 (2.3)	517 (5.1)	35 (2.3)	539 (6.7)	5 (0.7)	505 (14.7)	1.0 (0.04)
Germany <sup>2</sup>	495 (5.9)	509 (8.7)	480 (8.8)	—	—	—	—	—	—	—
Hungary	483 (3.2)	485 (4.9)	481 (4.8)	74 (0.9)	480 (3.2)	24 (0.8)	496 (5.5)	2 (0.2)	—	0.7 (0.02)
Iceland <sup>2</sup>	534 (2.0)	558 (3.4)	514 (2.2)	79 (1.1)	553 (3.2)	19 (1.1)	542 (7.0)	2 (0.4)	—	0.7 (0.02)
Italy <sup>2</sup>	476 (5.5)	490 (7.4)	464 (6.0)	55 (2.6)	479 (6.3)	40 (2.2)	486 (7.2)	5 (0.9)	477 (11.2)	1.0 (0.05)
Lithuania <sup>2</sup>	469 (6.1)	485 (7.3)	461 (7.7)	67 (1.8)	472 (5.8)	29 (1.7)	480 (5.2)	4 (0.5)	484 (11.5)	0.8 (0.03)
Netherlands <sup>2</sup>	560 (4.7)	585 (5.6)	533 (5.9)	82 (1.7)	606 (6.2)	16 (1.6)	581 (11.1)	1 (0.3)	—	0.7 (0.03)
New Zealand	522 (4.5)	536 (4.9)	507 (6.2)	75 (1.4)	544 (6.1)	23 (1.4)	552 (5.9)	2 (0.3)	—	0.7 (0.03)
Norway <sup>2</sup>	528 (4.1)	555 (5.3)	501 (4.8)	85 (1.4)	541 (5.1)	14 (1.3)	558 (9.5)	1 (0.3)	—	0.5 (0.03)
Russian Federation <sup>2</sup>	471 (6.2)	488 (6.5)	460 (6.6)	56 (2.0)	463 (5.9)	33 (1.4)	484 (7.5)	11 (1.2)	494 (8.1)	1.2 (0.06)
Slovenia <sup>2</sup>	512 (8.3)	535 (12.7)	490 (8.0)	72 (2.7)	521 (9.4)	25 (2.6)	518 (9.5)	2 (0.6)	—	0.7 (0.05)
South Africa <sup>2</sup>	356 (8.3)	365 (9.3)	348 (10.8)	33 (1.8)	394 (17.1)	51 (1.8)	375 (10.9)	17 (1.2)	344 (7.2)	1.7 (0.05)
Sweden	552 (4.3)	573 (5.9)	531 (3.9)	90 (0.9)	579 (5.4)	9 (0.9)	580 (7.8)	1 (0.2)	—	0.4 (0.02)
Switzerland	540 (5.8)	555 (6.4)	522 (7.4)	67 (1.6)	569 (4.9)	28 (1.3)	550 (5.6)	5 (0.9)	522 (10.6)	0.9 (0.04)
United States <sup>2</sup>	461 (3.2)	466 (4.1)	456 (3.6)	76 (1.5)	475 (3.8)	22 (1.5)	486 (5.9)	2 (0.2)	—	0.7 (0.02)

—Not available.

<sup>1</sup> Average hours based on: No time = 0; Less than 1 hour = .5; 1–2 hours = 1.5; 3–5 hours = 4; More than 5 hours = 7.<sup>2</sup> Countries not meeting all International Association for the Evaluation of Education Achievement's sampling specifications.

NOTE: End of secondary school is equivalent to 12th-grade in the U.S. and a few other countries, but ranges from 9th- to 14th-grade among the survey countries. Detail may not sum to totals due to rounding. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics and Science Achievement in the Final Year of Secondary School: IEA's Third International Mathematics and Science Study, 1998*, by Ina V.S. Mullis et al. Copyright © 1998 Boston College, Chestnut Hill, MA. (This table was prepared October 1998.)

**Table 408.—Average science scores, at the end of secondary school, by sex, and average time spent studying science out of school, by country: 1994–95**

Country	Average score in science			Amount of daily out-of-school study time in science						Average hours <sup>1</sup>
	Science overall	Males	Females	Less than 1 hour		One to two hours		Three or more hours		
				Percent	Mean score	Percent	Mean score	Percent	Mean score	
1	2	3	4	5	6	7	8	9	10	11
Australia <sup>2</sup>	527 (9.8)	547 (11.5)	513 (9.4)	58 (1.8)	540 (9.5)	35 (1.7)	575 (6.9)	7 (1.0)	588 (33.0)	1.0 (0.04)
Austria <sup>2</sup>	520 (5.6)	554 (8.7)	501 (5.8)	87 (1.4)	529 (6.0)	11 (1.4)	526 (13.8)	1 (0.3)	—	0.4 (0.03)
Canada <sup>2</sup>	532 (2.6)	550 (3.6)	518 (3.8)	57 (2.1)	554 (4.2)	35 (1.8)	567 (6.8)	8 (0.9)	537 (18.0)	1.1 (0.05)
Cyprus <sup>2</sup>	448 (3.0)	459 (5.8)	439 (3.0)	80 (1.1)	436 (3.7)	16 (0.9)	483 (10.7)	4 (0.6)	552 (11.8)	0.5 (0.03)
Czech Republic	487 (8.8)	512 (8.8)	460 (11.0)	84 (2.6)	520 (11.6)	14 (2.3)	571 (11.5)	3 (0.5)	583 (13.6)	0.5 (0.05)
Denmark <sup>2</sup>	509 (3.6)	532 (5.4)	490 (4.1)	73 (1.8)	555 (4.7)	25 (1.6)	570 (6.1)	3 (0.6)	565 (15.0)	0.7 (0.03)
France <sup>2</sup>	487 (5.1)	508 (6.7)	468 (4.8)	59 (2.0)	497 (5.7)	35 (1.8)	525 (7.0)	6 (0.8)	515 (9.1)	1.0 (0.04)
Germany <sup>2</sup>	497 (5.1)	514 (7.9)	478 (8.5)	—	—	—	—	—	—	—
Hungary	471 (3.0)	484 (4.2)	455 (4.3)	67 (1.2)	475 (3.9)	27 (0.9)	486 (4.9)	6 (0.6)	497 (11.5)	0.4 (0.03)
Iceland <sup>2</sup>	549 (1.5)	572 (2.7)	530 (2.1)	87 (1.0)	566 (2.5)	12 (1.0)	575 (4.6)	1 (0.3)	—	0.9 (0.01)
Italy <sup>2</sup>	475 (5.3)	495 (6.7)	458 (5.6)	70 (2.8)	487 (6.3)	25 (2.5)	482 (9.7)	5 (1.2)	462 (13.9)	0.8 (0.06)
Lithuania <sup>2</sup>	461 (5.7)	481 (6.4)	450 (7.3)	69 (1.5)	465 (5.5)	26 (1.3)	469 (6.5)	5 (0.6)	470 (11.4)	0.8 (0.03)
Netherlands <sup>2</sup>	558 (5.3)	582 (5.7)	532 (6.2)	78 (2.8)	593 (6.4)	20 (2.9)	605 (16.9)	1 (0.4)	—	0.7 (0.03)
New Zealand	529 (5.2)	543 (7.1)	515 (5.2)	80 (1.1)	551 (6.3)	18 (1.1)	581 (6.6)	3 (0.5)	553 (15.3)	0.6 (0.02)
Norway <sup>2</sup>	544 (4.1)	574 (5.1)	513 (4.5)	74 (2.4)	592 (7.1)	23 (2.2)	598 (10.8)	3 (0.7)	583 (23.8)	0.5 (0.02)
Russian Federation <sup>2</sup>	481 (5.7)	510 (5.7)	463 (6.7)	61 (1.6)	478 (6.0)	30 (1.3)	488 (7.0)	10 (0.8)	501 (8.0)	1.1 (0.04)
Slovenia <sup>2</sup>	517 (8.2)	541 (12.7)	494 (6.4)	85 (2.0)	528 (8.1)	13 (1.9)	548 (8.9)	2 (0.6)	—	0.5 (0.04)
South Africa <sup>2</sup>	349 (10.5)	367 (11.5)	333 (13.0)	47 (1.6)	373 (15.5)	35 (1.3)	367 (12.2)	18 (1.4)	326 (7.3)	1.5 (0.05)
Sweden	559 (4.4)	585 (5.9)	534 (3.5)	81 (1.9)	599 (7.4)	17 (1.8)	632 (10.1)	2 (0.5)	—	0.6 (0.03)
Switzerland	523 (5.3)	540 (6.1)	500 (7.8)	76 (2.3)	564 (6.6)	21 (2.3)	564 (10.9)	3 (0.9)	508 (29.0)	0.7 (0.04)
United States <sup>2</sup>	480 (3.3)	492 (4.5)	469 (3.9)	76 (2.1)	505 (4.3)	21 (2.1)	517 (5.7)	2 (0.4)	—	0.7 (0.04)

—Not available.

<sup>1</sup> Average hours based on: No time = 0; Less than 1 hour = .5; 1–2 hours = 1.5; 3–5 hours = 4; More than 5 hours = 7.<sup>2</sup> Countries not meeting all International Association for the Evaluation of Education Achievement's sampling specifications.

NOTE: End of secondary school is equivalent to 12th-grade in the U.S. and a few other countries, but ranges from 9th- to 14th-grade among the survey countries. Detail may not sum to totals due to rounding. Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *Mathematics and Science Achievement in the Final Year of Secondary School: IEA's Third International Mathematics and Science Study, 1998*, by Ina V.S. Mullis et al. Copyright © 1998 Boston College, Chestnut Hill, MA. (This table was prepared October 1998.)

**Table 409.—Reading literacy test scores of 9-year-olds: Selected countries, 1992**

Country	Grade tested	Mean age	Overall mean score	Narrative <sup>1</sup> 1st quartile	Narrative <sup>1</sup> mean score	Narrative <sup>1</sup> 3rd quartile	Expository <sup>2</sup> mean score	Documents <sup>3</sup> mean score
1	2	3	4	5	6	7	8	9
Finland .....	3	9.7	569 (3.4)	508	568 (3.0)	602	569 (3.1)	569 (4.0)
United States .....	4	10.0	547 (2.8)	476	553 (3.1)	619	538 (2.6)	550 (2.7)
Sweden .....	3	9.8	539 (2.8)	467	536 (2.6)	592	542 (2.7)	539 (3.2)
France .....	4	10.1	531 (4.0)	467	532 (4.1)	580	533 (4.1)	527 (3.9)
Italy .....	4	9.9	529 (4.3)	468	533 (4.0)	576	538 (4.0)	517 (4.9)
New Zealand .....	5	10.0	528 (3.3)	452	534 (3.5)	594	531 (3.1)	521 (3.3)
Norway .....	3	9.8	524 (2.6)	455	525 (2.8)	576	528 (2.3)	519 (2.8)
Iceland <sup>4</sup> .....	3	9.8	518 (0.0)	448	518 (0.0)	571	517 (0.0)	519 (0.0)
Hong Kong .....	4	10.0	517 (3.9)	431	494 (4.1)	548	503 (3.4)	554 (4.2)
Singapore .....	3	9.3	515 (1.0)	450	521 (1.1)	567	519 (1.0)	504 (1.0)
Switzerland .....	3	9.7	511 (2.7)	438	506 (2.6)	566	507 (2.7)	522 (2.8)
Ireland .....	4	9.3	509 (3.6)	445	518 (3.7)	571	514 (3.2)	495 (3.8)
Belgium <sup>5</sup> .....	4	9.8	507 (3.2)	439	510 (3.3)	558	505 (2.8)	506 (3.5)
Greece .....	4	9.3	504 (3.7)	447	514 (3.8)	567	511 (3.6)	488 (3.8)
Spain .....	4	10.0	504 (2.5)	429	497 (2.4)	543	505 (2.3)	509 (2.7)
Germany (former West) .....	3	9.4	503 (3.0)	421	491 (2.8)	543	497 (2.9)	520 (3.2)
Canada <sup>6</sup> .....	3	8.9	500 (3.0)	437	502 (3.5)	566	499 (2.7)	500 (2.8)
Germany (former East) .....	3	9.5	499 (4.3)	414	482 (4.2)	531	493 (3.6)	522 (5.0)
Hungary .....	3	9.3	499 (3.1)	437	496 (2.9)	541	493 (3.1)	509 (3.5)
Slovenia .....	3	9.7	498 (2.6)	435	502 (2.7)	570	489 (2.5)	503 (2.5)
Netherlands .....	3	9.2	485 (3.6)	425	494 (3.3)	539	480 (3.4)	481 (3.9)
Cyprus .....	4	9.8	481 (2.3)	421	492 (2.4)	548	475 (2.3)	476 (2.1)
Portugal .....	4	10.4	478 (3.6)	419	483 (3.3)	531	480 (3.0)	471 (4.5)
Denmark .....	3	9.8	475 (3.5)	386	463 (3.4)	539	467 (3.5)	496 (3.6)
Trinidad/Tobago .....	4	9.6	451 (3.4)	383	455 (3.6)	502	458 (3.4)	440 (3.3)
Indonesia .....	4	10.8	394 (3.0)	351	402 (2.8)	436	411 (3.2)	369 (3.0)
Venezuela .....	4	10.1	383 (3.4)	322	378 (3.2)	426	396 (3.3)	374 (3.7)

<sup>1</sup> Narrative prose is continuous text in which the writer's aim is to tell a story.

<sup>2</sup> Expository prose is continuous text designed to describe, explain, or otherwise convey factual information or opinion to the reader.

<sup>3</sup> Documents are structured information presented in the form of charts, tables, maps, graphs, lists, or sets of instructions.

<sup>4</sup> Iceland tested all students, therefore standard errors are not applicable.

<sup>5</sup> Only French-speaking students were tested.

<sup>6</sup> British Columbia only.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *How in the World Do Students Read?*, 1992. (This table was prepared April 1993.)

Table 410.—Reading literacy test scores of 14-year-olds: Selected countries, 1992

Country	Grade tested	Mean age	Overall mean score	Narrative <sup>1</sup> mean score	Expository <sup>2</sup> 1st quartile	Expository <sup>2</sup> mean score	Expository <sup>2</sup> 3rd quartile	Documents <sup>3</sup> mean score
1	2	3	4	5	6	7	8	9
Finland .....	8	14.7	560 (2.5)	559 (2.8)	493	541 (2.2)	575	580 (2.5)
France .....	9	15.4	549 (4.3)	556 (4.2)	484	546 (4.3)	580	544 (4.2)
Sweden .....	8	14.8	546 (2.5)	556 (2.6)	469	533 (2.4)	576	550 (2.4)
New Zealand .....	10	15.0	545 (5.6)	547 (5.7)	457	535 (5.7)	597	552 (5.3)
Hungary .....	8	14.1	536 (3.3)	530 (3.1)	469	536 (3.6)	577	542 (3.2)
Iceland <sup>4</sup> .....	8	14.8	536 (0.0)	550 (0.0)	472	548 (0.0)	617	509 (0.0)
Switzerland .....	8	14.9	536 (3.2)	534 (3.4)	466	525 (3.2)	572	549 (3.0)
Hong Kong .....	9	15.2	535 (3.7)	509 (3.7)	480	540 (3.8)	576	557 (3.8)
United States .....	9	15.0	535 (4.8)	539 (4.9)	456	539 (5.6)	599	528 (4.0)
Singapore .....	8	14.4	534 (1.1)	530 (1.1)	476	539 (1.2)	574	533 (1.1)
Slovenia .....	8	14.7	532 (2.3)	534 (2.6)	471	525 (2.2)	576	537 (2.2)
Germany (former East) .....	8	14.4	526 (3.5)	512 (3.9)	464	523 (3.5)	566	543 (2.9)
Denmark .....	8	14.8	525 (2.1)	517 (2.0)	458	524 (2.2)	573	532 (2.1)
Portugal .....	9	15.6	523 (3.1)	523 (2.5)	469	523 (3.4)	556	523 (3.4)
Canada <sup>5</sup> .....	8	13.9	522 (3.0)	526 (3.1)	449	516 (3.1)	569	522 (2.7)
Germany (former West) .....	8	14.6	522 (4.4)	514 (4.9)	453	521 (4.5)	573	532 (3.9)
Norway .....	8	14.8	516 (2.3)	515 (2.1)	464	520 (2.4)	569	512 (2.4)
Italy .....	8	14.1	515 (3.4)	520 (3.6)	459	524 (3.2)	565	501 (3.3)
Netherlands .....	8	14.3	514 (4.9)	506 (4.8)	442	503 (4.7)	546	533 (5.3)
Ireland .....	9	14.5	511 (5.2)	510 (5.3)	439	505 (5.3)	555	518 (4.9)
Greece .....	9	14.4	509 (2.9)	526 (2.9)	450	508 (3.1)	548	493 (2.6)
Cyprus .....	9	14.8	497 (2.2)	516 (2.2)	427	492 (2.4)	536	482 (2.0)
Spain .....	8	14.2	490 (2.5)	500 (3.0)	435	495 (2.6)	536	475 (2.0)
Belgium <sup>6</sup> .....	8	14.3	481 (4.9)	484 (5.1)	415	477 (4.8)	522	483 (4.7)
Trinidad/Tobago .....	9	14.4	479 (1.7)	482 (1.7)	408	485 (1.8)	537	472 (1.7)
Thailand .....	9	15.2	477 (6.2)	468 (6.6)	429	486 (5.9)	533	478 (6.2)
Philippines .....	8	14.5	430 (3.9)	421 (3.6)	378	439 (4.1)	472	430 (3.9)
Venezuela .....	9	15.5	417 (3.1)	407 (2.9)	381	433 (3.3)	482	412 (3.0)
Nigeria <sup>7,8</sup> .....	9	15.3	401 (—)	402 (—)	351	406 (—)	441	394 (—)
Zimbabwe <sup>8</sup> .....	9	15.5	372 (3.8)	367 (3.3)	326	374 (3.6)	411	373 (4.6)
Botswana .....	9	14.7	330 (2.0)	340 (1.6)	294	339 (1.9)	371	312 (2.4)

—Not available.

<sup>1</sup> Narrative prose is continuous text in which the writer's aim is to tell a story.<sup>2</sup> Expository prose is continuous text designed to describe, explain, or otherwise convey factual information or opinion to the reader.<sup>3</sup> Documents are structured information presented in the form of charts, tables, maps, graphs, lists, or sets of instructions.<sup>4</sup> Iceland tested all students, therefore standard errors are not applicable.<sup>5</sup> British Columbia only.<sup>6</sup> Only French-speaking students were tested.<sup>7</sup> Insufficient data to calculate the standard error.<sup>8</sup> Sampling response rate of schools was below 80 percent.

NOTE: Standard errors appear in parentheses.

SOURCE: International Association for the Evaluation of Educational Achievement, *How in the World Do Students Read?*, 1992. (This table was prepared April 1993.)

**Table 411.—Number of bachelor's degree recipients per 100 persons of the theoretical age of graduation, by sex: Selected countries, 1989 to 1999**

Country	Men and women						Men					Women				
	1989	1990	1992	1995	1996	1999	1989	1990	1992	1995	1996	1989	1990	1992	1995	1996
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Australia .....	19.6	—	28.5	34.9	36.0	27.0	18.9	—	23.7	27.6	28.9	21.1	—	33.6	42.7	43.3
Austria .....	6.6	7.7	—	9.8	10.5	12.0	7.6	8.5	—	10.6	11.4	5.5	6.8	—	8.9	9.6
Belgium <sup>1</sup> .....	16.5	17.1	—	—	15.9	17.8	18.9	19.5	—	—	16.7	14.1	14.7	—	—	15.2
Canada .....	—	—	32.2	31.8	31.9	29.3	—	—	27.6	26.4	26.5	—	—	37.6	37.4	37.4
Czech Republic .....	—	—	—	—	—	10.8	—	—	—	—	—	—	—	—	—	—
Denmark .....	12.9	15.0	22.3	28.5	28.0	—	11.5	13.3	17.7	25.1	23.1	14.4	16.9	27.2	31.9	33.0
Finland .....	16.9	17.1	—	22.2	23.9	33.9	17.1	17.0	—	22.0	22.4	16.6	17.1	17.9	22.3	25.6
France .....	13.8	14.9	—	—	—	24.9	13.7	14.7	—	—	—	13.9	15.1	—	—	—
Germany <sup>2</sup> .....	13.2	12.9	—	16.2	16.1	16.0	16.1	15.7	—	18.2	18.2	10.1	10.0	—	14.0	13.5
Hungary .....	—	—	—	—	—	26.9	—	—	—	—	—	—	—	—	—	—
Iceland .....	—	—	—	—	—	28.9	—	—	—	—	—	—	—	—	—	—
Ireland .....	16.4	17.4	17.8	21.2	25.5	26.0	31.9	17.5	17.9	19.9	24.6	—	17.3	17.7	22.7	26.4
Italy .....	8.9	9.2	—	11.8	12.6	16.0	9.1	9.3	—	10.8	11.4	8.7	9.0	—	12.9	13.8
Japan .....	—	22.1	23.2	22.8	22.9	29.0	—	31.5	31.9	30.4	30.7	—	12.4	14.0	14.9	14.9
Korea, Republic of .....	—	—	—	—	—	27.1	—	—	—	—	—	—	—	—	—	—
Mexico .....	—	—	—	—	—	11.2	—	—	—	—	—	—	—	—	—	—
Netherlands .....	10.2	8.0	17.6	22.0	19.6	33.5	12.3	9.4	17.3	20.6	18.2	7.9	6.5	17.8	23.4	21.1
New Zealand .....	36.1	15.3	17.2	24.7	30.8	37.3	16.6	15.4	16.9	20.9	26.2	15.5	15.1	17.4	28.6	35.4
Norway .....	24.6	27.5	19.0	23.0	27.4	33.9	18.1	19.1	14.5	17.2	20.2	31.7	36.3	23.7	28.9	34.8
Portugal .....	—	7.6	—	14.6	15.7	—	—	5.9	—	10.8	11.3	—	9.3	—	18.3	20.2
Spain .....	17.7	18.6	—	24.0	26.1	30.3	14.6	15.3	—	19.6	21.5	21.0	22.0	—	28.6	31.0
Sweden .....	13.0	12.2	14.1	15.5	19.1	27.2	11.1	10.5	11.8	14.0	15.1	15.1	14.0	16.4	17.0	23.3
Switzerland .....	7.7	7.7	—	9.1	9.3	20.5	10.1	10.3	—	11.4	11.5	5.3	5.1	—	6.8	7.2
Turkey .....	6.0	6.1	6.1	7.0	—	9.6	7.3	7.5	7.5	8.6	—	4.6	4.5	4.6	5.2	—
United Kingdom .....	—	—	20.4	31.6	34.4	36.8	—	—	21.0	30.3	32.7	—	—	19.8	32.9	36.2
United States .....	27.3	28.6	27.4	33.2	34.7	33.2	25.5	26.2	24.6	29.3	30.6	29.2	31.1	30.3	37.3	38.9

—Not available.

<sup>1</sup> Data for Flemish Belgium only.<sup>2</sup> Data for 1989 are for the former West Germany.

NOTE: The graduation rate relates the number of people with bachelor's degrees to the number of people in the population at typical age of graduation. Data for 1999 reflect a reclassification of degree levels and may not be comparable to figures for earlier years.

SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance 2001*, and unpublished tabulations. (This table was prepared January 2002.)**Table 412.—Percent of bachelor's degrees awarded in science: Selected countries, 1985 to 1999**

Country	All science degrees					Natural sciences					Mathematics and computer science					Engineering				
	1985	1990	1995	1996	1999	1985	1990	1995	1996	1999	1985	1990	1995	1996	1999	1985	1990	1995	1996	1999
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Australia .....	—	—	19.3	20.1	19.4	—	—	9.9	10.0	7.0	—	—	3.8	4.1	4.5	—	—	5.6	6.0	7.9
Austria .....	16.8	19.6	21.1	22.1	26.0	5.0	5.3	6.0	6.2	6.3	4.1	5.2	5.3	5.1	3.2	7.7	9.0	9.9	10.8	16.5
Belgium <sup>1</sup> .....	—	—	—	24.4	25.3	4.6	—	—	3.1	6.1	1.7	—	—	1.8	2.3	—	—	—	19.5	17.0
Canada .....	17.1	16.4	16.7	17.4	19.7	4.9	6.0	6.5	6.7	8.2	4.5	4.2	3.8	4.0	4.0	7.7	6.2	6.4	6.7	7.5
Czech Republic .....	—	—	—	—	29.3	—	—	—	—	3.8	—	—	—	—	3.0	—	—	—	—	22.5
Denmark .....	—	—	—	—	—	6.3	4.4	2.5	1.4	—	—	—	—	3.3	—	16.2	21.7	17.0	15.1	—
Finland .....	39.3	33.5	37.2	35.7	33.2	7.7	4.1	4.0	4.1	0.6	6.3	5.9	6.9	6.0	2.4	25.3	23.4	26.3	25.6	30.2
Germany <sup>2</sup> .....	23.8	31.3	31.6	31.1	33.5	5.0	7.2	6.7	6.6	6.9	2.3	3.5	5.2	5.0	5.2	16.5	20.5	19.7	19.5	21.4
Hungary .....	—	—	—	—	17.3	—	—	—	—	1.1	—	—	—	—	1.3	—	—	—	—	14.9
Iceland .....	—	—	—	—	13.6	—	—	—	—	6.1	—	—	—	—	2.6	—	—	—	—	4.9
Ireland .....	28.8	34.1	32.3	28.0	25.8	12.8	14.1	16.9	12.2	8.8	4.0	6.3	4.7	6.3	7.1	12.0	13.7	10.7	9.6	10.0
Italy .....	19.5	19.7	19.5	19.9	27.6	8.1	7.6	6.8	6.6	6.0	3.1	3.9	3.8	3.7	3.4	8.3	8.3	8.9	9.6	18.2
Japan .....	22.7	23.5	22.8	—	18.9	2.4	2.4	3.4	3.4	—	—	—	—	—	—	20.3	21.0	19.3	19.3	18.9
Korea, Republic of .....	—	—	—	—	36.7	—	—	—	—	6.3	—	—	—	—	4.5	—	—	—	—	25.9
Mexico .....	—	—	—	—	22.9	—	—	—	—	2.1	—	—	—	—	7.0	—	—	—	—	13.8
Netherlands .....	21.8	21.1	—	16.0	16.5	8.5	7.1	—	1.6	3.2	1.2	1.6	1.6	1.7	1.7	12.1	12.4	—	12.8	11.6
New Zealand .....	20.5	19.5	—	—	18.6	11.7	8.2	—	—	12.1	5.5	5.5	—	—	1.6	3.3	5.8	3.2	3.6	5.0
Norway .....	—	12.9	16.8	15.2	12.8	2.5	2.1	3.1	2.8	0.8	1.8	0.6	0.5	0.4	2.8	—	10.2	13.2	11.9	9.3
Poland .....	—	—	—	—	16.5	—	—	—	—	2.1	—	—	—	—	1.8	—	—	—	—	12.6
Portugal .....	—	—	15.0	15.4	—	6.5	6.7	2.2	2.8	—	—	—	2.8	2.8	—	—	10.5	9.9	9.8	—
Spain .....	13.9	15.0	18.2	18.5	21.0	5.5	5.7	4.3	4.8	4.8	1.3	2.6	4.5	4.3	3.9	7.0	6.7	9.4	9.4	12.3
Sweden .....	15.4	24.0	26.4	22.4	25.0	2.6	4.1	3.9	3.7	3.6	1.6	4.7	5.5	4.5	3.0	11.3	15.2	17.0	14.3	18.4
Switzerland .....	20.2	23.0	22.3	22.4	25.1	10.3	11.2	10.4	11.1	6.5	2.1	3.7	3.7	3.1	1.8	7.9	8.1	8.3	8.2	16.8
Turkey .....	23.0	20.6	20.9	—	24.2	3.6	4.6	5.1	—	7.1	1.6	2.1	2.7	—	3.7	17.8	13.8	13.1	—	13.4
United Kingdom .....	—	—	—	—	28.9	—	—	—	—	9.8	—	—	—	—	6.4	—	—	—	—	12.7
United States .....	21.7	16.9	—	16.8	17.4	6.3	5.1	—	6.9	7.2	5.5	4.0	3.3	3.2	3.3	9.8	7.8	6.7	6.6	6.9

—Not available.

<sup>1</sup> Data for Flemish Belgium only.<sup>2</sup> Data for 1985 are for the former West Germany.

SOURCE: Organization for Economic Cooperation and Development, unpublished data. (This table was prepared August 2001.)

**Table 413.—Percent of graduate degrees awarded in science: Selected countries, 1985, 1990, 1996, and 1999**

Country	All science degrees				Natural sciences				Mathematics and computer science				Engineering			
	1985	1990	1996	1999	1985	1990	1996	1999	1985	1990	1996	1999	1985	1990	1996	1999
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Australia .....	—	—	14.0	17.9	—	—	5.4	6.3	—	—	3.8	3.8	—	—	4.7	7.7
Austria .....	43.3	37.7	38.8	38.4	14.2	12.3	17.5	15.0	7.3	4.6	4.7	3.6	21.7	20.8	16.6	19.8
Belgium <sup>1</sup> .....	—	—	—	17.6	—	—	—	7.0	—	—	—	2.4	—	—	—	8.3
Canada .....	19.7	20.0	22.3	23.0	7.5	7.8	7.7	7.9	2.8	3.4	3.5	3.6	9.4	8.8	11.2	11.5
Czech Republic .....	—	—	—	21.3	—	—	—	5.6	—	—	—	6.3	—	—	—	9.3
Denmark .....	16.0	22.2	12.3	—	4.1	5.8	3.1	—	2.7	4.8	1.5	—	9.2	11.6	7.8	—
Finland .....	47.6	30.6	28.3	31.1	24.0	14.7	11.6	8.5	6.3	5.4	4.0	3.9	17.2	10.5	12.7	18.7
France .....	—	—	—	21.0	—	—	—	6.4	—	—	—	1.6	—	—	—	13.0
Germany <sup>2</sup> .....	27.7	33.2	38.6	38.9	18.7	23.5	25.5	25.2	1.8	2.3	3.5	4.0	7.2	7.4	9.5	9.8
Hungary .....	—	—	—	13.5	—	—	—	4.8	—	—	—	1.2	—	—	—	7.6
Iceland .....	—	—	—	30.7	—	—	—	20.0	—	—	—	0.0	—	—	—	10.7
Ireland .....	31.4	34.5	23.1	24.8	18.9	19.5	10.9	4.0	2.6	5.8	3.0	16.0	9.9	9.3	9.2	4.8
Italy .....	—	—	—	13.1	—	—	—	1.0	—	—	—	6.5	—	—	—	5.6
Japan .....	50.1	54.6	—	42.4	9.5	9.5	10.2	—	—	—	—	—	40.5	45.1	44.4	42.4
Korea, Republic of .....	—	—	—	48.3	—	—	—	8.8	—	—	—	4.1	—	—	—	35.4
Netherlands .....	—	28.9	18.6	17.6	20.6	17.7	4.4	—	—	1.5	3.7	8.7	7.5	9.7	10.6	8.8
New Zealand .....	45.1	22.6	16.7	24.4	24.6	13.8	12.7	13.4	5.4	4.7	1.1	1.5	15.1	4.0	3.0	9.4
Norway .....	40.1	33.4	38.3	21.0	17.9	8.0	8.7	15.0	3.5	2.1	1.9	4.3	18.7	23.3	27.7	—
Poland .....	—	—	—	3.1	—	—	—	0.6	—	—	—	0.9	—	—	—	1.7
Spain .....	35.6	26.9	36.0	40.1	28.6	19.7	24.8	24.8	1.8	1.4	4.1	4.2	5.1	5.7	7.1	11.1
Sweden .....	48.0	48.5	32.3	41.5	21.2	19.4	9.2	14.4	6.8	9.2	5.9	4.1	20.0	19.9	17.1	23.0
Switzerland .....	30.7	30.2	40.1	41.5	20.3	22.0	25.8	11.4	2.8	1.7	4.1	17.0	7.6	6.5	10.1	13.1
Turkey .....	35.8	24.0	—	29.8	6.6	7.6	—	8.0	2.8	3.3	—	3.0	26.3	13.2	—	18.7
United Kingdom .....	—	—	—	21.8	—	—	—	6.0	—	—	—	4.7	—	—	—	11.0
United States .....	13.5	14.5	13.8	13.7	4.5	4.2	4.0	3.8	2.8	3.4	3.2	3.1	6.3	6.9	6.7	6.8

—Not available.

<sup>1</sup> Data for Flemish Belgium only.<sup>2</sup> Data for 1985 are for the former West Germany.

SOURCE: Organization for Economic Cooperation and Development, unpublished data. (This table was prepared August 2001.)

**Table 414.—Public education expenditures per student, by level of student: Selected countries, 1985 to 1998**

[In constant 1998 dollars]

Country	Primary					Secondary					Higher education				
	1985	1990	1995	1997	1998	1985	1990	1995	1997	1998	1985	1990	1995	1997	1998
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Australia .....	\$3,117	—	\$3,001	\$3,809	\$3,981	\$4,376	—	\$4,276	\$5,884	\$5,830	<sup>1</sup> \$14,284	<sup>2</sup> \$12,424	\$7,094	\$11,414	\$11,539
Austria .....	4,007	\$4,110	6,355	6,065	6,065	4,581	—	—	8,340	8,163	7,616	7,422	—	10,148	11,279
Belgium <sup>3</sup> .....	2,595	2,473	3,497	5,286	3,799	5,984	—	—	6,180	9,252	6,238	8,252	7,168	6,449	6,597
Canada .....	—	—	—	—	—	—	—	—	—	—	9,568	10,892	7,511	15,046	14,579
Czech Republic .....	—	—	—	1,972	1,645	—	—	—	3,700	3,182	—	—	—	5,563	5,584
Denmark .....	4,305	5,108	5,948	7,020	6,713	6,076	6,092	6,331	7,398	7,200	9,917	9,672	7,947	7,407	9,562
Finland .....	—	—	4,572	4,715	4,641	—	—	5,291	5,087	5,111	—	—	7,605	7,302	7,327
France .....	—	2,968	3,436	3,735	3,752	—	5,157	6,055	7,228	6,605	—	5,610	5,927	7,168	7,226
Germany .....	<sup>4</sup> 3,358	—	—	3,514	3,531	3,676	—	—	4,606	6,209	—	—	8,888	9,770	9,481
Greece .....	—	—	2,132	2,387	2,368	—	—	1,991	2,621	3,287	—	—	2,712	4,052	4,157
Hungary .....	—	—	—	2,067	2,028	—	—	—	2,125	2,140	—	—	—	5,514	5,073
Iceland .....	—	—	3,079	—	—	—	—	9,227	—	—	—	—	—	—	—
Ireland .....	1,560	1,636	2,282	2,611	2,745	2,684	2,753	3,541	3,928	3,934	6,099	6,331	5,177	8,298	8,522
Italy .....	3,011	3,962	4,653	5,152	5,653	3,870	4,591	5,421	6,382	6,458	5,438	8,314	4,433	6,065	6,295
Japan .....	<sup>2</sup> 3,059	—	4,613	5,284	5,075	—	—	4,476	—	—	5,890	13,070	—	19,208	9,871
Korea .....	—	—	—	3,379	2,838	—	—	—	3,970	3,544	—	—	—	6,324	6,356
Luxembourg .....	<sup>2</sup> 6,418	<sup>5</sup> 7,337	11,433	—	—	—	—	10,653	—	—	<sup>1</sup> 19,020	—	7,104	—	—
Mexico .....	—	—	—	885	863	—	—	—	1,677	1,586	—	—	—	4,700	3,800
Netherlands .....	3,507	3,348	3,275	—	3,795	4,112	4,859	4,478	—	5,304	11,220	11,945	8,618	—	10,757
New Zealand .....	<sup>2</sup> 3,088	2,751	2,806	—	—	—	2,288	3,902	—	—	<sup>1</sup> 12,932	13,976	5,878	—	—
Norway .....	3,927	4,470	8,172	—	5,761	5,364	5,690	4,637	4,239	7,343	7,670	8,475	—	10,265	10,918
Poland .....	—	—	—	1,468	1,496	—	—	—	—	1,438	—	—	—	4,463	4,262
Portugal .....	<sup>2</sup> 1,485	<sup>2</sup> 2,348	2,759	3,298	3,121	<sup>1</sup> 1,922	<sup>2</sup> 2,547	3,178	4,330	4,636	<sup>1</sup> 5,004	<sup>2</sup> 5,435	—	—	—
Spain .....	1,505	1,883	2,410	3,615	3,267	2,078	2,857	3,671	5,470	4,274	2,160	3,574	3,802	5,418	5,038
Sweden <sup>5</sup> .....	<sup>2</sup> 5,922	6,147	5,353	5,606	5,579	—	—	5,932	5,513	5,648	19,010	10,102	12,289	12,983	13,224
Switzerland <sup>6</sup> .....	—	<sup>2</sup> 6,459	6,162	6,334	6,470	3,154	—	8,543	7,355	9,348	15,376	<sup>2</sup> 16,865	15,468	16,630	16,563
Turkey .....	—	—	—	—	—	—	—	—	—	—	—	—	—	2,434	—
United Kingdom .....	2,698	3,046	3,511	3,256	3,329	3,807	4,701	4,497	5,059	5,230	15,045	11,454	5,963	—	9,699
United States .....	4,294	5,235	5,105	6,054	6,043	5,401	6,721	6,510	7,578	7,764	8,600	10,202	8,358	15,095	19,802

—Not available.

<sup>1</sup> 1986 data.<sup>2</sup> 1991 data.<sup>3</sup> Data for Flemish Belgium only.<sup>4</sup> Data are for the former West Germany.<sup>5</sup> 1989 data.<sup>6</sup> Change in definition of expenditures in 1992.

NOTE: Data adjusted to U.S. dollars using the purchasing-power-parity (PPP) index.

SOURCE: Organization for Economic Cooperation and Development, *Education at a Glance*, various years; and unpublished data. (This table was prepared August 2001.)



**Table 415.—Total public direct expenditures on education as a percentage of the gross domestic product: Selected countries, 1985 to 1998**

Country	All institutions <sup>1</sup>					Primary and secondary institutions					Higher education institutions				
	1985	1990	1995	1997 <sup>2</sup>	1998	1985	1990	1995	1997 <sup>2</sup>	1998	1985	1990	1995	1997 <sup>2</sup>	1998
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>Average for year .....</b>	<b>5.3</b>	<b>4.9</b>	<b>4.9</b>	<b>5.1</b>	<b>5.3</b>	<b>3.7</b>	<b>3.5</b>	<b>3.4</b>	<b>3.6</b>	<b>3.6</b>	<b>1.1</b>	<b>1.0</b>	<b>0.9</b>	<b>1.0</b>	<b>1.3</b>
<b>Average for countries reporting data for all years .....</b>	<b>5.3</b>	<b>5.3</b>	<b>5.3</b>	<b>5.2</b>	<b>5.5</b>	<b>3.7</b>	<b>3.7</b>	<b>3.6</b>	<b>3.6</b>	<b>3.7</b>	<b>1.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.0</b>	<b>1.3</b>
Australia .....	5.4	4.3	4.5	4.3	4.8	3.5	3.2	3.2	3.3	3.5	1.7	1.0	1.2	1.0	1.2
Austria .....	5.6	5.2	5.3	6.0	6.3	3.7	3.6	3.8	4.2	4.0	1.0	1.0	0.9	1.3	1.6
Belgium <sup>3</sup> .....	6.3	4.8	5.0	4.8	5.0	4.0	3.4	3.4	3.3	3.4	1.0	0.8	0.9	0.8	1.0
Canada .....	6.1	5.4	5.8	5.4	5.7	4.1	3.7	4.0	4.0	3.7	2.0	1.5	1.5	1.2	1.8
Czech Republic .....	—	—	4.8	4.5	4.3	—	—	3.4	3.2	2.9	—	—	0.7	0.7	0.8
Denmark .....	6.2	6.2	6.5	6.5	8.3	4.7	4.4	4.2	4.3	4.9	1.2	1.3	1.3	1.1	2.2
Finland .....	5.8	6.4	6.6	6.3	6.2	—	4.3	4.2	3.8	3.8	—	1.2	1.7	1.7	2.0
France .....	—	5.1	5.8	5.8	6.0	—	3.7	4.1	4.1	4.2	—	0.8	1.0	1.0	1.0
Germany <sup>4</sup> .....	4.6	—	4.5	4.5	4.6	2.8	—	2.9	2.9	3.0	1.0	—	1.0	1.0	1.1
Greece .....	—	—	3.7	3.5	3.5	—	—	2.8	2.5	2.3	—	—	0.8	1.0	1.1
Hungary .....	—	5.0	4.9	4.5	4.6	—	3.5	3.3	2.9	2.9	—	0.8	0.8	0.8	0.9
Iceland .....	—	4.3	4.5	5.1	7.1	—	3.3	3.4	3.9	4.3	—	0.6	0.7	0.7	2.2
Ireland .....	5.6	4.7	4.7	4.5	4.5	4.0	3.3	3.3	3.4	3.3	0.9	0.9	0.9	1.0	1.1
Italy .....	4.7	5.8	4.5	4.6	4.9	3.2	4.1	3.2	3.4	3.5	0.6	1.0	0.7	0.6	0.8
Japan .....	—	3.6	3.6	3.6	3.5	—	2.9	2.8	2.8	2.8	—	0.4	0.4	0.5	0.4
Korea .....	—	—	3.6	4.4	4.1	—	—	3.0	3.4	3.1	—	—	0.3	0.5	0.4
Luxembourg .....	—	—	4.3	4.2	—	—	—	4.2	4.1	—	—	—	0.1	0.1	—
Mexico .....	—	3.2	4.6	4.5	4.2	—	2.2	3.4	3.3	3.0	—	0.7	0.8	0.8	0.8
Netherlands .....	6.2	5.7	4.6	4.3	4.9	4.1	3.6	3.0	2.9	3.1	1.5	1.6	1.1	1.1	1.4
New Zealand .....	—	5.5	5.3	6.1	7.2	—	3.9	3.8	4.7	4.9	—	1.2	1.1	1.0	1.8
Norway .....	5.1	6.2	6.8	6.6	7.7	4.0	4.1	4.1	4.4	4.6	0.7	1.1	1.5	1.3	2.0
Poland .....	—	—	5.2	5.8	5.4	—	—	3.3	3.8	3.5	—	—	0.8	1.2	1.2
Portugal .....	—	—	5.4	5.8	5.7	—	—	4.1	4.4	4.3	—	—	1.0	1.0	1.0
Russia .....	—	—	3.4	—	—	—	—	1.9	—	—	—	—	0.7	—	—
Spain .....	3.6	4.2	4.8	4.7	4.5	2.9	3.2	3.5	3.5	3.3	0.4	0.7	0.8	0.9	0.9
Sweden .....	—	5.3	6.6	6.8	8.0	—	4.4	4.4	4.7	5.3	—	1.0	1.6	1.6	2.1
Switzerland .....	4.9	5.0	5.5	5.4	5.5	4.0	3.7	4.1	4.0	4.1	0.9	1.0	1.1	1.1	1.1
Turkey .....	—	3.2	2.2	—	3.0	—	2.3	1.4	—	1.8	—	0.9	0.8	0.8	0.8
United Kingdom .....	4.9	4.3	4.6	4.6	4.9	3.1	3.5	3.8	3.4	3.4	1.0	0.7	0.7	0.7	1.1
United States .....	4.7	5.3	5.0	5.2	5.1	3.2	3.8	3.5	3.5	3.4	1.3	1.4	1.1	1.4	1.3

<sup>1</sup> Includes preprimary and other expenditures not classified by level.

<sup>2</sup> Due to the implementation of a new classification system post-1996 data are not comparable with earlier data.

<sup>3</sup> Flemish Belgium data only.

<sup>4</sup> Data for 1985 refer to West Germany (Federal Republic of Germany before unification).

NOTE: Direct public expenditure on educational services includes both amounts spent directly by governments to hire educational personnel and to procure other resources,

and amounts provided by governments to public or private institutions. Figures for 1998 include public subsidies to households attributable for educational institutions and direct expenditures from international sources, and are not directly comparable with other years. Figures for 1985 also include transfers and payments to private entities, and thus are not strictly comparable with later figures.

SOURCE: Organization for Economic Cooperation and Development (OECD), *Education Database; Annual National Accounts*, Vol. 1, 1997; and *Education at a Glance*, 2000 and 2001. (This table was prepared August 2001.)

**Table 416.—Foreign students enrolled in institutions of higher education in the United States and outlying areas, by continent, region, and selected countries of origin: 1980–81 to 1999–2000**

Continent, region, and country	1980–81		1985–86		1990–91		1995–96		1996–97		1997–98		1998–99		1999–2000	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<b>Total</b> .....	<b>311,880</b>	<b>100.0</b>	<b>343,780</b>	<b>100.0</b>	<b>407,530</b>	<b>100.0</b>	<b>453,787</b>	<b>100.0</b>	<b>457,984</b>	<b>100.0</b>	<b>481,280</b>	<b>100.0</b>	<b>490,933</b>	<b>100.0</b>	<b>514,723</b>	<b>100.0</b>
<b>Africa</b> .....	38,180	12.2	34,190	9.9	23,800	5.8	20,844	4.6	22,078	4.8	23,162	4.8	26,222	5.3	30,292	5.9
Eastern Africa .....	6,260	2.0	6,730	2.0	7,590	1.9	7,596	1.7	8,628	1.9	8,951	1.9	10,189	2.1	11,559	2.2
Central Africa .....	1,130	0.4	1,540	0.4	1,650	0.4	1,346	0.3	1,187	0.3	1,265	0.3	1,413	0.3	1,775	0.3
North Africa .....	7,310	2.3	5,980	1.7	4,540	1.1	3,422	0.8	3,469	0.8	3,862	0.8	4,151	0.8	4,525	0.9
Southern Africa .....	1,480	0.5	2,360	0.7	2,840	0.7	2,657	0.6	2,678	0.6	2,608	0.5	2,956	0.6	3,247	0.6
West Africa .....	22,000	7.1	17,580	5.1	7,180	1.8	5,818	1.3	6,115	1.3	6,471	1.3	7,513	1.5	9,176	1.8
Nigeria .....	17,350	5.6	13,710	4.0	3,710	0.9	2,093	0.5	2,184	0.5	2,436	0.5	2,876	0.6	3,602	0.7
<b>Europe</b> .....	25,330	8.1	34,310	10.0	49,640	12.2	67,358	14.8	68,315	14.9	71,616	14.9	73,809	15.0	78,485	15.2
Eastern Europe .....	1,670	0.5	1,770	0.5	4,780	1.2	18,032	4.0	19,471	4.3	21,314	4.4	23,131	4.7	25,731	5.0
Western Europe .....	23,660	7.6	32,540	9.5	44,860	11.0	49,326	10.9	48,844	10.7	50,301	10.5	50,674	10.3	52,754	10.2
France .....	—	—	3,680	1.1	5,630	1.4	5,710	1.3	5,692	1.2	5,992	1.2	6,241	1.3	6,877	1.3
Germany <sup>1</sup> .....	3,310	1.1	4,730	1.4	7,000	1.7	9,017	2.0	8,990	2.0	9,309	1.9	9,568	1.9	9,800	1.9
Greece .....	3,750	1.2	4,440	1.3	4,360	1.1	3,365	0.7	3,010	0.7	3,065	0.6	2,847	0.6	2,782	0.5
Spain .....	—	—	1,740	0.5	4,300	1.1	4,809	1.1	4,673	1.0	4,371	0.9	4,195	0.9	4,337	0.8
United Kingdom .....	4,440	1.4	5,940	1.7	7,300	1.8	7,799	1.7	7,357	1.6	7,534	1.6	7,765	1.6	7,990	1.6
<b>Latin America</b> .....	49,810	16.0	45,480	13.2	47,580	11.7	47,253	10.4	49,592	10.8	51,368	10.7	55,436	11.3	62,098	12.1
Caribbean .....	10,650	3.4	11,100	3.2	12,610	3.1	10,737	2.4	11,796	2.6	10,855	2.3	11,884	2.4	13,828	2.7
Central America .....	12,970	4.2	12,740	3.7	15,950	3.9	14,220	3.1	14,524	3.2	15,211	3.2	15,455	3.1	16,854	3.3
Mexico .....	6,730	2.2	5,460	1.6	6,740	1.7	8,687	1.9	8,975	2.0	9,559	2.0	9,641	2.0	10,607	2.1
South America .....	26,190	8.4	21,640	6.3	19,020	4.7	22,296	4.9	23,272	5.1	25,302	5.3	28,097	5.7	31,416	6.1
Brazil .....	—	—	2,840	0.8	3,900	1.0	5,497	1.2	6,168	1.3	6,982	1.5	8,052	1.6	8,600	1.7
Colombia .....	—	—	4,010	1.2	3,180	0.8	3,462	0.8	3,636	0.8	4,345	0.9	5,041	1.0	6,277	1.2
Venezuela .....	11,750	3.8	7,040	2.0	2,890	0.7	4,456	1.0	4,590	1.0	4,731	1.0	5,133	1.0	5,125	1.0
<b>Middle East</b> .....	84,710	27.2	52,720	15.3	33,420	8.2	30,563	6.7	29,841	6.5	30,962	6.4	32,836	6.7	34,897	6.8
Iran .....	47,550	15.2	14,210	4.1	6,260	1.5	2,628	0.6	2,129	0.5	1,863	0.4	1,660	0.3	1,885	0.4
Jordan .....	6,140	2.0	6,590	1.9	4,320	1.1	2,222	0.5	2,094	0.5	2,027	0.4	2,039	0.4	2,074	0.4
Lebanon .....	6,770	2.2	7,090	2.1	3,900	1.0	1,554	0.3	1,370	0.3	1,321	0.3	1,315	0.3	1,582	0.3
Saudi Arabia .....	10,440	3.3	6,900	2.0	3,590	0.9	4,191	0.9	4,264	0.9	4,571	0.9	4,931	1.0	5,156	1.0
Turkey .....	—	—	2,460	0.7	4,080	1.0	7,678	1.7	8,194	1.8	9,081	1.9	9,377	1.9	10,100	2.0
<b>North America</b> <sup>2</sup> .....	14,790	4.7	16,030	4.7	18,950	4.6	23,644	5.2	23,611	5.2	22,613	4.7	23,302	4.7	24,128	4.7
Canada .....	14,320	4.6	15,410	4.5	18,350	4.5	23,005	5.1	22,984	5.0	22,051	4.6	22,746	4.6	23,544	4.6
<b>Oceania</b> .....	4,180	1.3	4,030	1.2	4,230	1.0	4,202	0.9	3,690	0.8	3,893	0.8	4,228	0.9	4,676	0.9
<b>Asia</b> .....	94,640	30.3	156,830	45.6	229,830	56.4	259,893	57.3	260,743	56.9	277,508	57.7	275,076	56.0	280,146	54.4
East Asia .....	51,650	16.6	80,720	23.5	146,020	35.8	166,717	36.7	167,935	36.7	178,256	37.0	177,141	36.1	180,146	35.0
China .....	2,770	0.9	13,980	4.1	39,600	9.7	39,613	8.7	42,503	9.3	46,958	9.8	51,001	10.4	54,466	10.6
Hong Kong .....	9,660	3.1	10,710	3.1	12,630	3.1	12,018	2.6	10,942	2.4	9,665	2.0	8,735	1.8	7,545	1.5
Japan .....	13,500	4.3	13,360	3.9	36,610	9.0	45,531	10.0	46,292	10.1	47,073	9.8	46,406	9.5	46,872	9.1
Korea, Republic of .....	6,150	2.0	18,660	5.4	23,360	5.7	36,231	8.0	37,130	8.1	42,890	8.9	39,199	8.0	41,191	8.0
Taiwan .....	19,460	6.2	23,770	6.9	33,530	8.2	32,702	7.2	30,487	6.7	30,855	6.4	31,043	6.3	29,234	5.7
South and Central Asia .....	14,540	4.7	25,800	7.5	42,370	10.4	45,401	10.0	44,256	9.7	47,761	9.9	52,602	10.7	58,148	11.3
India .....	9,250	3.0	16,070	4.7	28,860	7.1	31,743	7.0	30,641	6.7	33,818	7.0	37,482	7.6	42,337	8.2
Pakistan .....	2,990	1.0	5,440	1.6	7,730	1.9	6,427	1.4	6,095	1.3	5,821	1.2	5,905	1.2	6,107	1.2
South East Asia .....	28,450	9.1	50,310	14.6	41,440	10.2	47,774	10.5	48,550	10.6	51,491	10.7	45,333	9.2	41,852	8.1
Indonesia .....	3,250	1.0	8,210	2.4	9,520	2.3	12,820	2.8	12,461	2.7	13,282	2.8	12,142	2.5	11,300	2.2
Malaysia .....	6,010	1.9	23,020	6.7	13,610	3.3	14,015	3.1	14,527	3.2	14,597	3.0	11,557	2.4	9,074	1.8
Philippines .....	—	—	3,920	1.1	4,270	1.0	3,127	0.7	2,796	0.6	2,801	0.6	2,864	0.6	3,143	0.6
Singapore .....	—	—	3,930	1.1	4,500	1.1	4,098	0.9	3,727	0.8	3,843	0.8	4,030	0.8	4,250	0.8
Thailand .....	6,550	2.1	6,940	2.0	7,090	1.7	12,165	2.7	13,481	2.9	15,090	3.1	12,489	2.5	10,983	2.1
<b>Stateless</b> <sup>3</sup> .....	240	0.1	190	0.1	80	( <sup>4</sup> )	30	( <sup>4</sup> )	109	( <sup>4</sup> )	159	( <sup>4</sup> )	28	( <sup>4</sup> )	7	( <sup>4</sup> )

—Not available.

<sup>1</sup>Data for 1980–81 and 1985–86 are for the former Federal Republic of Germany.<sup>2</sup>Excludes Mexico and Central America, which are included with Latin America.<sup>3</sup>Home country unknown or undeclared.<sup>4</sup>Less than .05 percent.

NOTE: Totals and subtotals include other countries not shown separately. Data are for "nonimmigrants," i.e., students who have not migrated to this country. Detail may not sum to totals due to rounding.

SOURCE: Institute of International Education, "Open Doors," various years. (Latest edition copyright © 2000 by the Institute of International Education. All rights reserved.) (This table was prepared April 2001.)